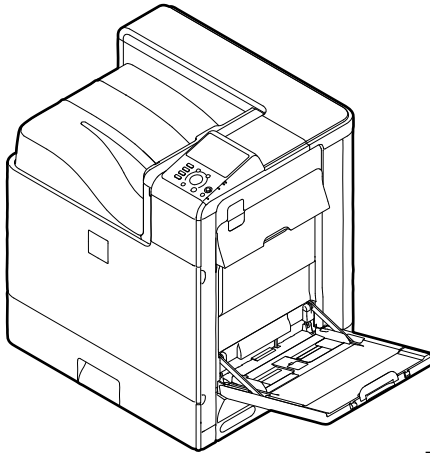


SHARP SERVICE MANUAL

CODE: 00ZMXC400PS4E



DIGITAL FULL COLOR PRINTER LASER PRINTER

MX-C400P/C380P
MX-B400P/B380P

MODEL MX-B382P ▲

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Parts marked with "▲" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used
for after sales service only.
The contents are subject to change without notice.

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NOTE FOR SERVICING

1. Precautions for servicing

- 1) When servicing, disconnect the power plug, the printer cable, the network cable, and the telephone line from the machine, except when performing the communication test, etc.
It may cause an injury or an electric shock.
- 2) There is a high temperature area inside the machine. Use an extreme care when servicing.
It may cause a burn.
- 3) There is a high voltage section inside the machine which may cause an electric shock. Be careful when servicing.
- 4) Do not disassemble the laser unit. Do not insert a reflective material such as a screwdriver in the laser beam path.
It may damage eyes by reflection of laser beams.
- 5) When servicing with the machine operating, be careful not to squeeze you hands by the chain, the belt, the gear, and other driving sections.
- 6) Do not leave the machine with the cabinet disassembled.
Do not allow any person other than a serviceman to touch inside the machine. It may cause an electric shock, a burn, or an injury.
- 7) When servicing, do not breathe toner, developer, and ink excessively. Do not get them in the eyes.
If toner, developer, or ink enters your eyes, wash it away with water immediately, and consult a doctor if necessary.
- 8) The machine has got sharp edges inside. Be careful not to damage fingers when servicing.
- 9) Do not throw toner or a toner cartridge in a fire. Otherwise, toner may pop and burn you.
- 10) When replacing the lithium battery of the PWB, use a specified one only.
If a battery of different specification is used, it may be broken, causing breakdown or malfunction of the machine.
- 11) When carrying a unit with PWB or electronic parts installed to it, be sure to put it in an anti-static-electricity bag.
It may cause a breakdown or malfunctions.

CAUTION
DOUBLE POLE/NEUTRAL FUSING

(200V series only)

2. Warning for servicing

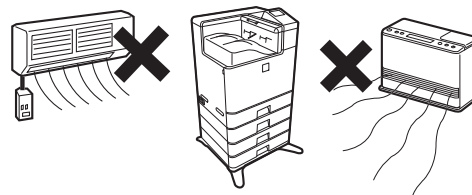
- 1) Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.
Avoid complex wiring, which may lead to a fire or an electric shock.
It may cause a fire or an electric shock.
- 2) If there is any abnormality such as a smoke or an abnormal smell, interrupt the job and disconnect the power plug.
It may cause a fire or an electric shock.
- 3) Be sure to connect the grounding wire. If an electric leakage occurs without grounding, a fire or an electric shock may result.
To protect the machine and the power unit from lightening, grounding must be made.

- 4) When connecting the grounding wire, never connect it to the following points.
It may cause an explosion, a fire or an electric shock.
 - Gas tube
 - Lightning conductor
 - A water pipe or a water faucet, which is not recognized as a grounding object by the authorities.
 - Grounding wire for telephone line
- 5) Do not damage, break, or work the power cord.
Do not put heavy objects on the power cable. Do not bend it forcibly or do not pull it extremely.
It may cause a fire or an electric shock.
- 6) Keep the power cable away from a heat source.
Do not insert the power plug with dust on it into a power outlet.
It may cause a fire or an electric shock.
- 7) Do not put a receptacle with water in it or a metal piece which may drop inside the machine.
It may cause a fire or an electric shock.
- 8) With wet or oily hands, do not touch the power plug, do not insert the telephone line jack, do not operate the machine, or do not perform servicing.
It may cause an electric shock.

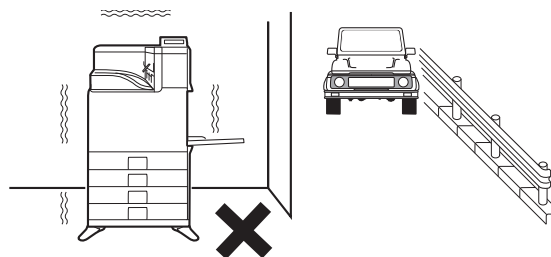
3. Note for installing site

Do not install the machine at the following sites.

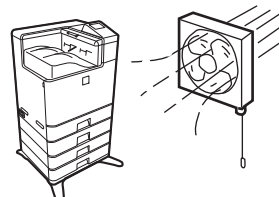
- 1) **Place of high temperature, high humidity, low temperature, low humidity, place under an extreme change in temperature and humidity.**
Paper may get damp and form dews inside the machine, causing paper jam or copy dirt.
For operating and storing conditions, refer to the specifications described later.



- 2) **Place of much vibrations**
It may cause a breakdown.



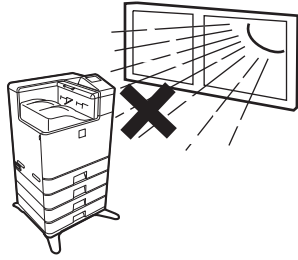
- 3) **Poorly ventilated place**
An electrostatic type copier will produce ozone inside it.
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce a smell of ozone. Install the machine in a well ventilated place, and ventilate occasionally.



4) **Place of direct sunlight.**

Plastic parts and ink may be deformed, discolored, or may undergo qualitative change.

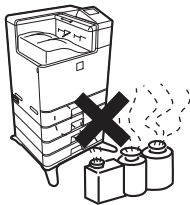
It may cause a breakdown or copy dirt.



5) **Place which is full of organic gases such as ammonium**

The organic photo-conductor (OPC) drum used in the machine may undergo qualitative change due to organic gases such as ammonium.

Installation of this machine near a diazo-type copier may result in dirt copy.



6) **Place of much dust**

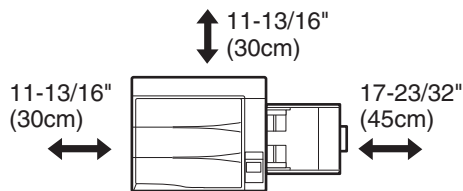
When dusts enter the machine, it may cause a breakdown or copy dirt.



7) **Place near a wall**

Some machine require intake and exhaust of air.

If intake and exhaust of air are not properly performed, copy dirt or a breakdown may be resulted.



8) **Unstable or slant surface**

If the machine drops or fall down, it may cause an injury or a breakdown.

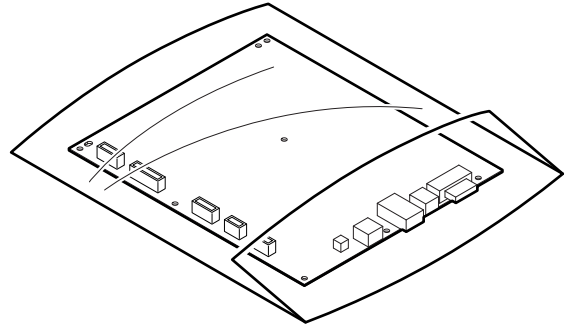
If there are optional paper desk and the copier desk specified, it is recommendable to use them.

When using the optional desk, be sure to fix the adjuster and lock the casters.

4. Note for handling PWB and electronic parts

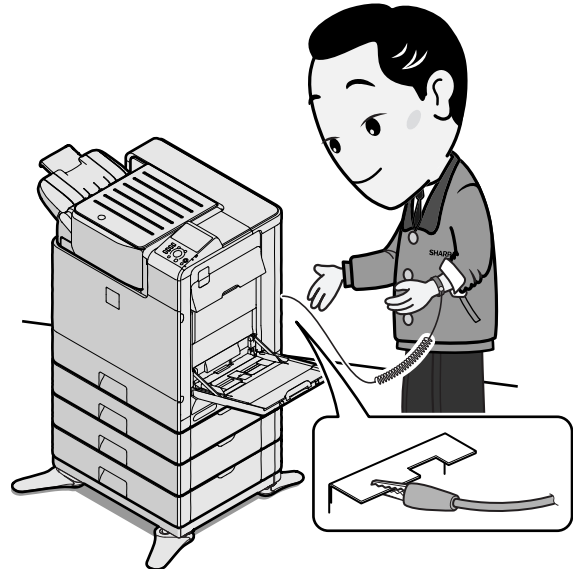
When handling the PWB and the electronic parts, be sure to observe the following precautions in order to prevent against damage by static electricity.

- 1) When in transit or storing, put the parts in an anti-static bag or an anti-static case and do not touch them with bare hands.

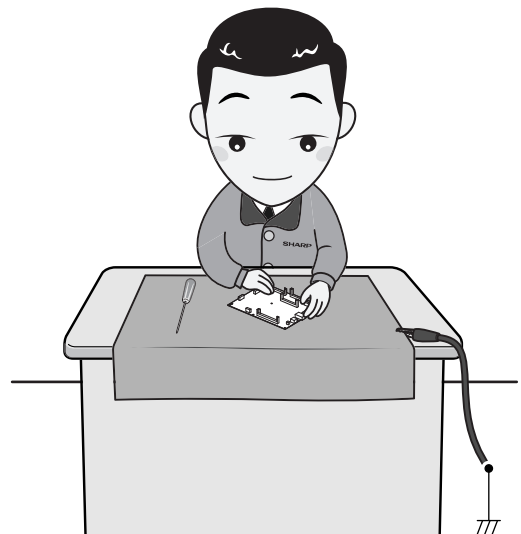


- 2) When and after removing the parts from an anti-static bag (case), use an earth band as shown below:

- Put an earth band to your arm, and connect it to the machine.



- When repairing or replacing an electronic part, perform the procedure on an anti-static mat.



5. Note for repairing/replacing the LSU

When repairing or replacing, be sure to observe the following items.

- 1) When repairing or replacing the LSU, be sure to disconnect the power plug from the power outlet.
- 2) When repairing or replacing the LSU, follow the procedures described in this Service Manual.
- 3) When checking the operations after repairing the LSU, keep all the parts including the cover installed and perform the operation check.
- 4) Do not modify the LSU.
- 5) When visually checking the inside of the machine for the operation check, be careful not to allow laser beams to enter the eyes.

If the above precaution is neglected or an undesignated work is performed, safety may not be assured.

6. Note for handling the drum cartridge, the transfer unit, the developer cartridge, and the fusing unit

When handling the OPC drum unit, the transfer unit, and the developer unit, strictly observe the following items.

If these items are neglected, a trouble may be generated in the copy and print image quality.

(Drum cartridge)

- 1) Avoid working at a place with strong lights.
- 2) Do not expose the OPC drum to lights including interior lights for a long time.
- 3) When the OPC drum is removed from the machine, cover it with light blocking material. (When using paper, use about 10 sheets of paper to cover it.)
- 4) Be careful not to attach fingerprints, oil, grease, or other foreign material on the OPC drum surface.

(Transfer unit)

- 1) Be careful not to attach fingerprints, oil, grease, or other foreign material on the transfer belt and the transfer roller.

(Developer cartridge)

- 1) Be careful not to attach fingerprints, oil, grease, or other foreign material on the developer unit.

(Fusing unit)

- 1) Be careful not to put fingerprints, oil, grease, or other foreign material on the fusing roller and the external heating belt.
- 2) Do not leave the fusing roller in contact state for a long time.

NOTE:

This manual describes the contents common to the both models of the MX-C400P/C380P and the MX-B400P/B380P/B382P.



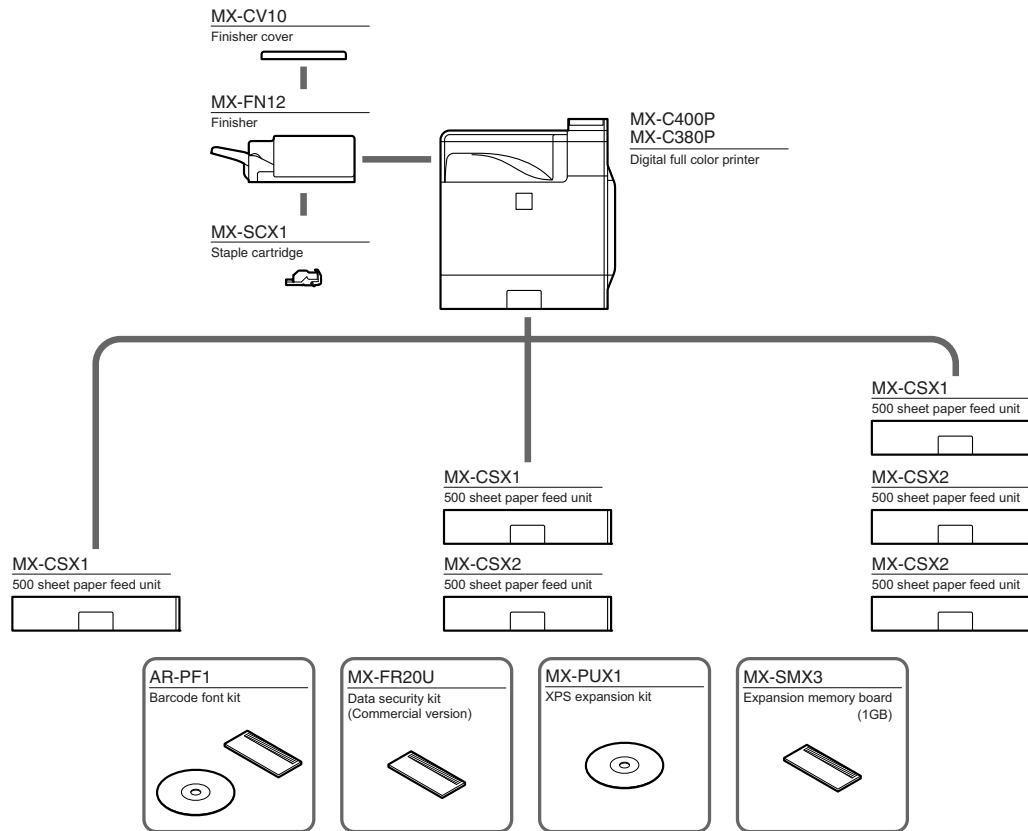
The contents, in this manual, which include a model name, differ between the MX-C400P/C380P and the MX-B400P/B380P/B382P.

The other contents which do not include a model name are common to the both models.

[1] PRODUCT OUTLINE

1. Configuration (MX-C400P/C380P)

A. System configuration



B. Machine configuration

	MX-C400P/C380P
Main body LCD	4.3 Inch color LCD
Automatic duplex	STD
HDD	80GB
System memory	1GB
Local memory	512MB
Codec Memory	256MB
PCL printer	STD
PS printer	STD
Network printer	STD
Filing	STD
Security	OPT *1
OSA	STD

STD: Standard provision, OPT: Option, *1: Product key target

C. Option list

Model	Name	Model name	MX-C400P/MX-C380P	Product key target
Paper feed system	500-sheet paper feed unit	MX-CSX1	OPT	—
	500-sheet paper feed unit	MX-CSX2	OPT	—
Paper exit system	Finisher	MX-FN12	OPT *2	—
	Finisher cover	MX-CV10	OPT	—
Electrical system (ROM)	Barcode font kit	AR-PF1	OPT	—
	Data security kit	MX-FR20U	OPT	Yes
Electrical system (Software)	XPS expansion kit	MX-PUX1	OPT *1	Yes
Memory (1GB)	Expansion memory board	MX-SMX3	OPT	—

OPT: Option, —: No setting

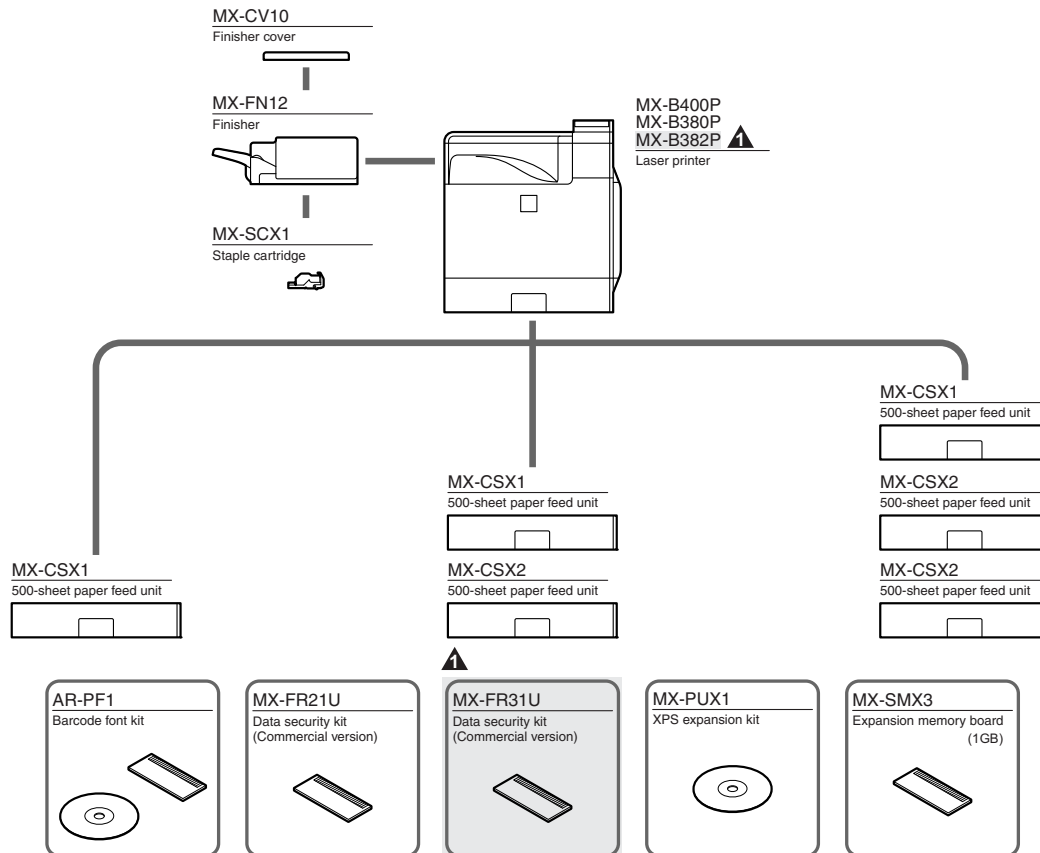
*1: To install the MX-PUX1, the MX-SMX3 is required.

*2: To install the finisher (MX-FN12), the finisher cover (MX-CV10) is required.

When installing the MX-FN12, the MX-CV10 must be installed together.

▲ 2. Configuration (MX-B400P/B380P/B382P)

A. System configuration



B. Machine configuration

	MX-B400P/B380P/B382P
Main body LCD	4.3 Inch color LCD
Automatic duplex	STD
HDD	80GB
System memory	512MB
Local memory	512MB
PCL printer	STD
PS printer	STD
Network printer	STD
Filing	STD
Security	OPT *1
OSA	STD

STD: Standard provision, OPT: Option, *1: Product key target

C. Option list

Model	Name	Model name	MX-B400P/B380P	MX-B382P	Product key target
Paper feed system	500-sheet paper feed unit	MX-CSX1	OPT		—
	500-sheet paper feed unit	MX-CSX2		OPT	—
Paper exit system	Finisher	MX-FN12	OPT *2		—
	Finisher cover	MX-CV10	OPT		—
Electrical system (ROM)	Barcode font kit	AR-PF1		OPT	—
	Data security kit	MX-FR21U	OPT	—	Yes
	Data security kit	MX-FR31U	—	OPT	Yes
Electrical system (Software)	XPS expansion kit	MX-PUX1		OPT *1	Yes
Memory (1GB)	Expansion memory board	MX-SMX3		OPT	—

OPT: Option, —: No setting

*1: To install the MX-PUX1, the MX-SMX3 is required.

*2: To install the finisher (MX-FN12), the finisher cover (MX-CV10) is required.

When installing the MX-FN12, the MX-CV10 must be installed together.

[2] CONSUMABLE PARTS

1. Supply system table

A. MX-C400P/C380P

(1) USA/Canada/South and Central America (MX-C400P)

No.	Item	Content	Life	Model Name	Quantity in collective package	Remarks
1	Toner Cartridge (Black)	Toner Cartridge (Black) with IC Chip (Black toner : Net 215g) x 1	10K *1	MX-C40NTB	10	
2	Toner Cartridge (Cyan)	Toner Cartridge (Cyan) with IC Chip (Cyan toner : Net 195g) x 1	10K *1	MX-C40NTC	10	
3	Toner Cartridge (Magenta)	Toner Cartridge (Magenta) with IC Chip (Magenta toner : Net 195g) x 1	10K *1	MX-C40NTM	10	
4	Toner Cartridge (Yellow)	Toner Cartridge (Yellow) with IC Chip (Yellow toner : Net 195g) x 1	10K *1	MX-C40NTY	10	
5	Developer Cartridge (Black)	Developer Cartridge (Black) (Black developer : Net 185g) x 1	60K *2	MX-C40NVB	10	
6	Developer Cartridge (Cyan)	Developer Cartridge (Cyan) (Cyan developer : Net 185g) x 1	30K *2	MX-C40NVC	10	
7	Developer Cartridge (Magenta)	Developer Cartridge (Magenta) (Magenta developer : Net 185g) x 1	30K *2	MX-C40NVM	10	
8	Developer Cartridge (Yellow)	Developer Cartridge (Yellow) (Yellow developer : Net 185g) x 1	30K *2	MX-C40NVY	10	
9	Drum Cartridge (Black)	Drum Cartridge (Black) x 1 Charger Cleaner x 1	60K *2	MX-C40NRB	10	
10	Drum Cartridge (Cyan/Magenta/Yellow)	Drum Cartridge (Common to C, M, Y) x 1 * 3 cartridges are required for one machine.	30K *2	MX-C40NRS	10	

*1: Life: A4/Letter size at Area Coverage 5% (Reference: 8K for A4/Letter 6%)

The toner life may vary depending on the document density and temperature and humidity.

*2: Life: A4/Letter size in 4-sheet continuous print within 550K of the cartridge rotations.

(2) Europe/East Europe/Russia/Australia/New Zealand (MX-C380P)

No.	Item	Content	Life	Model Name	Quantity in collective package	Remarks
1	Toner Cartridge (Black)	Toner Cartridge (Black) with IC Chip (Black toner : Net 215g) x 1	10K *1	MX-C38GTB	10	
2	Toner Cartridge (Cyan)	Toner Cartridge (Cyan) with IC Chip (Cyan toner : Net 195g) x 1	10K *1	MX-C38GTC	10	
3	Toner Cartridge (Magenta)	Toner Cartridge (Magenta) with IC Chip (Magenta toner : Net 195g) x 1	10K *1	MX-C38GTM	10	
4	Toner Cartridge (Yellow)	Toner Cartridge (Yellow) with IC Chip (Yellow toner : Net 195g) x 1	10K *1	MX-C38GTY	10	
5	Developer Cartridge (Black)	Developer Cartridge (Black) (Black developer : Net 185g) x 1	60K *2	MX-C38GVB	10	
6	Developer Cartridge (Cyan)	Developer Cartridge (Cyan) (Cyan developer : Net 185g) x 1	30K *2	MX-C38GVC	10	
7	Developer Cartridge (Magenta)	Developer Cartridge (Magenta) (Magenta developer : Net 185g) x 1	30K *2	MX-C38GVM	10	
8	Developer Cartridge (Yellow)	Developer Cartridge (Yellow) (Yellow developer : Net 185g) x 1	30K *2	MX-C38GVY	10	
9	Drum Cartridge (Black)	Drum Cartridge (Black) x 1 Charger Cleaner x 1	60K *2	MX-C38GRB	10	
10	Drum Cartridge (Cyan/Magenta/Yellow)	Drum Cartridge (Common to C, M, Y) x 1 * 3 cartridges are required for one machine.	30K *2	MX-C38GRS	10	

*1: Life: A4/Letter size at Area Coverage 5% (Reference: 8K for A4/Letter 6%)

The toner life may vary depending on the document density and temperature and humidity.

The life of toner cartridges packed together with the main unit is 2.5K.

*2: Life: A4/Letter size in 4-sheet continuous print within 550K of the cartridge rotations.

(3) Asia/SRH (MX-C380P)

No.	Item	Content	Life	Model Name	Quantity in collective package	Remarks
1	Toner Cartridge (Black)	Toner Cartridge (Black) with IC Chip (Black toner : Net 215g) x 1	10K *1	MX-C38ATB	10	
2	Toner Cartridge (Cyan)	Toner Cartridge (Cyan) with IC Chip (Cyan toner : Net 195g) x 1	10K *1	MX-C38ATC	10	
3	Toner Cartridge (Magenta)	Toner Cartridge (Magenta) with IC Chip (Magenta toner : Net 195g) x 1	10K *1	MX-C38ATM	10	
4	Toner Cartridge (Yellow)	Toner Cartridge (Yellow) with IC Chip (Yellow toner : Net 195g) x 1	10K *1	MX-C38ATY	10	
5	Developer Cartridge (Black)	Developer Cartridge (Black) (Black developer : Net 185g) x 1	60K *2	MX-C38AVB	10	
6	Developer Cartridge (Cyan)	Developer Cartridge (Cyan) (Cyan developer : Net 185g) x 1	30K *2	MX-C38AVC	10	
7	Developer Cartridge (Magenta)	Developer Cartridge (Magenta) (Magenta developer : Net 185g) x 1	30K *2	MX-C38AVM	10	
8	Developer Cartridge (Yellow)	Developer Cartridge (Yellow) (Yellow developer : Net 185g) x 1	30K *2	MX-C38AVY	10	
9	Drum Cartridge (Black)	Drum Cartridge (Black) x 1 Charger Cleaner x 1	60K *2	MX-C38ARB	10	
10	Drum Cartridge (Cyan/Magenta/Yellow)	Drum Cartridge (Common to C, M, Y) x 1 * 3 cartridges are required for one machine.	30K *2	MX-C38ARS	10	

*1: Life: A4/Letter size at Area Coverage 5% (Reference: 8K for A4/Letter 6%)

The toner life may vary depending on the document density and temperature and humidity.

The life of toner cartridges packed together with the main unit is 2.5K.

*2: Life: A4/Letter size in 4-sheet continuous print within 550K of the cartridge rotations.

(4) SMEF/Taiwan/Africa/Israel/Philippines (MX-C380P)

No.	Item	Content	Life	Model Name	Quantity in collective package	Remarks
1	Toner Cartridge (Black)	Toner Cartridge (Black) with IC Chip (Black toner : Net 215g) x 1	10K *1	MX-C38FTB	10	
2	Toner Cartridge (Cyan)	Toner Cartridge (Cyan) with IC Chip (Cyan toner : Net 195g) x 1	10K *1	MX-C38FTC	10	
3	Toner Cartridge (Magenta)	Toner Cartridge (Magenta) with IC Chip (Magenta toner : Net 195g) x 1	10K *1	MX-C38FTM	10	
4	Toner Cartridge (Yellow)	Toner Cartridge (Yellow) with IC Chip (Yellow toner : Net 195g) x 1	10K *1	MX-C38FTY	10	
5	Developer Cartridge (Black)	Developer Cartridge (Black) (Black developer : Net 185g) x 1	60K *2	MX-C38FVB	10	
6	Developer Cartridge (Cyan)	Developer Cartridge (Cyan) (Cyan developer : Net 185g) x 1	30K *2	MX-C38FVC	10	
7	Developer Cartridge (Magenta)	Developer Cartridge (Magenta) (Magenta developer : Net 185g) x 1	30K *2	MX-C38FVM	10	
8	Developer Cartridge (Yellow)	Developer Cartridge (Yellow) (Yellow developer : Net 185g) x 1	30K *2	MX-C38FVY	10	
9	Drum Cartridge (Black)	Drum Cartridge (Black) x 1 Charger Cleaner x 1	60K *2	MX-C38FRB	10	
10	Drum Cartridge (Cyan/Magenta/Yellow)	Drum Cartridge (Common to C, M, Y) x 1 * 3 cartridges are required for one machine.	30K *2	MX-C38FRS	10	

*1: Life: A4/Letter size at Area Coverage 5% (Reference: 8K for A4/Letter 6%)

The toner life may vary depending on the document density and temperature and humidity.

The life of toner cartridges packed together with the main unit is 2.5K.

*2: Life: A4/Letter size in 4-sheet continuous print within 550K of the cartridge rotations.

B. MX-B400P/B380P

(1) USA/Canada/South and Central America (MX-B400P)

No.	Item	Content	Life	Model Name	Quantity in collective package	Remarks
1	Toner Cartridge	Toner Cartridge with IC Chip (Toner : Net 215g) x 1	10K *1	MX-B40NT1	10	
2	Developer Cartridge	Developer Cartridge (Developer : Net 185g) x 1	72K *2	MX-C40NVB	10	
3	Drum Cartridge	Drum Cartridge x 1 Charger Cleaner x 1	72K *2	MX-C40NRB	10	

*1: Life: A4/Letter size at Area Coverage 5% (Reference: 8K for A4/Letter 6%)

The toner life may vary depending on the document density and temperature and humidity.

*2: 72K sheets or 550K rotations (For details, refer to item 4, "Life end conditions.")

The life of the above Developer Cartridge and the Drum Cartridge is 72K only when they are installed to the MX-B400P.

(2) Europe (MX-B380P)

No.	Item	Content	Life	Model Name	Quantity in collective package	Remarks
1	Toner Cartridge	Toner Cartridge with IC Chip (Toner : Net 215g) x 1	10K *1	MX-C38GTB	10	
2	Developer Cartridge	Developer Cartridge (Developer : Net 185g) x 1	72K *2	MX-C38GVB	10	
3	Drum Cartridge	Drum Cartridge x 1 Charger Cleaner x 1	72K *2	MX-C38GRB	10	

*1: Life: A4/Letter size at Area Coverage 5% (Reference: 8K for A4/Letter 6%)

The toner life may vary depending on the document density and temperature and humidity.

The life of toner cartridge packed together with the main unit is 2.5K.

*2: 72K sheets or 550K rotations (For details, refer to item 4, "Life end conditions.")

The life of the above Developer Cartridge and the Drum Cartridge is 72K only when they are installed to the MX-B380P.

C. MX-B382P

(1) Europe/Australia/New Zealand

No.	Item	Content	Life	Model Name	Quantity in collective package	Remarks
1	Toner Cartridge	Toner Cartridge with IC Chip (Toner : Net 430g) x 1	20K *1	MX-B42GT1	10	
2	Developer	Developer : Net 185g x 1	72K *2	MX-B42GV1	10	
3	Drum Cartridge	Drum Cartridge x 1 Charger Cleaner x 1	72K *2	MX-C38GRB	10	

*1: Life: A4/Letter size at Area Coverage 5% (Reference: 16K for A4/Letter 6%)

The toner life may vary depending on the document density and temperature and humidity.

*2: 72K sheets or 550K rotations (For details, refer to item 4, "Life end conditions.")

The life of the above Developer Cartridge and the Drum Cartridge is 72K only when they are installed to the MX-B382P.

2. Maintenance parts list

A. MX-C400P/C380P

(1) USA/Canada/South and Central America (MX-C400P)

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
1	Heat roller kit	MX-C32HK	Upper heat roller assembly	1	120K	5	
			Lower heat roller assembly	1			
			External heating unit	1			
			Separation pawl lower	2			
			Separation pawl lower spring	2			
			Upper thermistor retainer	1			
			Upper thermistor	1			
			Lower thermistor	1			
2	Primary transfer kit	MX-C31Y1	Intermediate transfer belt F	1	120K	5	
			Primary transfer roller F	4			
			Cleaning blade	1			
			PTC wire	1			
			PTC cleaner assembly	1			
			PTC cleaner B AS	1			
			Primary transfer drive coupling	1			
3	Primary transfer belt unit	MX-C31U1	Primary transfer belt unit	1	120K	1	
4	Secondary transfer roller unit	MX-C31U2	Secondary transfer roller unit	1	60K	1	

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
5-1	Fusing unit	MX-C32FU1	Fusing unit (Heater lamp 120V)	1	120K	1	
			Ozone filter	1			
5-2	Fusing unit	MX-C32FU	Fusing unit (Heater lamp 230V)	1	120K	1	
			Ozone filter	1			
6	Filter kit	MX-C31FL	Ozone filter	1	120K	10	
7	Toner collection container	MX-C31HB	Toner collection container	2	30K (15K x 2) *1	5	
			LSU cleaner	2			
8	Paper feed roller kit	MX-C31RT	Paper feed roller FT	1	Replace as needed.	10	Reference: About 100K (Commonly used for the MX-CSX1/MX-CSX2.)
			Take-up roller FT	1			
			Separation roller FT	1			
9	Manual paper feed roller kit	MX-C31MR	MF paper feed roller	1	Replace as needed.	10	Reference: About 100K
			Manual paper feed separation pad unit	1			
10	Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	Consumable part of the MX-FN12 (option)

*1: The life is estimated with 5% coverage of each color and 25% color ratio. It differs depending on the use conditions of the machine.

(2) Europe/East Europe/Russia/Australia/New Zealand (MX-C380P)

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
1	Heat roller kit	MX-C32HK	Upper heat roller assembly	1	120K	5	
			Lower heat roller assembly	1			
			External heating unit	1			
			Separation pawl lower	2			
			Separation pawl lower spring	2			
			Upper thermistor retainer	1			
			Upper thermistor	1			
			Lower thermistor	1			
2	Primary transfer kit	MX-C31Y1	Intermediate transfer belt F	1	120K	5	
			Primary transfer roller F	4			
			Cleaning blade	1			
			PTC wire	1			
			PTC cleaner assembly	1			
			PTC cleaner B AS	1			
			Primary transfer drive coupling	1			
3	Primary transfer belt unit	MX-C31U1	Primary transfer belt unit	1	120K	1	
4	Secondary transfer roller unit	MX-C31U2	Secondary transfer roller unit	1	60K	1	
5	Fusing unit	MX-C32FU	Fusing unit (Heater lamp 230V)	1	120K	1	
			Ozone filter	1			
6	Filter kit	MX-C31FL	Ozone filter	1	120K	10	
7	Toner collection container	MX-C31HB	Toner collection container	2	30K (15K x 2) *1	5	
			LSU cleaner	2			
8	Paper feed roller kit	MX-C31RT	Paper feed roller FT	1	Replace as needed.	10	Reference: About 100K (Commonly used for the MX-CSX1/MX-CSX2.)
			Take-up roller FT	1			
			Separation roller FT	1			
9	Manual paper feed roller kit	MX-C31MR	MF paper feed roller	1	Replace as needed.	10	Reference: About 100K
			Manual paper feed separation pad unit	1			
10	Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	Consumable part of the MX-FN12 (option)

*1: The life is estimated with 5% coverage of each color and 25% color ratio. It differs depending on the use conditions of the machine.

(3) Asia/Middle East/Africa/Agency (MX-C380P)

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
1	Heat roller kit	MX-C32HK	Upper heat roller assembly	1	120K	5	
			Lower heat roller assembly	1			
			External heating unit	1			
			Separation pawl lower	2			
			Separation pawl lower spring	2			
			Upper thermistor retainer	1			
			Upper thermistor	1			
			Lower thermistor	1			
2	Primary transfer kit	MX-C31Y1	Intermediate transfer belt F	1	120K	5	
			Primary transfer roller F	4			
			Cleaning blade	1			
			PTC wire	1			
			PTC cleaner assembly	1			
			PTC cleaner B AS	1			
			Primary transfer drive coupling	1			
3	Primary transfer belt unit	MX-C31U1	Primary transfer belt unit	1	120K	1	

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
4	Secondary transfer roller unit	MX-C31U2	Secondary transfer roller unit	1	60K	1	
5-1	Fusing unit	MX-C32FU1	Fusing unit (Heater lamp 120V)	1	120K	1	
			Ozone filter	1			
5-2	Fusing unit	MX-C32FU	Fusing unit (Heater lamp 230V)	1	120K	1	
			Ozone filter	1			
6	Filter kit	MX-C31FL	Ozone filter	1	120K	10	
7	Toner collection container	MX-C31HB	Toner collection container	2	30K	5	
			LSU cleaner	2	(15K x 2) *1		
8	Paper feed roller kit	MX-C31RT	Paper feed roller FT	1	Replace as needed.	10	Reference: About 100K (Commonly used for the MX-CSX1/MX-CSX2.)
			Take-up roller FT	1			
			Separation roller FT	1			
9	Manual paper feed roller kit	MX-C31MR	MF paper feed roller	1	Replace as needed.	10	Reference: About 100K
			Manual paper feed separation pad unit	1			
10	Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	Consumable part of the MX-FN12 (option)

*1: The life is estimated with 5% coverage of each color and 25% color ratio. It differs depending on the use conditions of the machine.

B. MX-B400P/B380P

(1) USA/Canada/South and Central America (MX-B400P)

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
1	Heat roller kit	MX-C32HK	Upper heat roller assembly	1	120K	5	
			Lower heat roller assembly	1			
			External heating unit	1			
			Separation pawl lower	2			
			Separation pawl lower spring	2			
			Upper thermistor retainer	1			
			Upper thermistor	1			
			Lower thermistor	1			
2	Primary transfer kit	MX-B40Y1	Intermediate transfer belt F	1	120K	5	
			Primary transfer roller F	1			
			Cleaning blade	1			
			PTC wire	1			
			PTC cleaner assembly	1			
			PTC cleaner B AS	1			
			Primary transfer drive coupling	1			
3	Primary transfer belt unit	MX-B40U1	Primary transfer belt unit	1	120K	1	
4	Secondary transfer roller unit	MX-C31U2	Secondary transfer roller unit	1	60K	1	
5-1	Fusing unit	MX-C32FU1	Fusing unit (Heater lamp 120V)	1	120K	1	
			Ozone filter	1			
5-2	Fusing unit	MX-C32FU	Fusing unit (Heater lamp 230V)	1	120K	1	
			Ozone filter	1			
6	Filter kit	MX-C31FL	Ozone filter	1	120K	10	
7	Toner collection container	MX-B40HB	Toner collection container	2	45K for one *1	5	
			LSU cleaner	2			
8	Paper feed roller kit	MX-C31RT	Paper feed roller FT	1	Replace as needed.	10	Reference: About 100K (Commonly used for the MX-CSX1/MX-CSX2.)
			Take-up roller FT	1			
			Separation roller FT	1			
9	Manual paper feed roller kit	MX-C31MR	MF paper feed roller	1	Replace as needed.	10	Reference: About 100K
			Manual paper feed separation pad unit	1			
10	Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	Consumable part of the MX-FN12 (option)

*1: The life is estimated with 5% coverage. It differs depending on the use conditions of the machine.

(2) Europe (MX-B380P)

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
1	Heat roller kit	MX-C32HK	Upper heat roller assembly	1	120K	5	
			Lower heat roller assembly	1			
			External heating unit	1			
			Separation pawl lower	2			
			Separation pawl lower spring	2			
			Upper thermistor retainer	1			
			Upper thermistor	1			
			Lower thermistor	1			

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
2	Primary transfer kit	MX-B38Y1	Intermediate transfer belt F	1	120K	5	
			Primary transfer roller F	1			
			Cleaning blade	1			
			PTC wire	1			
			PTC cleaner assembly	1			
			PTC cleaner B AS	1			
			Primary transfer drive coupling	1			
3	Primary transfer belt unit	MX-B38U1	Primary transfer belt unit	1	120K	1	
4	Secondary transfer roller unit	MX-C31U2	Secondary transfer roller unit	1	60K	1	
5	Fusing unit	MX-C32FU	Fusing unit (Heater lamp 230V)	1	120K	1	
			Ozone filter	1			
6	Filter kit	MX-C31FL	Ozone filter	1	120K	10	
7	Toner collection container	MX-B38HB	Toner collection container	2	45K for one *1	5	
			LSU cleaner	2			
8	Paper feed roller kit	MX-C31RT	Paper feed roller FT	1	Replace as needed.	10	Reference: About 100K (Commonly used for the MX-CSX1/MX-CSX2.)
			Take-up roller FT	1			
			Separation roller FT	1			
9	Manual paper feed roller kit	MX-C31MR	MF paper feed roller	1	Replace as needed.	10	Reference: About 100K
			Manual paper feed separation pad unit	1			
10	Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	Consumable part of the MX-FN12 (option)

*1: The life is estimated with 5% coverage. It differs depending on the use conditions of the machine.

C. MX-B382P

(1) Europe/Australia/New Zealand

No.	Item	Model name	Content	Quantity	Life	Package	Remarks
1	Heat roller kit	MX-B42HK	Upper heat roller assembly	1	120K	5	
			Lower pressure roller	1			
			Lower roller bearing	2			
			Separation pawl lower spring	2			
			Upper thermistor	1			
			Thermistor retainer	1			
2	Cleaning kit	MX-B42CL	Separation plate assembly	1	120K	5	
			Separation spring	2			
			Oil roller	1			
			Oil roller bearing	4			
			Oil roller spring	4			
			Cleaning roller	1			
			Lower pressure roller, Cleaning roller	1			
3	Primary transfer kit	MX-B38Y1	Intermediate transfer belt F	1	120K	5	
			Primary transfer roller F	1			
			Cleaning blade	1			
			PTC wire	1			
			PTC cleaner assembly	1			
			PTC cleaner B AS	1			
			Primary transfer drive coupling	1			
4	Primary transfer belt unit	MX-B38U1	Primary transfer belt unit	1	120K	1	
5	Secondary transfer roller unit	MX-C31U2	Secondary transfer roller unit	1	60K	1	
6	Fusing unit	MX-B42FU	Fusing unit (Heater lamp 230V)	1	120K	1	
			Ozone filter	1			
7	Filter kit	MX-B42FL	Ozone filter	1	120K	10	
8	Toner collection container	MX-B38HB	Toner collection container	2	45K for one *1	5	
			LSU cleaner	2			
9	Paper feed roller kit	MX-C31RT	Paper feed roller FT	1	Replace as needed.	10	Reference: About 100K (Commonly used for the MX-CSX1/MX-CSX2.)
			Take-up roller FT	1			
			Separation roller FT	1			
10	Manual paper feed roller kit	MX-C31MR	MF paper feed roller	1	Replace as needed.	10	Reference: About 100K
			Manual paper feed separation pad unit	1			
11	DF roller kit	MX-C31DF	Pickup assembly	1	Replace as needed.	10	Reference: About 100K
			Pad separation assembly	1			
12	Staple cartridge	MX-SCX1	Staple cartridge	3	5000 times x 3	20	Consumable part of the MX-FN12 (option)

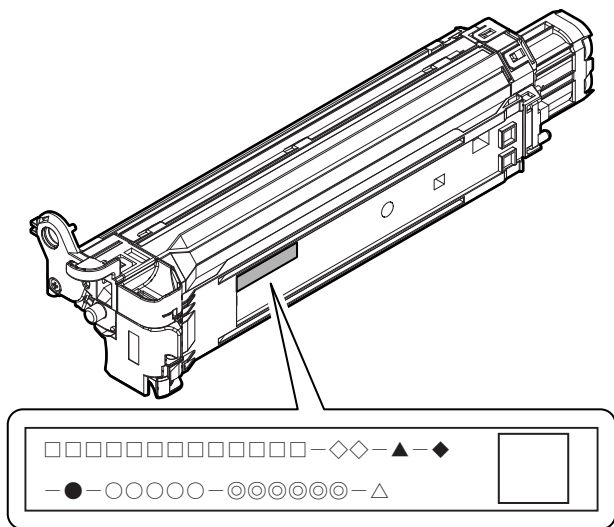
*1: The life is estimated with 5% coverage. It differs depending on the use conditions of the machine.

The DV blade, the DV side seal F/R, and the toner filter are treated as service parts.

3. Production number identification

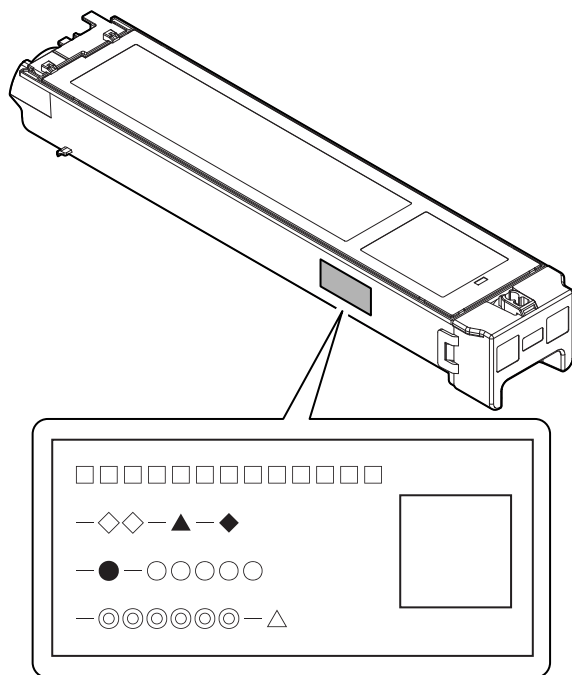
A. MX-C400P/C380P/B400P/B380P

(1) Developer cartridge



- : Unit code/Model name
- ◇: Color code (Black: BK /Cyan: CY /Magenta: MA /Yellow: YE)
- ▲: Destination
- ◆: Skating
- : Production place
- : Production date (YYYYMMDD)
- ◎: Serial number
- △: Version number

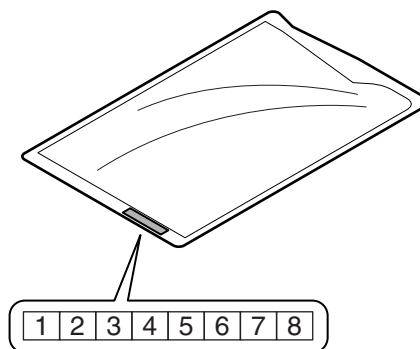
(2) Toner cartridge



The indications of a lot number are the same as those of the developer cartridge.

B. MX-B382P

(1) Developer

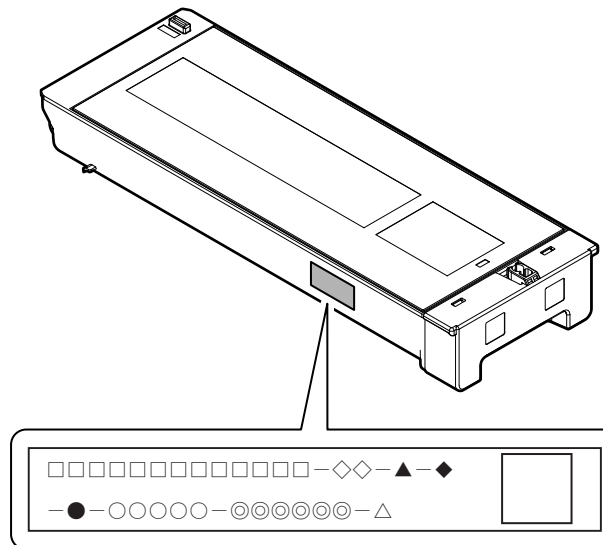


The lot number is of 8 digits. Each digit indicates the content as follows.

The number is printed on the right under side of the back surface of the developer bag.

- 1: Alphabet
Indicates the production factory.
- 2: Number
Indicates the production year.
- 3/4: Number
Indicates the production month.
- 5/6: Number
Indicates the production day.
- 7: Hyphen
- 8: Number
Indicates the production lot.

(2) Toner cartridge



- : Unit code/Model name
- ◇: Color code
- ▲: Destination
- ◆: Skating
- : Production place
- : Production date (YYYYMMDD)
- ◎: Serial number
- △: Version number

4. Life end conditions

A. MX-C400P/C380P

(1) Toner cartridge

After detecting near end, when the toner density is lowered to the specified level or lower and the toner sensor detects toner LOW continuously for a certain time, it is judged as toner end.

(2) Developer cartridge/Drum cartridge

- When the developer (developer cartridge)/drum counter exceeds the specified number of sheets.
- When the rpm of the developer cartridge/drum cartridge exceeds the specified number.

If one of the above two exceeds the specified level, it is judged as life end.

In an actual use, the ratio of the color output may be extremely greater than the monochrome output, and vice versa.

For a document or data with monochrome and color components, it may be outputted in the color mode in order to prevent against fall in the job efficiency.

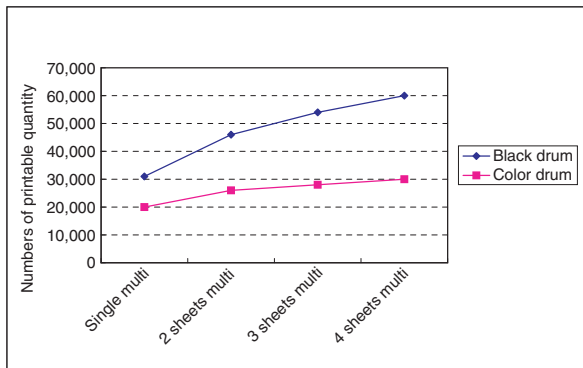
In addition to during the output operation, the developer cartridge and the drum are rotated during the correction operation and the warm-up operation.

Because of these factors, the consumption degree of the developer cartridge and the drum cartridge cannot be determined only with the print quantity. When, therefore, the number of rotations of the cartridge exceeds the specified level, it is judged as life end.

	Developer (Developer cartridge)/Drum counter		Number of rotations of Developer (Developer cartridge)/Drum	
	Black-White	Full color	Black-White	Full color
Developer (Developer cartridge)/Drum	60K	30K	550K rotations	550K rotations

The accumulated number of rotations of each developer (developer cartridge)/drum can be displayed with SIM 22-1 as the reference for the drum/developer (developer cartridge) life. The value displayed with SIM 22-1 indicates the reached level (%) when the developer (developer cartridge)/drum life is 100%.

Example) Life 550K, used number of rotations 385K
 $385/550 \times 100 = 70$ (%)



	Black drum	Color drum
Single multi	31,000	20,000
2 sheets multi	46,000	26,000
3 sheets multi	54,000	28,000
4 sheets multi	60,000	30,000

B. MX-B400P/B380P/B382P

(1) Toner cartridge

After detecting near end, when the toner density is lowered to the specified level or lower and the toner sensor detects toner LOW continuously for a certain time, it is judged as toner end.

(2) Developer cartridge/Drum cartridge

- When the developer (developer cartridge)/drum counter exceeds the specified number of sheets.
- When the rpm of the developer cartridge/drum cartridge exceeds the specified number.

In an actual use, in the correction operation and the warm-up operation as well as the output operation, the developer cartridge and the drum rotate idly.

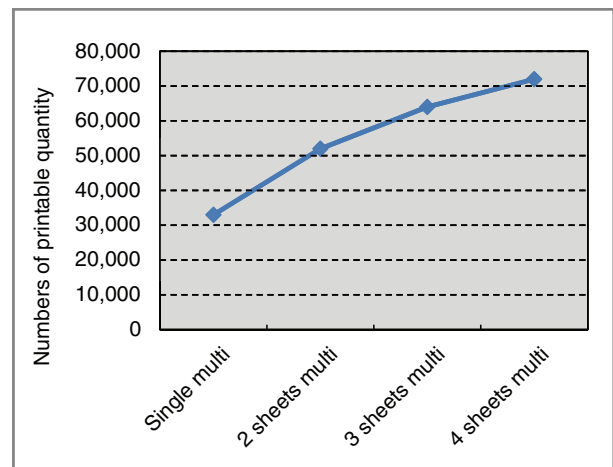
If the correction operation and the warm-up operation are made frequently, idle rotations of the developer cartridge and the drum are increased accordingly.

Because of these factors, the consumption degree of the developer cartridge and the drum cartridge cannot be determined only with the print quantity. When, therefore, the number of rotations of the cartridge exceeds the specified level, it is judged as life end.

	Developer (Developer cartridge)/Drum counter	Number of rotations of Developer (Developer cartridge)/Drum
	Black-White	Black-White
Developer (Developer cartridge)/Drum	72K	550K rotations

As the reference for the drum/developer (developer cartridge) life, the accumulated number of rotations can be displayed with SIM 22-1. The value displayed with SIM 22-1 indicates the reached level in percent (%) when the developer (developer cartridge)/drum life is 100%.

Example) Life 550K, used number of rotations 385K
 $385/550 \times 100 = 70$ (%)



Single multi	33,000
2 sheets multi	52,000
3 sheets multi	64,000
4 sheets multi	72,000

5. Life end display

A. MX-C400P/C380P

(1) Drum cartridge

For **[Bk]** **[C]** **[Y]** **[M]**, only the life end cartridge code is displayed.

Display content	Display condition			Print job Enable/Disable
	SIM26-38-E set value	Counter name	Counter value	
Maintenance required. Code: DK	0 (Print continue)	Drum cartridge print counter (K)	When 60K is reached	Enable
		Drum cartridge accumulated rotation number (K)	When 550K rotations is reached	Enable
Maintenance required. Code: DC	0 (Print continue)	Drum cartridge print counter (C)	When 30K is reached	Enable
		Drum cartridge accumulated rotation number (C)	When 550K rotations is reached	Enable
Maintenance required. Code: DM	0 (Print continue)	Drum cartridge print counter (M)	When 30K is reached	Enable
		Drum cartridge accumulated rotation number (M)	When 550K rotations is reached	Enable
Maintenance required. Code: DY	0 (Print continue)	Drum cartridge print counter (Y)	When 30K is reached	Enable
		Drum cartridge accumulated rotation number (Y)	When 550K rotations is reached	Enable
Maintenance required. Code: DK	1 (Print stop)	Drum cartridge print counter (K)	When 60K is reached	Enable
			When 60K + 1K is reached	Disable
		Drum cartridge accumulated rotation number (K)	When 550K rotations is reached	Disable
			When 550K rotation + 430Kmm is reached	Disable
Maintenance required. Code: DC/DM/DY	1 (Print stop)	Drum cartridge print counter (C) Drum cartridge print counter (M) Drum cartridge print counter (Y)		Enable for Black/White Disable for Color *2
		Drum cartridge accumulated rotation number (C) Drum cartridge accumulated rotation number (M) Drum cartridge accumulated rotation number (Y)		Enable for Black/White Disable for Color *2
		When 30K is reached by either counter		
		When 550K rotations is reached by either counter		

*2: When the black drum cartridge does not reach the life end and only the color drum cartridge reaches the life end, black/white print can be performed but color print cannot be performed.

- When the drum cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared.
- If the above guidance does not disappear when the drum cartridge is replaced, SIM24-7 must be executed to clear the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter.

(2) Developer cartridge

For **[Bk]** **[C]** **[Y]** **[M]**, only the life end cartridge code is displayed.

Display content	Display condition			Print job Enable/Disable
	SIM26-38-F set value	Counter name	Counter value	
Maintenance required. Code: VK	0 (Print continue)	Developer cartridge print counter (K)	When 60K is reached	Enable
		Developer cartridge accumulated rotation number (K)	When 550K rotations is reached	Enable
Maintenance required. Code: VC	0 (Print continue)	Developer cartridge print counter (C)	When 30K is reached	Enable
		Developer cartridge accumulated rotation number (C)	When 550K rotations is reached	Enable
Maintenance required. Code: VM	0 (Print continue)	Developer cartridge print counter (M)	When 30K is reached	Enable
		Developer cartridge accumulated rotation number (M)	When 550K rotations is reached	Enable
Maintenance required. Code: VY	0 (Print continue)	Developer cartridge print counter (Y)	When 30K is reached	Enable
		Developer cartridge accumulated rotation number (Y)	When 550K rotations is reached	Enable
Maintenance required. Code: VK	1 (Print stop)	Developer cartridge print counter (K)	When 60K is reached	Enable
			When 60K + 1K is reached	Disable
		Developer cartridge accumulated rotation number (K)	When 550K rotations is reached	Disable
			When 550K rotation + 430Kmm is reached	Disable
Maintenance required. Code: VC/VM/VY	1 (Print stop)	Developer cartridge print counter (C) Developer cartridge print counter (M) Developer cartridge print counter (Y)		Enable for Black/White Disable for Color *2
		Developer cartridge accumulated rotation number (C) Developer cartridge accumulated rotation number (M) Developer cartridge accumulated rotation number (Y)		Enable for Black/White Disable for Color *2
		When 30K is reached		
		When 550K rotations is reached		

*2: When the black drum cartridge does not reach the life end and only the color drum cartridge reaches the life end, black/white print can be performed but color print cannot be performed.

- When the developer cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared, and the initial setting of the toner density is automatically executed.
- If the above guidance does not disappear when the developer cartridge is replaced, the initial setting of the toner density must be executed with the SIM25-2.

(3) Toner cartridge

For **[Bk]** **[C]** **[Y]** **[M]**, only the life end cartridge code is displayed.

Display content	Display condition			Print job Enable/Disable
	SIM26-38-A set value	Remaining quantity display *1	Status	
Y/M/C/BK *2	0 (Print continue)	25-0%	Toner remaining quantity is 25% or less.	Enable
	1 (Print stop)			
	0 (Print continue)	25-0%	Toner remaining quantity corresponds to output of XX sheets. *3	Enable
	1 (Print stop)			
Change3 the toner cartridge. BK	0 (Print continue)	0%	When the black toner cartridge reaches toner end.	Disable
	1 (Print stop)			
Change3 the toner cartridge. Y/M/C	0 (Display)	0%	When the color toner cartridge reaches toner end.	Enable for Black/White Disable for Color *4
	1 (No display)			
No display	—	50-25%	Toner remaining quantity is 49 - 25%.	Enable
No display	—	75-50%	Toner remaining quantity is 74 - 50%.	Enable
No display	—	100-75%	Toner remaining quantity is 100-75%.	Enable
Install the toner cartridge. Y/M/C/BK	—	No display	When no toner cartridges are installed.	Disable
			When a toner cartridge of a different color is installed.	Disable
Improper cartridge. Code: F2-04	—	No display	When an incompatible toner cartridge is installed.	Disable
Cartridge error. Code: F2-05	—	No display	CRUM trouble	Disable
			Toner cartridge connector contact trouble	

*1: Detected by the toner motor rotation number and the pixel count (The value of larger life percentage is employed.)

Since the life of the toner cartridge which is packed when shipping from the factory is 2.5K, the remaining quantity of the toner cartridge, though it is a new one, is displayed as 25-0%.

*2: Selection of Display/Not Display can be made with SIM26-69. (Default: Not Display)

*3: Setting can be made with SIM26-69. (Default: 0 sheet)

*4: When the black toner cartridge does not reach the life end and only the color toner cartridge reaches the life end, black/white print can be performed but color print cannot be performed.

B. MX-B400P/B380P

(1) Drum cartridge

Display content	Display condition			Print job Enable/Disable
	SIM26-38-E set value	Counter name	Counter value	
Maintenance required. Code: DK	0 (Print continue)	Drum cartridge print counter	When 72K is reached	Enable
		Drum cartridge accumulated rotation number	When 550K rotations is reached	Enable
Maintenance required. Code: DK	1 (Print stop)	Drum cartridge print counter	When 72K is reached	Enable
			When 72K + 1K is reached	Disable
		Drum cartridge accumulated rotation number	When 550K rotations is reached	Enable
			When 550K rotation + 430Kmm is reached	Disable

- When the drum cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared.
- If the above guidance does not disappear when the drum cartridge is replaced, SIM24-7 must be executed to clear the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter.

(2) Developer cartridge

Display content	Display condition			Print job Enable/Disable
	SIM26-38-F set value	Counter name	Counter value	
Maintenance required. Code: VK	0 (Print continue)	Developer cartridge print counter	When 72K is reached	Enable
		Developer cartridge accumulated rotation number	When 550K rotations is reached	Enable
Maintenance required. Code: VK	1 (Print stop)	Developer cartridge print counter	When 72K is reached	Enable
			When 72K + 1K is reached	Disable
		Developer cartridge accumulated rotation number	When 550K rotations is reached	Enable
			When 550K rotation + 430Kmm is reached	Disable

- When the developer cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared, and the initial setting of the toner density is automatically executed.
- When SIM26-55 setting is set to ENABLE, the initial setting of the toner density is executed.
- If the above guidance does not disappear when the developer cartridge is replaced, the initial setting of the toner density must be executed with the SIM25-2.

(3) Toner cartridge

Display content	Display condition		Print job Enable/Disable
	Remaining quantity display *1	Status	
Prepare a new toner *2	25-0%	Toner remaining quantity is 25% or less.	Enable
	25-0%	Toner remaining quantity corresponds to output of XX sheets. *3	Enable
Change the toner cartridge	0%	When the toner cartridge reaches toner end.	Disable
No display	50-25%	Toner remaining quantity is 49 - 25%.	Enable
No display	75-50%	Toner remaining quantity is 74 - 50%.	Enable
No display	100-75%	Toner remaining quantity is 100 -75%.	Enable
Install the toner cartridge.	No display	When no toner cartridges are installed.	Disable
Improper cartridge. Code: F2-04	No display	When an incompatible toner cartridge is installed.	Disable
Cartridge error. Code: F2-05	No display	CRUM trouble Toner cartridge connector contact trouble	Disable

*1: Detected by the toner motor rotation number and the pixel count (The value of larger life percentage is employed.)

*2: Selection of Display/Not Display can be made with SIM26-69. (Default: Not Display)

*3: Setting can be made with SIM26-69. (Default: 0 sheet)

C. MX-B382P

(1) Drum cartridge

Display content	Display condition			Print job Enable/Disable
	Sim26-38-E set value	Counter name	Counter value	
Change the supplies. > Drum Cartridge	0 (Print continue)	Drum cartridge print counter	When 72K is reached	Enable
		Drum cartridge accumulated rotation number	When 550K rotations is reached	Enable
The supplies will be needed soon. > Drum Cartridge *1	1 (Print stop)	Drum cartridge print counter	When 90% of 72K is reached by the counter	Enable
		Drum cartridge accumulated rotation number	When 90% of 550K rotation is reached by the counter	Enable
Change the supplies. > Drum Cartridge	1 (Print stop)	Drum cartridge print counter	When 72K is reached	Enable
			When 72K + 1K is reached	Disable
		Drum cartridge accumulated rotation number	When 550K rotations is reached	Enable
			When 550K rotation + 430Kmm is reached	Disable

*1: Selection of Display/Not Display can be made with Sim26-69. (Default: Not Display)

- When the drum cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared. If SIM26-55 setting is set to ENABLE in that case, the guidance for execution of the automatic adjustment of the engine is displayed.
- If SIM26-55 setting is set to DISABLE, SIM46-74 must be used to execute the automatic adjustment of the engine.
- If the above guidance does not disappear when the drum cartridge is replaced, SIM24-7 must be executed to clear the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter, and the engine automatic adjustment must be executed.
- The above display disappears when the counters are cleared.

(2) Developer section

Counter name	End conditions	Message when end over	
		Sim.26-38A "0" Print Enable	Sim.26-38A "1" Print Stop
Developer print counter (K)	72,000 [sheets]	Message (9)	Message (9)
Developer accumulated rotation number (K)	550K rotations	Message (9)	Message (9)

Judgment is made at the earlier timing of the developer print counter or the developer accumulated rotation number counter.

The developer rotation number is synchronized with the drum motor rotation number.

Message No.	Message	Print job Enable/Disable
(9)	Maintenance required.Code: VK	Enable

After replacement of developer, use SIM25-2 to set the toner density control level. By this setting, the developer counters (the developer print counter and the developer accumulated traveling distance counter) are cleared.

(3) Toner cartridge

Display content	Display condition		Print job Enable/Disable
	Remaining quantity display *1	Status	
The supplies will be needed soon. > Toner Cartridge *2	25-0%	Toner remaining quantity is 25% or less.	Enable
	25-0%	Toner remaining quantity corresponds to output of XX sheets. *3	Enable
Change the supplies. > Toner Cartridge	0%	When the toner cartridge reaches toner end.	Disable
No display	50-25%	Toner remaining quantity is 49 - 25%.	Enable
No display	75-50%	Toner remaining quantity is 74 - 50%.	Enable
No display	100-75%	Toner remaining quantity is 100 - 75%.	Enable
Install the toner cartridge.	No display	When no toner cartridges are installed.	Disable
Improper cartridge.	No display	When an incompatible toner cartridge is installed.	Disable
Cartridge error.	No display	CRUM trouble Toner cartridge connector contact trouble	Disable

*1: Detected by the toner motor rotation number and the pixel count (The value of larger life percentage is employed.)

*2: Selection of Display/Not Display can be made with Sim26-69. (Default: Not Display)

*3: Setting can be made with Sim26-69. (Default: 0 sheet)

6. Recommended color paper

The following kinds of color print paper can be recommended.

When these recommended color paper is used, a satisfactory image quality can be obtained.

If a kind of paper other than the recommended ones is used, normal image quality (color reproduction) may not be obtained.

Model	Supplier	Specification
Hammermill LASER PRINT	Hammermill	[11" x 8.5", 90g/m ²] [11" x 17", 90g/m ²]
Mondi Color Copy (90g/m ²)	Mondi	[A4, 90g/m ²] [A3, 90g/m ²]

7. Environment conditions

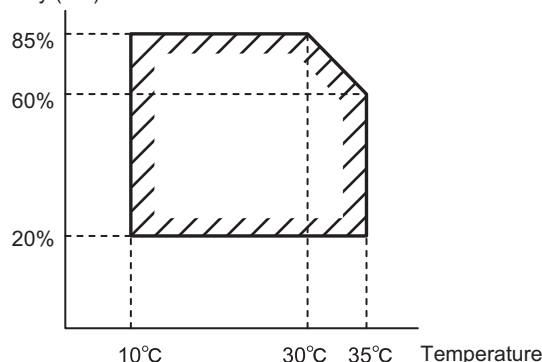
A. Operating environment conditions

Temperature: 10 - 35°C

Humidity: 20 - 85% RH

Atmospheric pressure: 590 - 1013hPa (Altitude: 0 - 2000m)

Humidity (RH)



B. Transit environment conditions (term: 2 weeks)

-20 - 45°C (Free from dew)

C. Storage environment conditions (unopened)

-10 - 40°C (Free from dew)

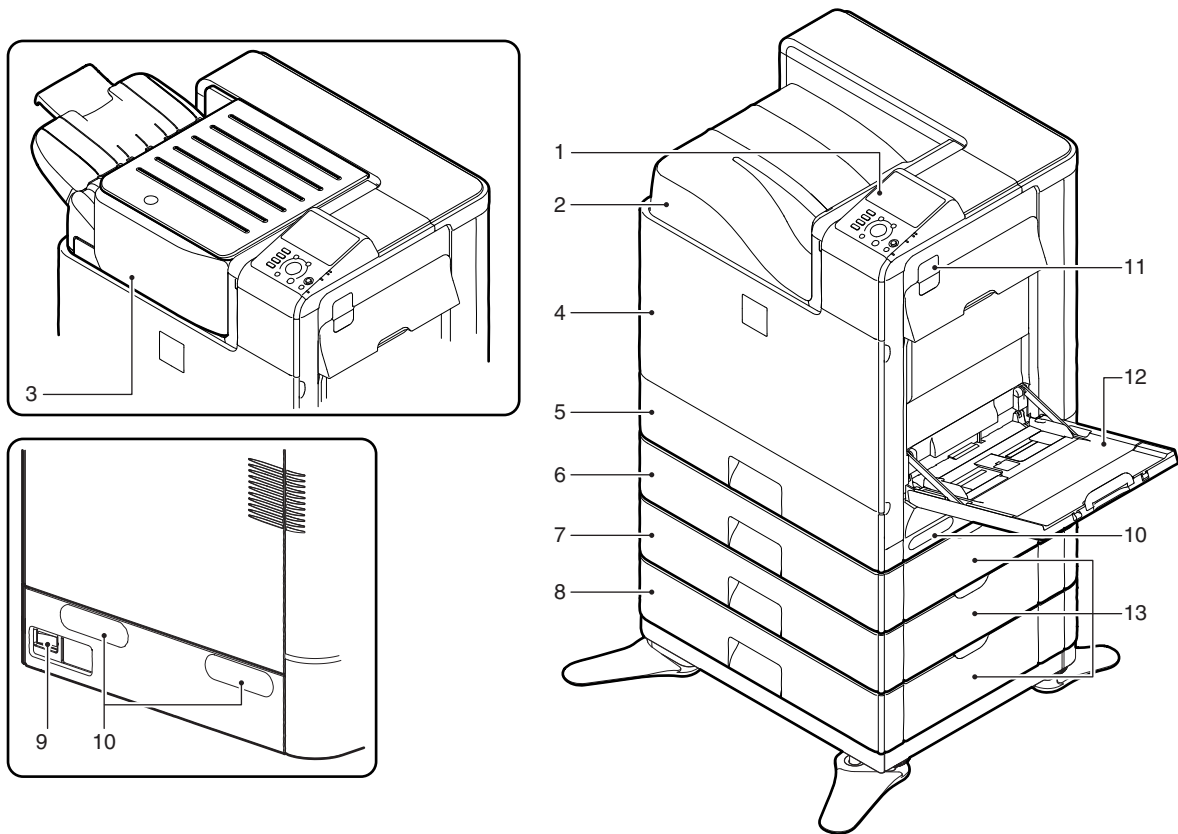
D. Disposal standard

Toner cartridge/developer cartridge: 24 months (unopened) from the production month.

Drum cartridge: 36 months from the production month

[3] EXTERNAL VIEW AND INTERNAL STRUCTURE

1. External view

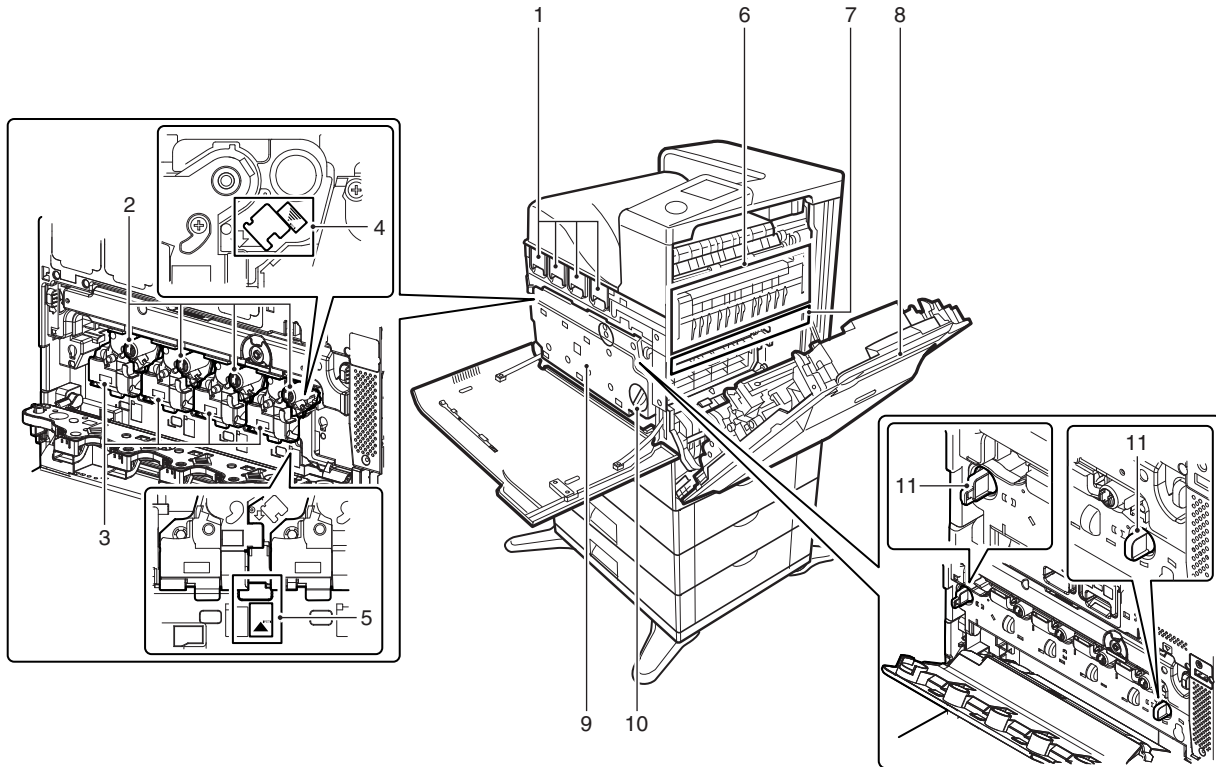


No.	Name	Function/Operation
1	Operation panel	Used to enter an input of various settings.
2	Paper exit tray (Center tray)	Printed paper is discharged to this tray.
3	Finisher *1	Delivers stapled paper, and allows offset discharge of paper.
4	Front cover	This is opened when replacing toner cartridges or the waste toner box.
5	Tray 1	Stores paper. Max. 500 sheets (80g/m ² , 21lbs)
6	Tray 2 (with the MX-CSX1 installed) *1	Stores paper. Max. 500 sheets (80g/m ² , 21lbs)
7	Tray 3 (with the MX-CSX2 installed) *1	Stores paper. Max. 500 sheets (80g/m ² , 21lbs)
8	Tray 4 (with the MX-CSX2 installed) *1	Stores paper. Max. 500 sheets (80g/m ² , 21lbs)
9	Main power switch	Turns on the power of the machine.
10	Handle	Use this handle to lift the main unit for transit.
11	Right side cover release lever	To remove paper jam, lift this lever and open the right side cover.
12	Manual paper feed tray	For manual paper feed, paper is inserted from this tray. When A4R or 8-1/2" x 11"R paper is set, extend the auxiliary tray.
13	One-stage paper feed unit side cover (with the MX-CSX1/2 installed)	To remove paper jam in tray 2, 3, or 4, open this cover.

*1: Option

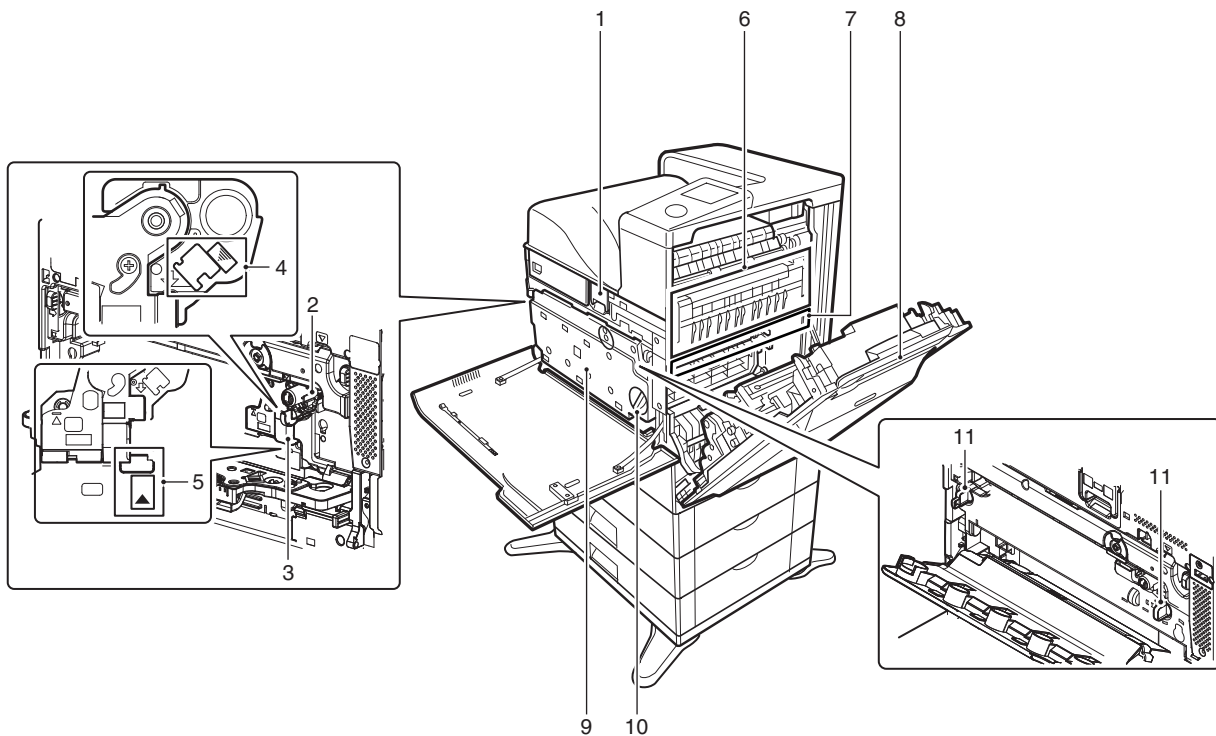
2. Internal structure

A. MX-C400P/C380P



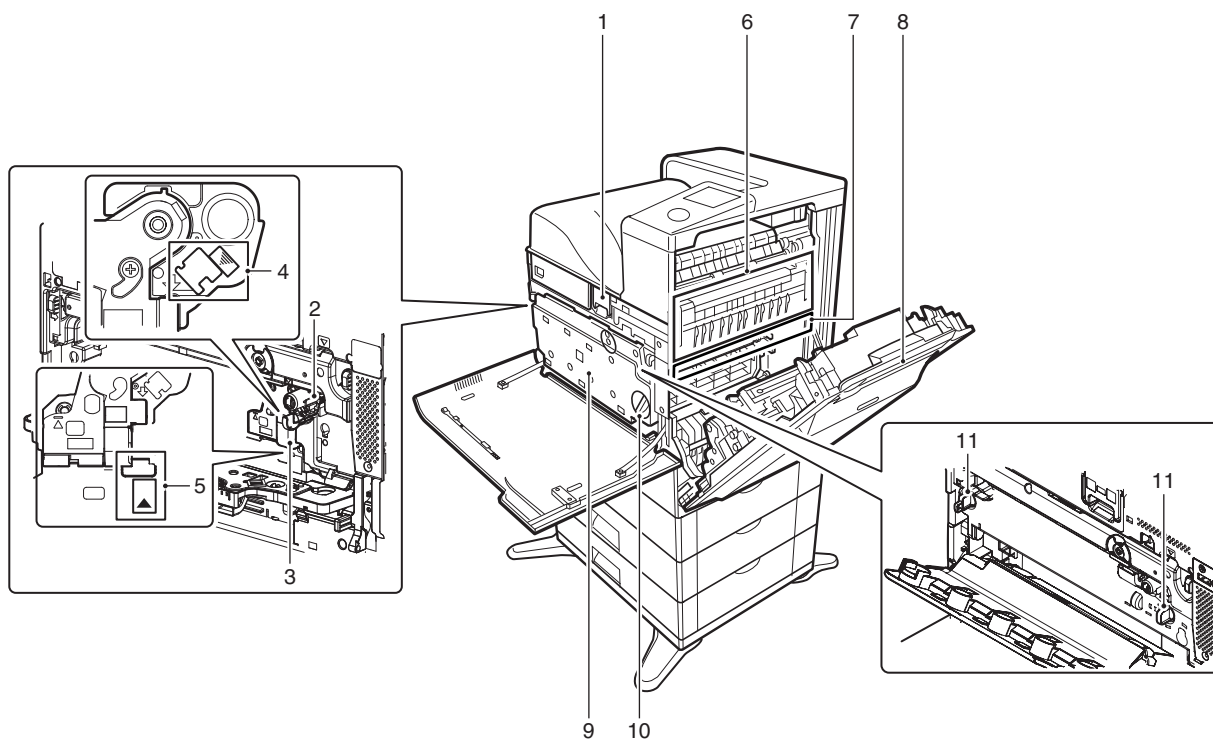
No.	Name	Function/Operation	Note
1	Toner cartridges	When toner is exhausted in a cartridge, remove the cartridge and replace it with a new one.	
2	Drum cartridges	This cartridge stores a drum. When the specified life is reached, replace it with a new cartridge.	
3	Developer cartridges	This cartridge stores developer. When the specified life is reached, replace it with a new cartridge.	
4	MC cleaning rod insertion port	When the print quality is degraded by dirt on the MC unit, the rod to clean the MC unit is inserted into this port.	One for each color
5	LSU cleaning rod insertion port	When the print quality is degraded by dirt on the LSU, the rod to clean the LSU is inserted into this port.	One for each color
6	Fusing section	Fuses images transferred on paper by heat.	Note: The fusing section is heated to a high temperature. Be careful not to burn when paper jam.
7	Transfer belt	In full color print, the transfer belt overlaps 4-color toner images on the transfer belt. In black print, black toner images are shifted to the transfer belt.	Do not touch or scratch. It may cause degraded images.
8	Right side cover	Opened when a paper jam is generated.	
9	Waste toner box	Receives waste toner when printing.	The waste toner box is collected by the servicemen.
10	Waste toner box release lever	When the waste toner box is removed, this lever is rotated to release lock.	
11	Drum positioning plate unit release lever	Releases lock of the drum positioning plate unit. When a drum cartridge or a developer cartridge is replaced, rotate this lever to open the drum positioning plate unit.	

B. MX-B400P/B380P



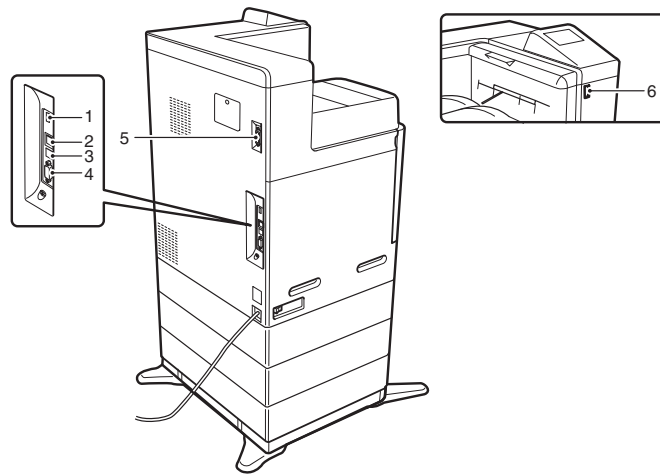
No.	Name	Function/Operation	Note
1	Toner cartridge	When toner is exhausted in a cartridge, remove the cartridge and replace it with a new one.	
2	Drum cartridge	This cartridge stores a drum. When the specified life is reached, replace it with a new cartridge.	
3	Developing unit	This unit stores developer. When the specified life is reached, replace it with a new developer.	
4	MC cleaning rod insertion port	When the copy quality is degraded by dirt on the MC unit, the rod to clean the MC unit is inserted into this port.	
5	LSU cleaning rod insertion port	When the copy quality is degraded by dirt on the LSU, the rod to clean the LSU is inserted into this port.	
6	Fusing section	Fuses images transferred on paper by heat.	Note: The fusing section is heated to a high temperature. Be careful not to burn when paper jam.
7	Transfer belt	The transfer belt transfers toner on the drum.	Do not touch or scratch. It may cause degraded images.
8	Right side cover	Opened when a paper jam is generated.	
9	Waste toner box	Receives waste toner when copying or printing.	The waste toner box is collected by the servicemen.
10	Waste toner box release lever	When the waste toner box is removed, this lever is rotated to release lock.	
11	Drum positioning plate unit release lever	Releases lock of the drum positioning plate unit. When a drum cartridge or a developer cartridge is replaced, rotate this lever to open the drum positioning plate unit.	

C. MX-B382P



No.	Name	Function/Operation	Note
1	Toner cartridge	When toner is exhausted in a cartridge, remove the cartridge and replace it with a new one.	
2	Drum cartridge	This cartridge stores a drum. When the specified life is reached, replace it with a new cartridge.	
3	Developer cartridge	This cartridge stores developer. When the specified life is reached, replace it with a new cartridge.	
4	MC cleaning rod insertion port	When the copy quality is degraded by dirt on the MC unit, the rod to clean the MC unit is inserted into this port.	
5	LSU cleaning rod insertion port	When the copy quality is degraded by dirt on the LSU, the rod to clean the LSU is inserted into this port.	
6	Fusing section	Fuses images transferred on paper by heat.	Note: The fusing section is heated to a high temperature. Be careful not to burn when paper jam.
7	Transfer belt	The transfer belt transfers toner on the drum.	Do not touch or scratch. It may cause degraded images.
8	Right side cover	Opened when a paper jam is generated.	
9	Waste toner box	Receives waste toner when copying or printing.	The waste toner box is collected by the servicemen.
10	Waste toner box release lever	When the waste toner box is removed, this lever is rotated to release lock.	
11	Drum positioning plate unit release lever	Releases lock of the drum positioning plate unit. When a drum cartridge or a developer cartridge is replaced, rotate this lever to open the drum positioning plate unit.	

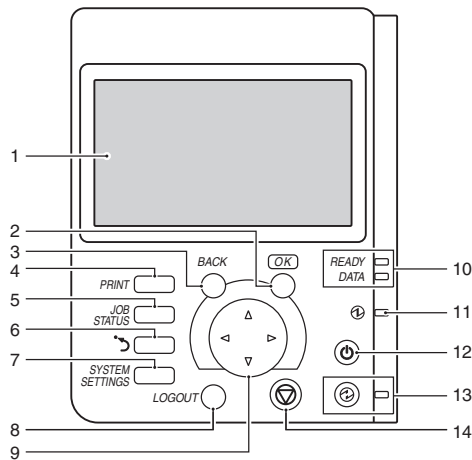
3. Connectors



No.	Name	Function/Operation
1	USB connector (Type A) *1	Used to connect a USB hub or USB memory. This connector cannot be used when shipping from the factory.
2	LAN connector	Used to connect a LAN cable to use this machine in a network.
3	USB connector (Type B)	Used to connect a computer to use this machine as a printer.
4	Connector	This connector is used by the serviceman.
5	Inner finisher connection connector	This connector is used to connect the inner finisher and the main unit when the inner finisher (option) is installed.
6	USB connector (Type A) *1	Used to connect a USB hub or USB memory.

*1: When using the USB port, be careful of the total current consumption not to exceed 500mA.

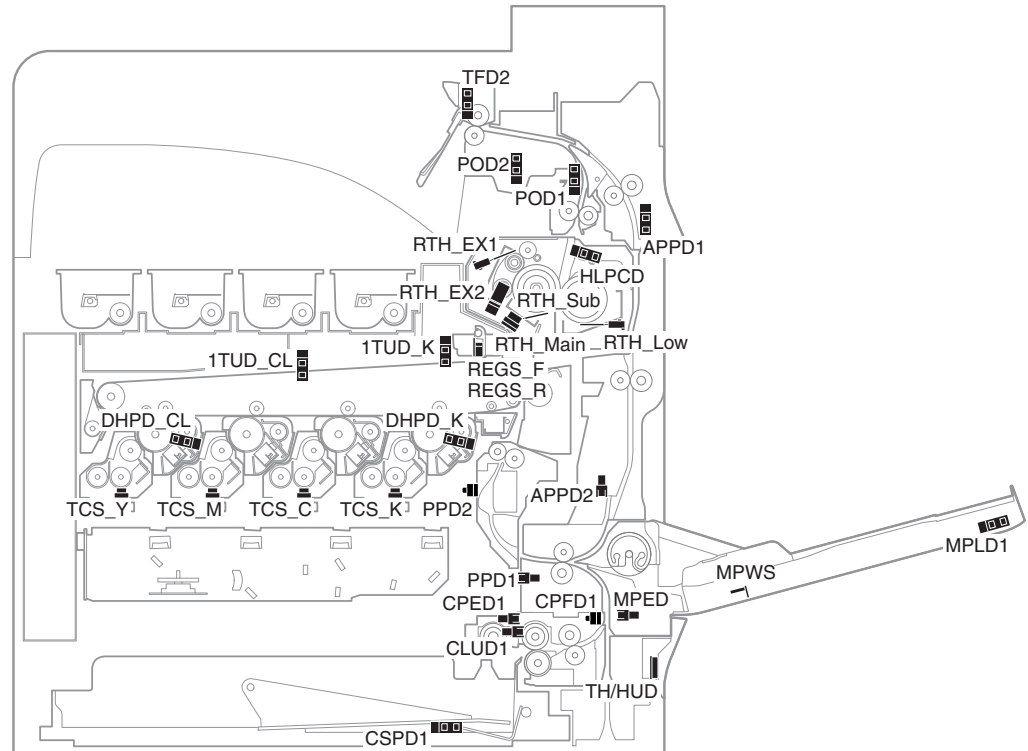
4. Operation panel



No.	Name	Function/Operation
1	Display	Messages and keys appear in the display. Use the arrow keys and the [OK] key to select displayed items and perform various operations.
2	[OK] key	Press this key to enter a selected setting.
3	[BACK] key	Press this key to return to the previous screen without discarding your settings.
4	[PRINT] key	When you wish to print a print hold job, press this key to switch to print mode.
5	[JOB STATUS] key	Press this key to display the job status screen. The job status screen is used to check information on jobs and to cancel jobs.
6	Sharp OSA shortcut key	Press this key to display a shortcut key to Sharp OSA mode.
7	[SYSTEM SETTINGS] key	Press this key to display the system settings menu screen. The system settings are used to configure paper tray settings, and adjust parameters to make the machine easier to use.
8	[LOGOUT] key	Press this key to log out after you have logged in and used the machine.
9	Arrow keys	Press these keys to move the selection frame that is used to select setting keys and items in the display.
10	PRINT mode indicators	<ul style="list-style-type: none"> READY indicator Print jobs can be received when this indicator is lit. DATA indicator This blinks while print data is being received and lights steadily while printing is taking place.
11	Main power indicator	This lights up when the machine's main power switch is in the "on" position.
12	[POWER] key	Use this key to turn the machine power on and off.
13	[POWER SAVE] key / indicator	Use this key to put the machine into auto power shut-off mode to save energy. The [POWER SAVE] key indicator blinks when the machine is in auto power shut-off mode.
14	[STOP] key	Press this key to stop a printing job.

5. Sensors and detectors

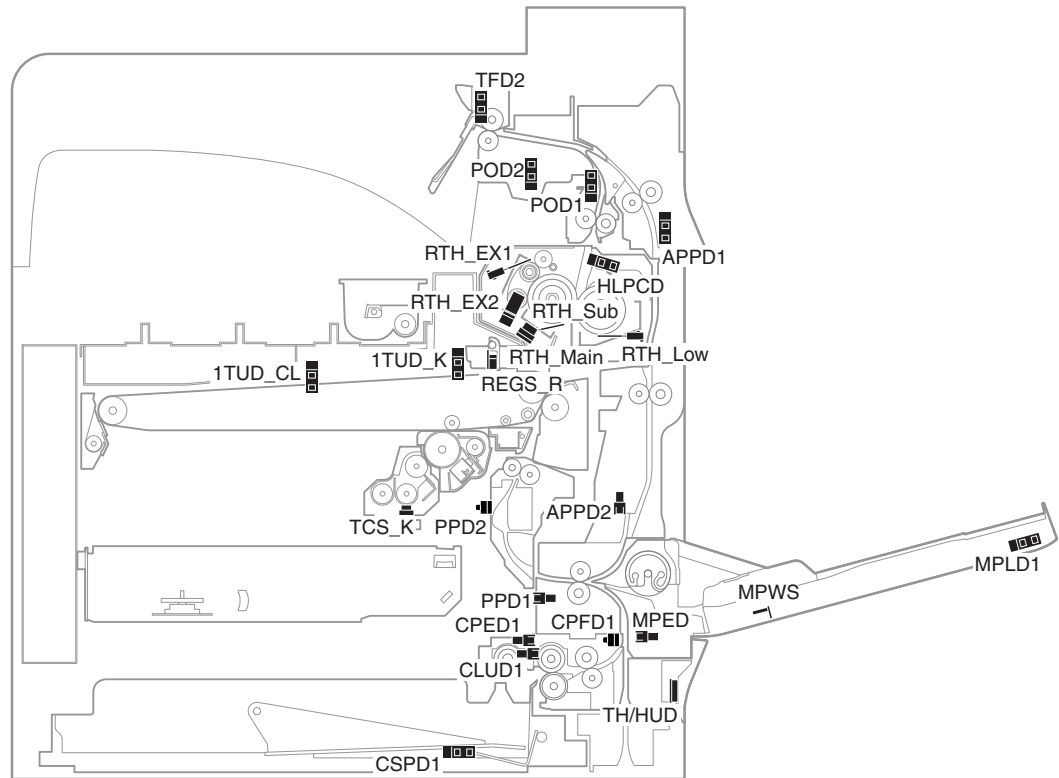
A. MX-C400P/C380P



Signal name	Name	Type	Function/Operation	Note
1TUD_CL	Transfer belt separation detector CL	Transmission type	Detects position of the transfer belt. Detects initialization of the primary transfer unit.	High voltage PWB holder unit
1TUD_K	Transfer belt separation detector BK	Transmission type	Detects position of the transfer belt. Detects initialization of the primary transfer unit.	Frame unit
APPD1	ADU transport path detector 1	Transmission type	Detects paper pass in the upper stream of the switchback section.	Right door unit
APPD2	ADU transport path detector 2	Transmission type	Detects paper pass in the middle stream of the switchback section.	Right door unit
CLUD1	Tray 1 upper limit detector	Transmission type	Detects that the top surface of the paper stored in the tray 1 is lifted to the top.	Paper feed unit
CPED1	Tray 1 paper empty detector	Transmission type	Detects that paper is stored in the tray 1.	Paper feed unit
CPFD1	Paper transport detector 1	Reflection type	Detects paper when passes the transport roller 1.	Paper feed unit
CSPD1	Tray 1 paper remaining quantity detector	Transmission type	Detects the paper remaining quantity in the tray 1.	Lift-up unit
DHPD_CL	Drum cartridge (CL) rotation detector	Transmission type	Detects the rotating state of the color drum cartridge.	Main drive unit
DHPD_K	Drum cartridge (BK) rotation detector	Transmission type	Detects the rotating state of the black drum cartridge.	Main drive unit
HLPCD	Fusing roller pressure release detector	Transmission type	Detects separation of the upper and the lower heat rollers.	Fusing unit
MPED	Manual feed paper empty detector	Transmission type	Detects paper empty in the manual paper feed tray.	Manual paper feed unit
MPLD1	Manual feed paper length detector 1	Transmission type	Detects the length of paper in the manual paper feed tray.	Manual paper feed unit
MPWS	Manual paper feed tray paper width sensor	Volume resistor	Detects the width of the paper guide in the manual paper feed tray.	Manual paper feed unit
POD1	Fusing rear detector	Transmission type	Detects paper exit from the fusing section.	Sensor: Frame fusing unit Actuator: Frame rear PG unit
POD2	Paper exit detector	Transmission type	Detects paper which is discharged.	Paper exit lower PG unit
PPD1	Paper transport detector 2	Transmission type	Detects paper when passes the transport roller 2.	Paper feed unit
PPD2	Paper transport detector 3	Reflection type	Detects paper in front of the registration roller.	Frame unit
REGS_F	Registration sensor	Reflection type	Detects registration shift.	Registration unit
REGS_R				
RTH_EX1	External heat roller contact thermistor 1	Thermistor	Detects the temperature of the external heat roller.	Fusing unit
RTH_EX2	External heat roller contact thermistor 2	Thermistor		
RTH_Low	Lower heat roller contact thermistor	Thermistor	Detects the temperature of the lower heat roller.	Fusing unit
RTH_Main	Upper heat roller non-contact thermistor	Non-contact thermistor	Detects the temperature of the upper heat roller.	Fusing unit
RTH_Sub	Upper heat roller contact thermistor	Thermistor		
TCS_C	Toner density sensor	Magnetic sensor	Detects the toner density in the developing cartridge. (C)	Developing cartridge

Signal name	Name	Type	Function/Operation	Note
TCS_K	Toner density sensor	Magnetic sensor	Detects the toner density in the developing cartridge. (K)	Developing cartridge
TCS_M	Toner density sensor	Magnetic sensor	Detects the toner density in the developing cartridge. (M)	Developing cartridge
TCS_Y	Toner density sensor	Magnetic sensor	Detects the toner density in the developing cartridge. (Y)	Developing cartridge
TFD2	Paper exit tray full detector	Transmission type	Detects the full state of the paper exit tray.	Paper exit upper PG unit
TH/HUD	Temperature humidity sensor	Temperature humidity sensor	Detects the temperature and the humidity around the machine.	Right door unit

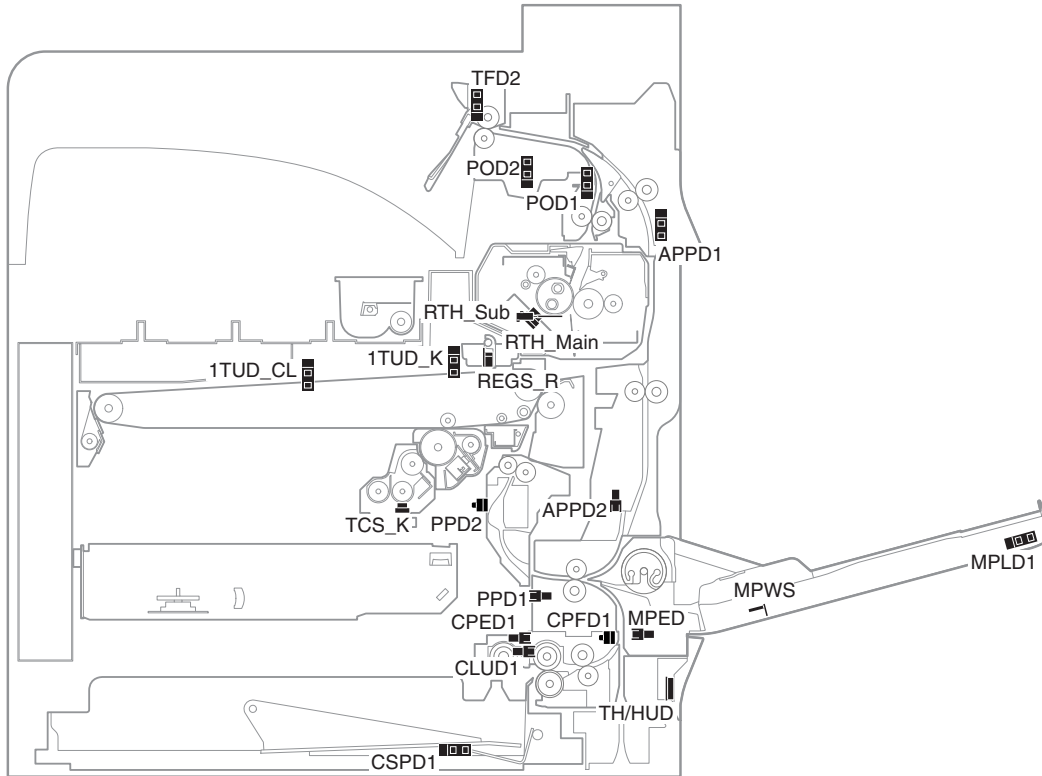
B. MX-B400P/B380P



Signal name	Name	Type	Function/Operation	Note
1TUD_CL	Transfer belt separation detector CL	Transmission type	Detects position of the transfer belt.	High voltage PWB holder unit
1TUD_K	Transfer belt separation detector BK	Transmission type	Detects initialization of the primary transfer unit.	Frame unit
APPD1	ADU transport path detector 1	Transmission type	Detects paper pass in the upper stream of the switchback section.	Right door unit
APPD2	ADU transport path detector 2	Transmission type	Detects paper pass in the middle stream of the switchback section.	Right door unit
CLUD1	Tray 1 upper limit detector	Transmission type	Detects that the top surface of the paper stored in the tray 1 is lifted to the top.	Paper feed unit
CPED1	Tray 1 paper empty detector	Transmission type	Detects that paper is stored in the tray 1.	Paper feed unit
CPFD1	Paper transport detector 1	Reflection type	Detects paper when passes the transport roller 1.	Paper feed unit
CSPD1	Tray 1 paper remaining quantity detector	Transmission type	Detects the paper remaining quantity in the tray 1.	Lift-up unit
HLPCD	Fusing roller pressure release detector	Transmission type	Detects separation of the upper and the lower heat rollers.	Fusing unit
MPED	Manual feed paper empty detector	Transmission type	Detects paper empty in the manual paper feed tray.	Manual paper feed unit
MPLD1	Manual feed paper length detector 1	Transmission type	Detects the length of paper in the manual paper feed tray.	Manual paper feed unit
MPWS	Manual paper feed tray paper width sensor	Volume resistor	Detects the width of the paper guide in the manual paper feed tray.	Manual paper feed unit
POD1	Fusing rear detector	Transmission type	Detects paper exit from the fusing section.	Sensor: Frame fusing unit Actuator: Frame rear PG unit
POD2	Paper exit detector	Transmission type	Detects paper which is discharged.	Paper exit lower PG unit
PPD1	Paper transport detector 2	Transmission type	Detects paper when passes the transport roller 2.	Paper feed unit
PPD2	Paper transport detector 3	Reflection type	Detects paper in front of the registration roller.	Frame unit
REGS_R	Registration sensor	Reflection type	Detects the toner patch density. Detects open/close of the reference reflection plate, the secondary transfer roller transfer position, and the non-transfer position.	Registration unit

Signal name	Name	Type	Function/Operation	Note
RTH_EX1	External heat roller contact thermistor 1	Thermistor	Detects the temperature of the external heat roller.	Fusing unit
RTH_EX2	External heat roller contact thermistor 2	Thermistor		
RTH_Low	Lower heat roller contact thermistor	Thermistor	Detects the temperature of the lower heat roller.	Fusing unit
RTH_Main	Upper heat roller non-contact thermistor	Non-contact thermistor	Detects the temperature of the upper heat roller.	Fusing unit
RTH_Sub	Upper heat roller contact thermistor	Thermistor		
TCS_K	Toner density sensor	Magnetic sensor	Detects the toner density in the developing cartridge.	Developing cartridge
TFD2	Paper exit tray full detector	Transmission type	Detects the full state of the paper exit tray.	Paper exit upper PG unit
TH/HUD	Temperature humidity sensor	Temperature humidity sensor	Detects the temperature and the humidity around the machine.	Right door unit

▲ C. MX-B382P



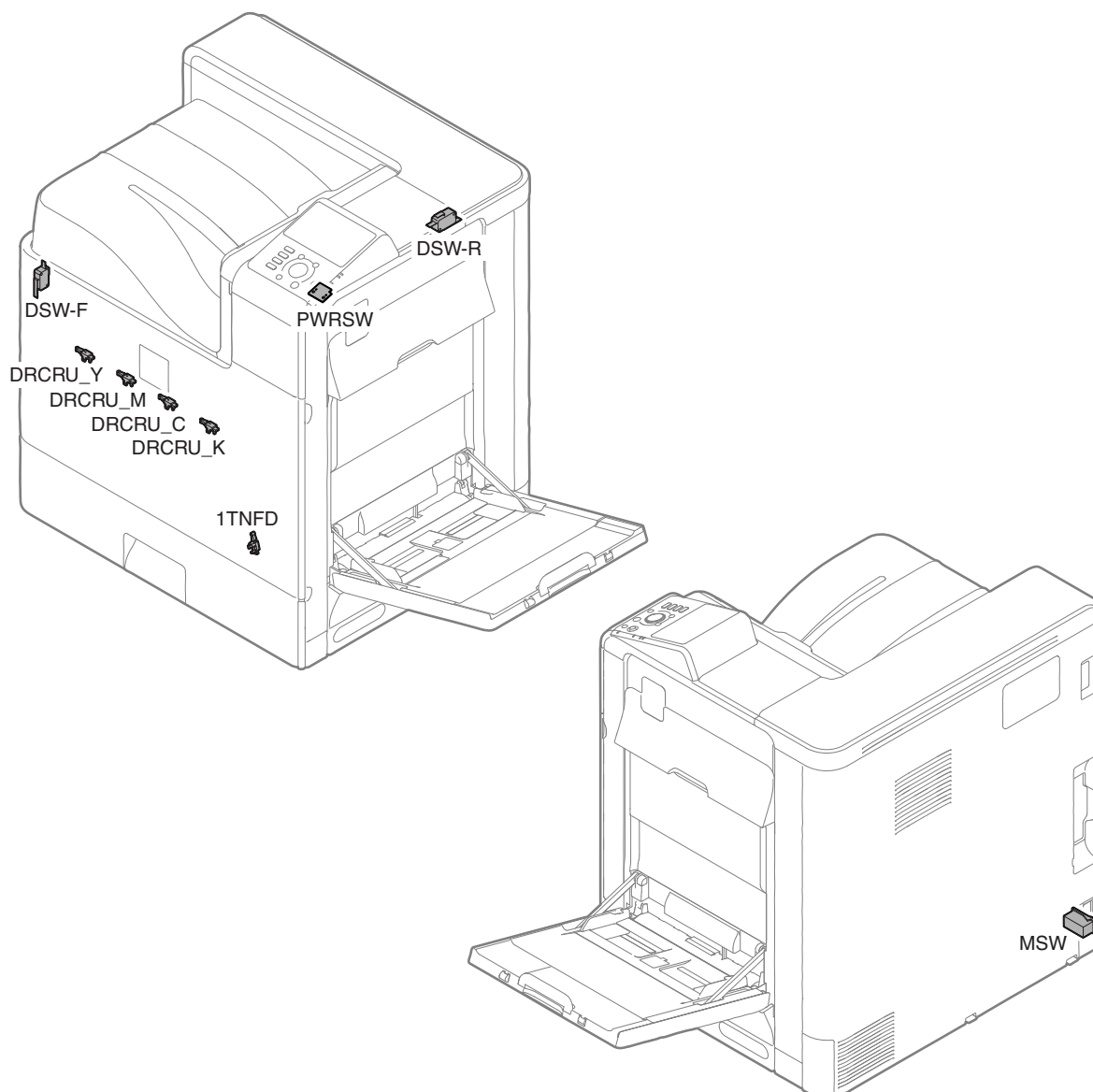
Signal name	Name	Type	Function/Operation	Note
1TUD_CL	Transfer belt separation detector CL	Transmission type	Detects separation of the transfer belt.	High voltage PWB holder unit
1TUD_K	Transfer belt separation detector BK	Transmission type	Detects initialization of the primary transfer unit.	Frame unit
APPD1	ADU transport path detector 1	Transmission type	Detects paper pass in the upper stream of the switchback section.	Right door unit
APPD2	ADU transport path detector 2	Transmission type	Detects paper pass in the middle stream of the switchback section.	Right door unit
CLUD1	Tray 1 upper limit detector	Transmission type	Detects that the top surface of the paper stored in the tray 1 is lifted to the top.	Paper feed unit
CPED1	Tray 1 paper empty detector	Transmission type	Detects that paper is stored in the tray 1.	Paper feed unit
CPFD1	Paper transport detector 1	Reflection type	Detects paper when passes the transport roller 1.	Paper feed unit
CSPD1	Tray 1 paper remaining quantity detector	Transmission type	Detects the paper remaining quantity in the tray 1.	Lift-up unit
MPED	Manual feed paper empty detector	Transmission type	Detects paper empty in the manual paper feed tray.	Manual paper feed unit
MPLD1	Manual feed paper length detector 1	Transmission type	Detects the length of paper in the manual paper feed tray.	Manual paper feed unit
MPWS	Manual paper feed tray paper width sensor	Volume resistor	Detects the width of the paper guide in the manual paper feed tray.	Manual paper feed unit
POD1	Fusing rear detector	Transmission type	Detects paper exit from the fusing section.	Sensor: Frame fusing unit Actuator: Frame rear PG unit
POD2	Paper exit detector	Transmission type	Detects paper which is discharged.	Paper exit lower PG unit
PPD1	Paper transport detector 2	Transmission type	Detects paper when passes the transport roller 2.	Paper feed unit
PPD2	Paper transport detector 3	Reflection type	Detects paper in front of the registration roller.	Frame unit
REGS_R	Registration sensor	Reflection type	Detects the toner patch density. Detects open/close of the reference reflection plate, the secondary transfer roller transfer position, and the non-transfer position.	Registration unit



Signal name	Name	Type	Function/Operation	Note
RTH_Main	Upper heat roller non-contact thermistor	Non-contact thermistor	Detects the temperature of the upper heat roller.	Fusing unit
RTH_Sub	Upper heat roller contact thermistor	Thermistor		
TCS_K	Toner density sensor	Magnetic sensor	Detects the toner density in the developing cartridge.	Developing cartridge
TFD2	Paper exit tray full detector	Transmission type	Detects the full state of the paper exit tray.	Paper exit upper PG unit
TH/HUD	Temperature humidity sensor	Temperature humidity sensor	Detects the temperature and the humidity around the machine.	Right door unit

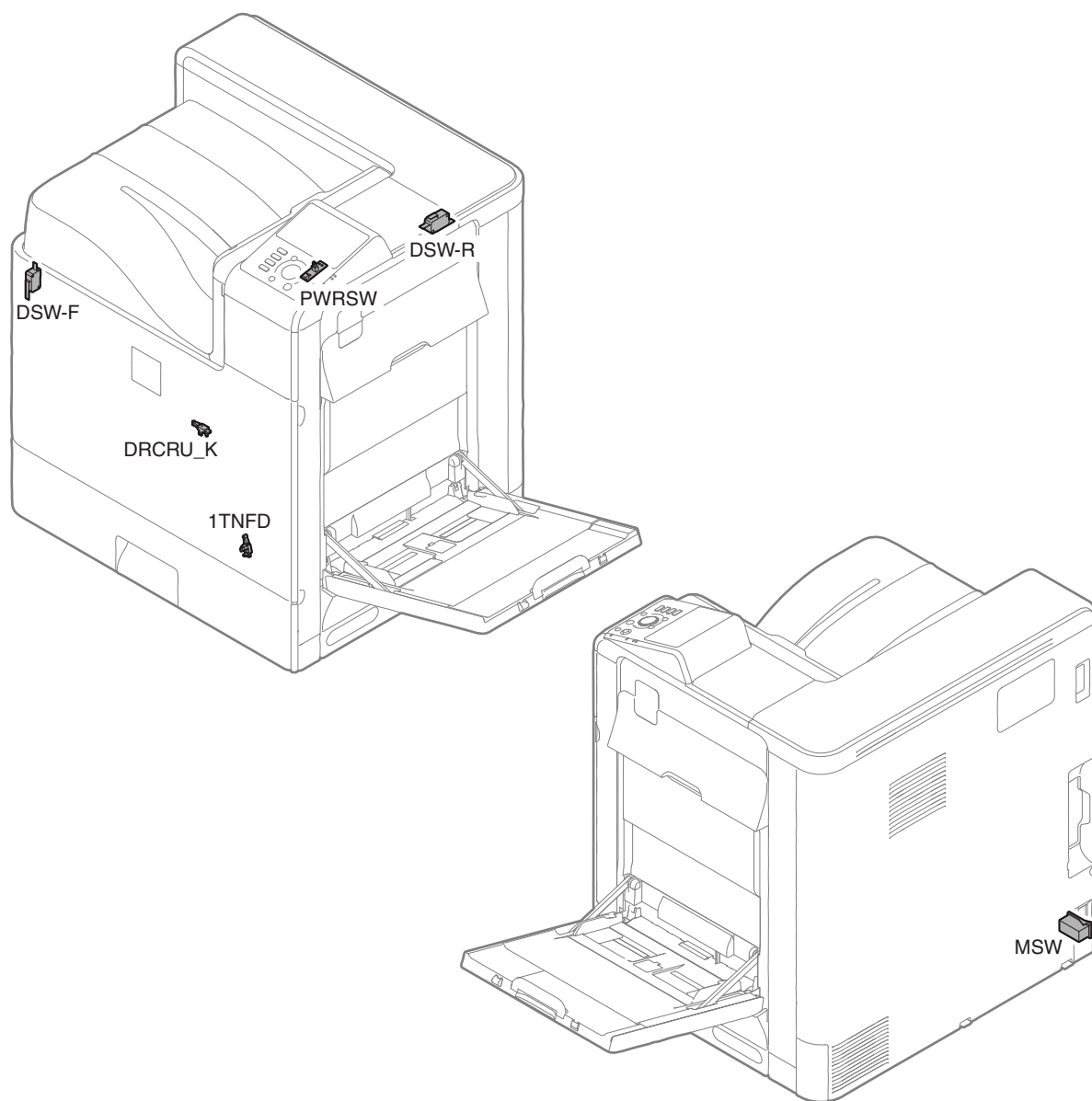
6. Switches

A. MX-C400P/C380P



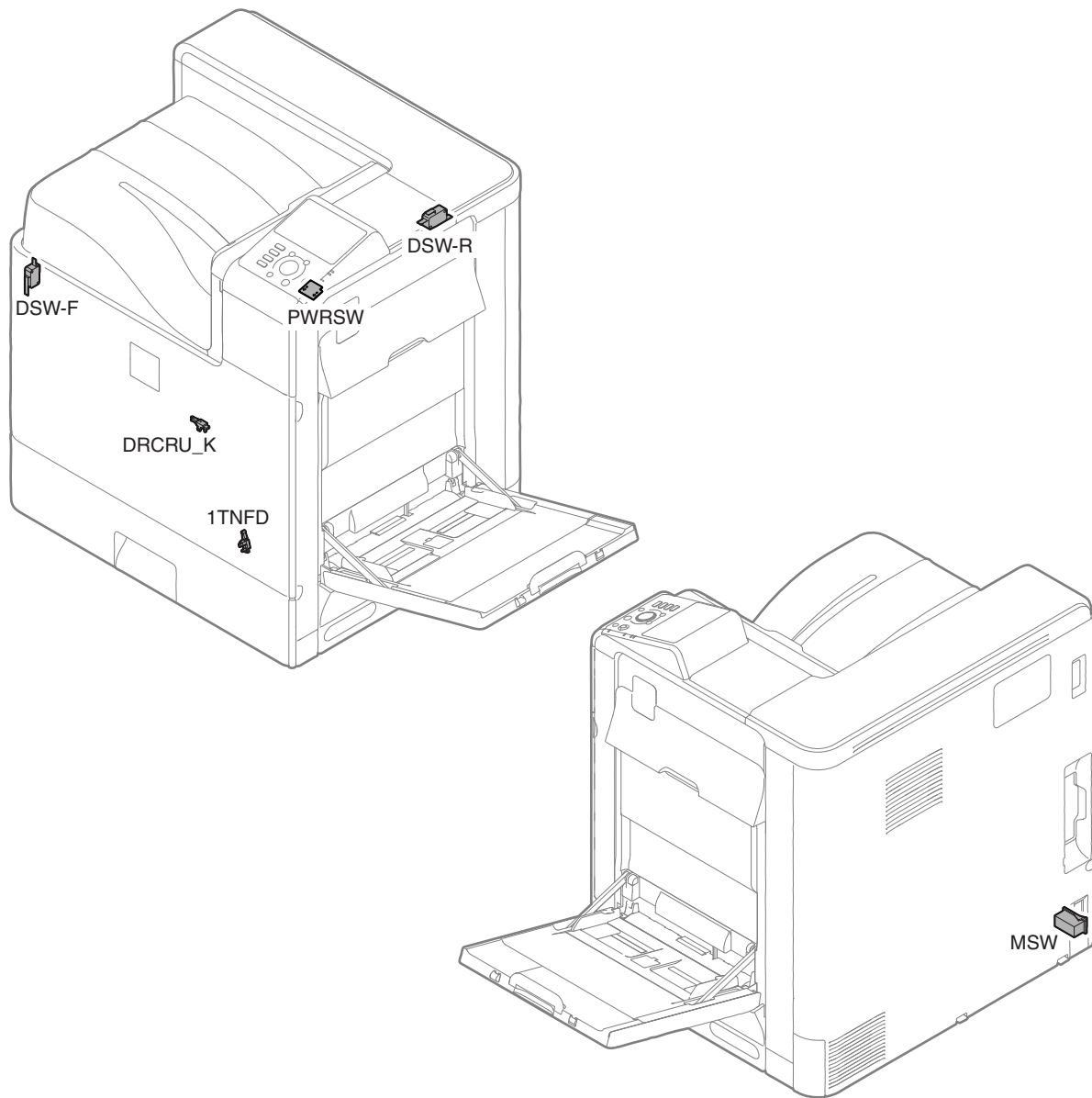
Signal name	Name	Type	Function/Operation
1TNFD	Waste toner full detection switch	Micro switch	Detects the waste toner full.
DRCRU_C	OPC drum initial (new OPC drum) detector (C)	Micro switch	Detects the OPC drum initial state (new OPC drum).
DRCRU_K	OPC drum initial (new OPC drum) detector (BK)	Micro switch	Detects the OPC drum initial state (new OPC drum).
DRCRU_M	OPC drum initial (new OPC drum) detector (M)	Micro switch	Detects the OPC drum initial state (new OPC drum).
DRCRU_Y	OPC drum initial (new OPC drum) detector (Y)	Micro switch	Detects the OPC drum initial state (new OPC drum).
DSW-F	Front door open/close switch	Micro switch	Detects open/close of the front door, and turns ON/OFF the power line of the fusing, the motor and the LSU laser.
DSW-R	Right door open/close switch	Micro switch	Detects open/close of the right door unit, and turns ON/OFF the power line of the fusing, the motor and the LSU laser.
MSW	Main switch	Seesaw switch	Turns ON/OFF the main DC power source.
PWRSW	Operation panel power switch	Push switch	Outputs the ON/OFF control signal of the DC power source.

B. MX-B400P/B380P



Signal name	Name	Type	Function/Operation
1TNFD	Waste toner full detection switch	Micro switch	Detects the waste toner full.
DRCRU_K	OPC drum initial (new OPC drum) detector (BK)	Micro switch	Detects the OPC drum initial state (new OPC drum).
DSW-F	Front door open/close switch	Micro switch	Detects open/close of the front door, and turns ON/OFF the power line of the fusing, the motor and the LSU laser.
DSW-R	Right door open/close switch	Micro switch	Detects open/close of the right door unit, and turns ON/OFF the power line of the fusing, the motor and the LSU laser.
MSW	Main switch	Seesaw switch	Turns ON/OFF the main DC power source.
PWRSW	Operation panel power switch	Push switch	Outputs the ON/OFF control signal of the DC power source.

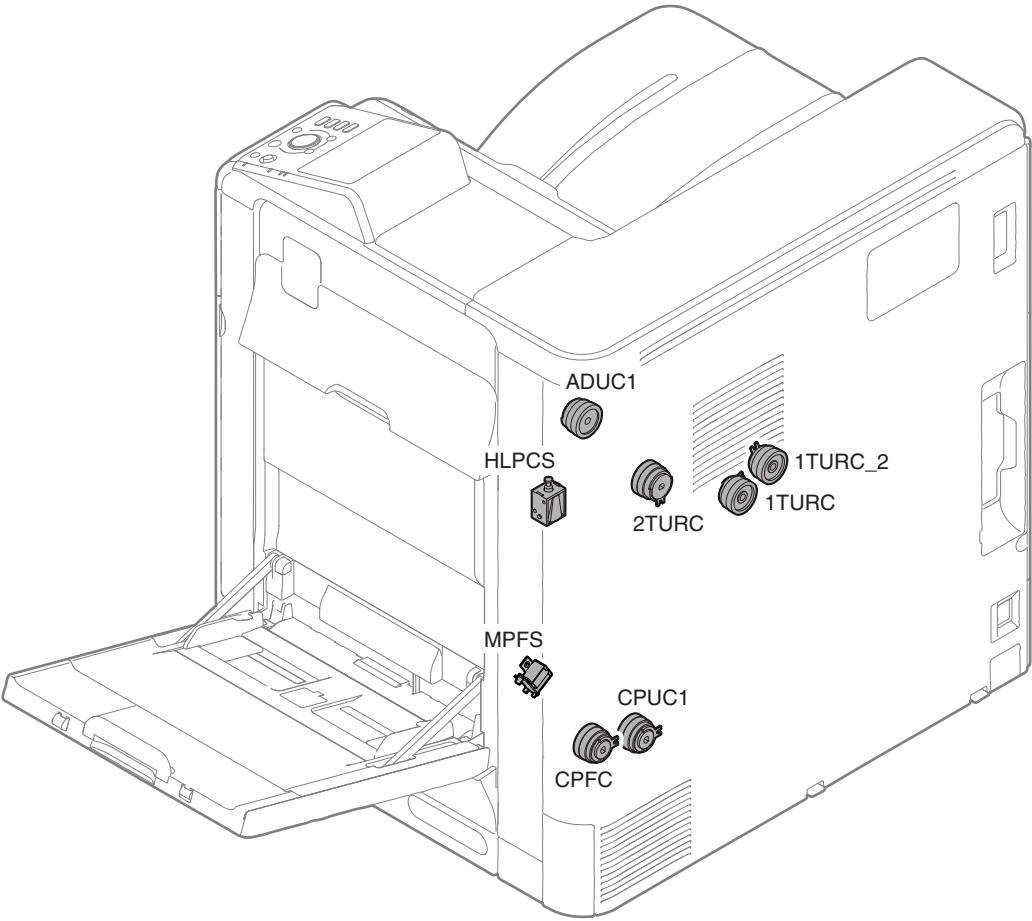
C. MX-B382P



Signal name	Name	Type	Function/Operation
1TNFD	Waste toner full detection switch	Micro switch	Detects the waste toner full.
DRCRU_K	OPC drum initial (new OPC drum) detector (BK)	Micro switch	Detects the OPC drum initial state (new OPC drum).
DSW-F	Front door open/close switch	Micro switch	Detects open/close of the front door, and turns ON/OFF the power line of the fusing, the motor and the LSU laser.
DSW-R	Right door open/close switch	Micro switch	Detects open/close of the right door unit, and turns ON/OFF the power line of the fusing, the motor and the LSU laser.
MSW	Main switch	Seesaw switch	Turns ON/OFF the main DC power source.
PWRSW	Operation panel power switch	Push switch	Outputs the ON/OFF control signal of the DC power source.

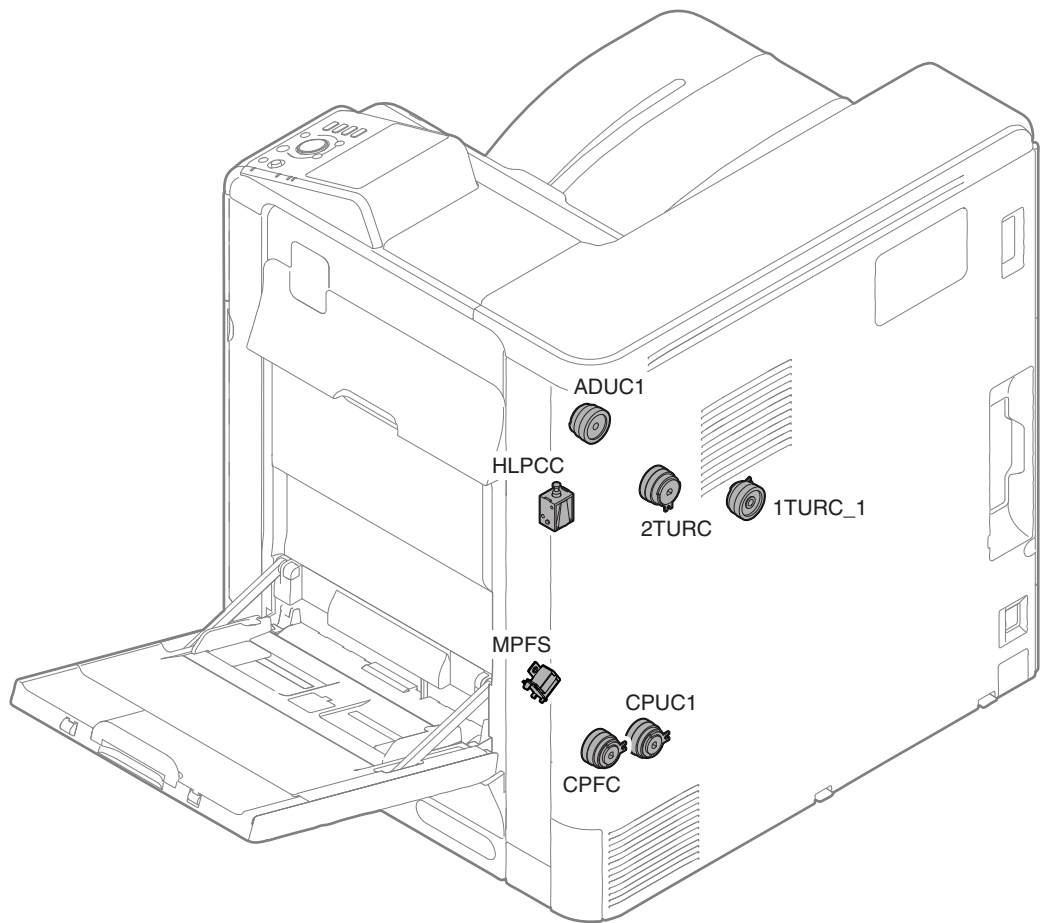
7. Clutches and solenoids

A. MX-C400P/C380P



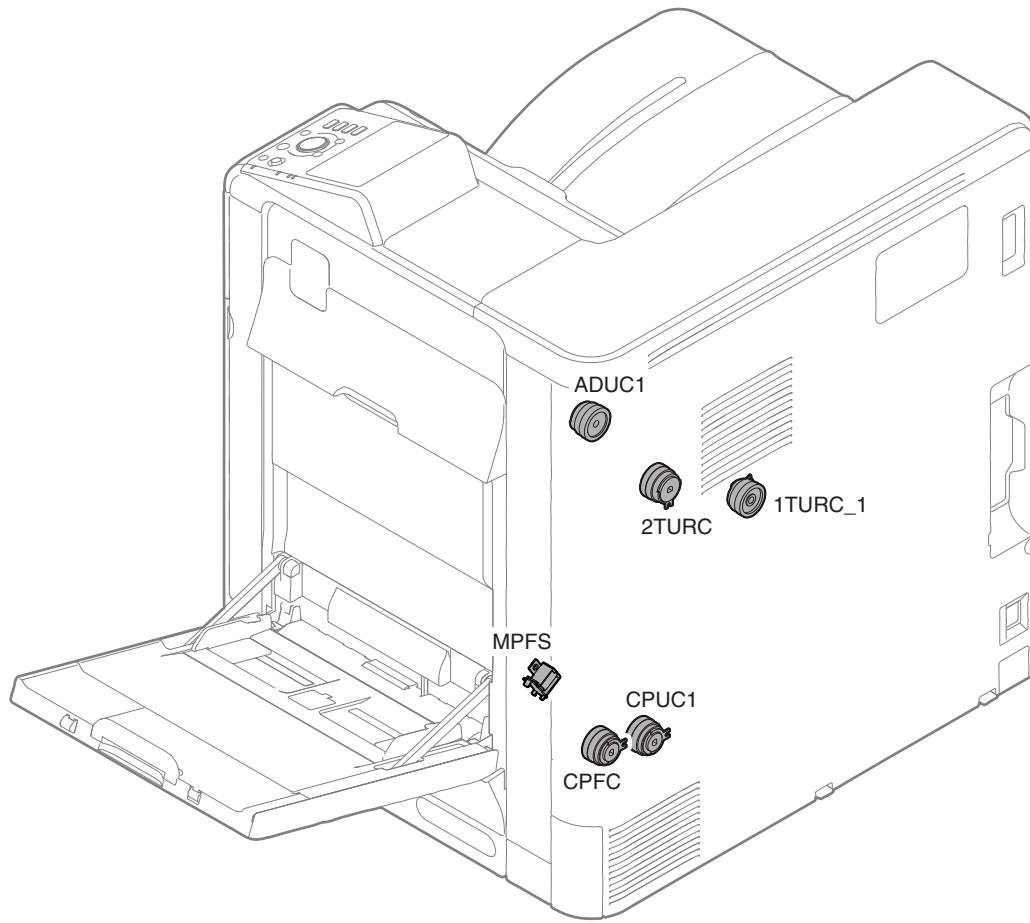
Signal name	Name	Type	Function/Operation
1TURC	Primary transfer separation clutch 1	Electromagnetic clutch	Controls the primary transfer separation mode.
1TURC_2	Primary transfer separation clutch 2	Electromagnetic clutch	Controls the primary transfer separation mode.
2TURC	Secondary transfer separation clutch	Electromagnetic clutch	Controls open/close of the resist sensor cover.
ADUC1	ADU transport clutch 1	Electromagnetic clutch	Controls ON/OFF of the roller in the switchback section.
CPFC	Tray vertical transport clutch	Electromagnetic clutch	Controls ON/OFF of the paper transport roller in the tray paper feed section.
CPUC1	Paper feed clutch (Tray paper feed)	Electromagnetic clutch	Controls ON/OFF of the roller in the tray paper feed section.
HLPCS	Fusing pressure release solenoid	Electromagnetic solenoid	Controls the pressure applied to the upper and the lower heat rollers in the fusing section.
MPFS	Paper pickup solenoid (Manual paper feed)	Electromagnetic solenoid	Controls ON/OFF of the pick-up operation of the paper feed roller in the manual paper feed section.

B. MX-B400P/B380P



Signal name	Name	Type	Function/Operation
1TURC_1	Primary transfer separation clutch 1	Electromagnetic clutch	Controls the primary transfer separation mode.
2TURC	Secondary transfer separation clutch	Electromagnetic clutch	Controls open/close of the resist sensor cover.
ADUC1	ADU transport clutch 1	Electromagnetic clutch	Controls ON/OFF of the roller in the switchback section.
CPFC	Tray vertical transport clutch	Electromagnetic clutch	Controls ON/OFF of the paper transport roller in the tray paper feed section.
CPUC1	Paper feed clutch (Tray paper feed)	Electromagnetic clutch	Controls ON/OFF of the roller in the tray paper feed section.
HLPCCS	Fusing pressure release solenoid	Electromagnetic solenoid	Controls the pressure applied to the upper and the lower heat rollers in the fusing section.
MPFS	Paper pickup solenoid (Manual paper feed)	Electromagnetic solenoid	Controls ON/OFF of the pick-up operation of the paper feed roller in the manual paper feed section.

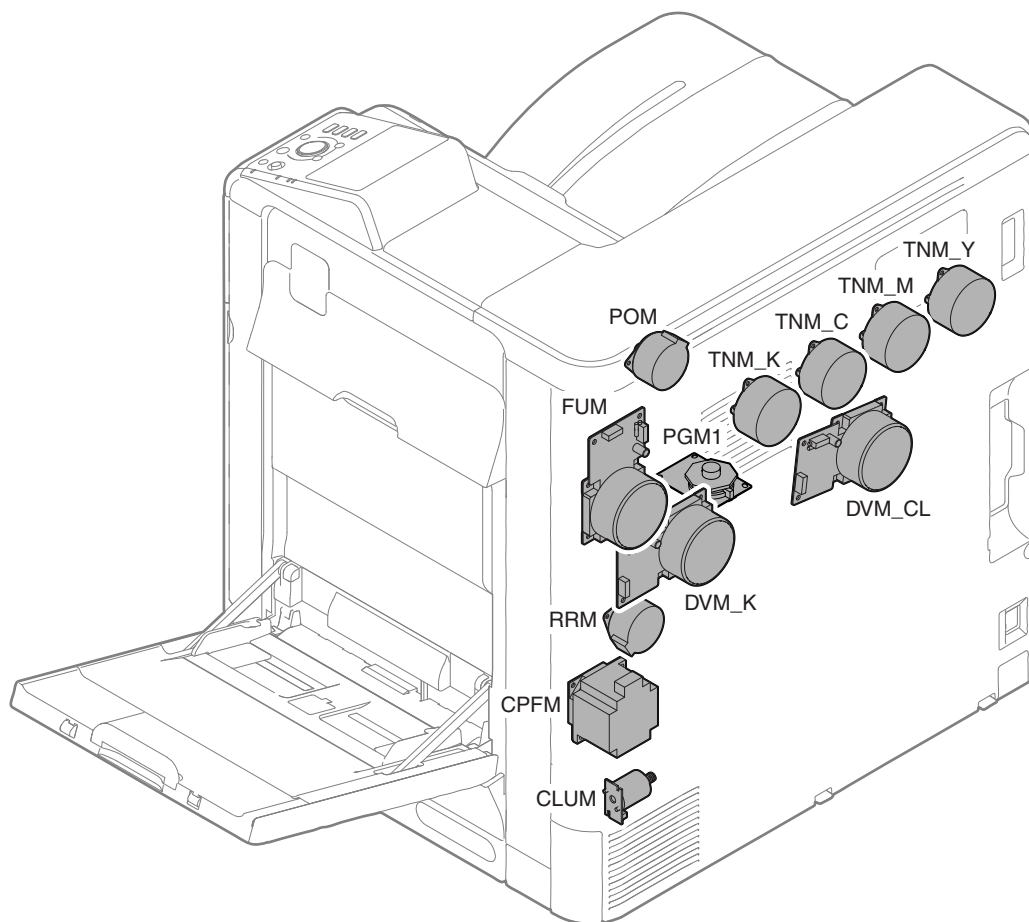
C. MX-B382P



Signal name	Name	Type	Function/Operation
1TURC_1	Primary transfer separation clutch 1	Electromagnetic clutch	Controls the primary transfer separation mode.
2TURC	Secondary transfer separation clutch	Electromagnetic clutch	Controls open/close of the resist sensor cover.
ADUC1	ADU transport clutch 1	Electromagnetic clutch	Controls ON/OFF of the roller in the switchback section.
CPFC	Tray vertical transport clutch	Electromagnetic clutch	Controls ON/OFF of the paper transport roller in the tray paper feed section.
CPUC1	Paper feed clutch (Tray paper feed)	Electromagnetic clutch	Controls ON/OFF of the roller in the tray paper feed section.
MPFS	Paper pickup solenoid (Manual paper feed)	Electromagnetic solenoid	Controls ON/OFF of the pick-up operation of the paper feed roller in the manual paper feed section.

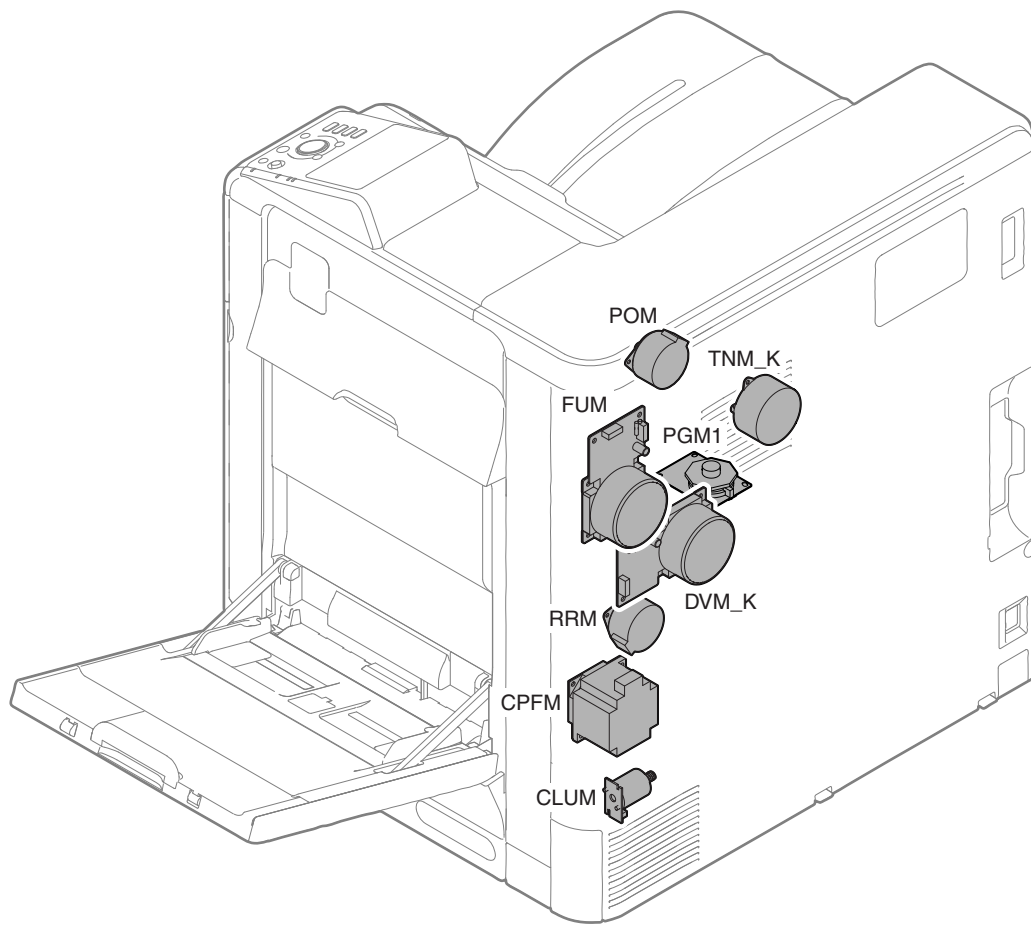
8. Drive motors

A. MX-C400P/C380P



Signal name	Name	Type	Function/Operation
CLUM	Paper tray lift-up motor (Paper feed tray 1)	DC brush-less motor	Drives the lift plate of the paper feed tray.
CPFM	Paper feed motor	Stepping motor	Drives the paper feed section.
DVM_CL	Developing drive motor (CL)	Brush-less motor	Drives the development cartridge (color) and the drum cartridge (color).
DVM_K	Developing drive motor (K)	Brush-less motor	Drives the development cartridge (black), the drum cartridge (black), the primary transfer unit, and the secondary transfer unit. Also separates the primary transfer unit.
FUM	Fusing drive motor	DC brush motor	Drives the fusing unit.
PGM1	Polygon motor 1	DC brush-less motor	Scans the laser beam.
POM	Paper exit drive motor	Stepping motor	Drives the paper exit roller.
RRM	Registration motor	Stepping motor	Drives the resist roller and controls ON/OFF.
TNM_C	Toner motor C	Synchronous motor	Transports toner from the toner cartridge to the developing unit.
TNM_K	Toner motor K	Synchronous motor	Transports toner from the toner cartridge to the developing unit.
TNM_M	Toner motor M	Synchronous motor	Transports toner from the toner cartridge to the developing unit.
TNM_Y	Toner motor Y	Synchronous motor	Transports toner from the toner cartridge to the developing unit.

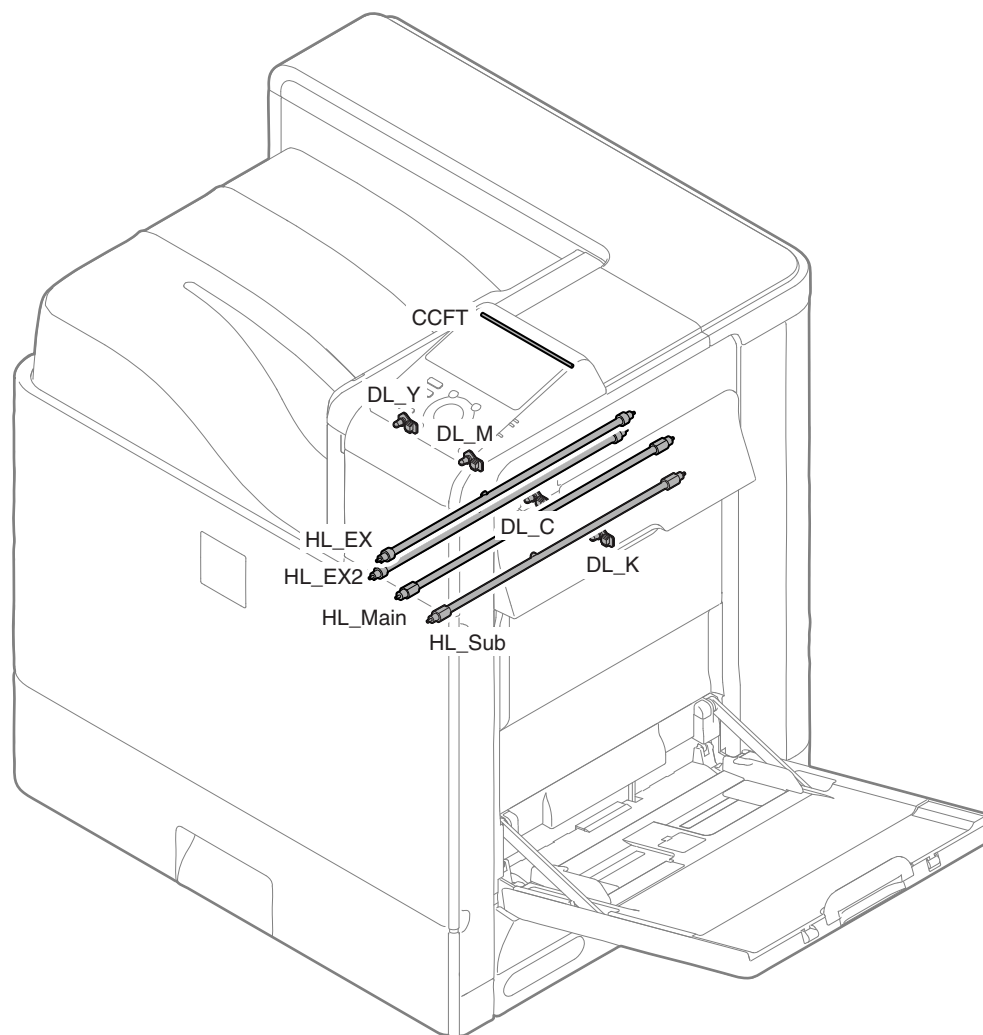
▲ B. MX-B400P/B380P/B382P



Signal name	Name	Type	Function/Operation
CLUM	Paper tray lift-up motor (Paper feed tray 1)	DC brush-less motor	Drives the lift plate of the paper feed tray.
CPFM	Paper feed motor	Stepping motor	Drives the paper feed section.
DVM_K	Developing drive motor	Brush-less motor	Drives the development cartridge, the drum cartridge, the primary transfer unit, and the secondary transfer unit. Also separates the primary transfer unit.
FUM	Fusing drive motor	DC brush motor	Drives the fusing unit.
PGM1	Polygon motor 1	DC brush-less motor	Scans the laser beam.
POM	Paper exit drive motor	Stepping motor	Drives the paper exit roller.
RRM	Registration motor	Stepping motor	Drives the resist roller and controls ON/OFF.
TNM_K	Toner motor K	Synchronous motor	Transports toner from the toner cartridge to the developing unit.

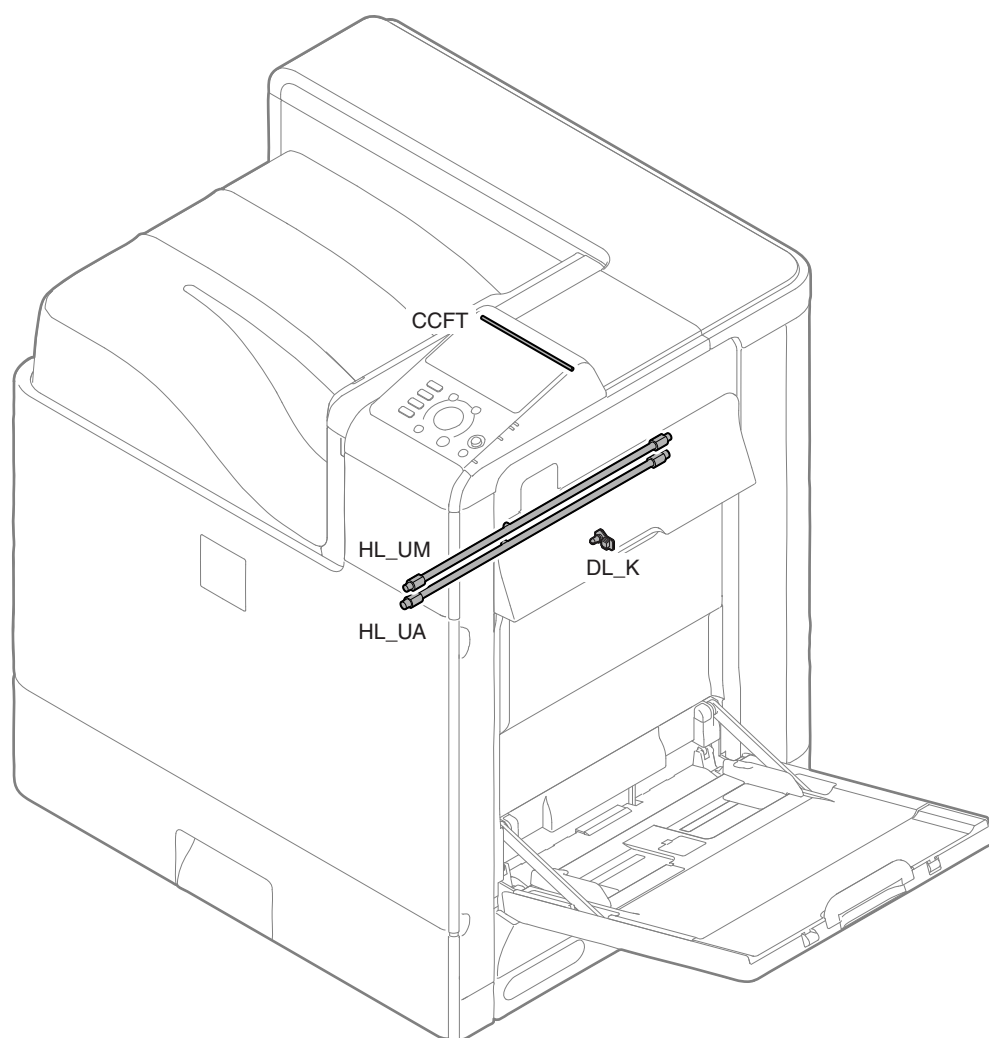
9. Lamps

A. MX-C400P/C380P/B400P/B380P



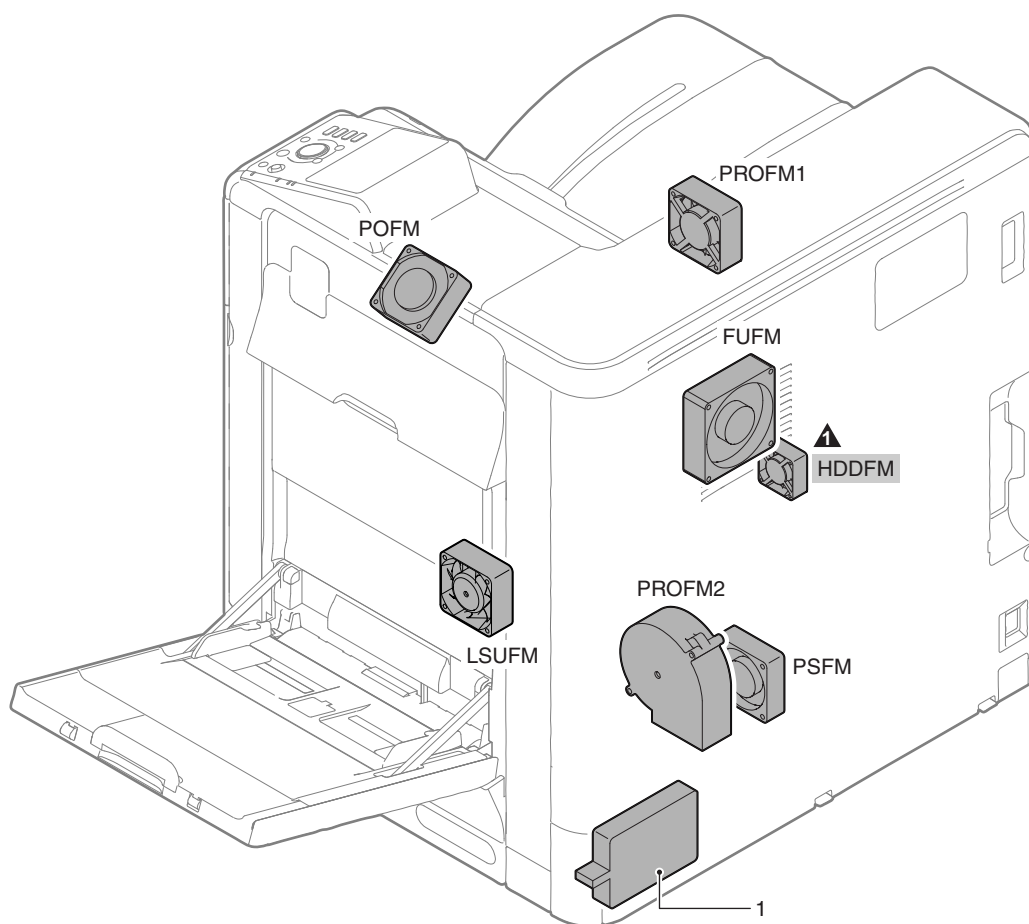
Signal name	Name	Type	Function/Operation
CCFT	LCD back-light	CCFT cool cathode ray tube	Back-light for the CCD
DL_C	Discharge lamp C	LED	Discharges electric charges on the OPC drum.
DL_K	Discharge lamp K	LED	Discharges electric charges on the OPC drum.
DL_M	Discharge lamp M	LED	Discharges electric charges on the OPC drum.
DL_Y	Discharge lamp Y	LED	Discharges electric charges on the OPC drum.
HL_EX	External heater lamp	Halogen lamp	Heats the upper heat roller through an external heat roller.
HL_EX2	External heater lamp 2	Halogen lamp	Heats the upper heat roller through an external heat roller.
HL_Main	Upper heater lamp	Halogen lamp	Heats the upper heat roller. (Main)
HL_Sub	Lower heater lamp	Halogen lamp	Heats the lower heat roller. (Main)

B. MX-B382P



Signal name	Name	Type	Function/Operation
CCFT	LCD back-light	CCFT cool cathode ray tube	Back-light for the LCD
DL_K	Discharge lamp K	LED	Discharges electric charges on the OPC drum.
HL-UA	Upper heater lamp	Halogen lamp	Heats the upper heat roller. (all)
HL_UM	Upper heater lamp	Halogen lamp	Heats the upper heat roller. (main)

10. Fans and filter

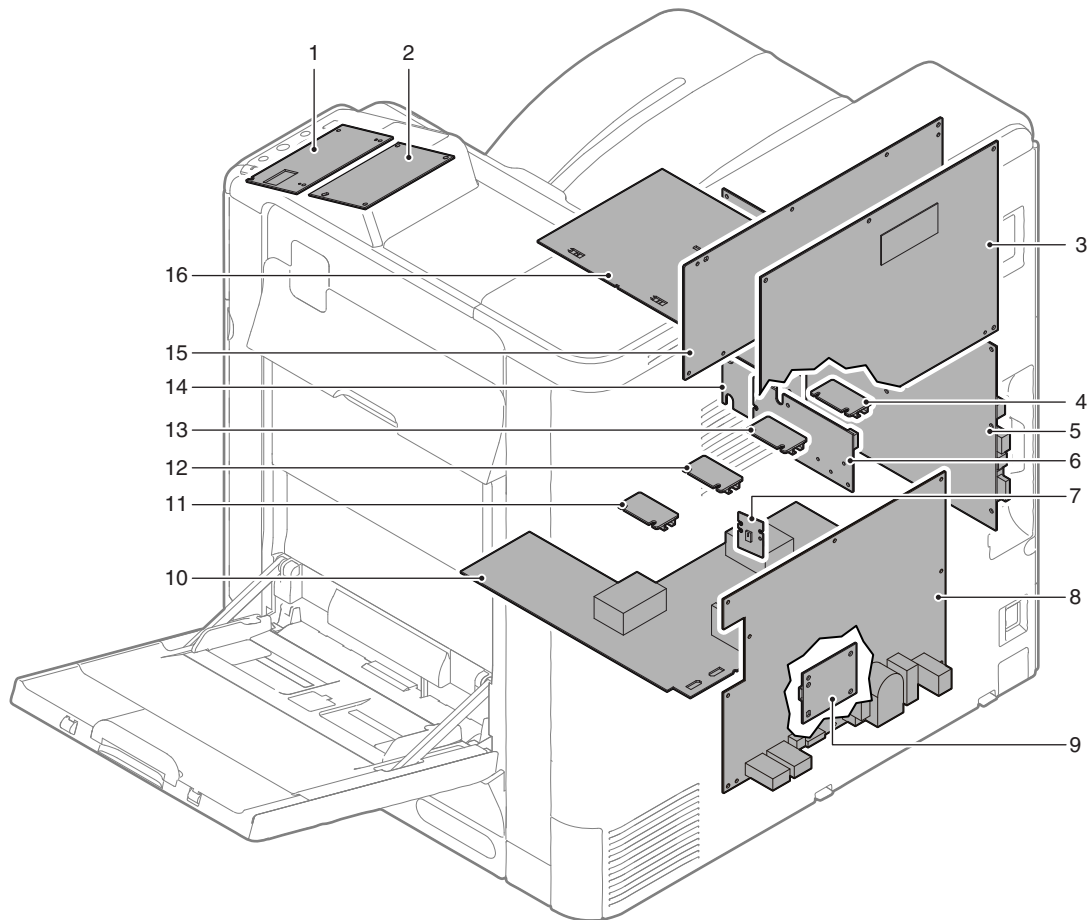


Signal name	Name	Function/Operation
FUFM	Fusing cooling fan motor	Cools the fusing unit.
HDDFM	HDD cooling fan motor	Cools the HDD.
LSUFM	LSU cooling fan motor	Cools the LSU.
POFM	Paper exit cooling fan motor	Cools the paper exit section.
PROFM1	Process fan motor 1	Cools the process section.
PROFM2	Process fan motor 2	Exhausts ozone.
PSFM	Power PWB cooling fan motor	Cools the power PWB.

No.	Name	Function/Operation
1	Ozone filter	Absorbs ozone generated in the image process section.

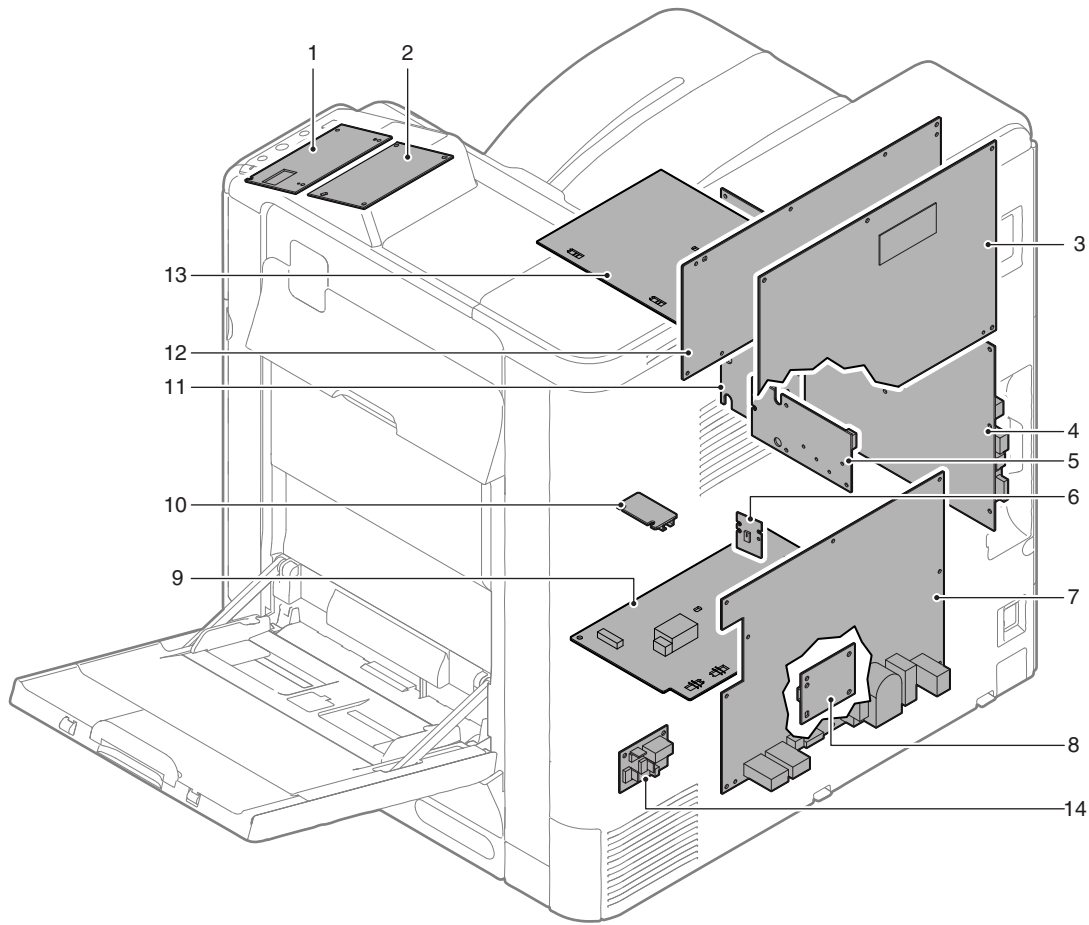
11. PWB

A. MX-C400P/C380P/B400P/B380P



No.	Name	Function/Operation
1	OPU-P PWB	Outputs the key operation signal.
2	OPU control PWB	Control the operation panel section. (Key and Display)
3	PCU PWB	Controls the engine section.
4	DV initial PWB	Detects the DV model.
5	MFPC PWB	Controls images and the whole machine.
6	LD PWB	Controls laser lighting.
7	BD PWB	Detects laser and outputs the synchronous signal.
8	AC/DC power PWB	Controls the primary side power source and outputs the secondary side voltage.
9	Paper size detection PWB	Detects the paper size in the tray 1.
10	MC PWB	Generates the high voltage for the main charger and the developing bias voltage.
11	DV initial PWB	Detects the DV model.
12	DV initial PWB	Detects the DV model.
13	DV initial PWB	Detects the DV model.
14	LSU MOTHER PWB	Controls the LSU. Interfaces the MFPC PWB and PCU PWB.
15	HL PWB	Controls the heater lamp.
16	TC PWB	Generates each transfer voltage and separation voltage.

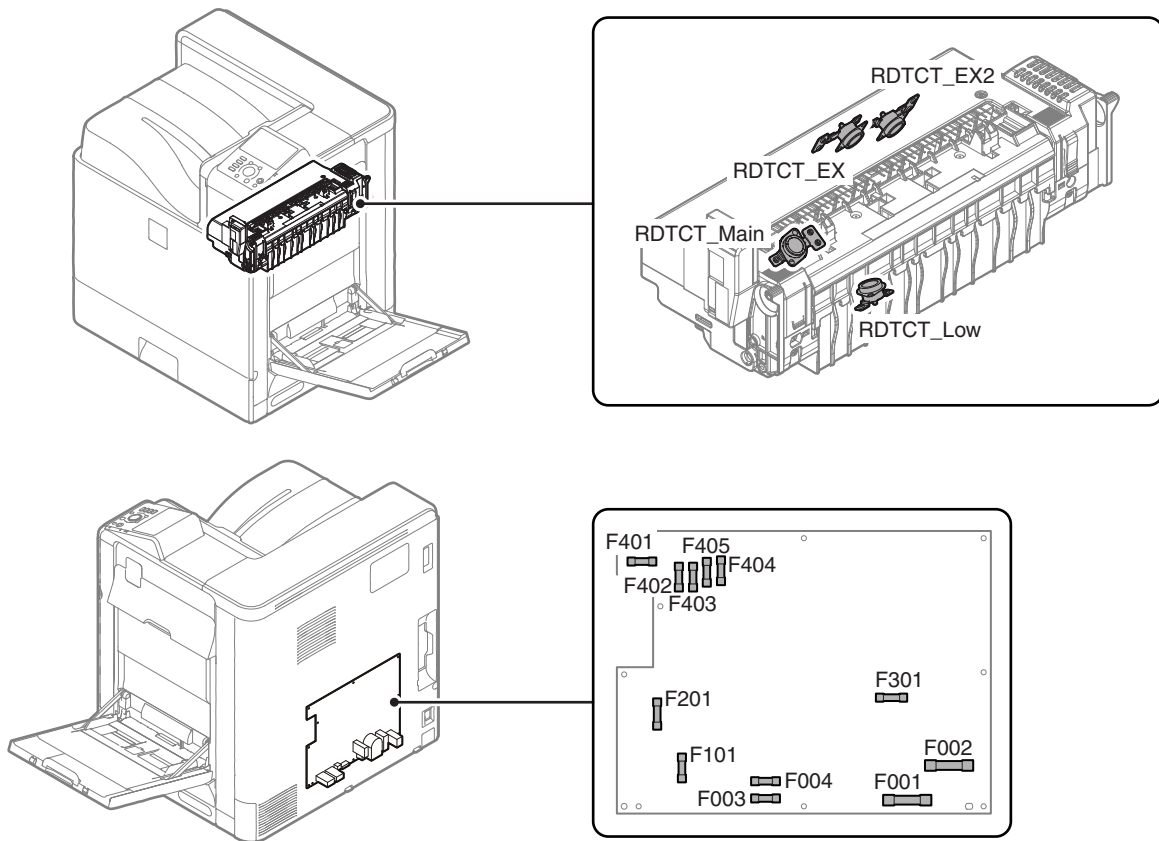
B. MX-B382P



No.	Name	Function/Operation
1	OPU-P PWB	Outputs the key operation signal.
2	OPU control PWB	Converts the display signal and output to the LCD.
3	PCU PWB	Controls the engine section.
4	MFPC PWB	Controls images and the whole machine.
5	LD PWB	Controls laser lighting.
6	BD PWB	Detects laser and outputs the synchronous signal.
7	AC/DC power PWB	Controls the primary side power source and outputs the secondary side voltage.
8	Paper size detection PWB	Detects the paper size in the tray 1.
9	MC PWB	Generates the high voltage for the main charger and the developing bias voltage.
10	DV initial PWB	Detects the DV model.
11	LSU MOTHER PWB	Controls the LSU. Interfaces the MFPC PWB and PCU PWB.
12	HL PWB	Controls the heater lamp.
13	TC PWB	Generates each transfer voltage and separation voltage.
14	WH PWB	Controls the dehumidification heater ON/OFF.

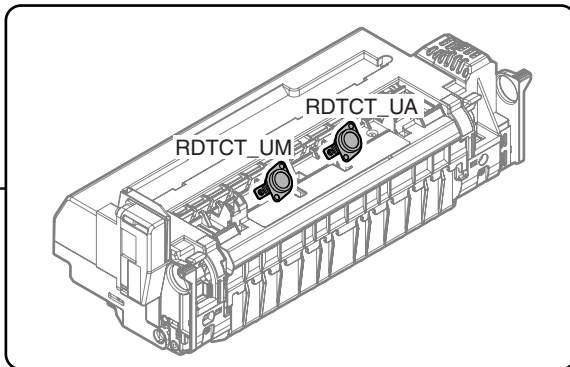
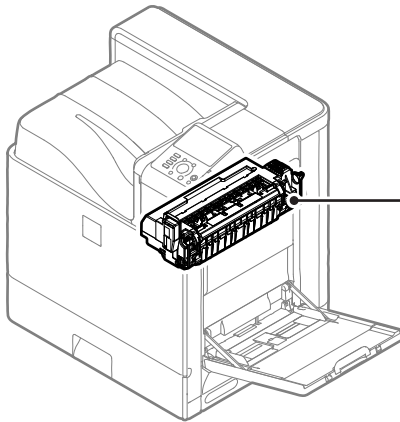
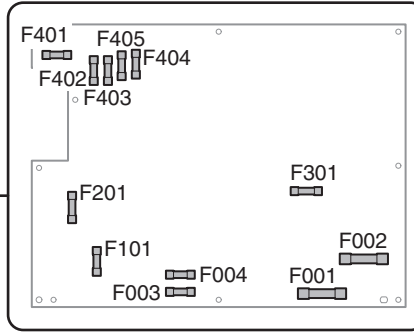
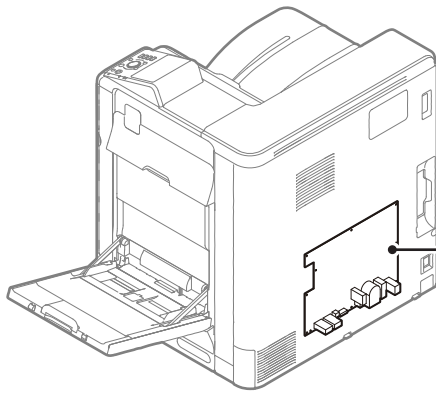
12. Fuses and Thermostats

A. MX-C400P/C380P/B400P/B380P



Signal name	Name	Specifications	Section
F001	Fuse	AC250V T10AH (200V series) AC250V 20A (120V series)	AC/DC power PWB
F002	Fuse	AC250V T10AH (200V series) (Not provided in 120V series)	AC/DC power PWB
F003	Fuse	AC250V T2AH (Common in 200V series and 120V series)	AC/DC power PWB
F004	Fuse	AC250V T2AH (200V series) (Not provided in 120V series)	AC/DC power PWB
F101	Fuse	AC250V T2AH (Common in 200V series and 120V series)	AC/DC power PWB
F201	Fuse	AC250V T5AH (Common in 200V series and 120V series)	AC/DC power PWB
F301	Fuse	AC250V T2AH (Common in 200V series and 120V series)	AC/DC power PWB
F401	Fuse	AC250V T4AH (Common in 200V series and 120V series)	AC/DC power PWB
F402	Fuse	AC250V T6.3AH (Common in 200V series and 120V series)	AC/DC power PWB
F403	Fuse	AC250V T6.3AH (Common in 200V series and 120V series)	AC/DC power PWB
F404	Fuse	AC250V T6.3AH (Common in 200V series and 120V series)	AC/DC power PWB
F405	Fuse	AC250V T6.3AH (Common in 200V series and 120V series)	AC/DC power PWB
RDTCT_EX	External thermostat	Prevents against overheating of the fusing roller.	Fusing unit
RDTCT_EX2	External thermostat 2	Prevents against overheating of the fusing roller.	Fusing unit
RDTCT_Low	Lower thermostat	Prevents against overheating of the fusing roller.	Fusing unit
RDTCT_Main	Upper thermostat	Prevents against overheating of the fusing roller.	Fusing unit

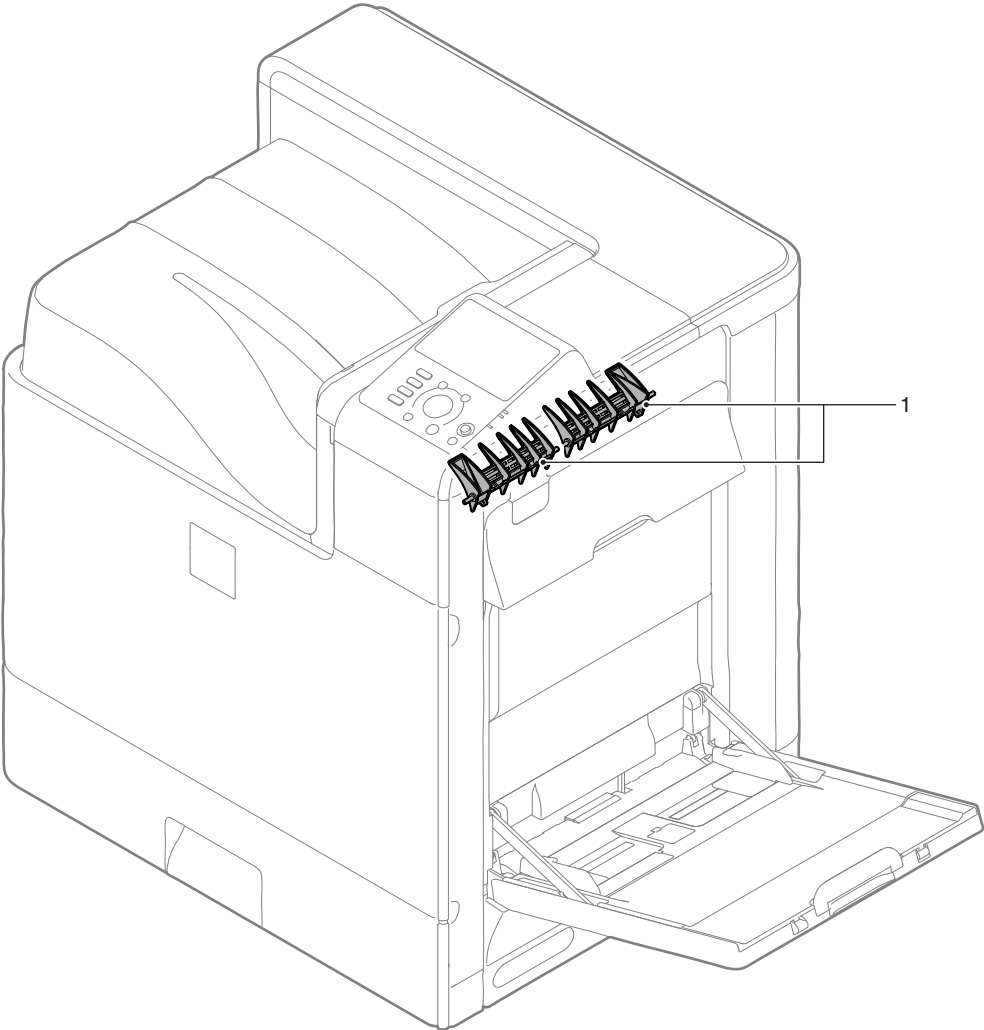
B. MX-B382P



Signal name	Name	Specifications	Section
F001	Fuse	AC250V T10AH (200V series) AC250V 20A (120V series)	ACDC power PWB
F002	Fuse	AC250V T10AH (200V series) (Not provided in 120V series)	ACDC power PWB
F003	Fuse	AC250V T2AH (Common in 200V series and 120V series)	ACDC power PWB
F004	Fuse	AC250V T2AH (200V series) (Not provided in 120V series)	ACDC power PWB
F101	Fuse	AC250V T2AH (Common in 200V series and 120V series)	ACDC power PWB
F201	Fuse	AC250V T5AH (Common in 200V series and 120V series)	ACDC power PWB
F301	Fuse	AC250V T2AH (Common in 200V series and 120V series)	ACDC power PWB
F401	Fuse	AC250V T4AH (Common in 200V series and 120V series)	ACDC power PWB
F402	Fuse	AC250V T6.3AH (Common in 200V series and 120V series)	ACDC power PWB
F403	Fuse	AC250V T6.3AH (Common in 200V series and 120V series)	ACDC power PWB
F404	Fuse	AC250V T6.3AH (Common in 200V series and 120V series)	ACDC power PWB
F405	Fuse	AC250V T6.3AH (Common in 200V series and 120V series)	ACDC power PWB
RDTCT_UA	Upper thermostat (all)	Prevents against overheating of the fusing roller.	Fusing unit
RDTCT_UM	Upper thermostat (main)	Prevents against overheating of the fusing roller.	Fusing unit

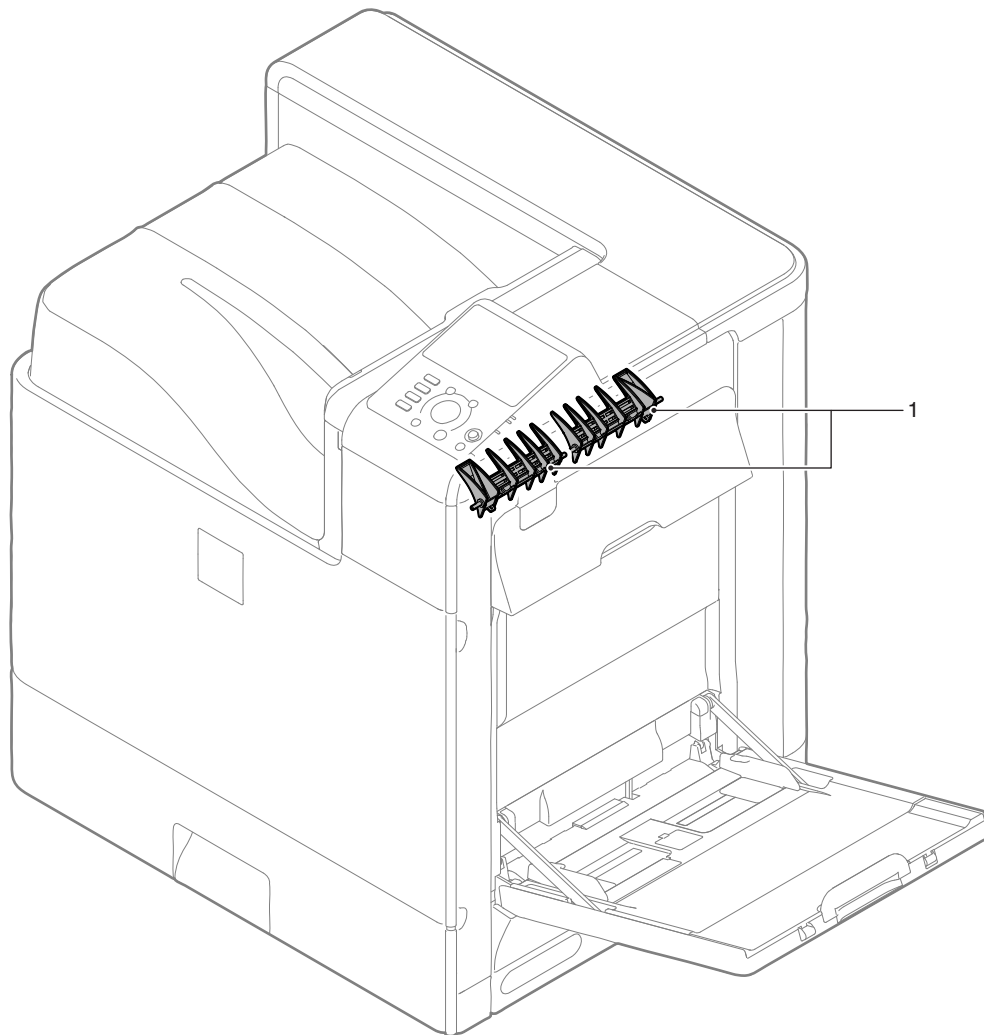
13. Gates

A. MX-C400P/C380P/B400P/B380P



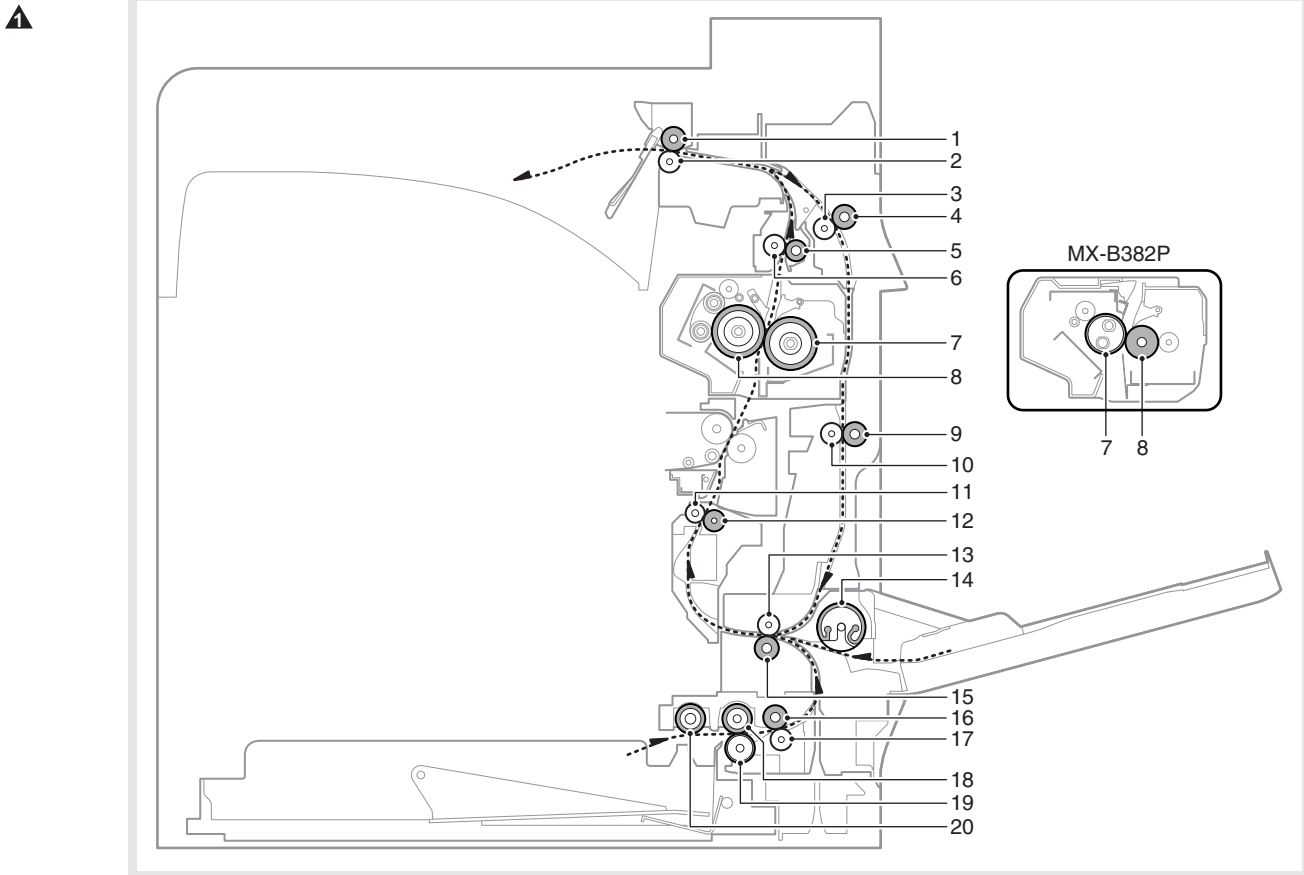
No.	Name	Function/Operation
1	Switchback gate	Guides paper which is switched back by the paper exit roller to the switchback section in the duplex print mode.

B. MX-B382P



No.	Name	Function/Operation
1	Switchback gate	Guides paper which is switched back by the paper exit roller to the switchback section in the duplex copy mode.

14. Rollers



No.	Name	Function/Operation
1	Paper exit roller (Drive)	Discharges the paper. / Transports the paper to the switchback section.
2	Paper exit roller (Idle)	Applies a pressure to the paper and the paper exit roller to give a transport power of the paper exit roller to the paper.
3	Transport roller 4 (Idle)	Applies a pressure to the paper and the transport roller to give a transport power of the transport roller to the paper.
4	Transport roller 4 (Drive)	Transports the paper switched back by the paper exit roller to the transport roller 5.
5	Transport roller 3 (Drive)	Transports the paper from the fusing roller to the paper exit roller.
6	Transport roller 3 (Idle)	Applies a pressure to the paper and the transport roller to give a transport power of the transport roller to the paper.
7	Fusing roller (Heating)	Heats and presses toner on the paper to fuse on the paper.
8	Fusing roller (Pressing)	Applies a pressure to the fusing roller (heating).
9	Transport roller 5 (Drive)	Transports the paper from the transport roller 4 to the transport roller 2.
10	Transport roller 5 (Idle)	Applies a pressure to the paper and the transport roller to give a transport power of the transport roller to the paper.
11	Resist roller (Idle)	Applies a pressure to the paper and the resist roller, giving a transport power of the resist roller to the paper.
12	Resist roller (Drive)	Transports paper to the transfer section. / Controls the paper transport timing, and adjusts the relative relations between images and paper.
13	Transport roller 2 (Idle)	Applies a pressure to the paper and the transport roller to give a transport power of the transport roller to the paper.
14	Paper feed roller (Manual paper feed tray)	Transports paper to the transport roller 2.
15	Transport roller 2 (Drive)	Transports the paper transported from the transport roller 1 to the resist roller.
16	Transport roller 1 (Drive)	Transports paper which was fed from the paper feed tray 1 to the transport roller 2.
17	Transport roller 1 (Idle)	Applies a pressure to the paper and the transport roller to give a transport power of the transport roller to the paper.
18	Paper feed roller (No. 1 paper feed tray)	Transport paper to the paper transport section.
19	Separation roller (No. 1 paper feed tray)	Separates paper to prevent against double feed.
20	Paper pickup roller (No. 1 paper feed tray)	Transports paper to the paper feed roller.

[4] ADJUSTMENTS

1. General

Each adjustment item in the adjustment item list is associated with a specific Job number. Perform the adjustment procedures in the sequence of Job numbers from the smallest to the greatest.

However, there is no need to perform all the adjustment items. Perform only the necessary adjustments according to the need.

Unnecessary adjustments can be omitted. Even in this case, however, the sequence from the smallest to the greatest Job number must be observed.

If the above precaution should be neglected, the adjustment would not complete normally or trouble may occur.

2. Adjustment item list

Job No	Adjustment item list			Simulation
ADJ 1	Adjusting high voltage values (*1) (MX-C400P/C380P)	1A	Adjust the main charger grid voltage (MX-C400P/C380P)	8-2
		1B	Adjust the developing bias voltage (MX-C400P/C380P)	8-1
		1C	Transfer voltage adjustment (MX-C400P/C380P)	8-6
▲ ADJ 1	Adjusting high voltage values (*2) (MX-B400P/B380P/B382P)	1A	Adjust the main charger grid voltage (MX-B400P/B380P/B382P)	8-2
		1B	Adjust the developing bias voltage (MX-B400P/B380P/B382P)	8-1
		1C	Transfer voltage adjustment (MX-B400P/B380P/B382P)	8-6
ADJ 2	Image density sensor (image registration sensor) adjustment	2A	Color image density sensor (image registration sensor F) calibration (*1) (MX-C400P/C380P)	44-13/44-61
		2B	Color image density sensor (image registration sensor F), black image density sensor (image registration sensor R) adjustment	44-2
▲ ADJ 3	Image skew adjustment (LSU unit) (*1) (MX-C400P/C380P)			61-4
▲ ADJ 3	Image skew adjustment (LSU unit) (*2) (MX-B400P/B380P/B382P)			64-2
ADJ 4	OPC drum phase adjustment (*1)	4A	OPC drum phase adjustment (Auto adjustment)	50-22
ADJ 5	Print engine image magnification ratio adjustment (BK) (Main scanning direction) (Print engine section) (Manual adjustment)			50-10
ADJ 6	Image off-center adjustment (Print engine section)			50-10
ADJ 7	Image registration adjustment (Print engine section) (*1) (MX-C400P/C380P)	7A	Image registration adjustment (Main scanning direction, sub scanning direction) (Auto adjustment) (MX-C400P/C380P)	50-22
		7B	Image registration adjustment (Main scanning direction) (Manual adjustment) (MX-C400P/C380P)	50-20
		7C	Image registration adjustment (Sub scanning direction) (Manual adjustment) (MX-C400P/C380P)	50-20
ADJ 8	Print area (Void area) adjustment (Print engine section)			50-10/50-1
ADJ 9	Print lead edge image position adjustment (Printer mode) (Print engine section)			50-5
ADJ 10	Printer color balance/density adjustment (*1) (MX-C400P/C380P)	10A	Manual color balance adjustment - 1 (MX-C400P/C380P)	67-22
		10B	Manual color balance adjustment - 2 (MX-C400P/C380P)	67-25
		10C	Simple color balance adjustment (Gray balance adjustment) (MX-C400P/C380P)	67-21
		10D	Printer density adjustment (low density part density adjustment) (Normally unnecessary to adjust) (MX-C400P/C380P)	67-36
		10E	Printer high density part density correction setting (high density part tone gap countermeasure) (Normally unnecessary to the setting change) (MX-C400P/C380P)	67-34
▲ ADJ 10	Printer density and gradation adjustment (*2) (MX-B400P/B380P/B382P)	10A	Manual density and gradation adjustment - 1 (MX-B400P/B380P/B382P)	67-22
		10B	Manual density and gradation adjustment - 2 (MX-B400P/B380P/B382P)	67-25
		10C	Printer density adjustment (low density part density adjustment) (Normally unnecessary to adjust) (MX-B400P/B380P/B382P)	67-36
		10D	Printer high density part density correction setting (high density part tone gap countermeasure) (Normally unnecessary to the setting change) (MX-B400P/B380P/B382P)	67-34
ADJ 11	Manual paper feed tray paper size (width) sensor adjustment			40-2
ADJ 12	Fusing paper guide position adjustment			

(*1): Color model only

(*2): Monochrome model only

3. Details of adjustment

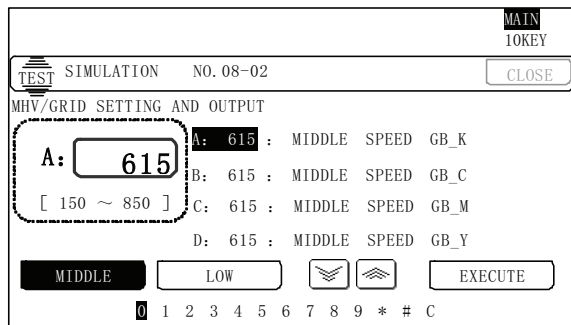
ADJ 1 Adjusting high voltage values (MX-C400P/C380P)

1-A Adjust the main charger grid voltage (MX-C400P/C380P)

This adjustment is needed in the following situations:

- * When the MC high voltage power PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Enter the SIM 8-2 mode.



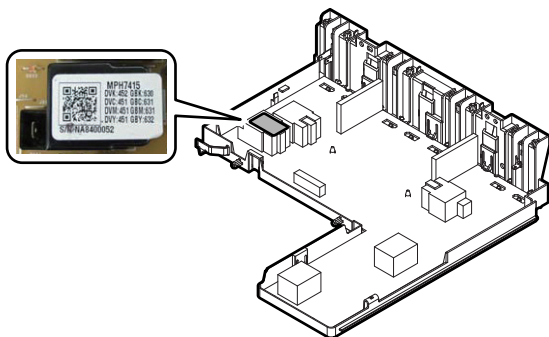
- 2) Select an output mode and an item to be adjusted.
- 3) Set the adjustment value (specified value) of the middle speed mode. (Enter the set value, and press [OK] key and OSA shortcut key.)

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

Enter the adjustment value of each mode which is specified on the label attached on the MC high voltage power PWB.

NOTE: Normally when an adjustment value is set, there is no need to press [EXECUTE] button. If [EXECUTE] button should be pressed, a high voltage would be outputted with the OPC drum stopped, affecting an adverse effect on the OPC drum. Be careful of that.



NOTE: Note that the adjustment value may differ depending on the MC high voltage power PWB.

Since the adjustment value label is attached on the MC high voltage PWB, the PWB must be removed in order to check the adjustment value.

This is a troublesome procedure. Therefore, it is advisable to put down the adjustment value in advance.

Mode	Item/Display	Content	Setting range
MIDDLE	A MIDDLE SPEED GB_K	K charging/grid bias set value at middle speed	150 - 850
	B MIDDLE SPEED GB_C	C charging/grid bias set value at middle speed	150 - 850
	C MIDDLE SPEED GB_M	M charging/grid bias set value at middle speed	150 - 850
	D MIDDLE SPEED GB_Y	Y charging/grid bias set value at middle speed	150 - 850
LOW	A LOW SPEED GB_K	K charging/grid bias set value at low speed	150 - 850
	B LOW SPEED GB_C	C charging/grid bias set value at low speed	150 - 850
	C LOW SPEED GB_M	M charging/grid bias set value at low speed	150 - 850
	D LOW SPEED GB_Y	Y charging/grid bias set value at low speed	150 - 850

When the adjustment value (specified value) of the middle speed mode is set, the adjustment values of the other modes are automatically set according to the middle speed mode setting in a certain relationship.

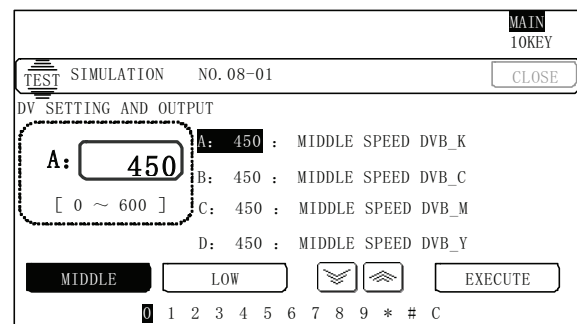
NOTE: Since the high voltage output cannot be checked with a digital multi meter in this model, a judgment of the output must be made by checking the print image quality.

1-B Adjust the developing bias voltage (MX-C400P/C380P)

This adjustment is needed in the following situations:

- * When the MC high voltage power PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Go through the modes specified in Simulation 8-1.



- 2) Select an output mode and an item to be adjusted.
- 3) Set the adjustment value (specified value) of the middle speed mode. (Enter the set value, and press [OK] key and OSA shortcut key.)

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

Enter the adjustment value of each mode which is specified on the label attached on the MC high voltage power PWB.

NOTE: Normally when an adjustment value is set, there is no need to press [EXECUTE] button. If [EXECUTE] button should be pressed, a high voltage would be outputted with the OPC drum stopped, affecting an adverse effect on the OPC drum. Be careful of that.

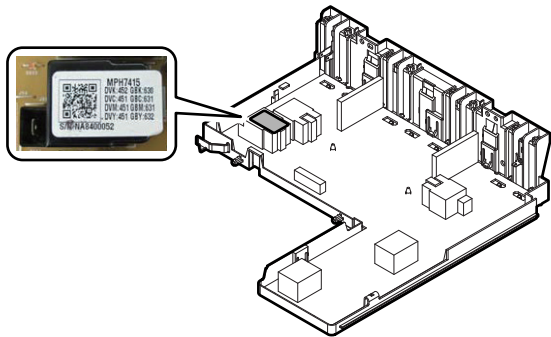
NOTE: Note that the adjustment value may differ depending on the MC high voltage power PWB.

Since the adjustment value label is attached on the MC high voltage PWB, the PWB must be removed in order to check the adjustment value.

This is a troublesome procedure. Therefore, it is advisable to put down the adjustment value in advance.

Mode		Item/Display	Content	Setting range
MIDDLE	A	MIDDLE SPEED DVB_K	K developing bias set value at middle speed	0-600
	B	MIDDLE SPEED DVB_C	C developing bias set value at middle speed	0-600
	C	MIDDLE SPEED DVB_M	M developing bias set value at middle speed	0-600
	D	MIDDLE SPEED DVB_Y	Y developing bias set value at middle speed	0-600
LOW	A	LOW SPEED DVB_K	K developing bias set value at low speed	0-600
	B	LOW SPEED DVB_C	C developing bias set value at low speed	0-600
	C	LOW SPEED DVB_M	M developing bias set value at low speed	0-600
	D	LOW SPEED DVB_Y	Y developing bias set value at low speed	0-600

When the adjustment value (specified value) of the middle speed mode is set, the adjustment values of the other modes are automatically set according to the middle speed mode setting in a certain relationship.



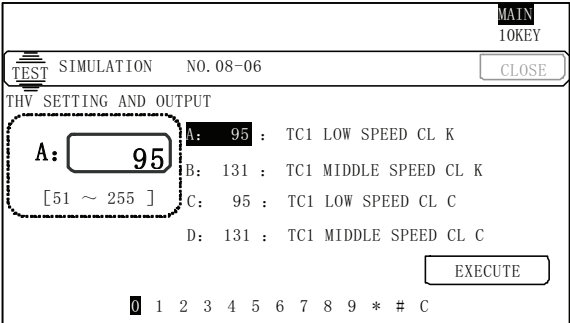
NOTE: Since the high voltage output cannot be checked with a digital multi meter in this model, a judgment of the output must be made by checking the print image quality.

1-C Transfer voltage adjustment (MX-C400P/C380P)

This adjustment is needed in the following situations:

- * When the TC high voltage PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

1) Go through the modes specified in Simulation 8-6.



- 2) Select an item to be adjusted.
- 3) Set the adjustment value (specified value) of the middle speed mode. (Enter the set value, and press [OK] key and OSA shortcut key.)

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

By setting the default value (specified value), the specified output is provided.

NOTE: Normally when an adjustment value is set, there is no need to press [EXECUTE] button. If [EXECUTE] button should be pressed, a high voltage would be outputted with the OPC drum stopped, affecting an adverse effect on the OPC drum and the transfer belt. Be careful of that.

Item/Display		Content				Adjustment range	Default value	Actual output setting range	Default value of actual output value
A	TC1 LOW SPEED CL K	Primary transfer bias adjustment value	Color mode	K	Low speed mode	51 - 255	95	2 - 30μA	8μA
B	TC1 MIDDLE SPEED CL K				Middle speed mode	51 - 255	131	2 - 30μA	13μA
C	TC1 LOW SPEED CL C			C	Low speed mode	51 - 255	95	2 - 30μA	8μA
D	TC1 MIDDLE SPEED CL C				Middle speed mode	51 - 255	131	2 - 30μA	13μA
E	TC1 LOW SPEED CL M			M	Low speed mode	51 - 255	95	2 - 30μA	8μA
F	TC1 MIDDLE SPEED CL M				Middle speed mode	51 - 255	131	2 - 30μA	13μA
G	TC1 LOW SPEED CL Y			Y	Low speed mode	51 - 255	95	2 - 30μA	8μA
H	TC1 MIDDLE SPEED CL Y				Middle speed mode	51 - 255	131	2 - 30μA	13μA
I	TC1 LOW SPEED BW K		Black/White mode	K	Low speed mode	51 - 255	95	2 - 30μA	8μA
J	TC1 MIDDLE SPEED BW K				Middle speed mode	51 - 255	131	2 - 30μA	13μA
K	TC2 PLAIN CL SPX	Secondary transfer bias adjustment value	Color mode	Standard paper mode	Front surface mode	51 - 255	111	-2 - -80μA	-25μA
L	TC2 PLAIN CL DPX				Back surface mode	51 - 255	124	-2 - -80μA	-30μA
M	TC2 PLAIN BW SPX		Black/White mode		Front surface mode	51 - 255	111	-2 - -80μA	-25μA
N	TC2 PLAIN BW DPX				Back surface mode	51 - 255	111	-2 - -80μA	-25μA
O	TC2 HEAVY CL SPX		Color mode	Heavy paper mode	Front surface mode	51 - 255	93	-2 - -80μA	-10μA
P	TC2 HEAVY CL DPX				Back surface mode	51 - 255	93	-2 - -80μA	-10μA
Q	TC2 HEAVY BW SPX		Black/White mode	Front surface mode	51 - 255	93	-2 - -80μA	-10μA	
R	TC2 HEAVY BW DPX			Back surface mode	51 - 255	93	-2 - -80μA	-10μA	
S	TC2 OHP CL		OHP		Color mode	51 - 255	85	-2 - -80μA	-8μA
T	TC2 OHP BW				Black/White mode	51 - 255	85	-2 - -80μA	-8μA
U	TC2 ENVELOPE CL		Envelope		Color mode	51 - 255	124	-2 - -80μA	-30μA
V	TC2 ENVELOPE BW				Black/White mode	51 - 255	124	-2 - -80μA	-30μA
W	TC2 THIN CL		Thin paper		Color mode	51 - 255	111	-2 - -80μA	-25μA
X	TC2 THIN BW				Black/White mode	51 - 255	111	-2 - -80μA	-25μA
Y	TC2 GLOSSY CL		Gloss paper		Color mode	51 - 255	72	-2 - -80μA	-10μA
Z	TC2 GLOSSY BW				Black/White mode	51 - 255	72	-2 - -80μA	-10μA
AA	TC2 CLEANING	Cleaning mode				51 - 255	67	-2 - -80μA	-8μA
AB	TC2 CLEAN LOW SPD	Secondary transfer cleaning bias adjustment value	Low speed print mode			0 - 255	16	-100V - 1500V	0V
AC	TC2 CLEAN MIDDLE SPD		Middle speed print mode			0 - 255	16	-100V - 1500V	0V
AD	TC2 CLEAN CLEANING		Cleaning mode			0 - 255	143	-100V - 1500V	800V
AE	PTC LOW SPEED CL	PTC current output adjustment value	Color mode	Low speed mode		0 - 255	133	0μA - -700μA	-300μA
AF	PTC MIDDLE SPEED CL			Middle speed mode		0 - 255	133	0μA - -700μA	-300μA
AG	PTC LOW SPEED BW		Black/White mode	Low speed mode		0 - 255	133	0μA - -700μA	-300μA
AH	PTC MIDDLE SPEED BW			Middle speed mode		0 - 255	133	0μA - -700μA	-300μA
AI	CASE VOLT LOW CL	PTC case voltage adjustment value	Color mode	Low speed mode		0 - 255	0	0V - -1000V	0V
AJ	CASE VOLT MID CL			Middle speed mode		0 - 255	0	0V - -1000V	0V
AK	CASE VOLT LOW BW		Black/White mode	Low speed mode		0 - 255	0	0V - -1000V	0V
AL	CASE VOLT MID BW			Middle speed mode		0 - 255	0	0V - -1000V	0V
AM	PEEL VOLT LOW CL	Separation discharge adjustment value	Color mode	Low speed mode		51 - 255	200	-50 - -3000V	-2200V
AN	PEEL VOLT MIDDLE CL			Middle speed mode		51 - 255	200	-50 - -3000V	-2200V
AO	PEEL VOLT LOW BW		Black/White mode	Low speed mode		51 - 255	200	-50 - -3000V	-2200V
AP	PEEL VOLT MIDDLE BW			Middle speed mode		51 - 255	200	-50 - -3000V	-2200V

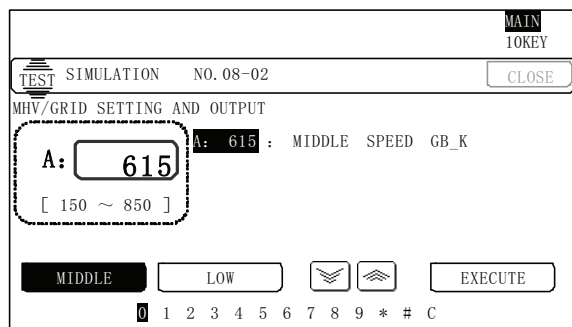
ADJ 1 Adjusting high voltage values (MX-B400P/B380P/B382P)

1-A Adjust the main charger grid voltage (MX-B400P/B380P/B382P)

This adjustment is needed in the following situations:

- * When the MC high voltage power PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Enter the SIM 8-2 mode.



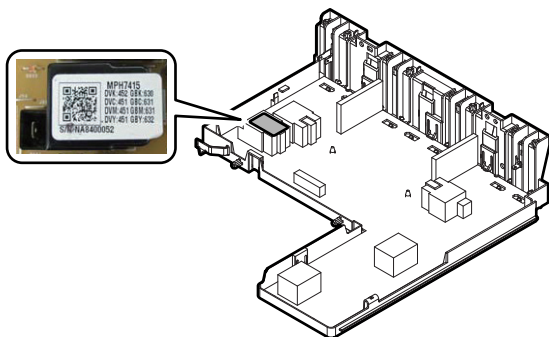
- 2) Select an output mode and an item to be adjusted.
- 3) Set the adjustment value (specified value) of the middle speed mode. (Enter the set value, and press [OK] key and OSA shortcut key.)

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

Enter the adjustment value of each mode which is specified on the label attached on the MC high voltage power PWB.

NOTE: Normally when an adjustment value is set, there is no need to press [EXECUTE] button. If [EXECUTE] button should be pressed, a high voltage would be outputted with the OPC drum stopped, affecting an adverse effect on the OPC drum. Be careful of that.



NOTE: Note that the adjustment value may differ depending on the MC high voltage power PWB.

Since the adjustment value label is attached on the MC high voltage PWB, the PWB must be removed in order to check the adjustment value.

This is a troublesome procedure. Therefore, it is advisable to put down the adjustment value in advance.

Mode	Item/Display	Content	Setting range
MIDDLE	A MIDDLE SPEED GB_K	K charging/grid bias set value at middle speed	150 - 850
LOW	A LOW SPEED GB_K	K charging/grid bias set value at low speed	150 - 850

When the adjustment value (specified value) of the middle speed mode is set, the adjustment values of the other modes are automatically set according to the middle speed mode setting in a certain relationship.

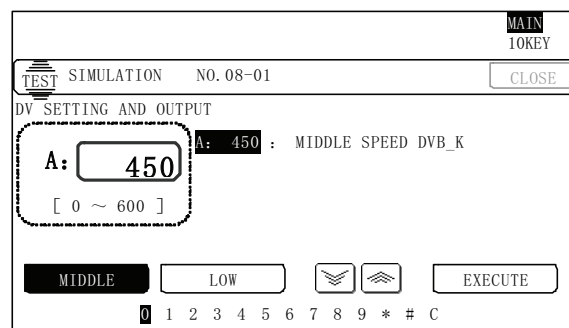
NOTE: Since the high voltage output cannot be checked with a digital multi meter in this model, a judgment of the output must be made by checking the print image quality.

1-B Adjust the developing bias voltage (MX-B400P/B380P/B382P)

This adjustment is needed in the following situations:

- * When the MC high voltage power PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

- 1) Go through the modes specified in Simulation 8-1.



- 2) Select an output mode and an item to be adjusted.
- 3) Set the adjustment value (specified value) of the middle speed mode. (Enter the set value, and press [OK] key and OSA shortcut key.)

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

Enter the adjustment value of each mode which is specified on the label attached on the MC high voltage power PWB.

NOTE: Normally when an adjustment value is set, there is no need to press [EXECUTE] button. If [EXECUTE] button should be pressed, a high voltage would be outputted with the OPC drum stopped, affecting an adverse effect on the OPC drum. Be careful of that.

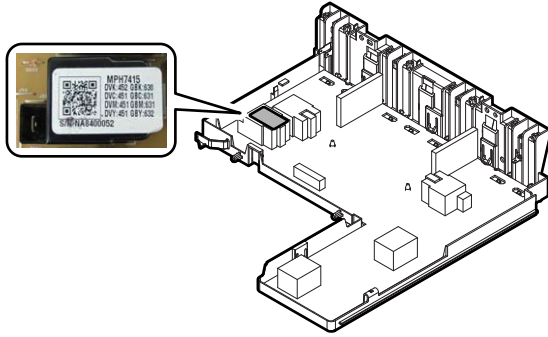
NOTE: Note that the adjustment value may differ depending on the MC high voltage power PWB.

Since the adjustment value label is attached on the MC high voltage PWB, the PWB must be removed in order to check the adjustment value.

This is a troublesome procedure. Therefore, it is advisable to put down the adjustment value in advance.

Mode	Item/Display	Content	Setting range
MIDDLE	A MIDDLE SPEED DVB_K	K developing bias set value at middle speed	0-600
LOW	A LOW SPEED DVB_K	K developing bias set value at low speed	0-600

When the adjustment value (specified value) of the middle speed mode is set, the adjustment values of the other modes are automatically set according to the middle speed mode setting in a certain relationship.



NOTE: Since the high voltage output cannot be checked with a digital multi meter in this model, a judgment of the output must be made by checking the print image quality.

1-C Transfer voltage adjustment (MX-B400P/B380P/B382P)

This adjustment is needed in the following situations:

- * When the TC high voltage PWB is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

1) Go through the modes specified in Simulation 8-6.

MAIN
10KEY

TEST SIMULATION NO. 08-06 CLOSE

THV SETTING AND OUTPUT

A: 95

A: 95 : TC1 LOW SPEED BW K
B: 131 : TC1 MIDDLE SPEED BW K
C: 111 : TC2 PLAIN BW SPX
D: 111 : TC2 PLAIN BW DPX

EXECUTE

0 1 2 3 4 5 6 7 8 9 * # C

- 2) Select an item to be adjusted.
- 3) Set the adjustment value (specified value) of the middle speed mode. (Enter the set value, and press [OK] key and OSA shortcut key.)

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

By setting the default value (specified value), the specified output is provided.

NOTE: Normally when an adjustment value is set, there is no need to press [EXECUTE] button. If [EXECUTE] button should be pressed, a high voltage would be outputted with the OPC drum stopped, affecting an adverse effect on the OPC drum and the transfer belt. Be careful of that.

Item/Display		Content			Adjustment range	Default value	Actual output setting range	Default value of actual output value
A	TC1 LOW SPEED BW K	Primary transfer bias reference value	Low speed mode		51 - 255	95	2 - 30μA	8μA
B	TC1 MIDDLE SPEED BW K		Middle speed mode		51 - 255	131	2 - 30μA	13μA
C	TC2 PLAIN BW SPX	Secondary transfer bias reference value	Standard paper mode	Front surface mode	51 - 255	111	-2 - -80μA	-25μA
D	TC2 PLAIN BW DPX			Back surface mode	51 - 255	111	-2 - -80μA	-25μA
E	TC2 HEAVY BW SPX		Heavy paper mode	Front surface mode	51 - 255	93	-2 - -80μA	-10μA
F	TC2 HEAVY BW DPX			Back surface mode	51 - 255	93	-2 - -80μA	-10μA
G	TC2 OHP BW		OHP		51 - 255	85	-2 - -80μA	-8μA
H	TC2 ENVELOPE BW		Envelope		51 - 255	124	-2 - -80μA	-30μA
I	TC2 THIN BW		Thin paper		51 - 255	111	-2 - -80μA	-25μA
J	TC2 GLOSSY BW		Gloss paper		51 - 255	72	-2 - -80μA	-10μA
K	TC2 CLEANING		Cleaning mode		51 - 255	67	-2 - -80μA	-8μA
L	TC2 CLEAN LOW SPD	Secondary transfer cleaning bias reference value	Low speed print mode		0 - 255	16	-100V - 1500V	0V
M	TC2 CLEAN MIDDLE SPD		Middle speed print mode		0 - 255	16	-100V - 1500V	0V
N	TC2 CLEAN CLEANING		Cleaning mode		0 - 255	143	-100V - 1500V	800V
O	PTC LOW SPEED BW	PTC current output reference value	Low speed mode		0 - 255	133	0μA - -700μA	-300μA
P	PTC MIDDLE SPEED BW		Middle speed mode		0 - 255	133	0μA - -700μA	-300μA
Q	CASE VOLT LOW BW	PTC case voltage reference value	Low speed mode		0 - 255	0	0V - -1000V	0V
R	CASE VOLT MID BW		Middle speed mode		0 - 255	0	0V - -1000V	0V
S	PEEL VOLT LOW BW	Separation discharge reference value	Low speed mode		51 - 255	200	-50 - -3000V	-2200V
T	PEEL VOLT MIDDLE BW		Middle speed mode		51 - 255	200	-50 - -3000V	-2200V

ADJ 2 Image density sensor (image registration sensor) adjustment

There are some parts variations in the image density sensor section. Therefore, the absolute detection level differs in each machine. To correct this, calibration is executed.

This adjustment is needed in the following situations:

- * When the color image density sensor (image registration sensor F) is replaced.
- * When the image registration sensor unit is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

The targets of the adjustment are the color image density sensor (image registration sensor F) and the black image density sensor (image registration sensor R). There are following adjustment methods.

- * Color image density sensor (image registration sensor F) calibration SIM44-13
- * Color image density sensor (Image registration sensor F) calibration value setting (SIM44-61)
- * Black image density sensor (image registration sensor R) calibration SIM44-2

NOTE: The color image density sensor detects color image density and image registration on front frame side, the black image density sensor detects black image density and image registration on rear frame side. That is, two functions is assigned to each one sensor.

Before executing this adjustment, check to confirm the following items.

- * Check to confirm that the color image density sensor (image registration sensor F) and the black image density sensor (image registration sensor R) are clean.
- * Check to confirm that the image density sensor calibration plate is clean.
- * Check to confirm that the transfer belt is clean and free from scratches.

2-A Color image density sensor (image registration sensor F) calibration (MX-C400P/C380P)

Perform the color image density sensor (image registration sensor F) calibration in one of the following methods.

- * Color image density sensor (Image registration sensor F) calibration value setting (Method by SIM44-61)

When the registration sensor unit is replaced, the calibration value is set manually with this method. The calibration jig is not required.

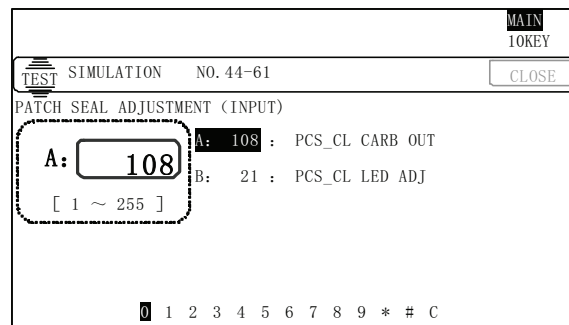
When, however, the color image density sensor itself is replaced, use the calibration jig and execute SIM44-13 to perform calibration.

- * Color image density sensor (Image registration sensor F) calibration value setting (Method by SIM44-13)

When the color image density sensor itself is replaced, use the calibration jig and perform calibration with this method.

(Color image density sensor (Image registration sensor F) calibration value setting (Method by SIM44-61))

- 1) Enter the SIM44-61 mode.

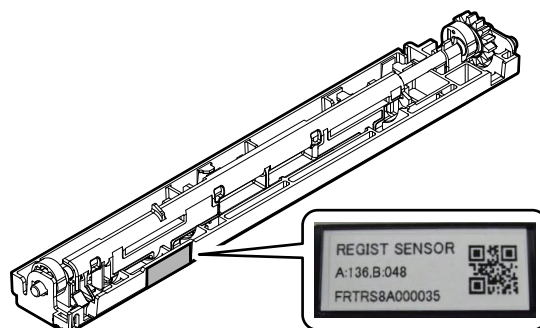


- 2) Select an item to be set.

Item/Display	Content	Setting range	Default value
A PCS_CL CARB OUT	Calibration plate sensor value	1 - 255	108
B PCS_CL LED ADJ	Color sensor light emitting quantity adjustment value	1 - 255	21

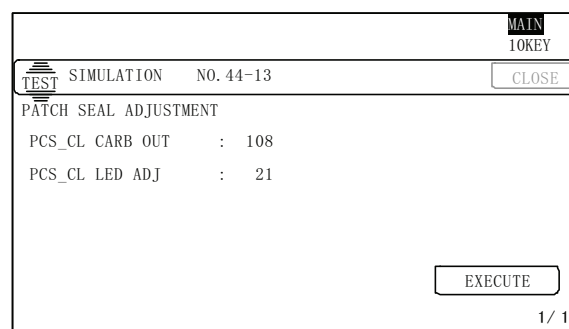
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

The set value is the specified on the label attached to the registration sensor unit.



(Color image density sensor (Image registration sensor F) calibration (Method by SIM44-13))

- 1) Enter the SIM44-13 mode.



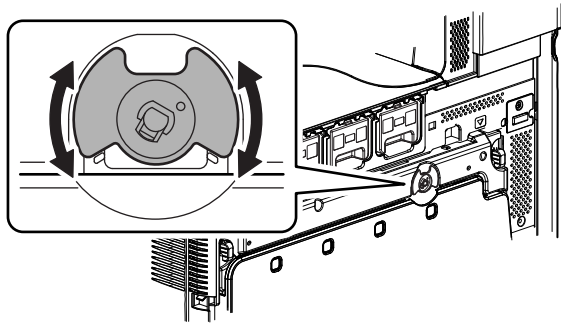
- 2) With [EXECUTE] button selected, press [OK] key.

The shutter plate of the color image density sensor (Image registration sensor F) is opened, and the message that the primary transfer unit is removed is displayed.

- 3) Open the front cover.

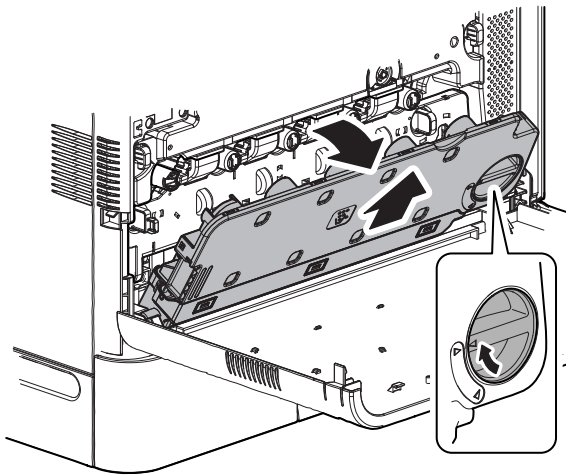
Check to confirm that the belt tension of the primary transfer unit is released (the separation lever of the primary transfer unit is under the state shown in the figure).

If the belt tension is not released, turn the separation lever to the state shown in the figure.

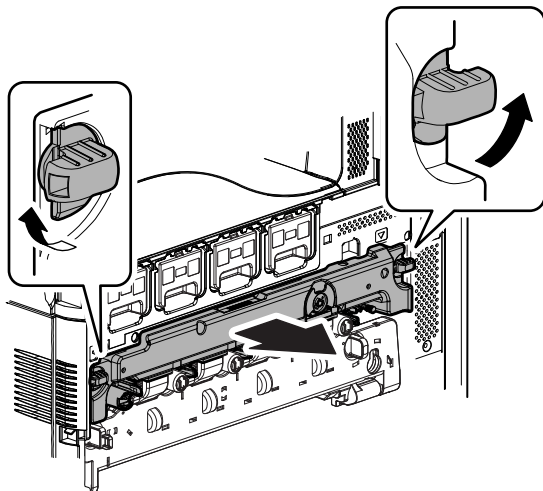


CAUTION: When the transfer belt tension of the primary transfer unit is released manually, turn on the power again after completion of the work. This procedure initializes the transfer roller to return it to the home position.

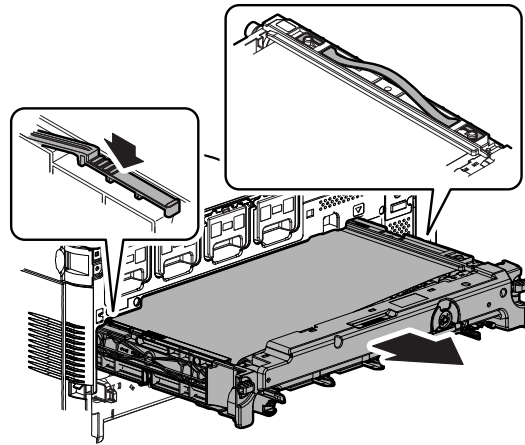
- 4) Turn the lock lever until it stops to release the lock, and remove the waste toner box.



- 5) Open the right door.
- 6) Put the lock lever horizontally, release the lock, and pull out the primary transfer unit until it stops.

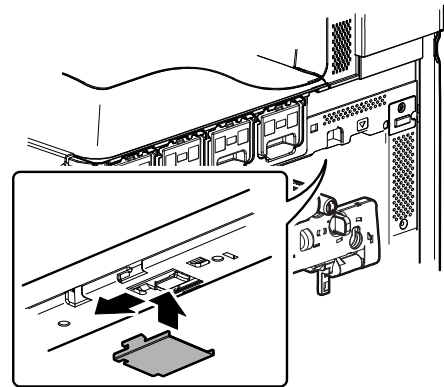


- 7) Hold the handle, push the lock on the left side of the primary transfer unit and remove the primary transfer unit.



- 8) Install the color image density sensor (image registration sensor F) calibration jig (UKOG-0318FCZZ) to the sensor housing section.

Engage the calibration jig in the sensor housing groove, and slide it to the rear frame side.



- 9) Install the waste toner box, and close the right door and the front cover.
- 10) With [EXECUTE] button selected, press [OK] key.

Color image sensor (image registration sensor F) calibration is automatically executed. When the operation is completed, the adjustment result is displayed and [EXECUTE] button returns to the normal display.

Display/Item	Content	Adjustment value range	Default
A PCS_CL CARB OUT	Color image density sensor LED current adjustment target value	1 - 255	108
B PCS_CL LED ADJ	Color image density sensor LED current adjustment target value (PCS CL CARB OUT) registered LED current level	1 - 255	21

If the adjustment is not completed normally, "ERROR" is displayed. When an error occurs, the adjustment result is not revised.

In that case, check the following sections for any abnormality. If any abnormality is found, repair and execute calibration again.

- * Color image density sensor (image registration sensor F)
- * PCU PWB
- * Image sensor calibration jig (standard reflection sheet dirt, scratch, discoloration)
- * Image density sensor calibration plate

NOTE: Store the image sensor calibration jig under low temperature, low humidity and dark place.

2-B Color image density sensor (image registration sensor F), black image density sensor (image registration sensor R) adjustment

NOTE: This adjustment executes automatically at the outset of registration adjustment operation and process control operation as well as SIM44-2.

Normally, therefore, it is not required to perform this adjustment. It is performed only when the sensor is replaced or when the adjustment result is checked.

- 1) Enter SIM44-2 mode.

• MX-C400P/C380P

• MX-B400P/B380P/B382P

- 2) Press [EXECUTE] button.

The color image density sensor (image registration sensor F), the black image density sensor (image registration sensor R) are automatically adjusted.

After completion of the adjustment, the adjustment result is displayed and [EXECUTE] button returns to the normal display.

• MX-C400P/C380P

Mode	Display/Item	Content	Range	De-fault
Adjustment value for process control operation mode	A PCS_CL LED ADJ	Color sensor light emitting quantity adjustment value	1 - 255	21
	B PCS_K LED ADJ	Black sensor light emitting quantity adjustment value	1 - 255	21
	C PCS_CL DARK	Dark voltage of color	0 - 255	0
	D PCS_K DARK	Dark voltage of black	0 - 255	0
	E PCS_K GRND	Belt substrate when the item B adjustment is completed.	0 - 255	0
	F PCS_K BELT MAX	Belt substrate input max. value	0 - 255	0

Mode	Display/Item	Content	Range	De-fault
Adjustment value for process control operation mode	G PCS_K BELT MIN	Belt substrate input min. value	0 - 255	0
	H PCS_K BELT DIF	Belt substrate input difference (Item F - Item G)	0 - 255	0
Adjustment value for image registration operation mode	I REG_F LED ADJ	Registration sensor light emitting quantity adjustment value F	1 - 255	32
	J REG_F DARK	Registration sensor dark voltage F	0 - 255	0
	K REG_F GRND	Belt substrate when the item I adjustment is completed.	0 - 255	0
	L REG_R LED ADJ	Registration sensor light emitting quantity adjustment value R	1 - 255	32
	M REG_R DARK	Registration sensor dark voltage R	0 - 255	0
	N REG_R GRND	Belt substrate when the item L adjustment is completed.	0 - 256	0
	O REG_F BELT MAX	Belt substrate input max. value (F side)	0 - 255	0
	P REG_F BELT MIN	Belt substrate input min. value (F side)	0 - 255	0
	Q REG_F BELT DIF	Belt substrate input difference (Item O - Item P)	0 - 255	0
	R REG_R BELT MAX	Belt substrate input max. value (R side)	0 - 255	0
	S REG_R BELT MIN	Belt substrate input min. value (R side)	0 - 255	0
	T REG_R BELT DIF	Belt substrate input difference (Item R - Item S)	0 - 255	0
	U REG_F PATCH (K)	Patch light receiving potential F(K)	0 - 255	0
	V REG_F PATCH (C)	Patch light receiving potential F(C)	0 - 255	0
	W REG_F PATCH (M)	Patch light receiving potential F(M)	0 - 255	0
	X REG_F PATCH (Y)	Patch light receiving potential F(Y)	0 - 255	0
	Y REG_R PATCH (K)	Patch light receiving potential R(K)	0 - 255	0
	Z REG_R PATCH (C)	Patch light receiving potential R(C)	0 - 255	0
	AA REG_R PATCH (M)	Patch light receiving potential R(M)	0 - 255	0
	AB REG_R PATCH (Y)	Patch light receiving potential R(Y)	0 - 255	0

If the adjustment is not completed normally, "ERROR" is displayed.

Mode	Error display	Error content	
Adjustment value for process control operation mode	BK_SEN_ADJ_ERR	Black image density sensor adjustment abnormality	PCS_K LED ADJ error (The target value is not obtained after retried three times.)
	CL_SEN_ADJ_ERR	Color image sensor adjustment abnormality	PCS_CL LED ADJ error (The target value is not obtained after retried three times.)
	BELT_READ_ERR	Transfer belt surface reading abnormality	PCS_K GRND error (The surface detection level is maximum or the minimum value difference is outside a reference range.)
Adjustment value for image registration operation mode	REG_SEN_F_ADJ_ERR	Registration sensor F adjustment abnormality	REG_F LED ADJ error (The target value is not obtained after retried three times.)
	REG_SEN_R_ADJ_ERR	Registration sensor R adjustment abnormality	REG_R LED ADJ error (The target value is not obtained after retried three times.)
	REG_BELT_F_READ_ERR	F side transfer belt surface reading abnormality	REG_F GRND error (The surface detection level is maximum or the minimum value difference is outside a reference range.)
	REG_BELT_R_READ_ERR	R side transfer belt surface reading abnormality	REG_R GRND error (The surface detection level is maximum or the minimum value difference is outside a reference range.)

• MX-B400P/B380P

Display/Item	Content	Range	Default
A PCS_K LED ADJ	Image density sensor light emitting quantity adjustment value	1 - 255	32
B PCS_K DARK	Dark voltage	0 - 255	0
C PCS_K GRND	Belt base detection level when completion of Item A adjustment	0 - 255	0
D PCS_K BELT MAX	Maximum value of belt base detection level	0 - 255	0
E PCS_K BELT MIN	Minimum value of belt base detection level	0 - 255	0
F PCS_K BELT DIF	Belt base detection level difference (Item D - Item E)	0 - 255	0
G REG_R LED ADJ	Image density sensor light emitting quantity adjustment value	1 - 255	32
H REG_R DARK	Image density sensor dark voltage	0 - 255	0
I REG_R GRND	Belt base detection level when completion of Item G adjustment	0 - 256	0
J REG_R BELT MAX	Maximum value of belt base detection level	0 - 255	0
K REG_R BELT MIN	Minimum value of belt base detection level	0 - 255	0
L REG_R BELT DIF	Belt base detection level difference (Item J - Item K)	0 - 255	0
M REG_R PATCH (K)	Patch detection level for check	0 - 255	0

• MX-B382P

Display/Item	Content	Range	Default
A PCS_K LED ADJ	Image density sensor light emitting quantity adjustment value	1 - 255	21
B PCS_K DARK	Dark voltage	0 - 255	0
C PCS_K GRND	Belt base detection level when completion of Item A adjustment	0 - 255	0
D PCS_K BELT MAX	Maximum value of belt base detection level	0 - 255	0
E PCS_K BELT MIN	Minimum value of belt base detection level	0 - 255	0
F PCS_K BELT DIF	Belt base detection level difference (Item D - Item E)	0 - 255	0
G REG_R LED ADJ	Image density sensor light emitting quantity adjustment value	1 - 255	56
H REG_R DARK	Image density sensor dark voltage	0 - 255	0
I REG_R GRND	Belt base detection level when completion of Item G adjustment	0 - 256	0
J REG_R BELT MAX	Maximum value of belt base detection level	0 - 255	0
K REG_R BELT MIN	Minimum value of belt base detection level	0 - 255	0
L REG_R BELT DIF	Belt base detection level difference (Item J - Item K)	0 - 255	0
M REG_R PATCH (K)	Patch detection level for check	0 - 255	0

If the adjustment is not completed normally, "ERROR" is displayed.

Error name	Error content
Image density sensor adjustment abnormality	PCS_K LED ADJ error The target is not reached by 3 times of retry.
Substrate scan abnormality	PCS_K GRND error Effective difference between the upper and lower values of the belt substrate circuit, outside the range
Registration sensor R adjustment abnormality	REG_R LED ADJ error The target is not reached by 3 times of retry.
Registration substrate R scan abnormality	REG_R GRND error Effective difference between the upper and lower values of the belt substrate circuit, outside the range

Error display	Error content	
BK_SEN_ADJ_ERR	Image density sensor adjustment abnormality	PCS_K LED ADJ error (The target value is not obtained after retried three times.)
BELT_READ_ERR	Transfer belt surface reading abnormality	PCS_K GRND error (The surface detection level is maximum or the minimum value difference is outside a reference range.)
REG_SEN_R_ADJ_ERR	Sensor adjustment abnormality	REG_R LED ADJ error (The target value is not obtained after retried three times.)
REG_BELT_R_READ_ERR	Transfer belt surface reading abnormality	REG_R GRND error (The surface detection level is maximum or the minimum value difference is outside a reference range.)

When an error occurs, check the following sections for any abnormality.

- Color image density sensor (image registration sensor F)
- Black image density sensor (image registration sensor R)
- PCU PWB
- Transfer belt (dirt, scratch)
- Transfer belt cleaner
- Color image sensor calibration plate

If any abnormality is found, repair and adjust again.

If an error occurs, the adjustment result is not revised.

ADJ 3 Image skew adjustment (LSU unit) (MX-C400P/C380P)

This adjustment is needed in the following situations:

- * When the color shift occurs.
- * When the LSU unit is replaced.
- * When the LSU unit is removed from the main unit.
- * When a color image registration mistake occurs.
- * When the unit is installed or when the installing site is changed.
(Required depending on the cases.)
- * When there is an uneven density area or a difference in color balance in the main scanning direction (back and forth).
- * When the color phase is not matched by the color balance adjustment.
- * When the OPC drum drive unit is replaced.
- * When the primary transfer unit is replaced.

The image skew adjustment (LSU unit) is performed by changing the parallelism of the LSU unit scan laser beams for the OPC drum.

NOTE: Before execution of the this adjustment, perform the following procedures in advance for better efficiency of the adjustment.

The black (K) image skew, however, must be properly adjusted for that.

- 1) In the SIM50-22 mode, select ALL mode to perform the automatic image registration adjustment.
- 2) The current skew level is displayed on the SKEW display menu.
- 3) Put down the displayed skew level value.

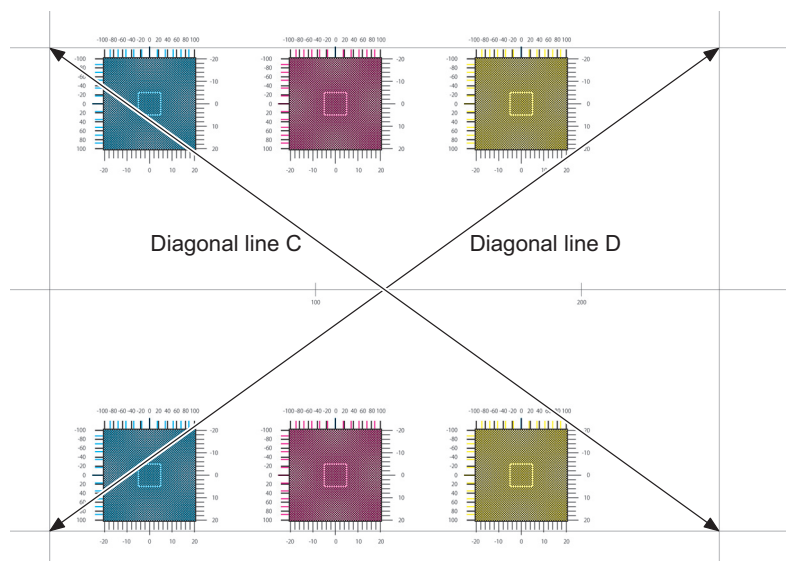
(Meaning of the skew level value)

- * When "R" is displayed in front of the value, turn the skew adjustment screw (LSU) clockwise by the value (angle).
- * When "L" is displayed in front of the value, turn the skew adjustment screw (LSU) counterclockwise by the value (angle).

NOTE: The K (Black) image skew level cannot be checked with SIM50-22.

(Method 1)

- a) Measure the length of the diagonal lines of the rectangle print pattern.



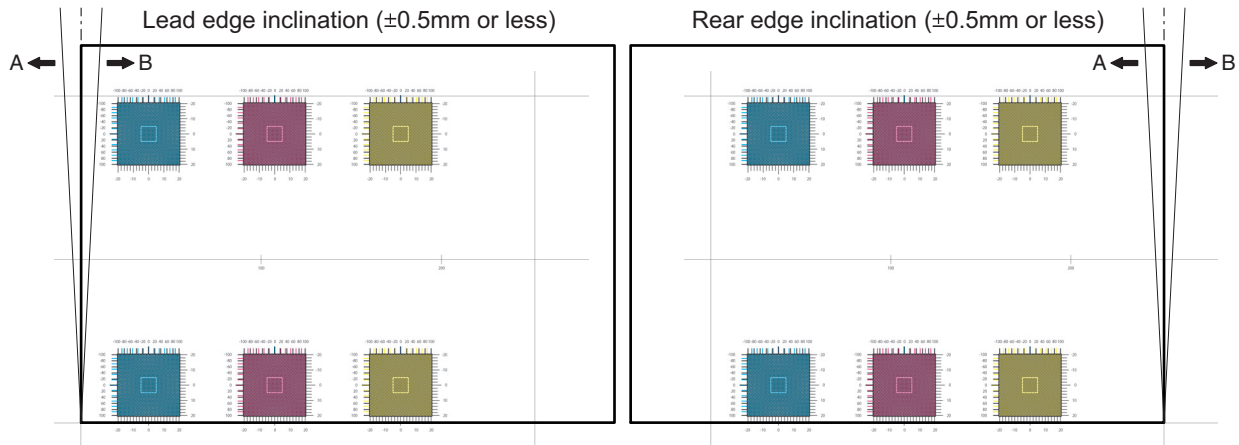
- b) Calculate the difference between the measured lengths C and D of the diagonal lines.
- c) Check to insure that the difference between C and D is in the following range.
 $C - D = \pm 0.8\text{mm}$
 If the difference between C and D is in the above range, there is no need to adjust.

- 1) Enter SIM61-4 mode.

- 2) Select the tray with A4 (11" x 8.5") paper in it.
- 3) Select [EXECUTE] button, and press [OK] key.
The check pattern is printed out.
- 4) Check the printed black image for any skew.
There are following two methods of checking the black image for any skew (right angle).
 Method 1:
 Measure the length of the diagonal lines of the rectangle print pattern. Check the difference in the length of the diagonal lines for judgment of good or no good
 Method 2:
 Compare the right angle of vertical side/horizontal side of the rectangle print pattern and the right angle sides of A4 (11" x 8.5") paper for judgment of good or no good.
 (NOTE)
 In the case of Method 2, the right angle of paper to be used may not be exact. Be sure to check the right angle of paper to be used in advance.

(Method 2)

a) Fit the side of A4 or 11" x 8.5" paper to the long side of the rectangle print pattern.



b) Measure the shift distance between vertical side of paper and side of the rectangle print pattern.

If the above distances (left and right) are 0.5mm or less, there is no need to adjust.

If not, execute the following procedures.

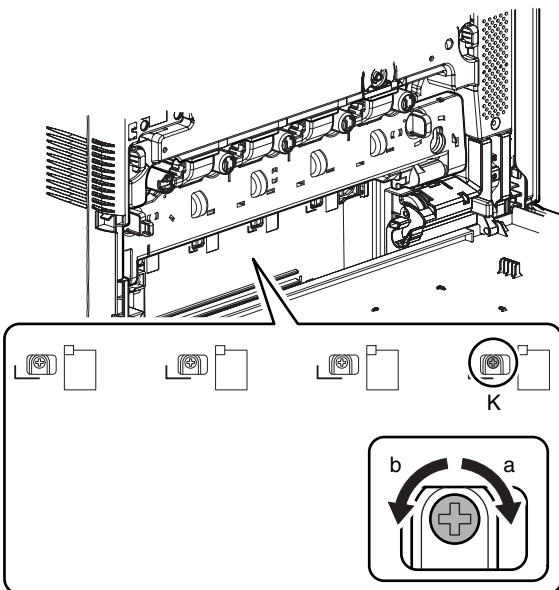
- 5) Open the front cabinet, and remove the waste toner box.
- 6) Turn the LSU unit image skew adjustment screw (K) to adjust.
(When Method 1 is used to check the black image for any skew (right angle) in procedure 4 in advance)

Diagonal line C is longer than diagonal line D: Turn the adjustment screw clockwise.

Diagonal line C is shorter than diagonal line D: Turn the adjustment screw counterclockwise.

(When Method 2 is used to check the black image for any skew (right angle) in procedure 4 in advance)

When the image is skewed in the arrow direction A, turn the adjustment screw clockwise. When the image is skewed in the arrow direction B, turn the adjustment screw counterclockwise.



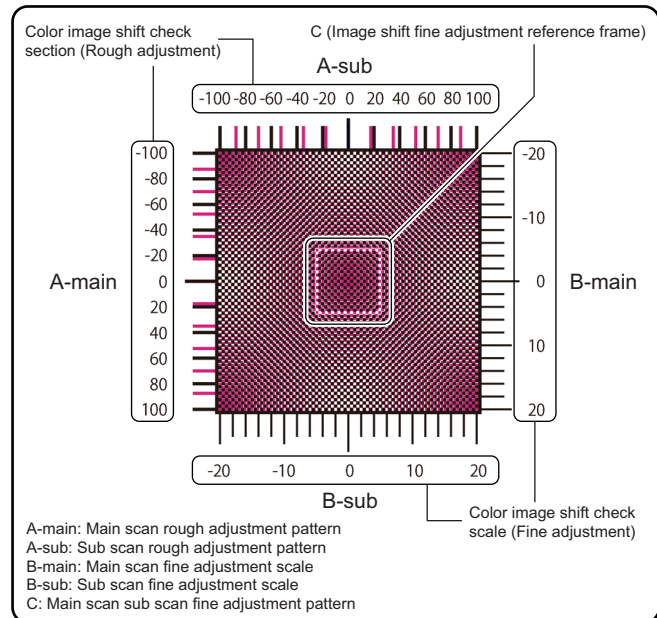
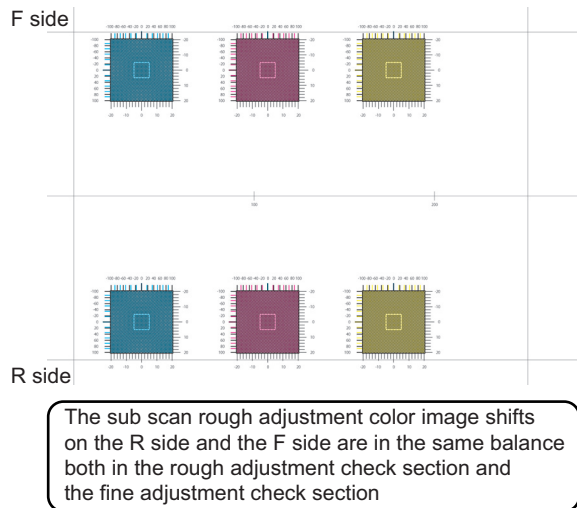
- 7) Install the waste toner box, and close the front cabinet.
- 8) Perform the procedures 3) - 4).
(Perform the procedures 3) - 8) until a satisfactory result is obtained.)
- 9) Enter the SIM50-22 mode to select the adjustment item of ALL, and press [EXECUTE] button.
The image registration adjustment is automatically performed and the adjustment data are displayed. Write down the display contents of SKEW C, M, and Y.
- 10) Turn the image skew adjustment screw of the target color to adjust.

(When the adjustment is performed with the skew level value of SIM50-22 as the reference)

* When "R" is displayed in front of the value of SKEW, turn the skew adjustment screw (LSU) clockwise by the number (angle).

* When "L" is displayed in front of the value of SKEW, turn the skew adjustment screw (LSU) counterclockwise by the number (angle).

- 11) Enter the SIM61-4 mode and perform the procedures of 2) - 3).
Check the printed color image skew pattern.



In each Y/M/C color print pattern printed separately in the F side and in the R side, note the same print color pattern and check to confirm that the front frame side and the rear frame side are in the same condition.

Rough adjustment pattern check:

Check the sub scan rough adjustment color image shift check section on the R side and the F side of each color, use the black scale of "0" as the center reference, and check the balance in shifts of the color image line positions in the positive and the negative directions. The balance in the R side must be the same as that in the F side.

Fine adjustment pattern check:

Check the square frames on the R side and the F side of each color. (Normally five sections of high density can be seen.) Check the sub scanning direction position of the center area of high density (one of the above five sections). These must be on the same position on the R side and the F side.

In this case, use the sub scan direction color image shift check scale (fine adjustment) as the reference.

Visually check the color density and make the darkest section as the center, and use it as the read value of the shift amount.

Check that the difference in the center position of the dark density section is within ± 2 step.

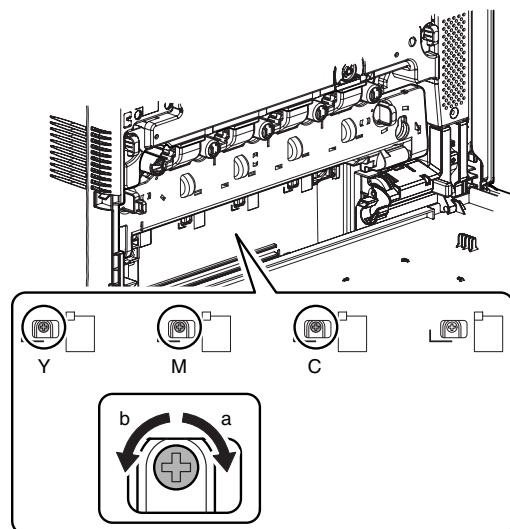
The positional relations of the front and the rear frame of the print color patterns of a same color are compared. There is no need that all the colors are in the same state. Compare only the positional relations of color patterns of a same color.

If the above condition is not met, do the following:

- 12) Turn the image skew adjustment screw of the target color to adjust.

Relationship between the adjustment screw rotating angle and the change in the adjustment image position:

Adjustment screw rotating angle (degree) = Image shift amount (Adjustment scale) x 10



Repeat procedures 11) - 12) until a satisfactory result is obtained.

NOTE: The "change in the adjustment image position" in procedure 12) is the scale amount on the color image skew pattern, and is different from the value displayed with SIM50-22.

ADJ 3 Image skew adjustment (LSU unit) (MX-B400P/B380P/B382P)

This adjustment is needed in the following situations:

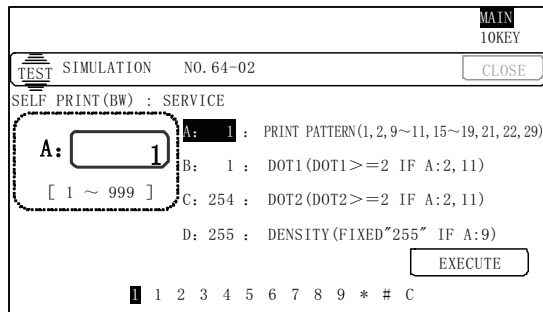
- * When the LSU unit is replaced.
- * When the LSU unit is removed from the main unit.

The image skew adjustment (LSU unit) is performed by changing the parallelism of the LSU unit scan laser beams for the OPC drum.

- 1) Enter SIM64-2 mode.

Set the set items to the values shown below.

A: 1 B: 1 C: 254 D: 255



- 2) Select the tray with A4 (11" x 8.5") paper in it.
- 3) Select [EXECUTE] button, and press [OK] key.
The check pattern is printed out.
- 4) Check the printed image for any skew.

There are following two methods of checking the image for any skew (right angle).

Method 1:

Measure the length of the diagonal lines of the rectangle print pattern. Check the difference in the length of the diagonal lines for judgment of good or no good

Method 2:

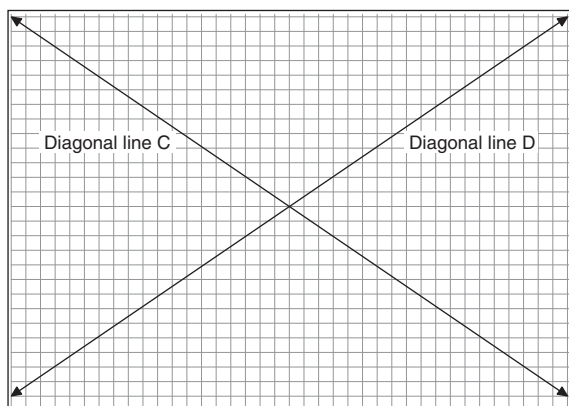
Compare the right angle of vertical side/horizontal side of the rectangle print pattern and the right angle sides of A4 (11" x 8.5") paper for judgment of good or no good.

(NOTE)

In the case of Method 2, the right angle of paper to be used may not be exact. Be sure to check the right angle of paper to be used in advance.

(Method 1)

- a) Measure the length of the diagonal lines of the rectangle print pattern.



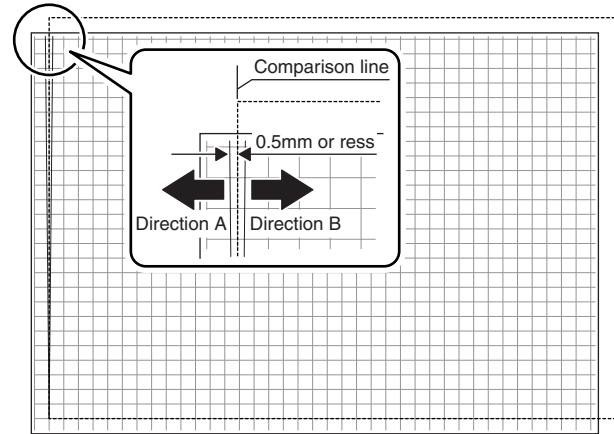
- b) Calculate the difference between the measured lengths C and D of the diagonal lines.

- c) Check to insure that the difference between C and D is in the following range.
 $C - D = \pm 0.8\text{mm}$

If the difference between C and D is in the above range, there is no need to adjust.

(Method 2)

- a) Fit the side of A4 or 11" x 8.5" paper to the long side of the rectangle print pattern.



- b) Measure the shift distance between vertical side of paper and side of the rectangle print pattern.

If the above distances (left and right) are 0.5mm or less, there is no need to adjust.

If not, execute the following procedures.

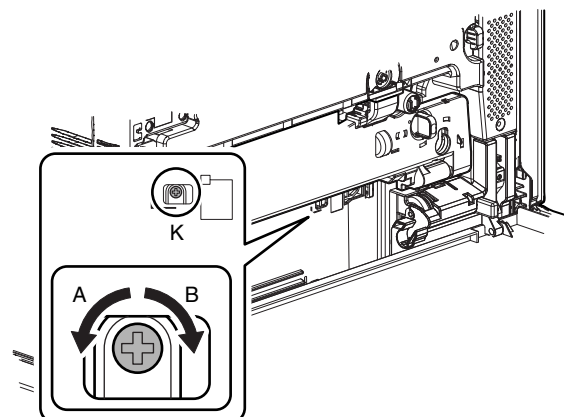
- 5) Open the front cabinet, and remove the waste toner box.
- 6) Turn the LSU unit image skew adjustment screw to adjust.
(When Method 1 is used to check the image for any skew (right angle) in procedure 4 in advance)

Diagonal line C is longer than diagonal line D: Turn the adjustment screw clockwise.

Diagonal line C is shorter than diagonal line D: Turn the adjustment screw counterclockwise.

(When Method 2 is used to check the image for any skew (right angle) in procedure 4 in advance)

When the image is skewed in the arrow direction A, turn the adjustment screw clockwise. When the image is skewed in the arrow direction B, turn the adjustment screw counterclockwise.



- 7) Install the waste toner box, and close the front cabinet.
- 8) Perform the procedures 3) - 4).
(Perform the procedures 3) - 8) until a satisfactory result is obtained.)

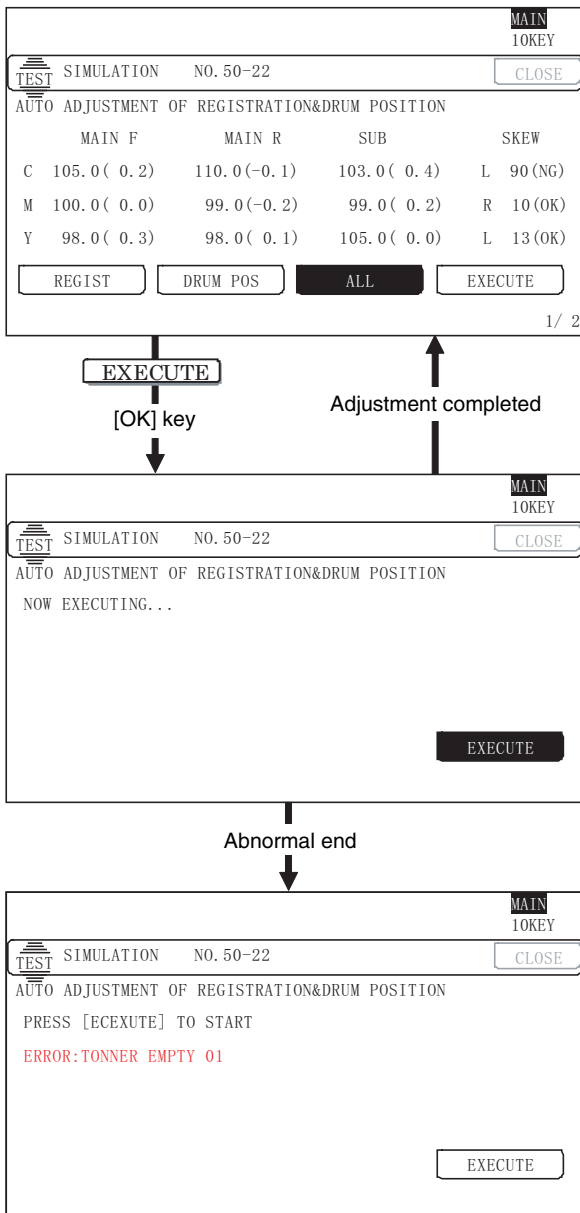
ADJ 4 OPC drum phase adjustment

This adjustment is needed in the following situations:

- * When the color shift occurs.
- * When the photo-conductor drum is replaced.
- * When the OPC drum is removed from the main unit.
- * When the OPC drum drive section is disassembled.
- * When the OPC drum drive unit is replaced.
- * U2 trouble has occurred.
- * When the PCU MAIN PWB is replaced.
- * When EEPROM on the PCU MAIN PWB is replaced.
- * When the color image sensor (image registration sensor F) is replaced.
- * When the color image sensor (image registration sensor R) is replaced.
- * When the registration sensor unit is replaced.

4-A OPC drum phase adjustment (Auto adjustment)

- 1) Enter SIM50-22 mode.



- 2) Select [ALL] button, and press [OK] key.

(The machine enters the OPC drum phase adjustment mode/image registration adjustment (auto adjustment) mode, and both adjustments are executed simultaneously in this mode.)

The OPC drum phase adjustment and the image registration adjustment can be individually executed by [REGIST] button and [DRUM POS] button. Since, however, the image registration adjustment must be executed when the OPC drum phase adjustment is completed, both adjustment are executed in this adjustment simultaneously.

- 3) Select [EXECUTE] button, and press [OK] key.

The OPC drum phase adjustment and the image registration adjustment are executed automatically.

- * After completion of the adjustment, the drum motor stops and [EXECUTE] button returns to the normal display and the adjustment result is displayed.
- * When terminated abnormally, "ERROR" and the content are displayed.
- * For details, refer to SIM50-22.

When an error occurs, check the following conditions.

- OPC drum drive section
- Transfer belt drive section
- Paper feed drive section
- Each motor speed set value (Set value of SIM48-6)

ADJ 5 Print engine image magnification ratio adjustment (BK) (Main scanning direction) (Print engine section) (Manual adjustment)

This adjustment is needed in the following situations:

- * When the LSU (writing) unit is replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.
- * When the color shift occurs.

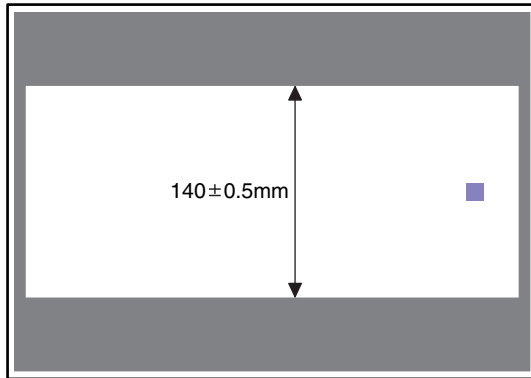
- 1) Go through the modes specified in Simulation 50-10.

The screenshot shows the 'SIMULATION NO. 50-10' screen. It displays 'PAPER CENTER OFFSET SETUP' with fields for A, B, C, and D. Field A is set to 100, and its range is [60 ~ 140]. Fields B, C, and D are set to 50. The units are BK-MAG, MAIN-MFT, MAIN-CS1, and MAIN-CS2 respectively. An 'EXECUTE' button is at the bottom right. A numeric keypad is visible at the bottom of the screen.

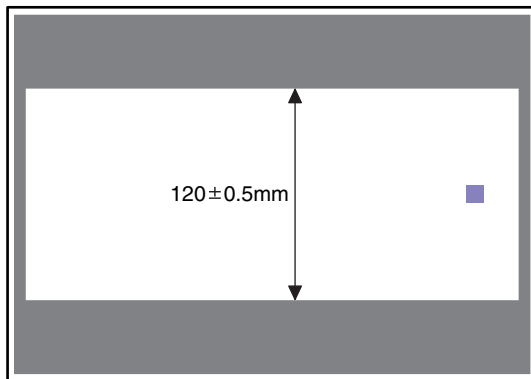
- 2) Select A4 (11" x 8.5") paper.
- 3) With [EXECUTE] button selected, press [OK] key.
The check pattern is printed out.
- 4) Check that the inside dimension of the printed halftone is $140 \pm 0.5\text{mm}$. (MX-C400P/C380P)
Check that the inside dimension of the printed halftone is $120 \pm 0.5\text{mm}$. (MX-B400P/B380P/B382P)



(MX-C400P/C380P)



(MX-B400P/B380P/B382P)



If the above requirement is not met, do the following steps.

- 5) Change the set value of set item A BK-MAG.
(Enter the set value, and press [OK] key and OSA shortcut key.)
When the set value is changed by 1, the dimension is changed by 0.1mm.
When the set value is increased, the BK image magnification ratio in the main scanning direction is increased. When the set value is decreased, the BK image magnification ratio in the main scanning direction is decreased.

Repeat procedures 2) - 5) until a satisfactory result is obtained.

ADJ 6 Image off-center adjustment (Print engine section)

This adjustment is needed in the following situations:

- * When the LSU is replaced or removed.
- * When a paper tray is replaced.
- * When the paper tray section is disassembled.
- * When [ADJ 5] print engine image magnification ratio (BK) (main scanning direction) is performed.
- * When the manual feed tray is replaced.
- * When the manual feed tray is disassembled.
- * When the switchback section is disassembled.
- * When the registration roller section is disassembled.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

(Note)

Before execution of this adjustment, check to insure the following item.

- * Check that the print engine image magnification ratio adjustment (BK) (main scanning direction) has been properly adjusted.

- 1) Enter SIM50-10 mode.

The screenshot shows the 'PAPER CENTER OFFSET SETUP' screen in SIM50-10 mode. The screen has a title bar with 'TEST SIMULATION NO. 50-10' and a 'CLOSE' button. Below the title bar, there are four rows of settings: A: 100 (BK-MAG), B: 50 (MAIN-MFT), C: 50 (MAIN-CS1), and D: 50 (MAIN-CS2). A dashed box highlights the 'A' setting. At the bottom right is an 'EXECUTE' button. A numeric keypad is visible at the very bottom.

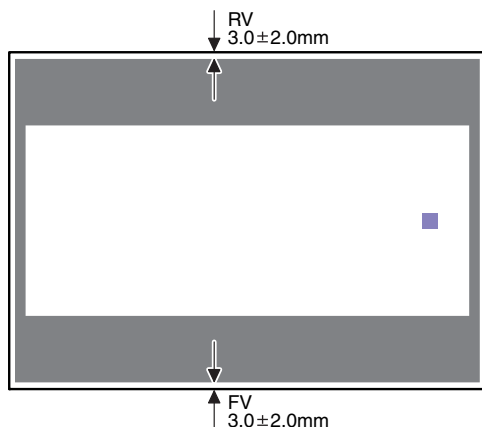
- 2) Select a target paper feed tray to be adjusted with the scroll keys.

	Display/Item		Content		Setting range		Default
A	BK-MAG		Main scan print magnification ratio BK		60 - 140		100
B	MAIN-MFT		Print off center adjustment value (Manual paper feed)		1 - 99		50
C	MAIN-CS1		Print off center adjustment value (Tray 1)		1 - 99		50
D	MAIN-CS2		Print off center adjustment value (Tray 2)		1 - 99		50
E	MAIN-CS3		Print off center adjustment value (Tray 3)		1 - 99		50
F	MAIN-CS4		Print off center adjustment value (Tray 4)		1 - 99		50
G	MAIN-ADU		Print off center adjustment value (ADU) NOTE: Before execution of this adjustment, check to insure that the adjustment items A - F have been properly adjusted. If not, this adjustment cannot be made properly.		1 - 99		50
H	SUB-MFT		Registration motor ON	Manual paper feed	1 - 99		50
I	SUB-CS1		Timing adjustment	Standard tray	1 - 99		50
J	SUB-DSK			DESK	1 - 99		50
K	SUB-ADU			ADU	1 - 99		50
L	MULTI COUNT		Number of print		1 - 999		1
M	PAPER	MFT	Tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
N	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)
		NO	No	1			

- 3) Set A4 (11" x 8.5") paper in the paper feed tray selected in procedure 2).
- 4) With [EXECUTE] button selected, press [OK] key.
The adjustment pattern is printed.

- 5) Check that the adjustment pattern image is printed in the correct position.

Measure the dimension of the void area in the front and the rear frame direction of the adjustment pattern, and check that all the following conditions are satisfied.



RV: REAR VOID AREA
FV: FRONT VOID AREA

$$RV + FV \leq 8.0\text{mm}$$

$$RV = 3.0 \pm 2.0\text{mm}$$

$$FV = 3.0 \pm 2.0\text{mm}$$

If the above requirement is not met, do the following steps.

- 6) Change the adjustment value.
(Enter the set value, and press [OK] key and OSA shortcut key.)
When the adjustment value is increased, the adjustment pattern is shifted to the front frame side. When it is decreased, the adjustment pattern is shifted to the rear frame side.
When the set value is changed by 1, the shift distance is changed by about 0.1mm.
Repeat procedures 5) - 6) until the conditions of procedure 5) are satisfied.

ADJ 7 Image registration adjustment (Print engine section) (MX-C400P/C380P)

This adjustment is needed in the following situations:

- * When the color shift occurs.
- * When the LSU (writing) unit is replaced.
- * When the LSU (writing) unit is removed from the main unit.
- * When the color image registration mistake in the main scanning direction occurs.
- * When the color image registration mistake in the sub scanning direction occurs
- * When the unit is installed or when the installing place is changed.
- * When maintenance work is performed. (Replacement of the OPC drum, the OPC cartridge, the transfer unit, the transfer belt, etc.)
- * When [ADJ 5] print engine image magnification ratio (BK) (main scanning direction) is performed.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

Note before adjustment

(Before execution of this adjustment, all the following adjustments must have been completed.)

- * [ADJ 3] image skew adjustment (LSU unit)
- * [ADJ 5] print engine image magnification ratio (BK) (main scanning direction) (print engine section)

7-A Image registration adjustment (Main scanning direction, sub scanning direction) (Auto adjustment) (MX-C400P/C380P)

In this adjustment, the image registration adjustment in the main scanning direction and that in the sub scanning direction are executed simultaneously and automatically.

- 1) Enter SIM50-22 mode.

TEST		SIMULATION NO. 50-22		CLOSE	
AUTO ADJUSTMENT OF REGISTRATION&DRUM POSITION					
	MAIN F	MAIN R	SUB	SKEW	
C	105.0 (0.2)	110.0 (-0.1)	103.0 (0.4)	L	90(NG)
M	100.0 (0.0)	99.0 (-0.2)	99.0 (0.2)	R	10(OK)
Y	98.0 (0.3)	98.0 (0.1)	105.0 (0.0)	L	13(OK)
REGIST		DRUM POS		ALL EXECUTE	
1 / 2					

EXECUTE

[OK] key

Adjustment completed

TEST		SIMULATION NO. 50-22		CLOSE	
AUTO ADJUSTMENT OF REGISTRATION&DRUM POSITION					
NOW EXECUTING...					
EXECUTE					

Abnormal end

TEST		SIMULATION NO. 50-22		CLOSE	
AUTO ADJUSTMENT OF REGISTRATION&DRUM POSITION					
PRESS [EXECUTE] TO START					
ERROR:TONNER EMPTY 01					
EXECUTE					

- 2) Select the [ALL] adjustment mode.
3) Select [EXECUTE] button, and press [OK] key.
[EXECUTE] button is highlighted and the image registration auto adjustment is started. After completion of the adjustment, [EXECUTE] button returns to the normal display and the adjustment result is displayed.
It takes about 20 sec to complete the adjustment.
* When terminated abnormally, "ERROR" and the content are displayed.
* For details, refer to SIM50-22.

(To check the auto adjustment result, use the manual image registration adjustment mode below.)

- * Image registration adjustment (Main scanning direction) (Manual adjustment) (SIM50-20)
- * Image registration adjustment (Sub scanning direction) (Manual adjustment) (SIM50-20)

7-B Image registration adjustment (Main scanning direction) (Manual adjustment) (MX-C400P/C380P)

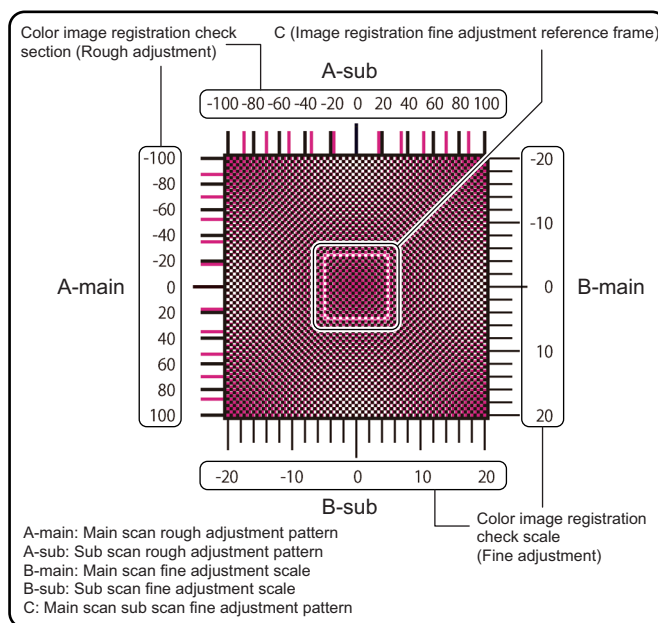
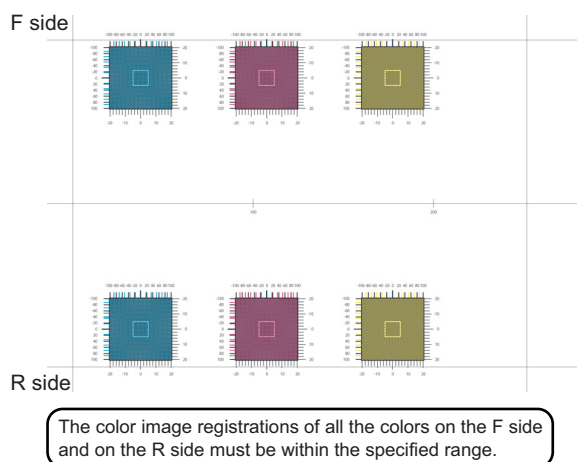
NOTE: If item "AR_AUTO" in SIM44-1 is 0 (Allows) and process control is executed, the image registration adjustment is executed automatically and updates the result in each case.

In case of retaining the manual adjustment result, 1 must be set to item "AR_AUTO" of SIM44-1 (inhibits).

- 1) Enter SIM50-20 mode.

The screenshot shows the SIM50-20 mode screen. At the top, it says "MAIN 10KEY". Below that, "TEST SIMULATION NO. 50-20" with a "CLOSE" button. The main title is "REGISTRATION ADJUSTMENT : FRONT-REAR DIRECTION". There are four adjustment items: A: 100 (CYAN (FRONT)), B: 100 (CYAN (REAR)), C: 100 (MAGENTA (FRONT)), and D: 100 (MAGENTA (REAR)). A value of 100 is entered in a box next to A, with a range of [1 ~ 199] indicated below it. An "EXECUTE" button is at the bottom right. At the very bottom is a numeric keypad from 0 to 9, *, and #.

- 2) Select the paper feed tray with A4 (11" x 8.5") paper.
- 3) With [EXECUTE] button selected, press [OK] key.
The image registration adjustment pattern is printed.



- 4) Check the rough adjustment and the fine adjustment print pattern positions of each color in the front frame and the rear frame sides.

Use the visually highest color density section as the center, and measure the shift amount.

The front frame registration and the rear frame registration are adjusted independently.

To check the image registration, therefore, check the front frame side and the rear frame side individually.

Rough adjustment pattern check:

Check the color image registration check section, and use the black scale of "0" as the center reference, and check the balance in shifts of the color image line positions in the positive and the negative directions. With the scale of "0" as the center reference, the color image line on the positive side must be on the symmetrical position of that on the negative side.

Fine adjustment pattern check:

Check to confirm that the dark area (one of the five areas which are normally to be seen) is at the center of the image registration fine adjustment reference frame in the square frame.

In this case, use the color image registration check scale (fine adjustment) as the reference.

Check to confirm that the center position of the dark section is within ± 2 step.

(If the fine adjustment print pattern is located in the range of ± 2 from the fine adjustment reference pattern scale, the adjustment is not required.)

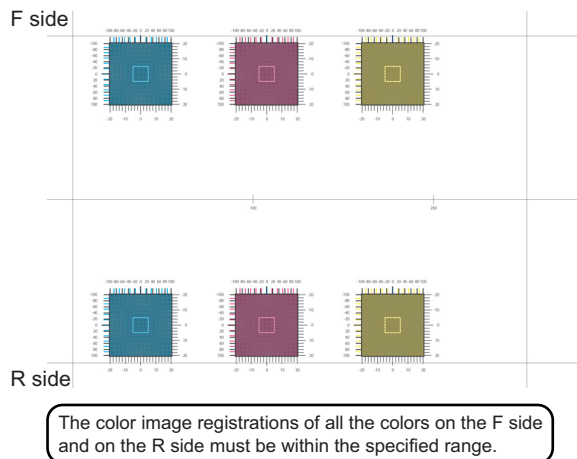
If the above condition is not satisfied, select the color mode adjustment item A - F to be adjusted and change the adjustment value to adjust.

Display/Item		Content	Adjustment value range	Default
A	CYAN (FRONT)	Image registration adjustment value (Main scanning direction) (Cyan) (F side)	1 - 199	100
B	CYAN (REAR)	Image registration adjustment value (Main scanning direction) (Cyan) (R side)	1 - 199	100
C	MAGENTA (FRONT)	Image registration adjustment value (Main scanning direction) (Magenta) (F side)	1 - 199	100
D	MAGENTA (REAR)	Image registration adjustment value (Main scanning direction) (Magenta) (R side)	1 - 199	100
E	YELLOW (FRONT)	Image registration adjustment value (Main scanning direction) (Yellow) (F side)	1 - 199	100
F	YELLOW (REAR)	Image registration adjustment value (Main scanning direction) (Yellow) (R side)	1 - 199	100

Repeat procedures 3) - 4) until a satisfactory result is obtained.

NOTE: If either of front or rear adjustment value is changed, the other adjustment print pattern position may be varied. Be careful of that.

- 2) Select the paper feed tray with A4 (11" x 8.5") paper.
- 3) With [EXECUTE] button selected, press [OK] key.
The image registration adjustment pattern is printed.

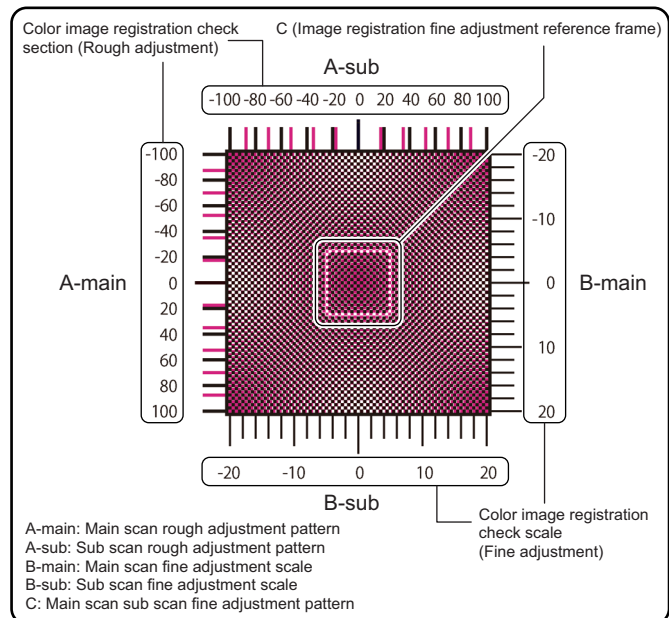


7-C Image registration adjustment (Sub scanning direction) (Manual adjustment) (MX-C400P/C380P)

NOTE: If item "AR_AUTO" in SIM44-1 is 0 (Allows) and process control is executed, the image registration adjustment is executed automatically and updates the result in each case.

In case of retaining the manual adjustment result, 1 (inhibits) must be set to item "AR_AUTO" of SIM44-1.

- 1) Enter SIM50-20 mode.



- 4) Check the rough adjustment and the fine adjustment print pattern positions of each color on the front frame side and on the rear frame side.

Visually check the color density and make the darkest section as the center, and use it as the read value of the shift amount.

The image registration on the front frame side and that on the rear frame side are independently adjusted.

To check the image registration, therefore, check each of the front frame side and the rear frame side.

Rough adjustment pattern check:

Check the color image registration check section, and use the black scale of "0" as the center reference, and check the balance in shifts of the color image line positions in the positive and the negative directions. With the scale of "0" as the center reference, the color image line on the positive side must be on the symmetrical position of that on the negative side.

Fine adjustment pattern check:

Check to confirm that the dark area (one of the five areas which are normally to be seen) is at the center of the image registration fine adjustment reference frame in the square frame.

In this case, use the color image registration check scale (fine adjustment) as the reference.

Check to confirm that the center position of the dark section is within ± 2 step.

(If the fine adjustment print pattern is located in the range of 0 ± 2 from the fine adjustment reference pattern scale, the adjustment is not required.)

If the above condition is not satisfied, select the color mode adjustment item G - H to be adjusted, and change the adjustment value to adjust.

Display/Item	Content	Adjustment value range	Default
G CYAN (SUB)	Image registration adjustment value (Sub scanning direction) (Cyan)	1 - 199	100
I MAGENTA (SUB)	Image registration adjustment value (Sub scanning direction) (Magenta)	1 - 199	100
H YELLOW (SUB)	Image registration adjustment value (Sub scanning direction) (Yellow)	1 - 199	100

Repeat procedures 3) - 4) until a satisfactory result is obtained.

ADJ 8 Print area (Void area) adjustment (Print engine section)

This adjustment is needed in the following situations:

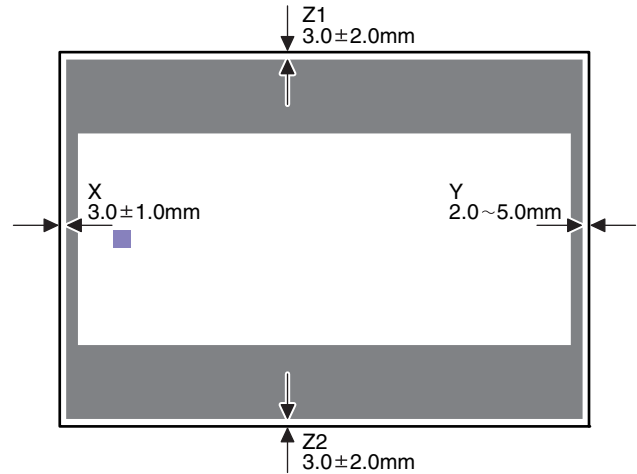
- * When the LSU is replaced or removed.
- * When a paper tray is replaced.
- * When the paper tray section is disassembled.
- * When the manual feed tray is replaced.
- * When the manual feed tray is disassembled.
- * When the switchback section is disassembled.
- * When the registration roller section is disassembled.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

NOTE: Before execution of this adjustment, be sure to execute ADJ 5 Print image magnification ratio adjustment (BK) (Main scanning direction) (Print engine section) in advance.

- 1) Enter SIM50-10 mode.

- 2) Set A4 (11" x 8.5") paper in the paper feed tray of the adjustment target.
- 3) Select the paper feed tray of the adjustment target.
- 4) With [EXECUTE] button selected, press [OK] key.
The adjustment pattern is printed.
- 5) Check the adjustment pattern to confirm that the items below are in the range of the standard values.

	Content	Standard adjustment value
X	Lead edge void area	$3.0 \pm 1.0\text{mm}$
Y	Rear edge void area	$2.0 - 5.0\text{mm}$
Z1/Z2	FRONT/REAR void area	$3.0 \pm 2.0\text{mm}$



If the above condition is not satisfied, or if it is set to a desired condition, execute the simulation 50-1.

(Note) Feed paper from all the paper feed trays to confirm.

- 6) Go through the modes specified in Simulation 50-1.

- 7) Select adjustment items, DEN A, DEN B, and FRONT/REAR, and enter the adjustment values. Then press [OK] key and press OSA shortcut key.

Display/Item	Content	Setting range	De-fault
A	Lead edge void area	RRCB-CS1	60
B	Lead edge void area	RRCB-CS1	50
C	Lead edge void area	RRCB-CS1	50
D	Lead edge void area	RRCB-CS1	50
E	Void area adjustment	DENA	30
F	Void area adjustment	DENB	30
G	Void area adjustment	FRONT/REAR	30

Display/Item			Content	Setting range	Default
H	Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value	1 - 99	50
I		DENB-CS1	Tray 1 correction value	1 - 99	50
J		DENB-CS2	Tray 2 correction value	1 - 99	50
K		DENB-CS3	Tray 3 correction value	1 - 99	50
L		DENB-CS4	Tray 4 correction value	1 - 99	50
M		DENB-ADU	ADU correction value	1 - 99	50

When the adjustment value is increased, the void area is increased. When the adjustment value is decreased, the void area is decreased.

When the adjustment value is changed by 1, the void area is changed by 0.1mm.

NOTE: The adjustment value and the actual void area are related as follows:

Adjustment value/10 = Actual void area

NOTE: When the amount of the rear edge void is different between each paper feed tray, change the adjustment value of item M, N, O, P, Q, R (DENB-XXX) in SIM50-1 and adjust.

The adjustment item I (DENB) have a effect on the paper of all paper feed tray.

Adjustment value of item M, N, O, P, Q, R (DENB-XXX) fine adjusts to adjustment item I (DENB) for each paper tray.

After execution of the above, perform procedures 1) - 5) to check that the void area is within the specified range.

Though the lead edge void area adjustment value is proper, if the lead edge void area is not within the specified range, change the adjustment value of RRCB-CS1, RRCB-DSK, RRCB-MFT, RRCB-ADUB (RRCB-XXX) of SIM 50-1.

Repeat the above procedures until a satisfactory result is obtained.

ADJ 9 Print lead edge image position adjustment (Printer mode) (Print engine section)

This adjustment is needed in the following situations:

- * When the registration roller section is disassembled.
- * When the LSU is replaced or removed.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

NOTE: This adjustment is performed by the user to increase the lead edge image position (standard value: 3mm).

- 1) Enter the simulation 50-5 mode.

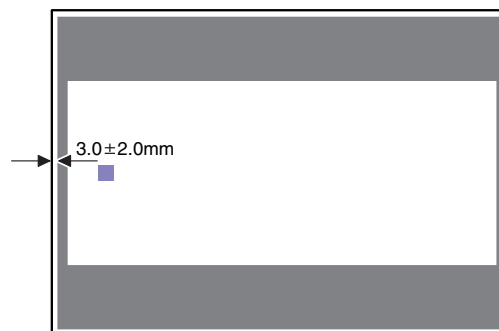
MAIN 10KEY	
TEST SIMULATION NO. 50-05	CLOSE
LEAD EDGE ADJUSTMENT VALUE (PRINTER)	
A: <input type="text" value="30"/>	A: 30 : DEN-C
[1 ~ 99]	B: 30 : DEN-B
	C: 20 : FRONT/REAR
	D: 50 : DENB-MFT
EXECUTE	
0 1 2 3 4 5 6 7 8 9 * # C	

- 2) Select the set item K, and enter the value corresponding to the paper feed tray with A4 (11" x 8.5") paper in it.

(Enter the set value, and press [OK] key and OSA shortcut key.)

Display/Item		Content	Setting range	Default
A	DEN-C	Printer lead edge image position adjustment	1 - 99	30
B	DEN-B	Rear edge void area adjustment	1 - 99	30
C	FRONT/REAR	FRONT/REAR void area adjustment	1 - 99	30
D	DENB-MFT	Manual feed rear edge void area adjustment correction value	1 - 99	50
E	DENB-CS1	Tray 1 rear edge void area adjustment correction value	1 - 99	50
F	DENB-CS2	Tray 2 rear edge void area adjustment correction value	1 - 99	50
G	DENB-CS3	Tray 3 rear edge void area adjustment correction value	1 - 99	50
H	DENB-CS4	Tray 4 rear edge void area adjustment correction value	1 - 99	50
I	DENB-ADU	ADU rear edge void area adjustment correction value	1 - 99	50
J	MULTI COUNT	Number of print	1 - 999	1
K	PAPER	MFT	Tray selection	Manual paper feed
		CS1	Tray 1	2
		CS2	Tray 2	3
		CS3	Tray 3	4
		CS4	Tray 4	5
L	DUPLEX	YES	Duplex print selection	Yes
		NO		No
				0 - 1
				0
				1 (NO)

- 3) With [EXECUTE] button selected, press [OK] key.
The adjustment pattern is printed.
- 4) Measure the distance from the paper lead edge the adjustment pattern to the image lead edge.
Standard adjustment value: $3.0 \pm 2.0\text{mm}$



If an adjustment is required, perform the following procedures.

- 5) Select the adjustment target of the paper feed mode adjustment item DENC.
- 6) Enter the set value, and press [OK] key and OSA shortcut key.
When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance is decreased.
When the set value is changed by 1, the distance is changed by about 0.1mm.
Perform the procedures 4) - 6) until a satisfactory result is obtained.

ADJ 10 Printer color balance/density adjustment (MX-C400P/C380P)

(1) Note before execution of the printer image quality adjustment

a. Requisite condition before execution of the printer image quality adjustment

The following adjustment items which affect the image quality must be properly set.

(Adjustment items which affect the image quality and must be checked or adjusted always before execution of the image quality adjustment.)

	Adjustment Item List			Simulation
ADJ 2	Image density sensor (image registration sensor) adjustment	2A	Color image density sensor (image registration sensor F) calibration	44-13/ 44-61
		2B	Color image density sensor (image registration sensor F), black image density sensor (image registration sensor R) adjustment	44-2
ADJ 3	Image skew adjustment (LSU unit)			61-4
ADJ 4	OPC drum phase adjustment	4A	OPC drum phase adjustment (Auto adjustment)	50-22
ADJ 7	Image registration adjustment (Print engine section)	7A	Image registration adjustment (Main scanning direction, sub scanning direction) (Auto adjustment)	50-22
		7B	Image registration adjustment (Main scanning direction) (Manual adjustment)	50-20
		7C	Image registration adjustment (Sub scanning direction) (Manual adjustment)	50-20

(Adjustment items which affect the image quality, but may not be adjusted frequently. When, however, a trouble occurs, this items must be checked or adjusted.)

	Adjustment item list			Simulation
ADJ 1	Adjusting high voltage values	1A	Adjust the main charger grid voltage	8-2
		1B	Adjust the developing bias voltage	8-1
		1C	Transfer voltage adjustment	8-6

b. Cases when this adjustment is required

In the following cases, this adjustment is required.

- When maintenance is executed:
- When repair or maintenance (on consumable parts such as developer, the OPC drum, and the transfer belt) is executed:

(2) Printer color balance/density check

[Note]

Before checking the printer color balance and the density, be sure to execute the following procedures in advance.

- * Execute the high density image correction (Process correction) forcibly. (SIM 44-6)
- * The halftone image correction is forcibly executed. (SIM 44-26)
- * For the color balance check and adjustment, use the normal white paper.

If the other kind of paper is used, the proper image quality (color balance, density) may not be obtained.

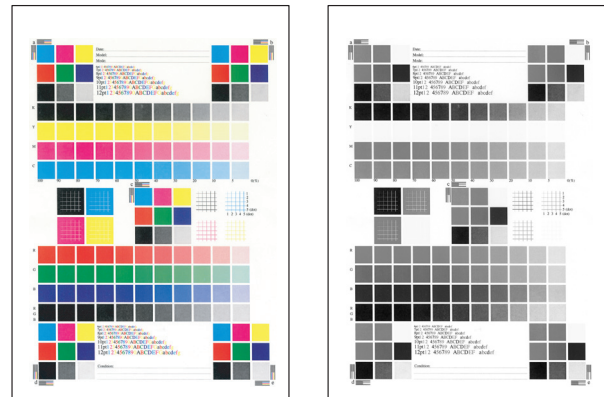
- * Since color appearance may differ depending on the light source, the environment for check and adjustments must be maintained constant.

(Method 1)

Execute SIM 64-5 to print the print test pattern.

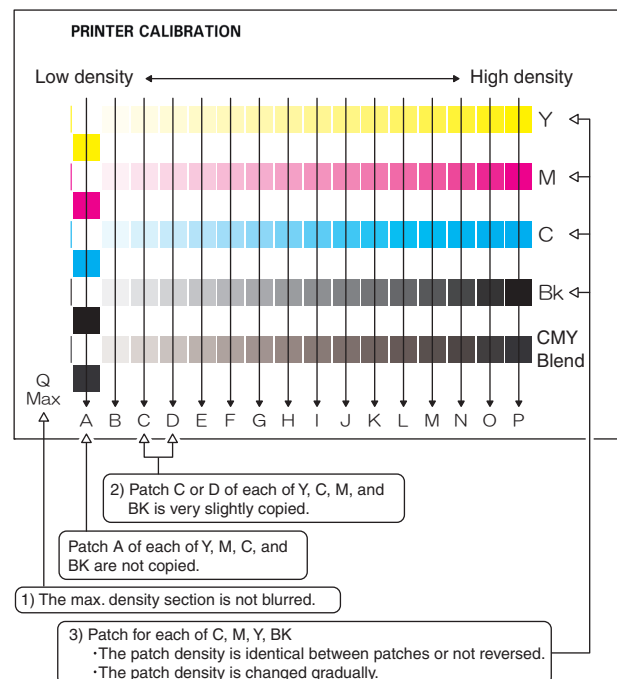
The print density of the patch must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed. The density level of each color must be almost at the same level.

At that time, set the SIM64-5 set values to the default values.



(Method 2)

Use SIM 67-25 to print the color balance manual adjustment check sheet and compare each process (CMY) black patch color balance and the black patch to check the color balance adjustment.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

The density level of each color must be almost at the same level.

Patch B may not be copied.

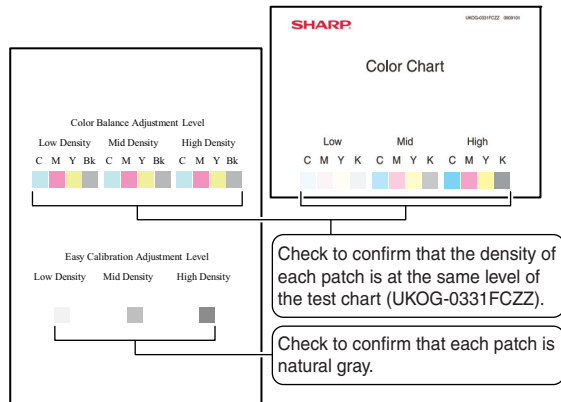
Patch A must not be copied.

If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. In an actual print mode, it is converted into the neutral gray color balance by the color table.

(Method 3)

- 1) Use SIM67-23 to print the color balance check sheet, and check to confirm that the density of each patch is at the same level as that of the color chart (UKOG-0331FCZZ).

At the same time, check to confirm that the gray patch is at the neutral level.



(3) Color balance adjustment mode

This machine is provided with the following color balance adjustment modes. Use either one of them to adjust.

a. Manual color balance adjustment - 1

This adjustment is executed with SIM67-22.

Use this simulation to print the Color Balance Testpage, and compare it with the reference density of each color on the color chart (UKOG-0331FCZZ) to find the patch whose density is the closest to the reference density. Then enter the number of that patch.

Execute the above procedures for each of the low density area, the middle density area, and the high density area.

b. Manual color balance adjustment - 2

This adjustment is executed with SIM67-25.

When a satisfactory result cannot be obtained with the manual color balance adjustment - 1 or when a request for changing (customizing) the color balance is made by the user, this adjustment is executed.

The adjustment value of 17-point density level of each of C, M, Y, and K is entered for adjustment.

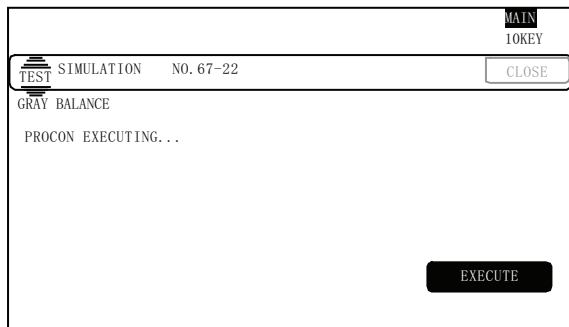
c. Simple color balance adjustment (Gray balance adjustment)

This adjustment is executed with SIM67-21.

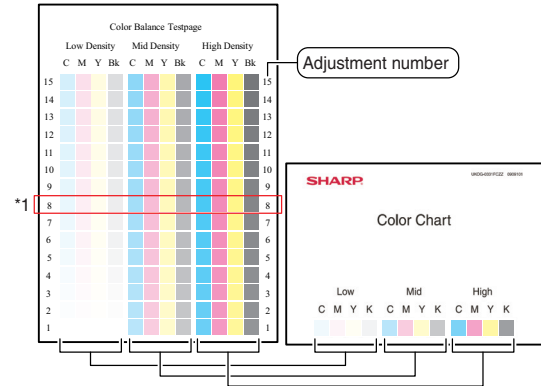
Use this simulation to print the Easy Calibration Testpage, and enter the coordinate value of the patch whose gray balance is best.

10-A Manual color balance adjustment - 1 (MX-C400P/C380P)

- 1) Enter the SIM 67-22 mode.



- 2) Select [EXECUTE] button, and press [OK] key. (A4 or 11" x 8.5" paper is automatically selected and the color balance adjustment pattern is printed.)

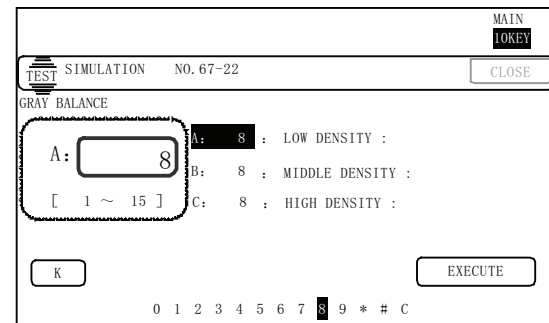


*1: "Pattern patch 8" encircled with a red frame on the Testpage above indicates the current adjustment color balance. This is varied at every adjustment.

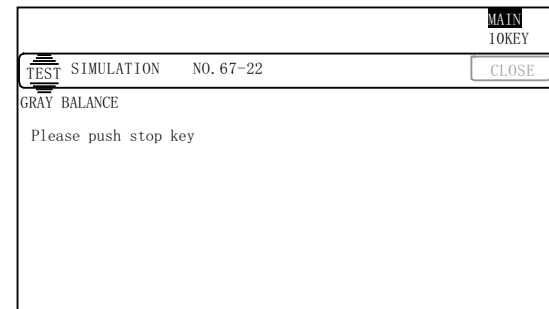
- 3) Find out the patch which is closest to the patch reference density of the color chart (UKOG-0331FCZZ) in the Low Density area, the Mid Density area, and the High Density area among the patches of printed color balance adjustment pattern.
- 4) Enter the adjust number of the color balance adjustment pattern patch which was found in procedure 3) as the adjustment value.

Select the adjustment density area (LOW, MID, HIGH), and select the adjustment target color (K, C, M, Y), and enter the adjustment number as the adjustment value and press OSA shortcut key.

Adjustment density area	Adjustment target color
LOW	K, C, M, Y
MID	K, C, M, Y
HIGH	K, C, M, Y



- 5) Select [EXECUTE] button on the display, and press [OK] key.
- 6) After completion of registration of the adjustment data, "Please push stop key" is displayed. Press [STOP] key to cancel SIM67-22.

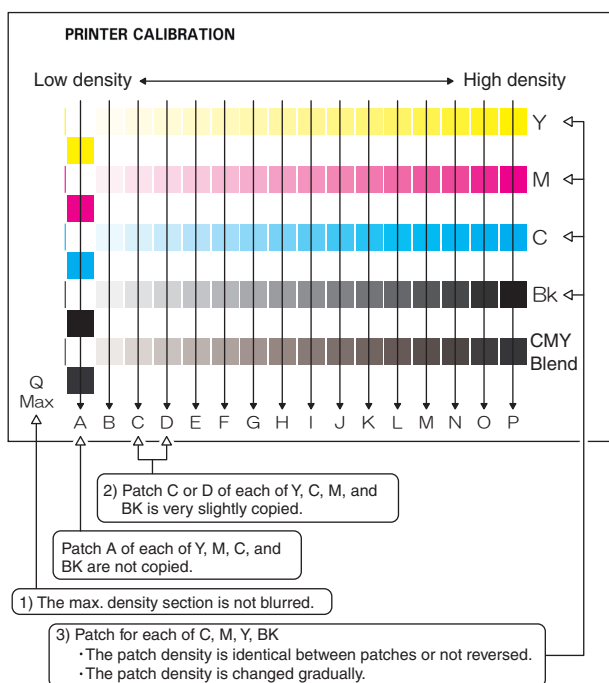


- 7) Check the adjustment result by using either of the printer color balance and density check method 1 or 2.

10-B Manual color balance adjustment - 2 (MX-C400P/C380P)

- 1) Enter the SIM 67-25 mode.

- 2) Select [EXECUTE] button, and press [OK] key.
(A4 or 11" x 8.5" paper is automatically selected.)
The color balance adjustment pattern is printed.
- 3) Check that the following specification is satisfied or the color balance is satisfactory.
If not, execute the following procedures.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

The density level of each color must be almost at the same level.

Patch B may not be copied.

Patch A must not be copied.

When, however, the color balance is adjusted according to a request from the user, there is no need to set to the standard color balance stated above.

If the color balance of each patch of the process black (CMY mixed color) is slightly shifted to Magenta, it means that the adjustment is proper. In an actual print mode, it is converted into the neutral gray color balance by the color table.

- 4) Select the color and the adjustment point to be adjusted.

- 5) Enter the adjustment value and press OSA shortcut key.
(Select [EXECUTE] button and press [OK] key, and the adjustment value is fixed and the color balance adjustment pattern is printed.)

The adjustment value is set in the range of 1 - 99.

To increase the density, increase the adjustment value. To decrease the density, decrease the adjustment value.

Repeat procedures of 2) - 5) until the condition of 3) is satisfied.

When the overall density is low, or when the density is high and patch A is copied, use the arrow key to adjust all the adjustment values of A - Q (MAX) to a same level collectively.

Then, adjust each patch density individually. This is an efficient way of adjustment.

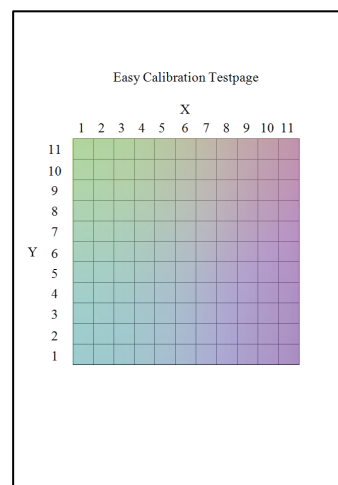
Referring to the process gray patches, adjust so that each process (CMY) black/gray patch color balance of A - Q (MAX) approaches the process gray patch level as far as possible.

- 6) Press [STOP] key to cancel SIM67-25.
- 7) Check the adjustment result by using either of the printer color balance and density check method 1 or 2.

10-C Simple color balance adjustment (Gray balance adjustment) (MX-C400P/C380P)

- 1) Enter the SIM 67-21 mode.

- 2) Select [EXECUTE] button, and press [OK] key.
(A4 or 11" x 8.5" paper is automatically selected and the simple color balance adjustment pattern is printed.)



- 3) Find out the patch which is closest to the neutral gray among the patches of the printed simple color balance adjustment pattern.

- 4) Enter the X and Y coordinate values of the simple color balance adjustment pattern patch which was found in procedure 3) as the adjustment values.

Enter the adjustment value, and press [OK] key and OSA shortcut key.

- 5) Select [EXECUTE] button on the display, and press [OK] key.
- 6) "Please push stop key" is displayed, and press [STOP] key to cancel SIM67-21.

- 7) Check the adjustment result by using either of the printer color balance and density check method 1 or 2.

10-D Printer density adjustment (low density part density adjustment) (Normally unnecessary to adjust) (MX-C400P/C380P)

This procedure is to adjust image density of low density area in printer mode.

Adjust to reproduction (not reproduction) setting of the low density image.

This adjustment is required in the following cases.

- * When reproduction of low density image is required. When reproduction of low density image is not required, conversely.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP PWB is replaced.
- * When there is request from the user.

- 1) Enter the SIM 67-36 mode.

- 2) Enter the adjustment value, and press [OK] key and OSA shortcut key.

In case of increase of the image density on low density part, increase the adjustment value. For diluting the image density on low density part, decrease the adjustment value.

10-E Printer high density part density correction setting (high density part tone gap countermeasure) (Normally unnecessary to the setting change) (MX-C400P/C380P)

This procedure is to adjust image density of low density area in printer mode.

This setting normally not required. When, however, there are case of following, change the setting.

- * When a tone gap occurs on part of high density.
- * When there is necessity to increase the density of the part of high density.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP PWB is replaced.

a. Adjustment procedure

- 1) Enter the SIM 67-34 mode.

- 2) Select the item A, B with the scroll key.

Display/Item	Content	Setting range	Default
A CMY (0: ENABLE 1:DISABLE)	0 CMY engine maximum density correction mode Enable	0 - 1	0
	1 CMY engine maximum density correction mode Disable		
B K (0:ENABLE 1: DISABLE)	0 K engine maximum density correction mode Enable	0 - 1	1
	1 K engine maximum density correction mode Disable		

- 3) Enter the set value, and press [OK] key and OSA shortcut key.

- * If a tone gap occurs on part of high density, set 0 to item A and B

The density of high density part decreases. However, the tone gap is better.

- * In case of more increase of the density on high density part, set 1 to item A and B.

The tone gap may occur in high density part.

ADJ 10 Printer density and gradation adjustment (MX-B400P/B380P/B382P)

(1) Note before execution of the printer image quality adjustment

a. Requisite condition before execution of the printer image quality adjustment

The following adjustment items which affect the image quality must be properly set.

(Adjustment items which affect the image quality and must be checked or adjusted always before execution of the image quality adjustment.)

	Adjustment Item List			Simulation
ADJ 2	Image density sensor adjustment	2B	Black image density sensor adjustment	44-2
ADJ 3	Image skew adjustment (LSU unit)			64-2

(Adjustment items which affect the image quality, but may not be adjusted frequently. When, however, a trouble occurs, this items must be checked or adjusted.)

	Adjustment item list			Simulation
ADJ 1	Adjusting high voltage values	1A	Adjust the main charger grid voltage	8-2
		1B	Adjust the developing bias voltage	8-1
		1C	Transfer voltage adjustment	8-6

b. Cases when this adjustment is required

In the following cases, this adjustment is required.

- When maintenance is executed:
- When repair or maintenance (on consumable parts such as developer, the OPC drum, and the transfer belt) is executed:

(2) Printer density and gradation check

[Note]

Before checking the printer density and gradation, be sure to execute the following procedures in advance.

- * Execute the high density image correction (Process correction) forcibly. (SIM 44-6)
- * The halftone image correction is forcibly executed. (SIM 44-26)
- * For the density and gradation check and adjustment, use the recommended paper.

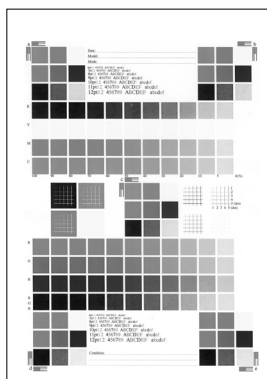
If the other kind of paper is used, the proper image quality (density and gradation) may not be obtained.

(Method 1)

Execute SIM 64-5 to print the print test pattern.

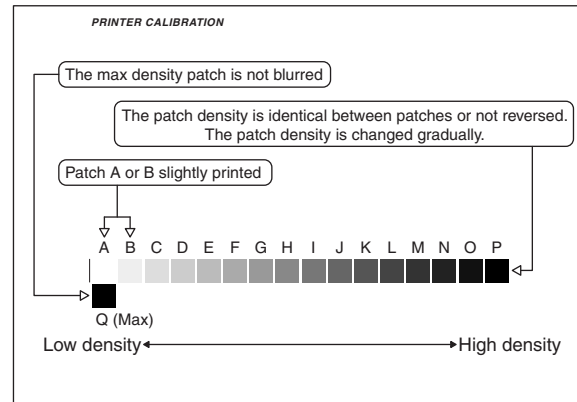
The print density of the patch must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

At that time, set the SIM64-5 set values to the default values.



(Method 2)

Use SIM 67-25 to print the density and gradation manual adjustment check sheet, and check the black patch to check to confirm that the density and gradation are proper or not.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

Patch B may not be copied.

Patch A must not be copied.

(3) Density and gradation adjustment mode

This machine is provided with the following density and gradation adjustment modes. Use either one of them to adjust.

a. Manual density and gradation adjustment - 1

This adjustment is executed with SIM67-22.

Use this simulation to print the Testpage, and compare it with the reference density of BLACK on the color chart (UKOG-0331FCZZ) to find the patch whose density is the closest to the reference density. Then enter the number of that patch.

Execute the above procedures for each of the Low Density area, the Middle Density area, and the High Density area.

b. Manual density and gradation adjustment - 2

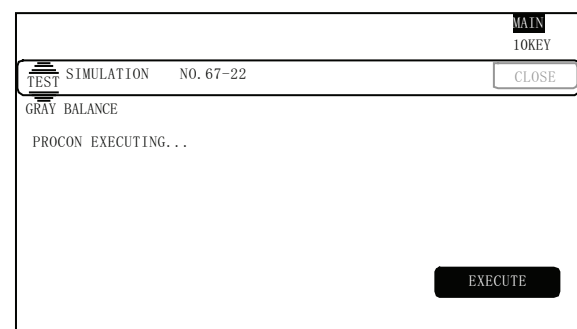
This adjustment is executed with SIM67-25.

When a satisfactory result cannot be obtained with the manual density and gradation adjustment - 1 or when a request for changing (customizing) the density and gradation is made by the user, execute this adjustment.

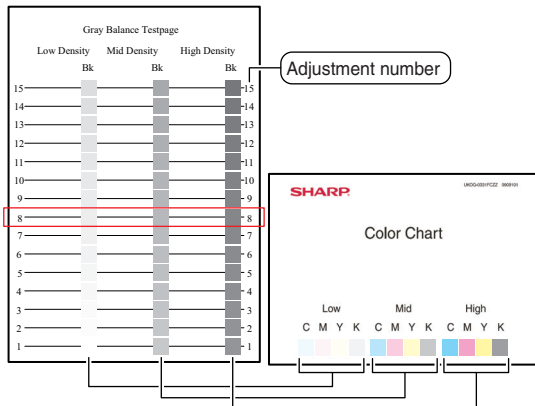
The adjustment value of 17-point density level is entered for this adjustment.

10-A Manual density and gradation adjustment - 1 (MX-B400P/B380P/B382P)

- Enter the SIM 67-22 mode.



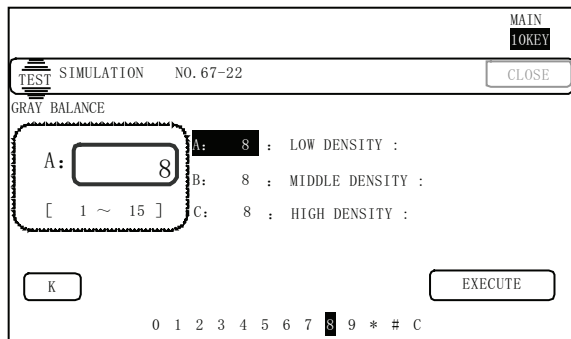
- 2) Select [EXECUTE] button, and press [OK] key.
(A4 or 11" x 8.5" paper is automatically selected and the color balance adjustment pattern is printed.)



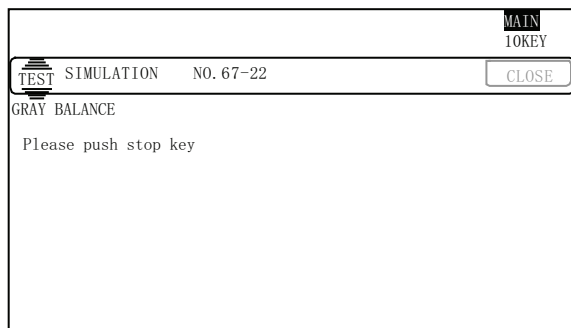
- 3) Check the printed density and gradation adjustment pattern to find out the patch which is closest to the patch reference density of the color chart (UKOG-0331FCZZ) in the Low Density area, the Mid Density area, and the High Density area.
- 4) Enter the adjust number of the density and gradation adjustment pattern patch which was found in procedure 3) as the adjustment value.
Select the adjustment density area (LOW, MID, HIGH), and enter the adjustment number as the adjustment value.

- Adjustment density area

LOW
MID
HIGH



- 5) Select [EXECUTE] button on the display, and press [OK] key.
- 6) After completion of registration of the adjustment data, "Please push stop key" is displayed. Press [STOP] key to cancel SIM67-22.

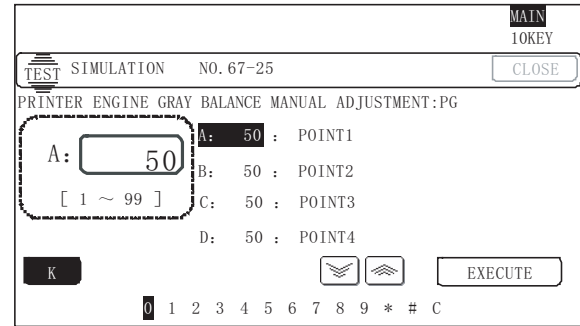


- 7) Check the adjustment result by using either of the printer density and gradation check method 1 or 2.

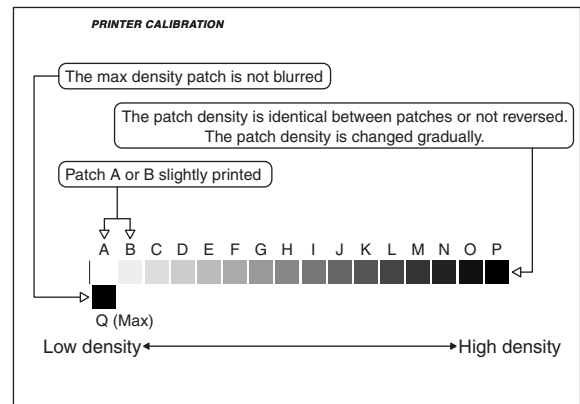
10-B Manual density and gradation adjustment - 2 (MX-B400P/B380P/B382P)



- 1) Enter the SIM 67-25 mode.



- 2) Select [EXECUTE] button, and press [OK] key.
(A4 or 11" x 8.5" paper is automatically selected.)
The density and gradation adjustment pattern is printed.
- 3) Check that the following specification is satisfied or the density and the gradation is satisfactory.
If not, execute the following procedures.



The print density must be changed gradually from the lighter level to the darker level. The density changing direction must not be reversed.

Patch B may not be copied.

Patch A must not be copied.

When, however, the density and gradation are adjusted according to a request from the user, there is no need to set to the standard color balance stated above.

- 4) Select the adjustment point to be adjusted.
- 5) Enter the adjustment value and press OSA shortcut key.
(Select [EXECUTE] button and press [OK] key, and the adjustment value is fixed and the density and gradation adjustment pattern is printed.)

The adjustment value is set in the range of 1 - 99.

To increase the density, increase the adjustment value. To decrease the density, decrease the adjustment value.

Repeat procedures of 2) - 5) until the condition of 3) is satisfied.

When the overall density is low, or when the density is high and patch A is copied, use the arrow key to adjust all the adjustment values of A - Q (MAX) to a same level collectively.

Then, adjust each patch density individually. This is an efficient way of adjustment.

- 6) Press [STOP] key to cancel SIM67-25.
- 7) Check the adjustment result by using either of the printer density and gradation check method 1 or 2.

10-C Printer density adjustment (low density part density adjustment) (Normally unnecessary to adjust) (MX-B400P/B380P/B382P)

This procedure is to adjust image density of low density area in printer mode.

Adjust to reproduction (not reproduction) setting of the low density image.

This adjustment is required in the following cases.

- * When reproduction of low density image is required. When reproduction of low density image is not required, conversely.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP PWB is replaced.
- * When there is request from the user.

- 1) Enter the SIM 67-36 mode.

- 2) Enter the adjustment value, and press [OK] key and OSA shortcut key.

In case of increase of the image density on low density part, increase the adjustment value. For diluting the image density on low density part, decrease the adjustment value.

10-D Printer high density part density correction setting (high density part tone gap countermeasure) (Normally unnecessary to the setting change) (MX-B400P/B380P/B382P)

This procedure is to adjust image density of low density area in printer mode.

This setting normally not required. When, however, there are case of following, change the setting.

- * When a tone gap occurs on part of high density.
- * When there is necessity to increase the density of the part of high density.
- * U2 trouble has occurred.
- * When the MFP PWB is replaced.
- * When the EEPROM on the MFP PWB is replaced.

a. Adjustment procedure

- 1) Enter the SIM 67-34 mode.

Display/Item		Content		Setting range	Default
A	K (0:ENABLE 1: DISABLE)	0	K engine maximum density correction mode Enable	0 - 1	1
		1	K engine maximum density correction mode Disable		

- 2) Enter the set value, and press [OK] key and OSA shortcut key.
 - * If a tone gap is generated in the high density area, set to "0." The density of high density part decreases. However, the tone gap is better.
 - * To increase the density in the high density area further more, set to "1." The tone gap may occur in high density part.

ADJ 11 Manual paper feed tray paper size (width) sensor adjustment

This adjustment is needed in the following situations:

- * The manual paper feed tray section has been disassembled.
- * The manual paper feed tray unit has been replaced.
- * U2 trouble has occurred.
- * The PCU PWB has been replaced.
- * The EEPROM of the PCU PWB has been replaced.

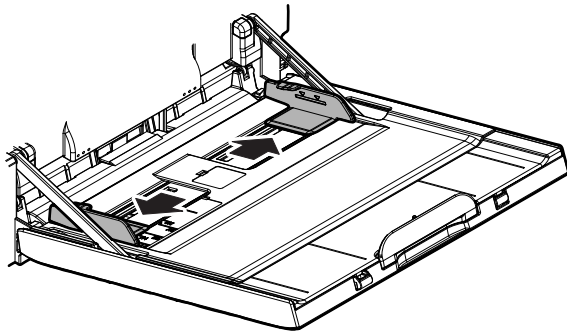
- 1) Go through the modes specified in Simulation 40-2.

EXECUTE
[OK] key

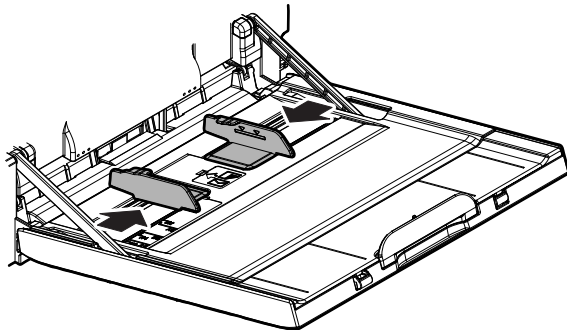
EXECUTE
[OK] key

Repeat the above procedure to adjust the A5R width MIN POSITION.

- 2) Open the manual paper feed guide to the maximum width position.



- 3) With [EXECUTE] button selected, press [OK] key.
[EXECUTE] button is highlighted. Then it returns to the normal display.
The maximum width position detection level of the manual paper feed guide is recognized.
- 4) Set the manual paper feed guide to the A4R size.
- 5) With [EXECUTE] button selected, press [OK] key.
[EXECUTE] button is highlighted. Then it returns to the normal display.
The A4R size width position detection level of the manual paper feed guide is recognized.
- 6) Set the manual paper feed guide to the width for the A5R size.
- 7) With [EXECUTE] button selected, press [OK] key.
[EXECUTE] button is highlighted. Then it returns to the normal display.
Set the manual paper feed guide to the width for the A5R size.
- 8) Open the manual paper feed guide to the minimum width position.



- 9) With [EXECUTE] button selected, press [OK] key.
[EXECUTE] button is highlighted. Then it returns to the normal display.
The minimum width position detection level of the manual paper feed guide is recognized.
If the above operation is not completed normally, "ERROR" is displayed.
When the operation is completed normally, the above data are saved to the memory and "COMPLETE" is displayed.

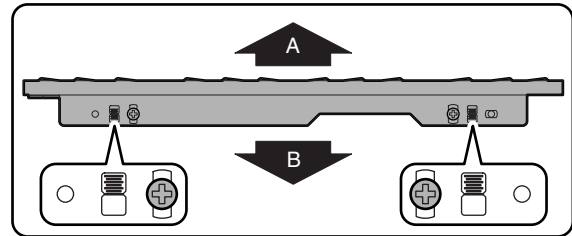
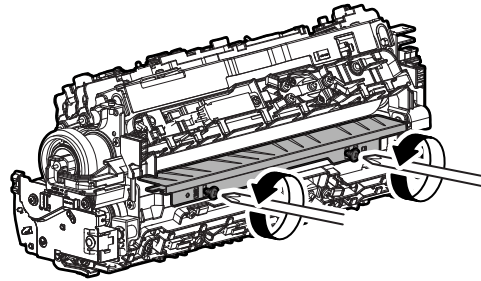
ADJ 12 Fusing paper guide position adjustment

Normally there is no need to perform this adjustment. In the following cases, perform this adjustment.

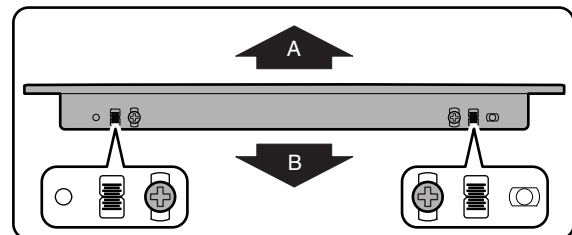
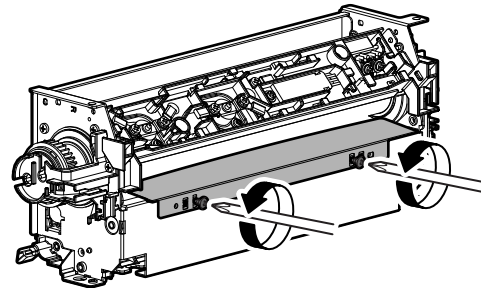
- * When a paper jam occurs in the fusing section.
- * When wrinkles are made on paper in the fusing section.
- * When an image deflection or an image blur is generated in the paper rear edge section.

- 1) Loosen the fixing screw of the fusing paper guide so that the paper guide can be moved freely in the directions of A and B.
- 2) Use the fusing paper guide position scale as the reference to shift the paper guide in the arrow direction A or B.

• MX-C400P/C380P, MX-B400P/B380P



• MX-B382P



The standard fixing position is the bottom of the marking scale. Change the position according to the situation.

- * When wrinkles are generated on paper, change the position in the arrow direction B.
- * When an image deflection or an image blur is generated in the paper rear edge section, change the position in the arrow direction A.

Normally, the hole on the fusing paper guide standard fixing position is used to fix the fusing paper guide.

[5] SIMULATION

1. General

The simulation mode has the following functions, to display the machine operating status, identify the trouble position and causes in an earlier stage, and make various setups and adjustments speedily for improving the serviceability of the machine.

- 1) Various adjustments
- 2) Setting of the specifications and functions
- 3) Canceling troubles
- 4) Operation check
- 5) Counters check, setting, clear
- 6) Machine operating conditions (operation hysteresis), data check, clear.
- 7) Various (adjustments, setting, operation, counters, etc.) data transport.

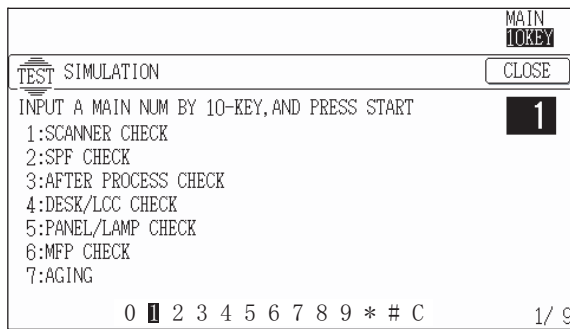
A. Basic operation (operation and procedure)

(1) Entering the simulation mode

Enter the simulation mode by the following key operations.

[STOP] key ON → [LOGOUT] key ON → [BACK] key ON → [LOGOUT] key ON → (Ready for input of a main code of simulation)

(Simulation mode menu)



When [STOP] key is pressed, the simulation mode is canceled and the machine returns to the normal mode.

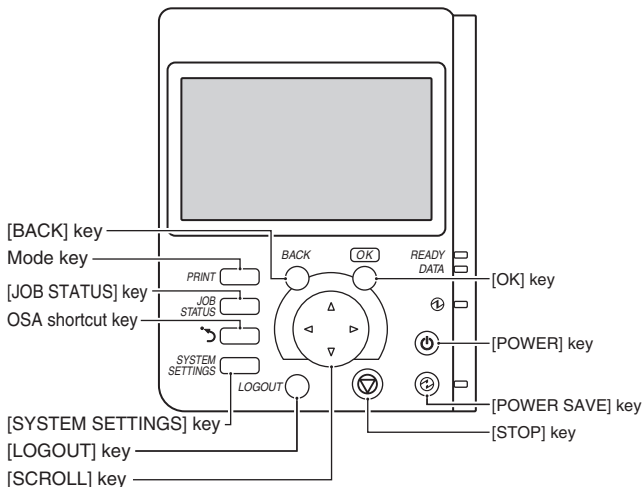
(Note for the simulation mode)

Do not turn OFF the power switch on the operation panel when the machine is in the simulation mode.

If the power switch should be turned OFF in the simulation mode, a malfunction may be resulted. In this case, turn OFF/ON the main power source.

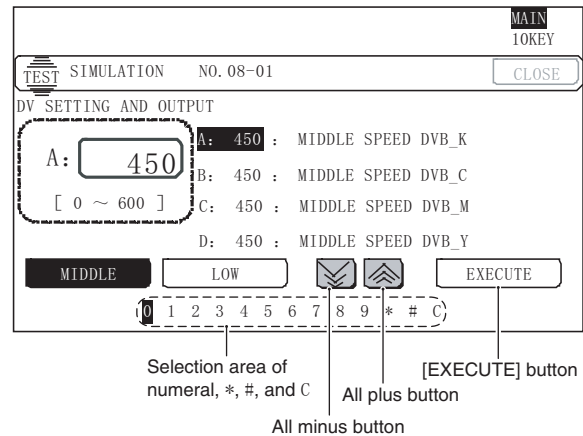
(2) Keys and functions used in the simulation mode

a. Mechanical key



Key	Function and purpose in the simulation mode
[JOB STATUS] key	Not used in the simulation mode.
Mode key	Not used in the simulation mode.
[SYSTEM SETTINGS] key	Used to shift the menu to the one-step upper stage menu in the simulation mode.
Scroll key (Cursor key)	UP scroll key (Cursor key)
	DOWN scroll key (Cursor key)
	LEFT scroll key (Cursor key)
	RIGHT scroll key (Cursor key)
[OK] key	Used to fix the selected button, to enter a numeral, * key, # key, or C key, and to execute the simulation operation.
[BACK] key	Used to enter the simulation mode. Used to switch between the "10KEY" mode (value input) and the "MAIN" mode (item selection).
[STOP] key	Used to enter the simulation mode, and to cancel the simulation mode.
[LOGOUT] key	Used to enter the simulation mode.
[POWER SAVE] key	Not used in the simulation mode.
[POWER] key	Not used in the simulation mode.
OSA shortcut key	Used to fix the simulation number, adjustment values, or set values after entering them.

b. Buttons on the simulation menu



Buttons on the simulation menu	Function and purpose in the simulation mode
Selection area of numeral, *, #, and C	<ul style="list-style-type: none"> Input of numerals or codes C key: Used to clear input values or codes.
[EXECUTE] button	<ul style="list-style-type: none"> Operates corresponding to the selected button or item. Also used to settle the adjustment value and the set value depending on the simulation content. Select this button and press [OK] key to execute the simulation.
All plus button	All the set values and the adjustment values are increased together.
All minus button	All the set values and the adjustment values are decreased together.

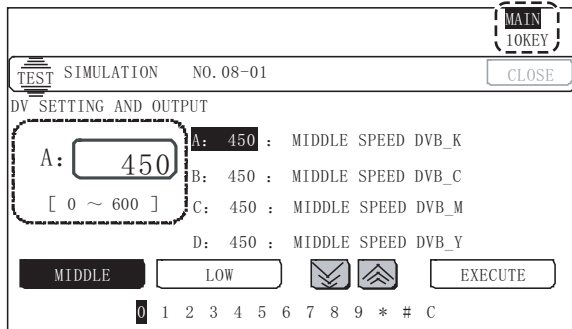
(3) Operating procedures in the simulation mode

a. Entering the main code menu and the sub code menu

In the simulation mode, press [BACK] key to select the "10KEY" mode.

- * Use [BACK] key to switch between the "10KEY" mode (numeral input) and the "MAIN" mode (item selection).

To select an item or a button, select the "MAIN" mode. To enter a numeral, select the "10KEY" (numeral input) mode.



NOTE: The buttons, different from the touch panel, on the display of this machine cannot be operated directly.

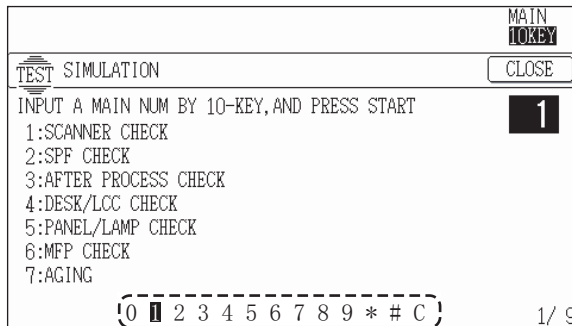
(Entering the main code menu)

- 1) Select a numeral with the right and left scroll keys and press [OK] key.
For a numeral of 2 digits, repeat the above procedure twice. (First enter the upper digit, then enter the lower digit.)

- 2) Press OSA shortcut key.

With the above procedure, the machine enters the main code menu.

(Example)



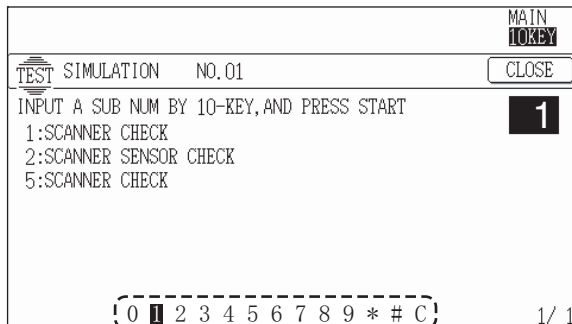
(Entering the sub code menu)

- 1) In the main code menu mode, select a numeral with the right and left scroll keys and press [OK] key.
For a numeral of 2 digits, repeat the above procedure twice. (First enter the upper digit, then enter the lower digit.)

- 2) Press OSA shortcut key.

With the above procedure, the machine enters the sub code menu.

(Example)



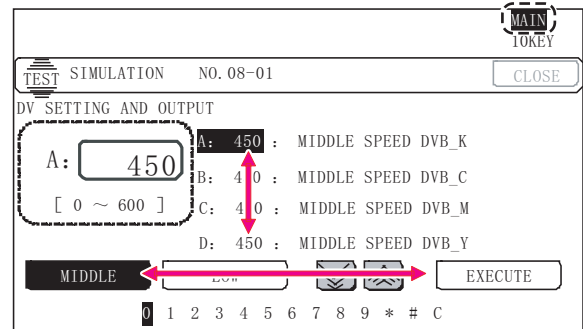
b. Scroll keys functions and procedures

The scroll keys are used to select a numeral, a button, or an item on the simulation menu.

(When selecting a button or an item)

- 1) Use [BACK] key to select the "MAIN" mode.
- 2) Use the up/down scroll keys to select an item.
- 3) Use the right/left scroll keys to select an item or a button.

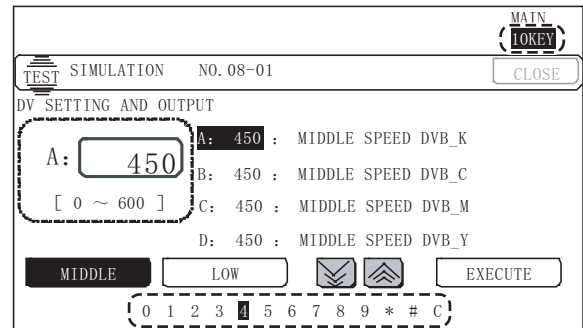
(Example)



(When entering a numeral, and when selecting * key, # key, or C key)

- 1) Use [BACK] key to select the "10KEY" mode.
- 2) Use the right/left scroll keys to select an item or a button, a numeral, * key, # key, or C key on the simulation menu.

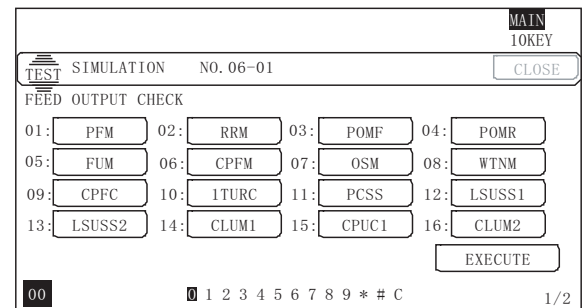
(Example)



(When switching the menu pages)

- 1) There are several menu pages. To switch the menu pages, use the up/down scroll keys.

(Example)



- 2) Use the up/down scroll keys to switch the menu pages.

c. Entering the set value and the adjustment value

- 1) Use [BACK] key to select the "MAIN" mode.
- 2) Select an adjustment mode and an adjustment item. (Select an adjustment mode and an adjustment item with the scroll keys and press [OK] key.)

(Example) Adjust the developing bias voltage

- 3) Use [BACK] key to select the "10KEY" mode.
- 4) Select a numeral with the right and left scroll keys and press [OK] key.

For a number of two or more digits, repeat the above procedures for the number of times equal to the number of digits. (First enter the top digit, then enter the lower digits sequentially.)

(Example) When setting the adjustment value to 450

Use the right/left scroll keys to select 4 and press [OK] key.

Use the right/left scroll keys to select 5 and press [OK] key.

Use the right/left scroll keys to select 0 and press [OK] key.

- 5) After entering the adjustment value or the set value, press OSA shortcut key to fix the adjustment value or the set value. Select [EXECUTE] button and press [OK] key, and the adjustment value or the set value is fixed and the simulation is executed.

NOTE: Normally the set value is fixed by pressing OSA shortcut key. In some kinds of simulations, however, the set value is set by selecting [EXECUTE] button and pressing [OK] key.

(Example)

The following is the case where the adjustment value or the set value is fixed by selecting [EXECUTE] button and press [OK] key.

d. Item selection by the item number

A target item on the simulation menu is selected by the number which is assigned to the item.

Example of an load operation check

- 1) Use [BACK] key to select the "10KEY" mode.

- 2) Enter the number indicated on the left side of the target item.
Select the number of the target item number with the right/left scroll keys and press [OK] key.
For a numeral of 2 digits, repeat the above procedure twice.
(First enter the upper digit, then enter the lower digit.)

The entered number of the target item is displayed on the left under corner of the screen.

- 3) Press OSA shortcut key to fix the target item.
4) The selected target item is highlighted.

- 5) With [EXECUTE] button selected, press [OK] key, and the simulation of the selected item is executed.

In the "10KEY" mode, however, this operation cannot be executed.

There are several simulation menu pages. To switch the simulation menu pages, use the up/down scroll keys.

2. List of simulation codes

NOTE: In this simulation, some functions of "COPY" and "FAX" which are not provided in this model may be displayed.

They are only displayed by the program, but they do not work.

This manual does not describe the contents of SIM66-1/2/3/61 (items related to FAX).

Main	Sub	Functions	Section
3	2	Used to check the operations of the sensors and the detectors in the finisher and the control circuit.	Finisher
	3	Used to check the operation of the load in the finisher and the control circuit.	Finisher
	10	Used to adjust the finisher.	Finisher
4	2	Used to check the operations of the sensors and detectors in the paper feed tray, and the control circuit of those.	Paper feed tray (Option)
	3	Used to check the operations of the loads in the paper feed tray, and the control circuit of those.	Paper feed tray
	5	Used to check the operations of the paper feed tray unit paper transport clutch (DTRC).	Paper feed tray unit
5	1	Used to check the operation of the display, LCD in the operation panel, and control circuit.	Operation panel
	2	Used to check the operation of the heater lamp and the control circuit.	Fusing
	4	Used to check the operation of the discharge lamp and the control circuit.	Process
6	1	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.	Paper transport/Paper exit section
	2	Used to check the operations of each fan motor and its control circuit.	Others
	3	Used to check the operations of the primary transfer unit and the control circuit.	Process (Transfer)
	6	Used to check the operation of the fusing separation.	Fusing
	51	Used to forcibly cut down the initial fuse of the developer unit and the fusing unit.	Developing, fusing unit
7	1	Used to set the operating conditions of aging.	Others
	6	Used to set the operating intermittent aging cycle.	
	8	Used to display the warm-up time.	
8	1	Used to check and adjust the operations of the developing voltage in each print mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.	Process (Developing)
	2	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.	Process (Charging)
	6	Used to check and adjust the operation of the transfer voltage and the control circuit.	Process (Transport)
9	2	Used to check the operations of the sensors and detectors in the paper reverse section (duplex section) and its control circuit.	Duplex
	3	Used to check the operations of the load in the switchback section (duplex section) and its control circuit.	Duplex
10	1	Used to check the operations of the toner supply mechanism (toner motor) and the related circuit.	Process (Developing)
13	-	Used to cancel the self-diag "U1" trouble.	
14	-	Used to cancel the self-diag H3, H4, H5 troubles.	
16	-	Used to cancel the self-diag "U2" trouble.	MFP PWB / PCU PWB
17	-	Used to cancel the self-diag "PF" trouble.	
21	1	Used to set the maintenance cycle.	

Main	Sub	Functions	Section
22	1	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)	
	2	Used to check the total numbers of mis-feed and troubles. (When the number of total jam is considerably great, it is judged as necessary for repair.)	
	3	Used to check mis-feed positions and the mis-feed count of each position. * Presumption of the faulty point by this data is possible.	
	4	Used to check the trouble (self diag) history.	
	5	Used to check the ROM version of each unit (section).	Firmware
	6	Used to output various adjustment/setting data (simulations, FAX soft switch counter), the firmware version, the counter list, the process control data, and SIM50-24 data.	
	8	Used to check the number of operations (counter value) of the finisher, the RSPF, and the scan (reading) unit.	
	9	Used to check the number of use (print quantity) of each paper feed section.	Paper feed, ADU
	10	Used to check the system configuration (option, internal hardware).	
	13	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge).	Process
	90	Used to output the various set data lists.	
23	2	Used to output the trouble history list of paper jam and mis-feed. (If the number of troubles of mis-feed is considerably great, the judgment is made that repair is required.)	
	80	Used to check the operation of paper feed and paper transport in the paper feed section and the paper transport section. Used to output the list of the operation status of the sensor and the detectors in the paper feed section and the paper transport section.	Paper feed, Paper transport
24	1	Used to clear the jam counter, and the trouble counter. (After completion of maintenance, clear the counters.)	
	2	Used to clear the number of use (the number of prints) of each paper feed section.	
	3	Used to clear the finisher counter.	
	4	Used to clear the maintenance counter, the printer counters of the transport unit and the fusing unit. (After completion of maintenance, clear the counters.)	
	5	Used to clear the developer counter. (After replacement of developer, clear the counter.)	
	7	Used to clear the OPC drum counter. (After replacement of the OPC drum, clear the counter.)	
	9	Used clear the printer mode print counter and the self print mode print counter.	
	30	Used to initialize the administrator password.	
	31	Used to initialize the service mode password.	
	34	Used to initialize the set items of SIM26-32.	
25	1	Used to check the operations of the developing section.	Process (Developing section)
	2	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)	Image process (Photo-conductor/Developing/Transfer/Cleaning)
26	2	Used to set the paper weight type.	Paper feed
	6	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.	
	18	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)	
	30	Used to set the operation mode corresponding to the CE mark (Europe safety standards). (For slow start to drive the fusing heater lamp)	
	32	Used to set display or non-display of the system setting menu.	
	35	Used to set the display mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes: display as one trouble and display as several series of troubles.	
	38	Used to set Continue/Stop of print when the maintenance life is reached.	
	50	Used to set functions.	
	52	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.	
	55	Used to set Enable/Disable of the automatic color calibration (automatic color balance adjustment) when replacing a consumable part. (In this simulation, the menu is displayed but it does not work.)	
	65	Used to set the staple process restriction.	
	69	Used to set the operating conditions for toner near end.	
	74	Used to set the OSA trial mode.	
	78	Used to set the password of the remote operation panel.	
27	5	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (FSS function)	Communication (RIC/MODEM)
	9	Used to set the paper transport time recording YES/NO threshold value. (FSS function)	
	10	Used to clear the trouble prediction history information. (FSS function)	
	11	Used to check the serial communication retry number and the scanner gain adjustment retry number history. (FSS function)	
	12	Used to check the high-density, halftone process control and the automatic registration adjustment error history. (FSS Function)	
	13	Used to check the history of paper transport time between sensors. (FSS function)	
30	1	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuits.	
	2	Used to check the operations of the sensors and the detectors in the paper feed section and the control circuits.	
40	2	Manual paper feed tray paper width sensor adjustment.	Paper feed
	7	Used to set the adjustment value of the manual paper feed tray paper width sensor.	Paper feed

Main	Sub	Functions	Section
43	1	Used to set the fusing reference temperature of each operation mode.	
	4	Used to set the fusing temperature 2 in each mode. (Continued from SIM 43-1.)	
	20	Used to set the environmental correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-1) in each paper mode.	
	21	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-1) in each paper mode.	
	22	Used to set the environment correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-4) in each paper mode.	
	23	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-4) in each paper mode.	
44	24	Used to set the correction of the temperature adjustment value of SIM 43-1 and 43-4.	
	1	Used to set each correction operation function in the image forming (process) section.	Image process (Photo-conductor/Developing/Transfer/Cleaning)
	2	Used to adjust the sensitivity of the image density sensor (registration sensor).	Process
	4	Used to set the conditions of the high density process control operation.	Process
	6	Used to execute the high density process control forcibly.	Process
	9	Used to display the result data of the high density process control operation.	Image process (Photo-conductor/Developing/Transfer/Cleaning)
	12	Used to display the operation data of the high density process control and the image density sensor (registration sensor).	Image process (Photo-conductor/Developing)
	13	Used to perform the color image sensor (image registration sensor F) calibration.	
	14	Used to display the output level of the temperature and humidity sensor.	Process (OPC drum, development)/Fusing/LSU
	16	Used to display the toner density control data.	Developing system
	21	Used to set the halftone process control target.	Process
	22	Used to display the toner patch density level in the halftone process control operation.	Process
	24	Used to display the correction target and the correction level in the halftone process control operation.	Process
	25	Used to set the calculating conditions of the correction value for the halftone process control.	Process
	26	Used to execute the halftone process control compulsorily.	Process
	27	Used to clear the correction data of the halftone process control.	Process
	28	Used to set the process control execution conditions.	Process
	29	Used to set the operating conditions of the process control during a job.	Process
	31	Used to adjust the OPC drum phase. (Manual adjustment) (MX-C400P/C380P)	Process
46	37	Used to set the development bias correction level in the continuous printing operation.	
	43	Used to display the identification information of the developing unit.	Developing system
46	61	Used to set the calibration data of the color image sensor (image registration sensor F).	
46	21	Copy color balance adjustment (Manual adjustment)	
48	6	Used to adjust the rotation speed of each motor.	
49	1	Used to perform the firmware update.	
	3	Used to update the operation manual in the HDD.	
50	1	Print image position, image loss adjustment	
	5	Used to adjust the print lead edge image position. (PRINTER MODE)	
	10	Used to adjust the black print image magnification ratio and the off-center position. (The adjustment is made separately for each paper feed section.)	
	20	Image registration adjustment (Manual adjustment)	
	22	Used to adjust the image registration. (Main scan direction, sub scan direction) (Auto adjustment)/OPC drum phase adjustment (Auto adjustment)	
51	24	Used to display the detail data of SIM 44-2, 50-20 and 22.	
	1	Used to adjust the ON/OFF timing of the secondary transport voltage.	
55	2	Used to adjust the contact pressure (deflection amount) on paper by the resist roller. (This adjustment is performed when there is a considerable variation in the print image position on the paper or when paper jams frequently occur.)	
	1	Used to set the specifications of the engine control operations. (SOFT SW)	
56	3	Used to set the specifications of the controller operation. (SOFT SW)	
	1	Used to transport data between HDD - MFP PWB SRAM/EEPROM. (Used to repair the PWB.)	
	2	Used to backup the data in the EEPROM. SRAM, and HDD to the USB memory. (Corresponding to the device cloning and the storage backup.)	
	3	Used to backup the print hold data (document filling data) to the USB memory.	
60	4	Used to backup the JOB log data to the USB memory.	
	1	Used to check the operations (read/write) of the MFP PWB memory.	
61	2	Used to set the MFP PWB on-board SDRAM.	
	1	Used to check the LSU polygon motor rotation and laser detection.	LSU
	3	Used to set the laser power	
	4	Used to print the print image skew adjustment pattern. (LSU unit)	

Main	Sub	Functions	Section
62	1	Used to execute the hard disk format (except operation manual area).	
	2	Used to check read/write of the hard disk (partial).	
	3	Used to check read/write of the hard disk (all areas).	
	6	Used to perform the self diagnostics of the hard disk.	
	7	Used to print the hard disk self diagnostics error log.	
	8	Used to format the hard disk. (Excluding the system area and the operation manual area)	
	10	Used to delete the job log data.	
	11	Used to delete the print hold data (document filing data).	
	12	Used to set Enable/Disable of auto format in a hard disk trouble.	
	13	Used to format the hard disk. (only the operation manual area)	
	1	Test print. (Self print) (Color mode) (MX-C400P/C380P)	
	2	Test print. (Self print) (Monochrome mode)	
	4	Printer test print. (Self print) (256 gradations)	
64	5	Printer test print. (Self print) (PCL)	
	6	Printer test print. (Self print) (PS)	
	7	Used to the test print. (Self print). (This function is not used in the market.)	
65	5	Used to check the operation panel key input.	
67	17	Used to reset the printer controller.	Printer
	21	Printer color balance adjustment (Simplified adjustment) (MX-C400P/C380P)	Printer
	22	Printer color balance adjustment (Manual adjustment)/Printer density and gradation adjustment (Manual adjustment)	Printer
	23	Used to print the printer color balance check sheet. (MX-C400P/C380P)	Printer
	25	Printer color balance adjustment (Manual adjustment)/Printer density and gradation adjustment (Manual adjustment)	Printer
	30	Used to set Enable/Disable of printer calibration data transfer. (Though this simulation menu is displayed, it does not work.)	Printer
	31	Used to clear the printer calibration value.	Printer
	33	Used to change the gamma of the printer screen. (for PCL/PS)	Printer
	34	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)	Printer
	36	Used to adjust the density in the low density section.	Printer
	52	Used to reset the printer color balance adjustment (adjustment for each dither) to the default value. (The set values of SIM67-33 is set to the default values.)	
	70	MFP PWB SRAM data clear	MFP PWB

3. Details of simulation

3

3-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in the finisher and the control circuit.
Section	Finisher

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

FPPD1	Finisher paper pass detector
FPLD	Finisher paper level detector
FDTULS	Finisher delivery tray upper limit sensor
FDTLLS	Finisher delivery tray lower limit sensor
FDRPS	Finisher delivery roller position sensor
FPRD-F	Finisher paper rear edge detector F
FPRD-C	Finisher paper rear edge detector C
FPRD-R	Finisher paper rear edge detector R
FAPHS-F	Finisher paper alignment plate home position sensor F
FAPHS-R	Finisher paper alignment plate home position sensor R
FSTPD	Finisher staple tray paper detector
FSHPS	Finisher staple home position sensor
FSED	Finisher staple empty detector
FSLD	Finisher staple lead detector
FSSW	Finisher safety switch

3-3	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the load in the finisher and the control circuit.
Section	Finisher

Operation/Procedure

- 1) Select the item to be operation checked.
- 2) Select [EXECUTE] button, and press [OK] key.

The selected load performs the operation.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

FPGS	Finisher paper gate solenoid
FPDM	Finisher paper delivery motor
FPS	Finisher paddle solenoid
FARLS	Finisher alignment roller lift solenoid
FPTM	Finisher paper transport motor
FDRLM	Finisher delivery roller lift motor
FPAM-F	Finisher paper alignment motor F
FPAM-R	Finisher paper alignment motor R
FSM	Finisher staple motor
FTLM	Finisher tray lift motor
FSCF	Finisher stapler cooling fan
FBCF	Finisher control board cooling fan

3-10	
Purpose	Adjustment
Function (Purpose)	Used to adjust the finisher.
Section	Finisher

Operation/Procedure

- 1) Select a target item to be adjusted.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)
(The set value is saved.)

	Item/Display	Content	Setting range	Default value
A	FPAM ADJUST	Paper alignment width adjustment *1	40 - 60	50
B	FDRLM ADJUST	Paper delivery roller descending position adjustment	40 - 60	50

Item A:

- When the adjustment value is increased by 1, the alignment plate F/R width is narrowed by 0.419mm in alignment operation.
- When the adjustment value is decreased by 1, the alignment plate F/R width is widened by 0.419mm in alignment operation.
- The alignment plate F and the alignment plate R cannot be adjusted separately. The shift amount on the F side and that on the R side are alternatively corrected every time the adjustment value is increased by 1. (Correction with 51 for the F side, and 52 for the R side. ... 59 for the F side, and 60 for the R side. Similar when the set value is decreased.)

Item B:

- When the adjustment value is increased by 1, the shift amount of the paper delivery roller is changed by 0.11mm toward the pressure increasing side (*1).
- When the adjustment value is decreased by 1, the shift amount of the paper delivery roller is changed by 0.11mm toward the pressure decreasing side (*1).

*1:

The pressure increasing side means the direction to increase the paper delivery roller pressure onto paper, and the pressure decrease side means the direction to decrease the paper delivery roller pressure onto paper.

4

4-2	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the paper feed tray, and the control circuit of those.
Section	Paper feed tray (Option)

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

D1PPD	Paper feed tray 2 paper transport detector
D1ULD	Paper feed tray 2 upper limit detector
D1PED	Paper feed tray 2 paper empty detector
D1PQD	Paper feed tray 2 paper remaining quantity detector
D1PRED1	Paper feed tray 2 paper rear edge detector 1
D1PRED2	Paper feed tray 2 paper rear edge detector 2
D1PRED3	Paper feed tray 2 paper rear edge detector 3
D1COCS	Paper feed tray 2 cover open/close sensor
D2MDC	Paper feed tray 3 installation detection connector

D2PPD	Paper feed tray 3 paper transport detector
D2ULD	Paper feed tray 3 upper limit detector
D2PED	Paper feed tray 3 paper empty detector
D2PQD	Paper feed tray 3 paper remaining quantity detector
D2PRED1	Paper feed tray 3 paper rear edge detector 1
D2PRED2	Paper feed tray 3 paper rear edge detector 2
D2PRED3	Paper feed tray 3 paper rear edge detector 3
D2COCS	Paper feed tray 3 cover open/close sensor
D3MDC	Paper feed tray 4 installation detection connector
D3PPD	Paper feed tray 4 paper transport detector
D3ULD	Paper feed tray 4 upper limit detector
D3PED	Paper feed tray 4 paper empty detector
D3PQD	Paper feed tray 4 paper remaining quantity detector
D3PRED1	Paper feed tray 4 paper rear edge detector 1
D3PRED2	Paper feed tray 4 paper rear edge detector 2
D3PRED3	Paper feed tray 4 paper rear edge detector 3
D3COCS	Paper feed tray 4 cover open/close sensor

4-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the loads in the paper feed tray, and the control circuit of those.
Section	Paper feed tray

Operation/Procedure

- 1) Select the load item that is required to operation check.
- 2) Select [EXECUTE] button, and press [OK] key.

The selected load performs the operation.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

DPFM	Transport motor
D1LM	Paper feed tray 1 lift-up motor
D1PFC	Paper feed tray 1 paper feed clutch
D1PTC	Paper feed tray 1 paper transport clutch
D2LM	Paper feed tray 2 lift-up motor
D2PFC	Paper feed tray 2 paper feed clutch
D2PTC	Paper feed tray 2 paper transport clutch
D3LM	Paper feed tray 3 lift-up motor
D3PFC	Paper feed tray 3 paper feed clutch
D3PTC	Paper feed tray 3 paper transport clutch

4-5

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the paper feed tray unit paper transport clutch (DTRC).
Section	Paper feed tray unit

Operation/Procedure

(Check the ON operation)

Select the button of the code to be checked for the ON operation, and press [OK] key.

Checking is started. When the operation is normal, the button on the display is highlighted. When it is abnormal, the button is not highlighted.

(Check the OFF operation)

Select the highlighted code button in the ON operation, and press [OK] key.

When the operation is normal, the highlighted button on the display returns to the normal display. When it is abnormal, the highlighted display is maintained.

5

5-1

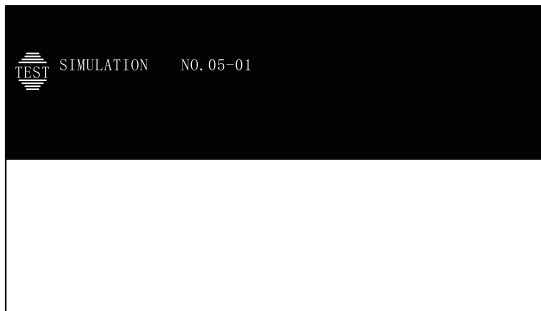
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the display, LCD in the operation panel, and control circuit.
Section	Operation panel

Operation/Procedure

The LCD is changed as shown below.

The contrast changes every 2sec from the current level to MAX → MIN → the current level. During this period, each LED is lighted.

The LCD display contrast change and the LED lighting status are checked.



5-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the heater lamp and the control circuit.
Section	Fusing

Operation/Procedure

- 1) Select the item to be operation checked.
- 2) Select [EXECUTE] button, and press [OK] key.
The selected heater lamp operates ON/OFF.
With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

• MX-C400P/C380P, MX-B400P/B380P

HL_UM	Heater lamp upper (main)
HL_LM	Heater lamp lower (main)
HL_E	Heater lamp (external)

• MX-B382P

HL_UA	Heater lamp upper (all)
HL_UM	Heater lamp upper (main)

5-4

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the discharge lamp and the control circuit.
Section	Process

Operation/Procedure

- 1) Select a target of the operation check.
When [ALL] button is pressed, all the items are selected.
- 2) Select [EXECUTE] button, and press [OK] key.
The selected discharge lamp is lighted for 30 sec.
With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

DL_K	Discharge lamp K
DL_C	Discharge lamp C
DL_M	Discharge lamp M
DL_Y	Discharge lamp Y

6

6-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the load in the paper transport system (clutches and solenoids) and the control circuits.
Section	Paper transport/Paper exit section

Operation/Procedure

- 1) Select the item to be operation checked.
- 2) Select [EXECUTE] button, and press [OK] key.
The selected load performs the operation.
With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

Load operation check method:

The load operation is checked by the operation sound. However, there are some loads which cannot be checked with the operation sound.

• MX-C400P/C380P, MX-B400P/B380P

Section	Item/Display	Content
Transport/ process	RRM	Registration motor
	POMF *	Paper exit motor (normal rotation)
	POMR *	Paper exit motor (reverse rotation)
	FUM	Fusing drive motor
	CPFM	Paper feed motor
	CPFC	Tray vertical transport clutch
Paper feed	HLPCS	Fusing pressure release/pressing solenoid
	CLUM1	Paper feed tray 1 lift-up motor
	CPUC1	Paper feed tray 1 paper feed clutch
	MPFS	Manual paper feed solenoid

* If two or more are selected at a time, it makes "Normal rotation."

• **MX-B382P**

Section	Item/Display	Content
Transport/ process	RRM	Registration motor
	POMF *	Paper exit motor (normal rotation)
	POMR *	Paper exit motor (reverse rotation)
	FUM	Fusing drive motor
	CPFM	Paper feed motor
	CPFC	Tray vertical transport clutch
Paper feed	CLUM1	Paper feed tray 1 lift-up motor
	CPUC1	Paper feed tray 1 paper feed clutch
	MPFS	Manual paper feed solenoid

* When it was chosen at the plural same time, about the thing that "an original change ↔ reversal" of the same load is displayed as the other item, "original change" works.

In addition, I do not accept a turn to the opposite direction unless I become the movement stop state when the load is turning.

6-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of each fan motor and its control circuit.
Section	Others

Operation/Procedure

- 1) Select the item to be operation checked.
- 2) Select [EXECUTE] button, and press [OK] key.
The selected load performs the operation.
With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.
Press [ALL] button to select all the fans collectively.

Load operation check method:

The load operation is checked by the operation sound. However, there are some loads which cannot be checked with the operation sound.

Item/Display	Content
POFM	Paper exit cooling fan motor
PSFM	Power PWB cooling fan motor
LSUFM	LSU cooling fan motor
PROFM1	Process fan motor 1
PROFM2	Process fan motor 2
FUFM	Fusing cooling fan motor
HDDFM	HDD cooling fan motor

6-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the primary transfer unit and the control circuit.
Section	Process (Transfer)

Operation/Procedure

- 1) Select the operation mode.
- 2) Select [EXECUTE] button, and press [OK] key.
- 3) The transfer unit repeats operations in the mode selected in procedure 1.

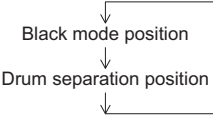
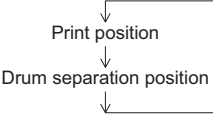
During this operation, the transfer unit status (the operation mode position) is displayed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

• **MX-C400P/C380P**

Mode select key	Display	Transfer mode	Operation	
TC1	BLACK	Black mode position	The switching operations are repeated as follows: Black mode position → Color mode position → Drum separation position	Primary transfer (Normal rotation of the mode select gear)
	COLOR	Color mode position		
	FREE	Drum separation position		
TC1_R	BLACK	Black mode position	The switching operations are repeated as follows: Black mode position → Drum separation position → Color mode position	Primary transfer (Reverse rotation of the mode select gear)
	FREE	Drum separation position		
	COLOR	Color mode position		
TC2	PRINT	Print position	The switching operations are repeated as follows: Print position → Drum separation position	Secondary transfer (Driven by the fusing motor)
	FREE	Drum separation position		

• **MX-B400P/B380P/B382P**

Key	Display	Content	Remark	
TC1	BLACK	Black mode position		The operation is repeated.
	FREE	Drum separation position		
TC2	PRINT	Print position		The operation is repeated.
	FREE	Drum separation position		

6-6

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the fusing separation.
Section	Fusing

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Fusing pressure applying and fusing pressure release are repeated.

During this period, the status of the fusing roller pressure is displayed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

PRINT	Fusing pressure applying	Fusing pressure applying → Fusing pressure release → (Fusing pressure applying) The operation is repeated.
FREE	Fusing pressure release	

6-51	
Purpose	Setting
Function (Purpose)	Used to forcibly cut down the initial fuse of the developer unit and the fusing unit.
Section	Developing, fusing unit

Operation/Procedure

- 1) Select a target unit.
- 2) Select [EXECUTE] button, and press [OK] key.

The initial detection fuse is blown-off.

Item/Display	Content
Initial detection	DVCRU_K Developing K initial detection fuse blow-off operation
	DVCRU_C Developing C initial detection fuse blow-off operation
	DVCRU_M Developing M initial detection fuse blow-off operation
	DVCRU_Y Developing Y initial detection fuse blow-off operation
	FUCRU Fusing initial detection fuse blow-off operation

7

7-1	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions of aging.
Section	Others

Operation/Procedure

- 1) Select the target to be set.
- 2) Select [EXECUTE] button, and press [OK] key.

The machine is rebooted in the aging mode.

The aging operation condition set by this mode is maintained here-after unless the power is turned off or the setting is changed.

AGING	Aging operation setup
INTERVAL	Intermittent setup
MISFEED DISABLE	JAM detection enable/disable setup
FUSING DISABLE	Fusing operation enable/disable setup
WARMUP DISABLE	Warm-up skip setup
DV CHECK DISABLE	DV unit detection enable/disable setup

7-6	
Purpose	Setting
Function (Purpose)	Used to set the operating intermittent aging cycle.
Section	

Operation/Procedure

- 1) Set the intermittent aging operation cycle (unit: sec). (Enter the set value, and press [OK] key and OSA shortcut key.)

The time entered in procedure 1) is set.

* The interval time that can be set is 1 to 900 (sec).

The aging operation condition set by this mode is maintained here-after unless the power is turned off or the setting is changed.

7-8	
Purpose	Operation display
Function (Purpose)	Used to display the warm-up time.
Section	

Operation/Procedure

Select [EXECUTE] button, and press [OK] key.

Counting of the warm-up time is started and the time required for warm-up is displayed

* Interruption of counting by pressing [EXECUTE] button is inhibited.

8

8-1	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operations of the developing voltage in each print mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.

Section	Process (Developing)
----------------	----------------------

Operation/Procedure

- 1) Select the process speed.
- 2) Select a target item to be adjusted.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

(The value specified on the label of the high voltage PWB must be entered.)

* When the \triangle ∇ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

Mode	Item/Display	Content	Setting range
MIDDLE	A MIDDLE SPEED DVB_K	K developing bias set value at middle speed	0-600
	B MIDDLE SPEED DVB_C	C developing bias set value at middle speed	0-600
	C MIDDLE SPEED DVB_M	M developing bias set value at middle speed	0-600
	D MIDDLE SPEED DVB_Y	Y developing bias set value at middle speed	0-600
LOW	A LOW SPEED DVB_K	K developing bias set value at low speed	0-600
	B LOW SPEED DVB_C	C developing bias set value at low speed	0-600
	C LOW SPEED DVB_M	M developing bias set value at low speed	0-600
	D LOW SPEED DVB_Y	Y developing bias set value at low speed	0-600

8-2	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit. * When the middle speed is adjusted, the low speed are also adjusted simultaneously.
Section	Process (Charging)

Operation/Procedure

- 1) Select the process speed.
- 2) Select a target item to be adjusted.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

(The value specified on the label of the high voltage PWB must be entered.)

* When the Δ ∇ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

Mode	Item/Display	Content	Setting range
MIDDLE	A MIDDLE SPEED GB_K	K charging/grid bias set value at middle speed	150 - 850
	B MIDDLE SPEED GB_C	C charging/grid bias set value at middle speed	150 - 850
	C MIDDLE SPEED GB_M	M charging/grid bias set value at middle speed	150 - 850
	D MIDDLE SPEED GB_Y	Y charging/grid bias set value at middle speed	150 - 850
LOW	A LOW SPEED GB_K	K charging/grid bias set value at low speed	150 - 850
	B LOW SPEED GB_C	C charging/grid bias set value at low speed	150 - 850
	C LOW SPEED GB_M	M charging/grid bias set value at low speed	150 - 850
	D LOW SPEED GB_Y	Y charging/grid bias set value at low speed	150 - 850

8-6	
Purpose	Operation test/check/adjustment
Function (Purpose)	Used to check and adjust the operation of the transfer voltage and the control circuit.
Section	Process (Transport)

Operation/Procedure

- 1) Select a target item to be adjusted.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

The initial values (default values) specified on the list below are set.

When [EXECUTE] button is selected and [OK] key is pressed, the voltage corresponding to the value entered in procedure 3) is outputted for 30 sec and the set value is fixed.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

• MX-C400P/C380P

Item/Display		Content				Adjustment range	Default value	Actual output setting range	Default value of actual output value
A	TC1 LOW SPEED CL K	Primary transfer bias reference value	Color mode	K	Low speed mode	51 - 255	95	2 - 30 μ A	8 μ A
B	TC1 MIDDLE SPEED CL K				Middle speed mode	51 - 255	131	2 - 30 μ A	13 μ A
C	TC1 LOW SPEED CL C			C	Low speed mode	51 - 255	95	2 - 30 μ A	8 μ A
D	TC1 MIDDLE SPEED CL C				Middle speed mode	51 - 255	131	2 - 30 μ A	13 μ A
E	TC1 LOW SPEED CL M			M	Low speed mode	51 - 255	95	2 - 30 μ A	8 μ A
F	TC1 MIDDLE SPEED CL M				Middle speed mode	51 - 255	131	2 - 30 μ A	13 μ A
G	TC1 LOW SPEED CL Y			Y	Low speed mode	51 - 255	95	2 - 30 μ A	8 μ A
H	TC1 MIDDLE SPEED CL Y				Middle speed mode	51 - 255	131	2 - 30 μ A	13 μ A
I	TC1 LOW SPEED BW K	Black/White mode		K	Low speed mode	51 - 255	95	2 - 30 μ A	8 μ A
J	TC1 MIDDLE SPEED BW K				Middle speed mode	51 - 255	131	2 - 30 μ A	13 μ A

Item/Display		Content				Adjustment range	Default value	Actual output setting range	Default value of actual output value	
K	TC2 PLAIN CL SPX	Secondary transfer bias reference value	Color mode	Standard paper mode	Front surface mode	51 - 255	111	-2 - -80μA	-25μA	
L	TC2 PLAIN CL DPX				Back surface mode	51 - 255	124	-2 - -80μA	-30μA	
M	TC2 PLAIN BW SPX				Black/White mode	Front surface mode	51 - 255	111	-2 - -80μA	-25μA
N	TC2 PLAIN BW DPX					Back surface mode	51 - 255	111	-2 - -80μA	-25μA
O	TC2 HEAVY CL SPX		Color mode	Heavy paper mode	Front surface mode	51 - 255	93	-2 - -80μA	-10μA	
P	TC2 HEAVY CL DPX				Back surface mode	51 - 255	93	-2 - -80μA	-10μA	
Q	TC2 HEAVY BW SPX		Black/White mode		Front surface mode	51 - 255	93	-2 - -80μA	-10μA	
R	TC2 HEAVY BW DPX				Back surface mode	51 - 255	93	-2 - -80μA	-10μA	
S	TC2 OHP CL		OHP		Color mode	51 - 255	85	-2 - -80μA	-8μA	
T	TC2 OHP BW				Black/White mode	51 - 255	85	-2 - -80μA	-8μA	
U	TC2 ENVELOPE CL		Envelope		Color mode	51 - 255	124	-2 - -80μA	-30μA	
V	TC2 ENVELOPE BW				Black/White mode	51 - 255	124	-2 - -80μA	-30μA	
W	TC2 THIN CL		Thin paper		Color mode	51 - 255	111	-2 - -80μA	-25μA	
X	TC2 THIN BW				Black/White mode	51 - 255	111	-2 - -80μA	-25μA	
Y	TC2 GLOSSY CL		Gloss paper		Color mode	51 - 255	72	-2 - -80μA	-10μA	
Z	TC2 GLOSSY BW				Black/White mode	51 - 255	72	-2 - -80μA	-10μA	
AA	TC2 CLEANING		Cleaning mode				51 - 255	67	-2 - -80μA	-8μA
AB	TC2 CLEAN LOW SPD	Secondary transfer cleaning bias reference value	Low speed print mode			0 - 255	16	-100V - 1500V	0V	
AC	TC2 CLEAN MIDDLE SPD		Middle speed print mode			0 - 255	16	-100V - 1500V	0V	
AD	TC2 CLEAN CLEANING		Cleaning mode			0 - 255	143	-100V - 1500V	800V	
AE	PTC LOW SPEED CL	PTC current output reference value	Color mode	Low speed mode	0 - 255	133	0μA - -700μA	-300μA		
AF	PTC MIDDLE SPEED CL			Middle speed mode	0 - 255	133	0μA - -700μA	-300μA		
AG	PTC LOW SPEED BW		Black/White mode	Low speed mode	0 - 255	133	0μA - -700μA	-300μA		
AH	PTC MIDDLE SPEED BW			Middle speed mode	0 - 255	133	0μA - -700μA	-300μA		
AI	CASE VOLT LOW CL	PTC case voltage reference value	Color mode	Low speed mode	0 - 255	0	0V - -1000V	0V		
AJ	CASE VOLT MID CL			Middle speed mode	0 - 255	0	0V - -1000V	0V		
AK	CASE VOLT LOW BW		Black/White mode	Low speed mode	0 - 255	0	0V - -1000V	0V		
AL	CASE VOLT MID BW			Middle speed mode	0 - 255	0	0V - -1000V	0V		
AM	PEEL VOLT LOW CL	Separation discharge reference value	Color mode	Low speed mode	51 - 255	200	-50 - -3000V	-2200V		
AN	PEEL VOLT MIDDLE CL			Middle speed mode	51 - 255	200	-50 - -3000V	-2200V		
AO	PEEL VOLT LOW BW		Black/White mode	Low speed mode	51 - 255	200	-50 - -3000V	-2200V		
AP	PEEL VOLT MIDDLE BW			Middle speed mode	51 - 255	200	-50 - -3000V	-2200V		

▲ • MX-B400P/B380P/B382P

Item/Display		Content			Adjustment range	Default value	Actual output setting range	Default value of actual output value
A	TC1 LOW SPEED BW K	Primary transfer bias reference value	Low speed mode		51 - 255	95	2 - 30μA	8μA
B	TC1 MIDDLE SPEED BW K		Middle speed mode		51 - 255	131	2 - 30μA	13μA
C	TC2 PLAIN BW SPX	Secondary transfer bias reference value	Standard paper mode	Front surface mode	51 - 255	111	-2 - -80μA	-25μA
D	TC2 PLAIN BW DPX			Back surface mode	51 - 255	111	-2 - -80μA	-25μA
E	TC2 HEAVY BW SPX		Heavy paper mode	Front surface mode	51 - 255	93	-2 - -80μA	-10μA
F	TC2 HEAVY BW DPX			Back surface mode	51 - 255	93	-2 - -80μA	-10μA
G	TC2 OHP BW		OHP	MX-B400P/B380P	51 - 255	85	-2 - -80μA	-8μA
				MX-B382P	51 - 255	125	-2 - -80μA	-31μA
H	TC2 ENVELOPE BW		Envelope		51 - 255	124	-2 - -80μA	-30μA
I	TC2 THIN BW		Thin paper		51 - 255	111	-2 - -80μA	-25μA
J	TC2 GLOSSY BW		Gloss paper		51 - 255	72	-2 - -80μA	-10μA
K	TC2 CLEANING		Cleaning mode		51 - 255	67	-2 - -80μA	-8μA
L	TC2 CLEAN LOW SPD	Secondary transfer cleaning bias reference value	Low speed print mode		0 - 255	16	-100V - 1500V	0V
M	TC2 CLEAN MIDDLE SPD		Middle speed print mode		0 - 255	16	-100V - 1500V	0V
N	TC2 CLEAN CLEANING		Cleaning mode		0 - 255	143	-100V - 1500V	800V
O	PTC LOW SPEED BW	PTC current output reference value	Low speed mode		0 - 255	133	0μA - -700μA	-300μA
P	PTC MIDDLE SPEED BW		Middle speed mode		0 - 255	133	0μA - -700μA	-300μA
Q	CASE VOLT LOW BW	PTC case voltage reference value	Low speed mode		0 - 255	0	0V - -1000V	0V
R	CASE VOLT MID BW		Middle speed mode		0 - 255	0	0V - -1000V	0V
S	PEEL VOLT LOW BW	Separation discharge reference value	Low speed mode		51 - 255	200	-50 - -3000V	-2200V
T	PEEL VOLT MIDDLE BW		Middle speed mode		51 - 255	200	-50 - -3000V	-2200V

9

9-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and detectors in the paper reverse section (duplex section) and its control circuit.
Section	Duplex

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The code names of the sensors and the detectors which are active are highlighted.

APPD1	ADU transport detection 1
APPD2	ADU transport detection 2

9-3

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the load in the switchback section (duplex section) and its control circuit.
Section	Duplex

Operation/Procedure

- 1) Select the item to be operation checked.
- 2) Select [EXECUTE] button, and press [OK] key.

The selected load performs the operation.

With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

ADUC1	Switchback (ADU) paper transport clutch 1
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10

10-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the toner supply mechanism (toner motor) and the related circuit.
Section	Process (Developing)

Operation/Procedure

- 1) Select a target of the operation check.
When [ALL] button is pressed, all the items are selected.
- 2) Select [EXECUTE] button, and press [OK] key.
The selected load operation is performed for 10 sec.
With [EXECUTE] button selected, press [OK] key again, and the simulation is terminated.

NOTE: This simulation must be executed without installing the toner cartridges.

If this simulation is executed with the toner cartridges installed, toner will be forcibly supplied to the developing unit, resulting in over toner.

If this simulation is erroneously executed with the toner cartridges installed, over toner state may be deleted by making a few black background copy in the single color copy mode of the target color.

TNM_K	Toner motor K
TNM_C	Toner motor C
TNM_M	Toner motor M
TNM_Y	Toner motor Y

13

13--

Purpose	Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U1" trouble.
Section	

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

14

14--

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag H3, H4, H5 troubles.
Section	

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

16

16--

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U2" trouble.
Section	MFP PWB / PCU PWB

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

17

17--

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "PF" trouble.
Section	

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

21

21-1	
Purpose	Setting
Function (Purpose)	Used to set the maintenance cycle.
Section	

Operation/Procedure

- 1) Select a target item of setting.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Item/Display	Content	Setting range	Default value
A MAINTENANCE COUNTER (TOTAL)	Maintenance counter (Total)	0 : Default 1 - 300: 1K - 300K 999 : Free	60K
B MAINTENANCE COUNTER (COLOR)	Maintenance counter (Color)	0 : Default 1 - 300: 1K - 300K 999 : Free	30K

22

22-1	
Purpose	Adjustment/Setting/Operation data output/ Check
Function (Purpose)	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)
Section	

Operation/Procedure

Change the display page with [↑] [↓] key.

- ▲ • MX-C400P/C380P, MX-B400P/B380P

Item	Display (Counter)	Content	NOTE
Total output quantity	TOTAL OUT (BW)	Total output quantity of black and white	All prints including jams
	TOTAL OUT (COL)	Total output quantity of color	All prints including jams
Total use quantity	TOTAL (BW)	Total use quantity of black and white	Effective paper (including self print, excluding jams)
	TOTAL (COL)	Total use quantity of full color	Effective paper (including self print, excluding jams)
	TOTAL (2COL)	Total use quantity of 2-color	Effective paper (including self print, excluding jams)
	TOTAL (3COL)	Total use quantity of 3-color	Effective paper (including self print, excluding jams)
	TOTAL (SGL_COL)	Total use quantity of single color	Effective paper (including self print, excluding jams)

Item	Display (Counter)	Content	NOTE
Print	PRINT (BW)	Black and white print counter	Billing target (excluding self print)
	PRINT (COL)	Full color print counter	Billing target (excluding self print)
	PRINT (2COL)	2-color print counter	Billing target (excluding self print)
	PRINT (3COL)	3-color print counter	Billing target (excluding self print)
	PRINT (SGL_COL)	Single color print counter	Billing target (excluding self print)
Print hold	PRINT HOLD (BW)	Black and white print hold counter	Billing target (excluding self print)
	PRINT HOLD (COL)	Color print hold counter	Billing target (excluding self print)
	PRINT HOLD (2COL)	2-color print hold counter	Billing target (excluding self print)
	PRINT HOLD (SCOL)	Single color print hold counter	Billing target (excluding self print)
Other	OTHER (BW)	Black and white other counter	Self print quantity
	OTHER (COL)	Color other counter	Self print quantity
Maintenance counter	MAINTENANCE ALL	Maintenance counter (Total)	
	MAINTENANCE COL	Maintenance counter (Color)	
Transfer unit	TC1 UNIT	Primary transfer unit print counter	
	TC1 UNIT RANGE	Primary transfer unit accumulated traveling distance (cm)	
	TC1 UNIT DAY	Use day of primary transfer unit (Day)	
	TC2 UNIT	Secondary transfer unit print counter	
	TC2 UNIT RANGE	Secondary transfer unit accumulated traveling distance (cm)	
	TC2 UNIT DAY	Use day of secondary transfer unit (Day)	
Fusing unit	FUSER UNIT(U)	Fusing unit print counter (Heat roller upper)	
	FUSER UNIT (L&E)	Fusing unit print counter (Heat roller lower and external)	
	FUSER AC DY (U)	Use day of fusing unit (Heat roller upper)	
	FUSER AC DY (L&E)	Use day of fusing unit (Heat roller lower and external)	

Item	Display (Counter)	Content	NOTE
Drum life meter	DRUM LIFE (K)	Accumulated number of drum rotations (K)	0 - 100 (%) (Unit: ±1%)
	DRUM LIFE (C)	Accumulated number of drum rotations (C)	0 - 100 (%) (Unit: ±1%)
	DRUM LIFE (M)	Accumulated number of drum rotations (M)	0 - 100 (%) (Unit: ±1%)
	DRUM LIFE (Y)	Accumulated number of drum rotations (Y)	0 - 100 (%) (Unit: ±1%)
Developer life meter	DEVE LIFE (K)	Accumulated number of developer rotations (K)	0 - 100 (%) (Unit: ±1%)
	DEVE LIFE (C)	Accumulated number of developer rotations (C)	0 - 100 (%) (Unit: ±1%)
	DEVE LIFE (M)	Accumulated number of developer rotations (M)	0 - 100 (%) (Unit: ±1%)
	DEVE LIFE (Y)	Accumulated number of developer rotations (Y)	0 - 100 (%) (Unit: ±1%)
Toner number counter	TONER NUMBER (K)	Toner number counter (K)	0 - 255
	TONER NUMBER (C)	Toner number counter (C)	0 - 255
	TONER NUMBER (M)	Toner number counter (M)	0 - 255
	TONER NUMBER (Y)	Toner number counter (Y)	0 - 255
Toner near end number counter	TONER NN END (K)	Toner near end number counter (K)	0 - 255
	TONER NN END (C)	Toner near end number counter (C)	0 - 255
	TONER NN END (M)	Toner near end number counter (M)	0 - 255
	TONER NN END (Y)	Toner near end number counter (Y)	0 - 255
Remaining toner quantity	TONER RESIDUAL (K)	Remaining toner quantity (K)	0 - 25%
			25 - 50%
			50 - 75%
			75 - 100%
	TONER RESIDUAL (C)	Remaining toner quantity (C)	0 - 25%
			25 - 50%
			50 - 75%
			75 - 100%
	TONER RESIDUAL (M)	Remaining toner quantity (M)	0 - 25%
			25 - 50%
			50 - 75%
			75 - 100%
	TONER RESIDUAL (Y)	Remaining toner quantity (Y)	0 - 25%
			25 - 50%
			50 - 75%
			75 - 100%

• MX-B382P

Item	Display (Counter)	Content	NOTE
Total output quantity	TOTAL OUT (BW)	Total output quantity	All prints including jams
Total use quantity	TOTAL (BW)	Total use quantity of black and white	Effective paper (including self print, excluding jams)
	TOTAL (COL)	Total use quantity of color	
Copy	COPY (BW)	Copy counter	Billing target (excluding self print)
Print	PRINT (BW)	Print counter	Billing target (excluding self print)
Document filing	DOC FIL (BW)	Document filing print counter	Billing target (excluding self print)
Other	OTHER (BW)	Other counter	Self print quantity
Maintenance counter	MAINTENANCE ALL	Maintenance counter (Total)	
Transfer unit	TC1 UNIT	Primary transfer unit print counter	
	TC1 UNIT RANGE	Primary transfer unit accumulated traveling distance (cm)	
	TC1 UNIT DAY	Use day of primary transfer unit (Day)	0 - 740
	TC2 UNIT	Secondary transfer unit print counter	
	TC2 UNIT RANGE	Secondary transfer unit accumulated traveling distance (cm)	
	TC2 UNIT DAY	Use day of secondary transfer unit (Day)	0 - 740
Fusing unit	FUSER UNIT (U)	Fusing unit print counter (Heat roller upper)	
	FUSER ACUM DAY (U)	Use day of fusing unit (Heat roller upper)	0 - 740
Drum life meter	DRUM LIFE (K)	Accumulated number of drum rotations	0 - 100 (%) (Unit: ±1%)
Developer life meter	DEVE LIFE (K)	Accumulated number of developer rotations	0 - 100 (%) (Unit: ±1%)

22-2

Purpose

Adjustment/Setting/Operation data check

Function (Purpose)

Used to check the total numbers of mis-feed and troubles. (When the number of total jam is considerably great, it is judged as necessary for repair.)

Section

Operation/Procedure

The paper jam, trouble counter value is displayed.

Display/Item	Content
MACHINE JAM	Machine JAM counter
TROUBLE	Trouble counter

22-3	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check mis-feed positions and the mis-feed count of each position. * Presumption of the faulty point by this data is possible.
Section	

Operation/Procedure

The paper jam and mis-feed history is displayed from the latest one up to 50 items. (The old ones are deleted sequentially.)

JAM code	Content
TRAY1	Machine cassette 1 paper feed JAM (CPFD1 not-reached JAM)
CPFD1_S1	CPFD1 remaining JAM (Machine cassette)
CPFD1_N2	CPFD1 not-reached JAM (Paper feed tray upper stage)
CPFD1_N3	CPFD1 not-reached JAM (Paper feed tray middle stage)
CPFD1_N4	CPFD1 not-reached JAM (Paper feed tray lower stage)
CPFD1_S2	CPFD1 remaining JAM (Paper feed tray upper stage)
CPFD1_S3	CPFD1 remaining JAM (Paper feed tray middle stage)
CPFD1_S4	CPFD1 remaining JAM (Paper feed tray lower stage)
TRAY2	Cassette 2 (Paper feed tray upper stage) paper feed JAM
DPFD1_S2	DPFD1 remaining JAM (Paper feed tray upper stage)
DPFD1_N3	DPFD1 not-reached JAM (Paper feed tray middle stage)
PPD1_N1	PPD1 not-reached JAM (Machine cassette)
PPD1_N2	PPD1 not-reached JAM (Paper feed tray upper stage)
PPD1_N3	PPD1 not-reached JAM (Paper feed tray middle stage)
PPD1_N4	PPD1 not-reached JAM (Paper feed tray lower stage)
PPD1_NM	PPD1 not-reached JAM (Manual feed tray)
PPD1_NA	PPD1 not-reached JAM (ADU again)
PPD1_S1	PPD1 remaining JAM (Machine cassette)
PPD1_S2	PPD1 remaining JAM (Paper feed tray upper stage)
PPD1_S3	PPD1 remaining JAM (Paper feed tray middle stage)
PPD1_S4	PPD1 remaining JAM (Paper feed tray lower stage)
PPD1_SM	PPD1 remaining JAM (Manual feed tray)
PPD1_SA	PPD1 remaining JAM (ADU again)
PPD2_N1	PPD2 not-reached JAM (Machine cassette)
PPD2_N2	PPD2 not-reached JAM (Paper feed tray upper stage)
PPD2_N3	PPD2 not-reached JAM (Paper feed tray middle stage)
PPD2_N4	PPD2 not-reached JAM (Paper feed tray lower stage)
PPD2_NM	PPD2 not-reached JAM (Manual feed tray)
PPD2_NA	PPD2 not-reached JAM (ADU again)
PPD2_S1	PPD2 remaining JAM (Machine cassette)
PPD2_S2	PPD2 remaining JAM (Paper feed tray upper stage)
PPD2_S3	PPD2 remaining JAM (Paper feed tray middle stage)
PPD2_S4	PPD2 remaining JAM (Paper feed tray lower stage)
PPD2_SM	PPD2 remaining JAM (Manual feed tray)
PPD2_SA	PPD2 remaining JAM (ADU again)
PPD2_PRI	PPD2 JAM (Image preparation wait time out)
PPD2_DRUM	PPD2 JAM (Drum lock detection)
POD1_N	POD1 not-reached JAM
POD1_S	POD1 remaining JAM
POD1_FUS	POD1 JAM (Detection of twining to fusing)
POD2_N	POD2 not-reached JAM
POD2_S	POD2 remaining JAM
APPD1_N	APPD1 not-reached JAM
APPD1_S	APPD1 remaining JAM
APPD2_N	APPD2 not-reached JAM
APPD2_S	APPD2 remaining JAM
TRAY3	Cassette 3 (Paper feed tray middle stage) paper feed JAM
DPFD2_S3	DPFD2 remaining JAM (Paper feed tray middle stage)
DPFD1_N4	DPFD1 not-reached JAM (Paper feed tray lower stage)
DPFD1_S3	DPFD1 remaining JAM (Paper feed tray middle stage)
DPFD1_S4	DPFD1 remaining JAM (Paper feed tray lower stage)

JAM code	Content
TRAY4	Cassette 4 (Paper feed tray lower stage) paper feed JAM
DPFD2_N4	DPFD2 not-reached JAM (Paper feed tray lower stage)
DPFD2_S4	DPFD2 remaining JAM (Paper feed tray lower stage)
MFT	Manual feed tray paper feed JAM (PPD1 not-reached)
DPFD3_S4	DPFD3 remaining JAM (Paper feed tray lower stage)
LCC	Side LCC paper feed JAM (LPFD1 not-reached)
LPFD_SL	LPFD remaining JAM (Side LCC)
SIZE_ILG	Size illegal JAM
MTR_ILG	Motor driver trouble JAM
FPPD1_N	Finisher inlet port not-reached JAM
FPPD1_S	Finisher inlet port remaining JAM
FSTPLJ	Staple JAM
FIN_TIME	Finisher paper fast delivery JAM
FSTPD_N	Finisher paper exit not-reached JAM
FSTPD_S	Finisher paper exit remaining JAM
FPRD_N	Finisher compiler not-reached JAM
FPRD_S	Finisher compiler remaining JAM
CPFD1_DESK	CPFD1 JAM (Paper feed tray communication abnormality detection)
PPD2_FIN	PPD2 JAM (Finisher communication abnormality detection)
STOP_JAM	Control error JAM
ICU_REQ	Control error JAM

22-4	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the trouble (self diag) history.
Section	

Operation/Procedure

The trouble history is displayed from the latest one up to 30 items. (The old ones are deleted sequentially.)

* For the list of the trouble codes: Refer to "[6] SELF DIAG AND TROUBLE CODE".

22-5	
Purpose	Others
Function (Purpose)	Used to check the ROM version of each unit (section).
Section	Firmware

Operation/Procedure

The ROM version of the installed unit in each section is displayed. When there is any trouble in the software, use this simulation to check the ROM version, and upgrade the version if necessary.

S/N	Serial No.
ICU (MAIN)	ICU (Main section)
ICU (BOOT)	ICU (Boot section)
LANGUAGE	Language support data version
GRAPHIC	Graphic data for LCD
IMG DATA ROM	ImageASIC Flash ROM data
COLOR PROFILE	Color profile
PCU	PCU
DESK	Desk unit
FINISHER	Finisher
NIC	NIC
POWER-CON	Power controller
E-MANUAL	Operation manual (HDD storage)
ESCP	ESCP font ROM
PDL	PDL font ROM
OPU	OPU (Operation panel)

22-6

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output various adjustment/setting data (simulations, FAX soft switch counter), the firmware version, the counter list, the process control data, and SIM50-24 data.

Section

Operation/Procedure

* When installing or servicing, this simulation is executed to print the adjustment data and set data for use in the next servicing. (Memory trouble, PWB replacement, etc.)

1) Select the print list mode.

Item/Display	Print list mode	Print content
A DATA PATTERN	1	Firmware version, counter data, etc.
	2	SIM50-24 data
	3	Data related to the process control

2) Select [EXECUTE] button and press [OK] key, and printing of the print list mode selected in procedure 1) is executed.

NOTE: When the printing operation is interrupted during list data printing, cancel the simulation and check for any error.

22-8

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the number of operations (counter value) of the finisher, the RSPF, and the scan (reading) unit.

Section

Operation/Procedure

The counter value of the finisher is displayed.

STAPLER	Staple counter
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22-9

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the number of use (print quantity) of each paper feed section.

Section

Paper feed, ADU

Operation/Procedure

The counter values related to paper feed are displayed.

TRAY1	Tray 1 paper feed counter
TRAY2	Tray 2 paper feed counter
TRAY3	Tray 3 paper feed counter
TRAY4	Tray 4 paper feed counter
MFT TOTAL	Manual paper feed counter (Total)
MFT HEAVY	Manual paper feed counter (Heavy paper)
MFT OHP	Manual paper feed counter (OHP)
MFT ENV	Manual paper feed counter (Envelope)
ADU	ADU paper feed counter (Paper reverse section)

22-10

Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the system configuration (option, internal hardware).

Section

Operation/Procedure

The system configuration is displayed.

(The model names of the installed devices and options are displayed.)

• MX-C400P/C380P

MACHINE	MX-C400P MX-C380P	Main unit
DESK	MX-CSX1	500 sheet paper feed unit A
FINISHER	MX-FN12	Inner finisher
PS	STANDARD	PS expansion kit
XPS	MX-PUX1	XPS expansion kit
SECURITY	MX-FR20U	Data security kit (commercial version)
AIM		Application integration module None
SDRAM (SYS)	*****MB	SDRAM capacity
SDRAM (ICU)	*****MB	SDRAM capacity
HDD	*****MB	Hard disk capacity
NIC	STANDARD	NIC
BARCODE	AR-PF1	Bar code font
ACM	STANDARD	Application communication module
EAM	STANDARD	External account module
PRINTER	STANDARD	Printer unit

• MX-B400P/B380P

MACHINE	MX-B400P MX-B380P	Main unit
DESK	MX-CSX1	500 sheet paper feed unit A
FINISHER	MX-FN12	Inner finisher
PS	STANDARD	PS expansion kit
XPS	MX-PUX1	XPS expansion kit
SECURITY	MX-FR21U	Data security kit (commercial version)
AIM		Application integration module None
SDRAM (SYS)	*****MB	SDRAM capacity
SDRAM (ICU)	*****MB	SDRAM capacity
HDD	*****MB	Hard disk capacity
NIC	STANDARD	NIC
BARCODE	AR-PF1	Bar code font
ACM	STANDARD	Application communication module
EAM	STANDARD	External account module
PRINTER	STANDARD	Printer unit

• MX-B382P

MACHINE	MX-B382P	Main unit
SPF	STANDARD	Reversing single pass feeder
DESK	MX-CSX1	500 sheet paper feed unit A
FINISHER	MX-FN12	Inner finisher
FAX 1	MX-FXX3	Facsimile expansion kit
XPS	MX-PUX1	XPS expansion kit
SECURITY	MX-FR31U	Data security kit (commercial version)
SDRAM (SYS)	*****MB	SDRAM capacity
SDRAM (ICU)	*****MB	SDRAM capacity
HDD	*****MB	Hard disk capacity
NIC	STANDARD	NIC
BARCODE	AR-PF1	Bar code font
ACM (*)	STANDARD	Application communication module
EAM (*)	STANDARD	External account module

22-13	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to check the operating time of the process section (OPC drum, DV unit, toner cartridge).
Section	Process

Operation/Procedure

The rotating time and the print quantity of the process section are displayed.

DRUM CTRG K	Drum cartridge print counter (K)
DRUM CTRG C	Drum cartridge print counter (C)
DRUM CTRG M	Drum cartridge print counter (M)
DRUM CTRG Y	Drum cartridge print counter (Y)
DRUM RANGE K	Drum cartridge accumulated traveling distance (cm) (K)
DRUM RANGE C	Drum cartridge accumulated traveling distance (cm) (C)
DRUM RANGE M	Drum cartridge accumulated traveling distance (cm) (M)
DRUM RANGE Y	Drum cartridge accumulated traveling distance (cm) (Y)
DRUM TURN K	Drum cartridge accumulated rotation number (K)
DRUM TURN C	Drum cartridge accumulated rotation number (C)
DRUM TURN M	Drum cartridge accumulated rotation number (M)
DRUM TURN Y	Drum cartridge accumulated rotation number (Y)
DRUM DAY K	Number of day that used drum (Day) (K)
DRUM DAY C	Number of day that used drum (Day) (C)
DRUM DAY M	Number of day that used drum (Day) (M)
DRUM DAY Y	Number of day that used drum (Day) (Y)
DEVE CTRG K	Developer cartridge print counter (K)
DEVE CTRG C	Developer cartridge print counter (C)
DEVE CTRG M	Developer cartridge print counter (M)
DEVE CTRG Y	Developer cartridge print counter (Y)
DEVE RANGE K	Developer cartridge accumulated traveling distance (cm) (K)
DEVE RANGE C	Developer cartridge accumulated traveling distance (cm) (C)
DEVE RANGE M	Developer cartridge accumulated traveling distance (cm) (M)
DEVE RANGE Y	Developer cartridge accumulated traveling distance (cm) (Y)
DEVE TURN K	Developer cartridge accumulated rotation number (K)
DEVE TURN C	Developer cartridge accumulated rotation number (C)
DEVE TURN M	Developer cartridge accumulated rotation number (M)
DEVE TURN Y	Developer cartridge accumulated rotation number (Y)
DEVE DAY K	Number of day that used Developer (Day) (K)
DEVE DAY C	Number of day that used Developer (Day) (C)
DEVE DAY M	Number of day that used Developer (Day) (M)
DEVE DAY Y	Number of day that used Developer (Day) (Y)
TONER MOTOR K	Toner motor print counter (K)
TONER MOTOR C	Toner motor print counter (C)
TONER MOTOR M	Toner motor print counter (M)
TONER MOTOR Y	Toner motor print counter (Y)
TONER TURN K	Toner motor accumulated rotation time (sec) (K)
TONER TURN C	Toner motor accumulated rotation time (sec) (C)
TONER TURN M	Toner motor accumulated rotation time (sec) (M)
TONER TURN Y	Toner motor accumulated rotation time (sec) (Y)

22-90	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the various set data lists.
Section	

Operation/Procedure

- 1) Change the display with [↑] [↓] key.
- 2) Select the print target with the keys on the touch panel.
- 3) Select [EXECUTE] button and press [OK] key, and list printing is executed.

All setting list	ALL CUSTOM SETTING LIST (*)
Printer test page	PCL SYMBOL SET LIST PCL INTERNAL FONT LIST PCL EXTENDED FONT LIST PS FONT LIST PS KANJI FONT LIST PS EXTENDED FONT LIST NIC PAGE
Address registration list (*)	INDIVIDUAL LIST GROUP LIST PROGRAM LIST MEMORY BOX LIST ALL SENDING ADDRESS LIST
Print hold	PRINT HOLD FOLDER LIST (*) (Document filling)
System setting list	ADMIN. SETTINGS LIST (COPY) (*) ADMIN. SETTINGS LIST (PRINT) ADMIN. SETTINGS LIST (IMAGE SEND) (*) ADMIN. SET LIST (PRTHLD) ADMIN. SETTINGS LIST (SECURITY) ADMIN. SETTINGS LIST (COMMON) ALL ADMINISTRATOR SETTINGS LIST
Receive rejection number table	ANTI JUNK FAX NUMBER LIST (*)
Receive rejection/allow address domain table	ANTI JUNK MAIL/DOMAIN NAME LIST (*)
To E-mail Transfer table list	INBOUND ROUTING LIST
To administrator Transfer list	DOCUMENT ADMIN LIST
Web setting list	WEB SETTING LIST
Meta data set list	METADATA SET LIST

*: Though the menu is displayed, it does not work.

23

23-2	
Purpose	Adjustment/Setting/Operation data check
Function (Purpose)	Used to output the trouble history list of paper jam and mis-feed. (If the number of troubles of mis-feed is considerably great, the judgment is made that repair is required.)
Section	

Operation/Procedure

Select [EXECUTE] button and press [OK] key, and the trouble history list of paper jam and mis-feed is printed.

23-80	
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of paper feed and paper transport in the paper feed section and the paper transport section. Used to output the list of the operation status of the sensor and the detectors in the paper feed section and the paper transport section.
Section	Paper feed, Paper transport

Operation/Procedure

Select [EXECUTE] button and press [OK] key, and the list of paper feed and paper transport timing is printed.

Used to print the operations timing list of the sensors and detectors in the paper feed and transport section.

The timing list of paper feed and paper transport operations of the latest job on the final paper is printed.

Since the paper feed and paper transport routes differ depending on the used paper feed tray and the print operation mode, the sensor and the detectors and the operation timing also differ.

SECTION	Operation content (Trigger name - Detection operation or load operation name)
STANDARD	Reference value (ms)
CURRENT (*1)	Operation timing (ms) of the latest job on the final paper
PREVIOUS (*1)	Operation timing (ms) of the second latest job on the final paper
MAXIMUM (*1)	Max. operation timing (ms) of all the jobs
MINIMUM (*1)	Min. operation timing (ms) of all the jobs

*1: The value without unit on the left side of each item on the list has no relation to the operation timing. It is not used in the market.

24

24-1	
Purpose	Data clear
Function (Purpose)	Used to clear the jam counter, and the trouble counter. (After completion of maintenance, clear the counters.)
Section	

Operation/Procedure

- 1) Select the item to be cleared.
 - 2) Select [EXECUTE] button, and press [OK] key.
 - 3) Select [YES] button, and press [OK] key.
- The target counter is cleared.

MACHINE	Machine JAM counter
TROUBLE	Trouble counter

24-2	
Purpose	Data clear
Function (Purpose)	Used to clear the number of use (the number of prints) of each paper feed section.
Section	

Operation/Procedure

- 1) Select the item to be cleared.
 - 2) Select [EXECUTE] button, and press [OK] key.
 - 3) Select [YES] button, and press [OK] key.
- The target counter is cleared.

TRAY1	Tray 1 paper feed counter
TRAY2	Tray 2 paper feed counter
TRAY3	Tray 3 paper feed counter
TRAY4	Tray 4 paper feed counter
MFT TOTAL	Manual paper feed counter (Total)
MFT HEAVY	Manual paper feed counter (Heavy paper)
MFT OHP	Manual paper feed counter (OHP)
MFT ENV	Manual paper feed counter (Envelope)
ADU	ADU paper path counter

24-3	
Purpose	Data clear
Function (Purpose)	Used to clear the finisher counter.
Section	

Operation/Procedure

- 1) Select the item to be cleared.
 - 2) Select [EXECUTE] button, and press [OK] key.
 - 3) Select [YES] button, and press [OK] key.
- The target counter is cleared.

STAPLER	Staple counter
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24-4	
Purpose	Data clear
Function (Purpose)	Used to clear the maintenance counter, the printer counters of the transport unit and the fusing unit. (After completion of maintenance, clear the counters.)
Section	

Operation/Procedure

- 1) Select the item to be cleared.
 - 2) Select [EXECUTE] button, and press [OK] key.
 - 3) Select [YES] button, and press [OK] key.
- The target counter is cleared.

• MX-C400P/C380P, MX-B400P/B380P

MAINT ALL	Maintenance counter (Total)
MAINT COL	Maintenance counter (Color)
TC1 UNIT	Primary transport unit print counter
TC1 UNIT RN	Primary transport unit accumulated traveling distance (cm)
TC1 UNIT DY	Use day of primary transport unit (Day)
TC2 UNIT	Secondary transport unit print counter
TC2 UNIT RN	Secondary transport unit accumulated traveling distance (cm)
TC2 UNIT DY	Use day of secondary transport unit (Day)
FUS UN(U)	Fusing unit (heat roller upper) print counter
FUS UN(E)	Fusing unit (heat roller lower & external) print counter
FUS DY(U)	Use day of fusing unit (heat roller upper) (Day)
FUS DY(E)	Use day of fusing unit (heat roller lower & external) (Day)

• MX-B382P

MAINTENANCE ALL	Maintenance counter (Total)
TC1 UNIT	Primary transport unit print counter
TC1 UNIT RANGE	Primary transport unit accumulated traveling distance (cm)
TC1 UNIT DAY	Use day of primary transport unit (Day)
TC2 UNIT	Secondary transport unit print counter
TC2 UNIT RANGE	Secondary transport unit accumulated traveling distance (cm)
TC2 UNIT DAY	Use day of secondary transport unit (Day)
FUSER UNIT (U)	Fusing unit (heat roller upper) print counter
FUSER DAY (U)	Use day of fusing unit (heat roller upper) (Day)

24-5	
Purpose	Data clear
Function (Purpose)	Used to clear the developer counter. (After replacement of developer, clear the counter.)

Section

Operation/Procedure

- 1) Select the item to be cleared.
- 2) Select [EXECUTE] button, and press [OK] key.
- 3) Select [YES] button, and press [OK] key.

The target counter is cleared.

NOTE: When SIM25-2 is executed, this counter is also cleared automatically.

The developer rotation number accumulation counter is not displayed on the LCD screen, but cleared in conjunction with execution of this simulation.

K	Developer cartridge print counter (K)
	Developer cartridge accumulated traveling distance (cm) (K)
	Number of day that used developer (Day) K
C	Developer cartridge print counter (C)
	Developer cartridge accumulated traveling distance (cm) (C)
	Number of day that used developer (Day) C
M	Developer cartridge print counter (M)
	Developer cartridge accumulated traveling distance (cm) (M)
	Number of day that used developer (Day) M
Y	Developer cartridge print counter (Y)
	Developer cartridge accumulated traveling distance (cm) (Y)
	Number of day that used developer (Day) Y

24-7	
Purpose	Data clear
Function (Purpose)	Used to clear the OPC drum counter. (After replacement of the OPC drum, clear the counter.)

Section

Operation/Procedure

- 1) Select the item to be cleared.
- 2) Select [EXECUTE] button, and press [OK] key.
- 3) Select [YES] button, and press [OK] key.

The target counter is cleared.

The drum rotation number accumulation counter is not displayed on the LCD screen, but cleared in conjunction with execution of this simulation.

K	Drum cartridge print counter (K)
	Drum cartridge accumulated traveling distance (cm) (K)
	Number of day that used drum (Day) K
C	Drum cartridge print counter (C)
	Drum cartridge accumulated traveling distance (cm) (C)
	Number of day that used drum (Day) C
M	Drum cartridge print counter (M)
	Drum cartridge accumulated traveling distance (cm) (M)
	Number of day that used drum (Day) M
Y	Drum cartridge print counter (Y)
	Drum cartridge accumulated traveling distance (cm) (Y)
	Number of day that used drum (Day) Y

24-9	
Purpose	Data clear
Function (Purpose)	Used clear the printer mode print counter and the self print mode print counter.

Section

Operation/Procedure

- 1) Select the item to be cleared.
- 2) Select [EXECUTE] button, and press [OK] key.
- 3) Select [YES] button, and press [OK] key.

The target counter is cleared.

PRINT BW	Print counter (B/W)
PRINT COL	Print counter (COLOR)
PRINT (2COL)	Print counter (2-colors)
PRINT (3COL)	Print counter (3-colors)
PRINT (SGL_COL)	Print counter (Single color)
OTHER BW	Other counter (B/W)
OTHER COL	Other counter (COLOR)

24-30	
Purpose	Data clear
Function (Purpose)	Used to initialize the administrator password.

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

The administrator password is initialized.

If the administrator password of system setting and Web page is forgotten, execute this simulation to set the password to "admin" (default).

24-31	
Purpose	Data clear
Function (Purpose)	Used to initialize the service mode password.

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

The service mode password is initialized.

If the password of Web page is forgotten, execute this simulation to set the password to "service" (default).

24-34	
Purpose	Data initialization
Function (Purpose)	Used to initialize the set items of SIM26-32.

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

25

25-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the developing section.
Section	Process (Developing section)

Operation/Procedure

- 1) Select the process speed.
- 2) Select [EXECUTE] button, and press [OK] key.
The developing motor and the OPC drum motor rotate for 3 minutes and the output level of the toner density sensor is displayed.

TCD_K	Toner density sensor K
TCD_C	Toner density sensor C
TCD_M	Toner density sensor M
TCD_Y	Toner density sensor Y
TCV_K	Toner density sensor control voltage level K
TCV_C	Toner density sensor control voltage level C
TCV_M	Toner density sensor control voltage level M
TCV_Y	Toner density sensor control voltage level Y

LOW	Process speed: Low speed
MIDDLE	Process speed: Middle speed

25-2	
Purpose	Setting
Function (Purpose)	Used to make the initial setting of toner density when replacing developer. (Automatic adjustment)
Section	Image process (Photo-conductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select a color to be adjusted.
- 2) Select [EXECUTE] button, and press [OK] key.

The developing motor rotates, and the toner density sensor makes sampling of the toner density. The detected level is displayed.

After stopping the developing motor, the average value of the toner density sampling results is set as the reference toner density control level.

NOTE: When the above operation is interrupted on the way, the reference toner concentration level is not set. Also when error code of EE-EC, EE-EL or EE-EU is displayed, the reference toner density level is not set normally.

Do not execute this simulation except when new developer is supplied. If it is executed in other cases, under toner or over toner may occur, causing a trouble.

<Display during operation>

TCD_K	Toner density sensor control voltage level K
TCD_C	Toner density sensor control voltage level C
TCD_M	Toner density sensor control voltage level M
TCD_Y	Toner density sensor control voltage level Y
TCV_K	Toner density sensor control level K
TCV_C	Toner density sensor control level C
TCV_M	Toner density sensor control level M
TCV_Y	Toner density sensor control level Y

<Display after completion of the adjustment>

Mode	Display	Range
Toner density control adjustment value in the low speed process mode	AT DEVE ADJ_L_K	1 - 255
	AT DEVE ADJ_L_C	1 - 255
	AT DEVE ADJ_L_M	1 - 255
	AT DEVE ADJ_L_Y	1 - 255
Toner density control adjustment value in the medium speed process mode	AT DEVE ADJ_M_K	1 - 255
	AT DEVE ADJ_M_C	1 - 255
	AT DEVE ADJ_M_M	1 - 255
	AT DEVE ADJ_M_Y	1 - 255
Toner density sensor control voltage level in the low speed process mode	AT DEVE VO_L_K	1 - 255
	AT DEVE VO_L_C	1 - 255
	AT DEVE VO_L_M	1 - 255
	AT DEVE VO_L_Y	1 - 255
Toner density sensor control voltage level in the medium speed process mode	AT DEVE VO_M_K	1 - 255
	AT DEVE VO_M_C	1 - 255
	AT DEVE VO_M_M	1 - 255
	AT DEVE VO_M_Y	1 - 255

Display and condition in case of an error

Error display	Error name	Error details
EE-EL	EL error	The sensor output level is lower than 77, or the control voltage level is higher than 207.
EE-EU	EU error	The sensor output level is higher than 177, or the control voltage level is lower than 52.
EE-EC	EC error	The sensor output level is out of 128±10.

26

26-2	
Purpose	Setting
Function (Purpose)	Used to set the paper weight type.
Section	Paper feed

Operation/Procedure

- 1) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

G/LBS SET	0	GRAM
	1	LBS

This setting is linked with SIM26-6. When the set value (destination) of SIM26-6 is changed, this setting is also changed accordingly.

To set a desirable type without linking with the destination, use this simulation.

Destinations	Set value
	G/LBS SET
U.S.A.	LBS
CANADA	LBS
INCH	LBS
JAPAN	GRAM
AB_B	GRAM
EUROPE	GRAM
U.K.	GRAM
AUS.	GRAM
AB_A	GRAM
CHINA	GRAM

26-6	
Purpose	Setting
Function (Purpose)	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.
Section	
Operation/Procedure	
1) Select an item to be set.	
2) Select [EXECUTE] button, and press [OK] key.	
The selected set content is saved.	
U.S.A.	United States of America
CANADA	Canada
INCH	Inch series, other destinations
JAPAN	Japan
AB_B	AB series (B5 detection), other destinations
EUROPE	Europe
U.K.	United Kingdom
AUS.	Australia
AB_A	AB series (A5 detection), other destinations
CHINA	China

26-18	
Purpose	Setting
Function (Purpose)	Used to set Disable/Enable of the toner save mode operation. (For the Japan and the UK versions.)
Section	

- Operation/Procedure**
- Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Display	Content		Default value
PRINTER	0	Printer toner save mode is inhibited.	0
	1	Printer toner save mode is allowed.	

26-30	
Purpose	Setting
Function (Purpose)	Used to set the operation mode corresponding to the CE mark (Europe safety standards). (For slow start to drive the fusing heater lamp)
Section	

- Operation/Procedure**
- Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

0	Control allowed
1	Control inhibited

* Even in Enable state, the control may not be executed due to the power frequency, etc.

U.S.A	1 (CE not supported)	EUROPE	0 (CE supported)
CANADA	1 (CE not supported)	U.K.	0 (CE supported)
INCH	1 (CE not supported)	AUS.	0 (CE supported)
JAPAN	1 (CE not supported)	AB_A	0 (CE supported)
AB_B	1 (CE not supported)	CHINA	0 (CE supported)

26-32	
Purpose	Setting
Function (Purpose)	Used to set display or non-display of the system setting menu.

Section	
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- Operation/Procedure**
- Select an item to be set.
 - Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Display or non-display of the following menu of the system setting menu is set.

Set to ON for use of CRU, and set to OFF for use of SRU.

When it is set to ON, the following menu is displayed on the system setting menu screen to allow the operation of the menu.

Item	Display	Content	Setting range	Default value
A	FAX ADJ SET (*)	FAX setting screen (dial tone detection, speed setting) display (Select this setting when the user himself performs FAX dial tone detection or speed setting.)	0 (ON)	1 (OFF)
		FAX setting screen (dial tone detection, speed setting) non-display	1 (OFF)	
B	CLEANING PRINT SET	Fusing cleaning print pattern print screen display (Select this setting when the user himself prints the print pattern for cleaning the fusing roller. V characters are printed on all the surface to remove foreign material and residual toner from the fusing roller.)	0 (ON)	1 (OFF)
		Fusing cleaning print pattern print screen non-display	1 (OFF)	
C	IMG SELF PRINT SET	Picture quality check self print screen display (Select this setting when the user himself checks the engine print picture quality. Two kinds of print patterns of SIM64-4 are printed.)	0 (ON)	1 (OFF)
		Picture quality check self print execution screen non-display	1 (OFF)	
D	LIST PRINT SET	Machine data list (various setting data) print screen display	0 (ON)	1 (OFF)
		Machine data list (various setting data) print screen non-display	1 (OFF)	
E	UPDATE SET	Firmware update execution screen display (Select this setting when the user himself updates the firmware. When this menu is executed, the guidance is displayed to guide the user to execute update.)	0 (ON)	1 (OFF)
		Firmware update execution screen non-display	1 (OFF)	
F	ERR MSG SET	Error message screen display (When set to ON, "Call for service" is displayed in case of an error.)	0 (ON)	1 (OFF)
		Error message screen display (When set to OFF, "Please refer to operation manual" is displayed in case of an error.)	1 (OFF)	

When set to 0, it is displayed on the system setting screen. When set to 1, it is not displayed on the system setting screen.

*: Though the menu is displayed, it does not work.

26-35	
Purpose	Setting
Function (Purpose)	Used to set the display mode of SIM 22-4 trouble history when a same trouble occurred repeatedly. There are two display modes: display as one trouble and display as several series of troubles.
Section	
Operation/Procedure	
1) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)	
0	Only once display.
1	Any time display.

26-38	
Purpose	Setting
Function (Purpose)	Used to set Continue/Stop of print when the maintenance life is reached.
Section	
Operation/Procedure	
1) Select an item to be set.	
2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)	

Item	Display		Content	Default value
A	M LIFE OVER (0: CONTINUE 1: STOP)	0	Print Enable/Disable setting when the maintenance timing is over (Print Continue)	0
		1	Print Enable/Disable setting when the maintenance timing is over (Print Stop)	
B	TC1 LIFE OVER (0: CONTINUE 1: STOP)	0	Print Enable when the primary transfer unit life is over. (Print Continue)	0
		1	Print Disable when the primary transfer unit life is over. (Print Stop)	
C	TC2 LIFE OVER (0: CONTINUE 1: STOP)	0	Print Enable when the secondary transfer unit life is over. (Print Continue)	0
		1	Print Disable when the secondary transfer unit life is over. (Print Stop)	
D	FUS LIFE OVER (0: CONTINUE 1: STOP)	0	Print Enable when the fusing unit life is over. (Print Continue)	0
		1	Print Disable when the fusing unit life is over. (Print Stop)	
E	DR LIFE OVER (0: CONTINUE 1: STOP)	0	Print Enable when the drum unit life is over. (Print Continue)	0
		1	Print Disable when the drum unit life is over. (Print Stop)	
F	DV LIFE OVER (0: CONTINUE 1: STOP)	0	Print Enable when the DV unit life is over. (Print Continue)	0
		1	Print Disable when the DV unit life is over. (Print Stop)	

26-50	
Purpose	Setting
Function (Purpose)	Used to set functions.
Section	
Operation/Procedure	
1) Select an item to be set.	
2) Set the set value according to the operating conditions. (Enter the set value, and press [OK] key and OSA shortcut key.)	

Item/Display		Content		Default value
A	BW REVERSE	0	BW reverse print Disable	Refer to *1
		1	BW reverse print Enable	
B	FINISHER FUNCTION	0	Finisher special paper The number of paper exit is limited.	0 (*2)
		1	Finisher special paper The number of paper exit is not limited.	
C	COLOR MODE (PRINTER)	0	All colors and monochrome counters are displayed.	Refer to *1
		1	All are displayed except for the 3-color print counter.	
		2	Monochrome and full color print counters are displayed.	

(*1) Default values for each destination of item B

Destination	Item A	Item B	Item C
U S A	1	0	2
CANADA	1	0	2
INCH	1	0	2
JAPAN	1	7	2
AB_B	1	0	2
EUROPE	1	0	2
U K	0	0	2
AUS	1	0	2
AB_A	1	0	2
CHINA	1	0	2

(*2)

When set to 0:

Postcard 100 sheets

Envelope 20 sheets

When set to 1:

Stops when the paper exit tray lower sensor detects the lower limit of the paper exit tray (paper full).

26-52	
Purpose	Setting
Function (Purpose)	Used to set whether non-printed paper (insertion paper, cover paper) is counted up or not.
Section	
Operation/Procedure	
1) Set the set value according to the counting operation conditions. (Enter the set value, and press [OK] key and OSA shortcut key.)	

Item/Display	Set value	Content
A (0: YES 1: NO)	0	White sheet count-up setting (Count)
	1	White sheet count-up setting (Not Count)

This setting is linked with SIM26-6. When the set value (destination) of SIM26-6 is changed, this setting is also changed accordingly.

To set a desirable operation without linking with the destination, use this simulation.

Destination	Default
U.S.A	0 (Counted)
CANADA	0 (Counted)
INCH	0 (Counted)
JAPAN	1 (Not counted)
AB_B	0 (Counted)
EUROPE	0 (Counted)
U.K.	0 (Counted)
AUS.	1 (Not counted)
AB_A	0 (Counted)
CHINA	0 (Counted)

26-55	
Purpose	Setting
Function (Purpose)	Used to set Enable/Disable of the automatic color calibration (automatic color balance adjustment) when replacing a consumable part. (In this simulation, the menu is displayed but it does not work.)
Section	
Operation/Procedure	

NOTE: Never change the set values, which must be fixed to Disable (default).

- 1) Select the replacement condition of a target consumable part to which the auto color calibration (color balance adjustment) is applied.
- 2) Select [EXECUTE] button, and press [OK] key.

Display	Content	Set value	Default value
DV	Enable/Disable setting when replacing developer	Normal (Disable: 1: NO)	Disable
DR	Enable/Disable setting when replacing the OPC drum		Disable
TC1	Enable/Disable setting when replacing the primary transfer unit	Reverse (Enable: 0: YES)	Disable
TC2	Enable/Disable setting when replacing the secondary transfer unit		Disable
FUSER	Enable/Disable setting when replacing the fusing unit		Disable

When it is set to Enable, the guidance for execution of the auto color calibration (auto color balance adjustment) is displayed after replacing the target consumable part.

Follow the guidance and perform the auto color calibration (auto color balance adjustment).

26-65	
Purpose	Setting
Function (Purpose)	Used to set the staple process restriction.
Section	

Operation/Procedure

Select a set item and a set condition, and press [OK] key and OSA shortcut key.

Item	Set value	Content	Default value
LIMIT COPIES	ON	Number of sets of stapling: Limited	ON
	OFF	Number of sets of stapling: Not Limited	
LIMIT SHT (L)	15	Number of sheets of stapling: Max. 15	30
	30	Number of sheets of stapling: Max. 30	

[Target paper size]

8.5 x 14, 8.5 x 13.5, 8.5 x 13.4, 8.5 x 13

The staple capacity other than the above is fixed to 30 sheets.

26-69	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions for toner near end.
Section	
Operation/Procedure	

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Item/Display	Content	Default value
A TONER PREPARATION (0: YES 1: NO)	0 The toner preparation message is displayed.	
	1 The toner preparation message is not displayed.	
B TONER NEAR END (0: YES 1: NO)	0 The toner near end message is displayed.	
	1 The toner near end message is not displayed.	
C TONER END	1 Operation Setting 1	
	2 Operation Setting 2	
	3 Operation Setting 3	
D TONER END COUNT	Setting of the number of copy/print/FAX outputs Enable after TONER NEAR END.	1
E TONER E-MAIL ALERT	0 Condition for Low status send of E-mail alert When the toner preparation message is displayed (in near toner end)	1
	1 Condition for Low status send of E-mail alert When near toner end	
F DV NEAR END DISP (0: YES 1: NO)	0 The developer near end message is displayed.	1
	1 The developer near end message is not displayed.	
G DR NEAR END DISP (0: YES 1: NO)	0 The drum near end message is displayed.	1
	1 The drum near end message is not displayed.	
H TC1 NEAR END DISP (0: YES 1: NO)	0 The primary transfer near end message is displayed.	1
	1 The primary transfer near end message is not displayed.	

Item/Display		Content		Default value
I	TC2 NEAR END DISP (0: YES 1: NO)	0	The secondary transfer near end message is displayed.	1
		1	The secondary transfer near end message is not displayed.	
J	FUS NEAR END DISP (0: YES 1: NO)	0	The fusing near end message is displayed.	1
		1	The fusing near end message is not displayed.	

<List of Default values and set values for each destination>

Destination	Set value	
	Toner preparation message	Toner near end message
U.S.A	0 (Displayed)	0 (Displayed)
CANADA	0 (Displayed)	0 (Displayed)
INCH	0 (Displayed)	0 (Displayed)
JAPAN	0 (Displayed)	1 (Not Displayed)
AB_B	0 (Displayed)	0 (Displayed)
EUROPE	0 (Displayed)	0 (Displayed)
U.K.	0 (Displayed)	0 (Displayed)
AUS.	0 (Displayed)	0 (Displayed)
AB_A	0 (Displayed)	0 (Displayed)
CHINA	0 (Displayed)	0 (Displayed)

(Contents of set items)

A: Enable/Disable setting of the toner preparation message display when the toner remaining quantity reaches 25%.

B: Enable/Disable setting of the toner preparation message display when the toner near end status is reached.

▲ C: Setting of the machine operation when the toner end status is reached.

D: Setting of the allowable quantity of print after displaying the message when item B is set to "0" (the message is displayed at toner near end). (Range: 0 - 200 sheets)

The number of output print allowed in item D is based on the assumption that the sheets are of A4 size with print ratio of 5%. (The number of outputs allowed differs depending on the paper size and the print ratio.)

Set values of Item D and the number of output print allowed

- 1: Print Disable after toner near end
- 2: 20 sheets print Enable after toner near end
- 3: 40 sheets print Enable after toner near end
- 4: 80 sheets print Enable after toner near end
- 5: 160 sheets print Enable after toner near end

F. Enable/Disable setting of the near end message display when the developing unit reaches near end.

G. Enable/Disable setting of the near end message display when the OPC drum unit reaches near end.

H. Enable/Disable setting of the near end message display when the primary transfer unit reaches near end.

I. Enable/Disable setting of the near end message display when the secondary transfer unit reaches near end.

J. Enable/Disable setting of the near end message display when the fusing unit reaches near end.

(Items F, G, H, I, J: When the life center reaches 90% of the specified life, it is judged as near end.)

NOTE: When item B is set to "0" and item D to a desired number, printing can be made after toner near end. However, insufficient density, thin spots, or improper color balance may be resulted depending on the using conditions. When item D is set to "1", printing is disabled after toner near end. In this case, toner end display is made in the toner near end status, and print outputs are disabled.

26-74	
Purpose	Setting
Function (Purpose)	Used to set the OSA trial mode.
Section	

Operation/Procedure

- 1) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Item/Display		Content		Setting range	Default value
A	OSA TRIAL MODE (0: YES 1: NO)	0	Used to set the OSA trial mode.	0 - 1	1
		1	OSA trial mode is canceled.		

The functions other than OPEN USB can be used.

Use limit: 18,000 sheets JOB

26-78	
Purpose	Setting
Function (Purpose)	Used to set the password of the remote operation panel.
Section	

Operation/Procedure

- 1) Enter a password. (5 - 8 digits)
The entered password is displayed on the column of "NEW".
To change the entered password, select "C" (clear) on the menu and press [OK] key, then delete the password digit by digit.
- 2) Select [SET] button, and press [OK] key.

27

27-5	
Purpose	Setting
Function (Purpose)	Used to set the machine tag No. (This function allows the host computer to check the machine tag No.) (FSS function)
Section	Communication (RIC/MODEM)

Operation/Procedure

- 1) Enter the tag No. (max. 8 digits).
The entered password is displayed on the column of "NEW".
In order to correct the entered password, press the [clear] key to delete the entered value one digit by one digit.
- 2) Select [SET] button, and press [OK] key.

27-9	
Purpose	Setting
Function (Purpose)	Used to set the paper transport time recording YES/NO threshold value. (FSS function)

Section

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

A	FEED TIME 1	0 - 100	Threshold value of the paper transport time between sensors (Main unit) (50: Default)
B	JAM ALERT	1 - 100	Alert judgment threshold value for occurrence of continuous jams Alert judgment threshold value for occurrence of continuous jams (Setting of the number of times of continuous jams as the alert for continuous jams) (Default: 10 times)

* Item A: 0%, standard passing time between sheets of paper; 100%, time for judgment as a jam between sheets of paper.

27-10	
Purpose	Data clear
Function (Purpose)	Used to clear the trouble prediction history information. (FSS function)

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.
The history information of trouble prediction is cleared.

Target history	Serial communication retry number history
	High density process control error history
	Halftone process control error history
	Automatic registration adjustment error history
	Paper transport time between sensors

27-11	
Purpose	Others
Function (Purpose)	Used to check the serial communication retry number and the scanner gain adjustment retry number history. (FSS function)

Section

Operation/Procedure

The serial communication retry number history and the scanner gain adjustment retry number history are displayed.

Display Item			Content
Item name	Occurrence date (Display)	Retry number	
LSU1	99/99/99 99:99:99	8 digits	Serial communication retry number history display
LSU2	99/99/99 99:99:99	8 digits	
DESK1	99/99/99 99:99:99	8 digits	
DESK2	99/99/99 99:99:99	8 digits	
FINISHER1	99/99/99 99:99:99	8 digits	
FINISHER2	99/99/99 99:99:99	8 digits	

27-12	
Purpose	Others
Function (Purpose)	Used to check the high-density, halftone process control and the automatic registration adjustment error history. (FSS Function)

Section

Operation/Procedure

The high density, the halftone, and the automatic registration adjustment error history are displayed.

HV_ERR1	High density error history 1
HV_ERR2	High density error history 2
HV_ERR3	High density error history 3
HV_ERR4	High density error history 4
HV_ERR5	High density error history 5
H_TONE ERR1	Halftone error history 1
H_TONE ERR2	Halftone error history 2
H_TONE ERR3	Halftone error history 3
H_TONE ERR4	Halftone error history 4
H_TONE ERR5	Halftone error history 5
AUTO REG ADJ1	Automatic registration adjustment error history 1
AUTO REG ADJ2	Automatic registration adjustment error history 2
AUTO REG ADJ3	Automatic registration adjustment error history 3
AUTO REG ADJ4	Automatic registration adjustment error history 4
AUTO REG ADJ5	Automatic registration adjustment error history 5

27-13

Purpose	Others
Function (Purpose)	Used to check the history of paper transport time between sensors. (FSS function)

Section

Operation/Procedure

Change the display with [↑] [↓] key.

	Item/Display	Content	Occurrence date	Code between sensors	Passing time	Reference passing time
Main unit	FEED TIME1	History of paper transport time between sensors 1	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME2	History of paper transport time between sensors 2	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME3	History of paper transport time between sensors 3	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME4	History of paper transport time between sensors 4	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME5	History of paper transport time between sensors 5	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME6	History of paper transport time between sensors 6	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME7	History of paper transport time between sensors 7	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME8	History of paper transport time between sensors 8	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME9	History of paper transport time between sensors 9	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)
	FEED TIME10	History of paper transport time between sensors 10	99/99/99 99:99:99	5 digits	5 digits (ms)	5 digits (ms)

30

30-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in other than the paper feed section and the control circuits.

Section

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

▲ • MX-C400P/C380P, MX-B400P/B380P

PPD1	Resist pre-detection
PPD2	Resist detection
POD1	Detects the paper exit from fusing.
POD2	Main unit paper exit detection
TFD2	Paper exit tray full detection
DSW_R	Right door open/close detection
DSW_F	Front cover open/close detection
DHPD_K	OPC drum phase detection (K)
DHPD_CL	OPC drum phase detection (Color)
1TNFD	Waste toner full detection
HLPCD	Fusing roller pressure release detection
1TUD_CL	Primary transfer belt separation detection
1TUD_K	Primary transfer belt separation detection (K) (MX-C400P/C380P) Primary transfer unit initial detection (MX-B400P/B380P)
DRSET	Drum detection
DRCRU_K	Drum K initial detection
DRCRU_C	Drum C initial detection
DRCRU_M	Drum M initial detection
DRCRU_Y	Drum Y initial detection
DVCRU_K	Developer K initial detection
DVCRU_C	Developer C initial detection
DVCRU_M	Developer M initial detection
DVCRU_Y	Developer Y initial detection
FUCRU	Fusing initial detection
2TCCRU	Secondary transfer unit initial detection

• MX-B382P

PPD1	Resist pre-detection
PPD2	Resist detection
POD1	Detects the paper exit from fusing.
POD2	Main unit paper exit detection
TFD2	Paper exit tray full detection
DSW_R	Right door open/close detection
DSW_F	Front cover open/close detection
1TNFD	Waste toner full detection
FUSET	Fusing installation detection
1TUD_CL	Primary transfer belt separation detection
1TUD_K	Primary transfer unit initial detection
DRSET	Drum detection
DRCRU_K	Drum K initial detection
DVCRU_K	Developer K initial detection
FUCRU	Fusing initial detection
2TCCRU	Secondary transfer initial detection

30-2

Purpose	Operation test/check
Function (Purpose)	Used to check the operations of the sensors and the detectors in the paper feed section and the control circuits.

Section

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The sensors and the detectors which are turned ON are highlighted.

CPFD1	Paper feed tray 1 paper transport detection
CLUD1	Paper feed tray 1 upper limit detection
CPED1	Paper feed tray 1 paper empty detection
CSPD1	Paper feed tray 1 paper remaining quantity detection
CSS1	Paper feed tray 1 paper size detection 1
CSS2	Paper feed tray 1 paper size detection 2
CSS3	Paper feed tray 1 paper size detection 3
MPLD	Manual paper feed tray paper length detection
MPED	Manual paper feed tray paper empty detection

40-2

Purpose	Adjustment/Setup
Function (Purpose)	Manual paper feed tray paper width sensor adjustment.
Section	Paper feed

Operation/Procedure

- 1) Open the manual paper feed guide to the max. width (MAX).
- 2) Select [EXECUTE] button, and press [OK] key.
The max. width (MAX) detection level is recognized.
- 3) Open the manual paper feed guide to P1 width (A4R).
- 4) Select [EXECUTE] button, and press [OK] key.
The P1 width (A4R) detection level is recognized.
- 5) Open the manual paper feed guide to P2 width (A5R).
- 6) Select [EXECUTE] button, and press [OK] key.
The P2 width (A5R) detection level is recognized.
- 7) Open the manual paper feed guide to the min. width (MIN).
- 8) Select [EXECUTE] button, and press [OK] key.
The min. width (MIN) detection level is recognized.

When the above operation is not performed normally, "ERROR" is displayed. When completed normally, "COMPLETE" is displayed.

MAX POSITION	Manual paper feed guide maximum width position
P1 (A4R) POSITION	Manual paper feed guide P1 width position (A4R)
P2 (A5R) POSITION	Manual paper feed guide P2 width position (A5R)
MIN POSITION	Manual paper feed guide minimum width position

Display	Content
COMPLETE	Adjustment completed
ERROR	Adjustment error

43-1

Purpose	Setting
Function (Purpose)	Used to set the fusing reference temperature of each operation mode.
Section	

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

NOTE: The set value is the reference value, and it may differ from the actual fusing temperature depending on the operating conditions.

• MX-C400P/C380P

Item/Display	Content	Setting range	Group A		Group B		Group C	
			SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A HL_UM READY	Ready standby TH_UM set value	70 - 230	175	190	185	190	185	190
B HL_LM READY	Ready standby TH_LM set value	30 - 200	120	135	130	135	130	135
C HL_E READY	Ready standby TH_E set value	70 - 230	175	190	185	190	185	190
D HL_UM PLAIN PAPER BW	Black-White plain paper TH_UM set value	70 - 230	180	195	190	195	190	195
E HL_LM PLAIN PAPER BW	Black-White plain paper TH_LM set value	30 - 200	125	140	135	140	135	140
F HL_E PLAIN PAPER BW	Black-White plain paper TH_E set value	70 - 230	220	220	220	220	220	220
G HL_UM PLAIN PAPER CL	Color plain paper TH_UM set value	70 - 230	180	195	190	195	190	195
H HL_LM PLAIN PAPER CL	Color plain paper TH_LM set value	30 - 200	130	145	140	145	140	145
I HL_E PLAIN PAPER CL	Color plain paper TH_E set value	70 - 230	220	220	220	220	220	220
J WARMUP FUMON HL_E T	Fusing motor pre-rotation start TH_E set value	30 - 200	150					
K WARMUP FUMOFF	Fusing motor pre-rotation end time	0 - 255	30					

40-7

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the adjustment value of the manual paper feed tray paper width sensor.
Section	Paper feed

Operation/Procedure

- 1) Select a target adjustment item.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Item			Default value
A	MAX POSITION	Manual paper feed guide maximum width position	193
B	P1 POSITION	Manual paper feed guide P1 width position (A4R)	187
C	P2 POSITION	Manual paper feed guide P2 width position (A5R)	133
D	MIN POSITION	Manual paper feed guide minimum width position	84

Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
L	WARM UP END TIME	Warm-up complete time (warm-up time (sec))	30 - 255	83	110	83	110	83	110
M	HL_UM HEAVY PAPER	Heavy paper TH_UM set value	70 - 230	185					
N	HL_LM HEAVY PAPER	Heavy paper TH_LM set value	30 - 200	140					
O	HL_E HEAVY PAPER	Heavy paper TH_E set value	70 - 230	220					
P	HL_UM OHP PAPER	OHP-TH_UM set value	70 - 230	180					
Q	HL_LM OHP PAPER	OHP-TH_LM set value	30 - 200	140					
R	HL_E OHP PAPER	OHP-TH_E set value	70 - 230	220					
S	HL_UM ENV PAPER	Envelope TH_UM set value	70 - 230	195					
T	HL_LM ENV PAPER	Envelope TH_LM set value	30 - 200	150					
U	HL_E ENV PAPER	Envelope TH_E set value	70 - 230	215					
V	HL_UM GLOSS PAPER	Glossy paper TH_UM set value	70 - 230	185					
W	HL_LM GLOSS PAPER	Glossy paper TH_LM set value	30 - 200	140					
X	HL_E GLOSS PAPER	Glossy paper TH_E set value	70 - 230	220					
Y	HL_UM E-STAR	Preheating TH_UM set value	30 - 200	165		165		165	
Z	HL_E E-STAR	Preheating TH_E set value	30 - 200	165		165		165	
AA	HL_UM PRE-JOB	Resetting from preheating TH_UM set value (Job Ready temperature)	30 - 200	170		170		170	
AB	HL_LM E-STAR	Preheating TH_LM set value	30 - 200	115		115		115	
AC	HL_UM WARMUP_120L	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	70 - 230	175	190	185	190	185	190
AD	HL_LM WARMUP_120L	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	30 - 200	120	135	130	135	130	135
AE	HL_E WARMUP_120L	Warm-up TH_E set value (when the fusing temperature is 120°C or less)	70 - 230	225	225	225	225	225	225
AF	LO_WARMUP_TIME	AC - AE applying time (Time for shifting from the ready state to the normal control temperature (sec))	0 - 255	5					
AG	HL_UM WARMUP_120H	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	70 - 230	175	190	185	190	185	190
AH	HL_LM WARMUP_120H	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	30 - 200	120	135	130	135	130	135
AI	HL_E WARMUP_120H	Warm-up TH_E set value (when the fusing temperature is 120°C or above)	70 - 230	220	225	225	225	225	225
AJ	HI_WARMUP_TIME	AG - AI applying time (Timer from completion of Ready)	0 - 255	5					
AK	HI_WU_FM_ON_TMP	TH_E temperature for FM to start rotation in warming up (when the fusing temperature in warm-up is alpha °C or above)	30 - 200	130	130	130	130	130	130
AL	HI_WU_END_TIME	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	0 - 255	40	40	40	40	40	40
AM	HI_WU_JOB_SET_TMP	TH_UM temperature to enable a job during warming up (when the fusing temperature in warm-up is alpha °C or above)	70 - 230	170	185	180	185	170	185
AN	HI_WARMUP_BORDER	Threshold value applied to Sim43-1-AK - AM	1 - 119	70					
AO	LO_WU_JOB_SET_TMP	TH_UM temperature to enable a job during warming up (when the fusing temperature in warming up is alpha °C or below.)	70 - 230	175	195	185	195	180	195
AP	JOBEND_FUMON_TIME	Fusing roller rotation time (sec) after completion of a job	0 - 255	5					

• MX-B400P/B380P

Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	HL_UM READY	Ready standby TH_UM set value	70 - 230	175	190	185	190	185	190
B	HL_LM READY	Ready standby TH_LM set value	30 - 200	120	135	130	135	130	135
C	HL_E READY	Ready standby TH_E set value	70 - 230	175	190	185	190	185	190
D	HL_UM PLAIN PAPER BW	Plain paper TH_UM set value	70 - 230	180	195	190	195	190	195
E	HL_LM PLAIN PAPER BW	Plain paper TH_LM set value	30 - 200	125	140	135	140	135	140
F	HL_E PLAIN PAPER BW	Plain paper TH_E set value	70 - 230	220	220	220	220	220	220
G	WARMUP FUMON HL_E T	Fusing motor pre-rotation start TH_E set value	30 - 200	150					
H	WARMUP FUMOFF	Fusing motor pre-rotation end time TH_LM set value	0 - 255	30					
I	WARM UP END TIME	Warm-up complete time (warm-up time (sec))	30 - 255	83	110	83	110	83	110
J	HL_UM HEAVY PAPER	Heavy paper TH_UM set value	70 - 230	185					
K	HL_LM HEAVY PAPER	Heavy paper TH_LM set value	30 - 200	140					
L	HL_E HEAVY PAPER	Heavy paper TH_E set value	70 - 230	220					
M	HL_UM OHP PAPER	OHP-TH_UM set value	70 - 230	180					
N	HL_LM OHP PAPER	OHP-TH_LM set value	30 - 200	140					
O	HL_E OHP PAPER	OHP-TH_E set value	70 - 230	220					
P	HL_UM ENV PAPER	Envelope TH_UM set value	70 - 230	195					
Q	HL_LM ENV PAPER	Envelope TH_LM set value	30 - 200	150					
R	HL_E ENV PAPER	Envelope TH_E set value	70 - 230	215					
S	HL_UM GLOSS PAPER	Glossy paper TH_UM set value	70 - 230	185					
T	HL_LM GLOSS PAPER	Glossy paper TH_LM set value	30 - 200	140					

Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
U	HL_E GLOSS PAPER	Glossy paper TH_E set value	70 - 230	220					
V	HL_UM E-STAR	Preheating TH_UM set value	30 - 200	165					
W	HL_E E-STAR	Preheating TH_E set value	30 - 200	165					
X	HL_UM PRE-JOB	Resetting from preheating TH_UM set value (Job Ready temperature)	30 - 200	170					
Y	HL_LM E-STAR	Preheating TH_LM set value	30 - 200	115					
Z	HL_UM WARMUP_120L	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	70 - 230	175	190	185	190	185	190
AA	HL_LM WARMUP_120L	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	30 - 200	120	135	130	135	130	135
AB	HL_E WARMUP_120L	Warm-up TH_E set value (when the fusing temperature is 120°C or less)	70 - 230	225					
AC	LO_WARMUP_TIME	Z - AB applying time (Time for shifting from the ready state to the normal control temperature (sec))	0 - 255	5					
AD	HL_UM WARMUP_120H	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	70 - 230	175	190	185	190	185	190
AE	HL_LM WARMUP_120H	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	30 - 200	120	135	130	135	130	135
AF	HL_E WARMUP_120H	Warm-up TH_E set value (when the fusing temperature is 120°C or above)	70 - 230	220	225	225	225	225	225
AG	HI_WARMUP_TIME	AD - AF applying time (Timer from completion of Ready)	0 - 255	5					
AH	HI_WU_FM_ON_TMP	TH_E temperature for FM to start rotation in warming up (when the fusing temperature in warm-up is alpha °C or above)	30 - 200	130					
AI	HI_WU_END_TIME	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	0 - 255	40					
AJ	HI_WU_JOB_SET_TMP	TH_UM temperature to enable a job during warming up (when the fusing temperature in warm-up is alpha °C or above)	70 - 230	170	185	180	185	170	185
AK	HI_WARMUP_BORDER	Threshold value applied to Sim43-1-AH - AJ	1 - 119	70					
AL	LO_WU_JOB_SET_TMP	TH_UM temperature to enable a job during warming up (When the fusing temperature in warming up is alpha °C or below.)	70 - 230	175	195	185	195	180	195
AM	JOBEND_FUMON_TIME	Fusing roller rotation time (sec) after completion of a job	0 - 255	5					

<Code descriptions>

TH_UM	Fusing upper thermistor (center)
TH_LM	Fusing lower thermistor
TH_E	Fusing thermistor (external heat roller)
HL_UM	Heater lamp upper
HL_LM	Heater lamp lower
HL_E	Heater lamp (external heat roller)

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Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	HL_UM READY	Ready standby TH_UM set value	70 - 230	170	175	190		190	
B	HL_LM READY	Ready standby TH_LM set value	30 - 200	120	135	130	135	130	135
C	HL_US READY	Ready standby TH_US set value	70 - 230	170	175	190		190	
D	HL_UM PLAIN PAPER BW	Black-White plain paper TH_UM set value	70 - 230	170	175	190		190	
E	HL_LM PLAIN PAPER BW	Black-White plain paper TH_LM set value	30 - 200	125	140	135	140	135	140
F	HL_US PLAIN PAPER BW	Black-White plain paper TH_US set value	70 - 230	170	175	190		190	
G	WARMUP FUMON HL_UM T	Fusing motor pre-rotation start TH_UM set value	30 - 200	150					
H	WARMUP FUMOFF	Fusing motor pre-rotation end time	0 - 255	30					
I	WARM UP END TIME	Warm-up complete time (warm-up time (sec))	30 - 255	83	110	83	110	83	110
J	HL_UM HEAVY PAPER	Heavy paper TH_UM set value	70 - 230	165					
K	HL_LM HEAVY PAPER	Heavy paper TH_LM set value	30 - 200	140					
L	HL_US HEAVY PAPER	Heavy paper TH_US set value	70 - 230	165					
M	HL_UM OHP PAPER	OHP-TH_UM set value	70 - 230	150					
N	HL_LM OHP PAPER	OHP-TH_LM set value	30 - 200	140					
O	HL_US OHP PAPER	OHP-TH_US set value	70 - 230	150					
P	HL_UM ENV PAPER	Envelope TH_UM set value	70 - 230	200					
Q	HL_LM ENV PAPER	Envelope TH_LM set value	30 - 200	140					
R	HL_US ENV PAPER	Envelope TH_US set value	70 - 230	200					
S	HL_UM GLOSS PAPER	Glossy paper TH_UM set value	70 - 230	190					
T	HL_LM GLOSS PAPER	Glossy paper TH_LM set value	30 - 200	140					
U	HL_US GLOSS PAPER	Glossy paper TH_US set value	70 - 230	190					



Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
V	HL_UM E-STAR	Preheating TH_UM set value	30 - 200	120					
W	HL_US E-STAR	Preheating TH_US set value	30 - 200	120					
X	HL_UM PRE-JOB	Resetting from preheating TH_UM set value (Job Ready temperature)	30 - 200	170					
Y	HL_LM E-STAR	Preheating TH_LM set value	30 - 200	115					
Z	HL_UM WARMUP_120L	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	70 - 230	170	175	190		190	
AA	HL_LM WARMUP_120L	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	30 - 200	120	135	130	135	130	135
AB	HL_US WARMUP_120L	Warm-up TH_US set value (when the fusing temperature is 120°C or less)	70 - 230	170	175	190		190	
AC	LO_WARMUP_TIME	Z - AB applying time (Timer from completion of Ready)	0 - 255	5					
AD	HL_UM WARMUP_120H	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	70 - 230	165	170	190		190	
AE	HL_LM WARMUP_120H	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	30 - 200	120	135	130	135	130	135
AF	HL_US WARMUP_120H	Warm-up TH_US set value (when the fusing temperature is 120°C or above)	70 - 230	165	170	190		190	
AG	HI_WARMUP_TIME	AD - AF applying time (Timer from completion of Ready)	0 - 255	5					
AH	HI_WU_FM_ON_TMP	Fusing roller rotation start TH_UM (when the fusing temperature in warm-up is alpha °C or above)	30 - 200	150					
AI	HI_WU_END_TIME	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	0 - 255	40					
AJ	HI_WU_JOB_SET_TMP	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha °C or above)	70 - 230	170	175	190		190	
AK	HI_WARMUP_BORDER	Threshold value applied to Sim43-1-AH - AJ	1 - 119	70					
AL	LO_WU_JOB_SET_TMP	Warm-up complete time (sec) (When the fusing temperature in warming up is alpha °C or below.)	70 - 230	170	175	190		190	
AM	JOBEND_FUMON_TIME	Fusing roller rotation time (sec) after completion of a job	0 - 255	2					

<Code descriptions>

TH_UM	Fusing upper thermistor main
TH_LM	Fusing lower thermistor main
TH_US	Fusing upper thermistor sub
HL_UM	Heater lamp upper main
HL_LM	Heater lamp lower main
HL_US	Heater lamp upper sub

Group	Destination			
Group A	Japan	China	AB_B	—
Group B	U.S.A.	Canada	Inch	—
Group C	Europe	U.K.	AUS	AB_A

Destination link item (When the destination setting is changed with SIM26-6, the set value is changed linking with the destination.)

SW-A Setting value when plain paper is selected in the system setting/device setting/fusing control setting.

SW-B Set value when heavy paper is selected in the system setting/device setting/fusing control setting.

The set value displayed in this simulation differs depending on plain paper or heavy paper which is selected in the system setting/device setting/fusing control setting.

(Example) When plain paper is selected in the system setting/device setting/fusing control setting, the value of SW-A is displayed.

NOTE: When the destination is changed with SIM26-6 after changing this set value, the set values of the destination link items are reset to the default.

43-4	
Purpose	Setting
Function (Purpose)	Used to set the fusing temperature 2 in each mode. (Continued from SIM 43-1.)
Section	

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

NOTE: The set value is the reference value, and it may differ from the actual fusing temperature depending on the operating conditions.

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Item/Display		Content	Setting range	Default value					
				Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	HL_UM PLAIN PAPER BW DUP	Black-White plain paper duplex TH_UM set value	70 - 230	175	190	185	190	185	190
B	HL_LM PLAIN PAPER BW DUP	Black-White plain paper duplex TH_LM set value	30 - 200	110	125	120	125	120	125
C	HL_E PLAIN PAPER BW DUP	Black-White plain paper duplex TH_E set value	70 - 230	220	220	220	220	220	220
D	PLAIN PAPER BW DUP APP CNT	Black-White plain paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	0	0	0
E	HL_UM PLAIN PAPER CL DUP	Color plain paper duplex TH_UM set value	70 - 230	175	190	185	190	185	190
F	HL_LM PLAIN PAPER CL DUP	Color plain paper duplex TH_LM set value	30 - 200	110	125	120	125	120	125
G	HL_E PLAIN PAPER CL DUP	Color plain paper duplex TH_E set value	70 - 230	220	220	220	220	220	220
H	PLAIN PAPER CL DUP APP CNT	Color plain paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	0	0	0
I	HL_UM HEAVY PAPER BW DUP	Black-White heavy paper duplex TH_UM set value	70 - 230	185					
J	HL_LM HEAVY PAPER BW DUP	Black-White heavy paper duplex TH_LM set value	30 - 200	120					
K	HL_E HEAVY PAPER BW DUP	Black-White heavy paper duplex TH_E set value	70 - 230	220					
L	HEAVY PAPER BW DUP APP CNT	Black-White heavy paper duplex fusing temperature application start image screen number	0 - 60	1					
M	HL_UM HEAVY PAPER CL DUP	Color heavy paper duplex TH_UM set value	70 - 230	185					
N	HL_LM HEAVY PAPER CL DUP	Color heavy paper duplex TH_LM set value	30 - 200	120					
O	HL_E HEAVY PAPER CL DUP	Color heavy paper duplex TH_E set value	70 - 230	220					
P	HEAVY PAPER CL DUP APP CNT	Color heavy paper duplex fusing temperature application start image screen number	0 - 60	1					

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Item/Display		Content	Setting range	Default value					
				Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	HL_UM PLAIN PAPER BW DUP	Plain paper duplex TH_UM set value	70 - 230	175	190	185	190	185	190
B	HL_LM PLAIN PAPER BW DUP	Plain paper duplex TH_LM set value	30 - 200	110	125	120	125	120	125
C	HL_E PLAIN PAPER BW DUP	Plain paper duplex TH_E set value	70 - 230	220	220	220	220	220	220
D	PLAIN PAPER BW DUP APP CNT	Plain paper duplex fusing temperature application start image screen number	0 - 60	0	0	0	0	0	0
E	HL_UM HEAVY PAPER BW DUP	Heavy paper duplex TH_UM set value	70 - 230	185					
F	HL_LM HEAVY PAPER BW DUP	Heavy paper duplex TH_LM set value	30 - 200	120					
G	HL_E HEAVY PAPER BW DUP	Heavy paper duplex TH_E set value	70 - 230	220					
H	HEAVY PAPER BW DUP APP CNT	Heavy paper duplex fusing temperature application start image screen number	0 - 60	1					

<Code descriptions>

TH_UM	Fusing upper thermistor (center)
TH_LM	Fusing lower thermistor
TH_E	Fusing thermistor (external heat roller)
HL_UM	Heater lamp upper
HL_LM	Heater lamp lower
HL_E	Heater lamp (external heat roller)

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	Item/Display	Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	HL_UM PLAIN PAPER BW DUP	Plain paper duplex TH_UM set value	70 - 230	170	175	190		190	
B	HL_LM PLAIN PAPER BW DUP	Plain paper duplex TH_LM set value	30 - 200	110	125	120	125	120	125
C	HL_US PLAIN PAPER BW DUP	Plain paper duplex TH_US set value	70 - 230	170	175	190		190	
D	PLAIN PAPER BW DUP APP CNT	Plain paper duplex fusing temperature application start image screen number	0 - 60	0					
E	HL_UM HEAVY PAPER BW DUP	Heavy paper duplex TH_UM set value	70 - 230	165					
F	HL_LM HEAVY PAPER BW DUP	Heavy paper duplex TH_LM set value	30 - 200	120					
G	HL_US HEAVY PAPER BW DUP	Heavy paper duplex TH_US set value	70 - 230	165					
H	HEAVY PAPER BW DUP APP CNT	Heavy paper duplex fusing temperature application start image screen number	0 - 60	1					

<Code descriptions>

TH_UM	Fusing upper thermistor main
TH_LM	Fusing lower thermistor main
TH_US	Fusing upper thermistor sub
HL_UM	Heater lamp upper main
HL_LM	Heater lamp lower main
HL_US	Heater lamp upper sub

Group	Destination			
Group A	Japan	China	AB_B	—
Group B	U.S.A.	Canada	Inch	—
Group C	Europe	U.K.	AUS	AB_A

43-20

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environmental correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-1) in each paper mode.

Section

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Correction value: -49 - +49, 1 Count = 1°C Change

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

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	Item/Display	Content	Setting range	Group A	Group B	Group C
A	HL_UM READY LL	Ready standby TH_UM set value	1 - 99	55	55	55
B	HL_LM READY LL	Ready standby TH_LM set value	1 - 99	55	55	55
C	HL_E READY LL	Ready standby TH_E set value	1 - 99	55	55	55
D	HL_UM PLAIN PAPER BW LL	Black-White plain paper TH_UM set value	1 - 99	55	55	55
E	HL_LM PLAIN PAPER BW LL	Black-White plain paper TH_LM set value	1 - 99	55	55	55
F	HL_E PLAIN PAPER BW LL	Black-White plain paper TH_E set value	1 - 99	55	55	55
G	HL_UM PLAIN PAPER CL LL	Color plain paper TH_UM set value	1 - 99	55	55	55
H	HL_LM PLAIN PAPER CL LL	Color plain paper TH_LM set value	1 - 99	55	55	55
I	HL_E PLAIN PAPER CL LL	Color plain paper TH_E set value	1 - 99	55	55	55
J	WARMUP FUMON HL_E T LL	Fusing motor pre-rotation start TH_E set value	1 - 99	45		
K	WARMUP FUMOFF LL	Fusing motor pre-rotation end time	1 - 99	50		
L (*1)	WARMUP END TIME LL	Warm-up complete time (warm-up time (sec))	1 - 99	80		
M	HL_UM HEAVY PAPER LL	Heavy paper TH_UM set value	1 - 99	55		
N	HL_LM HEAVY PAPER LL	Heavy paper TH_LM set value	1 - 99	55		
O	HL_E HEAVY PAPER LL	Heavy paper TH_E set value	1 - 99	50		
P	HL_UM OHP PAPER LL	OHP-TH_UM set value	1 - 99	55		
Q	HL_LM OHP PAPER LL	OHP-TH_LM set value	1 - 99	55		
R	HL_E OHP PAPER LL	OHP-TH_E set value	1 - 99	50		
S	HL_UM ENV PAPER LL	Envelope TH_UM set value	1 - 99	55		
T	HL_LM ENV PAPER LL	Envelope TH_LM set value	1 - 99	55		
U	HL_E ENV PAPER LL	Envelope TH_E set value	1 - 99	50		
V	HL_UM GLOSS PAPER LL	Glossy paper TH_UM set value	1 - 99	55		
W	HL_LM GLOSS PAPER LL	Glossy paper TH_LM set value	1 - 99	55		
X	HL_E GLOSS PAPER LL	Glossy paper TH_E set value	1 - 99	50		
Y	HL_UM E-STAR LL	Preheating TH_UM set value	1 - 99	55		

Item/Display		Content	Setting range	Group A	Group B	Group C
Z	HL_E E-STAR LL	Preheating TH_E set value	1 - 99		55	
AA	HL_UM PRE-JOB LL	Resetting from preheating TH_UM set value (Job Ready temperature)	1 - 99		55	
AB	HL_LM E-STAR LL	Preheating TH_LM set value	1 - 99		55	
AC	HL_UM WARMUP_120L LL	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	1 - 99		55	
AD	HL_LM WARMUP_120L LL	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	1 - 99		55	
AE	HL_E WARMUP_120L LL	Warm-up TH_E set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AF	LO_WARMUP_TIME LL	AC - AE applying time (Time (sec) for shifting from the control temperature in warm-up to the normal control temperature)	1 - 99		50	
AG	HL_UM WARMUP_120H LL	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	1 - 99		55	
AH	HL_LM WARMUP_120H LL	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	1 - 99		55	
AI	HL_E WARMUP_120H LL	Warm-up TH_E set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AJ	HI_WARMUP_TIME LL	AG - AI applying time (Timer from completion of Ready)	1 - 99		50	
AK	HI_WU_FM_ON_TMP LL	Fusing roller rotation start TH_E (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		45	
AL (*1)	HI_WU_END_TIME LL	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AM	HI_WU_JOB_SET_TMP LL	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		55	
AN	HI_WARMUP_BORDER LL	Threshold value applied to Sim43-1-AK - AM	1 - 99		50	
AO	LO_WU_JOB_SET_TMP LL	TH_UM temperature to enable a job during warming up (when the fusing temperature in warming up is alpha °C or below.)	1 - 99		55	
AP (*1)	JOBEND_FUMON_TIME LL	Fusing roller rotation time (sec) after completion of a job	1 - 99		50	

*1: 1 Count = 1sec Change

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Item/Display		Content	Setting range	Group A	Group B	Group C
A	HL_UM READY LL	Ready standby TH_UM set value	1 - 99	55	55	55
B	HL_LM READY LL	Ready standby TH_LM set value	1 - 99	55	55	55
C	HL_E READY LL	Ready standby TH_E set value	1 - 99	55	55	55
D	HL_UM PLAIN PAPER BW LL	Plain paper TH_UM set value	1 - 99	55	55	55
E	HL_LM PLAIN PAPER BW LL	Plain paper TH_LM set value	1 - 99	55	55	55
F	HL_E PLAIN PAPER BW LL	Plain paper TH_E set value	1 - 99	55	55	55
G	WARMUP_FUMON_HL_E T LL	Fusing motor pre-rotation start TH_E set value	1 - 99		45	
H	WARMUP_FUMOFF LL	Fusing motor pre-rotation end time TH_LM set value	1 - 99		50	
I (*1)	WARMUP_END_TIME LL	Warm-up complete time (warm-up time (sec))	1 - 99		80	
J	HL_UM HEAVY PAPER LL	Heavy paper TH_UM set value	1 - 99		55	
K	HL_LM HEAVY PAPER LL	Heavy paper TH_LM set value	1 - 99		55	
L	HL_E HEAVY PAPER LL	Heavy paper TH_E set value	1 - 99		50	
M	HL_UM OHP PAPER LL	OHP-TH_UM set value	1 - 99		55	
N	HL_LM OHP PAPER LL	OHP-TH_LM set value	1 - 99		55	
O	HL_E OHP PAPER LL	OHP-TH_E set value	1 - 99		50	
P	HL_UM ENV PAPER LL	Envelope TH_UM set value	1 - 99		55	
Q	HL_LM ENV PAPER LL	Envelope TH_LM set value	1 - 99		55	
R	HL_E ENV PAPER LL	Envelope TH_E set value	1 - 99		50	
S	HL_UM GLOSS PAPER LL	Glossy paper TH_UM set value	1 - 99		55	
T	HL_LM GLOSS PAPER LL	Glossy paper TH_LM set value	1 - 99		55	
U	HL_E GLOSS PAPER LL	Glossy paper TH_E set value	1 - 99		50	
V	HL_UM E-STAR LL	Preheating TH_UM set value	1 - 99		55	
W	HL_E E-STAR LL	Preheating TH_E set value	1 - 99		55	
X	HL_UM PRE-JOB LL	Resetting from preheating TH_UM set value (Job Ready temperature)	1 - 99		55	
Y	HL_LM E-STAR LL	Preheating TH_LM set value	1 - 99		55	
Z	HL_UM WARMUP_120L LL	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	1 - 99		55	
AA	HL_LM WARMUP_120L LL	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	1 - 99		55	
AB	HL_E WARMUP_120L LL	Warm-up TH_E set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AC	LO_WARMUP_TIME LL	Z - AB applying time (Time (sec) for shifting from the control temperature in warm-up to the normal control temperature)	1 - 99		50	
AD	HL_UM WARMUP_120H LL	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	1 - 99		55	
AE	HL_LM WARMUP_120H LL	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	1 - 99		55	
AF	HL_E WARMUP_120H LL	Warm-up TH_E set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AG	HI_WARMUP_TIME LL	AD - AF applying time (Timer from completion of Ready)	1 - 99		50	
AH	HI_WU_FM_ON_TMP LL	Fusing roller rotation start TH_E (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		45	
AI (*1)	HI_WU_END_TIME LL	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AJ	HI_WU_JOB_SET_TMP LL	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		55	
AK	HI_WARMUP_BORDER LL	Threshold value applied to Sim43-1-AH - AJ	1 - 99		50	

Item/Display		Content	Setting range	Group A	Group B	Group C
AL	LO_WU_JOB_SET_TMP LL	TH_UM temperature to enable a job during warming up (when the fusing temperature in warming up is alpha °C or below.)	1 - 99		55	
AM (*1)	JOBEND_FUMON_TIME LL	Fusing roller rotation time (sec) after completion of a job	1 - 99		50	

*1: 1 Count = 1sec Change

<Code descriptions>

TH_UM	Fusing upper thermistor (center)
TH_LM	Fusing lower thermistor
TH_E	Fusing thermistor (external heat roller)
HL_UM	Heater lamp upper
HL_LM	Heater lamp lower
HL_E	Heater lamp (external heat roller)

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Item/Display		Content	Setting range	Group A	Group B	Group C
A	HL_UM READY LL	Ready standby TH_UM set value	1 - 99		55	
B	HL_LM READY LL	Ready standby TH_LM set value	1 - 99		55	
C	HL_US READY LL	Ready standby TH_US set value	1 - 99		55	
D	HL_UM PLAIN PAPER BW LL	Plain paper TH_UM set value	1 - 99		55	
E	HL_LM PLAIN PAPER BW LL	Plain paper TH_LM set value	1 - 99		55	
F	HL_US PLAIN PAPER BW LL	Plain paper TH_US set value	1 - 99		55	
G	WARMUP FUMON HL_UM T LL	Fusing motor pre-rotation start TH_UM set value	1 - 99		45	
H	WARMUP FUMOFF LL	Fusing motor pre-rotation end time	1-99		50	
I (*1)	WARMUP END TIME LL	Warm-up complete time (warm-up time (sec))	1 - 99		80	
J	HL_UM HEAVY PAPER LL	Heavy paper TH_UM set value	1 - 99		55	
K	HL_LM HEAVY PAPER LL	Heavy paper TH_LM set value	1 - 99		55	
L	HL_US HEAVY PAPER LL	Heavy paper TH_US set value	1 - 99		50	
M	HL_UM OHP PAPER LL	OHP-TH_UM set value	1 - 99		55	
N	HL_LM OHP PAPER LL	OHP-TH_LM set value	1 - 99		55	
O	HL_US OHP PAPER LL	OHP-TH_US set value	1 - 99		50	
P	HL_UM ENV PAPER LL	Envelope TH_UM set value	1 - 99		55	
Q	HL_LM ENV PAPER LL	Envelope TH_LM set value	1 - 99		55	
R	HL_US ENV PAPER LL	Envelope TH_US set value	1 - 99		50	
S	HL_UM GLOSS PAPER LL	Glossy paper TH_UM set value	1 - 99		55	
T	HL_LM GLOSS PAPER LL	Glossy paper TH_LM set value	1 - 99		55	
U	HL_US GLOSS PAPER LL	Glossy paper TH_US set value	1 - 99		55	
V	HL_UM E-STAR LL	Preheating TH_UM set value	1 - 99		55	
W	HL_US E-STAR LL	Preheating TH_US set value	1 - 99		55	
X	HL_UM PRE-JOB LL	Resetting from preheating TH_UM set value (Job Ready temperature)	1 - 99		55	
Y	HL_LM E-STAR LL	Preheating TH_LM set value	1 - 99		55	
Z	HL_UM WARMUP_120L LL	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	1 - 99		55	
AA	HL_LM WARMUP_120L LL	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	1 - 99		55	
AB	HL_US WARMUP_120L LL	Warm-up TH_US set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AC	LO_WARMUP_TIME LL	Z - AB applying time (Time (sec) for shifting from the control temperature in warm-up to the normal control temperature)	1 - 99		50	
AD	HL_UM WARMUP_120H LL	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	1 - 99		55	
AE	HL_LM WARMUP_120H LL	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	1 - 99		55	
AF	HL_US WARMUP_120H LL	Warm-up TH_US set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AG	HI_WARMUP_TIME LL	AD - AF applying time (Timer from completion of Ready)	1 - 99		50	
AH	HI_WU_FM_ON_TMP LL	Fusing roller rotation start TH_UM (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		45	
AI (*1)	HI_WU_END_TIME LL	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AJ	HI_WU_JOB_SET_TMP LL	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		55	
AK	HI_WARMUP_BORDER LL	Threshold value applied to Sim43-1-AH - AJ	1 - 99		50	
AL	LO_WU_JOB_SET_TMP LL	TH_UM temperature to enable a job during warming up (when the fusing temperature in warming up is alpha °C or below.)	1 - 99		55	
AM (*1)	JOBEND_FUMON_TIME LL	Fusing roller rotation time (sec) after completion of a job	1 - 99		50	

*1: 1 Count = 1sec Change

<Code descriptions>

TH_UM	Fusing upper thermistor main
TH_LM	Fusing lower thermistor main
TH_US	Fusing upper thermistor sub
HL_UM	Heater lamp upper main
HL_LM	Heater lamp lower main
HL_US	Heater lamp upper sub

Group	Destination			
Group A	Japan	China	AB_B	–
Group B	U.S.A.	Canada	Inch	–
Group C	Europe	U.K.	AUS	AB_A

43-21

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-1) in each paper mode.

Section

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Correction value: -49 - +49, 1 Count = 1°C Change

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

• **MX-C400P/C380P**

Item/Display	Content	Setting range	Group A	Group B	Group C
A HL_UM READY HH	Ready standby TH_UM set value	1 - 99	50	50	50
B HL_LM READY HH	Ready standby TH_LM set value	1 - 99	50	50	50
C HL_E READY HH	Ready standby TH_E set value	1 - 99	50	50	50
D HL_UM PLAIN PAPER BW HH	Black-White plain paper TH_UM set value	1 - 99	50	50	50
E HL_LM PLAIN PAPER BW HH	Black-White plain paper TH_LM set value	1 - 99	50	50	50
F HL_E PLAIN PAPER BW HH	Black-White plain paper TH_E set value	1 - 99	50	50	50
G HL_UM PLAIN PAPER CL HH	Color plain paper TH_UM set value	1 - 99	50	50	50
H HL_LM PLAIN PAPER CL HH	Color plain paper TH_LM set value	1 - 99	50	50	50
I HL_E PLAIN PAPER CL HH	Color plain paper TH_E set value	1 - 99	50	50	50
J WARMUP FUMON HL_E T HH	Fusing motor pre-rotation start TH_E set value	1 - 99		50	
K WARMUP FUMOFF HH	Fusing motor pre-rotation end time	1 - 99		50	
L WARMUP END TIME HH	Warm-up complete time (warm-up time (sec))	1 - 99		50	
(*1)					
M HL_UM HEAVY PAPER HH	Heavy paper TH_UM set value	1 - 99		50	
N HL_LM HEAVY PAPER HH	Heavy paper TH_LM set value	1 - 99		50	
O HL_E HEAVY PAPER HH	Heavy paper TH_E set value	1 - 99		50	
P HL_UM OHP PAPER HH	OHP-TH_UM set value	1 - 99		50	
Q HL_LM OHP PAPER HH	OHP-TH_LM set value	1 - 99		50	
R HL_E OHP PAPER HH	OHP-TH_E set value	1 - 99		50	
S HL_UM ENV PAPER HH	Envelope TH_UM set value	1 - 99		50	
T HL_LM ENV PAPER HH	Envelope TH_LM set value	1 - 99		50	
U HL_E ENV PAPER HH	Envelope TH_E set value	1 - 99		50	
V HL_UM GLOSS PAPER HH	Glossy paper TH_UM set value	1 - 99		50	
W HL_LM GLOSS PAPER HH	Glossy paper TH_LM set value	1 - 99		50	
X HL_E GLOSS PAPER HH	Glossy paper TH_E set value	1 - 99		50	
Y HL_UM E-STAR HH	Preheating TH_UM set value	1 - 99		50	
Z HL_E E-STAR HH	Preheating TH_E set value	1 - 99		50	
AA HL_UM PRE-JOB HH	Resetting from preheating TH_UM set value (Job Ready temperature)	1 - 99		50	
AB HL_LM E-STAR HH	Preheating TH_LM set value	1 - 99		50	
AC HL_UM WARMUP_120L HH	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AD HL_LM WARMUP_120L HH	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AE HL_E WARMUP_120L HH	Warm-up TH_E set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AF LO_WARMUP_TIME HH	AC - AE applying time (Time (sec) for shifting from the control temperature in warm-up to the normal control temperature)	1 - 99		50	
(*1)					
AG HL_UM WARMUP_120H HH	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AH HL_LM WARMUP_120H HH	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AI HL_E WARMUP_120H HH	Warm-up TH_E set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AJ HI_WARMUP_TIME HH	AG - AI applying time (Timer from completion of Ready)	1 - 99		50	
AK HI_WU_FM_ON_TMP HH	Fusing roller rotation start TH_E (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AL HI_WU_END_TIME HH	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
(*1)					
AM HI_WU_JOB_SET_TMP HH	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AN HI_WARMUP_BORDER HH	Threshold value applied to Sim43-1-AK - AM	1 - 99		50	

Item/Display		Content	Setting range	Group A	Group B	Group C
AO	LO_WU_JOB_SET_TMP HH	TH_UM temperature to enable a job during warming up (When the fusing temperature in warming up is alpha °C or below.)	1 - 99		50	
AP (*1)	JOBEND_FUMON_TIME HH	Fusing roller rotation time (sec) after completion of a job	1 - 99		50	

*1: 1 Count = 1sec Change

• **MX-B400P/B380P**

Item/Display		Content	Setting range	Group A	Group B	Group C
A	HL_UM READY HH	Ready standby TH_UM set value	1 - 99	50	50	50
B	HL_LM READY HH	Ready standby TH_LM set value	1 - 99	50	50	50
C	HL_E READY HH	Ready standby TH_E set value	1 - 99	50	50	50
D	HL_UM PLAIN PAPER BW HH	Plain paper TH_UM set value	1 - 99	50	50	50
E	HL_LM PLAIN PAPER BW HH	Plain paper TH_LM set value	1 - 99	50	50	50
F	HL_E PLAIN PAPER BW HH	Plain paper TH_E set value	1 - 99	50	50	50
G	WARMUP_FUMON HL_E T HH	Fusing motor pre-rotation start TH_E set value	1 - 99		50	
H	WARMUP_FUMOFF HH	Fusing motor pre-rotation end time TH_LM set value	1 - 99		50	
I (*1)	WARMUP_END TIME HH	Warm-up complete time (warm-up time (sec))	1 - 99		50	
J	HL_UM HEAVY PAPER HH	Heavy paper TH_UM set value	1 - 99		50	
K	HL_LM HEAVY PAPER HH	Heavy paper TH_LM set value	1 - 99		50	
L	HL_E HEAVY PAPER HH	Heavy paper TH_E set value	1 - 99		50	
M	HL_UM OHP PAPER HH	OHP-TH_UM set value	1 - 99		50	
N	HL_LM OHP PAPER HH	OHP-TH_LM set value	1 - 99		50	
O	HL_E OHP PAPER HH	OHP-TH_E set value	1 - 99		50	
P	HL_UM ENV PAPER HH	Envelope TH_UM set value	1 - 99		50	
Q	HL_LM ENV PAPER HH	Envelope TH_LM set value	1 - 99		50	
R	HL_E ENV PAPER HH	Envelope TH_E set value	1 - 99		50	
S	HL_UM GLOSS PAPER HH	Glossy paper TH_UM set value	1 - 99		50	
T	HL_LM GLOSS PAPER HH	Glossy paper TH_LM set value	1 - 99		50	
U	HL_E GLOSS PAPER HH	Glossy paper TH_E set value	1 - 99		50	
V	HL_UM E-STAR HH	Preheating TH_UM set value	1 - 99		50	
W	HL_E E-STAR HH	Preheating TH_E set value	1 - 99		50	
X	HL_UM PRE-JOB HH	Resetting from preheating TH_UM set value (Job Ready temperature)	1 - 99		50	
Y	HL_LM E-STAR HH	Preheating TH_LM set value	1 - 99		50	
Z	HL_UM WARMUP_120L HH	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AA	HL_LM WARMUP_120L HH	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AB	HL_E WARMUP_120L HH	Warm-up TH_E set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AC (*1)	LO_WARMUP_TIME HH	Z - AB applying time (Time (sec) for shifting from the control temperature in warm-up to the normal control temperature)	1 - 99		50	
AD	HL_UM WARMUP_120H HH	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AE	HL_LM WARMUP_120H HH	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AF	HL_E WARMUP_120H HH	Warm-up TH_E set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AG	HI_WARMUP_TIME HH	AD - AF applying time (Timer from completion of Ready)	1 - 99		50	
AH	HI_WU_FM_ON_TMP HH	Fusing roller rotation start TH_E (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AI (*1)	HI_WU_END_TIME HH	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AJ	HI_WU_JOB_SET_TMP HH	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AK	HI_WARMUP_BORDER HH	Threshold value applied to Sim43-1-AH - AJ	1 - 99		50	
AL	LO_WU_JOB_SET_TMP HH	TH_UM temperature to enable a job during warming up (When the fusing temperature in warming up is alpha °C or below.)	1 - 99		50	
AM (*1)	JOBEND_FUMON_TIME HH	Fusing roller rotation time (sec) after completion of a job	1 - 99		50	

*1: 1 Count = 1sec Change

<Code descriptions>

TH_UM	Fusing upper thermistor (center)
TH_LM	Fusing lower thermistor
TH_E	Fusing thermistor (external heat roller)
HL_UM	Heater lamp upper
HL_LM	Heater lamp lower
HL_E	Heater lamp (external heat roller)

• MX-B382P

Item/Display		Content	Setting range	Group A	Group B	Group C
A	HL_UM READY HH	Ready standby TH_UM set value	1 - 99		50	
B	HL_LM READY HH	Ready standby TH_LM set value	1 - 99		50	
C	HL_US READY HH	Ready standby TH_US set value	1 - 99		50	
D	HL_UM PLAIN PAPER BW HH	Plain paper TH_UM set value	1 - 99		50	
E	HL_LM PLAIN PAPER BW HH	Plain paper TH_LM set value	1 - 99		50	
F	HL_US PLAIN PAPER BW HH	Plain paper TH_US set value	1 - 99		50	
G	WARMUP FUMON HL_UM T HH	Fusing motor pre-rotation start TH_UM set value	1 - 99		50	
H	WARMUP FUMOFF HH	Fusing motor pre-rotation end TH_LM set value	1 - 99		50	
I (*1)	WARMUP END TIME HH	Warm-up complete time (warm-up time (sec))	1 - 99		50	
J	HL_UM HEAVY PAPER HH	Heavy paper TH_UM set value	1 - 99		50	
K	HL_LM HEAVY PAPER HH	Heavy paper TH_LM set value	1 - 99		50	
L	HL_US HEAVY PAPER HH	Heavy paper TH_US set value	1 - 99		50	
M	HL_UM OHP PAPER HH	OHP-TH_UM set value	1 - 99		50	
N	HL_LM OHP PAPER HH	OHP-TH_LM set value	1 - 99		50	
O	HL_US OHP PAPER HH	OHP-TH_US set value	1 - 99		50	
P	HL_UM ENV PAPER HH	Envelope TH_UM set value	1 - 99		50	
Q	HL_LM ENV PAPER HH	Envelope TH_LM set value	1 - 99		50	
R	HL_US ENV PAPER HH	Envelope TH_US set value	1 - 99		50	
S	HL_UM GLOSS PAPER HH	Glossy paper TH_UM set value	1 - 99		50	
T	HL_LM GLOSS PAPER HH	Glossy paper TH_LM set value	1 - 99		50	
U	HL_US GLOSS PAPER HH	Glossy paper TH_US set value	1 - 99		50	
V	HL_UM E-STAR HH	Preheating TH_UM set value	1 - 99		50	
W	HL_US E-STAR HH	Preheating TH_US set value	1 - 99		50	
X	HL_UM PRE-JOB HH	Resetting from preheating TH_UM set value (Job Ready temperature)	1 - 99		50	
Y	HL_LM E-STAR HH	Preheating TH_LM set value	1 - 99		50	
Z	HL_UM WARMUP_120L HH	Warm-up TH_UM set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AA	HL_LM WARMUP_120L HH	Warm-up TH_LM set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AB	HL_US WARMUP_120L HH	Warm-up TH_US set value (when the fusing temperature is 120°C or less)	1 - 99		50	
AC (*1)	LO_WARMUP_TIME HH	Z - AB applying time (Time (sec) for shifting from the control temperature in warm-up to the normal control temperature)	1 - 99		50	
AD	HL_UM WARMUP_120H HH	Warm-up TH_UM set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AE	HL_LM WARMUP_120H HH	Warm-up TH_LM set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AF	HL_US WARMUP_120H HH	Warm-up TH_US set value (when the fusing temperature is 120°C or above)	1 - 99		50	
AG	HI_WARMUP_TIME HH	AD - AF applying time (Timer from completion of Ready)	1 - 99		50	
AH	HI_WU_FM_ON_TMP HH	Fusing roller rotation start TH_UM (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AI (*1)	HI_WU_END_TIME HH	Warm-up complete time (sec) (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AJ	HI_WU_JOB_SET_TMP HH	Job Ready TH_UM temperature (when the fusing temperature in warm-up is alpha °C or above)	1 - 99		50	
AK	HI_WARMUP_BORDER HH	Threshold value applied to Sim43-1- AH-AJ	1 - 99		50	
AL	LO_WU_JOB_SET_TMP HH	Warm-up complete time (sec) (When the fusing temperature in warming up is alpha °C or below.)	1 - 99		50	
AM (*1)	JOBEND_FUMON_TIME HH	Fusing roller rotation time (sec) after completion of a job	1 - 99		50	

*1: 1 Count = 1sec Change

<Code descriptions>

TH_UM	Fusing upper thermistor main
TH_LM	Fusing lower thermistor main
TH_US	Fusing upper thermistor sub
HL_UM	Heater lamp upper main
HL_LM	Heater lamp lower main
HL_US	Heater lamp upper sub

Group	Destination			
Group A	Japan	China	AB_B	—
Group B	U.S.A.	Canada	Inch	—
Group C	Europe	U.K.	AUS	AB_A

43-22

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environment correction under low temperature and low humidity (L/L) for the fusing temperature setting (SIM 43-4) in each paper mode.

Section**Operation/Procedure**

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Correction value: -49 - +49, 1 Count = 1°C Change

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

• **MX-C400P/C380P**

	Item/Display	Content	Setting range	Group A	Group B	Group C
A	HL_UM PLAIN PAPER BW DUP LL	Black-White plain paper duplex TH_UM set value	1 - 99	55	55	55
B	HL_LM PLAIN PAPER BW DUP LL	Black-White plain paper duplex TH_LM set value	1 - 99	55	55	55
C	HL_E PLAIN PAPER BW DUP LL	Black-White plain paper duplex TH_E set value	1 - 99	55	55	55
D	PLAIN PAPER BW DUP APP CNT LL	Black-White plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50
E	HL_UM PLAIN PAPER CL DUP LL	Color plain paper duplex TH_UM set value	1 - 99	55	55	55
F	HL_LM PLAIN PAPER CL DUP LL	Color plain paper duplex TH_LM set value	1 - 99	55	55	55
G	HL_E PLAIN PAPER CL DUP LL	Color plain paper duplex TH_E set value	1 - 99	55	55	55
H	PLAIN PAPER CL DUP APP CNT LL	Color plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50
I	HL_UM HEAVY PAPER BW DUP LL	Black-White heavy paper duplex TH_UM set value	1 - 99	55		
J	HL_LM HEAVY PAPER BW DUP LL	Black-White heavy paper duplex TH_LM set value	1 - 99	55		
K	HL_E HEAVY PAPER BW DUP LL	Black-White heavy paper duplex TH_E set value	1 - 99	55		
L	HEAVY PAPER BW DUP APP CNT LL	Black-White heavy paper duplex fusing temperature application start image screen number	1 - 99	50		
M	HL_UM HEAVY PAPER CL DUP LL	Color heavy paper duplex TH_UM set value	1 - 99	55		
N	HL_LM HEAVY PAPER CL DUP LL	Color heavy paper duplex TH_LM set value	1 - 99	55		
O	HL_E HEAVY PAPER CL DUP LL	Color heavy paper duplex TH_E set value	1 - 99	55		
P	HEAVY PAPER CL DUP APP CNT LL	Color heavy paper duplex fusing temperature application start image screen number	1 - 99	50		

• **MX-B400P/B380P**

	Item/Display	Content	Setting range	Group A	Group B	Group C
A	HL_UM PLAIN PAPER BW DUP LL	Plain paper duplex TH_UM set value	1 - 99	55	55	55
B	HL_LM PLAIN PAPER BW DUP LL	Plain paper duplex TH_LM set value	1 - 99	55	55	55
C	HL_E PLAIN PAPER BW DUP LL	Plain paper duplex TH_E set value	1 - 99	55	55	55
D	PLAIN PAPER BW DUP APP CNT LL	Plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50
E	HL_UM HEAVY PAPER BW DUP LL	Heavy paper duplex TH_UM set value	1 - 99	55		
F	HL_LM HEAVY PAPER BW DUP LL	Heavy paper duplex TH_LM set value	1 - 99	55		
G	HL_E HEAVY PAPER BW DUP LL	Heavy paper duplex TH_E set value	1 - 99	55		
H	HEAVY PAPER BW DUP APP CNT LL	Heavy paper duplex fusing temperature application start image screen number	1 - 99	50		

<Code descriptions>

TH_UM	Fusing upper thermistor (center)
TH_LM	Fusing lower thermistor
TH_E	Fusing thermistor (external heat roller)
HL_UM	Heater lamp upper
HL_LM	Heater lamp lower
HL_E	Heater lamp (external heat roller)

• **MX-B382P**

	Item/Display	Content	Setting range	Group A	Group B	Group C
A	HL_UM PLAIN PAPER BW DUP LL	Plain paper duplex TH_UM set value	1 - 99		55	
B	HL_LM PLAIN PAPER BW DUP LL	Plain paper duplex TH_LM set value	1 - 99		55	
C	HL_US PLAIN PAPER BW DUP LL	Plain paper duplex TH_US set value	1 - 99		55	
D	PLAIN PAPER BW DUP APP CNT LL	Plain paper duplex fusing temperature application start image screen number	1 - 99		50	
E	HL_UM HEAVY PAPER BW DUP LL	Heavy paper duplex TH_UM set value	1 - 99		55	
F	HL_LM HEAVY PAPER BW DUP LL	Heavy paper duplex TH_LM set value	1 - 99		55	
G	HL_US HEAVY PAPER BW DUP LL	Heavy paper duplex TH_US set value	1 - 99		55	
H	HEAVY PAPER BW DUP APP CNT LL	Heavy paper duplex fusing temperature application start image screen number	1 - 99		50	

<Code descriptions>

TH_UM	Fusing upper thermistor main
TH_LM	Fusing lower thermistor main
TH_US	Fusing upper thermistor sub
HL_UM	Heater lamp upper main
HL_LM	Heater lamp lower main
HL_US	Heater lamp upper sub

Group	Destination			
Group A	Japan	China	AB_B	—
Group B	U.S.A.	Canada	Inch	—
Group C	Europe	U.K.	AUS	AB_A

43-23

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the environment correction under high temperature and high humidity (H/H) for the fusing temperature setting (SIM 43-4) in each paper mode.

Section

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Correction value: -49 - +49, 1 Count = 1°C Change

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

• **MX-C400P/C380P**

	Item/Display	Content	Setting range	Group A	Group B	Group C
A	HL_UM PLAIN PAPER BW DUP HH	Black-White plain paper duplex TH_UM set value	1 - 99	50	50	50
B	HL_LM PLAIN PAPER BW DUP HH	Black-White plain paper duplex TH_LM set value	1 - 99	50	50	50
C	HL_E PLAIN PAPER BW DUP HH	Black-White plain paper duplex TH_E set value	1 - 99	50	50	50
D	PLAIN PAPER BW DUP APP CNT HH	Black-White plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50
E	HL_UM PLAIN PAPER CL DUP HH	Color plain paper duplex TH_UM set value	1 - 99	50	50	50
F	HL_LM PLAIN PAPER CL DUP HH	Color plain paper duplex TH_LM set value	1 - 99	50	50	50
G	HL_E PLAIN PAPER CL DUP HH	Color plain paper duplex TH_E set value	1 - 99	50	50	50
H	PLAIN PAPER CL DUP APP CNT HH	Color plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50
I	HL_UM HEAVY PAPER BW DUP HH	Black-White heavy paper duplex TH_UM set value	1 - 99		50	
J	HL_LM HEAVY PAPER BW DUP HH	Black-White heavy paper duplex TH_LM set value	1 - 99		50	
K	HL_E HEAVY PAPER BW DUP HH	Black-White heavy paper duplex TH_E set value	1 - 99		50	
L	HEAVY PAPER BW DUP APP CNT HH	Black-White heavy paper duplex fusing temperature application start image screen number	1 - 99		50	
M	HL_UM HEAVY PAPER CL DUP HH	Color heavy paper duplex TH_UM set value	1 - 99		50	
N	HL_LM HEAVY PAPER CL DUP HH	Color heavy paper duplex TH_LM set value	1 - 99		50	
O	HL_E HEAVY PAPER CL DUP HH	Color heavy paper duplex TH_E set value	1 - 99		50	
P	HEAVY PAPER CL DUP APP CNT HH	Color heavy paper duplex fusing temperature application start image screen number	1 - 99		50	

• **MX-B400P/B380P**

Item/Display		Content	Setting range	Group A	Group B	Group C
A	HL_UM PLAIN PAPER BW DUP HH	Plain paper duplex TH_UM set value	1 - 99	50	50	50
B	HL_LM PLAIN PAPER BW DUP HH	Plain paper duplex TH_LM set value	1 - 99	50	50	50
C	HL_E PLAIN PAPER BW DUP HH	Plain paper duplex TH_E set value	1 - 99	50	50	50
D	PLAIN PAPER BW DUP APP CNT HH	Plain paper duplex fusing temperature application start image screen number	1 - 99	50	50	50
E	HL_UM HEAVY PAPER BW DUP HH	Heavy paper duplex TH_UM set value	1 - 99	50		
F	HL_LM HEAVY PAPER BW DUP HH	Heavy paper duplex TH_LM set value	1 - 99	50		
G	HL_E HEAVY PAPER BW DUP HH	Heavy paper duplex TH_E set value	1 - 99	50		
H	HEAVY PAPER BW DUP APP CNT HH	Heavy paper duplex fusing temperature application start image screen number	1 - 99	50		

<Code descriptions>

TH_UM	Fusing upper thermistor (center)
TH_LM	Fusing lower thermistor
TH_E	Fusing thermistor (external heat roller)
HL_UM	Heater lamp upper
HL_LM	Heater lamp lower
HL_E	Heater lamp (external heat roller)

• **MX-B382P**

Item/Display		Content	Setting range	Group A	Group B	Group C
A	HL_UM PLAIN PAPER BW DUP HH	Plain paper duplex TH_UM set value	1-99	50		
B	HL_LM PLAIN PAPER BW DUP HH	Plain paper duplex TH_LM set value	1-99	50		
C	HL_US PLAIN PAPER BW DUP HH	Plain paper duplex TH_US set value	1-99	50		
D	PLAIN PAPER BW DUP APP CNT HH	Plain paper duplex fusing temperature application start image screen number	1-99	50		
E	HL_UM HEAVY PAPER BW DUP HH	Heavy paper duplex TH_UM set value	1-99	50		
F	HL_LM HEAVY PAPER BW DUP HH	Heavy paper duplex TH_LM set value	1-99	50		
G	HL_US HEAVY PAPER BW DUP HH	Heavy paper duplex TH_US set value	1-99	50		
H	HEAVY PAPER BW DUP APP CNT HH	Heavy paper duplex fusing temperature application start image screen number	1-99	50		

<Code descriptions>

TH_UM	Fusing upper thermistor main
TH_LM	Fusing lower thermistor main
TH_US	Fusing upper thermistor sub
HL_UM	Heater lamp upper main
HL_LM	Heater lamp lower main
HL_US	Heater lamp upper sub

Group	Destination			
Group A	Japan	China	AB_B	—
Group B	U.S.A.	Canada	Inch	—
Group C	Europe	U.K.	AUS	AB_A

43-24

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the correction of the temperature adjustment value of SIM 43-1 and 43-4.

Section

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Correction value: -49 - +49, 1 Count = 1°C Change

Correction value	-49	-25	-5	0	5	25	49
Input value	1	25	45	50	55	75	99

• **MX-C400P/C380P**

Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	NN_120_FUS_DUP_HL_UM	Correction amount for SIM43-4-A, E at 120°C or less in N/N-Warm Up	1 - 99	50					
B	NN_120_FUS_DUP_HL_LM	Correction amount for SIM43-4-B, F at 120°C or less in N/N-Warm Up	1 - 99	50					
C	LL_120_FUS_DUP_HL_UM	Correction amount for SIM43-22-A, E at 120°C or less in L/L-Warm Up	1 - 99	50					
D	LL_120_FUS_DUP_HL_LM	Correction amount for SIM43-22-B, F at 120°C or less in L/L-Warm Up	1 - 99	50					

Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
E	HH_120_FUS_DUP_HL_UM	Correction amount for SIM43-23-A, E at 120°C or less in H/H-Warm Up	1 - 99	50					
F	HH_120_FUS_DUP_HL_LM	Correction amount for SIM43-23-B, F at 120°C or less in H/H-Warm Up	1 - 99	50					
G	NN_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-A, B, M (Setting of the number of sheets at which application is started)	1 - 60	5					
H	LL_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-C, D, N (Setting of the number of sheets at which application is started)	1 - 60	10					
I	HH_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-E, F, O (Setting of the number of sheets at which application is started)	1 - 60	5					
J (*1)	COOL_DOWN_HEAVY	Cool-down time heavy paper (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	15					
K (*1)	COOL_DOWN_OHP	Cool-down time OHP (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	30					
L (*1)	COOL_DOWN_ENVELOPE	Cool-down time envelope (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	40					
M	NN_120_FUS_DUP_HL_E	Correction amount for SIM43-4-C, G at 120°C or less in N/N-Warm Up	1 - 99	50					
N	LL_120_FUS_DUP_HL_E	Correction amount for SIM43-22-C, G at 120°C or less in L/L-Warm Up	1 - 99	50					
O	HH_120_FUS_DUP_HL_E	Correction amount for SIM43-23-C, G at 120°C or less in H/H-Warm Up	1 - 99	50					
P	HL_UM THIN PAPER BW	Thin paper BW-TH_UM	70 - 230	165					
Q	HL_LM THIN PAPER BW	Thin paper BW-TH_LM	30 - 200	120					
R	HL_E THIN PAPER BW	Thin paper BW-TH_E	70 - 230	195					
S	HL_UM THIN PAPER CL	Thin paper COL-TH_UM	70 - 230	165					
T	HL_LM THIN PAPER CL	Thin paper COL-TH_LM	30 - 200	120					
U	HL_E THIN PAPER CL	Thin paper COL-TH_E	70 - 230	195					
V	HL_UM THIN PAPER READY	Thin paper Ready-TH_UM	70 - 230	170					
W	HL_UM REC PAPER BW	Recycled paper BW-TH_UM	70 - 230	185					
X	HL_LM REC PAPER BW	Recycled paper BW-TH_LM	30 - 200	125					
Y	HL_E REC PAPER BW	Recycled paper BW-TH_E	70 - 230	220					
Z	HL_UM REC PAPER CL	Recycled paper COL-TH_UM	70 - 230	185					
AA	HL_LM REC PAPER CL	Recycled paper COL-TH_LM	30 - 200	130					
AB	HL_E REC PAPER CL	Recycled paper COL-TH_E	70 - 230	220					
AC	HL_UM REC PAPER READY	Recycled paper Ready-TH_UM	70 - 230	180					

*1: 1 Count = 1sec Change

• MX-B400P/B380P

Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
A	NN_120_FUS_DUP_HL_UM	Correction amount for SIM43-4-A, E at 120°C or less in N/N-Warm Up	1 - 99	50					
B	NN_120_FUS_DUP_HL_LM	Correction amount for SIM43-4-B, F at 120°C or less in N/N-Warm Up	1 - 99	50					
C	LL_120_FUS_DUP_HL_UM	Correction amount for SIM43-22-A, E at 120°C or less in L/L-Warm Up	1 - 99	50					
D	LL_120_FUS_DUP_HL_LM	Correction amount for SIM43-22-B, F at 120°C or less in L/L-Warm Up	1 - 99	50					
E	HH_120_FUS_DUP_HL_UM	Correction amount for SIM43-23-A, E at 120°C or less in H/H-Warm Up	1 - 99	50					
F	HH_120_FUS_DUP_HL_LM	Correction amount for SIM43-23-B, F at 120°C or less in H/H-Warm Up	1 - 99	50					
G	NN_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-A, B, M (Setting of the number of sheets at which application is started)	1 - 60	5					
H	LL_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-C, D, N (Setting of the number of sheets at which application is started)	1 - 60	10					
I	HH_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-E, F, O (Setting of the number of sheets at which application is started)	1 - 60	5					
J (*1)	COOL_DOWN_HEAVY	Cool-down time heavy paper (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	15					
K (*1)	COOL_DOWN_OHP	Cool-down time OHP (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	30					
L (*1)	COOL_DOWN_ENVELOPE	Cool-down time envelope (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	40					

Item/Display		Content	Setting range	Group A		Group B		Group C	
				SW-A	SW-B	SW-A	SW-B	SW-A	SW-B
M	NN_120_FUS_DUP_HL_E	Correction amount for SIM43-4-C, G at 120°C or less in N/N-Warm Up	1 - 99	50					
N	LL_120_FUS_DUP_HL_E	Correction amount for SIM43-22-C, G at 120°C or less in L/L-Warm Up	1 - 99	50					
O	HH_120_FUS_DUP_HL_E	Correction amount for SIM43-23-C, G at 120°C or less in H/H-Warm Up	1 - 99	50					
P	HL_UM THIN PAPER BW	Thin paper BW-TH_UM	70 - 230	165					
Q	HL_LM THIN PAPER BW	Thin paper BW-TH_LM	30 - 200	120					
R	HL_E THIN PAPER BW	Thin paper BW-TH_E	70 - 230	195					
S	HL_UM THIN PAPER READY	Thin paper Ready-TH_UM	70 - 230	170					
T	HL_UM REC PAPER BW	Recycled paper BW-TH_UM	70 - 230	185					
U	HL_LM REC PAPER BW	Recycled paper BW-TH_LM	30 - 200	125					
V	HL_E REC PAPER BW	Recycled paper BW-TH_E	70 - 230	220					
W	HL_UM REC PAPER READY	Recycled paper Ready-TH_UM	70 - 230	180					

*1: 1 Count = 1sec Change

<Code descriptions>

TH_UM	Fusing upper thermistor (center)
TH_LM	Fusing lower thermistor
TH_E	Fusing thermistor (external heat roller)
HL_UM	Heater lamp upper
HL_LM	Heater lamp lower
HL_E	Heater lamp (external heat roller)

• MX-B382P

Item/Display		Content	Setting range	Group A	Group B	Group C
A	NN_120_FUS_DUP_HL_UM	Correction amount for SIM43-4-A, E at 120°C or less in N/N-Warm Up	1 - 99	50		
B	NN_120_FUS_DUP_HL_LM	Correction amount for SIM43-4-B, F at 120°C or less in N/N-Warm Up	1 - 99	50		
C	LL_120_FUS_DUP_HL_UM	Correction amount for SIM43-22-A, E at 120°C or less in L/L-Warm Up	1 - 99	50		
D	LL_120_FUS_DUP_HL_LM	Correction amount for SIM43-22-B, F at 120°C or less in L/L-Warm Up	1 - 99	50		
E	HH_120_FUS_DUP_HL_UM	Correction amount for SIM43-23-A, E at 120°C or less in H/H-Warm Up	1 - 99	50		
F	HH_120_FUS_DUP_HL_LM	Correction amount for SIM43-23-B, F at 120°C or less in H/H-Warm Up	1 - 99	50		
G	NN_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-A, B, M (Setting of the number of sheets at which application is started)	1 - 60	5		
H	LL_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-C, D, N (Setting of the number of sheets at which application is started)	1 - 60	10		
I	HH_120_FUS_DUP_CNT	Number of sheets of application of SIM43-24-E, F, O (Setting of the number of sheets at which application is started)	1 - 60	5		
J	COOL_DOWN_HEAVY	Cool-down time heavy paper (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	15		
K	COOL_DOWN_OHP	Cool-down time OHP (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	30		
L	COOL_DOWN_ENVELOPE	Cool-down time envelope (Time (sec) required to return to the plain paper fusing temperature)	1 - 60	40		
M	NN_120_FUS_DUP_HL_US	Correction amount for SIM43-4-C, G at 120°C or less in N/N-Warm Up	1 - 99	50		
N	LL_120_FUS_DUP_HL_US	Correction amount for SIM43-22-C, G at 120°C or less in L/L-Warm Up	1 - 99	50		
O	HH_120_FUS_DUP_HL_US	Correction amount for SIM43-23-C, G at 120°C or less in H/H-Warm Up	1 - 99	50		
P	HL_UM THIN PAPER BW	Thin paper BW-TH_UM	70 - 230	170		
Q	HL_LM THIN PAPER BW	Thin paper BW-TH_LM	30 - 200	120		
R	HL_US THIN PAPER BW	Thin paper BW-TH_US	70 - 230	170		
S	HL_UM THIN PAPER READY	Thin paper Ready-TH_UM	70 - 230	170		
T	HL_UM REC PAPER BW	Recycled paper BW-TH_UM	70 - 230	190		
U	HL_LM REC PAPER BW	Recycled paper BW-TH_LM	30 - 200	125		
V	HL_US REC PAPER BW	Recycled paper BW-TH_US	70 - 230	190		
W	HL_UM REC PAPER READY	Recycled paper Ready-TH_UM	70 - 230	190		

*1: 1 Count = 1sec Change

<Code descriptions>

TH_UM	Fusing upper thermistor main
TH_LM	Fusing lower thermistor main
TH_US	Fusing upper thermistor sub
HL_UM	Heater lamp upper main
HL_LM	Heater lamp lower main
HL_US	Heater lamp upper sub

Group	Destination			
Group A	Japan	China	AB_B	—
Group B	U.S.A.	Canada	Inch	—
Group C	Europe	U.K.	AUS	AB_A

44

44-1

Purpose	Setting
Function (Purpose)	Used to set each correction operation function in the image forming (process) section.
Section	Image process (Photo-conductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select an item to be set.
- 2) Select [EXECUTE] button, and press [OK] key. (The set value is saved.)

NOTE: Set the items to the default values unless a change is specially required.

• MX-C400P/C380P

Item/Display	Content	Setting range	Default value	NOTE
HV	Normal operation high density process control Enable/Disable setting	Normal (Disable : 1 : NO)	Enable	
HT	Normal operation halftone process control Enable/Disable setting	Reverse (Enable : 0 : YES)	Enable	
TC	Transfer output correction Enable/Disable setting		Enable	
MD VG	Membrane decrease grid voltage correction Enable/Disable setting		Enable	
MD LD	Membrane laser power voltage correction Enable/Disable setting		Enable	
MD EV	Membrane decrease environment grid voltage correction Enable/Disable setting		Enable	
MD DL	Membrane decrease discharge light quantity correction Enable/Disable setting		Enable	
MD DL EV	Membrane decrease environment discharge light quantity correction Enable/Disable setting		Disable	
TN_HUM	Toner density humidity correction Enable/Disable setting		Enable	
TN_AREA	Toner density area correction Enable/Disable setting		Enable	
TN_LIFE	Toner density life correction Enable/Disable setting		Enable	
TN_COV	Toner density print ratio correction Enable/Disable setting		Enable	
TN_PROCON	Toner density process control correction Enable/Disable setting		Enable	
TN_ENV	Toner density environment correction Enable/Disable setting		Enable	
TN_DRIP	Toner density correction unconditional supply Enable/Disable setting		Enable	
TN_SPEND	Toner forcible consumption mode Enable/Disable setting		Enable	

Item/Display	Content	Setting range	Default value	NOTE
PHT	1pixel halftone process control correction Enable/Disable setting	Normal (Disable : 1 : NO)	Disable	
AR_AUTO	Auto registration adjustment Enable/Disable setting	Reverse (Enable : 0 : YES)	Enable	
AR_ERROR	Auto registration adjustment execution error check Enable/Disable setting		Enable	
DM_PHASE	Drum phase fitting Enable/Disable setting		Enable	
SENSITIVITY	Toner density correction Enable/Disable setting		Disable	
PRT_HT	Halftone process control printer correction feedback Enable/Disable setting		Enable	
PTC_ENV	PTC environment correction Enable/Disable setting		Enable	Enable: Correction ON
PTC_LIFE	PTC life correction Enable/Disable setting		Enable	Enable: Correction ON

▲ • MX-B400P/B380P/B382P

Item/Display	Content	Setting range	Default value	NOTE
HV	Normal operation high density process control Enable/Disable setting	Normal (Disable: 1: NO)	Enable	
HT	Normal operation half tone process control Enable/Disable setting	Reverse (Enable: 0: YES)	Enable	
TC	Transfer output correction Enable/Disable setting		Enable	
MD VG	Membrane decrease grid voltage correction Enable/Disable setting		Enable	
MD LD	Membrane laser power voltage correction Enable/Disable setting		Disable	
MD EV	Membrane decrease environment grid voltage correction Enable/Disable setting		Enable	
MD DL	Membrane decrease discharge light quantity correction Enable/Disable setting		Enable	
MD DL EV	Membrane decrease environment discharge light quantity correction Enable/Disable setting		Disable	
TN_HUM	Toner density humidity correction Enable/Disable setting		Enable	
TN_AREA	Toner density area correction Enable/Disable setting		Enable	
TN_LIFE	Toner density life correction Enable/Disable setting		Enable	
TN_COV	Toner density print ratio correction Enable/Disable setting		Enable	
TN_PROCON	Toner density process control correction Enable/Disable setting		Enable	

Item/Display	Content	Setting range	Default value	NOTE
TN_ENV	Toner density environment correction Enable/Disable setting	Normal (Disable: 1: NO) Reverse (Enable: 0: YES)	Enable	
TN_DRIP	Toner density correction unconditional supply Enable/Disable setting		Enable	
TN_SPEND	Toner forcible consumption mode Enable/Disable setting		Disable	
SENSITIVITY	Toner density correction Enable/Disable setting		Disable	
PRT_HT	Half tone process control printer correction feedback Enable/Disable setting		Enable	
PTC_ENV	PTC environment correction Enable/Disable setting		Enable	Enable: Correction ON
PTC_LIFE	PTC life correction Enable/Disable setting		Enable	Enable: Correction ON

44-2

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the sensitivity of the image density sensor (registration sensor).
Section	Process
Operation/Procedure	

Select [EXECUTE] button and press [OK] key (the adjustment is executed automatically).

After completion of the adjustment, the adjustment result is displayed.

If the adjustment is not executed normally, "ERROR" is displayed.

• MX-C400P/C380P

Item/Display	Content	Setting range	Default value
A PCS_CL LED ADJ	Color sensor light emitting quantity adjustment value	1 - 255	21
B PCS_K LED ADJ	Black sensor light emitting quantity adjustment value	1 - 255	21
C PCS_CL DARK	Dark voltage of color	0 - 255	0
D PCS_K DARK	Dark voltage of black	0 - 255	0
E PCS_K GRND	Belt substrate when the item B adjustment is completed.	0 - 255	0
F PCS_K BELT MAX	Belt substrate input max. value	0 - 255	0
G PCS_K BELT MIN	Belt substrate input min. value	0 - 255	0
H PCS_K BELT DIF	Belt substrate input difference (Item F - Item G)	0 - 255	0
I REG_F LED ADJ	Registration sensor light emitting quantity adjustment value F	1 - 255	32
J REG_F DARK	Registration sensor dark voltage F	0 - 255	0
K REG_F GRND	Belt substrate when the item I adjustment is completed.	0 - 255	0
L REG_R LED ADJ	Registration sensor light emitting quantity adjustment value R	1 - 255	32
M REG_R DARK	Registration sensor dark voltage R	0 - 255	0

Item/Display	Content	Setting range	Default value
N REG_R GRND	Belt substrate when the item L adjustment is completed.	0 - 256	0
O REG_F BELT MAX	Belt substrate input max. value (F side)	0 - 255	0
P REG_F BELT MIN	Belt substrate input min. value (F side)	0 - 255	0
Q REG_F BELT DIF	Belt substrate input difference (Item O - Item P)	0 - 255	0
R REG_R BELT MAX	Belt substrate input max. value (R side)	0 - 255	0
S REG_R BELT MIN	Belt substrate input min. value (R side)	0 - 255	0
T REG_R BELT DIF	Belt substrate input difference (Item R - Item S)	0 - 255	0
U REG_F PATCH (K)	Patch light receiving potential F(K)	0 - 255	0
V REG_F PATCH (C)	Patch light receiving potential F(C)	0 - 255	0
W REG_F PATCH (M)	Patch light receiving potential F(M)	0 - 255	0
X REG_F PATCH (Y)	Patch light receiving potential F(Y)	0 - 255	0
Y REG_R PATCH (K)	Patch light receiving potential R(K)	0 - 255	0
Z REG_R PATCH (C)	Patch light receiving potential R(C)	0 - 255	0
AA REG_R PATCH (M)	Patch light receiving potential R(M)	0 - 255	0
AB REG_R PATCH (Y)	Patch light receiving potential R(Y)	0 - 255	0

Error name	Error content
Black sensor adjustment abnormality	PCS_K LED ADJ error The target is not reached by 3 times of retry.
Color sensor adjustment abnormality	PCS_CL LED ADJ error The target is not reached by 3 times of retry.
Substrate scan abnormality	PCS_K GRND error Effective difference between the upper and lower values of the belt substrate circuit, outside the range
Registration sensor F adjustment abnormality	REG_F LED ADJ error The target is not reached by 3 times of retry.
Registration sensor R adjustment abnormality	REG_R LED ADJ error The target is not reached by 3 times of retry.
Registration substrate F scan abnormality	REG_F GRND error Effective difference between the upper and lower values of the belt substrate circuit, outside the range
Registration substrate R scan abnormality	REG_R GRND error Effective difference between the upper and lower values of the belt substrate circuit, outside the range

▲ • MX-B400P/B380P/B382P

Display/Item	Content	Range	Default
A PCS_K LED ADJ	Image density sensor light emitting quantity adjustment value	1 - 255	32
B PCS_K DARK	Dark voltage	0 - 255	0
C PCS_K GRND	Belt base detection level when completion of Item A adjustment	0 - 255	0
D PCS_K BELT MAX	Maximum value of belt base detection level	0 - 255	0
E PCS_K BELT MIN	Minimum value of belt base detection level	0 - 255	0
F PCS_K BELT DIF	Belt base detection level difference (Item D - Item E)	0 - 255	0

Display/Item	Content	Range	Default
G REG_R LED ADJ	Image density sensor light emitting quantity adjustment value	1 - 255	32
H REG_R DARK	Image density sensor dark voltage	0 - 255	0
I REG_R GRND	Belt base detection level when completion of Item G adjustment	0 - 256	0
J REG_R BELT MAX	Maximum value of belt base detection level	0 - 255	0
K REG_R BELT MIN	Minimum value of belt base detection level	0 - 255	0
L REG_R BELT DIF	Belt base detection level difference (Item J - Item K)	0 - 255	0
M REG_R PATCH (K)	Patch detection level for check	0 - 255	0

Error name	Error content
Image density sensor adjustment abnormality	PCS_K LED ADJ error The target is not reached by 3 times of retry.
Substrate scan abnormality	PCS_K GRND error Effective difference between the upper and lower values of the belt substrate circuit, outside the range
Registration sensor R adjustment abnormality	REG_R LED ADJ error The target is not reached by 3 times of retry.
Registration substrate R scan abnormality	REG_R GRND error Effective difference between the upper and lower values of the belt substrate circuit, outside the range

44-4

Purpose	Setting
Function (Purpose)	Used to set the conditions of the high density process control operation.
Section	Process

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

NOTE: Set the items to the default values unless a change is specially required.

• MX-C400P/C380P

Item/Display	Content	Setting range	Default value
A PCS_CL TARGET	Color sensor target set value	1 - 255	98
B PCS_K TARGET	Black sensor target set value	1 - 255	208
C LED_CL OUTPUT	Color sensor light emitting quantity set value	1 - 255	21
D LED_K OUTPUT	Black sensor light emitting quantity set value	1 - 255	21
E PCS ADJUSTMENT LIMIT	Sensor adjustment target limit value	1 - 255	4
F BELT GROUND DIF	Effective difference between the belt 1 circuit substrate upper and lower limit values	1 - 255	1
G BIAS_CL STANDARD DIF	Bias (for color) reference calculation difference	0 - 255	60
H BIAS_BK STANDARD DIF	Bias (for black) reference calculation difference	0 - 255	0
I BIAS PATCH INTERVAL	Patch bias output interval	1 - 255	60

Item/Display	Content	Setting range	Default value
J Y_PAT TARGET ID	Patch density standard value (yellow)	1 - 255	115
K M_PAT TARGET ID	Patch density standard value (magenta)	1 - 255	124
L C_PAT TARGET ID	Patch density standard value (cyan)	1 - 255	111
M K_PAT TARGET ID	Patch density standard value (black)	1 - 255	4
N HV BK_GROUND LIMIT	Patch position substrate light receiving effective range value	1 - 255	60

▲ • MX-B400P/B380P/B382P

Item/Display	Content	Setting range	Default value
A PCS_K TARGET	Image density sensor target set value	1 - 255	208
B LED_K OUTPUT	Image density sensor light emitting quantity set value	1 - 255	32
C PCS ADJUSTMENT LIMIT	Sensor adjustment target limit value	1 - 255	4
D BELT GROUND DIF	Effective difference between the belt 1 circuit substrate upper and lower limit values	1 - 255	1
E BIAS_BK STANDARD DIF	Bias I reference calculation difference	0 - 255	0
F BIAS PATCH INTERVAL	Patch bias output interval	1 - 255	60
G K_PAT TARGET ID	Patch density standard value I	1 - 255	4
H HV BK_GROUND LIMIT	Patch position substrate light receiving effective range value	1 - 255	60

44-6

Purpose	Adjustment
Function (Purpose)	Used to execute the high density process control forcibly.
Section	Process

Operation/Procedure

Select [EXECUTE] button, and press [OK] key.

In case of a normal completion, the result is saved.

In case of an abnormal completion, "ERROR" is displayed. (Refer to the table below.)

In case of an ERROR, the previous correction data are saved.

Result display	Content description
COMPLETE	Normal complete
ERROR	Abnormal end
INTERRUPTION	Forcible interruption

Details of error display	Content description
CL_SEN_ADJ_ERR	Color sensor adjustment abnormality
BK_SEN_ADJ_ERR	Black sensor adjustment abnormality
K_HV_ERR	K high density process control abnormality
C_HV_ERR	C high density process control abnormality
M_HV_ERR	M high density process control abnormality
Y_HV_ERR	Y high density process control abnormality
TIMEOUT_ERR	Time out

Purpose	Operation data display
Function (Purpose)	Used to display the result data of the high density process control operation.
Section	Image process (Photo-conductor/Developing/Transfer/Cleaning)

Operation/Procedure

- 1) Select a target display mode. (Select a display mode button, and press [OK] key.)

Mode	Item/Display (*: Correction value)		Content	Display range	Default value
CPY/PRN (*2)	P (PROCON)	BLACK : GB ***/*** DV ***/***	High density process control GB/DV data (KCMY) (Actual output voltage level/base voltage level)	GB: 230 - 850 DV: 0 - 700	GB: 630 DV: 430
		CYAN : GB ***/*** DV ***/***			
		MAGENTA : GB ***/*** DV ***/***			
		YELLOW : GB ***/*** DV ***/***			
	N(M) (NORMAL (MIDDLE))	BLACK : GB ***/*** DV ***/***	High density normal (Medium speed display) GB/DV data (KCMY) (Actual output voltage level/base voltage level)	GB: 230 - 850 DV: 0 - 700	GB: 630 DV: 430
		CYAN : GB ***/*** DV ***/***			
		MAGENTA : GB ***/*** DV ***/***			
		YELLOW : GB ***/*** DV ***/***			
	N(L) (NORMAL (LOW))	BLACK : GB ***/*** DV ***/***	High density normal (Low speed display) GB/DV data (KCMY) (Actual output voltage level/base voltage level)	GB: 230 - 850 DV: 0 - 700	GB: 600 DV: 400
		CYAN : GB ***/*** DV ***/***			
		MAGENTA : GB ***/*** DV ***/***			
		YELLOW : GB ***/*** DV ***/***			
OTHER	TN/TC	TN HUD AREA	Toner control display humidity area	1 - 14	9
		TN HUD DATA	Toner control display humidity AD value	0 - 1023	0
		TC TMP AREA	Transfer display temperature area	1 - 9	4
		TC TMP DATA	Transfer display temperature AD value	0 - 1023	0
		TC HUD AREA	Transfer display humidity area	1 - 9	4
		TC HUD DATA	Transfer display humidity AD value	0 - 1023	0
		MD HUD AREA	Membrane decrease display humidity area	1 - 14	9
		MD HUD DATA	Membrane decrease display humidity AD value	0 - 1023	0
	DRUM	MD K STEP	Drum membrane decrease correction STEP display (KCMY)	0 - 4	0
		MD C STEP			
		MD M STEP			
		MD Y STEP			
		MD K DRUM COUNTER	Membrane decrease drum traveling distance area (KCMY)	0 - 20	0
		MD C DRUM COUNTER			
		MD M DRUM COUNTER			
		MD Y DRUM COUNTER			
	VG	MD K REVISE(VG) : L *** M ***	Drum membrane decrease grid voltage correction display (KCMY)	0 - 255	0
		MD C REVISE(VG) : L *** M ***			
		MD M REVISE(VG) : L *** M ***			
		MD Y REVISE(VG) : L *** M ***			
	LD	MD K REVISE(LD) : L *** M ***	Drum membrane decrease laser power voltage correction (KCMY)	0 - 255	0
		MD C REVISE(LD) : L *** M ***			
		MD M REVISE(LD) : L *** M ***			
		MD Y REVISE(LD) : L *** M ***			
	HV	MD K REVISE(HV) : L *** M ***	High density membrane decrease environment GB correction display (KCMY)	0 - 255	0
		MD C REVISE(HV) : L *** M ***			
		MD M REVISE(HV) : L *** M ***			
		MD Y REVISE(HV) : L *** M ***			
	CP	MD K REVISE(CP) : L *** M ***	Drum membrane decrease environment grid voltage correction display (KCMY)	0 - 255	0
		MD C REVISE(CP) : L *** M ***			
		MD M REVISE(CP) : L *** M ***			
		MD Y REVISE(CP) : L *** M ***			
	DL	MD K REVISE COL (DL) : L *** M ***	Drum membrane decrease discharge light quantity correction (%)	0 - 100	50
		MD C REVISE COL (DL) : L *** M ***			
		MD M REVISE COL (DL) : L *** M ***			
		MD Y REVISE COL (DL) : L *** M ***			
	DL EV	MD K REVISE COL (DL EV) : L *** M ***	Drum membrane decrease environment discharge light quantity correction (%)	-100 - 100	0
		MD C REVISE COL (DL EV) : L *** M ***			
		MD M REVISE COL (DL EV) : L *** M ***			
		MD Y REVISE COL (DL EV) : L *** M ***			

Mode	Item/Display (*: Correction value)		Content	Display range	Default value
OTHER	CRUM	DESTINATION	Machine side management CRUM destination (Main unit data)	-	
		MODEL TYPE	Machine model type	0 - 1	0
		CRUM DEST_K	CRUM destination (CRUM data)	-	
		CRUM DEST_C			
		CRUM DEST_M			
		CRUM DEST_Y			
	CNT	PROCON COUNT HV	High density process control number of executions	0 - 99999999	0
		PROCON COUNT HT	Halftone process control number of executions	0 - 99999999	0

(*2) Value on the left: Voltage level after correction Value on the right: Base voltage level

44-12

Purpose	Operation data display
Function (Purpose)	Used to display the operation data of the high density process control and the image density sensor (registration sensor).
Section	Image process (Photo-conductor/Developing)

Operation/Procedure

- 1) Select a display mode. (Select a display mode button, and press [OK] key.)

Mode	Item/Display	Content	Display range	Default value
TARGET (1 page)	CARB DATA	Calibration plate detection level	0 - 255	108
	SEAL ADJ DATA	Jig patch seal detection level when executing SIM 44-13	1 - 255	108
	ADK_SL (K)	Development characteristics gradient coefficient (High density process control operation)	-9.99 - 9.99	0
	ADK_INT(K)	Development characteristics intercept level (High density process control operation 0V)	-999.9 - 999.9	0
	TARGET (K)	High density process control target density level (K)	0.00 - 255.00	0
	TARGET (C/M/Y)	High density process control target density level (C/M/Y)	0.00 - 255.00	0
PATCH 1-5 (Page 1-2)	n-1	High density process control nth time patch density level 1 (n=1-5)	0 - 255	0
	n-2	Patch data nth time patch 2 (n=1-5)	0 - 255	0
	n-3	Patch data nth time patch 3 (n=1-5)	0 - 255	0
	n-4	Patch data nth time patch 4 (n=1-5) ? BK only	0 - 255	0
	n-5	Patch data nth time patch 5 (n=1-5) ? BK only	0 - 255	0

Mode	Item/Display	Content	Display range	Default value
PATCH 6-10 (Page 1-2)	n-1	Patch data nth time patch 1 (n=6-10)	0 - 255	0
	n-2	Patch data nth time patch 2 (n=6-10)	0 - 255	0
	n-3	Patch data nth time patch 3 (n=6-10)	0 - 255	0
	n-4	Patch data nth time patch 4 (n=6-10) ? BK only	0 - 255	0
	n-5	Patch data nth time patch 5 (n=6-10) ? BK only	0 - 255	0

44-13

Purpose	Adjustment/Setup
Function (Purpose)	Used to perform the color image sensor (image registration sensor F) calibration.
Section	

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
The shutter plate of the color image density sensor (image registration sensor F) is opened, and the message indicating that the primary transfer unit is removed is displayed.
- 2) Open the front cabinet of the machine and remove the waste toner box and the primary transfer unit.
- 3) Install the calibration jig (UKOG-0318FCZZ) of the color image density sensor (image registration sensor F) to the sensor housing section.
- 4) Set the waste toner box, and close the right cover unit (secondary transfer unit section) and the front cabinet of the machine.
- 5) Select [EXECUTE] button, and press [OK] key.

Calibration of the color image density sensor (image registration sensor F) is automatically performed. After completion of the operation, the adjustment result is displayed and [EXECUTE] button is returned to the normal display.

	Item/Display	Content	Setting range	Default value
A	PCS_CL CARB OUT	Calibration plate sensor value	1 - 255	108
B	PCS_CL LED ADJ	Color sensor light emitting quantity adjustment value	1 - 255	21

Error display	Content
SEN ADJ ERR	Color sensor adjustment error
SHUTTER OPEN ERR	Separation operation error
ERROR	Forcible stop

44-14

Purpose	Operation data display
Function (Purpose)	Used to display the output level of the temperature and humidity sensor.
Section	Process (OPC drum, development)/Fusing/LSU

Operation/Procedure

The output levels of the fusing temperature sensor, the machine temperature sensor, and the humidity sensor are displayed.

▲ • MX-C400P/C380P, MX-B400P/B380P

Item/Display	Content	Display range
TH_UM	Fusing upper heat roller thermistor (center section) detection temperature (°C), differential input AD value	Temperature: 0 - 255°C (±1°C) AD value: 0 - 1023
TH_UM_AD1	Fusing upper heat roller thermistor compensation sensor (center section) detection temperature (°C), AD value	Temperature: 0.0 - 255.0°C (±0.2°C) AD value: 0 - 1023
TH_UM_AD2	Fusing upper heat roller thermistor detection sensor (center section) AD value	AD value: 0 - 1023
TH_LM	Fusing lower heat roller thermistor (side section) A/D value, temperature (°C)	Temperature: 0 - 255°C (±1°C) AD value: 0 - 1023
TH_EX1	Fusing external heat roller thermistor (center section) A/D value, temperature (°C)	Temperature: 0 - 255°C (±1°C) AD value: 0 - 1023
TH_EX2	Fusing external heat roller thermistor (side section) A/D value, temperature (°C)	Temperature: 0 - 255°C (±1°C) AD value: 0 - 1023
TH_M	Temperature sensor A/D value, temperature (°C)	Temperature: -40.0°C - 60.0 (±1°C) AD value: 0 - 1023
HUD_M	Temperature sensor A/D value, humidity (%)	Humidity: 5.0 - 90.0% (±0.1%) AD value: 0 - 1023
TH1_LSU	LSU thermistor 1 A/D value, temperature (°C)	Temperature: 5.0 - 60.0°C (±0.1°C) AD value: 0 - 255

▲ • MX-B382P

Item/Display	Content	Display range
TH_UM	Fusing upper heat roller thermistor (main) detection temperature (°C), differential input AD value	Temperature: 0 - 255°C (±1°C) AD value: 0 - 1023
TH_UM_AD1	Fusing upper heat roller thermistor compensation sensor (main) detection temperature (°C), AD value	Temperature: 0.0 - 255°C (±0.2°C) AD value: 0 - 1023
TH_UM_AD2	Fusing upper heat roller thermistor detection sensor (main) AD value	AD value: 0 - 1023
TH_UA	Fusing upper heat roller thermistor (all) A/D value, temperature (°C)	Temperature: 0 - 255°C (±1°C) AD value: 0 - 1023
TH_M	Temperature sensor A/D value, temperature (°C)	Temperature: -40.0 - 60.0°C (±1°C) AD value: 0 - 1023
HUD_M	Temperature sensor A/D value, humidity (%)	Temperature: 5.0 - 90.0°C (±0.1°C) AD value: 0 - 1023
TH1_LSU	LSU thermistor 1 A/D value, temperature (°C)	Temperature: 5.0 - 60.0°C (±0.1°C) AD value: 0 - 255

44-16

Purpose	Operation data display
Function (Purpose)	Used to display the toner density control data.
Section	Developing system

Operation/Procedure

- 1) Select a target color.

The toner density control data are displayed.

Select [NEXT] button and press [OK] key to switch the display category.

Item/Display	Content	Setting range	Default value
TONER DEN_LT (M)	The current toner density sensor output value (final value) at the medium speed	1 - 255	129
TONER DEN_ST (M)	The current toner density reference value display (including all the correction values) at the medium speed		128
TONER DEN_LT (L)	The current toner density sensor output value (final value) at the low speed		129
TONER DEN_ST (L)	The current toner density reference value display (including all the correction values) at the low speed		128

Item/Display	Content		Setting range	Default value
AUTO DEVE (M)	Auto development adjustment value (At the medium speed)	Sensor output value after completion of SIM25-02 (at the medium speed)	1 - 255	128
ALL (M)	All the correction reference values (At the medium speed)	Correction reference value which calculated all the correction values for the auto development adjustment value (at the medium speed)		
AUTO DEVE (L)	Auto development adjustment value (At the low speed)	Sensor output value after completion of SIM25-02 (at the low speed)		
ALL (L)	All the correction reference values (At the low speed)	Correction reference value which calculated all the correction values for the auto development adjustment value (at the low speed)		
AREA	Area correction value	Correction value for the environment area	-127 - 127	0
HUD	Humidity correction value	Correction value for change in humidity		
PRINT RATE	Print ratio correction value	Correction value for document print ratio		
PROCON	Process control correction value	Correction value for high density process control result		
LIFE	Life correction value	Correction value for the developer life		

Item/Display	Content		Setting range	Default value
SENSITIVITY	Sensitivity correction value	Correction for the toner density sensitivity	1 - 999	500
AUTO DEVE VO (M)	Auto development adjustment control voltage (at the medium speed)	Sensor control voltage value after completion of SIM25-02 (at the medium speed)	1 - 255	128
ALL VO (M)	All the correction reference control voltages (at the medium speed)	Control voltage reference value which calculated all the correction values for the auto development adjustment value (at the medium speed)		
AUTO DEVE VO (L)	Auto development adjustment control voltage (at the low speed)	Sensor control voltage value after completion of SIM25-02 (at the low speed)		
ALL VO (L)	All the correction reference control voltages (at the low speed)	Control voltage reference value which calculated all the correction values for the auto development adjustment value (at the low speed)	1 - 255	128
AREA VO	Area correction control voltage	Control voltage correction value for the environment area		
HUD VO	Humidity correction control voltage	Control voltage correction value for change in humidity		
PRINT RATE VO	Print ratio correction control voltage	Control voltage correction value for the document print ratio		
PROCON VO	Process control correction control voltage	Control voltage correction value for the high density process control result		
LIFE VO	Life correction value control voltage	Control voltage correction value for the developer life		
SENSITIVITY VO	Sensitivity correction control voltage	Control voltage correction value for the toner density sensor	1 - 999	500
ENV VO	Environment correction control voltage	Control voltage correction value for the high humidity environment	-127 - 127	0

Item/Display	Content		Setting range	Default value
AUTO DEVE AREA	Area in the auto development adjustment	Humidity area display in the automatic developer adjustment	1 - 14	8
AREA	Current area	Current humidity area display		

44-21	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the halftone process control target.

Section	Process
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Operation/Procedure

Select [EXECUTE] button, and press [OK] key.

The halftone process control target is set and the operation data are displayed.

NOTE: Though the simulation can be executed, the machine is not affected by the simulation operation.

In this machine, this simulation is not required.

Display	Content
COMPLETE	Normal complete
ERROR COLOR SENSOR ADJUSTMENT	Color image density sensor sensitivity adjustment error
ERROR BLACK SENSOR ADJUSTMENT	Black image density sensor sensitivity adjustment error
[YMCK]	High density process control error [YMCK]
OTHER	Other errors

44-22	
Purpose	Operation data display
Function (Purpose)	Used to display the toner patch density level in the halftone process control operation.

Section	Process
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Operation/Procedure

The toner patch density level made in the halftone process control operation is displayed.

Item/Display	Content
ID_n	Patch data display (n=1-16)
BASE1	Belt substrate data (START)
BASE5	Belt substrate data (LAST)

44-24	
Purpose	Operation data display
Function (Purpose)	Used to display the correction target and the correction level in the halftone process control operation.

Section	Process
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Operation/Procedure

- 1) Select a target display color.
- 2) Select [NEXT] button and press [OK] key to switch the display category.

Category	Item/Display	Content
Coefficient	[EX-LOW]	Coefficient of the approximation formula of the minimum density
	[LOW]	Coefficient of the approximation formula of the low density
	[CONNECT]	Coefficient of the approximation formula of when connecting the low density and the medium density
	[MID]	Coefficient of the approximation formula of the medium density
	[HIGH]	Coefficient of the approximation formula of the high density
	[CONNECT POINT]	Each density section connection output ratio
Reference value	[SENSOR_TARGET]	Halftone process control reference value

Category	Item/Display	Content
Correction value	[S_VALUE]	Halftone process control correction value
For printer	[PRINTER_S_VALUE]	Printer halftone process control correction value
	[PRINTER_BASE_DITHER_VALUE]	Printer halftone process control reference dither value
	[PRINTER_AUTO_HT_VALUE]	Printer auto density adjustment correction value
Previous correction value	[BEFORE S_VALUE]	Previous halftone process control value

44-25	
Purpose	Setting
Function (Purpose)	Used to set the calculating conditions of the correction value for the halftone process control.
Section	Process

Operation/Procedure

- 1) Select a target adjustment color.
- 2) Select a target adjustment density level.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

NOTE: Set the items to the default values unless a change is specially required.

Item/Display	Content	Setting range	Default value	
			K	CMY
A LOW FIELD LOWER LIMIT	Low density approximate expression data lower limit value	0 - 255	98	2
B LOW FIELD UPPER LIMIT	Low density approximate expression data upper limit value	0 - 255	60	40
C MID FIELD LOWER LIMIT	Medium density approximate expression data lower limit value	0 - 255	90	15
D MID FIELD UPPER LIMIT	Medium density approximate expression data upper limit value	0 - 255	6	144
E HIGHLIGHT POINT	Reference point of the highlight correction amount	1 - 8	7	7

44-26	
Purpose	Adjustment/Setup
Function (Purpose)	Used to execute the halftone process control compulsorily.
Section	Process
Operation/Procedure	
Select [EXECUTE] button, and press [OK] key.	
The halftone process control is performed and the operation data are displayed.	
INTERRUPTION	Forcible interruption
COMPLETE	Normal complete
ERROR COLOR SENSOR ADJUSTMENT	Color sensor adjustment error
ERROR BLACK SENSOR ADJUSTMENT	Black sensor adjustment error
[YMCK]	High density process control [YMCK] error
OTHER	Other error

44-27	
Purpose	Data clear
Function (Purpose)	Used to clear the correction data of the halftone process control.
Section	Process
Operation/Procedure	
1) Select [EXECUTE] button, and press [OK] key.	
2) Select [YES] button, and press [OK] key.	
The correction data of the halftone process control are cleared.	

44-28	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the process control execution conditions.
Section	Process
Operation/Procedure	
1) Select an item to be set.	
2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)	
NOTE: Set the items to the default values unless a change is specially required.	

• MX-C400P/C380P

Mode	Item/Display		Content		Setting range		Default value
Process control Enable/Disable setting	A	INITIAL	YES NO	When warm-up after clearing the counter of the OPC drum and the developer unit	Enable	0 - 1	0
					Disable		1
	B	SW ON		When supplying the power (when clearing shut-off.)	Color process control Enable	0 - 3	0
					Process control Disable		1
					BK process control Enable		2
					Pixel count judgment (Judgment is based on the setting value of item K, L.)		3
	C	TIME		After passing the specified time from leaving READY continuously (Time can be changed by INTERVAL TIME)	Color process control Enable	0 - 3	0
					Process control Disable		1
					BK process control Enable		2
					Pixel count judgment (Judgment is based on the setting value of item K, L.)		3

Mode	Item/Display			Content		Setting range		Default value
Process control Enable/Disable setting	D	HUM_LIMIT		HUM judgment is made when turning ON the power and after passing TIME.	Color process control Enable	0 - 2	0	0
					Process control Disable		1	
					BK process control Enable		2	
Process control Enable/Disable setting	E	HUM		The temperature and humidity in side the machine are monitored only during a job for every 2hours (set by item N). When the changes in the temperature and the humidity are greater than the specified level (the set value of item O) in comparison with the previous process control.	Color process control Enable	0 - 2	0	0
					Process control Disable		1	
					BK process control Enable		2	
	F	REV1	YES	The accumulated traveling distance of BK or M position OPC unit reaches the specified level after turning the power.	Enable	0 - 1	0	0
			NO		Inhibit		1	
	G	REV2_BK	YES	The accumulated traveling distance of BK position OPC drum unit reaches the specified level from execution of the previous density correction.	Enable	0 - 1	0	0
			NO		Inhibit		1	
	H	REV2_CL	YES	The accumulated traveling distance of M position OPC drum unit reaches the specified level from execution of the previous density correction.	Enable	0 - 1	0	0
			NO		Inhibit		1	
	I	REFRESH MODE (Not used)	YES	Select of YES/NO of the manual process control key with key operation	Key operation display	0 - 1	0	1
			NO		Key operation NO display		1	
Process control conditions setting	J	DAY		When the next warm-up if there is no color job after a color job after passing the specified days from execution of the previous color process control	Disable of the specified days judgment	0 - 999	0	1
					1 - 999 days passing		1 - 999	
	K	PIX_RATIO_BK		Magnification ratio setting (%) of the BK toner count specified value entry of 100 corresponds to 1k of A4 5% print.	1 - 999		10	
	L	PIX_RATIO_CL		Magnification ratio setting (%) of the color (CMY) toner count specified value entry of 100 corresponds to 1k of A4 5% print.	1 - 999		10	
	M	INTERVAL TIME		Passing time setting of "TIME" (h: hour)	1-255 (1-255: 1-255h passed)		12	
	N	HUM HOUR		Interval setting of the temperature and humidity monitoring time of "HUM" (h: hour)	1 - 24		2	
	O	HUM_DIF		Area difference specified value when compared with the execution of the previous process control of "HUM"	1 - 9		2	
	P	BK_RATIO		Magnification ratio setting (%) of the specified value of the BK position OPC drum traveling distance of "REV2_BK"	1-999 (Entry of 20 corresponds to 100,000mm.)		15	
	Q	M_RATIO		Magnification ratio setting (%) of the M position OPC drum traveling distance of "REV2_CL"	1-999 (Entry of 20 corresponds to 100,000mm.)		10	
	R	COLOR BORDER		Magnification ratio setting (%) of the M position OPC drum traveling distance when executing the BK process control	BK process control is executed without judgment of ratio of the M OPC drum traveling distance. (Addition)	0 - 999	0	20
					1 - 999(%)		1 - 999	
S	BK ONLY		Disable/Enable setting and setting of the number of repetition of the BK process control when monochrome print is continued.	Enable 5 time	0 - 6	0	5	
				Disable 1-5 times		1 - 5		
				Inhibit		6		
T	HT_DIF		Bias change difference value used for judgment of HT process control		1 - 255		40	
Registration adjustment setting	U	RG_ON_SYNC	CL	Select of synchronous/asynchronous of the power ON process control	0 - 2	0	0	
			ALL			1		
			CL/BK			2		
	V	RG_TEMP_TIMER		Execution timing setting after turning ON the power		0 - 240 (MINUTE)		0
	W	RG_PERM_TIMER		Span setting from execution Disable to Enable		0 - 15 (HOUR)		1
X	RG_HOUR_TIMER		Span setting of timer execution		0-15 (Above)+(HOUR)		5	
Secondary transfer cleaning setting	Y	2TRAN_CLEAN_TIME1		Secondary transfer cleaning process time judgment threshold value 1		1 - 999		200
	Z	2TRAN_CLEAN_TIME2		Secondary transfer cleaning process time judgment threshold value 2		1 - 999		300
	AA	2TRAN_CLEAN_TIME3		Secondary transfer cleaning process time judgment threshold value 3		1 - 999		500

▲ • MX-B400P/B380P/B382P

Mode	Item/Display		Content		Setting range		Default value
Process control Enable/Disable setting	A	INITIAL	YES	When warm-up after clearing the counter of the OPC drum and the developer unit	Enable	0 - 1	0
			NO		Disable		1
	B	SW ON		When supplying the power (when clearing shut-off.)	Process control Disable	1 - 3	1
					BK process control Enable		2
					Pixel count judgment (Judgment is based on the setting value of item K, L.)		3
	C	TIME		After passing the specified time from leaving READY continuously (Time can be changed by INTERVAL TIME)	Process control Disable	1 - 3	1
					BK process control Enable		2
					Pixel count judgment (Judgment is based on the setting value of item K, L.)		3
	D	HUM_LIMIT		HUM judgment is made when turning ON the power and after passing TIME.	Process control Disable	1 - 2	1
					BK process control Enable		2
	E	HUM		The temperature and humidity in side the machine are monitored only during a job for every 2hours (set by item N). When the changes in the temperature and the humidity are greater than the specified level (the set value of item O) in comparison with the previous process control.	Process control Disable	1 - 2	1
					BK process control Enable		2
Process control conditions setting	F	REV1	YES	The accumulated traveling distance of BK or M position OPC unit reaches the specified level after turning the power.	Enable	0 - 1	0
			NO		Inhibit		1
	G	REV2_BK	YES	The accumulated traveling distance of BK position OPC drum unit reaches the specified level from execution of the previous density correction.	Enable	0 - 1	0
			NO		Inhibit		1
	H	REFRESHMODE (Not used)	YES	Select of YES/NO of the manual process control key with key operation	Key operation display	0 - 1	0
			NO		Key operation NO display		1
	I	DAY		When the next warm-up if there is no job after a job after passing the specified days from execution of the previous process control	Disable of the specified days judgment	0 - 999	0
					1 - 999 days passing		1 - 999
	J	PIX_RATIO_BK		Magnification ratio setting (%) of the BK toner count specified value entry of 100 corresponds to 1k of A4 5% print.		1 - 999	10
	K	INTERVAL TIME		Passing time setting of "TIME" (h: hour)		1-255 (1-255: 1-255h passed)	12
	L	HUM HOUR		Interval setting of the temperature and humidity monitoring time of "HUM" (h: hour)		1 - 24	2
Secondary transfer cleaning setting	M	HUM_DIF		Area difference specified value when compared with the execution of the previous process control of "HUM"		1 - 9	2
	N	BK_RATIO		Magnification ratio setting (%) of the specified value of the BK position OPC drum traveling distance of "REV2_BK"		1-999 (Entry of 20 corresponds to 100,000mm.)	15
	O	HT_DIF		Bias change difference value used for judgment of HT process control		1 - 255	40
	P	2TRAN_CLEAN_TIME1		Secondary transfer cleaning process time judgment threshold value 1		1 - 999	200
	Q	2TRAN_CLEAN_TIME2		Secondary transfer cleaning process time judgment threshold value 2		1 - 999	300
	R	2TRAN_CLEAN_TIME3		Secondary transfer cleaning process time judgment threshold value 3		1 - 999	500

44-29	
Purpose	Setting
Function (Purpose)	Used to set the operating conditions of the process control during a job.
Section	Process

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Item/Display	Content	Setting range	Default value
A PRINTER	During print job	0 - 4 0: No execution 1: HV only	4
B SELF PRINT	During self print	2: HV → PHT 3: HV → HT 4: HV → PHT → HT	4

HV: High density process control

HT: Halftone process control

PHT: Not operate

44-31	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the OPC drum phase. (Manual adjustment) (MX-C400P/C380P)
Section	Process

Operation/Procedure

NOTE: For the OPC drum phase adjustment, do not use this simulation, but use SIM50-22 (auto adjustment).

- 1) Select item A.
- 2) Set the set value corresponding to the adjustment pattern. (Enter the set value and press [OK] key and OSA shortcut key.)
- 3) Select [EXECUTE] button, and press [OK] key. (The adjustment pattern is printed out.)
- 4) Select an adjustment pattern whose deflection is within two scale lines on the adjustment pattern of C, M, Y colors.
- 5) Select item B.
- 6) Set the adjustment pattern sheet number selected in procedure 4). (Enter the set value, and press [OK] key and OSA shortcut key.)
- 7) Select [EXECUTE] button, and press [OK] key.
- 8) The adjusted adjustment pattern is printed.

Item/Display	Content	Setting range	Default value
A PRINT MODE	45deg	Print mode	45 degrees
	90deg	90 degrees	Deflection check pattern print for every 90 degrees (4-sheet print) (1)0° (2)90° (3)180° (4)270° * The number in () is printed on the output pattern.
	SET VALUE	SET VALUE	Deflection check pattern print at the set value (1-sheet print)
B COLOR	Phase adjustment value BK→CL	Angle step 0° (1) → 45° (2) → 90° (3) → 135° (4) → 180° (5) → 225° (6) → 270° (7) → 315° (8)	1 - 8
C PAPER	MFT	Tray selection	Manual paper feed
	CS1	Tray 1	2
	CS2	Tray 2	3
	CS3	Tray 3	4
	CS4	Tray 4	5

44-37	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the development bias correction level in the continuous printing operation.
Section	

Operation/Procedure

- 1) Select a set target color.
- 2) Select a target item.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

NOTE: When the print density is varied in the continuous printing operation, this simulation is used.

• MX-C400P/C380P

			Item/Display		Default value		
			Black	CMY	Black	CMY	
Current DV Bias voltage	Low speed mode Heavy paper mode	less than 300[v]	A	A	0	0	0-5 (*1)
		300[v] or more, less than 450[v]	B	B	0	0	
		450[v] or more	C	C	0	0	
	Middle speed mode	less than 300[v]	D	D	0	0	
		300[v] or more, less than 450[v]	E	E	0	0	
		450[v] or more	F	F	0	0	
	High speed mode Monochrome mode	less than 300[v]	G	-	0	-	
		300[v] or more, less than 450[v]	H	-	0	-	
		450[v] or more	I	-	0	-	

			Item/Display		Default value		Variable range
			Black	CMY	Black	CMY	
Time (T) from termination of continuous outputs to start of the next output operation	Low speed mode Heavy paper mode	Less than 10 [sec] & after process control JOB	J	G	4	4	1-12
		10 [sec] or more, less than 60 [sec]	K	H	3	3	
		60 [sec] or more, less than 240 [sec]	L	I	1	1	
		240 [sec] or more	M	J	1	1	
	Middle speed mode	Less than 10 [sec] & after process control JOB	N	K	4	4	
		10 [sec] or more, less than 60 [sec]	O	L	3	3	
		60 [sec] or more, less than 240 [sec]	P	M	1	1	
		240 [sec] or more	Q	N	1	1	
	High speed mode (Not used)	Less than 10 [sec] & after process control JOB	R	-	4	-	
		10 [sec] or more, less than 60 [sec]	S	-	3	-	
		60 [sec] or more, less than 240 [sec]	T	-	1	-	
		240 [sec] or more	U	-	1	-	

<Use example>

(*1)

Make multi print of 10 sheets. If the density of 10th sheet is greater than that of the first sheet, decrease the set value.

Make multi print of 10 sheets. If the density of 10th sheet is smaller than that of the first sheet, increase the set value.

When the set value is 0 (Default), the correction level does not work.

▲ • MX-B400P/B380P/B382P

		Item/Display	Default value	Variable range
Current DV Bias voltage	less than 300[v]	A	0	0-5 (*1)
	300[v] or more, less than 450[v]	B	0	
	450[v] or more	C	0	
Time (T) from termination of continuous outputs to start of the next output operation	Less than 10 [sec] & after process control JOB	D	4	1-12 (*2)
	10 [sec] or more, less than 60 [sec]	E	3	
	60 [sec] or more, less than 240 [sec]	F	1	
	240 [sec] or more	G	1	

<Use example>

(*1) The default of A/B/C is "0" and this function is set to OFF.

When 10 sheets are copied in the multi copy mode and if the 10th sheet is lighter than the 1st sheet, set to the range of 1 - 5. The greater the value is, the darker the density of the 10th sheet is.

(*2) The correction amount is adjusted by the length of the leaving time. When (*1) is 1 - 5, the greater the value of (*2), the greater the density when starting printing is.

44-43

Purpose	Data display
Function (Purpose)	Used to display the identification information of the developing unit.
Section	Developing system

Operation/Procedure

The identification number and the identification signal level of the developing unit are displayed.

• MX-C400P/C380P

Item/Display	Content	Display range
A	DVCH KIND K	K color development unit identification number
B	DVCH KIND C	C color development unit identification number
C	DVCH KIND M	M color development unit identification number
D	DVCH KIND Y	Y color development unit identification number
E	DVCH_AD_K	K color developing unit identification number AD value

Item/Display	Content	Display range
F	DVCH_AD_C	C color developing unit identification number AD value
G	DVCH_AD_M	M color developing unit identification number AD value
H	DVCH_AD_Y	Y color developing unit identification number AD value

• MX-B400P/B380P

Item/Display	Content	Display range
A	DVCH KIND K	Development unit identification number
B	DVCH_AD_K	Developing unit identification number AD value

• MX-B382P

Item/Display	Content	Display range
A	DVCH KIND K	K color development unit identification number
B	DV_TYP_SEL_K	K color development unit type value
C	DVCH_AD_K	K color developing unit identification number AD value

(*1) The type of the developing unit is identified by the ID number. For ID and the types of developing units, refer to "List of developing units" shown below.

(*2) 0 = High (OPEN) / 1 = Low (GND)

44-61

Purpose	Adjustment/Setup
Function (Purpose)	Used to set the calibration data of the color image sensor (image registration sensor F).
Section	

Operation/Procedure

- 1) Select an item to be set.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

The set value is indicated on the label attached to the registration sensor unit.

Item/Display		Content	Setting range	Default value
A	PCS_CL CARB OUT	Calibration plate sensor value	1 - 255	108
B	PCS_CL LED ADJ	Color sensor light emitting quantity adjustment value	1 - 255	21

NOTE: This simulation is executed when the registration sensor unit is replaced. When only the color image density sensor is replaced, use SIM44-13 to perform calibration.

When the set value is changed with this simulation, the newly changed set value of this simulation is written over the calibration value set with SIM44-13.

46

46-21

Purpose	Adjustment
Function (Purpose)	Copy color balance adjustment (Manual adjustment)

Section

Operation/Procedure

NOTE: This simulation does not work in this model.

The adjustment result of this simulation does not affect the other operations on the print quality, etc.

- 1) Select an adjustment target color.
- 2) Select a target adjustment item.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

* When the \triangle ∇ key is pressed, the setting value of each item can be changed with 1up (1down) collectively.

When the adjustment value is increased, the image density is increased, and vice versa.

Select [EXECUTE] button and press [OK] key, the check pattern in printed in the color balance and density corresponding to the adjustment value.

Item/Display		Density level (Point)	Setting range	Default value
A	POINT1	Point 1	245 - 755	500
B	POINT2	Point 2	245 - 755	500
C	POINT3	Point 3	245 - 755	500
D	POINT4	Point 4	245 - 755	500
E	POINT5	Point 5	245 - 755	500
F	POINT6	Point 6	245 - 755	500
G	POINT7	Point 7	245 - 755	500
H	POINT8	Point 8	245 - 755	500
I	POINT9	Point 9	245 - 755	500
J	POINT10	Point 10	245 - 755	500
K	POINT11	Point 11	245 - 755	500
L	POINT12	Point 12	245 - 755	500
M	POINT13	Point 13	245 - 755	500
N	POINT14	Point 14	245 - 755	500
O	POINT15	Point 15	245 - 755	500
P	POINT16	Point 16	245 - 755	500
Q	POINT17	Point 17	245 - 755	500

48

48-6

Purpose	Adjustment
Function (Purpose)	Used to adjust the rotation speed of each motor.

Section

Operation/Procedure

- 1) Select an adjustment target mode.
- 2) Select a target adjustment item with [\uparrow] [\downarrow] key.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

When the adjustment value is increased, the speed is increased, and vice versa. A change of 1 in the adjustment value corresponds to a change of about 0.1% in the speed.

• MX-C400P/C380P

Item/Display		Content	Mode Select		Setting range	Default value
A	RRM	Resist motor correction value	Color	COLOR	1 - 99	52
			Mono chrome	MONO		46
			Heavy paper	HEAVY		
B	DVM_K	Developing K motor correction value	Color	COLOR	1 - 99	52
			Mono chrome	MONO		46
			Heavy paper	HEAVY		
C	FSM	Fusing motor correction value	Color	COLOR	1 - 99	20
			Mono chrome	MONO		23
			Heavy paper	HEAVY		
D	DVM_CL	Developing CL motor correction value	Color	COLOR	1 - 99	52
			Heavy paper	HEAVY		
E	PFM	Paper transport motor correction value.		COLOR	1 - 99	50
F	POM	Paper exit motor correction value		COLOR	1 - 99	45
E	FUSER SETTING	Fusing speed select timing		HEAVY	1 - 99	50
F	RRM START	RRM speed increasing start timing		HEAVY	1 - 255	90
G	RRM END	RRM speed increasing end timing		HEAVY	1 - 255	30

• MX-B400P/B380P/B382P

Item/Display		Content	Mode Select		Setting range	Default value
A	RRM	Resist motor correction value	Mono-chrome	MONO	1 - 99	52
			Heavy paper	HEAVY		46
B	DVM_K	Developing K motor correction value	Mono-chrome	MONO	1 - 99	52
			Heavy paper	HEAVY		46
C	FSM	Fusing motor correction value (MX-B400P/B380P)	Mono-chrome	MONO	1 - 99	20
			Heavy paper	HEAVY		23

Item/Display		Content	Mode Select		Setting range	Default value
C	FSM	Fusing motor correction value (MX-B382P)	Mono-chrome	MONO	1 - 99	66
			Heavy paper	HEAVY		60
D	PFM	Paper transport motor correction value.		MONO	1 - 99	50
E	POM	Paper exit motor correction value		MONO	1 - 99	45
D	FUSER SETTING	Fusing speed select timing		HEAVY	1 - 99	50
E	RRM START	RRM speed increasing start timing		HEAVY	1 - 255	90
F	RRM END	RRM speed increasing end timing		HEAVY	1 - 255	30

NOTE: This must be set to the default unless any change is specially required.

When the adjustment value is set to a value greatly different from the default value, a jam, paper wrinkle, or image quality trouble may occur.

49

49-1	
Purpose	
Function (Purpose)	Used to perform the firmware update.
Section	

Operation/Procedure

- 1) Insert the USB memory with the firmware files in it.
- 2) Select a target firmware file for update.
All firmware can be selected with [ALL] button.
- 3) Select [EXECUTE] button, and press [OK] key.
- 4) Select [YES] button, and press [OK] key.
The selected firmware is updated.
When the operation normally completed, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

Item/Display	Content
CONFIG	Configuration data
ICU (MAIN)	ICU Main section former half
ICU (BOOTM)	ICU Boot section main
ICU (BOOTCN)	ICU Boot section CN
LANGUAGE	Language support data program (General term)
GRAPHIC	Graphic data for L-LCD
SLIST	SLIST data for L-LCD
PCU (BOOT)	PCU Boot section
PCU (MAIN)	PCU Main section
DESK (BOOT)	Desk unit BOOT section
DESK (MAIN)	Desk unit MAIN section
FIN (BOOT)	Inner finisher BOOT section
FIN (MAIN)	Inner finisher MAIN section
OPU (BOOT)	OP Boot section
OPU (MAIN)	OP Main section
ESCP_FONT	ESC/P font
PDL_FONT	PDL font
ANIMATION	Animation data
IMAGE_DATA	Image ASIC data
COLOR_PROFILE	Color profile
WEB_HELP	WEB help
UNICODE	UNICODE table

List of error displays in case of abnormal end

Item/Display	Content
CONF	Configuration data
ICUM	ICU Main section former half
ICUBM	ICU Boot section main
ICUCN	ICU Boot section CN
LANG	Language support data program (General term)
GRAPH	Graphic data for L-LCD
SLIST	SLIST data for L-LCD
PCUB	PCU Boot section
PCUM	PCU Main section
DESKB	Desk unit BOOT section
DESKM	Desk unit MAIN section
FINB	Inner finisher BOOT section
FINM	Inner finisher MAIN section
OPUB	OPU Boot section
OPUM	OPU Main section
ESCP	ESC/P font
PDL	PDL font
ANIME	Animation data
IMGDT	Image ASIC data
CORP	Color profile
WEBHP	WEB help
UNICD	UNICODE table

49-3	
Purpose	
Function (Purpose)	Used to update the operation manual in the HDD.
Section	

Operation/Procedure

- 1) Insert the USB memory with the E-Operation Manual data files in it.
* When the USB is not inserted, "INSERT A STORAGE E-MANUAL STORED ON" is displayed. When OSA shortcut key is pressed, the display is shifted to the folder select menu 1.
- 2) Select the folder which stores the Operation Manual data files, and press [OK] key and OSA shortcut key. (The display is shifted to the operation manual update menu.)
The current version and the update version are displayed.
- 3) Select [EXECUTE] button, and press [OK] key.
[EXECUTE] button is highlighted, and [YES] [NO] button becomes active from gray out.
- 4) Select [YES] button, and press [OK] key.
- 5) The operation manual is updated.
When update is completed normally, "COMPLETE" is displayed. When terminated abnormally, "ERROR" is displayed.

50

50-1	
Purpose	Adjustment
Function (Purpose)	Print image position, image loss adjustment
Section	

Operation/Procedure

- 1) Select a target adjustment item.
- 2) Enter the adjustment value, and press [OK] key and OSA shortcut key.

Item/Display			Content		Setting range	Default value
A	Lead edge adjustment value	RRCB-CS1	Resist motor	Standard Tray	1 - 99	60
B		RRCB-DSK	ON timing	Desk	1 - 99	50
C		RRCB-MFT	adjustment	Manual paper feed	1 - 99	60
D		RRCB-ADU		ADU	1 - 99	50
E	Void area adjustment	DENA	Lead edge void area adjustment		1 - 99	30
F		DENB	Rear edge void area adjustment		1 - 99	30
G		FRONT/REAR	FRONT/REAR void area adjustment		1 - 99	30
H	Sub scanning direction print area correction value	DENB-MFT	Manual feed correction value		1 - 99	50
I		DENB-CS1	Tray 1 correction value		1 - 99	50
J		DENB-CS2	Tray 2 correction value		1 - 99	50
K		DENB-CS3	Tray 3 correction value		1 - 99	50
L		DENB-CS4	Tray 4 correction value		1 - 99	50
M		DENB-ADU	ADU correction value		1 - 99	50

A - D. (RRC-B) Timing of paper (resist roller ON) for the image position on the transfer belt is adjusted. (0.1mm/step)

* When the value is decreased, the timing is delayed. When the value is increased, the timing is advanced.

E. (DEN-A) The paper lead edge void amount is adjusted. (0.1mm/step)

* When the value is increased, the void is increased.

F. (DEN-B) The paper rear edge void amount is adjusted. (0.1mm/step)

* When the value is increased, the void is increased.

G. (FRONT/REAR) The void amount on the right and left edges of paper is adjusted. (0.1mm/step)

50-5

Purpose	Adjustment
Function (Purpose)	Used to adjust the print lead edge image position. (PRINTER MODE)

Section

Operation/Procedure

- 1) Select a target adjustment item (DEN-C).
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select [EXECUTE] button and press [OK] key, and the adjustment check pattern is printed. At the same time, the set value is fixed.
- 4) Measure the distance from the paper lead edge the adjustment pattern to the image lead edge, and check to confirm that it is in the standard adjustment value range.
Standard reference value: $3.0 \pm 2.0\text{mm}$

Item/Display			Content	Setting range	Default value	NOTE				
A	DEN-C		Used to adjust the print lead edge image position. (PRINTER MODE)	1 - 99	30	Adjustment value too align the print lead edge for the printer. When the adjustment value of this item is decreased by 1, the printer print start position in the paper transport direction is shifted to the lead edge by 0.1mm.				
B	DEN-B		Rear edge void area adjustment	1 - 99	30	Void amount generated at the paper rear edge. When the adjustment value of item B (DEN-B) is decreased by 1, the print area adjustment value in the sub scanning direction for the paper transport direction is decreased by 0.1mm.				
C	FRONT/REAR		FRONT/REAR void area adjustment	1 - 99	30	Adjustment of the void amount generated on the left and right edges of paper. When the adjustment value is increased, the void amount is increased.				
D	DENB-MFT		Manual feed rear edge void area adjustment correction value	1 - 99	50	Fine adjustment value of each paper feed source for the adjustment value of DEN-B				
E	DENB-CS1		Tray 1 rear edge void area adjustment correction value	1 - 99	50					
F	DENB-CS2		Tray 2 rear edge void area adjustment correction value	1 - 99	50					
G	DENB-CS3		Tray 3 rear edge void area adjustment correction value	1 - 99	50					
H	DENB-CS4		Tray 4 rear edge void area adjustment correction value	1 - 99	50					
I	DENB-ADU		ADU rear edge void area adjustment correction value	1 - 99	50					
J	MULTI COUNT		Number of print	1 - 999	1	Adjustment pattern print conditions setting				
K	PAPER	MFT	Tray selection	Manual paper feed	1 - 5	1	2 (CS1)			
		CS1							Tray 1	2
		CS2							Tray 2	3
		CS3							Tray 3	4
		CS4							Tray 4	5
L	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)			
		NO	No						1	

When the adjustment value is increased, the distance from the paper lead edge to the image lead edge is increased. When the adjustment value is decreased, the distance from the paper lead edge to the image lead edge is decreased.

When the set value is changed by 1, the distance is changed by about 0.1mm.

50-10	
Purpose	Adjustment
Function (Purpose)	Used to adjust the black print image magnification ratio and the off-center position. (The adjustment is made separately for each paper feed section.)
Section	

Operation/Procedure

- 1) Select a target adjustment item.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select [EXECUTE] button and press [OK] key, and the adjustment check pattern is printed. At the same time, the set value is fixed.

Item/Display			Content		Setting range		Default value	NOTE
A	BK-MAG		Main scan print magnification ratio BK		60 - 140		100	Adjustment Item List
B	MAIN-MFT		Print off center adjustment value (Manual paper feed)		1 - 99		65	
C	MAIN-CS1		Print off center adjustment value (Tray 1)		1 - 99		65	
D	MAIN-CS2		Print off center adjustment value (Tray 2)		1 - 99		50	
E	MAIN-CS3		Print off center adjustment value (Tray 3)		1 - 99		50	
F	MAIN-CS4		Print off center adjustment value (Tray 4)		1 - 99		50	
G	MAIN-ADU		Print off center adjustment value (Duplex) (NOTE) If the adjustment items A - F are not properly adjusted, this adjustment cannot be executed properly.		1 - 99		50	
H	SUB-MFT		Resist motor ON timing adjustment	Manual paper feed	1 - 99		60	
I	SUB-CS1			Standard cassette	1 - 99		60	
J	SUB-DSK			DESK	1 - 99		50	
K	SUB-ADU			ADU	1 - 99		50	
L	MULTI COUNT		Number of print		1 - 999		1	Adjustment pattern print conditions setting
M	PAPER	MFT	Tray selection	Manual paper feed	1 - 5	1	2 (CS1)	
		CS1		Tray 1		2		
		CS2		Tray 2		3		
		CS3		Tray 3		4		
		CS4		Tray 4		5		
N	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)	
		NO		No		1		

Item A: When the set value is increased, the BK image magnification ratio in the main scanning direction is increased. When the set value is decreased, the image magnification ratio is decreased.

Item B - G: When the adjustment value is increased, it is shifted to the front frame side. When the adjustment value is decreased, it is shifted to the rear frame side.

Item B - G: 1 step = 0.1mm change

50-20	
Purpose	Adjustment
Function (Purpose)	Image registration adjustment (Manual adjustment)
Section	

Operation/Procedure

- 1) Select a target adjustment item.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select [EXECUTE] button and press [OK] key, and the adjustment check pattern is printed. At the same time, the set value is fixed.

Item/Display		Content	Setting range	Default value	NOTE
A	CYAN (FRONT)	Image registration adjustment value (Main scanning direction) (Cyan) (F side)	1 - 199	100	Adjustment Item List
B	CYAN (REAR)	Image registration adjustment value (Main scanning direction) (Cyan) (R side)	1 - 199	100	
C	MAGENTA (FRONT)	Image registration adjustment value (Main scanning direction) (Magenta) (F side)	1 - 199	100	
D	MAGENTA (REAR)	Image registration adjustment value (Main scanning direction) (Magenta) (R side)	1 - 199	100	
E	YELLOW (FRONT)	Image registration adjustment value (Main scanning direction) (Yellow) (F side)	1 - 199	100	
F	YELLOW (REAR)	Image registration adjustment value (Main scanning direction) (Yellow) (R side)	1 - 199	100	
G	CYAN(SUB)	Image registration adjustment value (Sub scanning direction) (Cyan)	1 - 199	100	

Item/Display			Content	Setting range		Default value	NOTE
I	MAGENTA(SUB)		Image registration adjustment value (Sub scanning direction) (Magenta)	1 - 199		100	Adjustment Item List
H	YELLOW(SUB)		Image registration adjustment value (Sub scanning direction) (Yellow)	1 - 199		100	
J	MULTICOUNT		Number of print	1 - 199		1	Adjustment pattern print conditions setting
K	PAPER	MFT	Tray selection	1	Manual paper feed	2	
		CS1		2	Tray 1		
		CS2		3	Tray 2		
		CS3		4	Tray 3		
		CS4		5	Tray 4		
L	DUPLEX	YES	Duplex print selection	0	Select	1	
		NO		1	Not select		

50-22

Purpose	Adjustment
Function (Purpose)	Used to adjust the image registration. (Main scan direction, sub scan direction) (Auto adjustment)/OPC drum phase adjustment (Auto adjustment)
Section	

Operation/Procedure

1) Select a target adjustment item.

ALL	The image resist adjustment (in the main scanning direction and the sub scanning direction) and the OPC drum phase adjustment are automatically performed.
REGIST	The image resist adjustment (in the main scanning direction and the sub scanning direction) is automatically performed.
DRUM POS	The OPC drum phase adjustment (automatic adjustment) is automatically performed.

2) Select [EXECUTE] button, and press [OK] key.

The adjustment is automatically performed, and the adjustment data are displayed.

NOTE: The contents of the following list are mainly used by the technical division, and are not necessary for the market.

Item/Display				Content	Display	Default value	NOTE
ALL Image registration adjustment/ OPC drum phase adjustment	REGIST (Auto image registration adjustment)	MAIN F	C	Image registration adjustment value (Main scanning direction) (Position of writing by cyan laser is F side)	1.0 - 199.0	100	
			M	Image registration adjustment value (Main scanning direction) (Position of writing by magenta laser is F side)	1.0 - 199.0	100	
			Y	Image registration adjustment value (Main scanning direction) (Position of writing by yellow laser is F side)	1.0 - 199.0	100	
		MAIN R	C	Image registration adjustment value (Main scanning direction) (Position of writing by cyan laser is R side)	1.0 - 199.0	100	
			M	Image registration adjustment value (Main scanning direction) (Position of writing by magenta laser is R side)	1.0 - 199.0	100	
			Y	Image registration adjustment value (Main scanning direction) (Position of writing by yellow laser is R side)	1.0 - 199.0	100	
		SUB	C	Image registration adjustment value (Sub scanning direction) (Cyan drum to black drum)	1.0 - 199.0	100	
			M	Image registration adjustment value (Sub scanning direction) (Magenta drum to cyan drum)	1.0 - 199.0	100	
			Y	Image registration adjustment value (Sub scanning direction) (Yellow drum to magenta drum)	1.0 - 199.0	100	
		SKEW	C	Calculated result of print skew amount (Cyan)	-99.9 - 99.9	-	If the value is plus, R is displayed to left side of numerical value. If the value is minus, L is displayed to left side of numerical value. When the value is -4 - +4, "(OK)" is place at the back of the value. For the other cases, "(NG)" is displayed. *1
			M	Calculated result of print skew amount (magenta)	-99.9 - 99.9	-	
			Y	Calculated result of print skew amount (yellow)	-99.9 - 99.9	-	
	DRUM POS (Auto OPC drum phase adjustment)	PHASE	Phase adjustment value BK → CL	Angle step 0°(1) → 45°(2) → 90°(3) → 135°(4) → 180°(5) → 225°(6) → 270°(7) → 315°(8)	1 - 8	2	Same item as SIM44-31.

*1: The color image skew adjustment is performed according to this display value.

When "R" is displayed in front of the value, turn and click the skew adjustment screw (LSU) clockwise by the value.

When "L" is displayed in front of the value, turn and click the skew adjustment screw (LSU) counterclockwise by the value.

At that time, the values under the decimal point are rounded.

<Error displays in case of abnormal end >

	Error code	Error display	Error content	Description
Forcible end error	-	SUSPENDED	Door open end	Door open during operation
	-	SUSPENDED	CA end	CA button pressed during operation
	-	-	OFF end	Unconfirmed operation during operation (Power OFF)
Basic error	1	TONNER EMPTY 01	Toner Empty	BK or ALL Color toner EMPTY detection
	2	BEFORE BEHAVIOR 02	Other condition	Other condition
	4	SENSOR CALIBRATION 04	Calibration error	The target is not reached by 3 times of retry of F or R
	5	TIME OVER 05	Time error	No data are obtained for 90sec from data acquisition
	7	PROCESS CONTROL 07	Process control error	Process control error detection
Sub scanning adjustment error	10	SUB BLACK FRONT 10	Number of line error sub scanning color (Black) F	The pitch data number are not the specified value.
	11	SUB BLACK FRONT 11	Pitch error sub scanning color (Black) F	The pitch data are not within the allowable range.
	15	SUB BLACK REAR 15	Number of line error sub scanning color (Black) R	The pitch data are not within the specified range.
	16	SUB BLACK REAR 16	Pitch error sub scanning color (Black) R	The pitch data are not within the allowable range.
	20	SUB CYAN FRONT 20	Number of line error sub scanning color (Cyan) F	The pitch data number are not the specified value.
	21	SUB CYAN FRONT 21	Pitch error sub scanning color (Cyan) F	The pitch data are not within the allowable range.
	22	SUB CYAN FRONT 22	Adjustment value number error sub scanning color (Cyan) F	The calculation result value is not within the allowable range.
	23	SUB CYAN FRONT 23	Result value error sub scanning color (Cyan) F	The variation in the calculation result value is above the allowable range.
	25	SUB CYAN REAR 25	Number of lines error sub scanning color (Cyan) R	The pitch data number are not the specified value.
	26	SUB CYAN REAR 26	Pitch error sub scanning color (Cyan) R	The pitch data are not within the allowable range.
	27	SUB CYAN REAR 27	Adjustment value number error sub scanning color (Cyan) R	The calculation result value is not within the allowable range.
	28	SUB CYAN REAR 28	Result value error sub scanning color (Cyan) R	The variation in the calculation result value is above the allowable range.
	30	SUB MAGENTA FRONT 30	Number of lines error sub scanning color (Magenta) F	The pitch data number are not the specified value.

	Error code	Error display	Error content	Description
Sub scanning adjustment error	31	SUB MAGENTA FRONT 31	Pitch error sub scanning color (Magenta) F	The pitch data are not within the allowable range.
	32	SUB MAGENTA FRONT 32	Adjustment value number error sub scanning color (Magenta) F	The calculation result value is not within the allowable range.
	33	SUB MAGENTA FRONT 33	Result value error sub scanning color (Magenta) F	The variation in the calculation result value is above the allowable range.
	35	SUB MAGENTA REAR 35	Number of lines error sub scanning color (Magenta) R	The pitch data number are not the specified value.
	36	SUB MAGENTA REAR 36	Pitch error sub scanning color (Magenta) R	The pitch data are not within the allowable range.
	37	SUB MAGENTA REAR 37	Adjustment value number error sub scanning color (Magenta) R	The calculation result value is not within the allowable range.
	38	SUB MAGENTA REAR 38	Result value error sub scanning color (Magenta) R	The variation in the calculation result value is above the allowable range.
	40	SUB YELLOW FRONT 40	Number of lines error sub scanning color (Yellow) F	The pitch data number are not the specified value.
	41	SUB YELLOW FRONT 41	Pitch error sub scanning color (Yellow) F	The pitch data are not within the allowable range.
	42	SUB YELLOW FRONT 42	Adjustment value number error sub scanning color (Yellow) F	The calculation result value is not within the allowable range.
	43	SUB YELLOW FRONT 43	Result value error sub scanning color (Yellow) F	The variation in the calculation result value is above the allowable range.
	45	SUB YELLOW REAR 45	Number of lines error sub scanning color (Yellow) R	The pitch data number are not the specified value.
	46	SUB YELLOW REAR 46	Pitch error sub scanning color (Yellow) R	The pitch data are not within the allowable range.
	47	SUB YELLOW REAR 47	Adjustment value number error sub scanning color (Yellow) R	The calculation result value is not within the allowable range.
	48	SUB YELLOW REAR 48	Result value error sub scanning color (Yellow) R	The variation in the calculation result value is above the allowable range.
Main scanning adjustment error	50	MAIN BLACK FRONT 50	Number of lines error main scanning color (Black) F	The pitch data number are not the specified value.
	51	MAIN BLACK FRONT 51	Pitch error main scanning color (Black) F	The pitch data are not within the allowable range.
	55	MAIN BLACK REAR 55	Number of lines error main scanning color (Black) R	The pitch data are not within the specified range.
	56	MAIN BLACK REAR 56	Pitch error main scanning color (Black) R	The pitch data are not within the allowable range.

	Error code	Error display	Error content	Description
Main scanning adjustment error	60	MAIN CYAN FRONT 60	Number of lines error main scanning color (Cyan) F	The pitch data number are not the specified value.
	61	MAIN CYAN FRONT 61	Pitch error main scanning color (Cyan) F	The pitch data are not within the allowable range.
	62	MAIN CYAN FRONT 62	Adjustment value number error main scanning color (Cyan) F	The calculation result value is not within the allowable range.
	63	MAIN CYAN FRONT 63	Result value error main scanning color (Cyan) F	The variation in the calculation result value is above the allowable range.
	65	MAIN CYAN REAR 65	Number of lines error main scanning color (Cyan) R	The pitch data number are not the specified value.
	66	MAIN CYAN REAR 66	Pitch error main scanning color (Cyan) R	The pitch data are not within the allowable range.
	67	MAIN CYAN REAR 67	Adjustment value error main scanning color (Cyan) R	The calculation result value is not within the allowable range.
	68	MAIN CYAN REAR 68	Result value error main scanning color (Cyan) R	The variation in the calculation result value is above the allowable range.
	70	MAIN MAGENTA FRONT 70	Number of lines error main scanning color (Magenta) F	The pitch data number are not the specified value.
	71	MAIN MAGENTA FRONT 71	Pitch error main scanning color (Magenta) F	The pitch data are not within the allowable range.
	72	MAIN MAGENTA FRONT 72	Adjustment value number error main scanning color (Magenta) F	The calculation result value is not within the allowable range.
	73	MAIN MAGENTA FRONT 73	Result value error main scanning color (Magenta) F	The variation in the calculation result value is above the allowable range.
	75	MAIN MAGENTA REAR 75	Number of lines error main scanning color (Magenta) R	The pitch data number are not the specified value.
	76	MAIN MAGENTA REAR 76	Pitch error main scanning color (Magenta) R	The pitch data are not within the allowable range.
	77	MAIN MAGENTA REAR 77	Adjustment value error main scanning color (Magenta) R	The calculation result value is not within the allowable range.
	78	MAIN MAGENTA REAR 78	Result value error main scanning color (Magenta) R	The variation in the calculation result value is above the allowable range.
	80	MAIN YELLOW FRONT 80	Number of lines error main scanning color (Yellow) F	The pitch data number are not the specified value.
	81	MAIN YELLOW FRONT 81	Pitch error main scanning color (Yellow) F	The pitch data are not within the allowable range.

	Error code	Error display	Error content	Description
Main scanning adjustment error	82	MAIN YELLOW FRONT 82	Adjustment value error main scanning color (Yellow) F	The calculation result value is not within the allowable range.
	83	MAIN YELLOW FRONT 83	Result value error main scanning color (Yellow) F	The variation in the calculation result value is above the allowable range.
	85	MAIN YELLOW REAR 85	Number of lines error main scanning color (Yellow) R	The pitch data number are not the specified value.
	86	MAIN YELLOW REAR 86	Pitch error main scanning color (Yellow) R	The pitch data are not within the allowable range.
	87	MAIN YELLOW REAR 87	Adjustment value error main scanning color (Yellow) R	The calculation result value is not within the allowable range.
	88	MAIN YELLOW REAR 88	Result value error main scanning color (Yellow) R	The variation in the calculation result value is above the allowable range.
	Others	99	OTHER 99	Other errors

When an error occurs, try the adjustment again. If an error still occurs, there may be an abnormality in the process section. Check the process section for any abnormality.

50-24

Purpose

(This simulation is normally not used in the market.)

Function (Purpose)

Used to display the detail data of SIM 44-2, 50-20 and 22.

Section

Operation/Procedure

- 1) Select a target color of data display.
- 2) Use [BACK], [NEXT] buttons and [OK] key to select the display category.

NOTE: This simulation is mainly used by the technical division, and is not necessary for the market.

Item classification	Display	Item content	Setting range	Related SIM
Registration adjustment status check	REG_EXE_CNT	Number of executions of the registration adjustment (Auto execution)	0 - 99999999	50-22
	REG_SUC_CNT	Number of success of the registration adjustment (Auto execution)	0 - 99999999	50-22
	REG_CNT	Registration adjustment registration counter	0 - 99999999	-
Error record status check	ERROR HISTORY	Error record status check	-	50-22

51-1	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the ON/OFF timing of the secondary transport voltage.

Section

Operation/Procedure

- 1) Select a target adjustment item.
- 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

When the adjustment value is decreased, the transfer ON/OFF timing for the paper is advanced. When the adjustment value is increased, the timing is delayed.

When the adjustment value is changed by 1, the timing is changed by about 10ms. The setting range is -490 - +490ms.

Item/Display		Content	Default value
A	TC2 ON TIMING	Secondary transfer voltage ON timing setting	40
B	TC2 OFF TIMING	Secondary transfer voltage OFF timing setting	60

51-2	
Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the contact pressure (deflection amount) on paper by the resist roller. (This adjustment is performed when there is a considerable variation in the print image position on the paper or when paper jams frequently occur.)

Section

Operation/Procedure

- 1) Select an adjustment target mode.
- 2) Select a target adjustment item.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

Mode		Display/Item	Content		Setting range	Default value
A	ENGINE	TRAY1(S)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Small size)	LT size (215mm) or less	1 - 99	30
B		TRAY1(L)	Main unit cassette 1 (Upper stage)/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	30
C		MANUAL PLAIN PAPER(S)	Manual feed tray/deflection adjustment value (Plain paper/Small size)	LT size (215mm) or less	1 - 99	50
D		MANUAL PLAIN PAPER(L)	Manual feed tray/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	50
E		MANUAL HEAVY PAPER(S)	Manual feed tray/deflection adjustment value (Heavy paper/Small size)	LT size (215mm) or less	1 - 99	90
F		MANUAL HEAVY PAPER(L)	Manual feed tray/deflection adjustment value (Heavy paper/Large size)	LT size (216mm) or above	1 - 99	90
G		MANUAL OHP	Manual feed tray/deflection adjustment value (OHP)	-	1 - 99	90
H		MANUAL ENV	Manual feed tray/deflection adjustment value (Envelope)	-	1 - 99	90
I		ADU PLAIN PAPER(S)	ADU/deflection adjustment value (Plain paper/Small size)	LT size (215mm) or less	1 - 99	20
J		ADU PLAIN PAPER(L)	ADU/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	20
K		DESK(S)	DESK/deflection adjustment value (Plain paper/Small size)	LT size (215mm) or less	1 - 99	30
L		DESK(L)	DESK/deflection adjustment value (Plain paper/Large size)	LT size (216mm) or above	1 - 99	30

<Note on "Large size" and "Small size">

"Small size": The paper length in the transport direction is LT size (216mm) or less.

"Large size": The paper length in the transport direction is greater than LT size (216mm).

<Adjustment value>

When the adjustment value is increased, the warp amount is increased. When the adjustment value is decreased, the warp amount is decreased.

When the adjustment value is changed by 1, the stop timing is changed by 0.1mm.

55

55-1	
Purpose	(Do not use this function unless specially required.)
Function (Purpose)	Used to set the specifications of the engine control operations. (SOFT SW)
Section	

55-3	
Purpose	(Do not use this function unless specially required.)
Function (Purpose)	Used to set the specifications of the control operation. (SOFT SW)
Section	

56

56-1	
Purpose	Data backup (Data transfer)
Function (Purpose)	Used to transport data between HDD - MFP PWB SRAM/EEPROM. (Used to repair the PWB.)
Section	

Operation/Procedure

- 1) Select a target content of data transfer.
 - 2) Select [EXECUTE] button, and press [OK] key.
 - 3) Select [YES] button, and press [OK] key.
- Data transfer of the item selected in procedure 1) is executed.
- When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

ALL → HDD	All the memory contents are transferred to the HDD.
HDD → ALL	The HDD contents are transferred to all the memories.
EEPROM → HDD	Transfer from EEPROM to HDD
HDD → EEPROM	Transfer from HDD to EEPROM
SRAM → HDD	Data transfer from SRAM to HDD. (Including the FAX memory) When the FAX memory or an option memory (memory for FAX) is installed, the contents in the memory for FAX are also transferred to HDD.
HDD → SRAM	Transfer from HDD to SRAM (including the FAX memory) When the FAX memory or an option memory (memory for FAX) is installed, the contents of the FAX memory are also transferred to HDD.

56-2	
Purpose	Data backup (Data transfer)
Function (Purpose)	Used to backup the data in the EEPROM, SRAM, and HDD to the USB memory. (Corresponding to the device cloning and the storage backup.)
Section	

Operation/Procedure

- 1) Insert the USB memory into the main unit.
- 2) Select a transfer mode.
- 3) Select a target transfer file.

- 4) Select [EXECUTE] button, and press [OK] key.
 - 5) Select [YES] button, and press [OK] key.
- Data transfer is performed
- When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

(Machine with the DSK installed)

- 1) Insert the USB memory into the main unit.
 - 2) Select a transfer mode.
 - 3) Select a target transfer file.
 - 4) Enter the password.
 - 5) Select [SET] button, and press [OK] key.
 - 6) Select [EXECUTE] button, and press [OK] key.
 - 7) Select [YES] button, and press [OK] key.
- Data transfer is performed.

When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

<Data list outside the backup targets>

(EEPROM/SRAM)

PWB Type	Content	NOTE
Controller	Machine serial No.	
	Product key information	
	Various counter	
	Trouble history	
PCU	Machine serial No.	
	Various counter	Maintenance counter
	Machine adjustment execute history	
	Trouble history	

(HDD)

Classification	Content	NOTE
User authentication	User pixel counter	
Japanese FEP	User dictionary	
Job end list	Job end list display data (The image send series include the preserved job list.)	
Log	Job log	Read from WEB is enable.
New N/A	<ul style="list-style-type: none"> • Print history information • JAM history information • Trouble history information • Same position continuous jam count value • Charging information • Life information 	
Operation manual	E-manual	
Program	Main program data	

56-3	
Purpose	Data backup (Data transfer)
Function (Purpose)	Used to backup the print hold data (document filling data) to the USB memory.
Section	

Operation/Procedure

- 1) Insert the USB memory into the main unit.
 - 2) Select a transfer mode.
 - 3) Select a target transfer file.
 - 4) Select [EXECUTE] button, and press [OK] key.
 - 5) Select [YES] button, and press [OK] key.
- Data transfer is performed.
- When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.

56-4	
Purpose	Data backup (Data transfer)
Function (Purpose)	Used to backup the JOB log data to the USB memory.
Section	
Operation/Procedure	
1) Insert the USB memory into the main unit. 2) Select [JOB LOG EXPORT]. 3) Select [EXECUTE] button, and press [OK] key. 4) Select [YES] button, and press [OK] key. Data transfer selected in the procedure 2) is performed. When the operation is completed normally, "COMPLETE" is displayed. In case of an abnormal end, "ERROR" is displayed.	

60

60-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the operations (read/write) of the MFP PWB memory.
Section	
Operation/Procedure	
1) Select [EXECUTE] button, and press [OK] key. Start the test.	
Result display	Description
OK	Success
NG	Error
NONE	Not installed (Including DIMM trouble)
INVALID	Execution disable

SLOT	Description	
SLOT1	System memory (expansion)	DIMM2
SLOT2	System memory (standard)	DIMM1
SLOT3	Local memory (MFP expansion)	DIMM4
SLOT4	Local memory (MFP standard)	DIMM3
SLOT5	Local memory (Codec standard)	DIMM5

60-2	
Purpose	(This simulation is normally not used in the market.)
Function (Purpose)	Used to set the MFP PWB on-board SDRAM.
Section	
Operation/Procedure	
1) Select an item to be set. 2) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.) NOTE: Set to the default value.	

Item/Display		Content		Setting range		Default value
A	SETTING ENABLE	DISABLE	SDRAM setting change flag	0 - 1	0	0
		ENABLE	DDR setting of On-board SPD DDR setting of B or later		1	

Item/Display			Content	Setting range		Default value
B	NUMBER OF ROW	11BIT	ROW address width	0 - 2	0	2
		12BIT			1	
		13BIT			2	
C	NUMBER OF COLUMN	8BIT	COLUMN address width	0 - 4	0	2
		9BIT			1	
		10BIT			2	
		11BIT			3	
		12BIT			4	
D	TWR SETTING VALUE	2CLOCK	TWR set value	0 - 3	0	1
		3CLOCK			1	
		4CLOCK			2	
		5CLOCK			3	
E	TRAS SETTING VALUE	4CLOCK	TRAS set value	0 - 3	0	2
		5CLOCK			1	
		6CLOCK			2	
		7CLOCK			3	
F	TRC SETTING VALUE	6CLOCK	TRC set value	0 - 4	0	3
		7CLOCK			1	
		8CLOCK			2	
		9CLOCK			3	
		10CLOCK			4	
G	TRCD SETTING VALUE	2CLOCK	TRCD set value	0 - 3	0	1
		3CLOCK			1	
		4CLOCK			2	
		5CLOCK			3	
H	TRP SETTING VALUE	2CLOCK	TRP set value	0 - 3	0	1
		3CLOCK			1	
		4CLOCK			2	
		5CLOCK			3	
I	TFRC SETTING VALUE	7CLOCK	TFRC set value	0 - 13	0	3
		8CLOCK			1	
		-			-	
		20CLOCK			13	
J	CAS LATENCY	CL=2	CAS latency	0 - 2	0	1
		CL=2.5			1	
		CL=3			2	
K	TTL NUM OF MB ONBOARD DDR	NONE	On-board DDR total capacity	0 - 2	0	1
		128M BYTE			1	
		256M BYTE			2	
L	NUM OF ONBD- DDR CS-BANK	NONE	On-board DDR bunk number	0 - 2	0	1
		1CHIP			1	
		2CHIP			2	

61

61-1	
Purpose	Operation test/check
Function (Purpose)	Used to check the LSU polygon motor rotation and laser detection.
Section	LSU
Operation/Procedure	
1) Select [EXECUTE] button, and press [OK] key. When the operation is completed normally, [OK] is displayed. In case of an abnormal end, [NG] is displayed.	

Display	Content
LSU TESTRESULT NG: PG	Polygon mirror rotation abnormality
LSU TESTRESULT NG: K	Laser abnormality (K)
LSU TESTRESULT NG: CL	Laser light emitting abnormality (C,M,Y)

61-3	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the laser power
Section	

Operation/Procedure

- 1) Select a target mode for adjustment.
- 2) Select a target adjustment item.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

When the laser power and the DUTY adjustment value are increased, the print density is increased and the line width of line images are increased.

• MX-C400P/C380P

Mode	Item/Display		Content	Setting range	Default value	Destination linkage
PR600	A	LASER POWER MIDDLE (K1)	Used to set the laser power (Middle speed/ K1)	0 - 255	128	×
	B	LASER POWER MIDDLE (K2)	Used to set the laser power (Middle speed/ K2)	0 - 255	128	×
	C	LASER POWER MIDDLE (C1)	Used to set the laser power (Middle speed/ C1)	0 - 255	128	×
	D	LASER POWER MIDDLE (C2)	Used to set the laser power (Middle speed/ C2)	0 - 255	128	×
	E	LASER POWER MIDDLE (M1)	Used to set the laser power (Middle speed/ M1)	0 - 255	128	×
	F	LASER POWER MIDDLE (M2)	Used to set the laser power (Middle speed/ M2)	0 - 255	128	×
	G	LASER POWER MIDDLE (Y1)	Used to set the laser power (Middle speed/ Y1)	0 - 255	128	×
	H	LASER POWER MIDDLE (Y2)	Used to set the laser power (Middle speed/ Y2)	0 - 255	128	×
	I	LASER POWER LOW (K1)	Used to set the laser power (Low speed/ K1)	0 - 255	128	×
	J	LASER POWER LOW (K2)	Used to set the laser power (Low speed/ K2)	0 - 255	128	×
	K	LASER POWER LOW (C1)	Used to set the laser power (Low speed/ C1)	0 - 255	128	×
	L	LASER POWER LOW (C2)	Used to set the laser power (Low speed/ C2)	0 - 255	128	×
	M	LASER POWER LOW (M1)	Used to set the laser power (Low speed/ M1)	0 - 255	128	×
	N	LASER POWER LOW (M2)	Used to set the laser power (Low speed/ M2)	0 - 255	128	×

Mode	Item/Display		Content	Setting range	Default value	Destination linkage
PR600	O	LASER POWER LOW (Y1)	Used to set the laser power (Low speed/ Y1)	0 - 255	128	×
	P	LASER POWER LOW (Y2)	Used to set the laser power (Low speed/ Y2)	0 - 255	128	×
	Q	LASER POWER MIDDLE (BW1)	Used to set the laser power (Middle speed/ BW1)	0 - 255	128	×
	R	LASER POWER MIDDLE (BW2)	Used to set the laser power (Middle speed/ BW2)	0 - 255	128	×
	S	LASER POWER LOW (BW1)	Used to set the laser power (Low speed/ BW1)	0 - 255	128	×
	T	LASER POWER LOW (BW2)	Used to set the laser power (Low speed/ BW2)	0 - 255	128	×
	U	LASER DUTY MIDDLE (K)	Laser DUTY select middle speed (K)	0 - 255	0	○
	V	LASER DUTY MIDDLE (C)	Laser DUTY select middle speed (C)	0 - 255	0	○
	W	LASER DUTY MIDDLE (M)	Laser DUTY select middle speed (M)	0 - 255	0	○
	X	LASER DUTY MIDDLE (Y)	Laser DUTY select middle speed (Y)	0 - 255	0	○
	Y	LOW (K)	Laser DUTY select low speed (K)	0 - 255	0	○
	Z	LOW (C)	Laser DUTY select low speed (C)	0 - 255	0	○
	AA	LOW (M)	Laser DUTY select low speed (M)	0 - 255	0	○
	AB	LOW (Y)	Laser DUTY select low speed (Y)	0 - 255	0	○
	AC	LASER DUTY MIDDLE (BW)	Laser DUTY select middle speed (BW)	0 - 255	0	○
	AD	LASER DUTY LOW (BW)	Laser DUTY select low speed (BW)	0 - 255	0	○
PR1200	A	LASER POWER MIDDLE (K1)	Used to set the laser power (Middle speed/ K1)	0 - 255	128	×
	B	LASER POWER MIDDLE (K2)	Used to set the laser power (Middle speed/ K2)	0 - 255	128	×
	C	LASER POWER MIDDLE (C1)	Used to set the laser power (Middle speed/ C1)	0 - 255	128	×

Mode	Item/Display		Content	Set- ting range	De- fault value	Desti- nation linkage
PR1200	D	LASER POWER MIDDLE (C2)	Used to set the laser power (Middle speed/ C2)	0 - 255	128	×
	E	LASER POWER MIDDLE (M1)	Used to set the laser power (Middle speed/ M1)	0 - 255	128	×
	F	LASER POWER MIDDLE (M2)	Used to set the laser power (Middle speed/ M2)	0 - 255	128	×
	G	LASER POWER MIDDLE (Y1)	Used to set the laser power (Middle speed/ Y1)	0 - 255	128	×
	H	LASER POWER MIDDLE (Y2)	Used to set the laser power (Middle speed/ Y2)	0 - 255	128	×
	I	LASER POWER LOW (K1)	Used to set the laser power (Low speed/ K1)	0 - 255	128	×
	J	LASER POWER LOW (K2)	Used to set the laser power (Low speed/ K2)	0 - 255	128	×
	K	LASER POWER LOW (C1)	Used to set the laser power (Low speed/ C1)	0 - 255	128	×
	L	LASER POWER LOW (C2)	Used to set the laser power (Low speed/ C2)	0 - 255	128	×
	M	LASER POWER LOW (M1)	Used to set the laser power (Low speed/ M1)	0 - 255	128	×
	N	LASER POWER LOW (M2)	Used to set the laser power (Low speed/ M2)	0 - 255	128	×
	O	LASER POWER LOW (Y1)	Used to set the laser power (Low speed/ Y1)	0 - 255	128	×
	P	LASER POWER LOW (Y2)	Used to set the laser power (Low speed/ Y2)	0 - 255	128	×
	Q	LASER POWER MIDDLE (BW1)	Used to set the laser power (Middle speed/ BW1)	0 - 255	128	×
	R	LASER POWER MIDDLE (BW2)	Used to set the laser power (Middle speed/ BW2)	0 - 255	128	×
	S	LASER POWER LOW (BW1)	Used to set the laser power (Low speed/ BW1)	0 - 255	128	×
	T	LASER POWER LOW (BW2)	Used to set the laser power (Low speed/ BW2)	0 - 255	128	×
	U	LASER DUTY MIDDLE (K)	Laser DUTY select middle speed (K)	0 - 255	0	×

Mode	Item/Display		Content	Setting range	De-fault value	Desti-nation linkage
PR1200	V	LASER DUTY MIDDLE (C)	Laser DUTY select middle speed (C)	0 - 255	0	×
	W	LASER DUTY MIDDLE (M)	Laser DUTY select middle speed (M)	0 - 255	0	×
	X	LASER DUTY MIDDLE (Y)	Laser DUTY select middle speed (Y)	0 - 255	0	×
	Y	LOW (K)	Laser DUTY select low speed (K)	0 - 255	0	×
	Z	LOW (C)	Laser DUTY select low speed (C)	0 - 255	0	×
	AA	LOW (M)	Laser DUTY select low speed (M)	0 - 255	0	×
	AB	LOW (Y)	Laser DUTY select low speed (Y)	0 - 255	0	×
	AC	LASER DUTY MIDDLE (BW)	Laser DUTY select middle speed (BW)	0 - 255	0	×
	AD	LASER DUTY LOW (BW)	Laser DUTY select low speed (BW)	0 - 255	0	×

• MX-B400P/B380P/B382P



Mode	Item/Display		Content	Setting range	Default value
PR600	A	LASER POWER MIDDLE (BW1)	Used to set the laser power (Middle speed/BW1)	0 - 255	128
	B	LASER POWER MIDDLE (BW2)	Used to set the laser power (Middle speed/BW2)	0 - 255	128
	C	LASER POWER LOW (BW1)	Used to set the laser power (Low speed/BW1)	0 - 255	128
	D	LASER POWER LOW (BW2)	Used to set the laser power (Low speed/BW2)	0 - 255	128
	E	LASER DUTY MIDDLE (BW)	Laser DUTY select middle speed/BW	0 - 255	0
	F	LASER DUTY LOW (BW)	Laser DUTY select low speed/BW	0 - 255	0
PR1200	A	LASER POWER MIDDLE (BW1)	Used to set the laser power (Middle speed/BW1)	0 - 255	128
	B	LASER POWER MIDDLE (BW2)	Used to set the laser power (Middle speed/BW2)	0 - 255	128
	C	LASER POWER LOW (BW1)	Used to set the laser power (Low speed/BW1)	0 - 255	128
	D	LASER POWER LOW (BW2)	Used to set the laser power (Low speed/BW2)	0 - 255	128
	E	LASER DUTY MIDDLE (BW)	Laser DUTY select middle speed/BW	0 - 255	0
	F	LASER DUTY LOW (BW)	Laser DUTY select low speed/BW	0 - 255	0

61-4	
Purpose	Adjustment
Function (Purpose)	Used to print the print image skew adjustment pattern. (LSU unit)

Section

Operation/Procedure

- 1) Select a target item.
- 2) Set the print conditions of the adjustment pattern. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select [EXECUTE] button, and press [OK] key.
The print image skew adjustment pattern is printed.

Item/Display			Content			Default value
A	MULTICOUNT		Print quantity			1
B	PAPER	MFT	Tray selection	1	Manual paper feed	2 (CS1)
		CS1		2	Tray 1	
		CS2		3	Tray 2	
		CS3		4	Tray 3	
		CS4		5	Tray 4	

62

62-1	
Purpose	
Function (Purpose)	Used to execute the hard disk format (except operation manual area).

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
 - 2) Select [YES] button, and press [OK] key.
Used to execute the hard disk format.
- When the operation is completed, [EXECUTE] button returns to the normal display.

62-2	
Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the hard disk (partial).

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

62-3	
Purpose	Operation test/check
Function (Purpose)	Used to check read/write of the hard disk (all areas).

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.
Read/write operations are performed.

62-6	
Purpose	Operation test/check
Function (Purpose)	Used to perform the self diagnostics of the hard disk.

Section

Operation/Procedure

- 1) Select the self diag area.
 - 2) Select [EXECUTE] button, and press [OK] key.
The self diag operation is performed.
- NOTE: E7-03 error occurs. If there may be a trouble in the HDD, use this simulation to check the HDD.

SHORT S.T	Partial area diag
EXTENDED S.T	All area diag

When the operation is completed, [EXECUTE] button returns to the normal display.

Normal completion → "OK(RESULT:0)" is displayed.

Abnormal end → "NG(RESULT: Other than 0)" is displayed.

* If the simulation cannot be executed or terminated abnormally for some reason, "ERROR" is displayed on the corresponding section.

62-7	
Purpose	Operation test/check
Function (Purpose)	Used to print the hard disk self diagnostics error log.

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- ERROR LOG SECTOR of the SMART function is executed, and the result is printed.
- When the operation is completed, [EXECUTE] button returns to the normal display.

62-8	
Purpose	
Function (Purpose)	Used to format the hard disk. (Excluding the system area and the operation manual area)

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
 - 2) Select [YES] button, and press [OK] key.
Used to execute the hard disk format.
- When the operation is completed, [EXECUTE] button returns to the normal display.
- * When the HDD formatting (except for the system area) is not completed normally, "HDD FORMAT (EXCEPT SYSTEM AREA) NG" is displayed.

62-10	
Purpose	Data clear
Function (Purpose)	Used to delete the job log data.

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
 - 2) Select [YES] button, and press [OK] key.
Used to delete the job log data.
- When the operation is completed, [EXECUTE] button returns to the normal display.

62-11	
Purpose	Data clear
Function (Purpose)	Used to delete the print hold data (document filing data).

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

Used to delete the print hold data.

When the operation is completed, [EXECUTE] button returns to the normal display.

62-12	
Purpose	Setting
Function (Purpose)	Used to set Enable/Disable of auto format in a hard disk trouble.

Section

Operation/Procedure

- 1) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

When it is set to Enable, if a read error of HDD occurs in the system data storage area (device cloning data, etc.), only the system data storage area is cleared.

A	0	Enable
	1	Disable (Default)

62-13	
Purpose	Data clear
Function (Purpose)	Used to format the hard disk. (only the operation manual area)

Section

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.

The operation manual data are deleted.

When the operation is completed, [EXECUTE] button returns to the normal display.

64

64-1	
Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Color mode) (MX-C400P/C380P)

Section

Operation/Procedure

- 1) Select an item to be print condition.
- 2) Set the print conditions. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select a target print color.
- 4) Select [EXECUTE] button, and press [OK] key.

The test print (self print) is performed.

Item/Display		Content		Setting range		Default value
A	PRINT PATTERN (1,2,9 - 11,15 - 19,21,22,29)	Specification of the print pattern (* For details, refer to the description below.)		1 - 58 (Printable only 1, 2, 9 - 11, 15 - 19, 21, 22, 29)		1
B	DOT1 (DOT1>=2 IF A:2,11)	Setting of print dot number (M parameter) (Self print pattern: m by n)		1-255 (Pattern 2,11: 2-255 except above: 1-255)		1
C	DOT2 (DOT2>=2 IF A:2,11)	Setting of blank dot number (N parameter) (Self print pattern: m by n)		0-255 (Pattern2,11: 2-255 except above: 0-255)		254
D	DENSITY (FIXED "255" IF A: 9)	Used to specify the print gradation.		1-255 (Pattern 9: 255 Fixed except above:1-255)		255
E	MULTI COUNT	Number of print		1 - 999		1
F	EXPOSURE (2 - 8 IF A: 15 - 19)	THR Exposure mode specification	No process (through)	1-8 (Pattern 15-19: 2-8 except above:1-8)	1	8 (STANDARD DITHER)
			Text/Printed Photo		2	
			Text/ Photograph		3	
			Text		4	
			Printed Photo		5	
			Photograph		6	
			Map		7	
			Dither without correction		8	

Item/Display			Content		Setting range		Default value
G	PAPER	MFT	Tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
H	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)
		NO		No		1	
I	PAPER TYPE	PLAIN	Paper type	Standard paper	1 - 4	1	1 (PLAIN)
		HEAVY		Heavy paper		2	
		OHP		OHP		3	
		ENVELOPE		Envelope		4	

<Print pattern of Item A>

Pattern No.	Content	Pattern generating section	NOTE
1	Grid pattern	LSU-ASIC	
2	Dot print		-
9	Each color 10% area (A4/A4E) density print		Each interval is 41.86mm (989dot).
10	8-color belt print		
11	4-color dot print (sub scan)		
15	16 gradations + M by N (center gradations only): Sub scan	MFP ASIC	<ul style="list-style-type: none"> When all colors are selected, print is made in CMY. 16 gradations print The gradation is changed for every 256 dots.
16	16 gradations + M by N (center gradations only): Main scan		
17	All background (halftone)	Halftone (MFP ASIC rear process)	When all colors are selected, print is made in CMY.
18	256 gradations pattern (Other dither)		<ul style="list-style-type: none"> When all colors are selected, print is made in CMY. 16 gradations are printed in the main scanning direction, and feedback is made, and the next 16 gradations are printed. (16 x 16 patch print) Print is made from 255 gradations, and 0-254 gradations are printed.
19	256 gradations pattern (For text dither)		
20	-	-	-
21	4-point dot print (main scan)	LSU-ASIC	
22	Slant line		
29	Dot print 1200dpi		

64-2	
Purpose	Operation test/check
Function (Purpose)	Test print. (Self print) (Monochrome mode)
Section	

Operation/Procedure

- 1) Select an item to be print condition.
- 2) Set the print conditions. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select [EXECUTE] button, and press [OK] key.
The test print (self print) is performed.

Item/Display			Content		Setting range		Default value
A	PRINT PATTERN (1,2,9 - 11,15 - 19,21,22,29)		Print pattern specification (* For details, refer to the description below.)		1 - 58 (Printable only 1, 2, 9 - 11, 15 - 19, 21, 22, 29)		1
B	DOT1 (DOT1>=2 IF A:2,11)		Setting of print dot number (M parameter) (Self print pattern: m by n)		1-255 (Pattern 2,11: 2-255 except above: 1-255)		1
C	DOT2 (DOT2>=2 IF A:2,11)		Setting of blank dot number (N parameter) (Self print pattern: m by n)		0-255 (Pattern2,11: 2-255 except above: 0-255)		254
D	DENSITY (FIXED "255" IF A: 9)		Used to specify the print gradation.		1-255 (Pattern 9: 255 Fixed except above:1-255)		255
E	MULTI COUNT		Number of print		1 - 999		1
F	EXPOSURE (2 - 8 IF A: 15 - 19)	THR	Exposure mode specification	No process (through)	1-8 (Pattern 15-19: 2-8 except above:1-8)	1	8 (STANDARD DITHER)
		CH/PC		Text/Printed Photo		2	
		CH/PR		Text/ Photograph		3	
		CHAR		Text		4	
		PR PC		Printed Photo		5	
		PR PP		Photograph		6	
		MAP		Map		7	
		STD D		Dither without correction		8	

Item/Display			Content		Setting range		Default value
G	PAPER	MFT	Tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
H	DUPLEX	YES	Duplex print selection	Yes	0 - 1	0	1 (NO)
		NO		No		1	
I	PAPER TYPE	PLAIN	Paper type	Standard paper	1 - 4	1	1 (PLAIN)
		HEAVY		Heavy paper		2	
		OHP		OHP		3	
		ENVELOPE		Envelope		4	

<Print pattern of Item A>

Pattern No.	Content	Pattern generating section	NOTE
1	Grid pattern	LSU-ASIC	
2	Dot print		-
9	Each color 10% area (A4/A4R) density print		
10	8-color belt print		
11	4-color dot print (sub scan)		Print of each color is made for every 1/4 of the sub scanning paper size.
15	16 gradations + M by N (center gradations only): Sub scan	MFP ASIC	<ul style="list-style-type: none"> When all colors are selected, print is made in CMY. 16 gradations print The gradation is changed for every 256 dots.
16	16 gradations + M by N (center gradations only): Main scan		
17	All background (halftone)	Halftone (MFP ASIC after process)	-
18	256 gradations pattern (Other dither)		-
19	256 gradations pattern (For text dither)		-
20	-	-	-
21	4-point dot print (main scan)	LSU-ASIC	
22	Slant line		
29	Dot print 1200dpi		

64-4	
Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (256 gradations)
Section	

Operation/Procedure

- 1) Select an item to be print condition.
- 2) Set the print conditions. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select a target print color.
- 4) Select [EXECUTE] button, and press [OK] key.
The test print (self print) is performed.

• MX-C400P/C380P

Item/Display			Content		Setting range		Default value
A	PRINT PATTERN		Specification of the print pattern (* For details, refer to the description below.)		1 - 6		6
B	DENSITY		Used to specify the print gradation.		1 - 255		128
C	MULTI COUNT		Number of print		1 - 999		1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
E	HALFTONE	LOW	Halftone	Low line number	0 - 1	0	0 (LOW)
		HIGH		High line number		1	
F	QUALITY	STANDARD	Image quality setting	Standard	0 - 2	0	1 (HIGHQUALITY)
		HIGHQUALITY		Fine image quality		1	
		FINE		Ultra fine text		2	
G	DITHER	STRAIGHT	Specification of dither correction	Straight	1 - 2	1	1 (Straight)
		CALIB		Calibration		2	
H	PAPER TYPE	PLAIN	Paper type	Standard paper	0 - 1	0	0
		HEAVY		Heavy paper		1	

<Print pattern of Item A>

Pattern No.	Content
1	256 gradations pattern (COLOR)
2	256 gradations pattern (B/W)
3	256 gradations pattern (COLOR) (Y-M-C-K continuous)
4	Halftone pattern (COLOR)
5	Halftone pattern (B/W)
6	4-color background, dot print (Sub scanning)

▲ • MX-B400P/B380P/B382P

Item/Display		Content		Setting range		Default value
A	PRINT PATTERN	Specification of the print pattern (* For details, refer to the description below.)		1 - 3		3
B	DENSITY	Used to specify the print gradation.		1 - 255		128
C	MULTI COUNT	Number of print		1 - 999		1
D	PAPER	MFT	Paper feed tray selection	1 - 5	1	2 (CS1)
		CS1	Manual paper feed		2	
		CS2	Tray 1		3	
		CS3	Tray 2		4	
		CS4	Tray 3		5	
E	QUALITY	STANDARD	Image quality setting	0 - 2	0	1 (HIGHQUALITY)
		HIGHQUALITY	Standard		1	
		FINE	Fine image quality		2	
F	DITHER	STRAIGHT	Specification of dither correction	1 - 2	1	1 (Straight)
		CALIB	Calibration		2	
G	PAPER TYPE	PLAIN	Paper type	0 - 1	0	0
		HEAVY	Standard paper		1	
			Heavy paper			

<Print pattern of Item A>

Pattern No.	Content
1	256 gradations pattern
2	Half tone pattern
3	Background, dot print (Sub scanning)

64-5

Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PCL)
Section	

Operation/Procedure

- 1) Select an item to be print condition.
- 2) Set the print conditions. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select a target print color.
- 4) Select [EXECUTE] button, and press [OK] key.
The test print (self print) is performed.

• MX-C400P/C380P

Item/Display		Content		Setting range		Default value
A	PRINT PATTERN	Specification of the print pattern (* For details, refer to the description below.)		1 - 3		3
B	DITHER	STRAIGHT	Specification of dither correction	1 - 2	1	2
		CALIB	Calibration		2	
C	MULTI COUNT	Number of print		1 - 999		1
D	PAPER	MFT	Paper feed tray selection	1 - 5	1	2 (CS1)
		CS1	Manual paper feed		2	
		CS2	Tray 1		3	
		CS3	Tray 2		4	
		CS4	Tray 3		5	
E	HALFTONE	LOW(IMAGE)	Halftone	0 - 1	0	0 (LOW)
		HIGH(TEXT)	For Photo		1	
F	QUALITY	STANDARD	Image quality setting	0 - 2	0	1 (HIGHQUALITY)
		HIGHQUALITY	Standard (600dpi, 1bit)		1	
		FINE	Fine image quality (600dpi, 4bit)		2	
G	INTENT	PERCEPTUAL	Rendering intent	0 - 2	0	0 (PERCEPTUAL)
		COLORIMETRIC	Perceptual		1	
		SATURATION	Color metric		2	
H	OUTPUT PROFILE	SHARP	Output profile	0 - 1	0	0 (SHARP)
		STANDARD	Standard		1	
			For Photo image			

Item/Display			Content		Setting range		Default value
I	RGB SOURCE PROFILE	SRGB	RGB source profile	SRGB	0 - 4	0	1 (Gamma1.6)
		GAMMA1.6		Gamma 1.6		1	
		GAMMA1.8		Gamma 1.8		2	
		GAMMA2.0		Gamma 2.0		3	
		TONER SAVE		TONER SAVE mode		4	
J	GRAY COMPENSATION	K	Gray compensation	K only	0 - 1	0	0 (K)
		KCMY		KCMY		1	
K	TONER SAVE MODE	ON	Toner save mode	set.	0 - 1	0	1 (OFF)
		OFF		not set.		1	
L	PAPER TYPE	PLAIN	Paper type	Standard paper	0 - 1	0	0 (PLAIN)
		HEAVY		Heavy paper		1	

<Print pattern of Item A>

Pattern No.	Content
1	COLOR
2	B/W
3	Continuous COLOR,B/W

▲ • MX-B400P/B380P/B382P

Item/Display			Content		Setting range		Default value
A	PRINT PATTERN		Specification of the print pattern (* For details, refer to the description below.)		1		1
B	DITHER	STRAIGHT	Specification of dither correction	Straight	1 - 2	1	2
		CALIB		Calibration		2	
C	MULTI COUNT		Number of print		1 - 999		1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
E	QUALITY	STANDARD	Image quality setting	Standard (600dpi, 1bit)	0 - 2	0	1 (HIGHQUALITY)
		HIGHQUALITY		Fine image quality (600dpi, 4bit)		1	
		FINE		Ultra Fine (1200dpi, 1bit)		2	
F	TONER SAVE MODE	ON	Toner save mode	set.	0 - 1	0	1 (OFF)
		OFF		not set.		1	
G	PAPER TYPE	PLAIN	Paper type	Standard paper	0 - 1	0	0 (PLAIN)
		HEAVY		Heavy paper		1	

<Print pattern of Item A>

Pattern No.	Content
1	B/W

64-6	
Purpose	Operation test/check
Function (Purpose)	Printer test print. (Self print) (PS)
Section	

Operation/Procedure

- 1) Select an item to be print condition.
- 2) Set the print conditions. (Enter the set value, and press [OK] key and OSA shortcut key.)
- 3) Select a print color.
- 4) Select [EXECUTE] button, and press [OK] key.
The test print (self print) is performed.

• MX-C400P/C380P

Item/Display			Content		Setting range		Default value
A	PRINT PATTERN		Specification of the print pattern (* For details, refer to the description below.)		1 - 2		1
B	DITHER	STRAIGHT	Specification of dither correction	Straight	1 - 2	1	2
		CALIB		Calibration		2	
C	MULTI COUNT		Number of print		1 - 999		1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	

Item/Display			Content		Setting range		Default value
E	HALFTONE	LOW(IMAGE)	Halftone	Photograph	0 - 1	0	0 (LOW)
		HIGH(TEXT)		For text		1	
F	QUALITY	STANDARD	Image quality setting	Standard (600dpi, 1bit)	0 - 2	0	1 (HIGHQUALITY)
		HIGHQUALITY		Fine image quality (600dpi, 4bit)		1	
		FINE		Ultra Fine (1200dpi, 1bit)		2	
G	INTENT	PERCEPTUAL	Rendering indent	Perceptual	0 - 2	0	0 (PERCEPTUAL)
		COLORIMETRIC		Color metric		1	
		SATURATION		Saturation		2	
H	OUTPUT PROFILE	SHARP	Output profile	Standard	0 - 1	0	0 (SHARP)
		STANDARD		For Photo image		1	
I	RGB SOURCE PROFILE	SRGB	RGB source profile	SRGB	0 - 5	0	1 (GAMMA1.6)
		GAMMA1.6		Gamma 1.6		1	
		GAMMA1.8		Gamma 1.8		2	
		GAMMA2.0		Gamma 2.0		3	
		TONER SAVE		Gamma 0.6		4	
J	GRAY COMPENSATION	K	Gray compensation	K only	0 - 1	0	0 (K)
		KCMY		KCMY		1	
K	CMY INK SIMULATION	OFF	Ink simulation	OFF	0 - 3	0	0 (OFF)
		SWOP		SWOP		1	
		EURO		EURO		2	
		JAPAN COLOR		JAPAN COLOR		3	
L	PAPER TYPE	PLAIN	Paper type	Standard paper	0 - 1	0	0 (PLAIN)
		HEAVY		Heavy paper		1	

<Print pattern of Item A>

Pattern No.	Content
1	COLOR
2	B/W

▲ • MX-B400P/B380P/B382P

Item/Display			Content		Setting range		Default value
A	PRINT PATTERN		Specification of the print pattern (* For details, refer to the description below.)		1		1
B	DITHER	STRAIGHT	Specification of dither correction	Straight	1 - 2	1	2
		CALIB		Calibration		2	
C	MULTI COUNT		Number of print		1 - 999		1
D	PAPER	MFT	Paper feed tray selection	Manual paper feed	1 - 5	1	2 (CS1)
		CS1		Tray 1		2	
		CS2		Tray 2		3	
		CS3		Tray 3		4	
		CS4		Tray 4		5	
E	QUALITY	STANDARD	Image quality setting	Standard (600dpi, 1bit)	0 - 2	0	1 (HIGHQUALITY)
		HIGHQUALITY		Fine image quality (600dpi, 4bit)		1	
		FINE		Ultra Fine (1200dpi, 1bit)		2	
F	PAPER TYPE	PLAIN	Paper type	Standard paper	0 - 1	0	0 (PLAIN)
		HEAVY		Heavy paper		1	

<Print pattern of Item A>

Pattern No.	Content
1	B/W

64-7	
Purpose	Operation test/check
Function (Purpose)	Used to the test print. (Self print). (This function is not used in the market.)
Section	
Operation/Procedure	
1) Select an item to be print condition.	
2) Set the print conditions.	
3) Select [EXECUTE] button, and press [OK] key.	

Item/Display			Content		Setting range	Default value	Writing
A	COPIES		Number of print		1 - 999	1	No
B	PROC ADJ	YES	0	The halftone process control correction value is reflected.	0 - 1	1	Yes
		NO	1	The halftone process control correction value is not reflected.			

65

65-5	
Purpose	Operation check/test
Function (Purpose)	Used to check the operation panel key input.

Section

Operation/Procedure

Press the keys sequentially according to the guidance displayed on the screen.

If the key entry is effective, the guidance for pressing the next key is displayed. When all the key entries are completed, "COMPLETE" is displayed.

67

67-17	
Purpose	
Function (Purpose)	Used to reset the printer controller.
Section	Printer

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
- 2) Select [YES] button, and press [OK] key.
The setting data related to the printer are deleted. (including the data related to the network)

When the operation is completed, [EXECUTE] button returns to the normal display.

67-21	
Purpose	Adjustment/Setup
Function (Purpose)	Printer color balance adjustment (Simplified adjustment) (MX-C400P/C380P)
Section	Printer

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
(A4 or 11" x 8.5" paper is automatically selected and the simplified color balance adjustment pattern is printed.)
- 2) Find out the patch which is nearest to the neutral gray among the printed patches of the simplified color balance adjustment pattern.
- 3) Enter the X and Y coordinate values of the patch found in procedure 2) as the adjustment values and press OSA shortcut key.
- 4) Select [EXECUTE] button, and press [OK] key.
- 5) Press [STOP] key to cancel SIM67-21.

67-22	
Purpose	Adjustment/Setup
Function (Purpose)	Printer color balance adjustment (Manual adjustment)/Printer density and gradation adjustment (Manual adjustment)
Section	Printer

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
(A4 or 11" x 8.5" paper is automatically selected and the adjustment pattern is printed.)
- 2) Find out the patch which is closest to the patch reference density of the color chart (UKOG-0331FCZZ) in the Low Density area, the Mid Density area, and the High Density area among the patches of printed adjustment pattern.

- 3) Enter the adjust number of the adjustment pattern patch which was found in procedure 2) as the adjustment value.

Select the adjustment density area (LOW, MID, HIGH), and select the adjustment target color (K, C, M, Y), and enter the adjustment number as the adjustment value and press OSA shortcut key.

Adjustment density area	Adjustment target color
LOW	K, C, M, Y
MID	K, C, M, Y
HIGH	K, C, M, Y

- 4) Select [EXECUTE] button on the display, and press [OK] key.
- 5) Press [STOP] key to cancel SIM67-22.

67-23	
Purpose	Adjustment/Setup
Function (Purpose)	Used to print the printer color balance check sheet. (MX-C400P/C380P)
Section	Printer

Operation/Procedure

- 1) Select [EXECUTE] button, and press [OK] key.
(A4 or 11" x 8.5" paper is automatically selected and the color balance check pattern is printed.)

67-25	
Purpose	Adjustment/Setup
Function (Purpose)	Printer color balance adjustment (Manual adjustment)/Printer density and gradation adjustment (Manual adjustment)
Section	Printer

Operation/Procedure

- 1) Select an adjustment target color.
- 2) Select a target adjustment density level.
- 3) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

* By using Δ ∇ buttons, the set value of each item can be collectively changed.

When the adjustment value is increased, the image density is increased, and vice versa.

Select [EXECUTE] button and press [OK] key, and the check pattern is printed in the color balance and the density corresponding to the adjustment value.

(At the same time, the adjustment value is saved.)

Item/Display		Setting range	Default value
A	POINT1	1 - 99	50
B	POINT2	1 - 99	50
C	POINT3	1 - 99	50
D	POINT4	1 - 99	50
E	POINT5	1 - 99	50
F	POINT6	1 - 99	50
G	POINT7	1 - 99	50
H	POINT8	1 - 99	50
I	POINT9	1 - 99	50
J	POINT10	1 - 99	50
K	POINT11	1 - 99	50
L	POINT12	1 - 99	50
M	POINT13	1 - 99	50
N	POINT14	1 - 99	50
O	POINT15	1 - 99	50
P	POINT16	1 - 99	50
Q	POINT17	1 - 99	50

67-30	
Purpose	Data transfer
Function (Purpose)	Used to set Enable/Disable of printer calibration data transfer. (Though this simulation menu is displayed, it does not work.)
Section	Printer
Operation/Procedure	
1) Select the set value, and press [OK] key and OSA shortcut key.	
0	Printer calibration data transfer Enable
1	Printer calibration data transfer Disable

67-31	
Purpose	Data clear
Function (Purpose)	Used to clear the printer calibration value.
Section	Printer
Operation/Procedure	
1) Select [EXECUTE] button, and press [OK] key.	
2) Select [YES] button, and press [OK] key.	
The printer calibration data (Halftone correction data) are cleared.	
(The printer color balance correction is canceled.)	

67-33	
Purpose	Adjustment/Setup
Function (Purpose)	Used to change the gamma of the printer screen. (for PCL/PS)
Section	Printer
Operation/Procedure	
1) Select a target change color.	
2) Select a target screen.	
To select the kind of SCREEN, select [SCREEN] button and press [OK] key. Every time when [OK] key is pressed, the kind of SCREEN is switched.	
3) Select a target adjustment density level.	
4) Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)	
Select [EXECUTE] button and press [OK] key, and the adjustment pattern corresponding to the adjustment value is printed.	

Item/Display	Content	Setting range	Default value
A	POINT1	Point 1	0 - 255
B	POINT2	Point 2	0 - 255
C	POINT3	Point 3	0 - 255
D	POINT4	Point 4	0 - 255
E	POINT5	Point 5	0 - 255
F	POINT6	Point 6	0 - 255
G	POINT7	Point 7	0 - 255
H	POINT8	Point 8	0 - 255
I	POINT9	Point 9	0 - 255
J	POINT10	Point 10	0 - 255
K	POINT11	Point 11	0 - 255
L	POINT12	Point 12	0 - 255
M	POINT13	Point 13	0 - 255
N	POINT14	Point 14	0 - 255
O	POINT15	Point 15	0 - 255
P	POINT16	Point 16	0 - 255
Q	POINT17	Point 17	0 - 255

Display	Content
SCREEN1	600dpi 1bit Photo
SCREEN2	600dpi 1 bit Graphics
SCREEN3	600dpi 4 bit Photo
SCREEN4	600dpi 4 bit Graphics
SCREEN5	1200dpi 1 bit Photo
SCREEN6	1200dpi 1 bit Graphics
SCREEN7	B/W 600dpi 1 bit
SCREEN8	B/W 600dpi 4 bit
SCREEN9	B/W 1200dpi 1 bit
SCREEN10	Toner Save B/W
HEAVY PAPER	Printer paper kind manual gamma correction (Heavy paper)

NOTE: The adjustment value can be reset to the default value with SIM67-25.

67-34	
Purpose	Adjustment/Setup
Function (Purpose)	Used to set the density correction in the printer high density section. (Support for the high density section tone gap)
Section	Printer
Operation/Procedure	
Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)	
0	Enable
1	Disable

• MX-C400P/C380P

Item/Display		Content		Setting range	Default value
A	CMY (0: ENABLE 1: DISABLE)	0	CMY engine highest density correction mode : Enable	0 - 1	0
		1	CMY engine highest density correction mode : Disable		
B	K (0: ENABLE 1: DISABLE)	0	K engine highest density correction mode : Enable	0 - 1	1
		1	K engine highest density correction mode : Disable		
C	CYAN MAX TARGET	Target value for CYAN maximum density correction		0 - 999	500
D	MAGENTA MAX TARGET	Target value for MAGENTA maximum density correction		0 - 999	500
E	YELLOW MAX TARGET	Target value for YELLOW maximum density correction		0 - 999	500
F	BLACK MAX TARGET	Target value for BLACK maximum density correction		0 - 999	500

- When tone gap is generated in the high density section, set items A and B to "0."
The density in the high density section is decreased, but tone gap is reduced.
- To increase the density in the high density section further, set items A and B to "1."
The tone gap may occur in high density part.

▲ • MX-B400P/B380P/B382P

Item/Display		Content		Setting range	Default value
A	K (0: ENABLE 1: DISABLE)	0	K engine highest density correction mode: Enable	0 - 1	1
		1	K engine highest density correction mode: Disable		
B	BLACK MAX TARGET	Scanner target value for BLACK maximum density correction		0 - 999	500

- When tone gap is generated in the high density section, set item A to "0".
The density in the high density section is decreased, but tone gap is reduced.
- To increase the density in the high density section further, set item A to "1".
The tone gap may occur in high density part.

NOTE: When the value of item B is changed, the density in the high density section is changed.

67-36

Purpose	Adjustment/Setup
Function (Purpose)	Used to adjust the density in the low density section.
Section	Printer

Operation/Procedure

- Set the set value. (Enter the set value, and press [OK] key and OSA shortcut key.)

When the adjustment value is increased, the low density images are strongly reduced. When the adjustment value is decreased, the low density are images are weakly reproduced.

When tone gap is generated in the low density section (highlight section), changing this adjustment value may improve the trouble.

67-52

Purpose	Adjustment
Function (Purpose)	Used to reset the printer color balance adjustment (adjustment for each dither) to the default value. (The set values of SIM67-33 is set to the default values.)
Section	

Operation/Procedure

This simulation is used to reset the adjustment values of SIM67-33 to the default values.

- Select an item to be reset to the default (for each dither).
To reset the adjustment values of all the items, select [ALL].

Select item (Mode)	Content
Heavy Paper	Adjustment item to improve the color balance in the heavy paper mode
1200dpi 1bit	Adjustment item to improve the color balance in 1200dpi mode (When 1200dpi mode is frequently used)
600dpi 1bit	Adjustment item to improve the color balance in 600dpi, 1bit mode.
B/W	Adjustment item to improve the density and gradation in the monochrome mode
ALL	Select all the items

- Select [EXECUTE] button, and press [OK] key.
- Select [YES] button, and press [OK] key.

The adjustment values of SIM67-33 are reset to the default values.

67-70

Purpose	Data clear
Function (Purpose)	MFP PWB SRAM data clear
Section	MFP PWB

Operation/Procedure

- Select [EXECUTE] button, and press [OK] key.
- Select [YES] button, and press [OK] key.

MFP PWB SRAM data is cleared.

When the operation is completed, [EXECUTE] button returns to the normal display.

NOTE: When replacing the MFP PWB and the HDD, if data backup cannot be made with SIM56-1 and 56-2, perform this simulation after replacement of the MFP PWB and the HDD.

[6] SELF DIAG AND TROUBLE CODE

1. Self diag

When a trouble occurs in the machine or when the life of a consumable part is nearly expired or when the life is expired, the machine detects and displays it on the display section. This allows the user and the serviceman to take the suitable action. In case of a trouble, this feature notifies the occurrence of a trouble and stops the machine to minimize the damage.

A. Function and purpose

- 1) Securing safety. (The machine is stopped on detection of a trouble.)
- 2) The damage to the machine is minimized. (The machine is stopped on detection of a trouble.)
- 3) By displaying the trouble content, the trouble position can be quickly identified. (This allows to perform an accurate repair, improving the repair efficiency.)
- 4) Preliminary warning of running out of consumable parts allows to arrange for new parts in advance of running out. (This avoids stopping of the machine due to running out the a consumable part.)

B. Self diag message kinds

The self diag messages are classified as shown in the table below.

Class 1	User	Warning of troubles which can be recovered by the user. (Paper jam, consumable part life expiration, etc.)
	Service	Warning of troubles which can be recovered only by a serviceman. (Motor trouble, maintenance, etc.)
	Others	-
Class 2	Warning	Warning to the user, not a machine trouble (Preliminary warning of life expiration of a consumable part, etc.)
	Trouble	Warning of a machine trouble. The machine is stopped.
	Others	-

C. Self diag operation

(1) Self diag operation and related work flow

The machine always monitors its own state.

When the machine recognizes a trouble, it stops the operation and displays the trouble message.

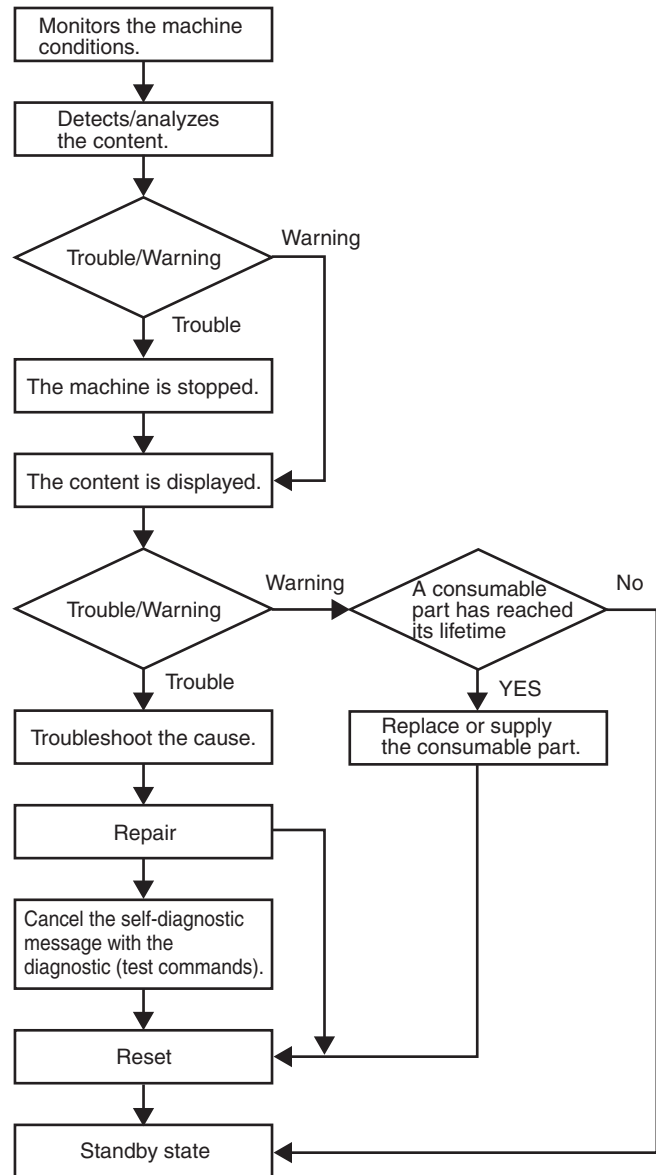
A warning message is displayed when a consumable part life is nearly expired or is expired.

When a warning message is displayed, the machine may be or may not be stopped.

The trouble messages and the warning messages are displayed by the LCD and lamp.

Some trouble messages are automatically cleared when the trouble is repaired. Some other troubles must be cleared by a simulation.

Some warning messages of consumable parts are automatically cleared when the trouble is repaired. Some other warning messages must be cleared by a simulation.



D. Breakdown sequence

(1) Breakdown mode processing

a. Breakdown mode list

There are following cases of the breakdown mode.

Kind of trouble	Judgment block	Trouble code	Operation mode	
			Print	List print
HDD trouble	MFP	E7 (03, 04)	×	×
HDD-ASIC self test trouble				
OPU communication trouble		E7 (80) A0 (02)	○	○
PCU communication trouble		E7 (90) A0 (01)	×	×
Power controller trouble		L8 (20)	×	×
Backup battery voltage fall		U1 (01)	×	×
Controller fan motor trouble		L4 (30)	×	×
Connection trouble (MFP detection)		E7 (60, 61, 65) A0 (10-12, 15, 20)	×	×
Serial number discrepancy		U2 (30)	×	×
Serial vendor trouble		U7 (50, 51)	×	×
Memory error (included not installed the expansion RAM)		U2 (00, 05, 10, 11, 24)	×	×
Image memory trouble, decode error		E7 (01, 06, 08, 09, 05)	×	×
Laser trouble	PCU	E7 (20, 21, 28, 29), L6 (10)	×	×
				*10
Connection trouble (PCU detection)		E7 (50, 55) A0 (21) F1 (50)	×	×
PCU section troubles (motor, fusing, etc.)		C1 (10, 14) C4 (00) F2 (11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 26, 27, 28, 29, 40, 64, 70, 74) H2 (00, 01, 02, 03, 04, 05) H3 (00, 01, 02, 04, 05) H4 (00, 01, 02, 04, 30) H5 (01) H7 (10, 11, 12, 14) H8 (00) L4 (02, 03, 04, 05, 06, 12, 16, 29, 31, 32, 34, 35, 50, 51) L8 (01, 02) U2 (90, 91)	×	×
				*10
PCU color system troubles		E7 (21, 22, 23) F2 (23, 24, 25, 41, 42, 43, 65, 66, 67, 71, 72, 73, 75, 76, 77)	×	×
			*19	*10 *19
Paper feed tray 1 trouble		F3 (12)	△ 3	△ 3 *10
Paper feed tray 3 trouble		U6 (01)	△ 3	△ 3 *10
Paper feed tray 4 trouble		U6 (02)	△ 3	△ 3 *10
Paper feed tray 5 trouble		U6 (03)	△ 3	△ 3 *10
Paper feed tray 6 trouble		U6 (33, 38)	△ 3	△ 3 *10
Paper feed tray other troubles		U6 (00,10,50)	△ 11	△ 11 *10
Staple trouble		F1 (10)	△ 4	△ 4 *10
After-process trouble		F1 (00, 03, 15, 19, 20, 29, 37, 21)	×	×
				*4 *10
Other troubles		EE (EL, EU, EC)	○	○
Process control trouble (PCU detection)		F2 (39, 49, 50, 51, 58, 78)	○	○
Only history is left (PCU detection)		F2 (45)	○	○

○ : Operation enabled, × : Operation disabled

△ 3 : When detected during other than a job, the operation is enabled with a tray other than the trouble tray.

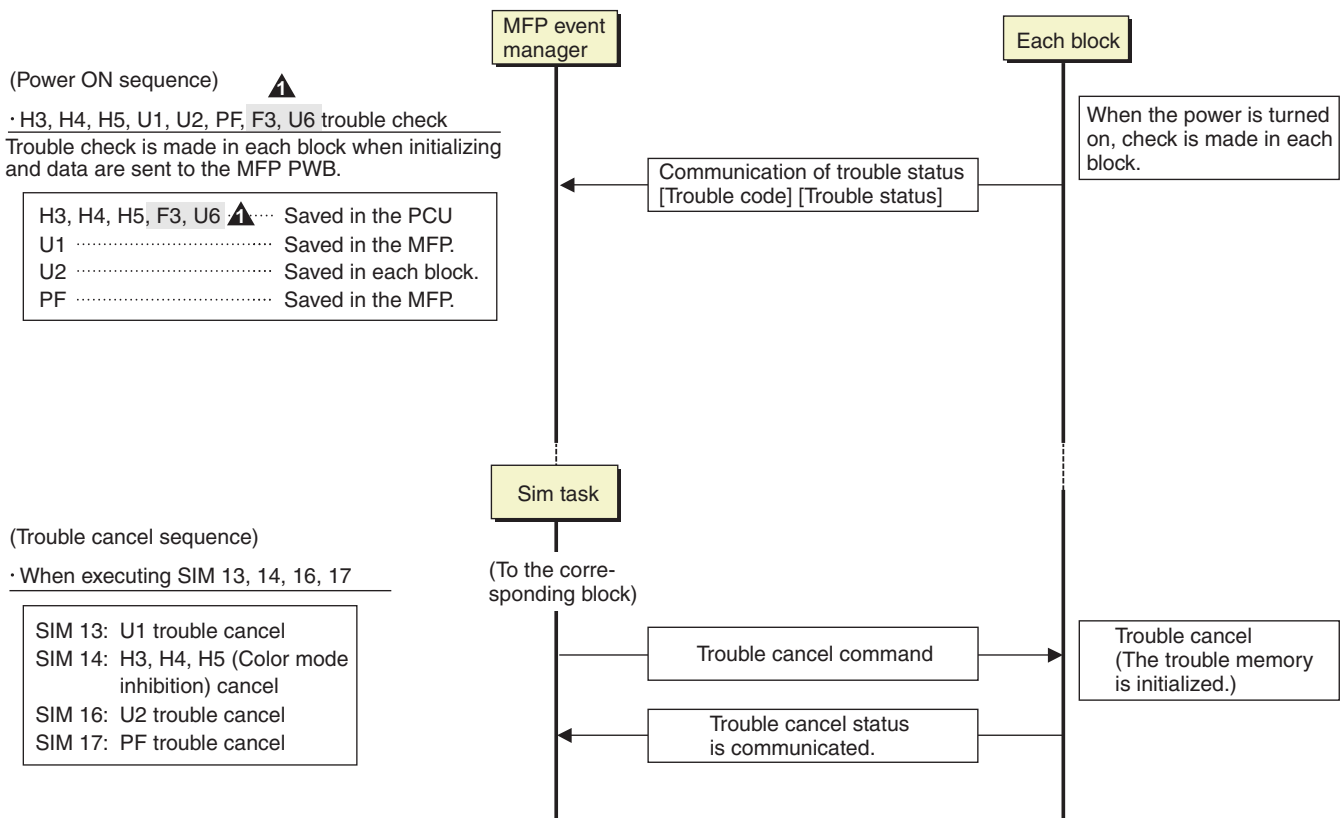
△ 4 : When detected during other than a job, the operation is enabled in a section other than the trouble paper exit section.

* 10 : Since communication is enabled, reception can be transferred.

△ 11 : When detected during other than a job, the operation is enabled in other than the DESK.

*19 : When use of the color mode is disabled in "Color mode use disable" setting of the system setting, an operation in the Black and White mode is enabled.

(2) Power ON trouble detection sequence.



(3) Error cancel method for each error code

Simulation	Error code
SIM13	U1
SIM14	H3, H4, H5
SIM16	U2
SIM17	PF
Power OFF - ON	Errors other than above

2. Trouble code list

Trouble code		Trouble code content	Trouble detection	Mechanism	Option	Electricity	Supply
Main code	Sub code						
C1	10	Main charger trouble (BK)	PCU			○	
	14	Main charger trouble (Color)	PCU			○	
C4	00	PTC trouble	PCU			○	
E7	01	MFP image data error	MFP			○	
	03	HDD trouble	MFP			○	
	04	HDD-ASIC error	MFP			○	
	05	Standard memory/expansion memory read/write error (MFP PWB)	MFP			○	
	06	Image data decode error	MFP			○	
	08	MFP memory compatibility error (MFP PWB)	MFP			○	
	09	Standard memory size/Expansion memory size error (MFP PWB)	MFP			○	
	20	LSU laser detection error (K) (*1)	PCU			○	
	21	LSU laser detection error (C) (*1)	PCU			○	
	21	LSU LD deterioration trouble	PCU			○	
	22	LSU laser detection error (M)	PCU			○	
	23	LSU laser detection error (Y)	PCU			○	
	28	LSU-PCU connection error	PCU			○	
	29	LSU ASIC frequency error	PCU			○	
	50	Engine connection trouble	PCU			○	
	55	PWB information sum error (Engine detection)	PCU			○	
	60	Combination error between the MFP PWB and other PWB, firmware	MFP			○	
	61	Combination error between the MFP PWB and the PCU PWB	MFP			○	
	65	MFP EEPROM sum check error	MFP			○	
	80	MFP-OPU PWB communication error	MFP			○	
	90	MFP-PCU PWB communication error	MFP			○	
EE	EC	Automatic toner density adjustment error (Sampling level 76 - 117/139 - 178)	PCU			○	
	EL	Automatic toner density adjustment error (Over toner)	PCU			○	
	EU	Automatic toner density adjustment error (Under toner)	PCU			○	
F1	00	Finisher - PCU PWB communication error	PCU		○		
	03	Finisher paper exit roller lifting operation trouble	PCU		○		
	10	Staple operation trouble	PCU		○		
	15	Finisher paper exit tray lift operation trouble	PCU		○		
	19	Finisher alignment operation trouble F	PCU		○		
	20	Finisher alignment operation trouble R	PCU		○		
	21	Finisher fan trouble	PCU		○		
	29	Finisher PWB fan trouble	PCU		○		
	37	Finisher data backup RAM error	PCU		○		
F2	50	Main unit - Finisher combination error	PCU		○		
	11	Developing unit initial detection (K)	PCU				○
	12	Developing unit initial detection (C)	PCU				○
	13	Developing unit initial detection (M)	PCU				○
	14	Developing unit initial detection (Y)	PCU				○
	15	Drum unit initial detection trouble (K drum)	PCU				○
	16	Drum unit initial detection trouble (C drum)	PCU				○
	17	Drum unit initial detection trouble (M drum)	PCU				○
	18	Drum unit initial detection trouble (Y drum)	PCU				○
	19	Primary transfer unit initial detection trouble	PCU				○
	21	Secondary transfer unit initial detection trouble	PCU				○
	22	Discharge lamp trouble (K)	PCU				○
	23	Discharge lamp trouble (C)	PCU				○
	24	Discharge lamp trouble (M)	PCU				○
	25	Discharge lamp trouble (Y)	PCU				○
	26	Auto toner density control level setting trouble (K)	PCU				○
	27	Auto toner density control level setting trouble (C)	PCU				○
	28	Auto toner density control level setting trouble (M)	PCU				○
	29	Auto toner density control level setting trouble (Y)	PCU				○
	39	Process thermistor trouble	PCU				○
	40	Toner density sensor trouble (BLACK)	PCU				○
	41	Toner density sensor trouble (CYAN)	PCU				○
	42	Toner density sensor trouble (MAGENTA)	PCU				○
	43	Toner density sensor trouble (YELLOW)	PCU				○
	45	K image density sensor trouble	PCU				○
	49	LSU thermistor trouble	PCU				○
	50	K drum phase sensor trouble	PCU				○
	51	CL drum phase sensor trouble	PCU				○
	58	Process humidity sensor trouble	PCU				○

(*1): In the case of monochrome model: E7-20/21 / In the case of color model: E7-20/21/22/23

Trouble code		Trouble code content	Trouble detection	Mechanism	Option	Electricity	Supply
Main code	Sub code						
F2	64	Toner supply operation trouble (BK)	PCU				○
	65	Toner supply operation trouble (C)	PCU				○
	66	Toner supply operation trouble (M)	PCU				○
	67	Toner supply operation trouble (Y)	PCU				○
	70	Improper toner cartridge detection (BLACK)	PCU				○
	71	Improper toner cartridge detection (CYAN)	PCU				○
	72	Improper toner cartridge detection (MAGENTA)	PCU				○
	73	Improper toner cartridge detection (YELLOW)	PCU				○
	74	Toner cartridge CRUM error (BLACK)	PCU				○
	75	Toner cartridge CRUM error (CYAN)	PCU				○
	76	Toner cartridge CRUM error (MAGENTA)	PCU				○
	77	Toner cartridge CRUM error (YELLOW)	PCU				○
	78	Registration image density sensor trouble (Transfer belt substrate reflection rate abnormality)	PCU				○
F3	12	Paper feed tray 1 lift operation trouble	PCU	○			
H2	00	Thermistor open trouble (TH_UM_AD2)	PCU	○			
	01	Thermistor open trouble (TH_LM)	PCU	○			
	02	Sub thermistor open trouble (TH_US)	PCU	○			
	03	Compensation thermistor open trouble (TH_UM_AD1)	PCU	○			
	04	Thermistor open (TH_EX1)	PCU	○			
	05	Thermistor open (TH_EX2)	PCU	○			
H3	00	Fusing section high temperature trouble (TH_UM)	PCU	○			
	01	Fusing section high temperature trouble (TH_LM)	PCU	○			
	02	Fusing section high temperature trouble (TH_US)	PCU	○			
	04	Fusing section high temperature trouble (TH_EX1)	PCU	○			
	05	Fusing section high temperature trouble (TH_EX2)	PCU	○			
H4	00	Fusing section low temperature trouble (TH_UM_AD2)	PCU	○			
	01	Fusing section low temperature trouble (TH_LM)	PCU	○			
	02	Fusing section low temperature trouble (TH_US)	PCU	○			
	04	Fusing section low temperature trouble (TH_EX)	PCU	○			
	30	Thermistor input circuit trouble (TH_UM)	PCU	○			
H5	01	5 times continuous POD1 not-reach jam	PCU	○			
H7	10	Fusing low temperature recovery trouble (TH_UM_AD2).	PCU	○			
	11	Fusing low temperature recovery trouble (TH_LM)	PCU	○			
	12	Fusing low temperature recovery trouble (TH_US)	PCU	○			
	14	Low temperature trouble (TH_EX) in reset operation after JOB stop due to a fall in the fusing temperature during a JOB.	PCU	○			
H8	00	Fusing unit initial detection trouble	PCU	○			
L4	02	Paper feed motor lock trouble	PCU			○	
	03	Fusing motor lock trouble	PCU			○	
	04	Developing motor trouble (BLACK)	PCU			○	
	05	Developing motor trouble (COLOR)	PCU			○	
	06	Transfer unit lift trouble	PCU			○	
	12	Secondary transfer separation trouble	PCU			○	
	16	Fusing pressure release trouble	PCU			○	
	29	HDD fan trouble	PCU			○	
	30	MFP PWB fan trouble	PCU			○	
	31	Paper exit cooling fan trouble	PCU			○	
	32	Power source cooling fan trouble	PCU			○	
	34	LSU fan trouble	PCU			○	
	35	Fusing cooling fan trouble	PCU			○	
	50	Process fan trouble	PCU			○	
	51	Process fan 2 trouble	PCU			○	
L6	10	Polygon motor trouble	PCU			○	
L8	01	Full wave signal detection error	PCU			○	
	02	Full wave signal error	PCU			○	
	20	MFP PWB - Mother board communication error	MFP			○	
U1	01	Battery trouble	MFP			○	
U2	00	MFP EEPROM read/write error	MFP			○	
	05	HDD/MFP PWB SRAM contents inconsistency	MFP			○	
	10	MFP PWB SRAM user authentication index check sum error	MFP			○	
	11	MFP PWB EEPROM counter check sum error	MFP			○	
	24	MFP PWB SRAM memory user authentication counter check sum error	MFP			○	
	30	MFP PWB and PCU PWB manufacturing No. data inconsistency	MFP			○	
	90	PCU PWB EEPROM read/write error	PCU			○	
	91	PCU PWB EEPROM check sum error	PCU			○	

Trouble code		Trouble code content	Trouble detection	Mechanism	Option	Electricity	Supply
Main code	Sub code						
U6	00	PCU PWB - Desk paper feed unit communication error	PCU			○	
	01	Desk paper feed tray 1 lift trouble	PCU		○		
	02	Desk paper feed tray 2 lift trouble	PCU		○		
	03	Desk paper feed tray 3 lift trouble	PCU		○		
	10	Desk paper feed unit paper transport motor trouble	PCU		○		
	50	Desk - Main unit combination trouble	PCU		○		
A0	01	PCU PWB ROM error	MFP			○	
	02	OPU PWB ROM error	MFP			○	
	10	MFP PWB ROM error	MFP			○	
	11	Firmware version inconsistency (MFP - PCU)	MFP			○	
	12	Firmware version inconsistency (MFP - OPU)	MFP			○	
	15	DSK boot ROM error	PCU			○	
	20	MFP firmware version and EEPROM data version inconsistency	MFP			○	
	21	PCU firmware version and EEPROM data version inconsistency	PCU			○	

3. Details of trouble code

C1-10 Main charger trouble (BK)

Detail	PCU
Cause	The main charger unit (BK) is not installed properly. There is an abnormality in the main charger unit. Disconnection of the high voltage PWB connector. Breakage of the high voltage harness. MC/DV PWB trouble. PCU PWB trouble
Check & Remedy	Check the output of the main charger with SIM8-2. Check disconnection of the main charger./Replace. Check disconnection of the high voltage PWB connector. /Replace. Replace the MC/DV PWB. Replace the PCU PWB.
Error cancel method	Power OFF - ON

C1-14 Main charger trouble (Color)

Detail	PCU
Cause	The main charger unit (CMY) is not installed properly. There is an abnormality in the main charger. Disconnection of the high voltage PWB connector. Breakage of the high voltage harness. MC PWB trouble. PCU PWB trouble
Check & Remedy	Check the output of the main charger with SIM8-2. Check disconnection of the main charger./Replace. Check disconnection of the high voltage PWB connector. /Replace. Replace the MC PWB. Replace the PCU PWB.
Error cancel method	Power OFF - ON

C4-00 PTC trouble

Detail	PCU
Cause	The PTC unit is not properly installed. PTC unit trouble. TC PWB trouble. PCU PWB trouble. Connector, harness connection trouble.
Check & Remedy	Clean the PTC with the PTC cleaner. Replace the PTC unit. Replace the secondary transfer PWB. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

E7-01 MFP image data error

Detail	MFP
Cause	Image data transfer error in the MFP PWB. MFP PWB trouble.
Check & Remedy	Check connection of the connector and the harness of the MFP PWB. Replace the MFP PWB.
Error cancel method	Power OFF - ON

E7-03 HDD trouble

Detail	MFP
Cause	Connector, harness connection trouble in the MFP PWB and HDD. HDD (error file management area) data abnormality (FAT breakage). MFP PWB trouble.
Check & Remedy	Check connection of the connector and the harness of the MFP PWB and HDD. Use SIM62-2, 3 to check read/write operations of the HDD. Replace the HDD. Replace the MFP PWB.
Error cancel method	Power OFF - ON

E7-04 HDD-ASIC error

Detail	MFP
Cause	HDD-ASIC trouble. An error occurs in the HDD-ASIC self test when booting.
Check & Remedy	Replace the MFP PWB.
Error cancel method	Power OFF - ON

E7-05 Standard memory/expansion memory read/write error (MFP PWB)

Detail	MFP
Cause	Improper insertion of the memory. Garbled memory data. The memory capacity is not the specified level.
Check & Remedy	Check insertion of the memory. Use SIM60-1 to check the read/write operations of the memory. Replace the expansion memory. Replace the MFP PWB.
Error cancel method	Power OFF - ON

E7-06 Image data decode error

Detail	MFP
Cause	Compressed image data abnormality. HDD connection trouble when HDD is installed. Image data compression/transfer data garble. MFP PWB trouble.
Check & Remedy	Check connection of the MFPC PWB and the HDD. Replace the MFPC PWB.
Error cancel method	Power OFF - ON

E7-08 MFP memory compatibility error (MFP PWB)

Detail	MFP
Cause	A DIMM of different specifications is installed to the MFP memory slot. DIMM trouble.
Check & Remedy	Check the installed DIMM. Replace the DIMM.
Error cancel method	Power OFF - ON

E7-09 Standard memory size/Expansion memory size error (MFP PWB)

Detail	MFP
Cause	A DIMM other than below is installed to the default throttle. <ul style="list-style-type: none"> 38-sheet machine/40-sheet machine System memory: 1GB Local memory: 512MB 31-sheet machine System memory: 512MB Local memory: 512MB DIMM trouble. Insufficient memory size.
Check & Remedy	Replace the DIMM.
Error cancel method	Power OFF - ON

E7-20 LSU laser detection error (K) (*1)

Detail	PCU
Cause	Optical axis shift. Reduced laser power, lighting error, laser diode trouble. BD PWB trouble. Harness and connector trouble between the LD/BD PWB and the LSU cnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.
Error cancel method	Power OFF - ON

E7-21 LSU laser detection error (C) (*1)

Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSU cnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.
Error cancel method	Power OFF - ON

E7-21 LSU LD deterioration trouble

Detail	PCU
Cause	Laser deterioration, power reduction Harness and connector trouble between the LD PWB and the LSU control PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU control PWB.
Error cancel method	Power OFF - ON

E7-22 LSU laser detection error (M)

Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSU cnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.
Error cancel method	Power OFF - ON

E7-23 LSU laser detection error (Y)

Detail	PCU
Cause	Reduced laser power, lighting error, laser diode trouble. Harness and connector trouble between the LD PWB and the LSU cnt PWB.
Check & Remedy	Use SIM61-1 to check the operation of the LSU. Check the PWB and connection of the harness in the LSU. Replace the LSU.
Error cancel method	Power OFF - ON

(*1): In the case of monochrome model: E7-20/21
In the case of color model: E7-20/21/22/23

E7-28 LSU-PCU connection error

Detail	PCU
Cause	Communication error between the CPU in the PCU PWB and the control ASIC. Improper connection of the communication connector between the PCU PWB and the LSU cnt PWB (interface PWB). Harness trouble between the PCU PWB and the LSU cnt PWB (interface PWB) PCU PWB or LSU cnt PWB (interface PWB) trouble
Check & Remedy	Check connection of the connector and the harness between the PCU PWB and the LSU cnt PWB (interface PWB). Replace the LSU cnt PWB. Replace the PCU PWB.
Error cancel method	Power OFF - ON

E7-29 LSU ASIC frequency error

Detail	PCU
Cause	Oscillation abnormality of the external oscillator and the internal oscillating circuit used in the LSU ASIC. LSU ASIC abnormality on the LSU ASIC PWB.
Check & Remedy	Replace the LSU cnt PWB.
Error cancel method	Power OFF - ON

E7-50 Engine connection trouble

Detail	PCU
Cause	A PWB, or firmware, or LSU which is not supported by the machine specifications is detected in the PCU PWB. PCU PWB trouble. LSU trouble.
Check & Remedy	Check the kind and the version of the firmware. Check the LSU, and replace it if necessary. Check the PCU PWB, and replace it if necessary.
Error cancel method	Power OFF - ON

E7-55 PWB information sum error (Engine detection)

Detail	PCU
Cause	PCU EEPROM sum check error. PCU EEPROM trouble. PCU EEPROM contact trouble. Malfunction due to noises
Check & Remedy	Replace the PCU PWB. Replace the PCU EEPROM.
Error cancel method	Power OFF - ON

E7-60 Combination error between the MFP PWB and other PWB, firmware

Detail	MFP
Cause	A PWB or firmware which is not supported by the machine specifications is detected in the MFP PWB. MFP PWB trouble. The PWB/firmware which is not supported by the machine specifications is connected.
Check & Remedy	Check the kind and the version of the firmware. Check the MFP PWB, and replace it if necessary.
Error cancel method	Power OFF - ON

E7-61 Combination error between the MFP PWB and the PCU PWB

Detail	MFP
Cause	Combination error between the MFP PWB and the PCU PWB. MFP PWB trouble. PCU PWB trouble.
Check & Remedy	Check the combination between the MFP PWB and the PCU PWB. Replace the MFP PWB. Replace the PCU PWB.
Error cancel method	Power OFF - ON

E7-65 MFP EEPROM sum check error

Detail	MFP
Cause	MFP PWB EEPROM device breakdown. Contact trouble of the MFP EEPROM device. Malfunction due to noises.
Check & Remedy	Replace the MFP PWB. Replace the MFP PWB EEPROM.
Error cancel method	Power OFF - ON

E7-80 MFP-OPU PWB communication error

Detail	MFP
Cause	OPU PWB connector connection trouble. OPU PWB - MFP PWB connection trouble. OPU PWB mother board connection trouble. OPU PWB trouble. MFP PWB trouble. Replace the mother board.
Check & Remedy	Check connection of the OPU PWB, the MFP PWB, and the mother board. Check the earth line. Replace the OPU PWB. Replace the MFP PWB. Replace the mother board.
Error cancel method	Power OFF - ON

E7-90 MFP-PCU PWB communication error

Detail	MFP
Cause	PCU PWB connector connection trouble. PCU PWB - MFP PWB connection trouble. PCU PWB motherboard connection trouble. PCU PWB trouble. MFP PWB trouble. Replace the mother board.
Check & Remedy	Check connection of the PCU PWB, the MFP PWB, and the mother board. Check the earth line. Replace the PCU PWB. Replace the MFP PWB. Replace the mother board.
Error cancel method	Power OFF - ON

EE-EC Automatic toner density adjustment error (Sampling level 76 - 117/139 - 178)

Detail	PCU
Cause	Toner density sensor trouble. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.
Error cancel method	Power OFF - ON

EE-EL Automatic toner density adjustment error (Over toner)

Detail	PCU
Cause	Toner density sensor trouble. Charging voltage/ developing voltage trouble, toner density trouble, or developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.
Error cancel method	Power OFF - ON

EE-EU Automatic toner density adjustment error (Under toner)

Detail	PCU
Cause	Toner density sensor trouble. Charging voltage/ developing voltage trouble, toner density trouble, or developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Replace the developing unit. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F1-00 Finisher - PCU PWB communication error

Detail	PCU
Cause	Connection trouble of the connector and the harness between the finisher and the PCU PWB. Finisher control PWB trouble. PCU PWB trouble. Strong external noises.
Check & Remedy	Check the connector and the harness between the finisher and the PCU PWB. Replace the finisher control PWB. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F1-03 Finisher paper exit roller lifting operation trouble

Detail	PCU
Cause	Finisher paper exit roller lift motor trouble. Harness and connector connection trouble. Home position sensor trouble. Finisher control PWB trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper exit roller lift motor. Replace the paper exit roller lift motor. Check connection of the connector and the harness. Replace the home position sensor. Replace the finisher control PWB.
Error cancel method	Power OFF - ON

F1-10 Staple operation trouble

Detail	PCU
Cause	Staple motor trouble. Finisher control PWB trouble. Home position sensor trouble.
Check & Remedy	Use SIM3-3 to check the operation of the staple motor. Replace the staple motor. Check connection of the connector and the harness. Replace the home position sensor. Replace the finisher control PWB.
Error cancel method	Power OFF - ON

F1-15 Finisher paper exit tray lift operation trouble

Detail	PCU
Cause	Paper exit tray lift motor trouble. Finisher control PWB trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper exit tray lift motor. Replace the finisher control PWB. Replace the paper exit tray lift motor.
Error cancel method	Power OFF - ON

F1-19 Finisher alignment operation trouble F

Detail	PCU
Cause	Finisher paper alignment motor lock. Motor speed abnormality. Over-current to the motor. Finisher control PWB trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment motor F. Replace the finisher control PWB. Replace the paper alignment motor F.
Error cancel method	Power OFF - ON

F1-20 Finisher alignment operation trouble R

Detail	PCU
Cause	Finisher paper alignment motor lock. Motor speed abnormality. Over-current to the motor. Finisher control PWB trouble.
Check & Remedy	Use SIM3-3 to check the operation of the paper alignment motor R. Replace the finisher control PWB. Replace the paper alignment motor R.
Error cancel method	Power OFF - ON

F1-21 Finisher fan trouble

Detail	PCU
Cause	Finisher fan motor trouble. Finisher control PWB trouble. Harness and connector connection trouble.
Check & Remedy	Use SIM3-3 to check the operation of the fan motor. Check connection between the finisher control PWB and the fan. Replace the fan. Replace the finisher control PWB.
Error cancel method	Power OFF - ON

F1-29 Finisher PWB fan trouble

Detail	PCU
Cause	Finisher PWB fan lock. Finisher control PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM 3-3 to check the operation of the control PWB cooling fan (FBCF). Replace the finisher PWB fan. Replace the finisher control PWB. Connection trouble of the connector and the harness.
Error cancel method	Power OFF - ON

F1-37 Finisher data backup RAM error

Detail	PCU
Cause	Finisher control PWB trouble. Malfunction due to noises
Check & Remedy	Replace the finisher control PWB. Readjust the finisher. (Use SIM3-10, Finisher control PWB DIP SW adjustment.)
Error cancel method	Power OFF - ON

F1-50 Main unit - Finisher combination error

Detail	PCU
Cause	The finisher which is not supported by the main unit model is installed. Finisher control PWB trouble.
Check & Remedy	Install a proper finisher. Replace the finisher control PWB.
Error cancel method	Power OFF - ON

F2-11 Developing unit initial detection (K)

Detail	PCU
Cause	The initial detection fuse is not blown off though it is conducted for the specified time. (K) Developing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-51 to check the operation of the [DVCRU K] fuse blowing circuit. Use SIM30-1 to check the [DVCRU K] initial detection input signal. Replace the developing unit. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-12 Developing unit initial detection (C)

Detail	PCU
Cause	The initial detection fuse is not blown off though it is conducted for the specified time. (C) Developing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-51 to check the operations of the [DVCRU C] fuse blowing circuit. Use SIM30-1 to check the [DVCRU C] initial detection input signal. Replace the developing unit. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-13 Developing unit initial detection (M)

Detail	PCU
Cause	The initial detection fuse is not blown off though it is conducted for the specified time. (M) Developing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-51 to check the operations of the [DVCRU M] fuse blowing circuit. Use SIM30-1 to check the [DVCRU M] initial detection input signal. Replace the developing unit. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-14 Developing unit initial detection (Y)

Detail	PCU
Cause	The initial detection fuse is not blown off though it is conducted for the specified time. (Y) Developing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-51 to check the operations of the [DVCRU Y] fuse blowing circuit. Use SIM30-1 to check the [DVCRU Y] initial detection input signal. Replace the developing unit. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-15 Drum unit initial detection trouble (K drum)

Detail	PCU
Cause	When the newly installed drum is driven for the specified time after installation, the new state is not canceled. (K) Detection switch [DRCRU-K] trouble Process cartridge trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM30-1 to check the operation of the [DRCRU-K] switch. Replace the process (drum) cartridge. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-16 Drum unit initial detection trouble (C drum)

Detail	PCU
Cause	When the newly installed drum is driven for the specified time after installation, the new state is not canceled. (C) Detection switch [DRCRU-C] trouble Process cartridge trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM30-1 to check the operation of the [DRCRU-C] switch. Replace the process (drum) cartridge. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-17 Drum unit initial detection trouble (M drum)

Detail	PCU
Cause	When the newly installed drum is driven for the specified time after installation, the new state is not canceled. (M) Detection switch [DRCRU-M] trouble Process cartridge trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM30-1 to check the operation of the [DRCRU-M] switch. Replace the process (drum) cartridge. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-18 Drum unit initial detection trouble (Y drum)

Detail	PCU
Cause	When the newly installed drum is driven for the specified time after installation, the new state is not canceled. (Y) Detection switch [DRCRU-Y] trouble Process cartridge trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM30-1 to check the operation of the [DRCRU-Y] switch. Replace the process (drum) cartridge. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-19 Primary transfer unit initial detection trouble

Detail	PCU
Cause	When the newly installed primary transfer unit is driven for the specified time after installation, the new state is not canceled. 1TUD K sensor trouble Primary transfer initial operation clutch mechanism trouble Primary transfer unit initial detection level trouble PCU PWB trouble. Connection trouble of the connector and the harness. Primary transfer belt unit trouble.
Check & Remedy	Use SIM30-1 to check the operation of the 1TUD-K sensor. Use SIM6-3 to check the switching operation of the primary transfer unit. Check to confirm that the initial detection level is inclined. Replace the PCU PWB. Check connection of the connector and the harness. Replace the primary transfer unit.
Error cancel method	Power OFF - ON

F2-21 Secondary transfer unit initial detection trouble

Detail	PCU
Cause	When the newly installed secondary transfer unit is driven for the specified time after installation, the new state is not canceled. PCU PWB trouble. Connection trouble of the connector and the harness. Secondary transfer UN initial detection mechanism trouble Initial detection electrode trouble Secondary transfer unit trouble.
Check & Remedy	Check conduction of the initial detection electrode plate and the initial detection GND electrode plate. Replace the PCU PWB. Check connection of the connector and the harness. Replace the secondary transfer unit.
Error cancel method	Power OFF - ON

F2-22 Discharge lamp trouble (K)

Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (K) and the PCU PWB. Discharge lamp PWB (K) trouble. PCU PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (K). Check the harness and the connector. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-23 Discharge lamp trouble (C)

Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (C) and the PCU PWB. Discharge lamp PWB (C) trouble. PCU PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (C). Check the harness and the connector. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-24 Discharge lamp trouble (M)

Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (M) and the PCU PWB. Discharge lamp PWB (M) trouble. PCU PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (M). Check the harness and the connector. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-25 Discharge lamp trouble (Y)

Detail	PCU
Cause	Contact trouble between the discharge lamp PWB (Y) and the PCU PWB. Discharge lamp PWB (Y) trouble. PCU PWB trouble.
Check & Remedy	Replace the discharge lamp PWB (Y). Check the harness and the connector. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-26 Auto toner density control level setting trouble (K)

Detail	PCU
Cause	The toner density sample level is not in the specified range when the automatic toner density control level is set. (K) Toner density sensor trouble. Developing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	When the power is turned OFF/ON, the automatic developer adjustment is executed again. Replace the developer cartridge. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-27 Auto toner density control level setting trouble (C)

Detail	PCU
Cause	The toner density sample level is not in the specified range when the automatic toner density control level is set. (C) Toner density sensor trouble. Developing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	When the power is turned OFF/ON, the automatic developer adjustment is executed again. Replace the developer cartridge. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-28 Auto toner density control level setting trouble (M)

Detail	PCU
Cause	The toner density sample level is not in the specified range when the automatic toner density control level is set. (M) Toner density sensor trouble. Developing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	When the power is turned OFF/ON, the automatic developer adjustment is executed again. Replace the developer cartridge. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-29 Auto toner density control level setting trouble (Y)

Detail	PCU
Cause	The toner density sample level is not in the specified range when the automatic toner density control level is set. (Y) Toner density sensor trouble. Developing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	When the power is turned OFF/ON, the automatic developer adjustment is executed again. Replace the developer cartridge. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

F2-39 Process thermistor trouble

Detail	PCU
Cause	Process thermistor trouble. Process thermistor harness connection trouble. PCU PWB trouble
Check & Remedy	Replace the process thermistor. Check connection of the harness and the connector. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-40 Toner density sensor trouble (BLACK)

Detail	PCU
Cause	Toner density sensor output abnormality (Sample level 25 or less, or 231 or above) Connection trouble of the connector and the harness. Developing unit trouble. PCU PWB trouble
Check & Remedy	Replace the toner density sensor. Harness and connector connection trouble. Replace the developing unit. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-41 Toner density sensor trouble (CYAN)

Detail	PCU
Cause	Toner density sensor output abnormality (Sample level 25 or less, or 231 or above) Connection trouble of the connector and the harness. Developing unit trouble. PCU PWB trouble
Check & Remedy	Replace the toner density sensor. Harness and connector connection trouble. Replace the developing unit. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-42 Toner density sensor trouble (MAGENTA)

Detail	PCU
Cause	Toner density sensor output abnormality (Sample level 25 or less, or 231 or above) Connection trouble of the connector and the harness. Developing unit trouble. PCU PWB trouble
Check & Remedy	Replace the toner density sensor. Harness and connector connection trouble. Replace the developing unit. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-43 Toner density sensor trouble (YELLOW)

Detail	PCU
Cause	Toner density sensor output abnormality (Sample level 25 or less, or 231 or above). Connection trouble of the connector and the harness. Developing unit trouble. PCU PWB trouble.
Check & Remedy	Replace the toner density sensor. Harness and connector connection trouble. Replace the developing unit. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-45 K image density sensor trouble

Detail	PCU
Cause	K image density sensor sensitivity adjustment trouble. K image density sensor trouble. Harness and connector connection trouble. K image density sensor dirt. Calibration plate dirt. Calibration plate solenoid trouble. PCU PWB trouble.
Check & Remedy	Replace the K image density sensor. Check connection of the connectors and the harness. Clean the K image density sensor. Replace the calibration plate. Replace the calibration plate solenoid. Replace the PCU PWB. Use SIM44-2 to adjust the process control sensor sensitivity.
Error cancel method	Power OFF - ON

F2-49 LSU thermistor trouble

Detail	PCU
Cause	The LSU detection temperature is outside of -28°C ~ 78°C. LSU thermistor trouble. Harness and connector connection trouble. PCU PWB trouble LSU control PWB trouble.
Check & Remedy	Replace the LSU thermistor. Check connection of the connectors and the harness. Replace the PCU PWB. Replace the LSU control PWB. Replace the LSU.
Error cancel method	Power OFF - ON

F2-50 K drum phase sensor trouble

Detail	PCU
Cause	Drum phase sensor trouble. Harness and connector connection trouble. Drum drive section trouble. PCU PWB trouble
Check & Remedy	Use SIM30-1 to check the operation of "DHPD_K". Replace the drum phase sensor. Check connection of the connectors and the harness. Repair the drum drive section. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-51 CL drum phase sensor trouble

Detail	PCU
Cause	Drum phase sensor trouble. (DHPCL) Harness and connector connection trouble. Drum drive section trouble. PCU PWB trouble.
Check & Remedy	Use SIM30-1 to check the operation of "DHPD_CL". Replace the drum phase sensor. Check connection of the connectors and the harness. Repair the drum drive section. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-58 Process humidity sensor trouble

Detail	PCU
Cause	Process humidity sensor trouble. Harness and connector connection trouble. PCU PWB trouble.
Check & Remedy	Replace the process humidity sensor. Check connection of the connectors and the harness. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-64 Toner supply operation trouble (BK)

Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble.
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector/harness trouble. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit.
Error cancel method	Power OFF - ON

F2-65 Toner supply operation trouble (C)

Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble.
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector/harness trouble. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit.
Error cancel method	Power OFF - ON

F2-66 Toner supply operation trouble (M)

Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble.
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector/harness trouble. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit.
Error cancel method	Power OFF - ON

F2-67 Toner supply operation trouble (Y)

Detail	PCU
Cause	Toner motor trouble. Toner density sensor trouble. Connector/harness trouble. PCU PWB trouble. Toner cartridge trouble. Developing unit trouble.
Check & Remedy	Replace the toner motor. Replace the toner density sensor. Connector/harness trouble. Replace the PCU PWB. Replace the toner cartridge. Replace the developing unit.
Error cancel method	Power OFF - ON

F2-70 Improper toner cartridge detection (BLACK)

Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-71 Improper toner cartridge detection (CYAN)

Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-72 Improper toner cartridge detection (MAGENTA)

Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-73 Improper toner cartridge detection (YELLOW)

Detail	PCU
Cause	An improper toner cartridge is inserted. (The main unit detects a toner cartridge of a different specification.) Toner cartridge trouble. PCU PWB trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB.
Error cancel method	Power OFF - ON

F2-74 Toner cartridge CRUM error (BLACK)

Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector/harness trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Connector/harness trouble.
Error cancel method	Power OFF - ON

F2-75 Toner cartridge CRUM error (CYAN)

Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector/harness trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Connector/harness trouble.
Error cancel method	Power OFF - ON

F2-76 Toner cartridge CRUM error (MAGENTA)

Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector/harness trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Connector/harness trouble.
Error cancel method	Power OFF - ON

F2-77 Toner cartridge CRUM error (YELLOW)

Detail	PCU
Cause	Toner cartridge (CRUM) trouble. PCU PWB trouble. Connector/harness trouble.
Check & Remedy	Replace the toner cartridge. Replace the PCU PWB. Connector/harness trouble.
Error cancel method	Power OFF - ON

F2-78 Registration image density sensor trouble (Transfer belt substrate reflection rate abnormality)

Detail	PCU
Cause	Image density (registration) sensor trouble (Sensor sensitivity adjustment trouble). PCU PWB trouble. Connection trouble of the connector and the harness. Image density (registration) sensor dirt. Transfer belt dirt, scratch.
Check & Remedy	Replace the image density (registration) sensor. Replace the PCU PWB. Harness and connector connection trouble. Clean the image density (registration) sensor. Clean or replace the transfer belt.
Error cancel method	Power OFF - ON

F3-12 Paper feed tray 1 lift operation trouble

Detail	PCU
Cause	LUD1 is not turned ON within the specified time. CLUD1 sensor trouble Paper feed tray 1 lift unit trouble. PCU PWB trouble. Harness and connector connection trouble.
Check & Remedy	Check connection of the harness and the connector of LUD1. Replace the lift-up unit. Replace the PCU PWB.
Error cancel method	Power OFF - ON

H2-00 Thermistor open trouble (TH_UM_AD2)

Detail	PCU
Cause	Thermistor trouble. PCU PWB trouble Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

H2-01 Thermistor open trouble (TH_LM)

Detail	PCU
Cause	Thermistor trouble. PCU PWB trouble. Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

H2-02 Sub thermistor open trouble (TH_US)

Detail	PCU
Cause	Thermistor trouble. PCU PWB trouble. Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

H2-03 Compensation thermistor open trouble (TH_UM_AD1)

Detail	PCU
Cause	Thermistor trouble. PCU PWB trouble Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

H2-04 Thermistor open (TH_EX1)

Detail	PCU
Cause	Thermistor trouble. PCU PWB trouble. Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

H2-05 Thermistor open (TH_EX2)

Detail	PCU
Cause	Thermistor trouble. PCU PWB trouble. Connection trouble of the connector and the harness. Fusing unit not installed.
Check & Remedy	Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

H3-00 Fusing section high temperature trouble (TH_UM)

Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble. PCU PWB trouble Connection trouble of the connector and the harness. Power unit trouble.
Check & Remedy	Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble. Replace the power unit.
Error cancel method	SIM14

H3-01 Fusing section high temperature trouble (TH_LM)

Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble. PCU PWB trouble.Harness and connector connection trouble. Power unit trouble.
Check & Remedy	Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble. Replace the power unit.
Error cancel method	SIM14

H3-02 Fusing section high temperature trouble (TH_US)

Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble. PCU PWB trouble Connection trouble of the connector and the harness. Power unit trouble.
Check & Remedy	Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble. Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble. Replace the power unit.
Error cancel method	SIM14

H3-04 Fusing section high temperature trouble (TH_EX1)

Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble. PCU PWB trouble. Connection trouble of the connector and the harness. Power unit trouble. Fusing unit not installed.
Check & Remedy	Replace the power unit. Replace the PCU PWB. Harness and connector connection trouble. Use SIM14 to cancel the trouble.
Error cancel method	SIM14

H3-05 Fusing section high temperature trouble (TH_EX2)

Detail	PCU
Cause	The fusing temperature exceeds the specified level. Thermistor trouble. PCU PWB trouble. Connection trouble of the connector and the harness. Power unit trouble.
Check & Remedy	Replace the thermistor. Replace the PCU PWB. Harness and connector connection trouble. Replace the power unit. Use SIM14 to cancel the trouble.
Error cancel method	SIM14

H4-00 Fusing section low temperature trouble (TH_UM_AD2)

Detail	PCU
Cause	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay. Thermistor trouble. Heater lamp trouble. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble.
Error cancel method	SIM14

H4-01 Fusing section low temperature trouble (TH_LM)

Detail	PCU
Cause	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay. Thermistor trouble. Heater lamp trouble. PCU PWB trouble Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble.
Error cancel method	SIM14

H4-02 Fusing section low temperature trouble (TH_US)

Detail	PCU
Cause	The fusing temperature does not reach the specified level within the specified time from turning ON the power relay. Thermistor trouble. Heater lamp trouble. PCU PWB trouble Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble.
Error cancel method	SIM14

H4-04 Fusing section low temperature trouble (TH_EX)

Detail	PCU
Cause	The specified temperature is not reached within the specified time from starting warm-up. Thermistor trouble. Heater lamp trouble. PCU PWB trouble. Thermostat trouble. Power unit trouble.
Check & Remedy	Use SIM5-2 to check the operation of the heater lamp. Replace the thermistor. Replace the PCU PWB. Check connection of the connector and the harness. Replace the heater lamp. Replace the power unit. Use SIM14 to cancel the trouble.
Error cancel method	SIM14

H4-30 Thermistor input circuit trouble (TH_UM)

Detail	PCU
Cause	The values of TH_UM_AD1 and TH_UM_AD2 do not exceed the specified value (50 counts in AD value) within the specified time from turning ON the HL_UM. Thermistor trouble. Heater lamp trouble. PCU PWB trouble Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp. Use SIM14 to cancel the trouble.
Error cancel method	SIM14

H5-01 5 times continuous POD1 not-reach jam

Detail	PCU
Cause	A fusing jam is not canceled completely. (A jam paper remains.) POD1 sensor trouble. Fusing unit installation trouble. Connector, harness connection trouble. PCU PWB trouble
Check & Remedy	Replace the POD1 sensor. Check the installing position of the fusing unit. Replace the fusing unit. Check connection of the connector and the harness. Replace the PCU PWB. Use SIM14 to cancel the trouble.
Error cancel method	SIM14

H7-10 Fusing low temperature recovery trouble (TH_UM_AD2).

Detail	PCU
Cause	The fusing temperature does not reach the specified level within the specified time from stopping a job due to fall in the fusing temperature. Thermistor trouble. Heater lamp trouble. PCU PWB trouble Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp.
Error cancel method	Power OFF - ON

H7-11 Fusing low temperature recovery trouble (TH_LM)

Detail	PCU
Cause	The fusing temperature does not reach the specified level within the specified time from stopping a job due to fall in the fusing temperature. Thermistor trouble. Heater lamp trouble. PCU PWB trouble Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp.
Error cancel method	Power OFF - ON

H7-12 Fusing low temperature recovery trouble (TH_US)

Detail	PCU
Cause	The fusing temperature does not reach the specified level within the specified time from stopping a job due to fall in the fusing temperature. Thermistor trouble. Heater lamp trouble. PCU PWB trouble Thermostat trouble. Connector, harness connection trouble. Power unit trouble. Interlock switch trouble.
Check & Remedy	Replace the thermistor. Replace the heater lamp. Replace the PCU PWB. Replace the thermostat. Check connection of the connector and the harness. Replace the power unit. Replace the interlock switch. Use SIM5-2 to check the flashing operation of the heater lamp.
Error cancel method	Power OFF - ON

H7-14 Low temperature trouble (TH_EX) in reset operation after JOB stop due to a fall in the fusing temperature during a JOB.

Detail	PCU
Cause	The specified temperature is not reached within the specified time in reset operation of the fusing temperature. Thermistor trouble. Heater lamp trouble. PCU PWB trouble. Thermostat trouble. Connector, harness connection trouble. Power unit trouble.
Check & Remedy	Use SIM5-2 to check the operation of the heater lamp. Replace the thermistor. Replace the PCU PWB. Check connection of the connector and the harness. Replace the heater lamp. Replace the power unit. Use SIM14 to cancel the trouble.
Error cancel method	Power OFF - ON

H8-00 Fusing unit initial detection trouble

Detail	PCU
Cause	The initial detection fuse is not blown off though it is conducted for the specified time. Fusing unit trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-51 to check the operations of the [FUCRU] fuse blowing circuit. Use SIM30-1 to check the [FUCRU] initial detection input signal. Replace the fusing unit. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

L4-02 Paper feed motor lock trouble

Detail	PCU
Cause	The paper feed motor lock signal is not detected within 1 sec in warming up. Paper feed motor trouble. Harness connection trouble between the PCU PWB and the paper feed motor. PCU PWB trouble.
Check & Remedy	Use Sim6-1 to check the operation of the paper feed motor. Check the harness and connector between the PCU PWB and the paper feed motor. Replace the paper feed motor. Replace the PCU PWB.
Error cancel method	Power OFF - ON

L4-03 Fusing motor lock trouble

Detail	PCU
Cause	The motor lock signal is detected during rotation of the fusing motor. Fusing motor trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use Sim6-1 to check the operation of the fusing motor. Replace the fusing motor. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

L4-04 Developing motor trouble (BLACK)

Detail	PCU
Cause	The motor lock signal is detected during rotation of the developing motor. Developing motor trouble. Harness and connector connection trouble. PCU PWB trouble Developing unit trouble.
Check & Remedy	Use SIM25-1 to check the operation of the developing motor. Replace the developing motor. Check connection of the connectors and the harness. Replace the PCU PWB. Replace the developing motor. Replace the developing unit.
Error cancel method	Power OFF - ON

L4-05 Developing motor trouble (COLOR)

Detail	PCU
Cause	The motor lock signal is detected during rotation of the developing motor. Developing motor trouble. Harness and connector connection trouble. PCU PWB trouble Developing unit trouble.
Check & Remedy	Use SIM25-1 to check the operation of the developing motor. Replace the developing motor. Check connection of the connectors and the harness. Replace the PCU PWB. Replace the developing motor. Replace the developing unit.
Error cancel method	Power OFF - ON

L4-06 Transfer unit lift trouble

Detail	PCU
Cause	Transfer unit position sensor trouble. PCU PWB trouble. Connection trouble of the connector and the harness. Transfer unit separation clutch operation trouble. Primary transfer belt unit is not installed.
Check & Remedy	Use SIM6-3 to check the separating operation of the transfer unit. Install the primary transfer belt unit. Replace the transfer unit position sensor. Replace the PCU PWB. Harness and connector connection trouble. Replace the transfer unit separation clutch.
Error cancel method	Power OFF - ON

L4-12 Secondary transfer separation trouble

Detail	PCU
Cause	A change in the state of the separation sensor is not detected in the specified time during separating operation of the secondary transfer unit. Secondary transfer unit separation mechanism trouble Secondary transfer unit separation motor trouble. Secondary transfer unit separation sensor trouble. Connection trouble of the connector and the harness. PCU PWB trouble.
Check & Remedy	Check the operation of the secondary transfer unit separation mechanism. Replace the secondary transfer unit separation motor. Replace the secondary transfer unit separation sensor. Check connection of the connector and the harness. Replace the PCU PWB.
Error cancel method	Power OFF - ON

L4-16 Fusing pressure release trouble

Detail	PCU
Cause	No change in the fusing pressure release sensor signal is detected within the specified time after turning ON the fusing pressure release solenoid. Fusing pressure release sensor trouble. Fusing pressure release solenoid trouble. Fusing pressure release level F, R trouble. PCU PWB trouble. Fusing motor trouble. Connection trouble of the connector and the harness.
Check & Remedy	Replace the fusing pressure release sensor. Replace the fusing pressure release solenoid. Replace the fusing pressure release lever F, R. Replace the PCU PWB. Fusing motor trouble. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

L4-29 HDD fan trouble

Detail	PCU
Cause	The fan lock signal is detected during rotation of the HDD fan. HDD fan trouble. MFP PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check the operation of the fan motor. Replace the HDD fan. Replace the MFP PWB. Replace the connector or the harness.
Error cancel method	Power OFF - ON

L4-30 MFP PWB fan trouble

Detail	PCU
Cause	The motor lock signal is detected during rotation of the MFP PWB fan. MFP PWB fan trouble. Harness connection trouble between the MFP PWB and the fan motor. MFP PWB trouble.
Check & Remedy	Use SIM6-2 to check the operation of the fan motor. Replace the MFP PWB. Check the harness and connector between the MFP PWB and the fan motor. Replace the MFP PWB fan.
Error cancel method	Power OFF - ON

L4-31 Paper exit cooling fan trouble

Detail	PCU
Cause	The fan operation signal is not detected within the specified time in the paper exit cooling fan operation. Paper exit cooling fan trouble. PCU PWB trouble Connection trouble of the connector and the harness.
Check & Remedy	Check connection of the connectors and the harness. Use SIM6-2 to check the rotating operation of the fan. Replace the paper exit cooling fan. Replace the PCU PWB.
Error cancel method	Power OFF - ON

L4-32 Power source cooling fan trouble

Detail	PCU
Cause	The fan operation signal is not detected within the specified time in the power cooling fan operation. Power cooling fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check the rotating operation of the fan. Replace the power cooling fan. Replace the PCU PWB. Check/replace the connector or the harness.
Error cancel method	Power OFF - ON

L4-34 LSU fan trouble

Detail	PCU
Cause	The fan rotation signal is not detected in the specified time during operation of the LSU fan. Connection trouble of the connector and the harness. LSU fan trouble. LSU control PWB trouble.
Check & Remedy	Use Sim6-2 to check the operation of the fan. Check connection of the connector and the harness. Replace the LSU fan. Replace the LSU control PWB.
Error cancel method	Power OFF - ON

L4-35 Fusing cooling fan trouble

Detail	PCU
Cause	The fan operation signal is not detected within the specified time in the fusing cooling fan operation. Fusing cooling fan trouble. PCU PWB trouble Connection trouble of the connector and the harness.
Check & Remedy	Use SIM6-2 to check the rotating operation of the fan. Replace the fusing cooling fan. Replace the PCU PWB. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

L4-50 Process fan trouble

Detail	PCU
Cause	The fan operation signal is not detected within the specified time in the process fan operation. Process fan trouble. PCU PWB trouble Connection trouble of the connector and the harness.
Check & Remedy	Check that the fan is rotating after turning ON the power. Replace the process fan. Replace the PCU PWB. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

L4-51 Process fan 2 trouble

Detail	PCU
Cause	The fan operation signal is not detected within the specified time in the process fan 2 operation. Process fan trouble. PCU PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Check that the fan is rotating after turning ON the power. Replace the process fan 2. Replace the PCU PWB. Check connection of the connector and the harness.
Error cancel method	Power OFF - ON

L6-10 Polygon motor trouble

Detail	PCU
Cause	The motor does not reach the specified rpm in 7 sec after starting rotation of the polygon motor. Polygon motor trouble. LSU control PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM61-1 to check the operation of the polygon motor. Check connection of the connectors and the harness. Replace the polygon motor. Replace the LSU. Replace the LSU control PWB.
Error cancel method	Power OFF - ON

L8-01 Full wave signal detection error

Detail	PCU
Cause	No full wave signal is detected. PCU PWB trouble Power unit trouble. Connection trouble of the connector and the harness.
Check & Remedy	Replace the PCU PWB. Replace the power unit. Check connection of the connectors and the harness.
Error cancel method	Power OFF - ON

L8-02 Full wave signal error

Detail	PCU
Cause	An abnormality in the full wave signal frequency is detected. (The frequency is detected as 65Hz or above, or 45Hz or less.)PCU PWB trouble. Power unit trouble. Connection trouble of the connector and the harness. Power frequency, waveform abnormality.
Check & Remedy	Replace the PCU PWB. Replace the power unit. Check connection of the connectors and the harness. Check the power waveform.
Error cancel method	Power OFF - ON

L8-20 MFP PWB - Mother board communication error

Detail	MFP
Cause	Mother board PWB - MFPC PWB connection trouble. MFP PWB trouble. Replace the mother board.
Check & Remedy	Check connection between the mother board and the MFPC PWB. Check the earth line of the main unit. Replace the MFPC PWB. Replace the mother board.
Error cancel method	Power OFF - ON

U1-01 Battery trouble

Detail	MFP
Case 1	Cause 1) Battery life 2) Battery circuit abnormality
	Check & Remedy Check to confirm that the battery voltage is about 2.0V or above. Use SIM13 to cancel the trouble.
Error cancel method SIM13	

U2-00 MFP EEPROM read/write error

Detail	MFP
Cause	MFP PWB EEPROM trouble. EEPROM socket contact trouble. MFP PWB trouble. Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. Replace the MFP PWB EEPROM. Replace the MFP PWB. Check the power environment.
Error cancel method	Power OFF - ON

U2-05 HDD/MFP PWB SRAM contents inconsistency

Detail	MFP
Cause	The HDD or the MFP PWB which differs from that before turning OFF the power is installed. HDD trouble. MFP PWB trouble.
Check & Remedy	Use SIM16 to cancel the error. If there is backup data (export data by device cloning), import it.
Error cancel method	SIM16

U2-10 MFP PWB SRAM user authentication index check sum error

Detail	MFP
Cause	SRAM user index information (user authentication basic data) check sum error. MFP PWB SRAM trouble. Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. Transfer the user index information data in the HDD to the SRAM. Replace the MFP PWB.
Error cancel method	SIM16

U2-11 MFP PWB EEPROM counter check sum error

Detail	MFP
Cause	MFP PWB EEPROM trouble. EEPROM socket contact trouble. MFP PWB trouble. Strong external noises.
Check & Remedy	Use SIM16 to cancel the error. Replace the MFP PWB.
Error cancel method	SIM16

U2-24 MFP PWB SRAM memory user authentication counter check sum error

Detail	MFP
Cause	MFP PWB SRAM trouble. MFP PWB trouble. Strong external noises.
Check & Remedy	Use SIM16 to cancel the error.
Error cancel method	SIM16

U2-30 MFP PWB and PCU PWB manufacturing No. data inconsistency

Detail	MFP
Cause	Inconsistency between the manufacturing No. saved in the PCU PWB and that in the MFP PWB. When replacing the PCU PWB or the MFP PWB, the EEPROM which was mounted on the PWB before replacement is not mounted on the new PWB. MFP PWB trouble. PCU PWB trouble
Check & Remedy	Check that the EEPROM is properly set. Check to confirm that the EEPROM which was mounted on the PWB before replacement is mounted on the new PWB. Use SIM16 to cancel the error. Replace the MFP PWB. Replace the PCU PWB.
Error cancel method	SIM16

U2-90 PCU PWB EEPROM read/write error

Detail	PCU
Cause	PCU PWB EEPROM trouble. Installation of non-initialized EEPROM. PCU PWB trouble EEPROM socket contact trouble.
Check & Remedy	Replace the PCU PWB EEPROM. Replace the PCU PWB. Check contact of the EEPROM socket. Put down the counter/adjustment values in the simulation to prevent against loss of the counter data and the adjustment values. Use SIM16 to cancel the trouble.
Error cancel method	SIM16

U2-91 PCU PWB EEPROM check sum error

Detail	PCU
Cause	PCU PWB EEPROM trouble. Installation of non-initialized EEPROM. PCU PWB trouble EEPROM socket contact trouble.
Check & Remedy	Replace the PCU PWB EEPROM. Replace the PCU PWB. Check contact of the EEPROM socket. Put down the counter/adjustment values in the simulation to prevent against loss of the counter data and the adjustment values. Use SIM16 to cancel the trouble.
Error cancel method	SIM16

U6-00 PCU PWB - Desk paper feed unit communication error

Detail	PCU
Cause	Error when testing the communication line after turning ON the power or canceling the simulation. Connector, harness connection trouble. Desk control PWB trouble. PCU PWB trouble Strong external noises.
Check & Remedy	Turn OFF/ON the power to cancel. Check the connector and the harness in the communication line. Replace the desk control PWB. Replace the PCU PWB.
Error cancel method	Power OFF - ON

U6-01 Desk paper feed tray 1 lift trouble

Detail	PCU
Cause	D1ULD does not turn ON within the specified time when lift-up operation. D1ULD sensor trouble. Desk control PWB trouble. Lift unit trouble. Connection trouble of the connector and the harness. PCU PWB trouble
Check & Remedy	Replace the D1ULD sensor. Replace the desk control PWB. Replace the lift unit. Harness and connector connection trouble. Replace the PCU PWB.
Error cancel method	Power OFF - ON

U6-02 Desk paper feed tray 2 lift trouble

Detail	PCU
Cause	D2ULD does not turn ON within the specified time when lift-up operation. D2ULD sensor trouble. Desk control PWB trouble. Lift unit trouble. Connection trouble of the connector and the harness. PCU PWB trouble
Check & Remedy	Replace the D2ULD sensor. Replace the desk control PWB. Replace the lift unit. Harness and connector connection trouble. Replace the PCU PWB.
Error cancel method	Power OFF - ON

U6-03 Desk paper feed tray 3 lift trouble

Detail	PCU
Cause	The D3ULD sensor is not turned ON within the specified time during lift-up operation. D3ULD sensor trouble. Desk control PWB trouble. Lift unit trouble. Connection trouble of the connector and the harness. PCU PWB trouble.
Check & Remedy	Replace the D3ULD sensor. Replace the desk control PWB. Replace the lift unit. Check connection of the connector and the harness. Replace the PCU PWB.
Error cancel method	Power OFF - ON

U6-10 Desk paper feed unit paper transport motor trouble

Detail	PCU
Cause	Desk paper feed motor trouble (motor lock, motor rpm abnormality, over-current to the motor). Desk control PWB trouble. Connection trouble of the connector and the harness.
Check & Remedy	Use SIM4-3 to check the operation of the desk transport motor. Replace the desk control PWB. Replace the desk paper feed motor. Harness and connector connection trouble.
Error cancel method	Power OFF - ON

U6-50 Desk - Main unit combination trouble

Detail	PCU
Cause	Improper combination between the main unit and the desk. Desk control PWB trouble.
Check & Remedy	Install a desk which is proper for the main unit mode. Replace the desk control PWB.
Error cancel method	Power OFF - ON

A0-01 PCU PWB ROM error

Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. ROM trouble.
Check & Remedy	Use SIM49-1 to perform the version-up procedure again. ROM trouble.
Error cancel method	Power OFF - ON

A0-02 OPU PWB ROM error

Detail	MFP
Cause	The firmware version-up is not completed properly by interruption of the power during the version-up operation, etc. ROM trouble.
Check & Remedy	Use SIM49-1 to perform the version-up procedure again. ROM trouble.
Error cancel method	Power OFF - ON

A0-10 MFP PWB ROM error

Detail	MFP
Cause	Firmware combination error between the MFP and the image ROM (color correction ROM).
Check & Remedy	Upgrade the firmware versions of the MFP and the image ROM (color correction ROM).
Error cancel method	Power OFF - ON

A0-11 Firmware version inconsistency (MFP - PCU)

Detail	MFP
Cause	Firmware combination error between the MFP and the PCU.
Check & Remedy	Check the combination between the MFP and the PCU.
Error cancel method	Power OFF - ON

A0-12 Firmware version inconsistency (MFP - OPU)

Detail	MFP
Cause	Firmware combination error between the MFP and the OPU.
Check & Remedy	Check the combination between the MFP and the OPU.
Error cancel method	Power OFF - ON

A0-15 DSK boot ROM error

Detail	PCU
Cause	A ROM different from the DSK boot ROM is installed to the DSK machine. A boot ROM which is not of DSK type is installed to the machine to which DSK is installed.
Check & Remedy	Install a proper DSK boot ROM.
Error cancel method	Power OFF - ON

A0-20 MFP firmware version and EEPROM data version inconsistency

Detail	MFP
Cause	Inconsistency between the MFP firmware version and the EEPROM data version.
Check & Remedy	Check the combination of the firmware.
Error cancel method	Power OFF - ON

A0-21 PCU firmware version and EEPROM data version inconsistency

Detail	PCU
Cause	Inconsistency between the PCU firmware version and the EEPROM data version.
Check & Remedy	Check the combination of the firmware.
Error cancel method	Power OFF - ON

[7] FIRMWARE UPDATE

1. Outline

A. Cases where update is required

ROM update is required in the following cases:

- 1) When there is a necessity to upgrade the performance.
- 2) When installing a new spare part ROM for repair to the machine.
- 3) When installing a new spare parts PWB unit (with ROM) for repair to the machine.
- 4) When there is a trouble in the ROM program and it must be repaired.

B. Notes for update

(1) Relationship between each ROM and update

Before execution of ROM update, check combinations with ROM's installed in the other PWB's including options. Some combinations of each ROM's versions may cause malfunctions of the machine.

C. Update procedures and kinds of firmware

There are following methods of update of the firmware.

- 1) Firmware update using media
- 2) Firmware update using FTP
- 3) Firmware update using Web page
- 4) Emergency update (in case of an HDD breakdown)

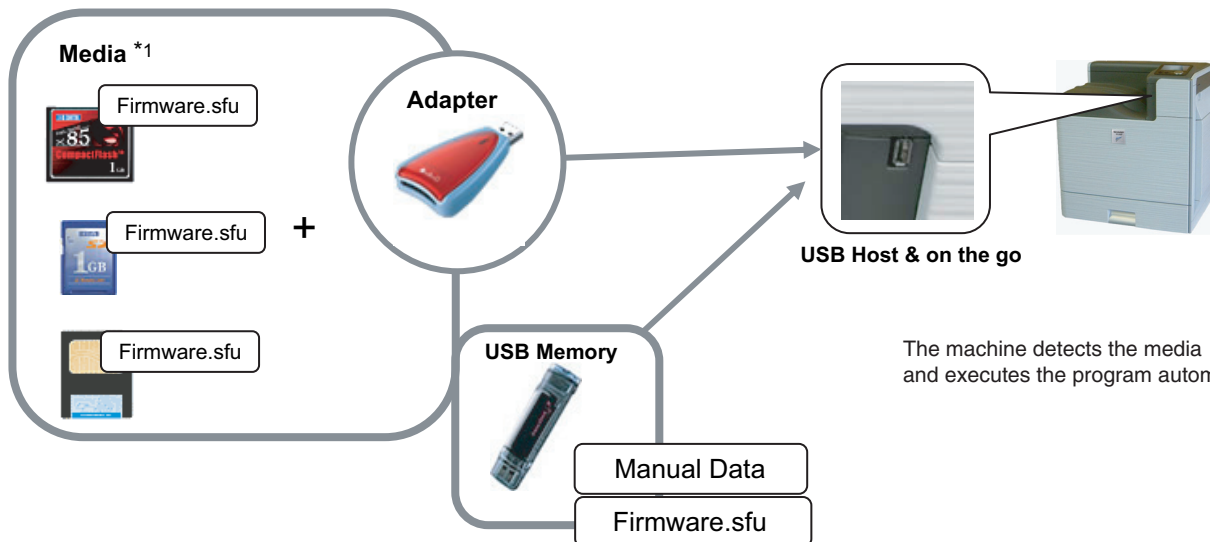
* Firmware types

	Display item	Item description
MAIN BODY	CONFIG	Configuration data
	ICU(MAIN)	First half of the ICU main section
	ICU(BOOTM)	ICU boot section main
	ICU(BOOTCN)	ICU boot section CN
	LANGUAGE	Data program for language support
	GRAPHIC	Graphic data for L-LCD
	SLIST	SLIST data for L-LCD
	PCU(BOOT)	PCU boot section
	PCU(MAIN)	PCU main section
	OPC(BOOT)	OPC boot section
	OPC(MAIN)	OPC main section
	ESCP_FONT	ESCP/P font
	PDL_FONT	PDL font
	ANIMATION	Animation data
	IMAGE_DATA	Image ASIC data
	COLOR PROFILE	Color profile
	WEB HELP	WEB help
	UNICODE	UNICODE table
OPTION	DESK(BOOT)	Desk unit boot section
	DESK(MAIN)	Desk unit main section
	FIN(BOOT)	Inner finisher boot section
	FIN(MAIN)	Inner finisher main section
	FAX(BOOT)	FAX1 boot section
	FAX(MAIN)	FAX1 main section

2. Update procedure

A. Firmware update using media

For the update, connect the media or USB memory to the USB port that exists in the main body, and select the firmware data in the media or USB memory by simulation screen in the main unit.



*1:

- Store the firmware data (xxx.sfu) to the media or USB memory beforehand.
- The media used for the update must have a minimum of 32MB of storage capacity.
- The USB memory equipped with the security (secure) function cannot be used.

(1) Firmware update procedure from the USB memory

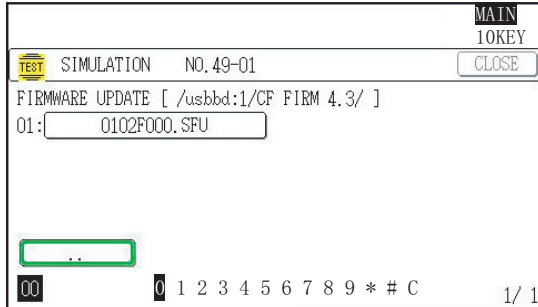
The firmware update executes by SIM49-01.

- 1) Insert the media or USB memory which stores the firmware into the main unit. (Use the USB I/F of the operation panel section.)

- 2) Enter the SIM49-01 mode.

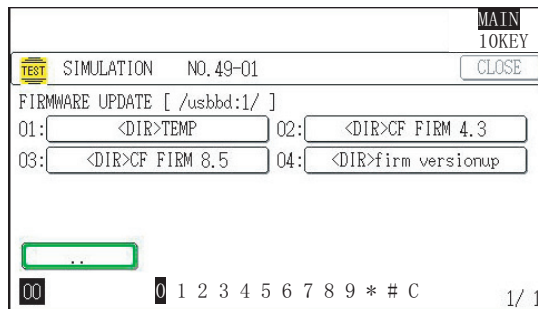
Select the file to be updated.

Enter the number indicated on the left of the target firmware file, and press [OK] key and [OSA shortcut] key.



If the target firmware file is in the folder directory, enter the number indicated on the left of the folder and press [OK] key and [OSA shortcut] key.

With the above procedure, the folder with the target firmware file in it is selected.



- * When entering the SIM49-01 mode, if no media or no USB memory is inserted, or if connection is defective, the message of "INSERT A USB MEMORY DEVICE CONTAINING MFP FIRMWARE" is displayed on the screen.

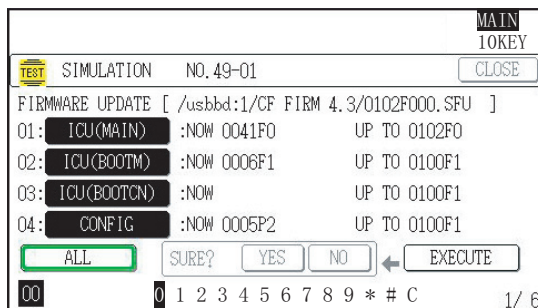
In this case, insert the USB memory or check the connection.

Insert the media or USB memory and press [OSA shortcut] key, and the file is opened.

If [OSA shortcut] key is pressed without inserting the media, the screen does not transfer and remains in the standby mode for entry.

- 3) The current version number and the version number to be updated will be shown for each kind of firmware respectively. The current version is indicated on the right of NOW, and the update version on the right of UP TO.

NOTE: It may take several seconds until content is displayed in procedure 2.



- 4) With [ALL] selected, press [OK] key.

When all the firmware files are selected, all the firmware items are highlighted.

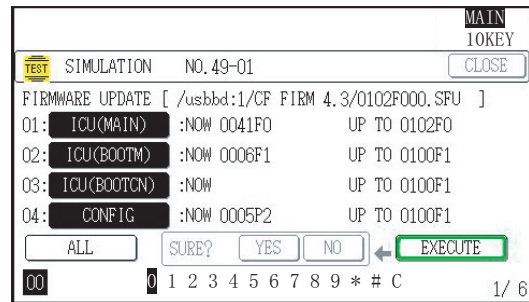
- * Normally select all the firmware programs and execute updating.

- * In this case, the firmware which does not exit on the machine side is ignored. (Example: The firmware of an option which is not installed cannot be updated.)

To update a certain firmware only, enter the number indicated on the left of the target firmware file with 10-key, and press [OSA shortcut] key.

- * When the firmware key is not selected, [EXECUTE] key is grayed out and the operation is not accepted.

- 5) Select [EXECUTE] with the scroll key, and press [OK] key.

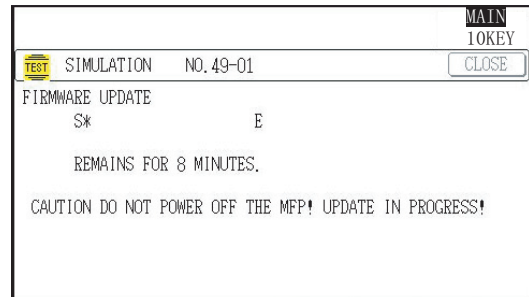


- 6) Select [YES] with the scroll key, and press [OK] key.

The update of the selected firmware is executed.

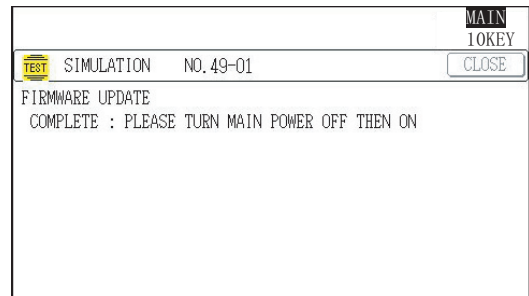
The process status is indicated with "*" mark under "FIRMWARE UPDATE" of the title section.

Meaning of mark: S: Start, E: End



During the update operation, the above screen is displayed, but the version and the firmware select key are not displayed.

- 7) If the update is normal completion, following screen is displayed.



- 8) Turn OFF the power, and turn ON the power again and execute SIM22-05 to check that the firmware has been updated.

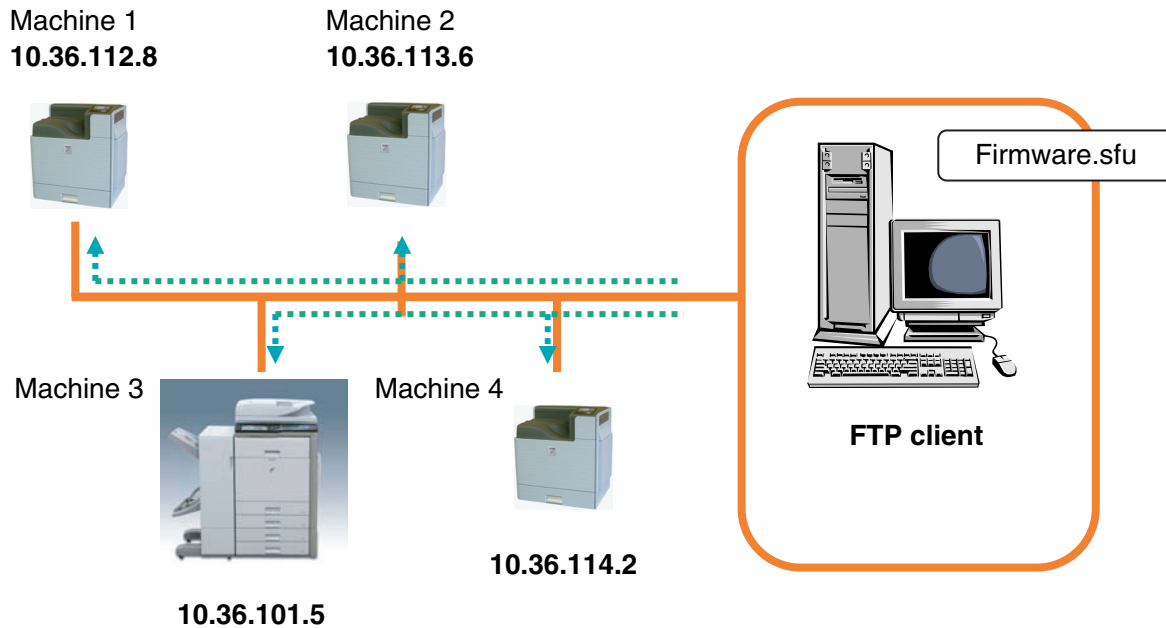
- * When the power supply is turned off due to a black out etc. while updating or when the update terminated abnormally, a part of the main program stored in HDD may be damaged and may not booted normally.

In this case, the firmware must be installed again by the emergency firmware update procedures described in section D.

(Refer to Chapter 11, Section 4, Item c)

B. Firmware update using FTP

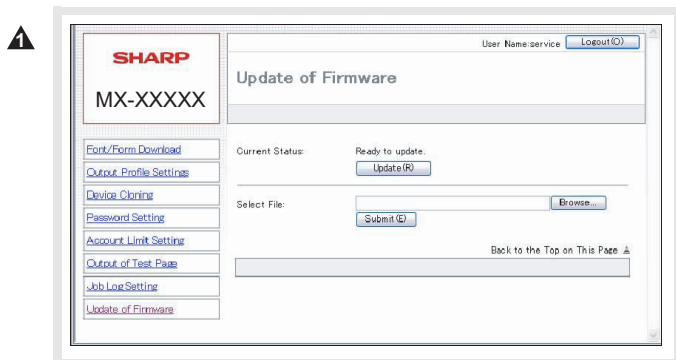
FTP software is used to transfer the firmware data (extension ".sfu") from the PC to the machine. The controller recognizes the firmware identifier and the machine automatically switches to firmware write mode. After the firmware is updated, the machine automatically resets.



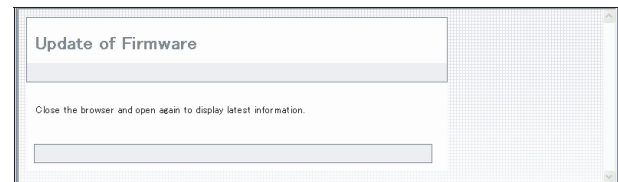
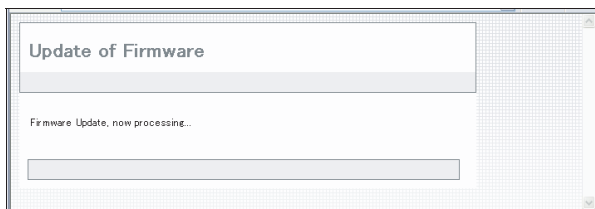
C. Firmware update using the Web page

An Web browser (service technician's Web page) is used to update the firmware.

- 1) Start the Web browser on a PC and enter the specified URL. A special firmware upgrade page appears.
- 2) Click the "Update of Firmware" key in the Web page. Click the [Browse] key and select the firmware for the update.
- 3) After selecting the file, click the [Submit] key to send the firmware to the machine. Update processing begins. While processing takes place, "Firmware Update, now processing..." appears.
- 4) When the firmware update is finished, "Firmware Update completed. Please reboot the MFP." appears. Pressing the [Reboot] key, the machine will restart to complete the update. The browser will shift to the following screen.



- 3) After selecting the file, click the [Submit] key to send the firmware to the machine. Update processing begins. While processing takes place, "Firmware Update, now processing..." appears.



"Close the browser and open again to display latest information." will be displayed.

- 5) Check the firmware version of machine again.

D. Emergency update (in case of an HDD breakdown)

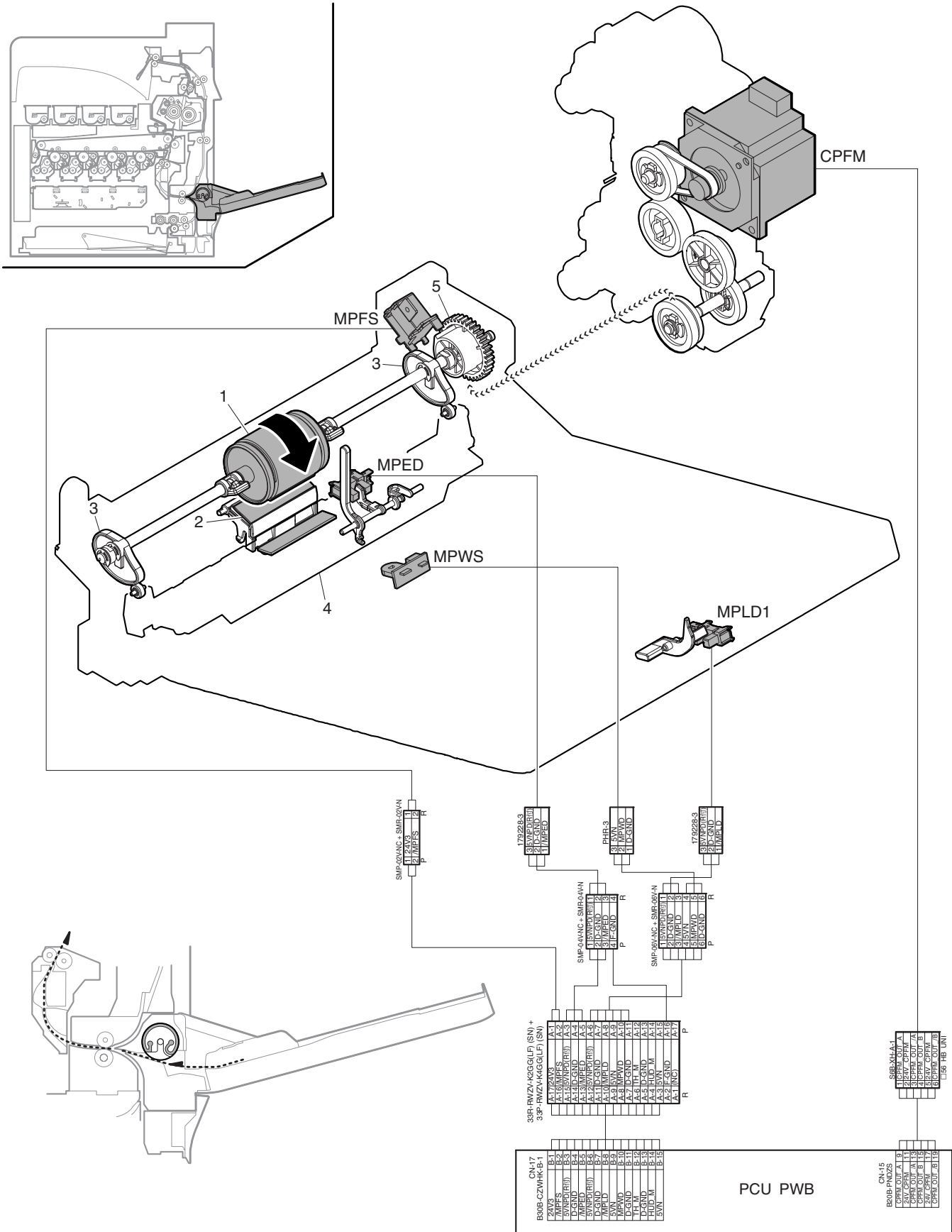
The HDD of this machine stores the main program along with the sophisticated variations.

When, therefore, the HDD breaks down, or when the HDD must be replaced with another HDD, or when the main program in the HDD is damaged by turning OFF the power during the firmware updating, the firmware (main program) must be reinstalled into the HDD or revised by the Boot mode.

(Refer to Chapter 11, Section 4, Item c.)

2. Manual paper feed section

A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
CPFM	Paper feed motor	Drives the paper feed section.
MPED	Manual feed paper empty detector	Detects paper empty in the manual paper feed tray.
MPFS	Paper feed clutch solenoid	Controls ON/OFF of the paper feed clutch.
MPLD1	Manual feed paper length detector	Detects the manual paper feed tray paper length.
MPWS	Manual paper feed tray paper width detector	Detects the manual paper feed tray paper width.

No.	Name	Function and operation
1	Paper feed roller	Feeds paper to the paper transport section.
2	Separation sheet	Separates paper to prevent double-feed.
3	Paper feed tray lift cam	Lifts the paper feed lift plate.
4	Paper feed lift plate	Presses paper on the top onto the paper feed roller.
5	Paper feed clutch	Controls ON/OFF of the manual paper feed roller.

B. Operational descriptions

Power of the paper feed motor (CPFM) is transmitted to the paper feed cam by the paper feed clutch to lift the paper feed lift plate so that paper on the top is pressed onto the paper feed roller and the paper feed roller is rotated to feed paper on the manual paper feed tray to the paper transport section.

Every time when one sheet of paper is fed, the paper feed roller rotates one turn and the paper feed lift plate performs lifting once.

The separation sheet is provided to prevent double-feed.

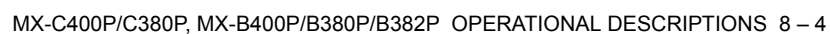
ON/OFF of paper feed operation is controlled by the manual paper feed clutch solenoid.

The paper size is detected by the paper width detector (MPWS) and the paper length detector (MPLD1).

Relationship between paper size detection and the paper width detector (MPWS) and the paper length detector (MPLD1)

MPWS detection width (mm)	MPLD1	Metric series	Inch series	NOTE
207.9 – 221	ON	FC (8.5" x 13")	8.5" x 14"	
207.9 – 221		–	8.5" x 11"	
202 – 218		A4	-	
176.2 – 192.2			7.25" x 10.5"	
174 – 190		B5		
140.5 – 156.5		A5		
131.7 – 147.7			5.5" x 8.5"	
94 – 108		Postcard		Japan only

A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
CLUD1	Paper feed tray 1 upper limit detector	Detects the upper limit of the paper feed tray 1, and maintains the contact pressure between paper on the top and the paper pickup roller to provide stable paper feed power.
CLUM	Paper feed tray 1 lift-up motor (Paper feed tray 1)	Drives the lift plate of the paper feed tray 1, and maintains the contact pressure between paper on the top and the paper pickup roller to provide stable paper feed power.
CPED1	Paper feed tray 1 paper empty detector	Detects paper empty in the paper feed tray 1.
CPFC	Paper feed tray vertical transport clutch	Controls ON/OFF of the paper transport roller 1 in the paper feed tray 1 section.
CPFD1	Paper transport detector 1	Detects paper pass in the paper transport roller 1. Detects a paper jam.
CPFM	Paper feed motor	Drives the paper feed section.
CPUC1	Paper feed clutch (Paper feed tray 1)	Controls ON/OFF of the rollers (the paper pickup roller, the paper feed roller, the paper transport roller 2) in the paper feed tray 1 section.
CSPD1	Paper remaining quantity detector	Detects the paper remaining quantity in the paper feed tray 1.
PPD1	Paper transport detector 2	Detects paper pass in the paper transport roller 2. Detects a paper jam.

No.	Name	Function and operation
1	Paper transport roller 2	Transports paper from the transport roller 1 to the resist roller.
2	Paper pickup roller (Paper feed tray 1)	Picks up paper on the top and feeds it to the paper feed roller.
3	Paper feed roller (Paper feed tray 1)	Feeds paper to the paper transport section.
4	Paper separation roller (Paper feed tray 1)	Separates paper to prevent double-feed.
5	Paper transport roller 1	Transports paper from the paper feed tray section to the transport roller 2.
6	Paper size detection block	The paper size is detected by the paper size detection PWB by utilizing that the concave and the convex positions of the block which is in contact with the paper size detection PWB detector are changed according to the paper length.
7	Paper guide (Longitudinal direction)	When the position is changed according to the paper length, the concave and the convex positions of the paper size detection block which is in contact with the paper size detection PWB detector are changed by the paper size detection block drive gear.
8	Paper size detection block drive gear	Transmits the paper guide (longitudinal direction) position to the paper size detection block position in order to perform paper size detection.
9	Paper guide (Lateral direction)	The guide plate to prevent paper feed skew.
10	Lift plate	Lifts up paper, and maintains the contact pressure between paper on the top and the paper pickup roller to provide stable paper feed power.
11	Paper size detection PWB	Detects the paper size by using combination of ON/OFF of three switches and the concave and the convex sections of the paper size detection block whose position is changed in connection with the paper guide (longitudinal direction).
12	Paper remaining quantity detection actuator	The lift plate position is changed according to the paper remaining quantity and the paper remaining quantity detection actuator position is also changed. The paper remaining detector detects the changes to recognize the paper remaining quantity.

B. Paper lifting operation

Set paper in the paper feed tray and insert the paper feed tray into the machine. The lift plate lifts up.

Paper is lifted by the lift motor (CLUM).

When the paper feed tray 1 upper limit detector (CLUD1) detects the top of paper, the lift motor (CLUM) stops and the contact pressure between paper on the top and the paper pickup roller becomes the proper level when paper is picked up.

When the paper remaining quantity is decreased, the lift plate lifts up in each case to maintain the contact pressure between paper on the top and the paper pickup roller at the proper level when paper is picked up.

C. Paper feed operation

The paper feed motor (CPFM) is turned ON, and then the paper feed clutch (CPUC1) is turned ON.

The power of the paper feed motor (CPFM) is transmitted through the paper feed clutch (CPUC1) to the paper pickup roller and the paper feed roller.

The paper pickup roller descends to pick up paper on the top and feed it to the paper feed roller.

The paper feed roller feeds paper to the paper transport section.

At that time, the separation roller rotates to prevent double-feed.

D. Paper size detection operation

Detects the paper size by using combination of ON/OFF of three switches and the concave and the convex sections of the paper size detection block whose position is changed in connection with the paper guide (longitudinal direction).

When the paper guide (longitudinal direction) position is changed, the concave and convex sections of the paper size detection block which are in contact with the paper size detection PWB detector are changed by the paper size detection block drive gear.

Relationship between paper size detection and the paper size detector (paper size detection PWB switch)

SW1	SW2	SW3	Metric series	Inch series
ON			—	8.5" x 14"
	ON		B5	7.25" x 10.5"
		ON	A4	—
ON	ON		A5	5.5" x 8.5"
ON		ON	FC (8.5" x 13")	—
	ON	ON	—	8.5" x 11"

E. Paper remaining quantity detection operation

There are four levels of the paper remaining quantity: 3 levels of remaining quantity and paper empty.

Paper empty:

The paper tray 1 paper empty detector (CRPED1) is turned ON.

When the paper remaining quantity is 2/3 - 3/3:

The paper remaining quantity detector (CSPD1) is not turned ON when paper on the paper feed tray is lifted up and the paper feed tray upper limit detector (CLUD) detects paper on the top and lifting is stopped.

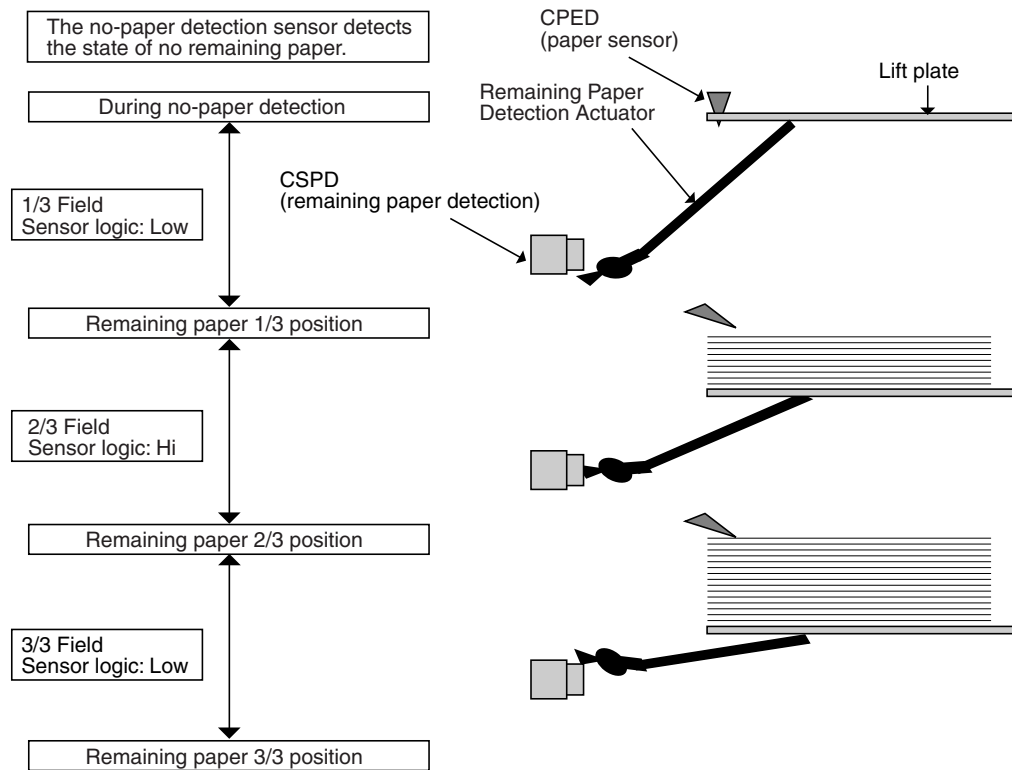
When the paper remaining quantity is 1/3 - 2/3:

The paper remaining quantity detector (CSPD1) is turned ON when paper on the paper feed tray is lifted up and the paper feed tray upper limit detector (CLUD) detects paper on the top and lifting is stopped.

When the paper remaining quantity is 1/3 or less:

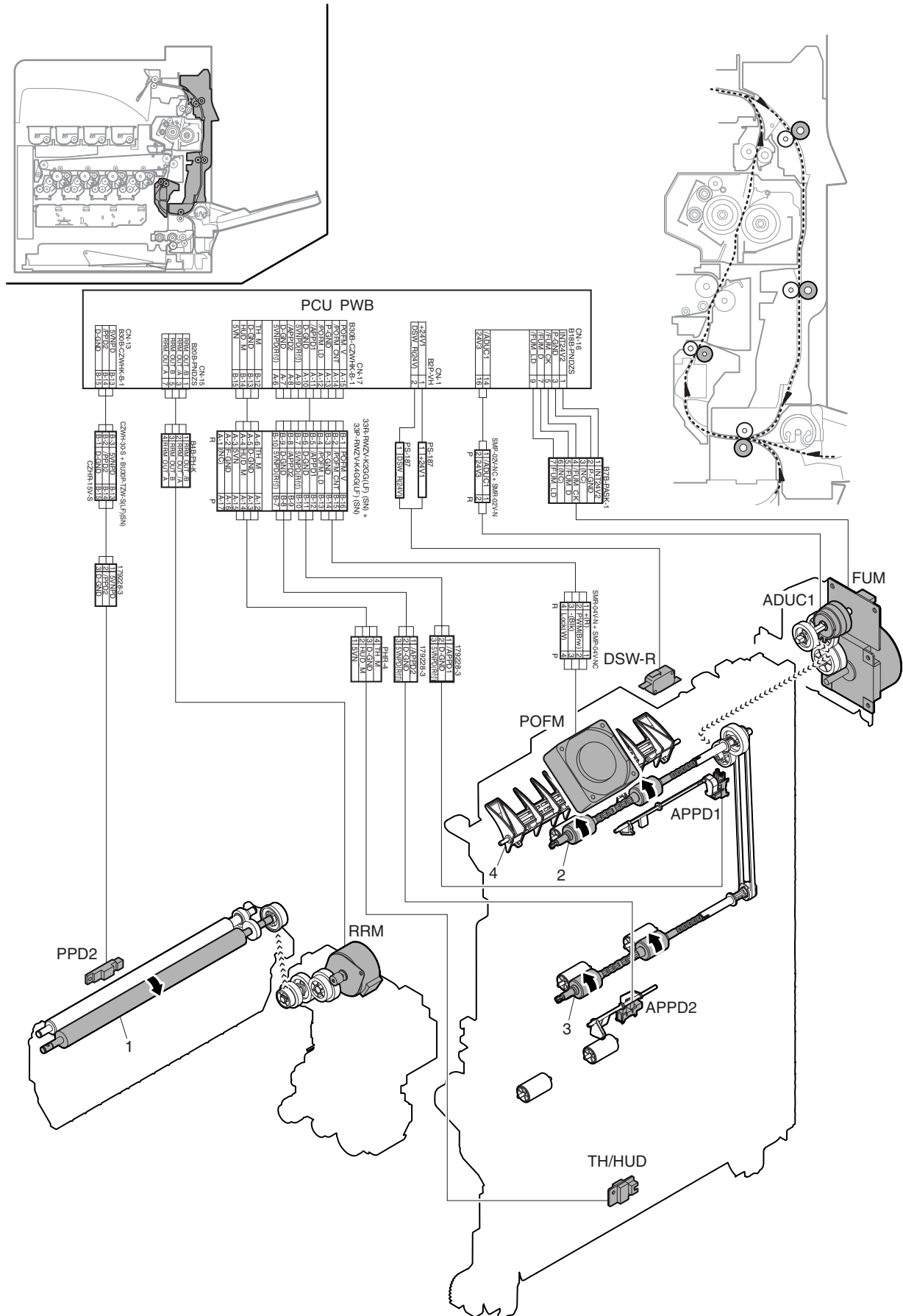
The paper remaining quantity detector (CSPD1) is turned ON once, and then turned OFF.

(Figure showing state transition of the remaining paper detection sensor during tray elevation and changes in status according to the number of remaining sheets)



4. Paper transport and switchback section

A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
FUM	Fusing drive motor	Drives the paper transport section and the switchback section.
PPD2	Paper transport detector 3	Detects paper pass in front of the resist roller, and controls the stop timing of paper at the resist roller.
RRM	Resist motor	Controls ON/OFF of the resist roller. Controls the relationship between images and paper.
ADUC1	Switchback transport clutch	Controls ON/OFF of the paper transport roller in the switchback section.
DSW-R	Right door open/close detection switch	Detects open/close of the right door.
APPD1	Switchback paper transport detector 1	Detects paper pass in the switchback section. Detects a paper jam.
APPD2	Switchback paper transport detector 2	Detects paper pass in the switchback section. Detects a paper jam.
TH/HUD	Temperature and humidity sensor	Detects the temperature and the humidity to use them as process control parameters.
POFM	Paper exit cooling fan	Cools the paper exit section.

No.	Name	Function and operation
1	Resist roller (Drive)	Transports paper to the transfer section.
2	Paper transport roller 4	Transports paper in the switchback section.
3	Paper transport roller 5	Transports paper in the switchback section.
4	Switchback guide	Guides paper to the switchback section.

B. Functions and operations of the resist roller

The resist roller is driven by the resist motor (RRM). By changing the OFF/ON timing of the motor, the relationship between images and paper is controlled.

The transport roller 2 is stopped after passing a certain time from when the paper transport detector 3 (PPD2) detects passing of the paper lead edge and the paper lead edge reaches the resist roller position.

Due to this time lag, paper is warped between the paper transport roller 2 and the resist roller.

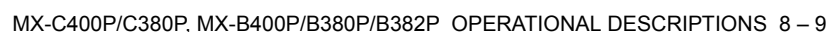
This warp is intentionally made to make the paper lead edge push onto the resist roller, reducing variations in the relationship between the paper and images.

Then, the paper transport roller and the resist roller rotate to transport the paper to the transfer section.

C. Paper transport to the switchback section

When printing is made on the back surface of paper in the duplex mode, the images on the front surface are transferred and the paper passes the fusing section, and then the paper is switched back in the paper exit section, and the paper is transported to the switchback section by the switchback guide.

A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
LSUFM	LSU fan	Cools the LSU high voltage PWB section.
PGM 1	Polygon motor	Rotates at a constant speed to scan laser beams.

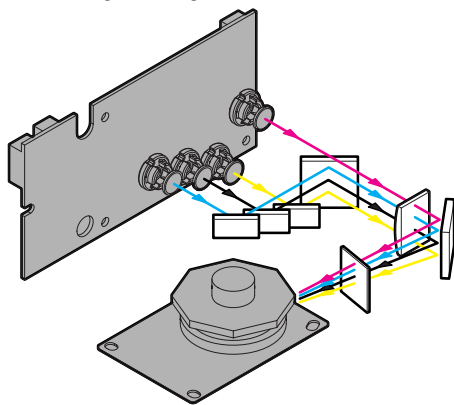
No.	Name	Function and operation
1	LD PWB	Converts video data into laser beams. Controls laser beams and laser power.
2	Collimator lens	Forms laser beams.
3	f ϕ lens 1	Uniformizes laser beam dot interval in the main scanning direction.
4	f ϕ lens 2	(Equalizes the laser dot interval at the peripheral section and that at the center of the OPC drum.)
5	Mirror	Reflects laser beams to the OPC drum.
6	Incident cylindrical lens	Forms laser beams.
7	Condenser lens for BD	Condenses laser beams onto the BD PWB.
8	BD PWB	Detects the laser scan timing. Detects the temperature in the LSU. (The temperature in the LSU is detected by the temperature sensor to correct the LSU temperature distortion.)
9	Filter glass	Prevents dust and toner from entering the LSU.
10	Shutter	Closes the exposure opening in conjunction with the shutter when the waste toner bottle is removed.
11	Laser skew adjustment plate	Adjusts laser skew in the main scanning direction for the OPC drum.
12	BD mirror	Guides laser beams to the BD (Beam Detector).
13	Filter glass	Prevents dust and toner from entering the polygon motor.

B. Laser scan operation

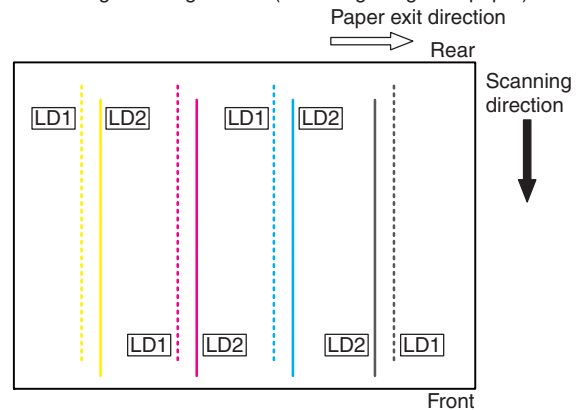
The image data sent from the MFP PWB are converted into video data by the ASIC in the LSU mother PWB, and then converted into laser beams by the LD PWB to be radiated on the OPC drum surface, forming electrostatic latent images on the OPC drum surface.

In this model, the 2-beam laser system is employed where two laser beams for each color are generated.

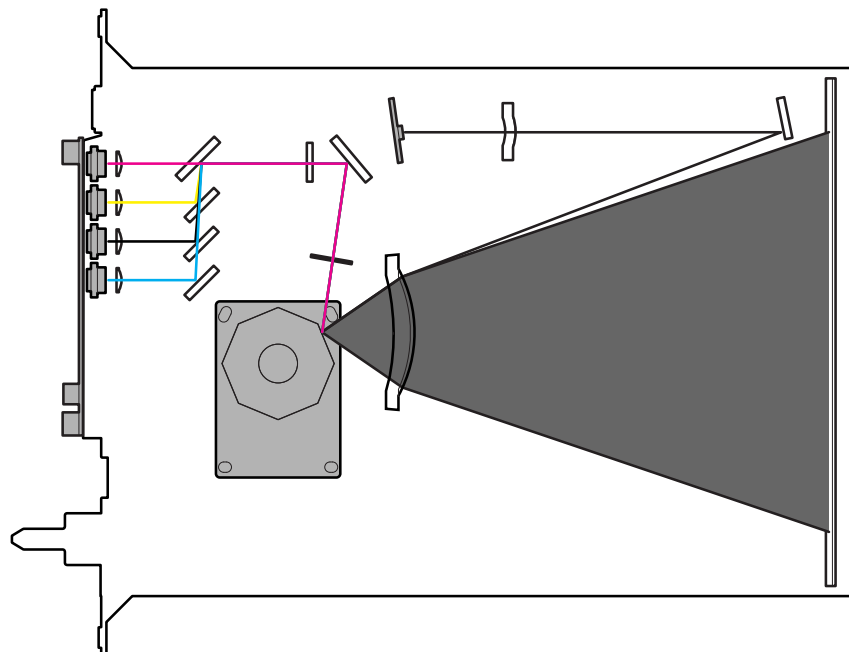
Laser beam generating section



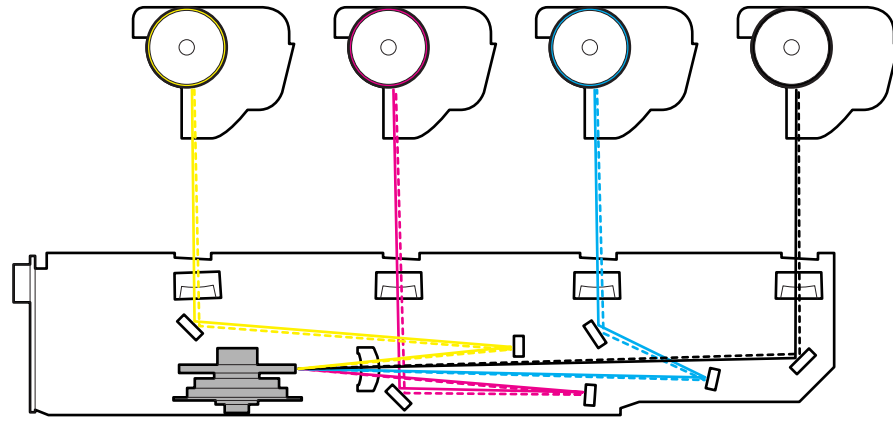
Laser beam generating section (Scanning image on paper)



Laser beam generating section (TOP)



Laser beam generating section (SIDE)



C. Shutter operation

Toner may drop when the toner cartridge is removed therefore a shutter mechanism will close to prevent toner from contaminating the filter.

The machine is also provided with the mechanism to adjust skews of laser beams of each color.

By shifting the front frame section of the ϕ lens 2 with the cam mechanism, the laser skew adjustment can be made in the main scanning direction for the OPC drum.

D. LSU specifications

Effective scan width	220mm
Resolution	1200dpi
Beam diameter	Main scan = 50 - 75 μ m, Sub scan = 50 - 75 μ m
Laser power	Max. 0.3mw
LD wavelength	750 - 800nm
Number of mirrors	8 surfaces
Rotation speed	39,862rpm

A. Electrical and mechanism relation diagram

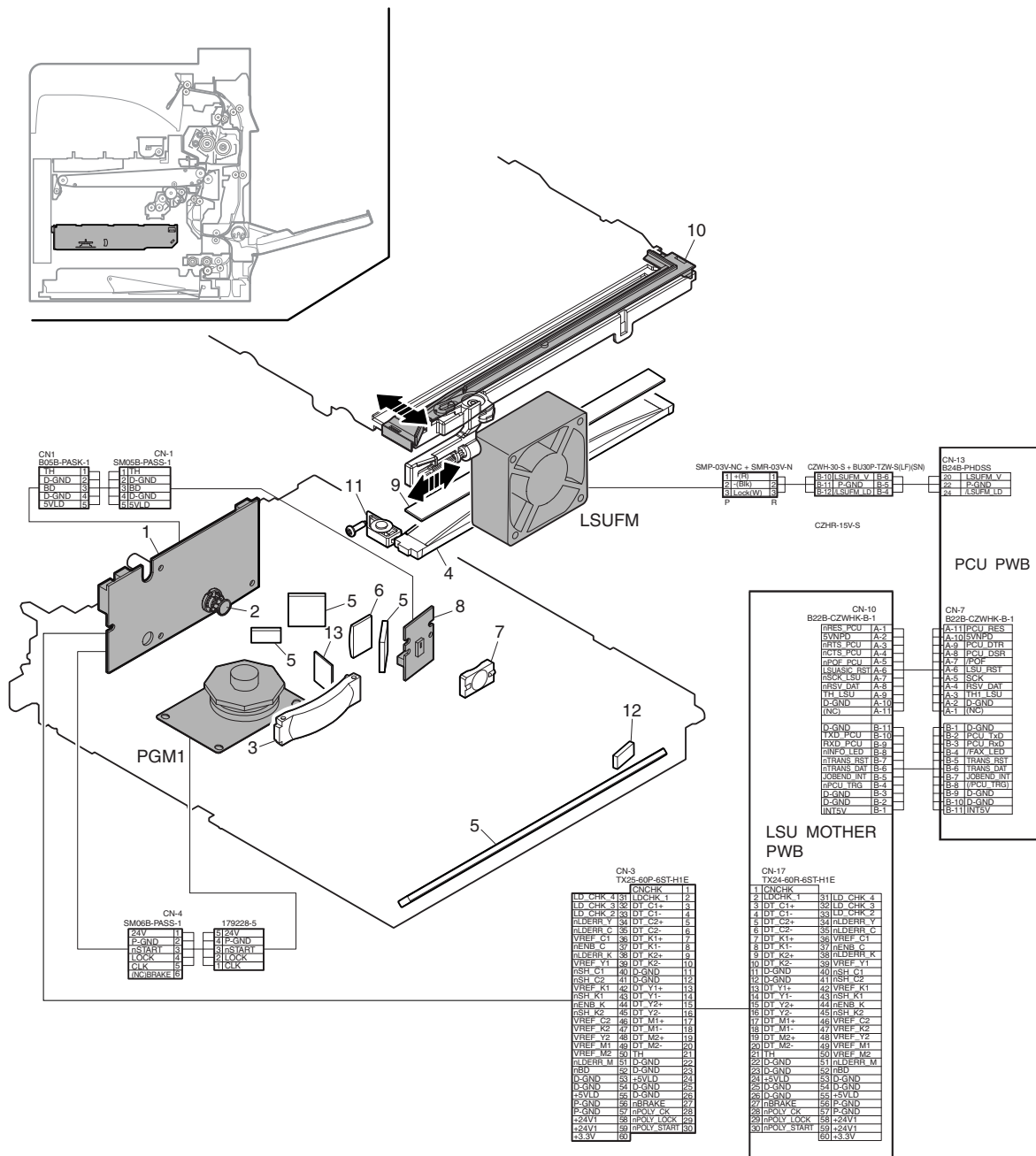
This diagram illustrates the exploded view of the front door assembly. The main components shown are the door, the handle, the lock, and various hardware components such as screws, bolts, and washers. The diagram is labeled with 'A' through 'I' to identify specific parts. The door is shown in a closed position, and the handle is shown in an open position. The lock is shown in a closed position. The hardware components are shown in their respective positions relative to the door and handle.



Signal name	Name	Function and operation
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PGM 1	Polygon motor	Rotates at a constant speed to scan laser beams.

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4	f ϕ lens 2	(Equalizes the laser dot interval at the peripheral section and that at the center of the OPC drum.)
5	Mirror	Reflects laser beams to the OPC drum.
6	Incident cylindrical lens	Forms laser beams.
7	Condenser lens for BD	Condenses laser beams onto the BD PWB.
8	BD PWB	Detects the laser scan timing. Detects the temperature in the LSU. (The temperature in the LSU is detected by the temperature sensor to correct the LSU temperature distortion.)
9	Filter glass	Prevents dust and toner from entering the LSU.
10	Shutter	Closes the exposure opening in conjunction with the shutter when the waste toner bottle is removed.
11	Laser skew adjustment plate	Adjusts laser skew in the main scanning direction for the OPC drum.
12	BD mirror	Guides laser beams to the BD (Beam Detector).
13	Filter glass	Prevents dust and toner from entering the polygon motor.

▲ (2) MX-B382P



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PGM 1	Polygon motor	Rotates at a constant speed to scan laser beams.

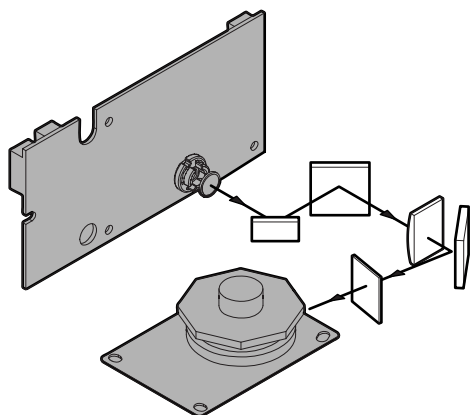
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B. Laser scan operation

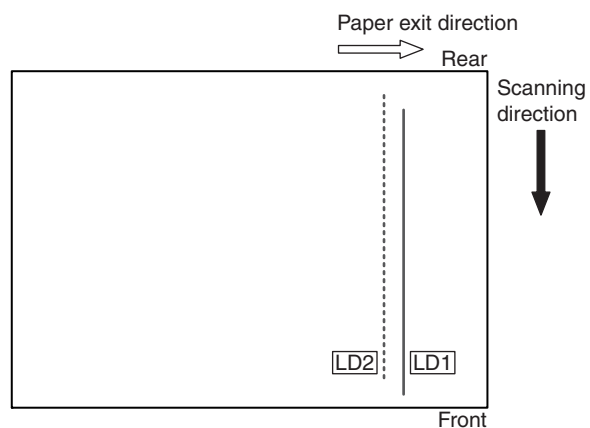
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In this model, the 2-beam laser system is employed.

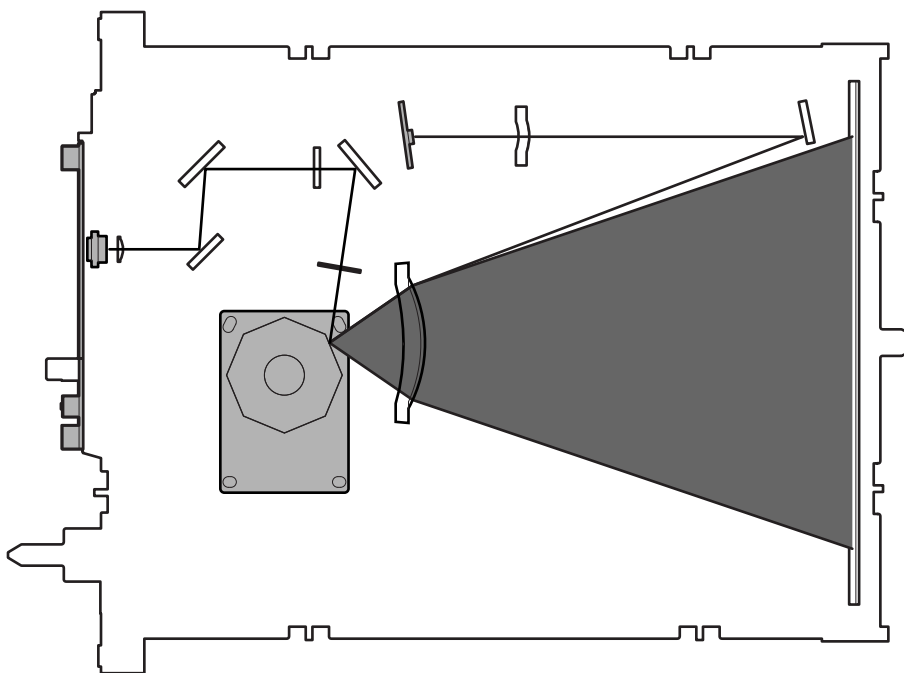
Laser beam generating section



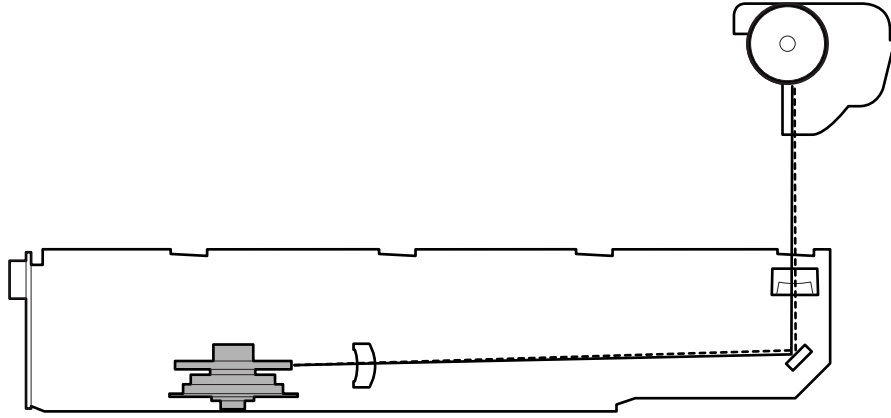
Laser beam generating section (Scanning image on paper)



Laser beam generating section (TOP)



Laser beam generating section (SIDE)



C. Shutter operation

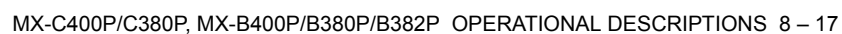
Toner may drop when the toner cartridge is removed therefore a shutter mechanism will close to prevent toner from contaminating the filter.

By shifting the front frame section of the $f\phi$ lens 2 with the cam mechanism, the laser skew adjustment can be made in the main scanning direction for the OPC drum.

D. LSU specifications

Effective scan width	220mm
Resolution	1200dpi
Beam diameter	Main scan = 50 - 75 μ m, Sub scan = 50 - 75 μ m
Laser power	Max. 0.3mw
LD wavelength	750 - 800nm
Number of mirrors	8 surfaces
Rotation speed	39,862rpm

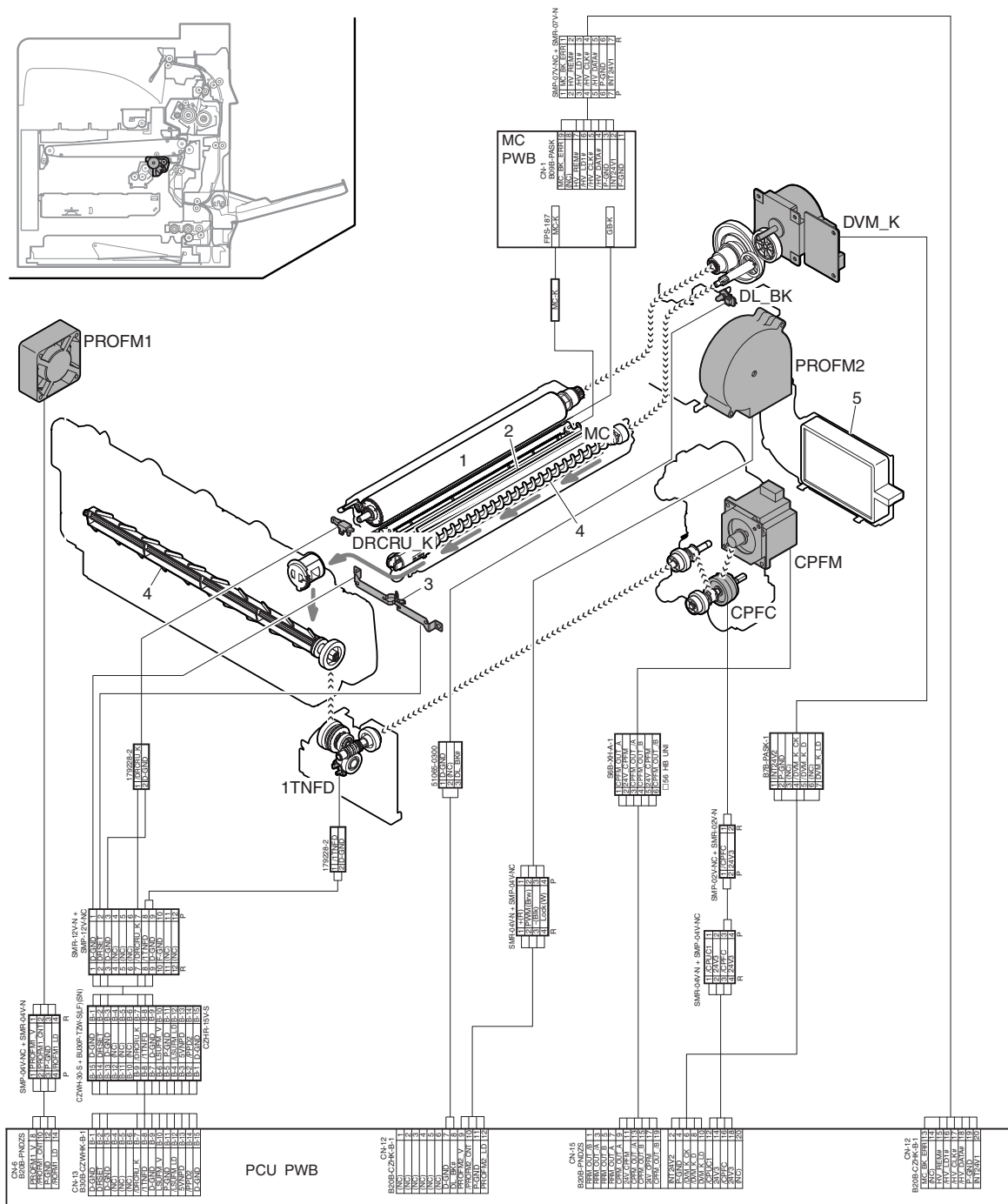
(1) MX-C400P/C380P



Signal name	Name	Function and operation
1TNFD	Waste toner full detector	Detects the waste toner full state.
CPFM	Paper feed motor	Drives the waste toner transport screw and the paper feed section.
DHPD_CL	Drum cartridge (CL) rotation detector	Detects the rotating state of the color drum cartridge.
DHPD_K	Drum cartridge (BK) rotation detector	Detects the rotating state of the black drum cartridge.
DL	Discharge lamp (Y,M,C,BK)	Radiates light on the discharge lens to discharges the OPC drum surface
DRCRU (Y,M,C,K)	OPC drum initial (new OPC drum) detector	Detects the OPC drum initial state (new OPC drum).
DVM_CL	Developing drive motor (Color)	Drives the color developing unit/color OPC drum.
DVM_K	Developing drive motor (Black)	Drives the black developing unit/black OPC drum.
MC	Main charger (Y,M,C,K)	Charges the OPC drum surface negatively.
PROFM1	Process fan 1	Cools the process section.
PROFM2	Process fan 2	Discharges ozone generated in the process section.

No.	Name	Function and operation
1	OPC drum (Y,M,C,K)	Forms electrostatic latent images.
2	Cleaning blade	Cleans residual toner from the OPC drum surface.
3	OPC drum installation detection contact (Y,M,C,K)	Detects installation of the OPC drum.
4	Waste toner transport screw	Transports waste toner to the waste toner bottle.
5	Ozone filter	Absorbs ozone generated in the image process section.

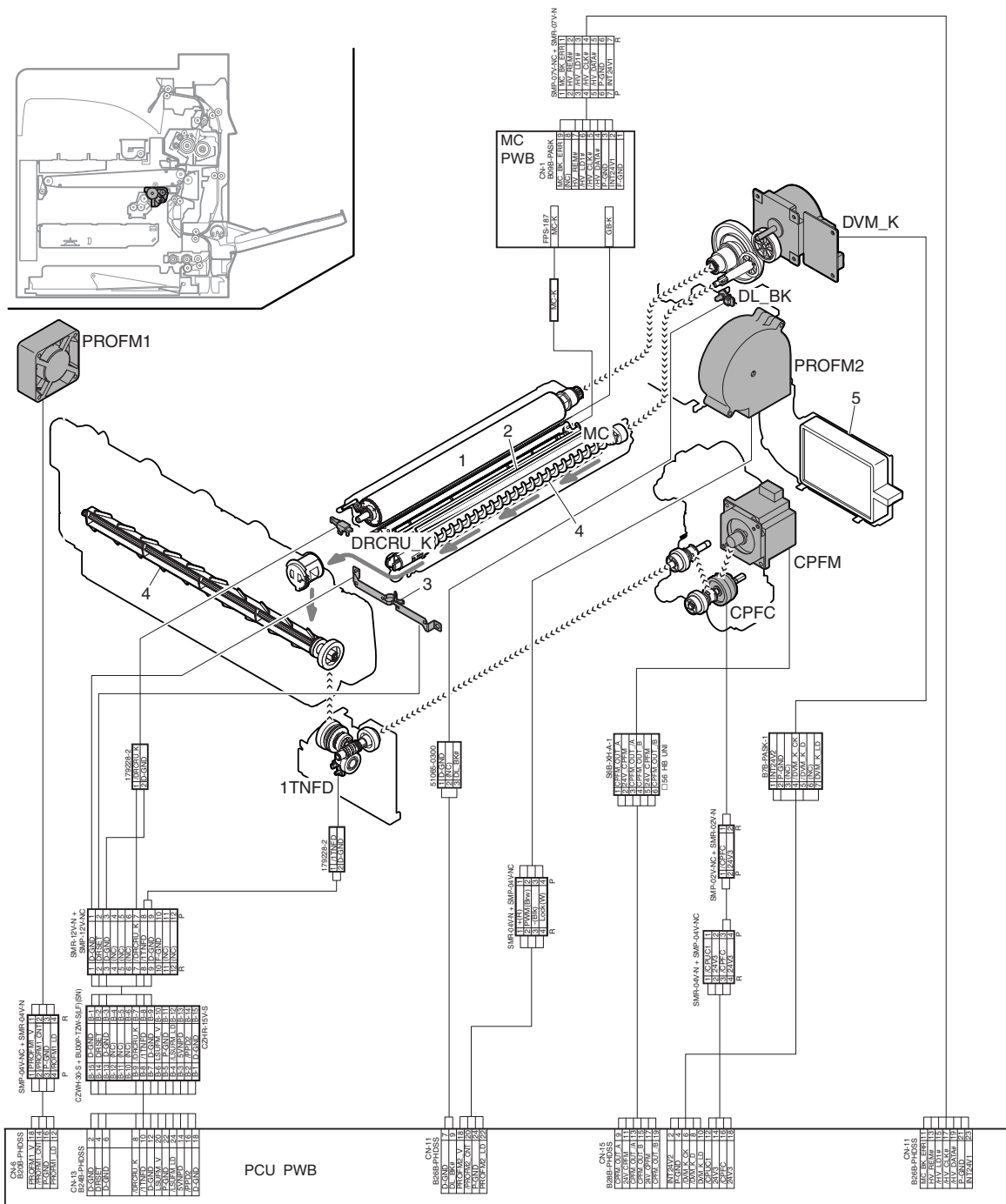
(2) MX-B400P/B380P



Signal name	Name	Function and operation
1TNFD	Waste toner full detector	Detects the waste toner full state.
CPFM	Paper feed motor	Drives the waste toner transport screw and the paper feed section.
DL	Discharge lamp	Radiates light on the discharge lens to discharges the OPC drum surface
DRCRU	OPC drum initial (new OPC drum) detector	Detects the OPC drum initial state (new OPC drum).
DVM_K	Developing drive motor	Drives the developing unit/OPC drum.
MC	Main charger	Charges the OPC drum surface negatively.
PROFM1	Process fan 1	Cools the process section.
PROFM2	Process fan 2	Discharges ozone generated in the process section.

No.	Name	Function and operation
1	OPC drum	Forms electrostatic latent images.
2	Cleaning blade	Cleans residual toner from the OPC drum surface.
3	OPC drum installation detection contact	Detects installation of the OPC drum.
4	Waste toner transport screw	Transports waste toner to the waste toner bottle.
5	Ozone filter	Absorbs ozone generated in the image process section.

(3) MX-B382P



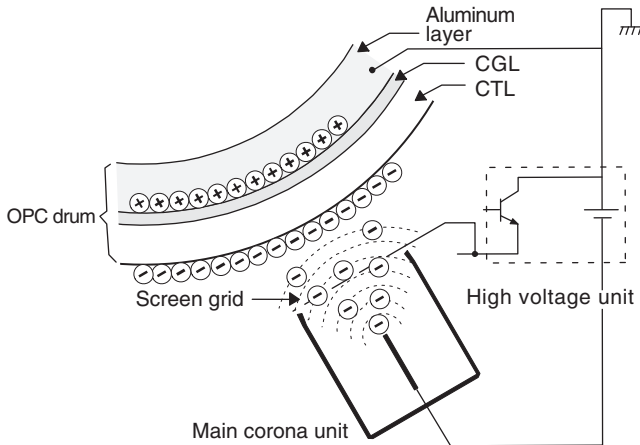
Signal name	Name	Function and operation
1TNFD	Waste toner full detector	Detects the waste toner full state.
CPFM	Paper feed motor	Drives the waste toner transport screw and the paper feed section.
DL	Discharge lamp	Radiates light on the discharge lens to discharges the OPC drum surface
DRCRU	OPC drum initial (new OPC drum) detector	Detects the OPC drum initial state (new OPC drum).
DVM_K	Developing drive motor	Drives the developing unit/OPC drum.
MC	Main charger	Charges the OPC drum surface negatively.
PROFM1	Process fan 1	Cools the process section.
PROFM2	Process fan 2	Discharges ozone generated in the process section.

No.	Name	Function and operation
1	OPC drum	Forms electrostatic latent images.
2	Cleaning blade	Cleans residual toner from the OPC drum surface.
3	OPC drum installation detection contact	Detects installation of the OPC drum.
4	Waste toner transport screw	Transports waste toner to the waste toner bottle.
5	Ozone filter	Absorbs ozone generated in the image process section.

B. Charging, electrostatic latent image forming, discharging

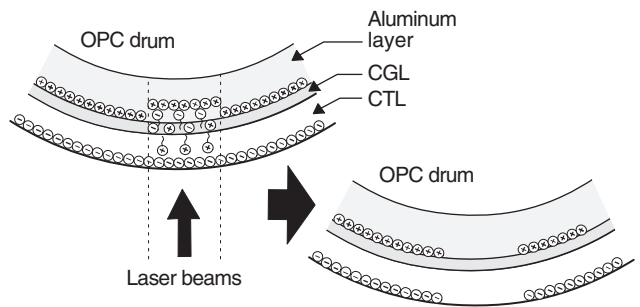
The OPC drum surface is charged negatively by the main charger, and laser beams are radiated to the LSU unit to form electrostatic latent images.

- 1) The OPC drum surface is charged negatively by the main charger.



The screen grid is attached to the main charger unit, and the OPC drum is charged at a voltage which is virtually the same as the voltage applied to the screen grid.

- 2) Laser beams are radiated to the OPC drum surface by the laser (writing) unit to form electrostatic latent images.



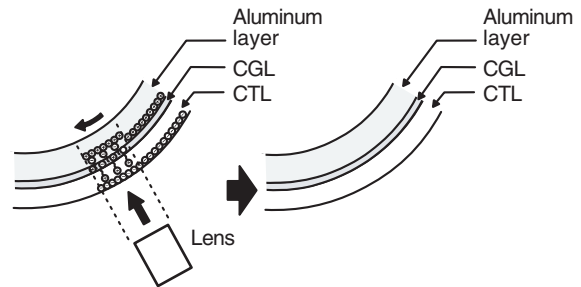
When laser beams are radiated on the OPC drum CGL, positive and negative charges are generated.

The positive charges generated in the CGL are attracted and shifted to the negative charges on the OPC drum surface. Meanwhile, the negative charges are attracted and shifted to the positive charges in the aluminum layer of the OPC drum. Therefore, on the surface and in the aluminum layer of the OPC drum, the positive charges and the negative charges are neutralized each other, reducing the amount of positive and negative charges to reduce the OPC drum surface potential.

For the areas where laser beams are not radiated, electric charges remain unchanged.

As a result, electrostatic latent images are formed on the OPC drum surface.

- 3) The whole surface of the OPC drum is discharged.



When the discharge lamp light is radiated to the discharge lens, the light is radiated through the lens to the OPC drum surface.

When the discharge lamp light is radiated to the OPC drum CGL, positive and negative charges are generated.

The positive charges generated in the CGL are attracted to the negative charges on the OPC drum surface. Meanwhile, the negative charges are attracted to the positive charges in the aluminum layer in the OPC drum.

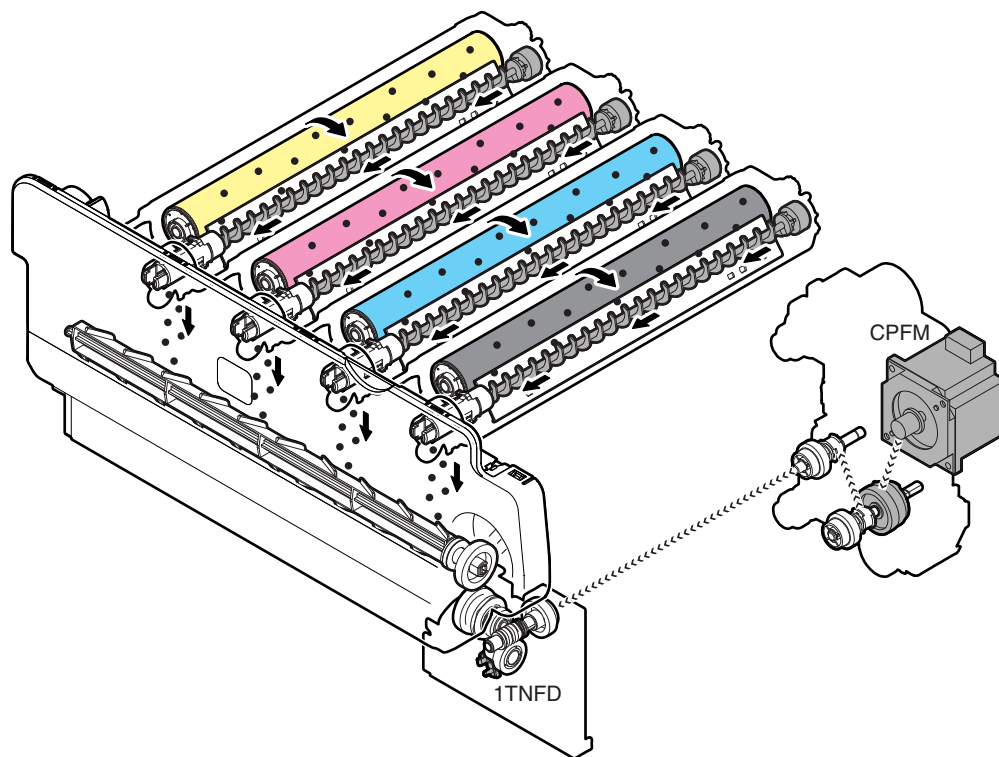
Therefore, on the OPC drum surface, the positive and the negative charges are neutralized each other, reducing the amount of positive and negative charges to reduce the surface potential of the OPC drum.

C. Cleaning operation

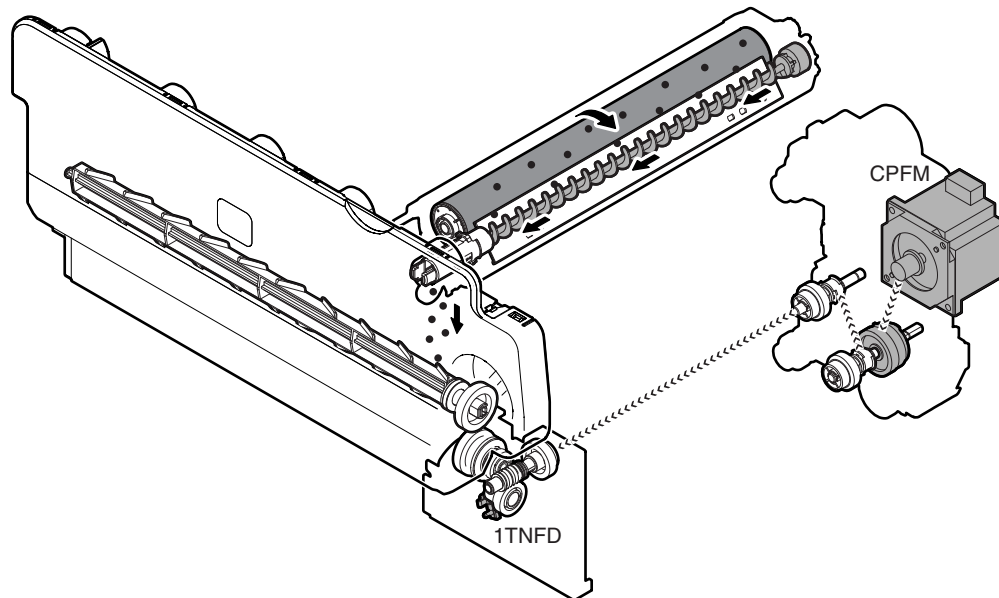
After completion of the transfer operation, residual toner on the OPC drum is removed by the cleaning blade.

The residual toner removed from the OPC drum surface is transported to the waste toner bottle by the waste toner transport screw, which is driven by the paper feed motor (CPFM).

- MX-C400P/C380P



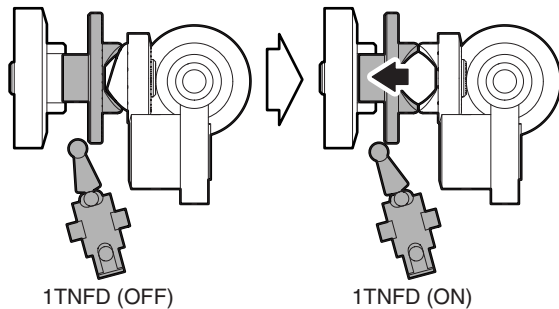
- ▲ • MX-B400P/B380P/B382P



D. Waste toner full detection operation

The waste toner bottle section is provided with the waste toner full detection mechanism. When the waste toner quantity is increased to the full state, the rotation load of the waste toner transport screw is increased, and the waste toner transport screw drive coupler gets stranded, and the waste toner full detector (1TNFD) is turned ON.

When the waste toner full detection switch is kept ON for 1 sec or more, it is judged as near end and the message that the waste toner bottle must be replace soon. When 500 counts are exceeded from that time, the machine recognizes as the waste toner full and the message that the waste toner bottle must be replaced is displayed. (Paper exit of one sheet is counted 1, and one process control operation is counted 10.)



E. OPC drum rotation control

The OPC drum (K) is driven by the K developing drive motor (DVM_K), and the rotation speed is monitored by the OPC drum (BK) rotation sensor (DHPD_K).

The color OPC drums (C, M, Y) are driven by the CL developing drive motor (DVM_CL), and are monitored by the CL OPC drum rotation sensor (DHPD_CL).

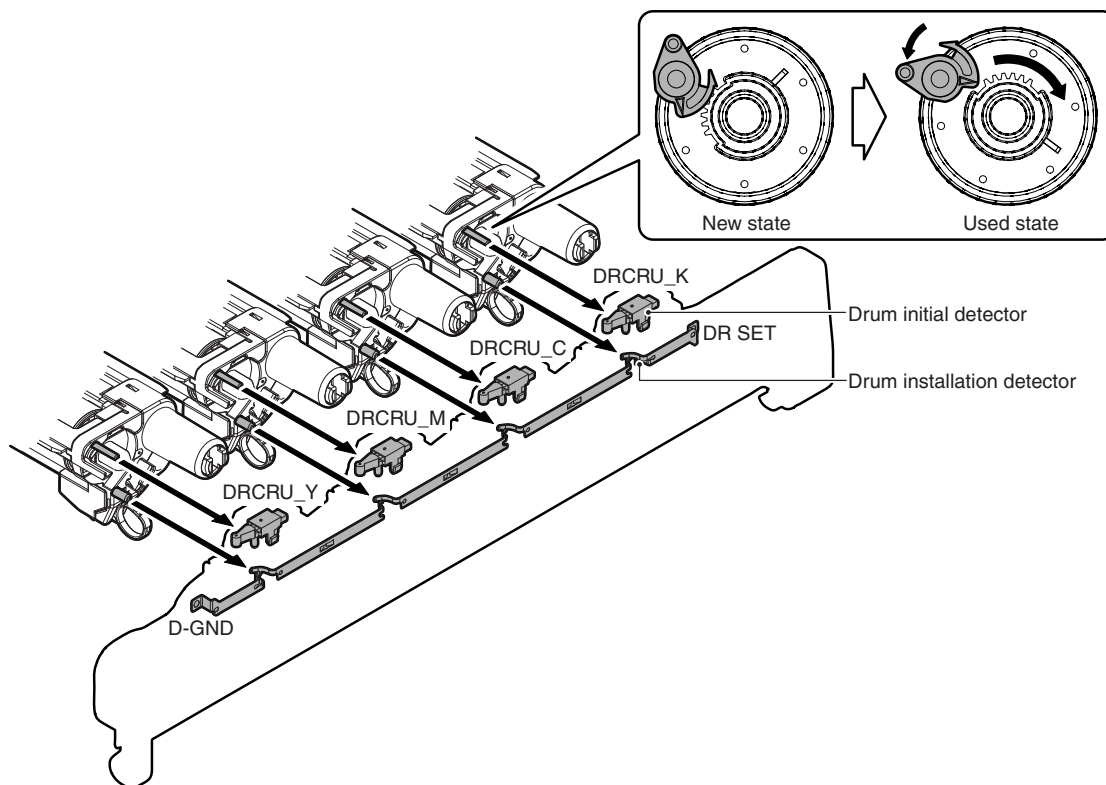
According to signals monitored by the above two sensors, the rotation speed and the rotation phase of the K OPC drum and the color OPC drums are controlled.

F. OPC drum initial operation/ OPC drum installation detection operation

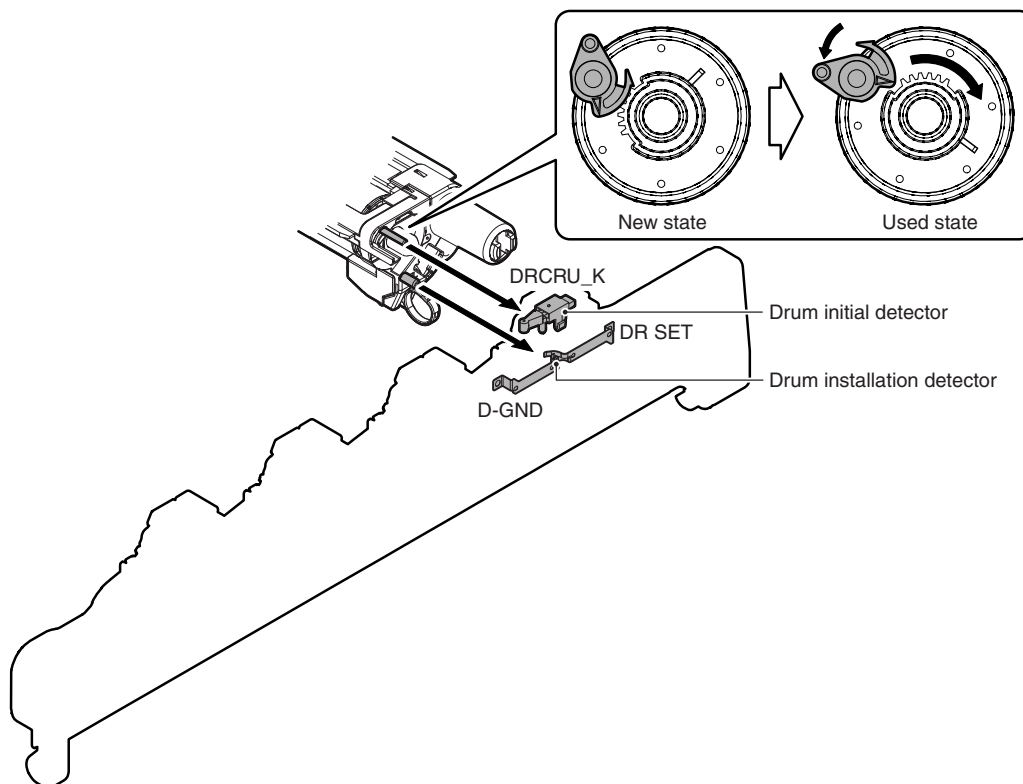
When a new OPC drum is installed, the OPC drum initial detector (DRCRU) is turned ON by the OPC drum initial actuator. When, thereafter, the drum rotates, the drum initial actuator position is changed to turn OFF the detector. By this series of operations, the drum is initialized and the OPC drum counter is reset.

NOTE: The initial operation means detection of a new unit, occurrence of a trigger for start of use, and resetting of the counter.

• MX-C400P/C380P

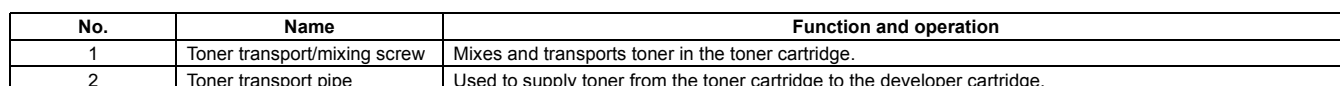


• MX-B400P/B380P/B382P

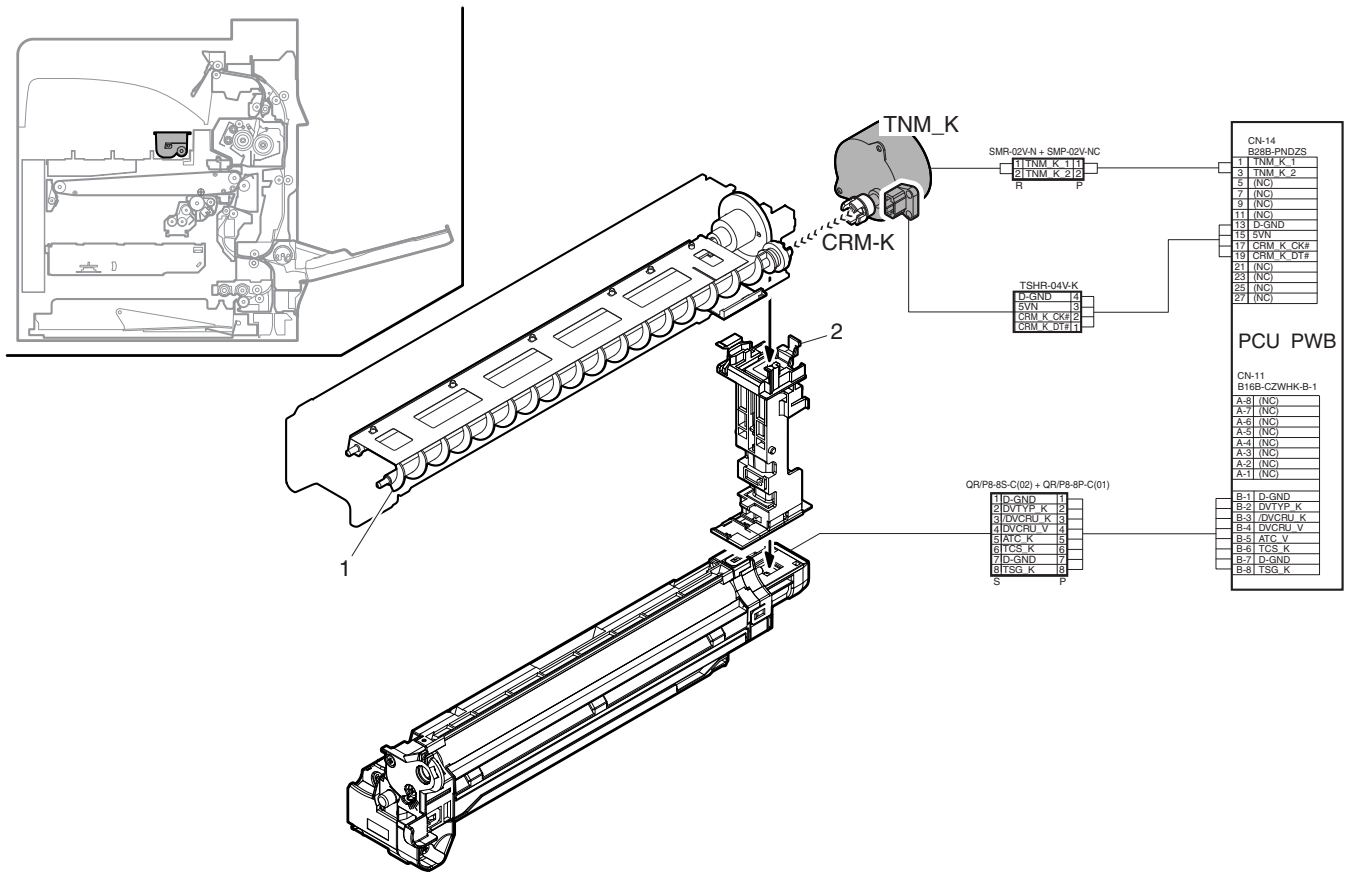


In the OPC drum positioning unit, there is a contact to detect installation of the OPC drum. If there is no OPC drum installed, it is detected and the message is displayed on the operation panel to show that there is no OPC drum installed.

(1) MX-C400P/C380P



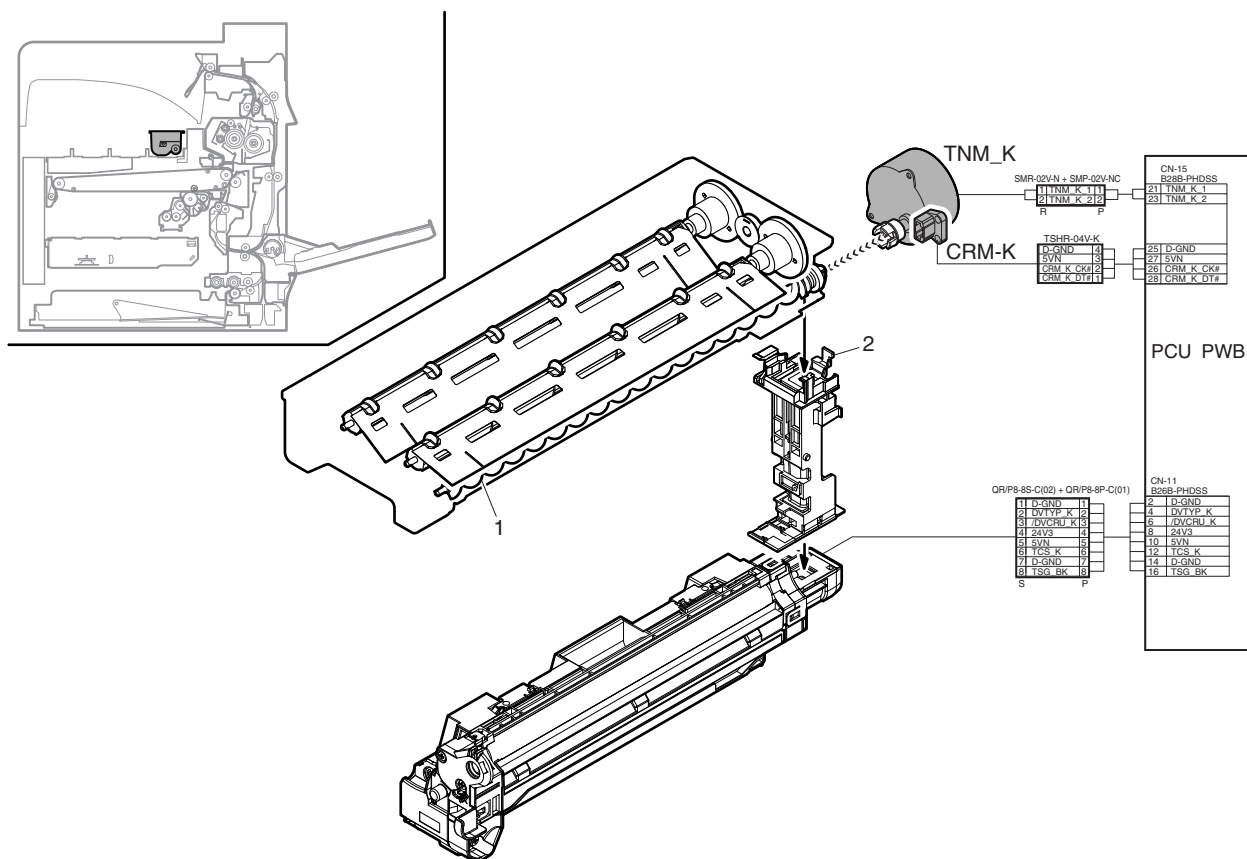
(2) MX-B400P/B380P



Signal name	Name	Function and operation
TNM	Toner motor	Drives the toner transport screw in the toner cartridge to supply toner to the developer cartridge.
CRM	Crum	Stores data related to control of the toner cartridge. Detects a new toner cartridge.

No.	Name	Function and operation
1	Toner transport/mixing screw	Mixes and transports toner in the toner cartridge.
2	Toner transport pipe	Used to supply toner from the toner cartridge to the developer cartridge.

(3) MX-B382P



Signal name	Name	Function and operation
TNM	Toner motor	Drives the toner transport screw in the toner cartridge to supply toner to the developer cartridge.
CRM	Crum	Stores data related to control of the toner cartridge. Detects a new toner cartridge.

No.	Name	Function and operation
1	Toner transport/mixing screw	Mixes and transports toner in the toner cartridge.
2	Toner transport pipe	Used to supply toner from the toner cartridge to the developer cartridge.

B. Operational descriptions

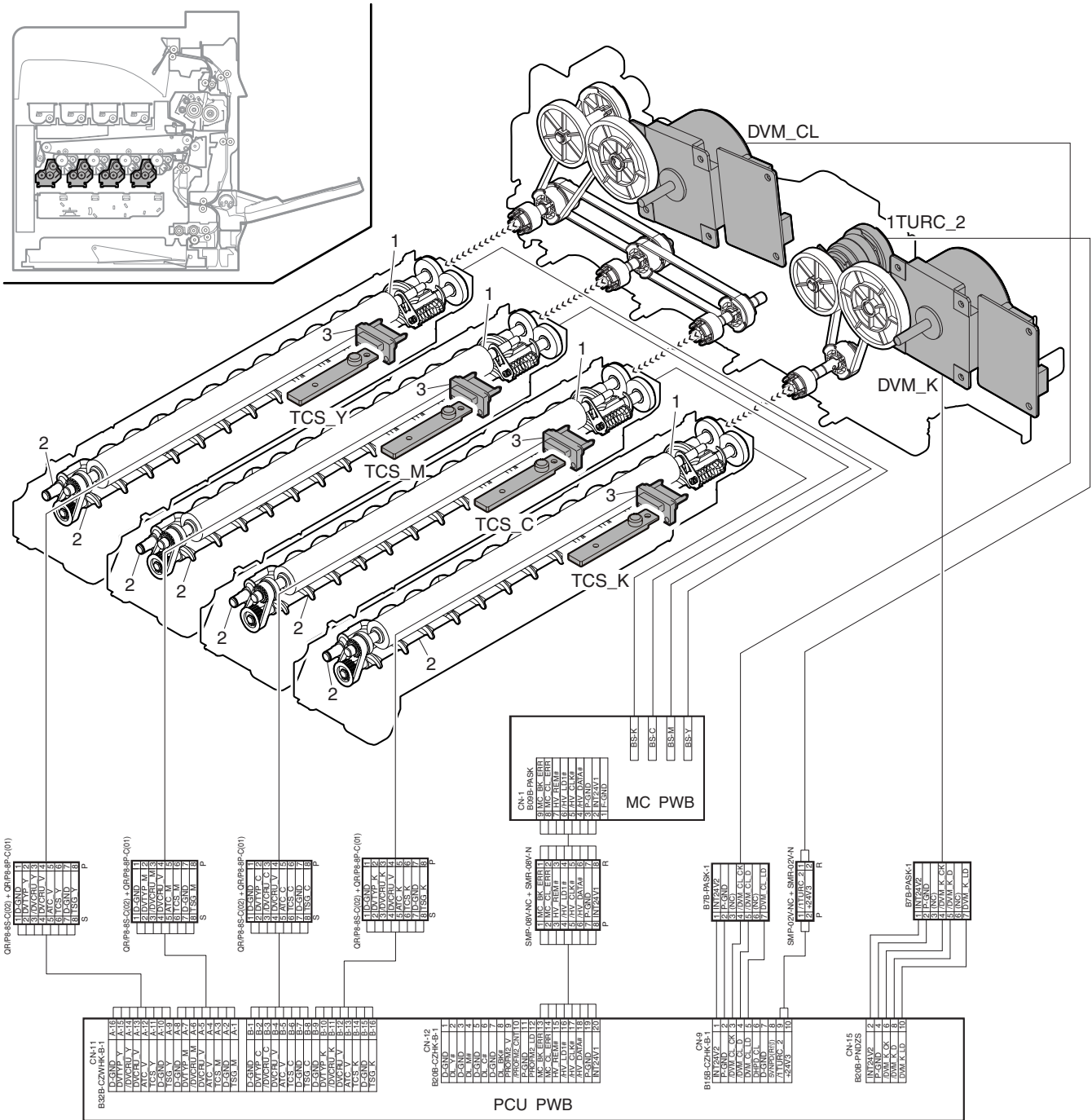
When the toner density sensor in the developing unit detects a fall in the toner density, the toner motor drives the toner transport screw in the toner cartridge to supply toner to the developer cartridge.

The toner motor is turned ON/OFF according to the output of the toner density sensor.

9. Developing section

A. Electrical and mechanism relation diagram

(1) MX-C400P/C380P

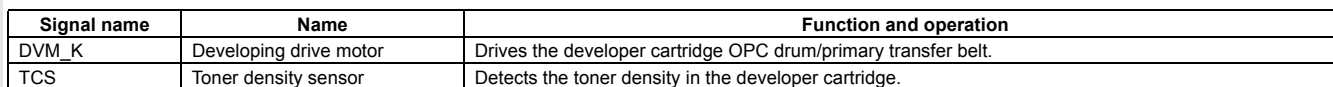


Signal name	Name	Function and operation
DVM_CL	Developing drive motor (Color)	Drives the color developer cartridge/color OPC drum.
DVM_K	Developing drive motor (Black)	Drives the black developer cartridge/black OPC drum/primary transfer belt.
TCS	Toner density sensor (Y,M,C,K)	Detects the toner density in the developer cartridge.

No.	Name	Function and operation
1	Developing roller	Converts electrostatic latent images on the OPC drum into visible images.
2	Mixing roller	Mixes and charges developer and toner.
3	Developing connector	Directly connected with the resistor and the fuse which identify the kind of the developer cartridge and detect initializing of the DV unit.

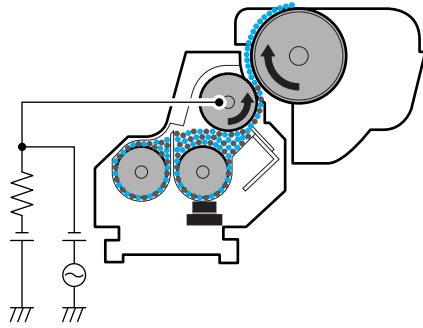
The diagram illustrates the assembly of the PCU PWB. The main components shown are the PCU PWB, MC PWB, and various connectors and components. The PCU PWB is shown with its internal components, including the MC PWB, which is connected to the PCU PWB via a connector. The MC PWB is shown with its internal components, including the MC PWB, which is connected to the PCU PWB via a connector. The diagram also shows the connection of the PCU PWB to the MC PWB via a connector. The diagram is labeled with various components and connectors, including PCU PWB, MC PWB, and various connectors and components.

No.	Name	Function and operation
1	Developing roller	Converts electrostatic latent images on the OPC drum into visible images.
2	Mixing roller	Mixes and charges developer and toner.
3	Developing connector	Directly connected with the resistor and the fuse which identify the kind of the developer cartridge and detect initializing of the DV unit.

MX-C400P/C380P, MX-B400P/B380P/B382P OPERATIONAL DESCRIPTIONS 8 – 30

B. Developing operations

Electrostatic latent images formed on the OPC drum surface by the laser (writing) unit (laser image beams) are converted into visible images by toner.



Toner and carrier in the developer cartridge are mixed and transported by the stirring roller.

When toner and carrier are stirred and transported, toner is negatively charged by mechanical friction with carrier.

In addition, the developing bias voltage (AC component of negative DC component) is applied to the developing roller.

Negatively charged toner is attached to the exposed area (high potential area) on the OPC drum by the developing bias voltage.

On the other hand, the potential of the unexposed area on the OPC drum is lower than the developing bias voltage and toner is not attached to it.

C. Toner density control

The toner density in the developer cartridge is detected by the toner density sensor in order to keep the toner density control level which is set in the initial operation of the developer cartridge.

When the toner density is lowered, the toner motor is rotated to supply toner from the toner cartridge to the developer cartridge.

D. Developer cartridge initial operation

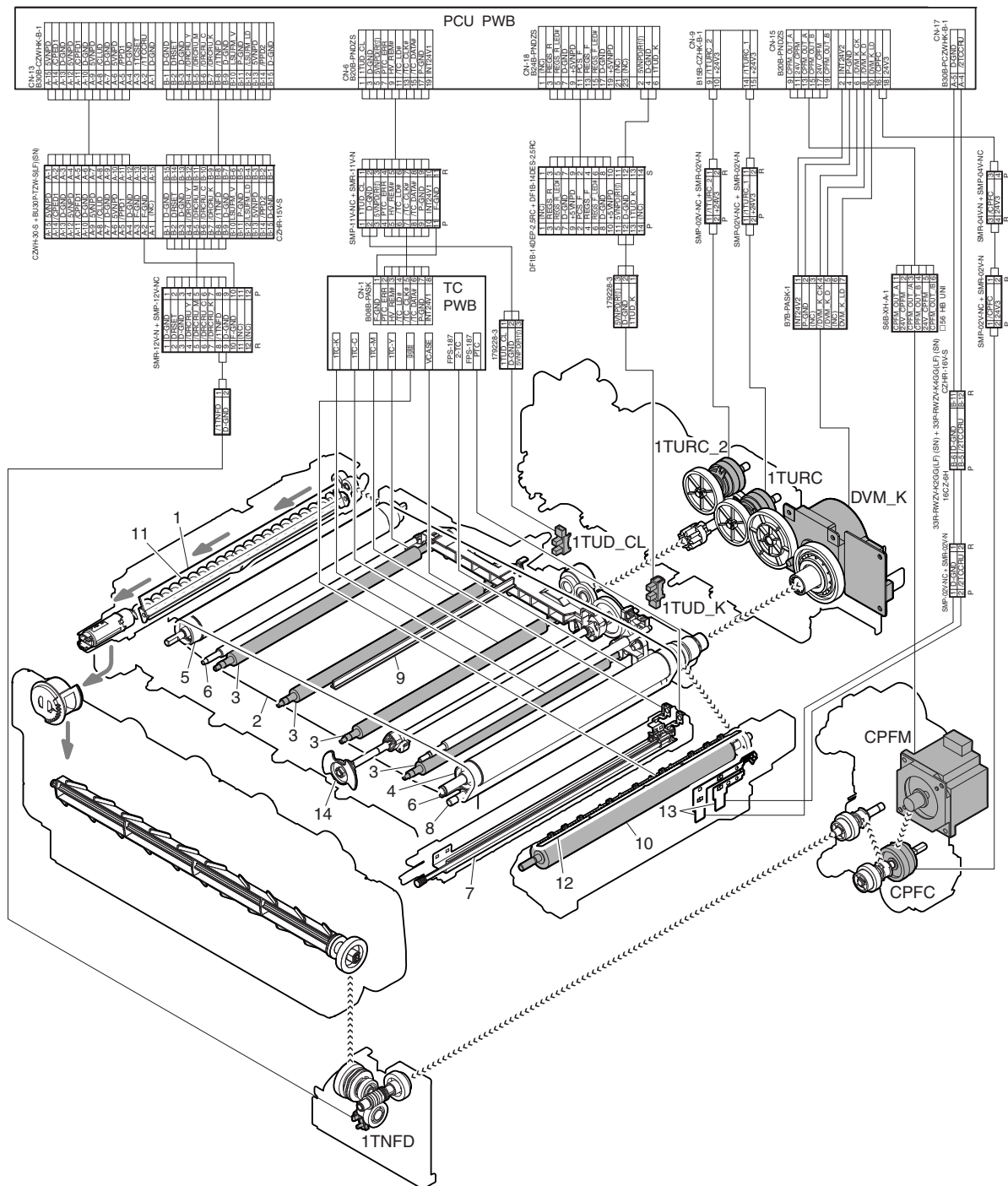
When the developer cartridge is installed, the state of the fuse of the connector in the developer cartridge is checked.

When the state that the fuse is not blown off is detected, the developing unit is judged as a new one, blowing off the fuse.

Simultaneously with this operation, setting of the toner density control level and reset of the developing counter are automatically performed.

NOTE: The initial operation means detection of a new unit, occurrence of a trigger for start of use, and resetting of the counter.

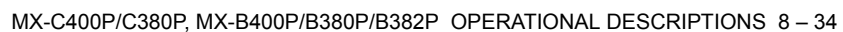
(1) MX-C400P/C380P



Signal name	Name	Function and operation
1TC (C, M, Y, K)	Primary transfer output (C, M, Y, K)	Flows the transfer current to the primary transfer roll, and transfers toner images from the OPC drum to the transfer belt.
1TNFD	Waste toner full detector	Detects waste toner full.
1TUD_BK	Primary transfer belt position sensor (BK)	Detects the primary transfer belt position (BK) in combination with the 1TUD_BK and 1TUD_CL output. Detects initialization of the primary transfer unit.
1TUD_CL	Primary transfer belt position sensor (CL)	Detects the primary transfer belt position (CL) in combination with the 1TUD_CL and 1TUD_BK output. Detects initialization of the primary transfer unit.
1TURC	Primary transfer mode select clutch	Transports the developing motor (K) power to the primary transfer mode select cam to select the primary transfer mode. (The primary transfer mode select cam is rotated counterclockwise.)
1TURC_2	Primary transfer mode select clutch	Transports the developing motor (K) power to the primary transfer mode select cam to select the primary transfer mode. (The primary transfer mode select cam is rotated clockwise.)
2TC	Secondary transfer output	Secondary transfer high voltage output
CPFM	Paper feed motor	Drives the waste toner transport screw. Drives the paper feed section.
DVM_K	Developing drive motor (K)	Drives the transfer belt. (Also drives the K developing unit.)
PTC	PTC output	PTC high voltage output

No.	Name	Function and operation
1	Primary transfer cleaner blade	Cleans residual toner on the intermediate transfer belt.
2	Transfer belt	Transfers toner images on the OPC drum.
3	Primary transfer roller	Applies the transfer high voltage to transfer toner images on the OPC drum to the transfer belt.
4	Transfer belt drive roller	Drives the transfer belt. Applies the transfer high voltage to transfer toner images on the transfer belt to paper.
5	Transfer roller follower roller	Follows the transfer belt.
6	Transfer belt tension roller	Applies a tension to the transfer belt.
7	PTC unit	Reduces positive charges on the primary transfer belt to increase the transfer efficiency.
8	PTC opposing roller	Used to flow the PTC current.
9	Transfer belt cleaning brush	Cleans the back surface of the transfer belt.
10	Cleaning blade	Cleans residual toner on the transfer belt surface.
11	Secondary transfer roller	Transfers toner images on the transfer belt to paper. Connected to GND to flow the secondary transfer high current.
12	Waste toner transport screw	Transports waste toner to the waste toner bottle.
13	Paper separation electrode	Applies a high negative voltage to discharge paper which is positively charged after transfer operation.
14	Mode select knob	Used to set the primary transfer unit to the free state. (Used to turn the mode select cam manually.)

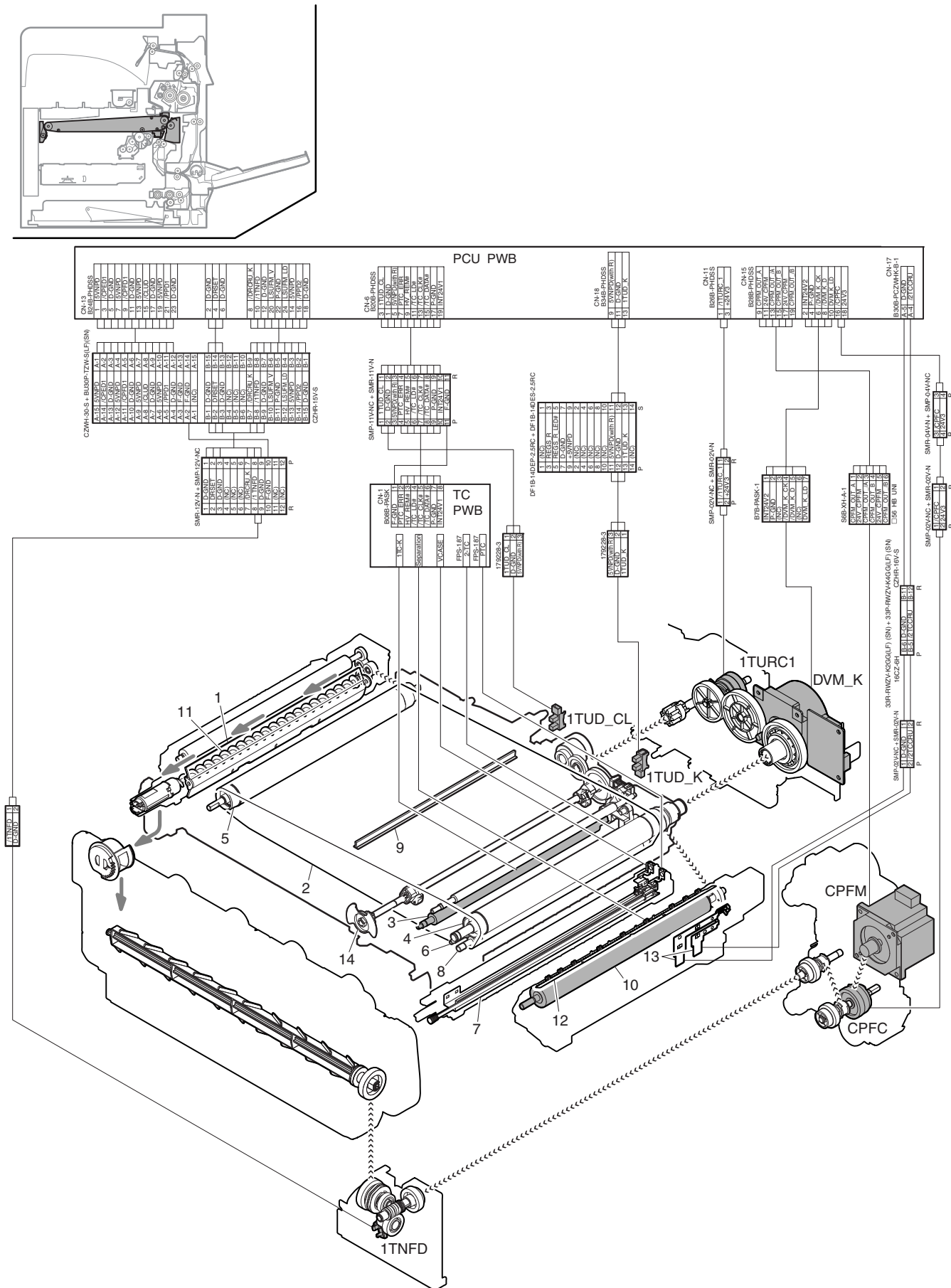
This technical drawing illustrates a mechanical assembly, possibly a pump or engine component. The main view shows a complex arrangement of parts, including a central shaft (A) and various housing components (B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z). A detailed view of component 'D' is shown below the main assembly, highlighting its internal structure and features. The drawing uses standard mechanical notation, including section lines and dimension lines, to define the geometry and assembly of the parts.



Signal name	Name	Function and operation
1TC (K)	Primary transfer output	Flows the transfer current to the primary transfer roll, and transfers toner images from the OPC drum to the transfer belt.
1TNFD	Waste toner full detector	Detects waste toner full.
1TUD_BK	Primary transfer belt position sensor (BK)	Detects initialization of the primary transfer unit.
1TUD_CL	Primary transfer belt position sensor (CL)	Detects the primary transfer belt position.
1TURC 1	Primary transfer mode select clutch	Transports the developing motor power to the primary transfer mode select cam to select the primary transfer mode.
2TC	Secondary transfer output	Secondary transfer high voltage output
CPFM	Paper feed motor	Drives the waste toner transport screw. Drives the paper feed section.
DVM_K	Developing drive motor	Drives the transfer belt. (Also drives the developing unit.)
PTC	PTC output	PTC high voltage output

No.	Name	Function and operation
1	Primary transfer cleaner blade	Cleans residual toner on the intermediate transfer belt.
2	Transfer belt	Transfers toner images on the OPC drum.
3	Primary transfer roller	Applies the transfer high voltage to transfer toner images on the OPC drum to the transfer belt.
4	Transfer belt drive roller	Drives the transfer belt. Applies the transfer high voltage to transfer toner images on the transfer belt to paper.
5	Transfer roller follower roller	Follows the transfer belt.
6	Transfer belt tension roller	Applies a tension to the transfer belt.
7	PTC unit	Reduces positive charges on the primary transfer belt to increase the transfer efficiency.
8	PTC opposing roller	Used to flow the PTC current.
9	Transfer belt cleaning brush	Cleans the back surface of the transfer belt.
10	Cleaning blade	Cleans residual toner on the transfer belt surface.
11	Secondary transfer roller	Transfers toner images on the transfer belt to paper. Connected to GND to flow the secondary transfer high current.
12	Waste toner transport screw	Transports waste toner to the waste toner bottle.
13	Paper separation electrode	Applies a high negative voltage to discharge paper which is positively charged after transfer operation.
14	Mode select knob	Used to set the primary transfer unit to the free state. (Used to turn the mode select cam manually.)

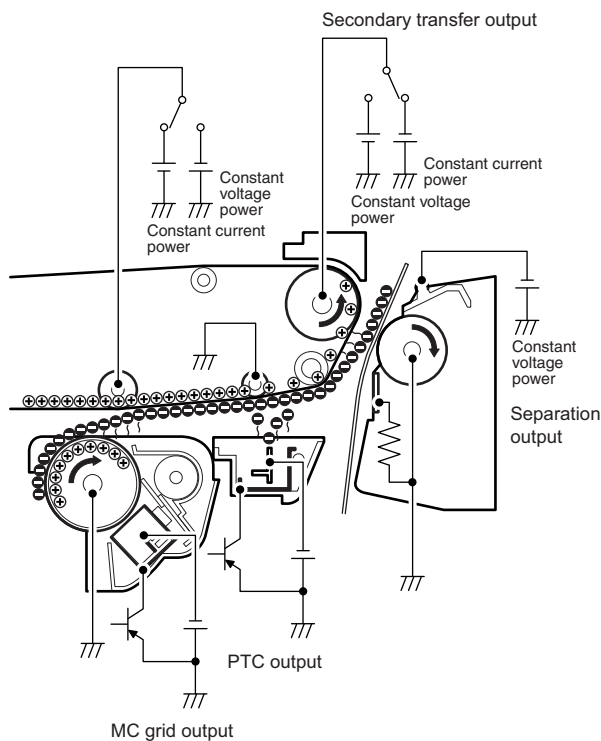
▲ (3) MX-B382P



Signal name	Name	Function and operation
1TC (K)	Primary transfer output	Flows the transfer current to the primary transfer roll, and transfers toner images from the OPC drum to the transfer belt.
1TNFD	Waste toner full detector	Detects waste toner full.
1TUD_BK	Primary transfer belt position sensor (BK)	Detects initialization of the primary transfer unit.
1TUD_CL	Primary transfer belt position sensor (CL)	Detects the primary transfer belt position.
1TURC 1	Primary transfer mode select clutch	Transports the developing motor power to the primary transfer mode select cam to select the primary transfer mode.
2TC	Secondary transfer output	Secondary transfer high voltage output
CPFM	Paper feed motor	Drives the waste toner transport screw. Drives the paper feed section.
DVM_K	Developing drive motor	Drives the transfer belt. (Also drives the developing unit.)
PTC	PTC output	PTC high voltage output

No.	Name	Function and operation
1	Primary transfer cleaner blade	Cleans residual toner on the intermediate transfer belt.
2	Transfer belt	Transfers toner images on the OPC drum.
3	Primary transfer roller	Applies the transfer high voltage to transfer toner images on the OPC drum to the transfer belt.
4	Transfer belt drive roller	Drives the transfer belt. Applies the transfer high voltage to transfer toner images on the transfer belt to paper.
5	Transfer roller follower roller	Follows the transfer belt.
6	Transfer belt tension roller	Applies a tension to the transfer belt.
7	PTC unit	Reduces positive charges on the primary transfer belt to increase the transfer efficiency.
8	PTC opposing roller	Used to flow the PTC current.
9	Transfer belt cleaning brush	Cleans the back surface of the transfer belt.
10	Cleaning blade	Cleans residual toner on the transfer belt surface.
11	Secondary transfer roller	Transfers toner images on the transfer belt to paper. Connected to GND to flow the secondary transfer high current.
12	Waste toner transport screw	Transports waste toner to the waste toner bottle.
13	Paper separation electrode	Applies a high negative voltage to discharge paper which is positively charged after transfer operation.
14	Mode select knob	Used to set the primary transfer unit to the free state. (Used to turn the mode select cam manually.)

B. Transfer operation



Toner images on the OPC drum are transferred onto the primary transfer belt by applying a high positive voltage to the primary transfer roller.

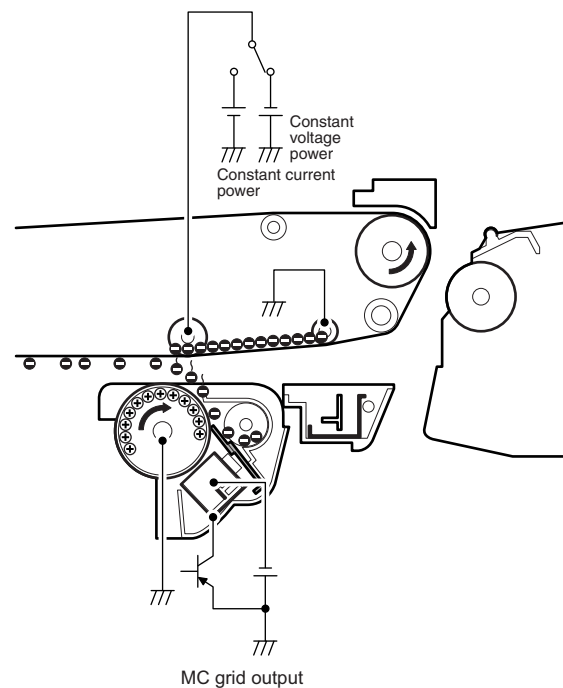
Negative charges are generated by the PTC unit to weaken positive charges on the transfer belt and to reduce the attracting force between the primary transfer belt and toner.

With this operation, the transfer efficiency in secondary transfer is improved.

Then, a high transfer voltage is applied to the transfer belt drive roller to transfer toner imaged on paper. The secondary transfer roller is connected to GND to flow the secondary transfer current.

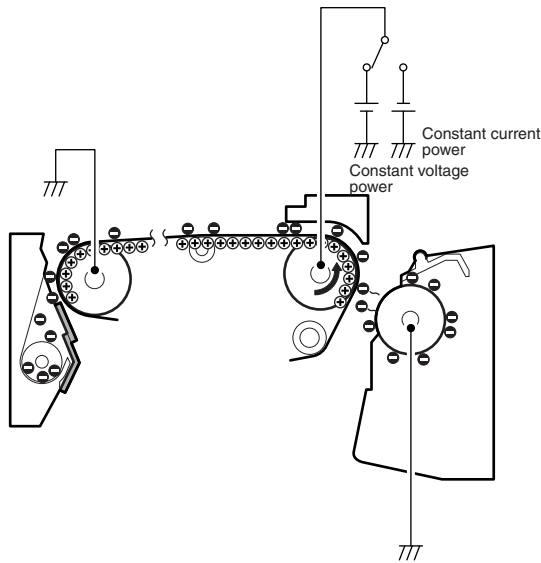
C. Transfer belt cleaning operation

A high negative voltage is applied to the primary transfer roller to attach unnecessary toner of the transfer belt onto the OPC drum, and clean with the OPC drum cleaning blade.



D. Secondary transfer roller cleaning operation

A high positive voltage is applied to the primary transfer belt drive roller to attach unnecessary toner of the primary transfer roller onto the transfer belt. The toner is cleaned with the transfer belt cleaning blade and transported to the waste toner section.



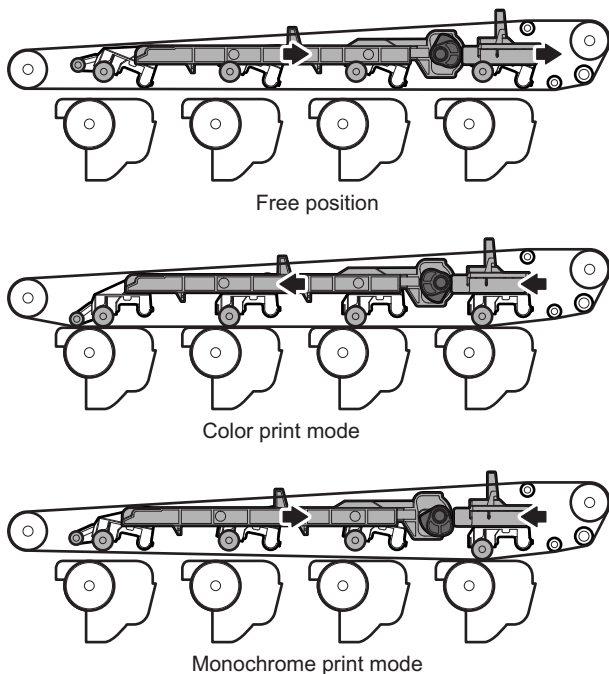
E. Transfer belt mode switch operation

(1) MX-C400P/C380P

The transfer belt is in the three modes: the free position, the color print mode, and the monochrome print mode.

Free position	The OPC drums are separated from the transfer belt.
Color print mode	All the OPC drums are in close contact with the transfer belt.
Monochrome print mode	The K OPC drum is in close contact with the transfer belt.

The mode is switched by the developing motor (K) and the mode switch clutches (1TURC 1, 1TURC 2). When the roller separation clutch (1TURC) is turned ON, the transfer cam is rotated to shift the primary transfer link and the primary transfer arm in the arrow direction in conjunction with the cam, separating the roller.



Relationship between the transfer belt mode (state) and the transfer belt mode sensor

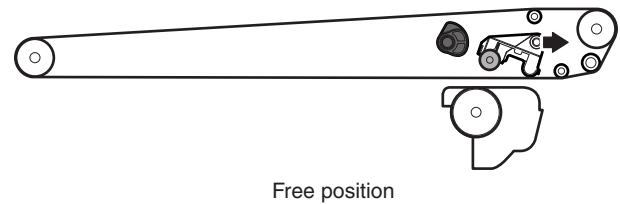
Mode (State)	Sensor state	
	1TUD CL	1TUD K
Color print mode	OFF	ON
Free position	ON	OFF
Monochrome print mode	ON	ON

▲ (2) MX-B400P/B380P/B382P

There are two modes of the transfer belt; the free position and the monochrome print mode.

Free position	The OPC drum is separated from the transfer belt.
Print mode	The OPC drum is in close contact with the transfer belt.

The mode is switched by the developing motor and the primary transfer mode select clutch (1TURC1). The operations: the primary transfer mode select clutch (1TURC1) is turned ON to rotate the transfer cam clockwise, separating the roller.



Free position



Print mode

F. Primary transfer belt initial operation

(1) MX-C400P/C380P

When a new primary transfer unit is installed, the mode sensor (1TUD CL) and the both mode sensors (1TUD K) are ON with the primary transfer unit at the free position. This state is recognized as a new unit.

In the normal mode, with the primary transfer unit at the free position, the mode sensor (1TUD CL) is ON and both mode sensors (1TUD K) are OFF.

The mode sensor (1TUD CL) and both mode sensors (1TUD K) are ON with a new unit because the sensors (1TUD K) are turned ON by the actuator.

Then the primary transfer unit performs the initial operation.

By rotation of the mode switch cam in the transfer unit, the primary transfer unit is shifted to the free position, the color print mode position, the monochrome print mode position, and the free position (home position).

The K position detection actuator of the primary transfer unit is shifted by the mode switch cam, and the initial actuator of the primary transfer unit falls down.

When the primary transfer unit returns to the free position (home position), the mode sensor (1TUD CL) is turned ON and both mode sensors (1TUD K) are turned OFF.

With the above operations, the primary transfer counter is automatically reset.

NOTE: The initial operation means detection of a new unit, occurrence of a trigger for start of use, and resetting of the counter.

Relationship between the primary transfer unit position (mode) and the transfer position sensor

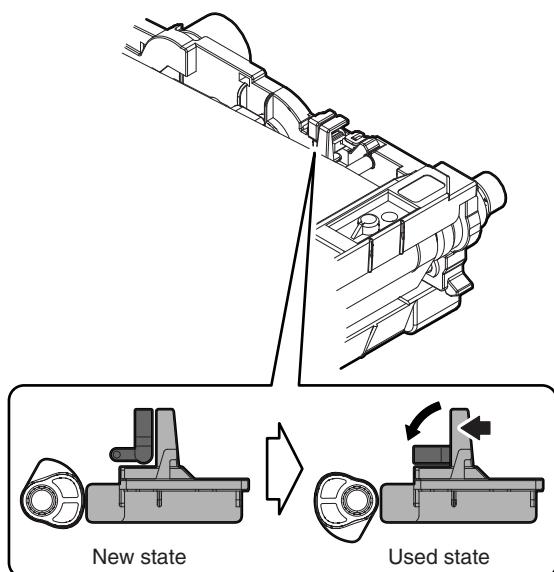
Primary transfer unit position (mode)	Sensor status		
	1TUD CL	1TUD K	
Color print mode: All the OPC drums and the transfer belt are in contact.	OFF	ON	
Free position: The OPC drum is separated from the transfer belt. (Home position)	ON	OFF	
Monochrome print mode: The K OPC drum is in contact with the transfer belt.	ON	ON	
Initial operation (When a new primary transfer unit is installed.)	ON → OFF → ON → ON	ON → ON → ON → OFF	If the primary transfer unit is a new one, immediately after turning ON the power, both sensors are ON. Then the status is changed as shown in the left.

Primary transfer unit position (mode) shift and sensor status in the initial operation (when a new primary transfer unit is installed)

Sensor	Free position (Home position)	Color print mode	Monochrome print mode	Free position (Home position)
1TUD CL	ON	OFF	ON	ON
1TUD K	ON	ON	ON	OFF

Normal primary transfer unit position (mode) shift and sensor status

Sensor	Free position (Home position)	Color print mode	Monochrome print mode	Free position (Home position)
1TUD CL	ON	OFF	ON	ON
1TUD K	OFF	ON	ON	OFF

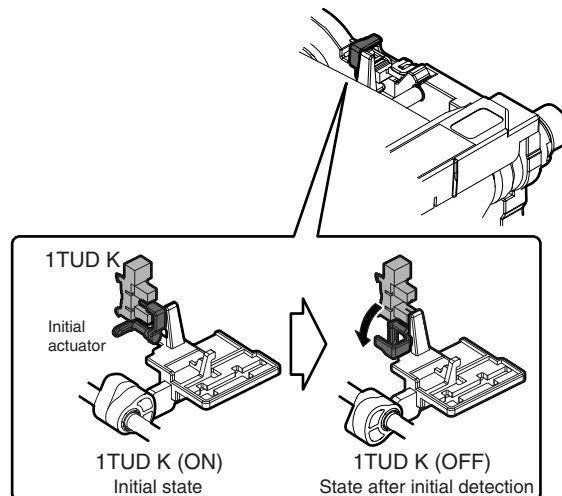


(2) MX-B400P/B380P/B382P

Normally a new unit is in the free position but the initial actuator is up. When, therefore, a new primary transfer unit is installed, 1TUD K and 1TUD CL are turned ON together.

When, next, the mode switch cam in the transfer unit is rotated, the primary transfer unit is shifted from the free position to the monochrome print mode position.

At that time, the movement of the mode switch cam puts the initial actuator down to turn OFF 1TUDK, and on this timing the machine recognizes that a new unit is installed.



NOTE: The initial operation means detection of a new unit, occurrence of a trigger for start of use, and resetting of the counter.

Relationship between the primary transfer unit position (mode) and the transfer position sensor

Primary transfer unit position (mode)	Relationship between the primary transfer unit position (mode) and the transfer position sensor	
	1TUD CL	1TUD K
Shift from the free position to the print mode	ON ↓ The transfer cam rotates. ON When the transfer cam rotates for about 0.2 sec (0.4 sec for heavy paper) from the free mode, the position is recognized as the print position.	OFF
Shift from the print mode to the free position	ON ↓ The transfer cam rotates. OFF ↓ The transfer cam rotates. ON ↓ The transfer cam rotates. ON When 1TUD_CL turns ON and rotates for about 0.1 sec (about 0.2 sec for heavy paper), the position is recognized as the free mode. (*1)	OFF
Initial operation (when a new primary transfer unit is installed)	ON	Initial detection is made when the state shifts from ON to OFF.

*1: During transition process from the print mode to the free position, 1TUD_CL turns OFF once, but it turns ON again when transition to the free mode is completed.

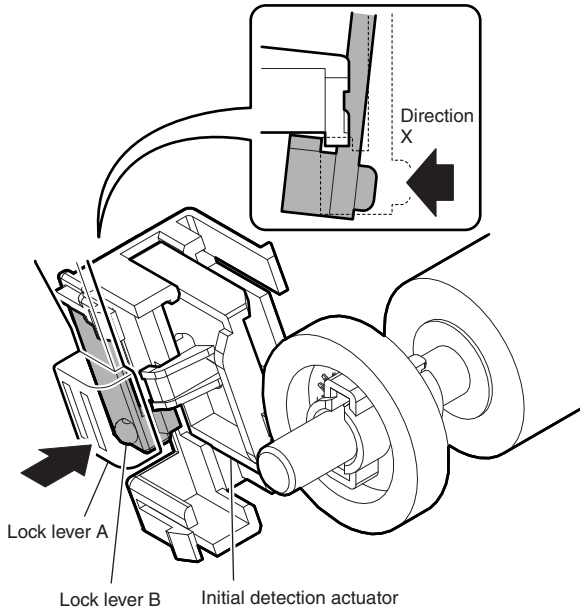
That is, 1TUD_CL itself does not indicate the primary transfer unit position (mode) but it only serves as the base point to control the rotating time of the transfer cam.

G. Secondary transfer unit initial operation

In a new secondary transfer unit, the initial detection electrode is closed by the initial detection actuator. (On state)

When a new secondary transfer unit is installed to the machine, the initial detection actuator lock release lever A is in contact with the machine frame rib.

Consequently, the initial detection actuator lock lever B is pushed in the arrow direction X to release the lock of the initial detection actuator.



When the secondary transfer roller rotates, the secondary transfer unit initial detection actuator is shifted in the arrow direction Y by the drive gear.

Consequently, the initial detection electrode is opened.

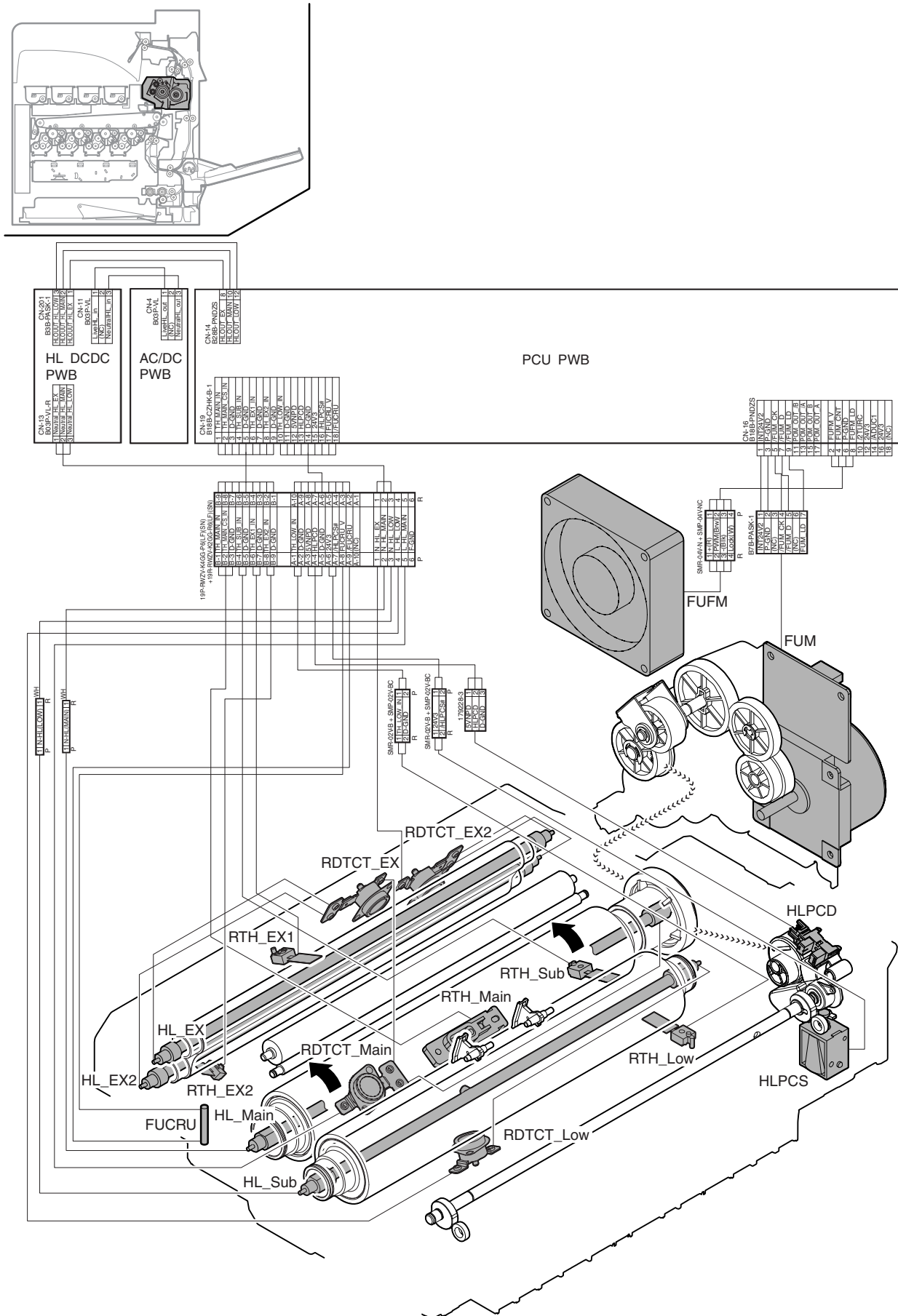
When the initial electrode section is shifted from the closed state to the open state, it is recognized as the initial operation.

The primary transfer counter is automatically reset.

NOTE: The initial operation means detection of a new unit, occurrence of a trigger for start of use, and resetting of the counter.

11. Fusing section (MX-C400P/C380P, MX-B400P/B380P)

A. Electrical and mechanism relation diagram



Signal name	Name	Function and operation
FUCRU	Fusing unit initial detection	Detects the initial state of the fusing unit.
FUM	Fusing drive motor	Drives the fusing unit.
FUFM	Fusing cooling fan motor	Cools the fusing unit.
HLPCD	Fusing roller pressure release detector	Detects separation of the upper and the lower heat rollers.
HLPCS	Fusing pressure release solenoid	Controls the pressure applied to the upper and the lower heat rollers in the fusing section.
RDTCT_EX	External thermostat	Prevents against overheating of the fusing roller.
RDTCT_EX2	External thermostat 2	Prevents against overheating of the fusing roller.
RDTCT_Low	Lower thermostat	Prevents against overheating of the fusing roller.
RDTCT_Main	Upper thermostat	Prevents against overheating of the fusing roller.
HL_EX	External heater lamp	Heats the upper heat roller through an external heat roller.
HL_EX2	External heater lamp 2	Heats the upper heat roller through an external heat roller.
HL_Main	Upper heater lamp	Heats the upper heat roller. (Main)
HL_Sub	Lower heater lamp	Heats the lower heat roller. (Main)
RTH_EX1	External heat roller contact thermistor 1	Detects the temperature of the external heat roller.
RTH_EX2	External heat roller contact thermistor 2	
RTH_Low	Lower heat roller contact thermistor	Detects the temperature of the lower heat roller.
RTH_Main	Upper heat roller non-contact thermistor	Detects the temperature of the upper heat roller.
RTH_Sub	Upper heat roller contact thermistor	

B. Fusing unit drive

For driving the fusing unit, the drive power is transmitted from the drive motor (FUM) through the connection gear to the upper heat roller gear.

Driving by the drive motor (stepping motor) is performed according to the control signal sent from the PCU.

C. Heater lamp drive

The surface temperature of the heat roller detected by the thermistor is sent to the PCU. When the temperature is lower than the specified level, the heater lamp ON signal is sent from the PCU to the heater lamp drive circuit on the HL DCDC PWB.

The power triac in the heater lamp drive circuit is turned on, and the AC power is supplied to the heater lamp, lighting the lamp and heating the heat roller.

To prepare for an abnormally high temperature of the heat roller, the thermostat is provided for safety.

When the thermostat is opened, the power supply (AC line) to the heater lamp is cut off.

D. Fusing operation

Color toner (Y,M,C,K) on paper is subject to heat and pressure to be fused on paper.

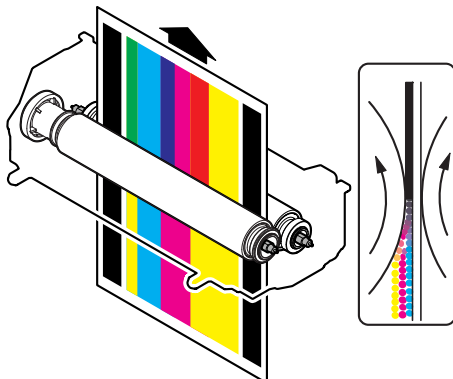
At that time, color toner of Y, M, C, and K are mixed to reproduce colors approximate to the document image colors.

The heater lamps are provided in the lower and the upper heat roller to heat paper from the upper and the lower sides.

This is because paper must be heated both from the upper side and from the lower side together in order to melt and fuse toner in the four layers on the paper.

The upper and the lower heat rollers of silicon rubber are employed.

This is because of the following reasons.



- 1) To increase the nip quantity. To increase the heating capacity for paper.
- 2) By pressing the flexible roller, multi-layer toner can be fused without deformation.
- 3) An even pressure can be applied to rough surface of toner layers (multi-layer structure).

E. Automatic pressure release system

The upper and the lower heat rollers are normally pressed. When, however, one of the following conditions is satisfied, they are released from the pressure.

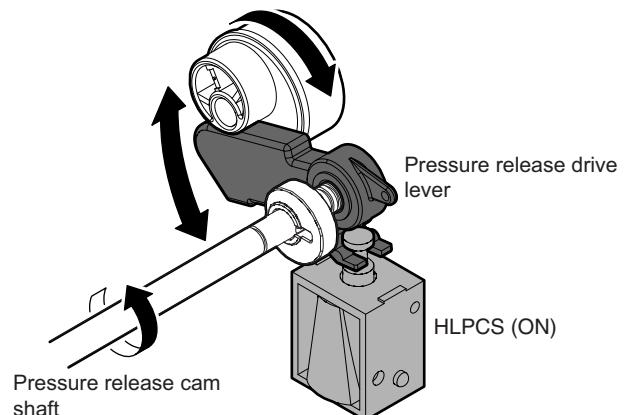
- When the machine shifts to the pre-heating mode.
- When the machine shifts to the auto power shut off mode.
- When the power switch of the operation panel is turned OFF.
- When the machine has been left in the ready state for 20 minutes.
- When the envelope mode is used.

(1) Pressure release operation

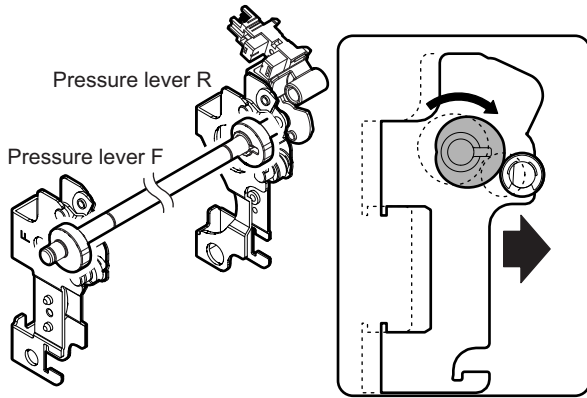
When the machine is in the conditions for operating the pressure release system, the fusing pressure release solenoid (HLPCS) is turned ON and the pressure release drive lever is in contact with the eccentric cam section of the pressure release drive gear.

Under this state, when the upper heat roller gear is rotated, the pressure release drive gear is also rotated and the pressure release drive lever is reciprocated in the arrow direction by the eccentric cam.

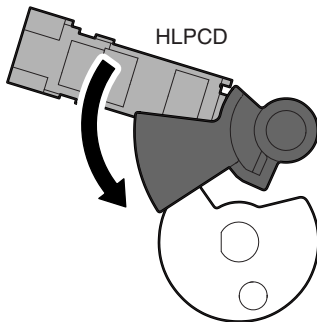
The pressure release drive lever is provided with the one-way clutch in it, and the pressure release cam shaft is rotated by reciprocating operations of the pressure release drive lever.



The pressure release cam shaft is provided with the pressure release cams on two positions (the front side and the rear side), and these cams press down the pressure lever F/R to release the pressure.



The pressure release camshaft also drives the pressure release control lever. As the pressure release operation goes on, the fusing pressure release control lever is driven in the arrow direction and the fusing roller pressure release detector (HLPD) is brought into the transmission state.



In 10ms from when the fusing roller pressure release detector (HLPD) is brought into the transmission state, the fusing pressure release solenoid is turned OFF and the pressure release operation is completed.

(2) Pressing operation

When the end user performs any operation or when the machine receives a job signal, the same operation as the pressure release operation is performed to rotate the pressure release cam shaft.

By rotation of the pressure release cam shaft, the pressure release cam do not press down the pressure lever F/R, applying a pressure.

Similarly to the pressure release operation, by rotation of the pressure release cam shaft, the pressure release control lever is also driven to bring the fusing roller pressure release detector (HLPD) into the non-transmission state.

In 10ms from when the fusing roller pressure release detector (HLPD) is brought into the non-transmission state, the fusing pressure release solenoid is turned OFF to complete the pressure release operation.

(3) Note

When turning OFF the main power switch of the machine, be sure to turn OFF the power switch of the operation panel and leave the machine for 20 sec (without opening the front cabinet and the right door during this period). After that, turn OFF the main power switch.

If the main power switch is turned OFF without leaving the machine for 20 sec, the power is turned OFF before completion of the pressure release operation. If the machine is left for a long time under this state, the upper and the lower heat rollers will be deformed.

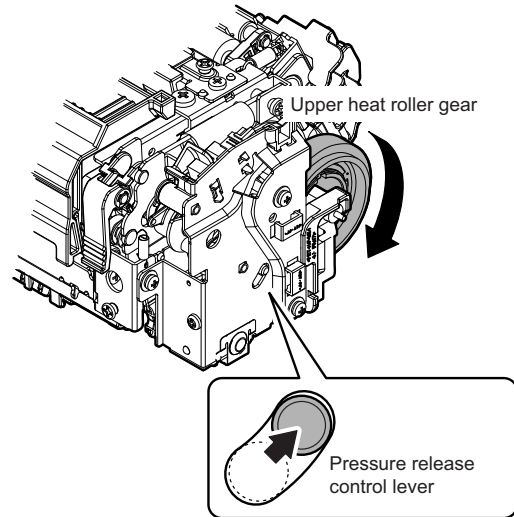
When, in addition, the fusing roller is installed again after removing it, be sure to install it under the pressure release state.

When, however, the machine power is turned ON immediately after installation of the fusing unit, there is no problem in installation under the pressed state.

Remove the fusing unit. If the unit is stored for a long period or is transported, be sure to set it to the pressure release state.

By executing the following procedures, the fusing unit under pressing state can be brought into the pressure release state even though there is no machine available.

- Shift the pressure release control lever in the arrow direction, and keep it under that state.
- Turn the upper heat roller gear in the arrow direction.



F. Fusing temperature control

The temperature sensors are provided at the center and the edge section of the upper heat roller, at the edge section of the lower heat roller, and at the center and the edge section of the external heating roller.

The heat roller temperature is detected by each temperature sensor to control the heater lamp to maintain the temperature at the specified level.

In addition, the fusing temperature is switched according to the kind of paper.

(For details, refer to SIM43-01 and SIM43-02.)

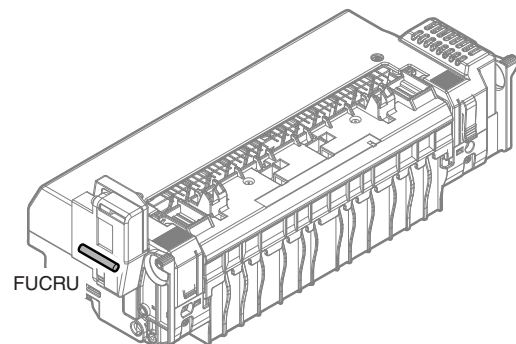
G. Fusing unit initial operation

When the fusing unit is installed, the fuse in the fusing unit is checked for blown or not.

If the state that the fuse is not blown is detected, it is judged as a new fusing unit, and the fuse is blown off.

Simultaneously with this operation, the fusing unit counter is automatically reset.

NOTE: The initial operation means detection of a new unit, occurrence of a trigger for start of use, and resetting of the counter.





Signal name	Name	Function and operation
FUCRU	Fusing unit initial detection	Detects the initial state of the fusing unit.
FUM	Fusing drive motor	Drives the fusing unit.
FUFM	Fusing cooling fan motor	Cools the fusing unit.
RDTCT_UA	Upper thermostat	Prevents against overheating of the fusing roller.
RDTCT_UM	Upper thermostat	Prevents against overheating of the fusing roller.
HL_UM	Upper heater lamp	Heats the upper heat roller. (Main)
HL_UA	Upper heater lamp	Heats the upper heat roller (ALL)
RTH_Main	Upper heat roller non-contact thermistor	Detects the temperature of the upper heat roller.
RTH_Sub	Upper heat roller contact thermistor	

B. Fusing unit drive

For driving the fusing unit, the drive power is transmitted from the drive motor (FUM) through the connection gear to the upper heat roller gear.

Driving by the drive motor (stepping motor) is performed according to the control signal sent from the PCU.

C. Heater lamp drive

The surface temperature of the heat roller detected by the thermistor is sent to the PCU. When the temperature is lower than the specified level, the heater lamp ON signal is sent from the PCU to the heater lamp drive circuit on the HL DCDC PWB.

The power triac in the heater lamp drive circuit is turned on, and the AC power is supplied to the heater lamp, lighting the lamp and heating the heat roller.

To prepare for an abnormally high temperature of the heat roller, the thermostat is provided for safety.

When the thermostat is opened, the power supply (AC line) to the heater lamp is cut off.

D. Fusing operation

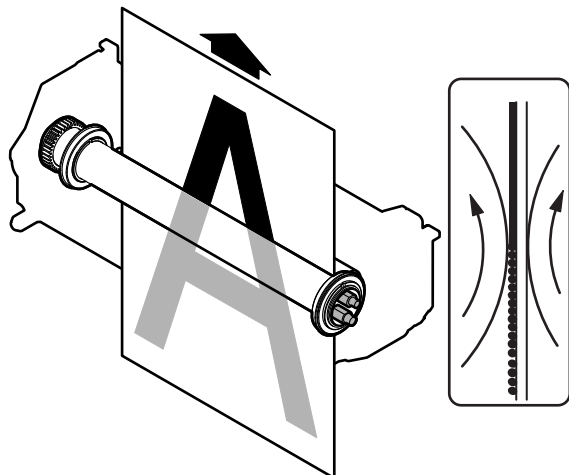
Toner on paper is subject to heat and pressure to be fused on paper.

The heater lamps are provided in the lower and the upper heat roller to heat paper from the upper and the lower sides.

This is because paper must be heated both from the upper side and from the lower side together in order to melt and fuse toner on the paper.

The upper and the lower heat rollers of silicon rubber are employed.

This is because of the following reasons.



- 1) To increase the nip quantity. To increase the heating capacity for paper.
- 2) By pressing the flexible roller, toner can be fused without deformation.
- 3) An even pressure can be applied to rough surface of toner layers (multi-layer structure).

E. Fusing temperature control

The temperature sensors are provided at the center and the edge section of the upper heat roller, at the edge section of the lower heat roller, and at the center and the edge section of the external heating roller.

The heat roller temperature is detected by each temperature sensor to control the heater lamp to maintain the temperature at the specified level.

In addition, the fusing temperature is switched according to the kind of paper.

(For details, refer to SIM43-01 and SIM43-02.)

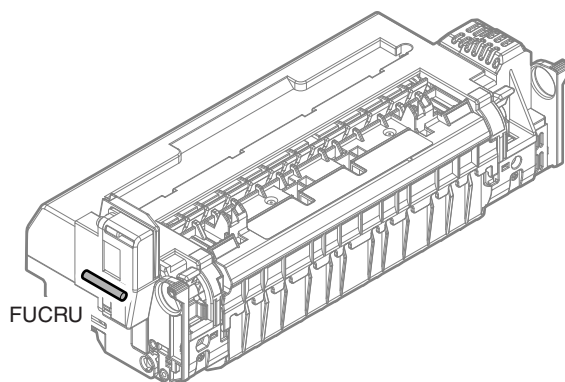
F. Fusing unit initial operation

When the fusing unit is installed, the fuse in the fusing unit is checked for blown or not.

If the state that the fuse is not blown is detected, it is judged as a new fusing unit, and the fuse is blown off.

Simultaneously with this operation, the fusing unit counter is automatically reset.

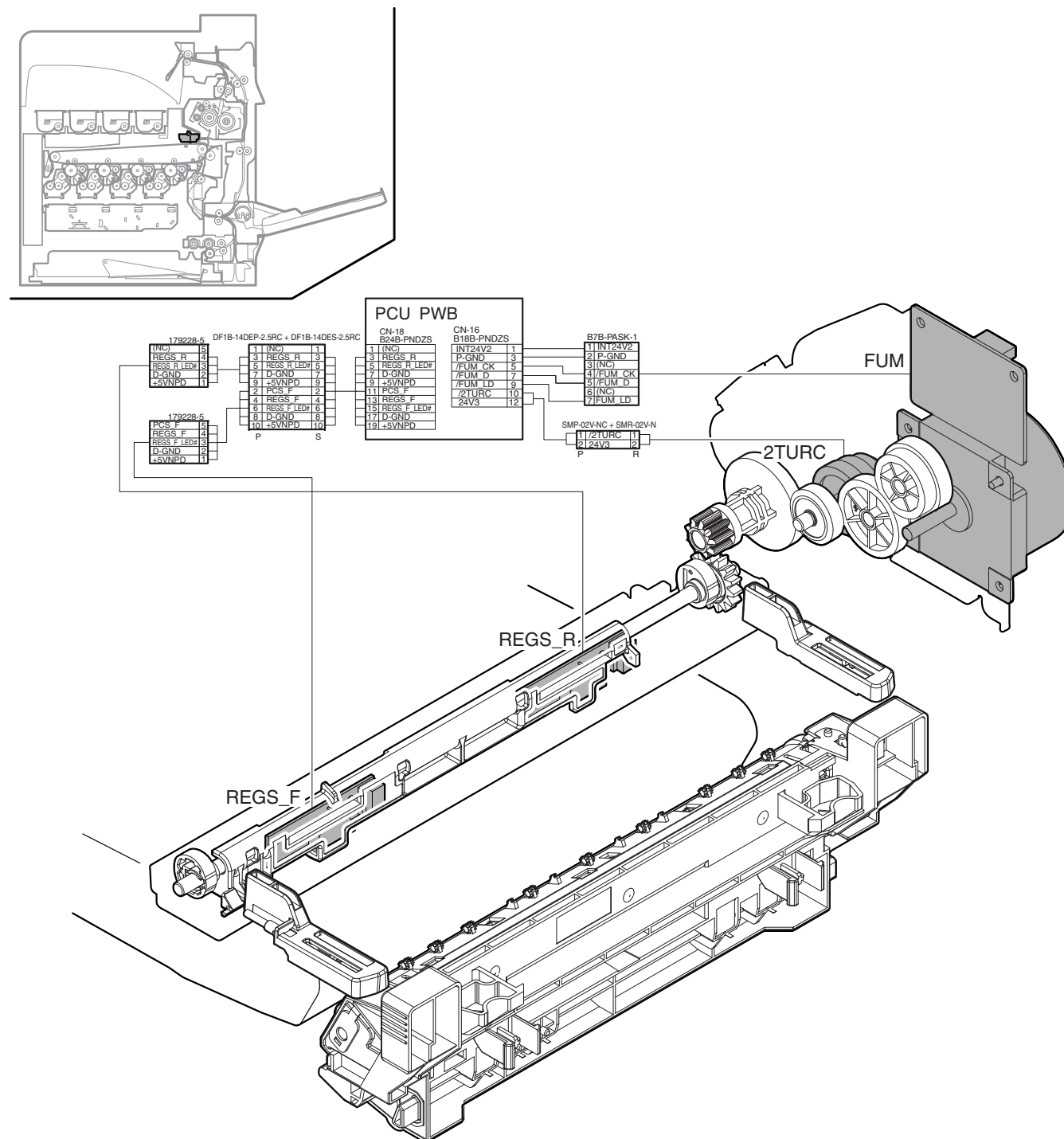
NOTE: The initial operation means detection of a new unit, occurrence of a trigger for start of use, and resetting of the counter.



14. Process control sensor, image registration sensor section

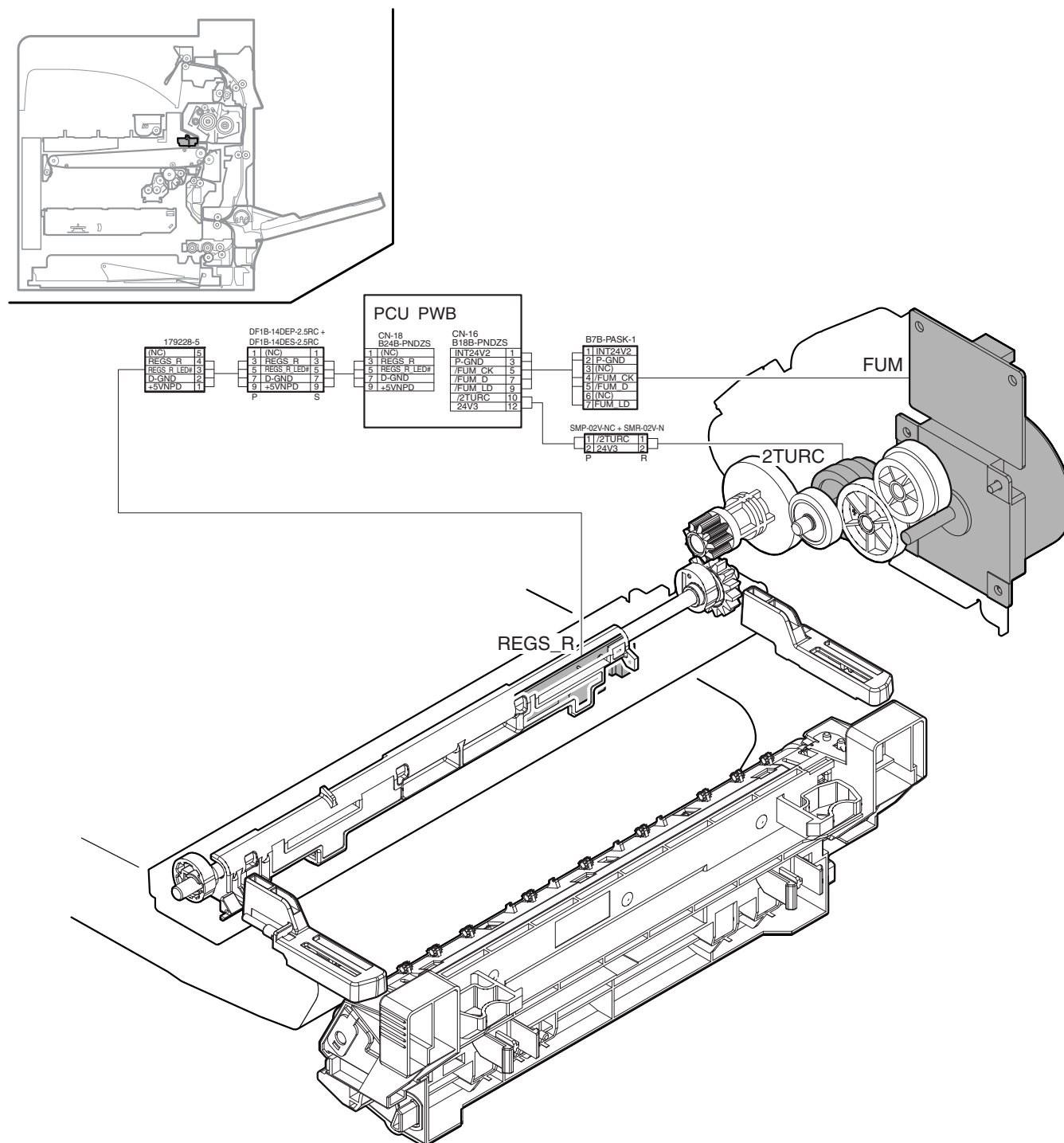
A. Electrical and mechanism relation diagram

(1) MX-C400P/C380P



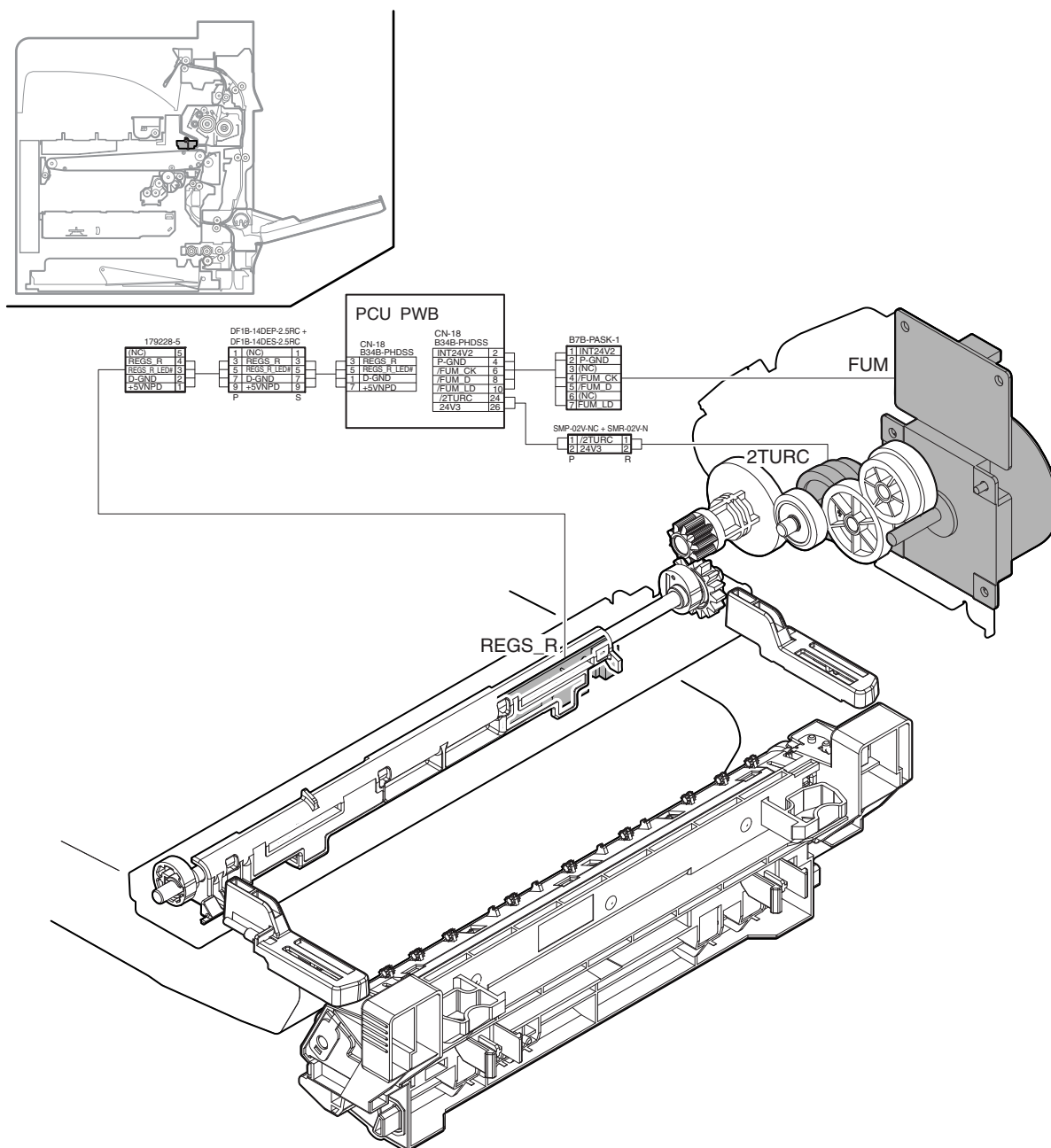
Signal name	Name	Function and operation
2TURC	Sensor reference reflection plate drive clutch	Opens/closes the sensor shutter. Switches the secondary transfer roller transfer position and the non-transfer position.
FUM	Fusing drive motor	Opens/closes the sensor reference reflection plate.
REGS_F	Color image density sensor/ Image registration sensor F	Detects registration shift on the machine front (F) side, and detects the color toner patch density.
REGS_R	Black image density sensor/ Image registration sensor R	Detects registration shift on the machine rear (rear) side, and detects the black toner patch density. Detects open/close of the reference reflection plate, the secondary transfer roller transfer position, and the non-transfer position.

(2) MX-B400P/B380P



Signal name	Name	Function and operation
2TURC	Sensor reference reflection plate drive clutch	Opens/closes the sensor shutter. Switches the secondary transfer roller transfer position and the non-transfer position.
FUM	Fusing drive motor	Opens/closes the sensor reference reflection plate.
REGS_R	Image density sensor/ Image registration sensor R	Detects registration shift on the machine rear (rear) side, and detects the toner patch density. Detects open/close of the reference reflection plate, the secondary transfer roller transfer position, and the non-transfer position.

(3) MX-B382P



Signal name	Name	Function and operation
2TURC	Sensor reference reflection plate drive clutch	Opens/closes the sensor shutter. Switches the secondary transfer roller transfer position and the non-transfer position.
FUM	Fusing drive motor	Opens/closes the sensor reference reflection plate.
REGS_R	Image density sensor/ Image registration sensor R	Detects registration shift on the machine rear (rear) side, and detects the toner patch density. Detects open/close of the reference reflection plate, the secondary transfer roller transfer position, and the non-transfer position.

B. Image density detection and registration detection

Image density and image registration are detected by the sensors provided on the front frame side and the rear frame side.

(1) Functions and operations of the color image density sensor and the image registration sensor F (REGS F) provided on the front frame side

With one sensor, the color toner patch density is detected in the process control, and image registration shift on the front frame side is detected in the image registration adjustment.

The reference reflection plate is provided on the sensor. Before the process control operation, the shutter plate is closed and the sensor sensitivity is adjusted by using the reference reflection plate.

Open/close operation of the reference reflection plate is controlled by the fusing drive motor (FUM) and the sensor reference reflection plate drive clutch (2TURC).

This control operation is made in synchronization with the switching operation of the secondary transfer roller transfer position and the non-transfer position.

The non-transfer position is the home position of the secondary transfer roller. It is switched to the transfer position at every printing operation.

(2) Functions and operations of the black image density sensor and the image registration sensor R (REGSR) provided on the rear frame side

With one sensor, the black toner patch density is detected in the process control, and image registration shift on the rear frame side is detected in the image registration adjustment.

The sensor detects open/close of the reference reflection plate, the secondary transfer roller transfer position, and the non-transfer position.

When the sensor detects the reference reflection plate, it is judged that the reference reflection plate is closed and that the secondary transfer roller is at the transfer position.

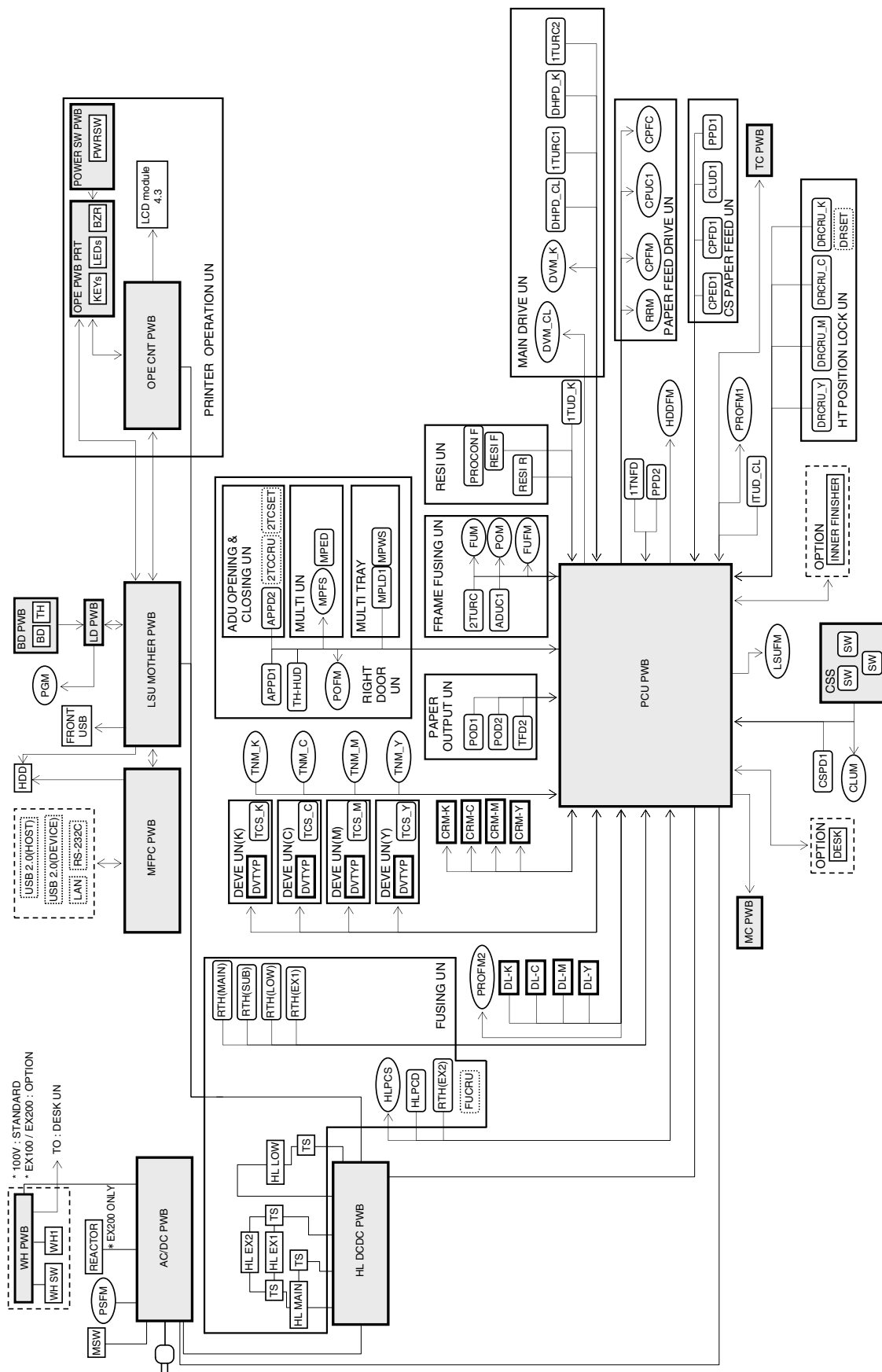
When the sensor detects the transfer belt surface, it is judged that the reference reflection plate is opened and that the secondary transfer roller is at the non-transfer position.

15. Electrical section

A. Overall block diagram

(1) System block diagram

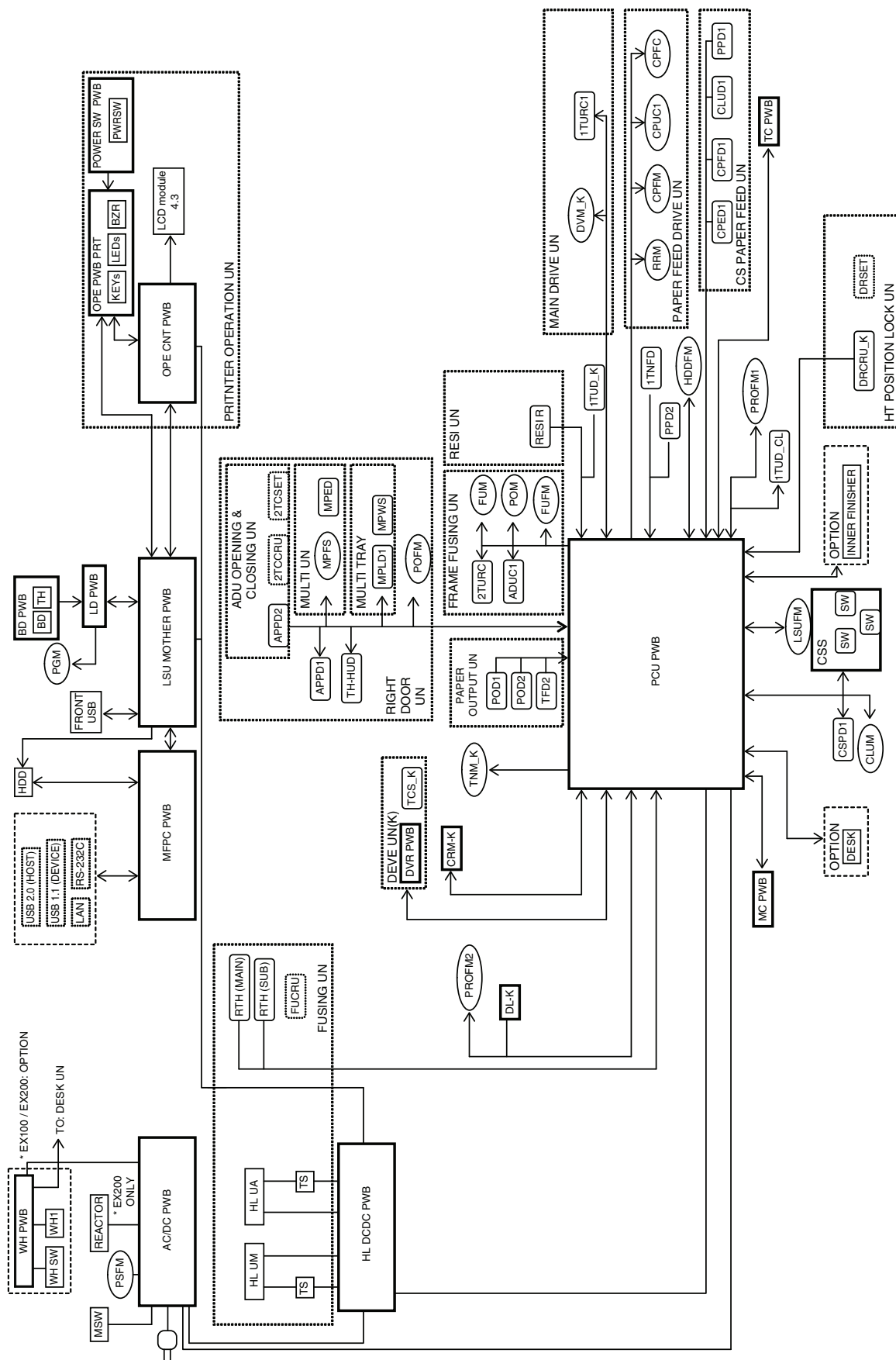
a. MX-C400P/C380P



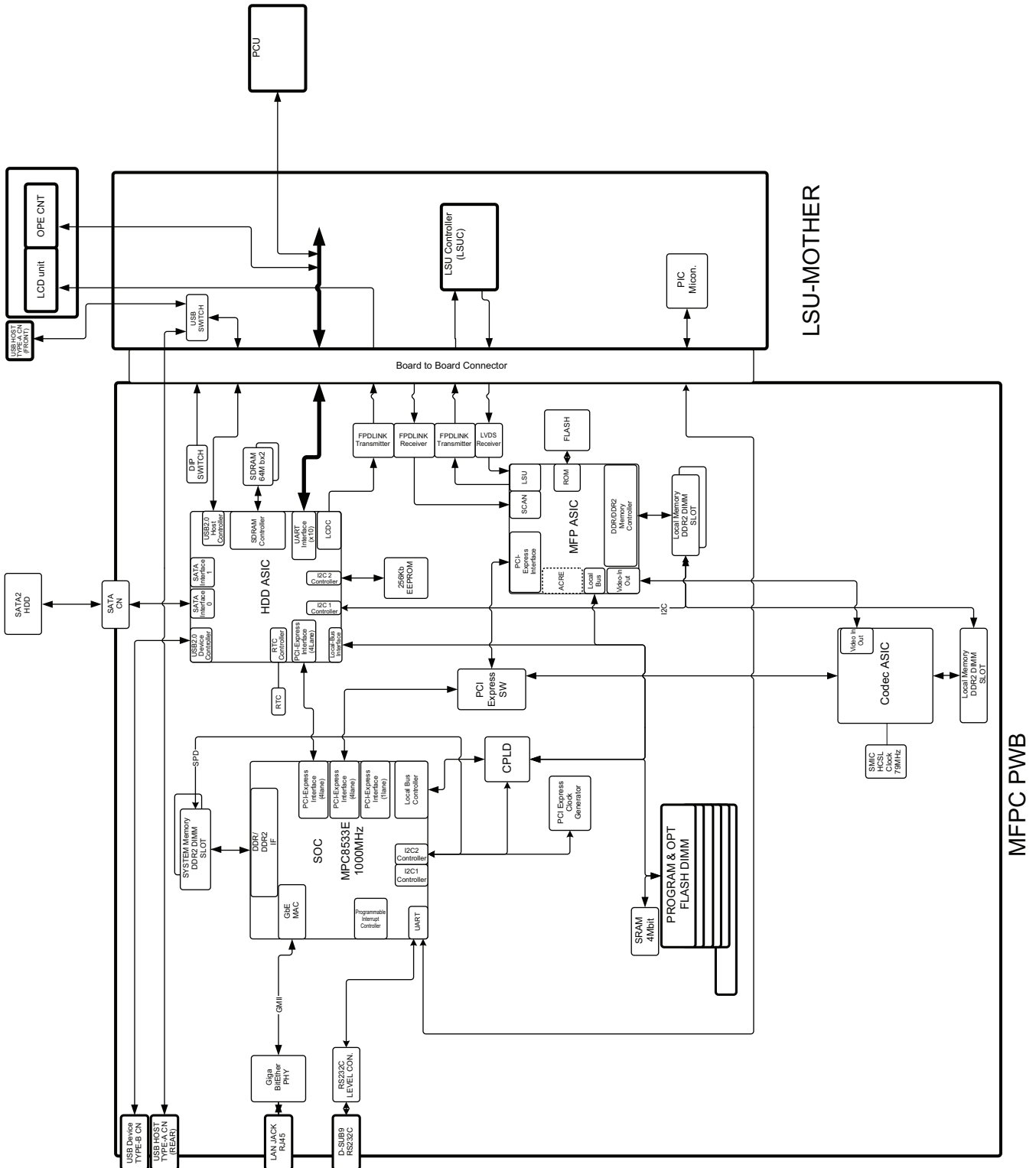
The diagram illustrates the PCU PWB (Printer Control Unit) as the central hub, connected to various printer components:

- Power Section:** Includes AC/DC PWB, HL DCDC PWB, and PSU (PSFM, REACTOR, WH SW, WH1, WH PWB).
- Control & Interface:** Connected to MCU PWB, MC PWB, and various control units like APPD1, TH-HUD, POFM, MPFS, MPED, MPLD1, MPWS, and MPED.
- Printing Mechanism:** Includes FUSING UN, PAPER OUTPUT, and RESI UN.
- Paper Handling:** Includes PAPER FEED DRIVE UN, CS PAPER FEED UN, and HT POSITION LOCK UN.
- Other Components:** Includes LSU MOTHER PWB, MFC PWB, and various sensors and switches like DVM, K, and TCS.

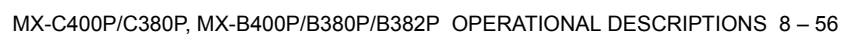
c. MX-B382



(2) MFPC PWB
a. MX-C400P/C380P

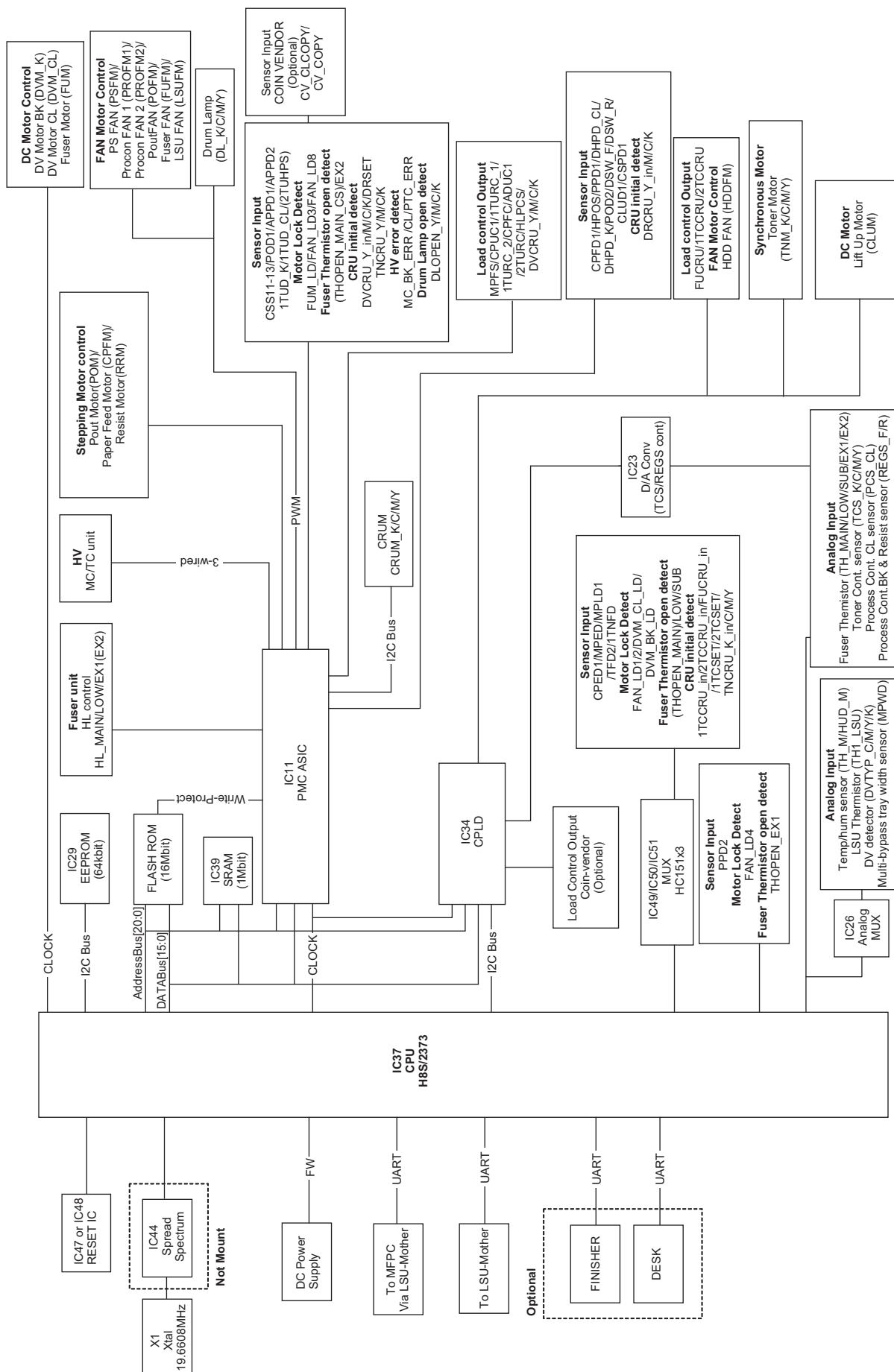


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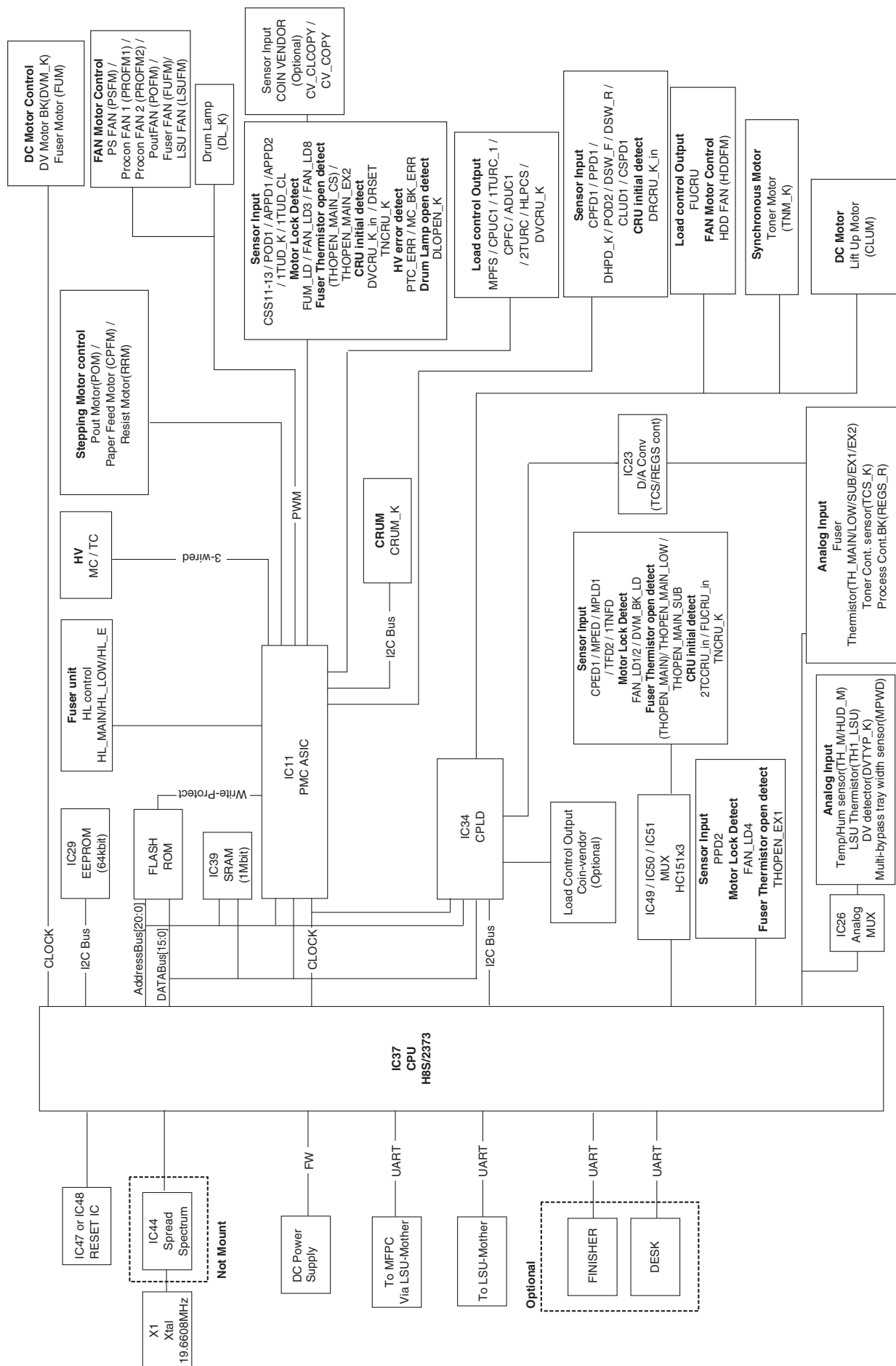


(3) PCU PWB

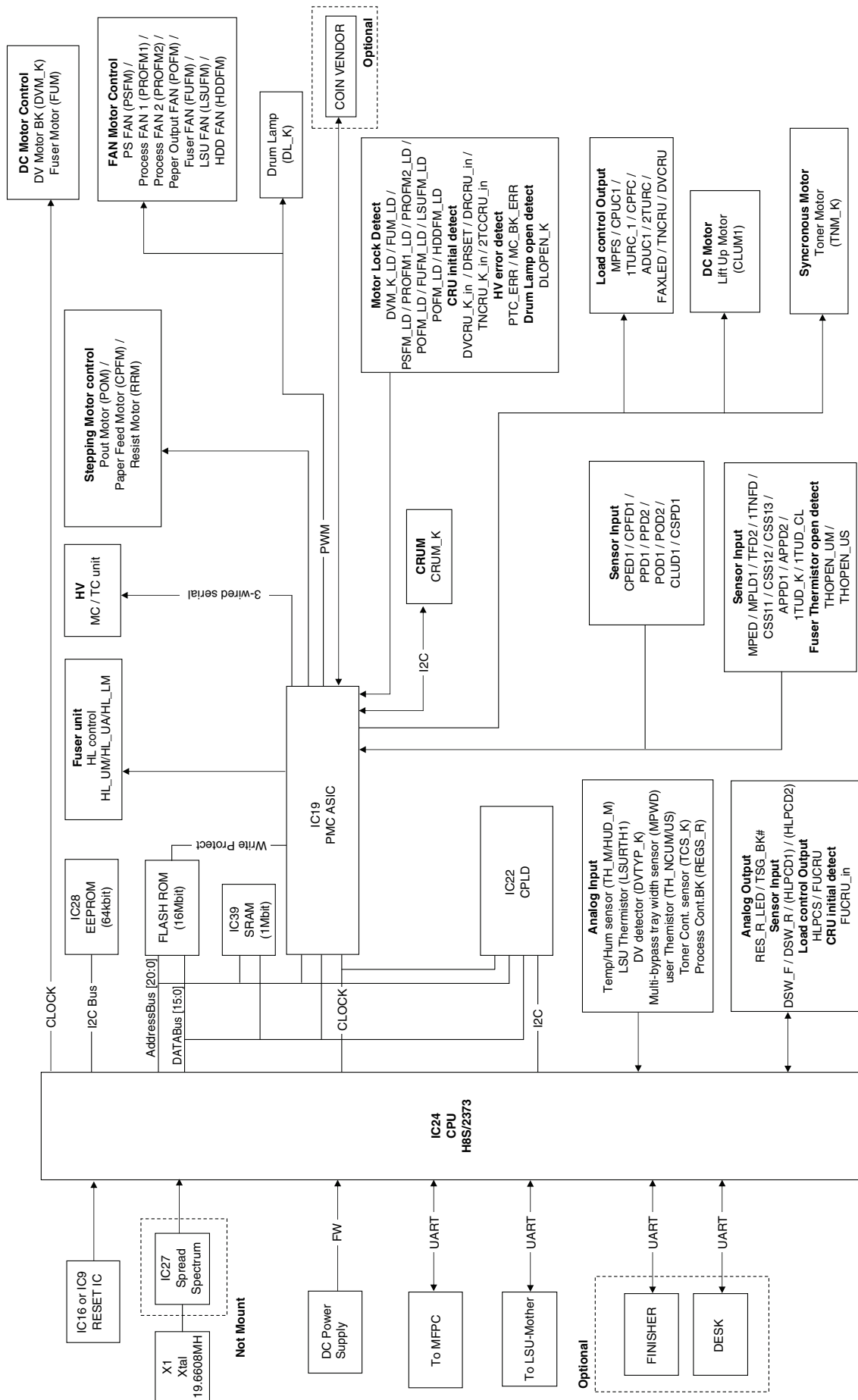
a. MX-C400P/C380P



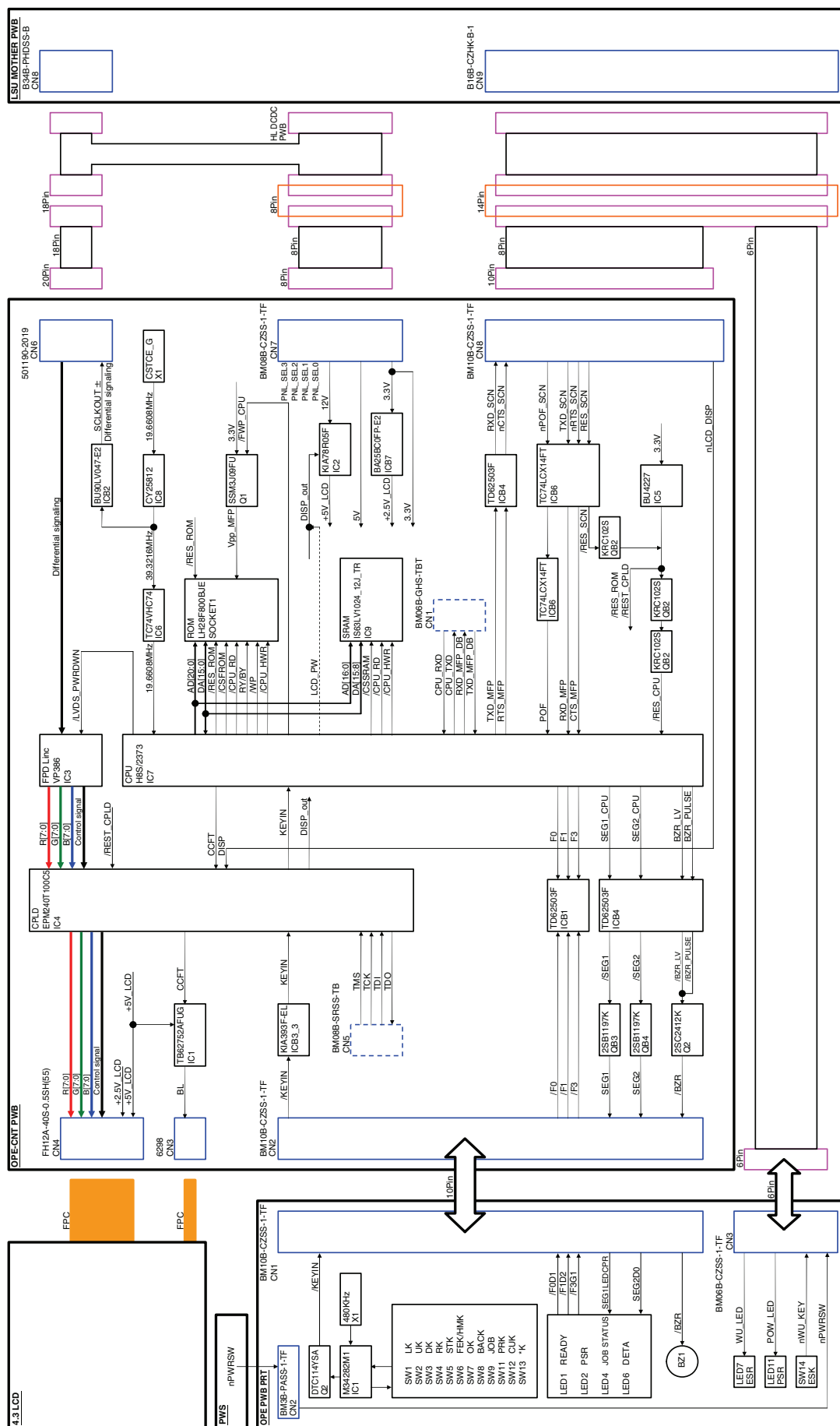
b. MX-B400P/B380P



c. MX-B382

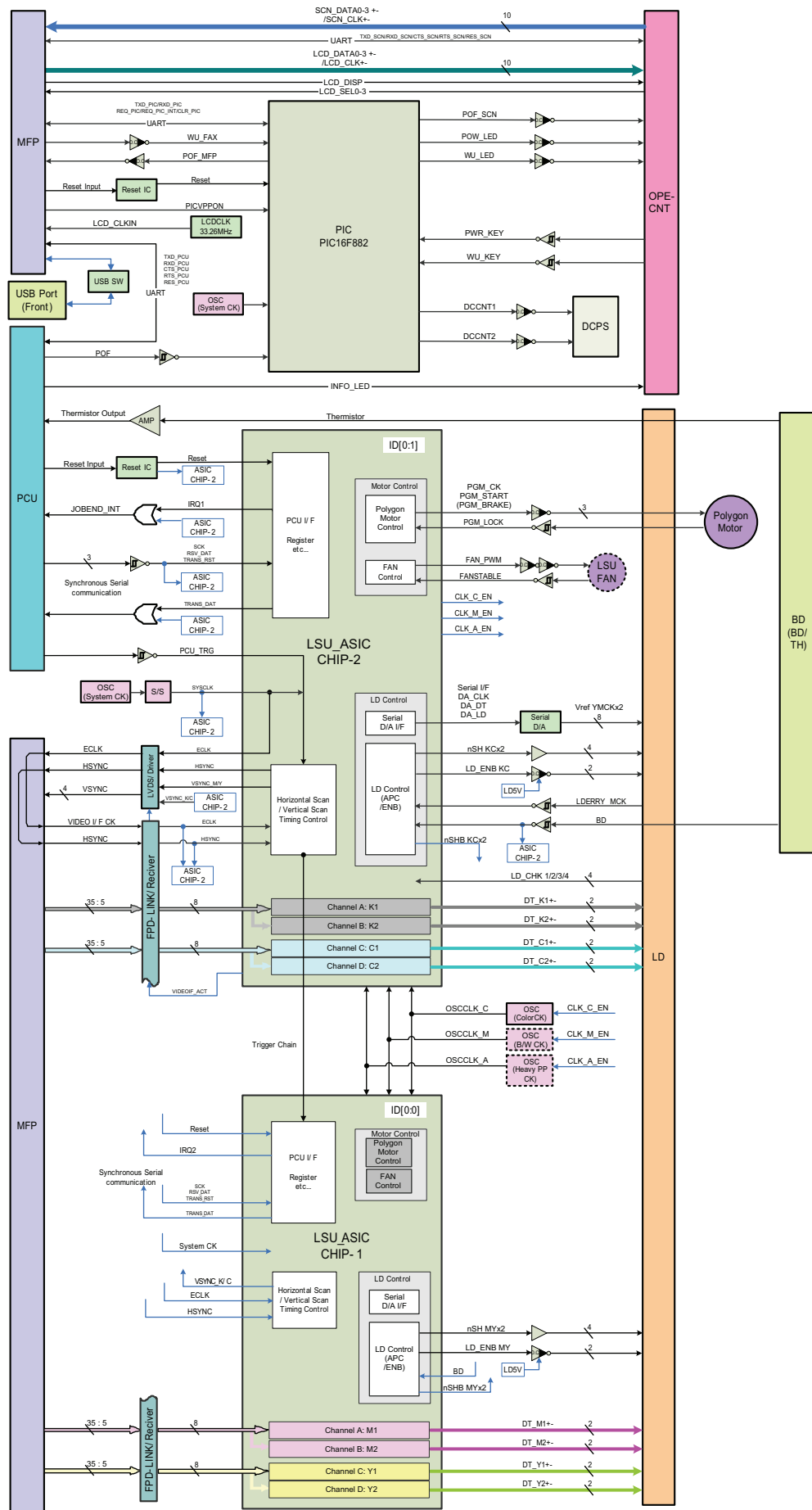


(4) Printer operation unit



(5) LSU MOTHER PWB

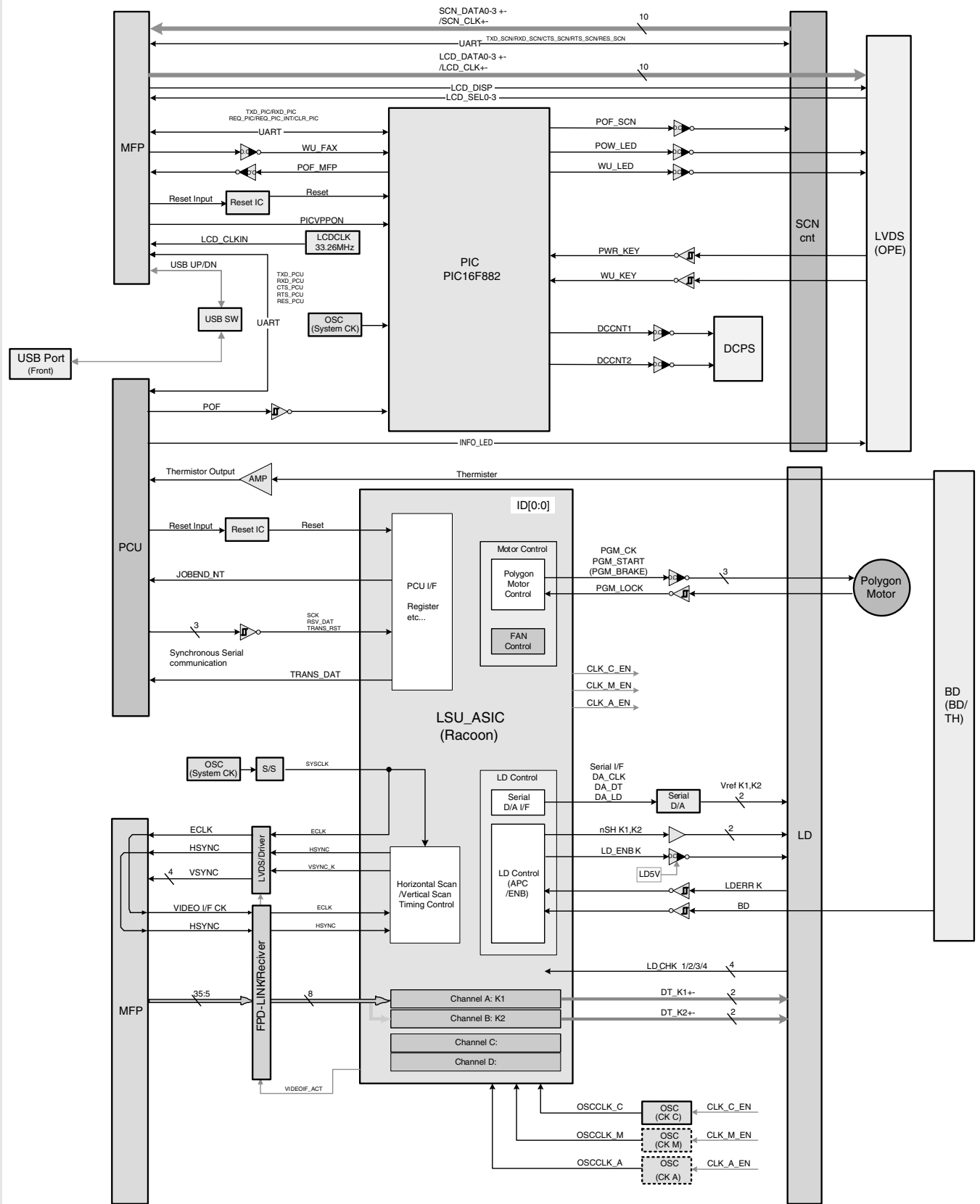
a. MX-C400P/C380P



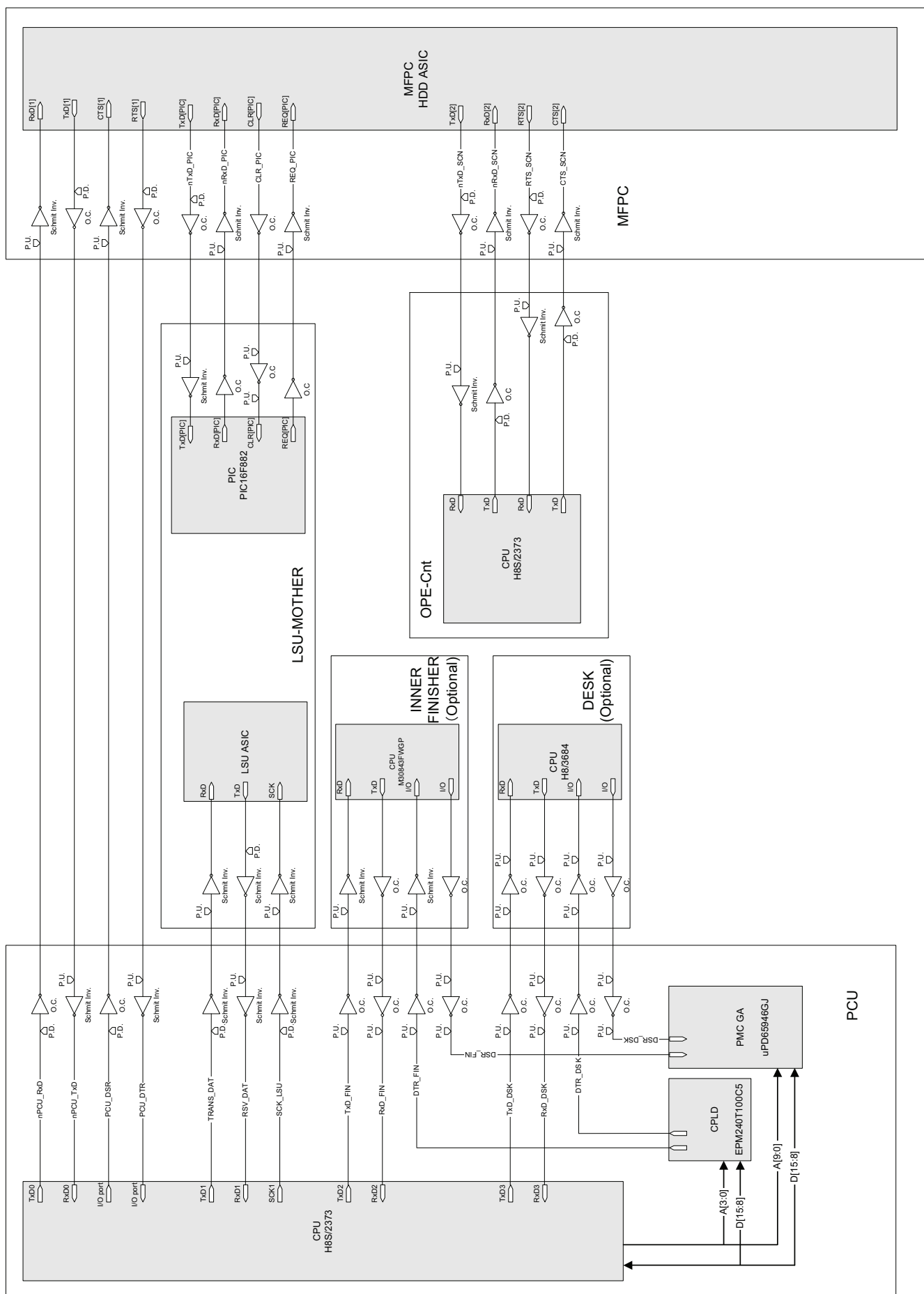
The block diagram illustrates the system architecture, showing the interconnections between various components:

- MFP (Main Frame Processor):** Connected to the PIC16F882 and the USB Port (Front). It provides signals like TXD, RXD, and UART to the PIC.
- USB Port (Front):** Connected to the MFP and the PIC16F882. It provides signals like USB SW and UART to the PIC.
- PIC16F882:** The central microcontroller. It receives signals from the MFP, USB Port, and various sensors (WU_FAX, POF_MFP, Reset Input, PICVPPON, LCD_CLKIN, USB SW, OSC (System CK)). It outputs signals to the OPE-CNT, DCPS, and the LSU_ASIC.
- OPC-CNT (Operation Counter):** Receives signals from the PIC16F882 and outputs signals like POF_SCN, POW_LED, WU_LED, PWR_KEY, WU_KEY, DCCNT1, DCCNT2, and INFO_LED.
- DCPS (Digital Control Processor):** Receives signals from the PIC16F882 and outputs signals like DCCNT1 and DCCNT2.
- PCU (Power Control Unit):** Connected to the PIC16F882 and the LSU_ASIC. It provides signals like Reset Input, JOBEND_INT, SCK, RSV_DAT, TRANS_RST, and TRANS_DAT to the LSU_ASIC.
- LSU_ASIC (Racoon):** The central ASIC. It contains a Motor Control block (Polygon Motor Control, FAN Control) and an LD Control block (Serial D/A I/F, LD Control (APC/ENB)). It receives signals from the PIC16F882 and the PCU, and outputs signals to the LD and BD.
- LD (Load Driver):** Receives signals from the LSU_ASIC and outputs signals like Vref, K1, K2, nSH, K1, K2, LD_ENB, K, LD5V, LDERR, K, and BD.
- BD (BD/TH):** Receives signals from the LD and outputs signals like LD_CHK, 1/2/3/4, DT_K1+, DT_K2+, and DT_K2+.
- OSC (System CK):** Provides the system clock signal to the PIC16F882 and the LSU_ASIC.
- Reset IC:** Provides the reset signal to the PIC16F882 and the LSU_ASIC.
- Thermistor:** Provides temperature feedback to the PIC16F882.
- Polygon Motor:** Receives signals from the Motor Control block of the LSU_ASIC.
- FAN Control:** Receives signals from the Motor Control block of the LSU_ASIC.
- Serial D/A I/F:** Receives signals from the LD Control block of the LSU_ASIC and outputs signals like Vref, K1, K2, nSH, K1, K2, LD_ENB, K, LD5V, LDERR, K, and BD.
- LD Control (APC/ENB):** Receives signals from the LD Control block of the LSU_ASIC and outputs signals like LD_CHK, 1/2/3/4, DT_K1+, DT_K2+, and DT_K2+.
- Channel A: K1, Channel B: K2, Channel C, Channel D:** These are the output channels of the LSU_ASIC, which receive signals from the LD Control block and output signals like LD_CHK, 1/2/3/4, DT_K1+, DT_K2+, and DT_K2+.

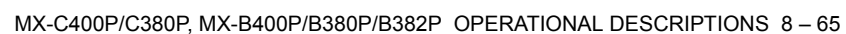
c. MX-B382



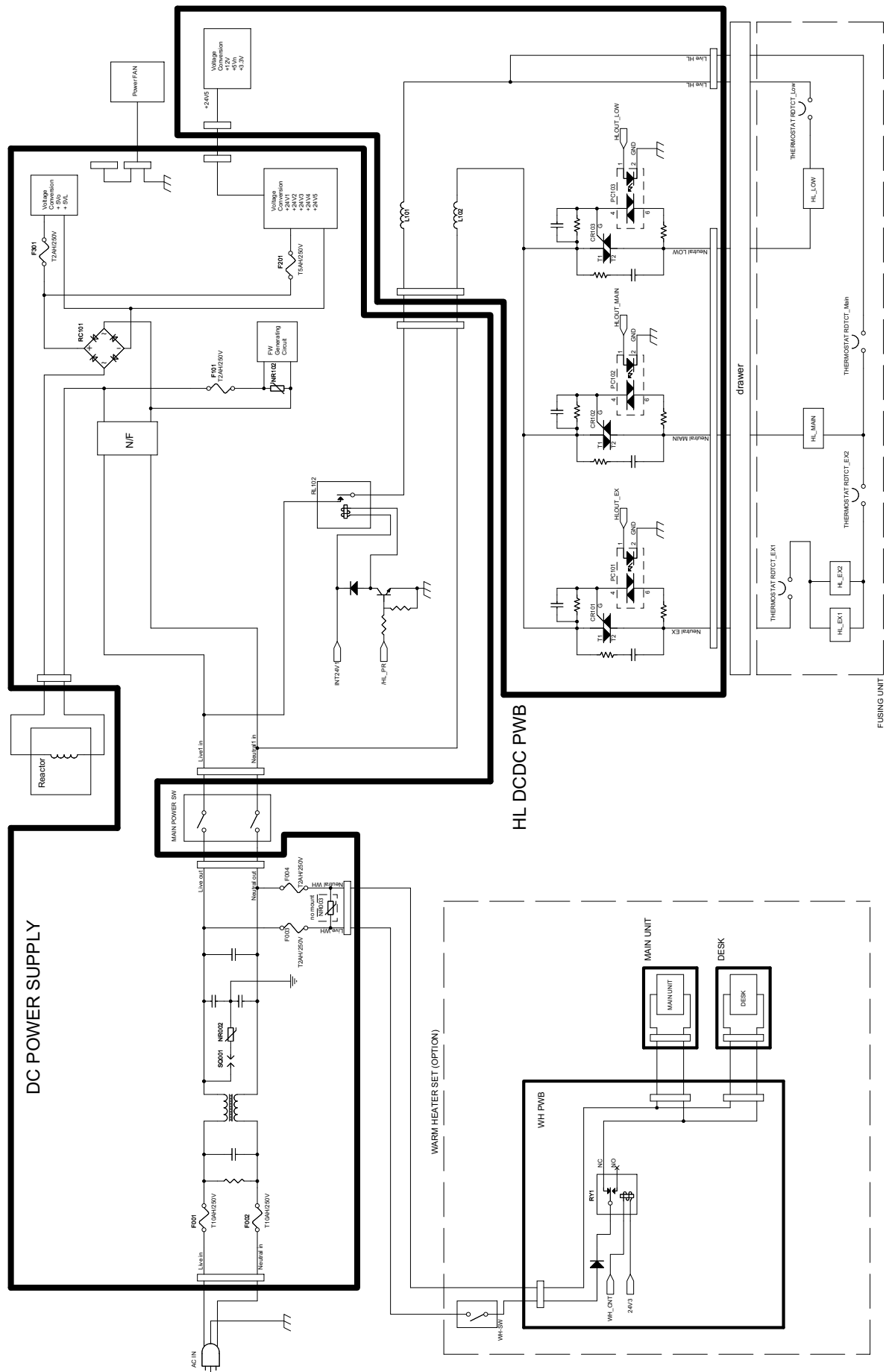
(6) Serial communication



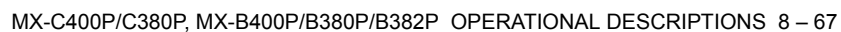
(1) AC power line diagram (120V, Taiwan)



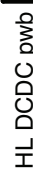
(2) AC power line diagram (200V)



(1) AC power line diagram (120V)

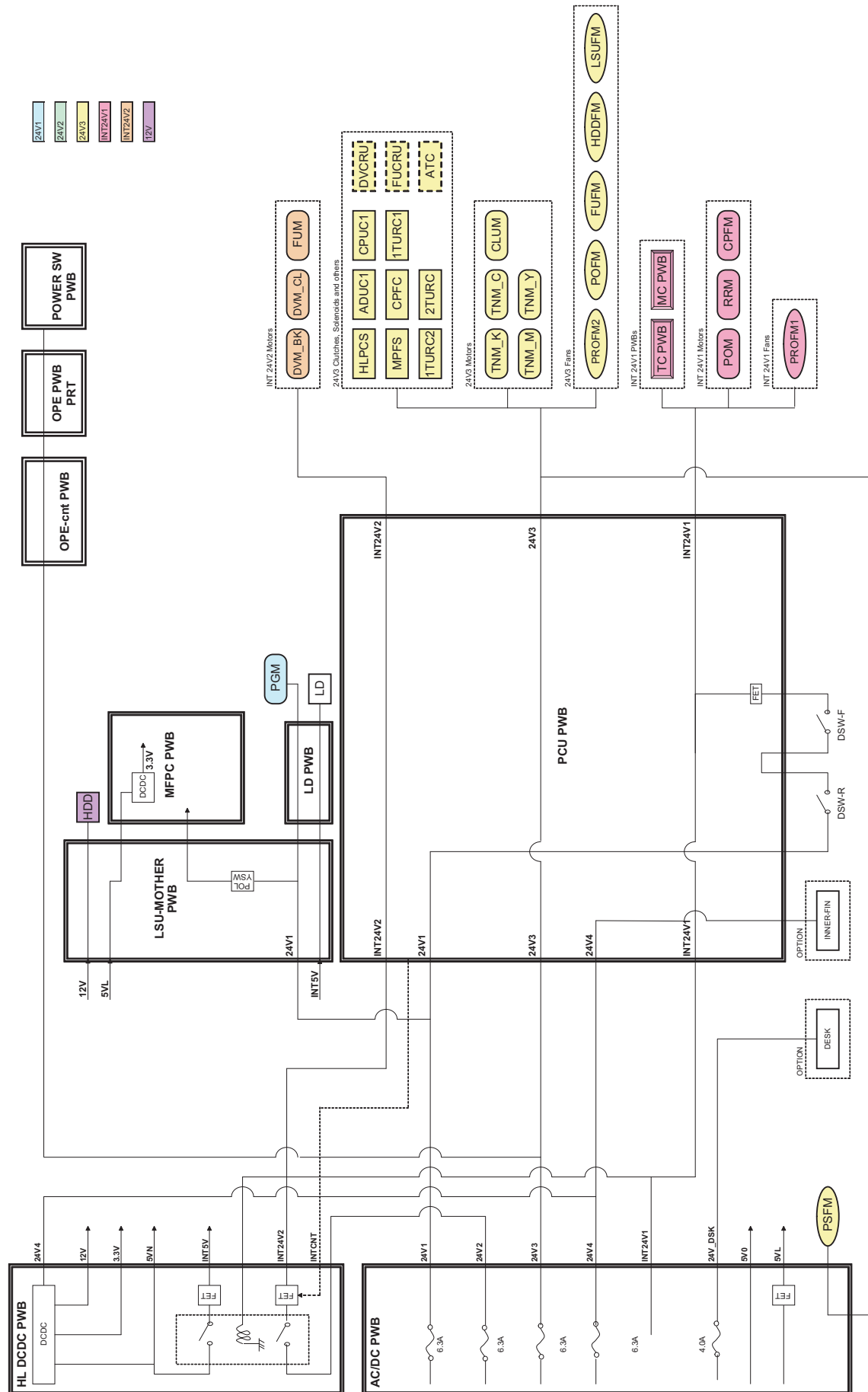


1 : '11/Mar/15

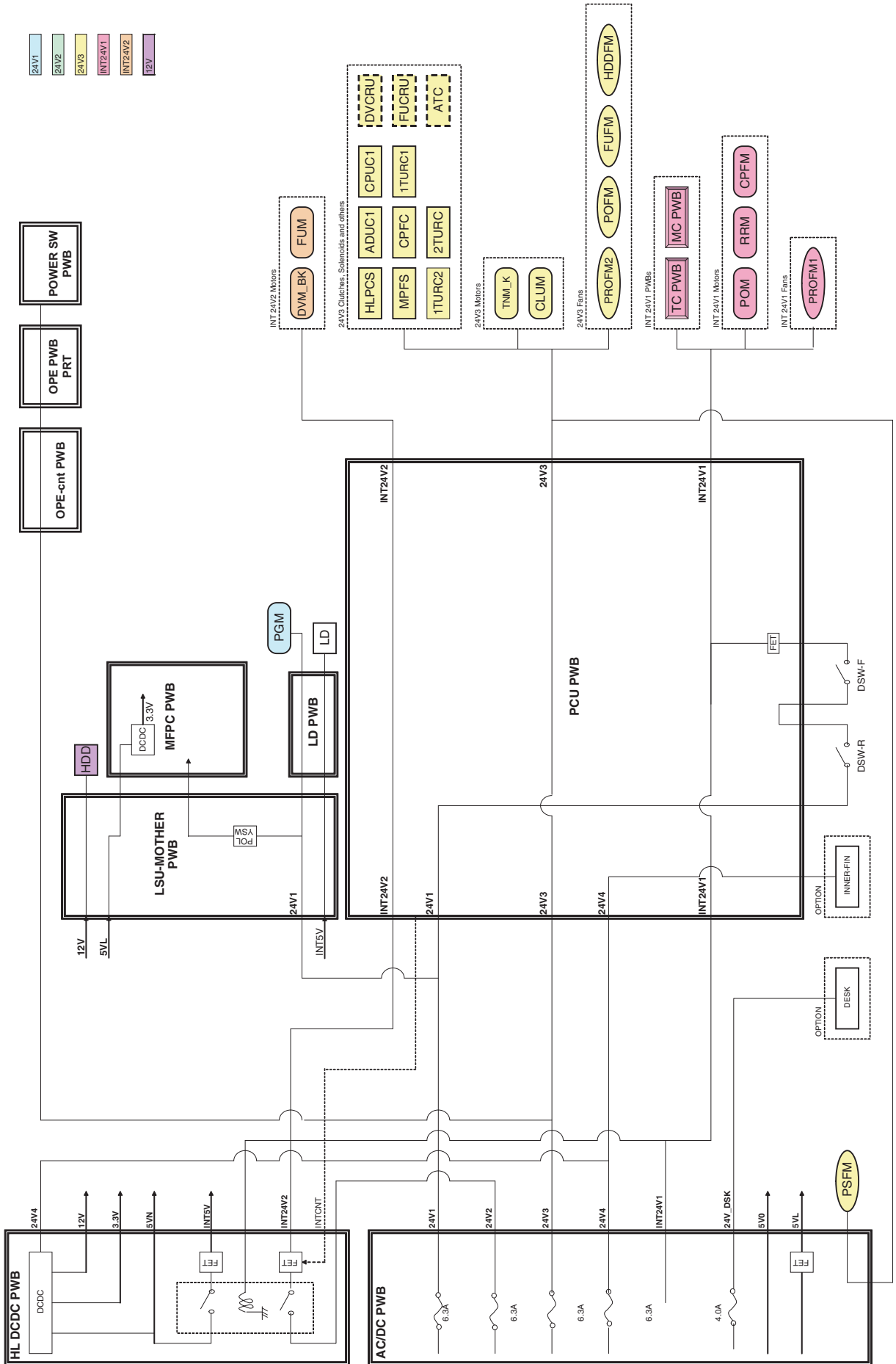


D. Interlock

(1) MX-C400P/C380P



▲ (2) MX-B400P/B380P/B382P



[9] MAINTENANCE

1. Necessary work for maintenance

A. Counter reset

When the developer cartridge, the drum cartridge, the primary transfer unit, the secondary transfer unit, or the fusing unit is replaced with a new one, the initial detection function operates after turning ON the power to reset each counter automatically.

When the machine is initialized during warming up, or when the simulation is executed or the machine is turned OFF and the door is opened before the machine enters the print ready state, the initial detection function may not operate normally. Therefore, never execute the simulation or never operate the machine such as turning OFF the machine power and opening the door before the machine enters the print ready state after replacing one of the above parts and turning ON the power.

When the counter is not automatically reset, it must be reset manually.

Since the maintenance counter (total) and the maintenance counter (color) are not automatically reset, they must be cleared by executing SIM24-4.

(For details, refer to the page of "2. Maintenance timing display.")

B. Toner density initial setting

When the developer cartridge is replaced, the initial setting of the toner density is automatically executed.

If another simulation is executed or the machine power is turned OFF during execution of this simulation, the initial setting of the toner density cannot be executed normally. Therefore, never operate the machine until the initial setting of the toner density is completed (the machine enters the print ready state).

C. Other

Perform the following items of check and work.

- ▲ • Image skew adjustment (LSU (writing) unit) (SIM61-04) (MX-C400P/C380P)
- Image skew adjustment (LSU (writing) unit) (SIM64-2) (MX-B400P/B380P/B382P)
- Image registration adjustment (SIM50-22)
- ▲ • Image density sensor (Image registration sensor) adjustment (SIM44-13) (Execute according to the necessity)
- Firmware version check (SIM22-05) (Execute according to the necessity.)
- Trouble counter and JAM counter reset (SIM24-01)
- Printer color balance adjustment (MX-C400P/C380P)
- ▲ • Printer density and gradation adjustment (SIM46-74) (MX-B400P/B380P/B382P)

2. Maintenance timing display

A message of maintenance timing is displayed when each counter reaches the set value.

The relationship between the kinds of messages and the counters is shown below.

A. MX-C400P/C380P

(1) Maintenance counter

Display content	Display condition			Print job Enable/Disable
	SIM26-38-A set value	Counter name	Counter value	
Maintenance required.Code:TA	0 (Print continue)	Maintenance counter (Total)	When the SIM21-1 set value is reached	Enable
	1 (Print stop)		When 90% of the SIM21-1 set value is reached	
Maintenance required. Code: TA	1 (Print stop)	Maintenance counter (Color)	When the SIM21-1 set value is reached	Disable
Maintenance required.Code:CA	0 (Print continue)		When the SIM21-1 set value is reached	Enable
	1 (Print stop)		When 90% of the SIM21-1 set value is reached	
Maintenance required. Code: CA	1 (Print stop)		When the SIM21-1 set value is reached	Disable
Maintenance required.Code:AA	0 (Print continue)	Maintenance counter (Total), Maintenance counter (Color)	When the SIM21-1 set value is reached	Enable
	1 (Print stop)		When 90% of the SIM21-1 set value is reached	
Maintenance required. Code: AA	1 (Print stop)		When the SIM21-1 set value is reached	Disable

- After execution of maintenance, execute SIM24-4 to clear the maintenance counter (total) and the maintenance counter (color).
- When the maintenance counter (total) and the maintenance counter (color) are cleared, the above display disappears.

(2) Primary transfer unit

Display content	Display condition			Print job Enable/Disable
	SIM26-38-B set value	Counter name	Counter value	
Maintenance required Code: TK1	0 (Print continue)	Primary transfer unit print counter	When 120K is reached	Enable
Maintenance required Code: TK1	1 (Print stop)		When 120K is reached	Disable

- When the primary transfer unit is replaced with a new one, the print counter, the accumulated traveling distance counter, and the usage day counter are automatically cleared.
- If the above guidance does not disappear when the whole primary transfer unit is replaced, SIM24-4 must be executed to clear the print counter, the accumulated traveling distance counter, and the usage day counter of the primary transfer unit.

(3) Secondary transfer unit

Display content	Display condition			Print job Enable/Disable
	SIM26-38-C set value	Counter name	Counter value	
Maintenance required Code: TK2	0 (Print continue)	Secondary transfer unit print counter	When 60K is reached	Enable
Maintenance required Code: TK2	1 (Print stop)		When 60K is reached	Disable





- When the secondary transfer unit is replaced with a new one, the print counter, the accumulated traveling distance counter, and the usage day counter are automatically cleared, and the above display disappears.
- If the above guidance does not disappear though the secondary transfer unit is replaced, SIM24-4 must be executed to clear the print counter, the accumulated traveling distance counter, and the usage day counter.

(4) Fusing unit

Display content	Display condition			Print job Enable/Disable
	SIM26-38-D set value	Counter name	Counter value	
Maintenance required Code: FK1	0 (Print continue)	Fusing unit print counter (Heat roller upper)	When 120K is reached	Enable
Maintenance required Code: FK1	1 (Print stop)		When 120K is reached	Disable
Maintenance required Code: FK2	0 (Print continue)	Fusing unit print counter (Heat roller lower and external)	When 120K is reached	Enable
Maintenance required Code: FK2	1 (Print stop)		When 120K is reached	Disable

- When the fusing unit is replaced with a new one, the print counter (on the upper side of the heat roller), the usage day counter (on the upper side of the heat roller), the print counters (on the lower side and the outside of the heat roller), and the usage day counters (on the lower side and the outside of the heat roller) are automatically cleared, and the above display disappears.
- If a sub part is used to execute the maintenance or if the above guidance does not disappear when the whole fusing unit is replaced, SIM24-4 must be executed to clear the print counter (on the upper side of the heat roller), the usage day counter (on the upper side of the heat roller), the print counters (on the lower side and the outside of the heat roller), and the usage day counters (on the lower side and the outside of the heat roller).

(5) Drum cartridge

For    , only the life end cartridge code is displayed.

Display content	Display condition			Print job Enable/Disable
	SIM26-38-E set value	Counter name	Counter value	
Maintenance required Code: DK	0 (Print continue)	Drum cartridge print counter (K)	When 60K is reached	Enable
		Drum cartridge accumulated rotation number (K)	When 550K rotations is reached	Enable
Maintenance required Code: DC	0 (Print continue)	Drum cartridge print counter (C)	When 30K is reached	Enable
		Drum cartridge accumulated rotation number (C)	When 550K rotations is reached	Enable
Maintenance required Code: DM	0 (Print continue)	Drum cartridge print counter (M)	When 30K is reached	Enable
		Drum cartridge accumulated rotation number (M)	When 550K rotations is reached	Enable
Maintenance required Code: DY	0 (Print continue)	Drum cartridge print counter (Y)	When 30K is reached	Enable
		Drum cartridge accumulated rotation number (Y)	When 550K rotations is reached	Enable
Maintenance required Code: DK	1 (Print stop)	Drum cartridge print counter (K)	When 60K is reached	Enable
			When 60K + 1K is reached	Disable
		Drum cartridge accumulated rotation number (K)	When 550K rotations is reached	Disable
Maintenance required Code: DC/DM/DY	1 (Print stop)	Drum cartridge print counter (C) Drum cartridge print counter (M) Drum cartridge print counter (Y)	When 30K is reached by either counter	Enable for Black/White Disable for Color *2
			When 550K rotations is reached by either counter	Enable for Black/White Disable for Color *2
		Drum cartridge accumulated rotation number (C) Drum cartridge accumulated rotation number (M) Drum cartridge accumulated rotation number (Y)	When 550K rotations is reached by either counter	Enable for Black/White Disable for Color *2
			When 550K rotation + 430Kmm is reached	Disable

*2: When the black drum cartridge does not reach the life end and only the color drum cartridge reaches the life end, black/white print can be performed but color print cannot be performed.

- When the drum cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared.
- If the above guidance does not disappear when the drum cartridge is replaced, SIM24-7 must be executed to clear the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter.

(6) Developer cartridge

For **[Bk]** **[C]** **[Y]** **[M]**, only the life end cartridge code is displayed.

Display content	Display condition			Print job Enable/Disable
	SIM26-38-F set value	Counter name	Counter value	
Maintenance required Code: VK	0 (Print continue)	Developer cartridge print counter (K)	When 60K is reached	Enable
		Developer cartridge accumulated rotation number (K)	When 550K rotations is reached	Enable
Maintenance required Code: VC	0 (Print continue)	Developer cartridge print counter (C)	When 30K is reached	Enable
		Developer cartridge accumulated rotation number (C)	When 550K rotations is reached	Enable
Maintenance required Code: VM	0 (Print continue)	Developer cartridge print counter (M)	When 30K is reached	Enable
		Developer cartridge accumulated rotation number (M)	When 550K rotations is reached	Enable
Maintenance required Code: VY	0 (Print continue)	Developer cartridge print counter (Y)	When 30K is reached	Enable
		Developer cartridge accumulated rotation number (Y)	When 550K rotations is reached	Enable
Maintenance required Code: VK	1 (Print stop)	Developer cartridge print counter (K)	When 60K is reached	Enable
			When 60K + 1K is reached	Disable
		Developer cartridge accumulated rotation number (K)	When 550K rotations is reached	Disable
			When 550K rotation + 430Kmm is reached	Disable
Maintenance required Code: VC/VM/VY	1 (Print stop)	Developer cartridge print counter (C)	When 30K is reached	Enable for Black/White Disable for Color *2
		Developer cartridge print counter (M)		
		Developer cartridge print counter (Y)	When 550K rotations is reached	Enable for Black/White Disable for Color *2
		Developer cartridge accumulated rotation number (C)		
		Developer cartridge accumulated rotation number (M)		
		Developer cartridge accumulated rotation number (Y)		

*2: When the black drum cartridge does not reach the life end and only the color drum cartridge reaches the life end, black/white print can be performed but color print cannot be performed.

- When the developer cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared, and the initial setting of the toner density is automatically executed.
- If the above guidance does not disappear when the developer cartridge is replaced, the initial setting of the toner density must be executed with the SIM25-2.
- When SIM26-55 setting is set to ENABLE, the initial setting of the toner density is executed.
- When the initial setting of the toner density is executed, the counters are cleared.

(7) Toner cartridge

For **[Bk]** **[C]** **[Y]** **[M]**, only the life end cartridge code is displayed.

Display content	Display condition			Print job Enable/Disable
	SIM26-38-A set value	Remaining quantity display *1	Status	
Y/M/C/BK *2	0 (Print continue)	25-0%	Toner remaining quantity is 25% or less.	Enable
	1 (Print stop)			
	0 (Print continue)	25-0%	Toner remaining quantity corresponds to output of XX sheets. *3	Enable
	1 (Print stop)			
Change the Toner cartridge BK	0 (Print continue)	0%	When the black toner cartridge reaches toner end.	Disable
	1 (Print stop)			
Change the Toner cartridge Y/M/C	0 (Display)	0%	When the color toner cartridge reaches toner end.	Enable for Black/White Disable for Color *4
	1 (No display)			
No display	—	50-25%	Toner remaining quantity is 49 - 25%.	Enable
No display	—	75-50%	Toner remaining quantity is 74 - 50%.	Enable
No display	—	100-75%	Toner remaining quantity is 100-75%.	Enable
Install the Toner cartridge Y/M/C/BK	—	No display	When no toner cartridges are installed. When a toner cartridge of a different color is installed.	Disable
Improper cartridge Code: F2-04	—	No display	When an incompatible toner cartridge is installed.	Disable
Cartridge error Code: F2-05	—	No display	CRUM trouble Toner cartridge connector contact trouble	Disable

*1: Detected by the toner motor rotation number and the pixel count (The value of larger life percentage is employed.)

Since the life of the toner cartridge which is packed when shipping from the factory is 2.5K, the remaining quantity of the toner cartridge, though it is a new one, is displayed as 25-0%.

*2: Selection of Display/Not Display can be made with SIM26-69. (Default: Not Display)

*3: Setting can be made with SIM26-69. (Default: 0 sheet)

*4: When the black toner cartridge does not reach the life end and only the color toner cartridge reaches the life end, black/white print can be performed but color print cannot be performed.

(8) Waste toner box

Display content	Display condition	Print job Enable/Disable
The toner collection container will be needed soon.	When the waste toner full detection switch is ON for 1sec or more.	Enable
Replace used toner cartridge needed soon.	When 500 count is reached from the above state. (1 count for 1 sheet output. When the process control is performed once, 10 counts are added.)	Disable

When the toner collection bottle is replaced, the display disappears.

▲ B. MX-B400P/B380P/B382P

(1) Maintenance counter

Display content	Display condition			Print job Enable/Disable
	SIM26-38-A set value	Counter name	Counter value	
Maintenance required. Code:TA	0 (Print continue)	Maintenance counter (Total)	When the SIM21-1 set value is reached	Enable
	1 (Print stop)		When 90% of the SIM21-1 set value is reached	
Maintenance required. Code: TA	1 (Print stop)		When the SIM21-1 set value is reached	Disable

- After execution of maintenance, execute SIM24-4 to clear the maintenance counter (total).
- When the maintenance counter (total) is cleared, the above display disappears.

(2) Primary transfer unit

Display content	Display condition			Print job Enable/Disable
	Sim26-38-B set value	Counter name	Counter value	
Change the supplies. > Primary Transfer Belt Unit	0 (Print continue)	Primary transfer unit print counter	When 120K is reached	Enable
The supplies will be needed soon. > Primary Transfer Belt Unit	1 (Print stop)		When 90% of 120K is reached	Enable
Change the supplies. > Primary Transfer Belt Unit	1 (Print stop)		When 120K is reached	Disable

- When the primary transfer unit is replaced with a new one, the print counter, the accumulated traveling distance counter, and the usage day counter are automatically cleared. If SIM26-55 setting is set to ENABLE in that case, the guidance for execution of the automatic adjustment of the engine is displayed.
- If SIM26-55 setting is set to DISABLE, SIM46-74 must be used to execute the automatic adjustment of the engine.
- If the above guidance does not disappear when the whole primary transfer unit is replaced, SIM24-4 must be executed to clear the print counter, the accumulated traveling distance counter, and the usage day counter of the primary transfer unit, and the engine automatic adjustment must be executed by the simulation.
- The above display disappears by cleaning the counters.

(3) Secondary transfer unit

Display content	Display condition			Print job Enable/Disable
	Sim26-38-C set value	Counter name	Counter value	
Change the supplies. > Secondary Transfer Roller Unit	0 (Print continue)	Secondary transfer unit print counter	When 60K is reached	Enable
The supplies will be needed soon. > Secondary Transfer Roller Unit	1 (Print stop)		When 90% of 60K is reached	Enable
Change the supplies. > Secondary Transfer Roller Unit	1 (Print stop)		When 60K is reached	Disable

- When the secondary transfer unit is replaced with a new one, the print counter, the accumulated traveling distance counter, and the usage day counter are automatically cleared, and the above display disappears.
- If SIM26-55 setting is set to ENABLE in that case, the guidance for execution of the automatic adjustment of the engine is displayed.
- If the above guidance does not disappear though the secondary transfer unit is replaced, SIM24-4 must be executed to clear the print counter, the accumulated traveling distance counter, and the usage day counter.
- The above display disappears when the counters are cleared.

(4) Fusing unit

Display content	Display condition			Print job Enable/ Disable
	Sim26-38-D set value	Counter name	Counter value	
Change the supplies. > Fusing Unit	0 (Print continue)	Fusing unit print counter (Heat roller upper)	When 120K is reached	Enable
The supplies will be needed soon. > Fusing Unit	1 (Print stop)		When 90% of 120K is reached	Enable
Change the supplies. > Fusing Unit	1 (Print stop)		When 120K is reached	Disable

- When the fusing unit is replaced with a new one, the print counter (on the upper side of the heat roller), the usage day counter (on the upper side of the heat roller), the print counters (on the lower side and the outside of the heat roller), and the usage day counters (on the lower side and the outside of the heat roller) are automatically cleared, and the above display disappears.
- If SIM26-55 setting is set to ENABLE in that case, the guidance for execution of the automatic adjustment of the engine is displayed.
(Since there is no need to execute the automatic adjustment of the engine when the fusing unit is replaced, it is recommendable to set the SIM26-55 setting to DISABLE (default).)
- If the above guidance does not disappear when the whole fusing unit is replaced, SIM24-4 must be executed to clear the print counter (on the upper side of the heat roller), the usage day counter (on the upper side of the heat roller), the print counters (on the lower side and the outside of the heat roller), and the usage day counters (on the lower side and the outside of the heat roller).
- The above display disappears when the counters are cleared.

(5) Drum cartridge

Display content	Display condition			Print job Enable/ Disable
	Sim26-38-E set value	Counter name	Counter value	
Change the supplies. > Drum Cartridge	0 (Print continue)	Drum cartridge print counter	When 72K is reached	Enable
		Drum cartridge accumulated rotation number	When 550K rotations is reached	Enable
The supplies will be needed soon. > Drum Cartridge *1	1 (Print stop)	Drum cartridge print counter	When 90% of 72K is reached by the counter	Enable
		Drum cartridge accumulated rotation number	When 90% of 550K rotation is reached by the counter	Enable
Change the supplies. > Drum Cartridge	1 (Print stop)	Drum cartridge print counter	When 72K is reached	Enable
			When 72K + 1K is reached	Disable
		Drum cartridge accumulated rotation number	When 550K rotations is reached	Enable
			When 550K rotation + 430Kmm is reached	Disable

*1: Selection of Display/Not Display can be made with Sim26-69. (Default: Not Display)

- When the drum cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared. If SIM26-55 setting is set to ENABLE in that case, the guidance for execution of the automatic adjustment of the engine is displayed.
- If SIM26-55 setting is set to DISABLE, SIM46-74 must be used to execute the automatic adjustment of the engine.
- If the above guidance does not disappear when the drum cartridge is replaced, SIM24-7 must be executed to clear the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter, and the engine automatic adjustment must be executed.
- The above display disappears when the counters are cleared.

(6) Developer cartridge (MX-B400P/B380P)

Display content	Display condition			Print job Enable/Disable
	Sim26-38-F set value	Counter name	Counter value	
Change the supplies. > Developer Cartridge	0 (Print continue)	Developer cartridge print counter	When 72K is reached	Enable
		Developer cartridge accumulated rotation number	When 550K rotations is reached	Enable
The supplies will be needed soon. > Developer Cartridge *1	1 (Print stop)	Developer cartridge print counter	When 90% of 72K is reached by the counter	Enable
		Developer cartridge accumulated rotation number	When 90% of 550K rotation is reached by the counter	Enable
Change the supplies. > Developer Cartridge	1 (Print stop)	Developer cartridge print counter	When 72K is reached	Enable
			When 72K + 1K is reached	Disable
		Developer cartridge accumulated rotation number	When 550K rotations is reached	Enable
			When 550K rotation + 430Kmm is reached	Disable

*1: Selection of Display/Not Display can be made with Sim26-69. (Default: Not Display)

- When the developer cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared, and the initial setting of the toner density is automatically executed.
- When SIM26-55 setting is set to ENABLE, the initial setting of the toner density is executed and the guidance for execution of the automatic adjustment of the engine is displayed.
- When SIM26-55 setting is set to DISABLE, SIM46-74 must be used to execute the automatic adjustment of the engine after completion of the initial setting of the toner density.
- If the above guidance does not disappear when the developer cartridge is replaced, the initial setting of the toner density must be executed with the simulation, and the engine automatic adjustment must be executed.
- When the initial setting of the toner density is executed, the counters are cleared and the above display disappears.

(7) Developer section (MX-B382P)

Counter name	End conditions	Message when end over	
		Sim.26-38A "0" Print Enable	Sim.26-38A "1" Print Stop
Developer print counter (K)	72,000 [sheets]	Message (9)	Message (9)
Developer accumulated rotation number (K)	550K rotations	Message (9)	Message (9)

Judgment is made at the earlier timing of the developer print counter or the developer accumulated rotation number counter.

The developer rotation number is synchronized with the drum motor rotation number.

Message No.	Message	Print job Enable/Disable
(9)	Maintenance required.Code: VK	Enable

After replacement of developer, use SIM25-2 to set the toner density control level. By this setting, the developer counters (the developer print counter and the developer accumulated traveling distance counter) are cleared.

(8) Toner cartridge

Display content	Display condition		Print job Enable/Disable
	Remaining quantity display *1	Status	
The supplies will be needed soon. > Toner Cartridge *2	25-0%	Toner remaining quantity is 25% or less.	Enable
	25-0%	Toner remaining quantity corresponds to output of XX sheets. *3	Enable
Change the supplies. > Toner Cartridge	0%	When the toner cartridge reaches toner end.	Disable
No display	50-25%	Toner remaining quantity is 49 - 25%.	Enable
No display	75-50%	Toner remaining quantity is 74 - 50%.	Enable
No display	100-75%	Toner remaining quantity is 100 - 75%.	Enable
Install the toner cartridge.	No display	When no toner cartridges are installed.	Disable
Improper cartridge.	No display	When an incompatible toner cartridge is installed.	Disable
Cartridge error.	No display	CRUM trouble Toner cartridge connector contact trouble	Disable

*1: Detected by the toner motor rotation number and the pixel count (The value of larger life percentage is employed.)

*2: Selection of Display/Not Display can be made with Sim26-69. (Default: Not Display)

*3: Setting can be made with Sim26-69. (Default: 0 sheet)

(9) Waste toner box

Display content	Display condition	Print job Enable/Disable
The toner collection container will be needed soon.	When the waste toner full detection switch is ON for 1sec or more.	Enable
Replace used toner cartridge needed soon.	When 500 count is reached from the above state. (1 count for 1 sheet output. When the process control is performed once, 10 counts are added.)	Disable

When the toner collection bottle is replaced, the display disappears.

3. Maintenance list

A. Maintenance list (MX-C400P/C380P)

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

Section	Part name		30 K	60 K	90 K	120 K	150 K	180 K	210 K	240 K	270 K	300 K	Remark
▲ Drum cartridge	Drum cartridge (Black)	1		▲		▲		▲		▲		▲	
	Drum cartridge (Cyan)	1	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	Drum cartridge (Magenta)	1	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	Drum cartridge (Yellow)	1	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
Developer cartridge	Developer cartridge (Black)	1				▲		▲		▲		▲	
	Developer cartridge (Cyan)	1	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	Developer cartridge (Magenta)	1	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	Developer cartridge (Yellow)	1	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
Toner cartridge	Toner cartridge (Black)	1	Replace at every toner empty.										Replacement is made by the user.
	Toner cartridge (Cyan)	1											
	Toner cartridge (Magenta)	1											
	Toner cartridge (Yellow)	1											
Waste toner	Waste toner box	1	Replace at every full detection.										Replacement is made by the user.
Secondary transfer	Secondary transfer roller unit	1		▲		▲		▲		▲		▲	
Primary transfer	Primary transfer belt	1				▲				▲			
	Primary transfer roller	4				▲				▲			
	Cleaning blade	1				▲				▲			
	PTC wire	1				▲				▲			
	PTC cleaner	1				▲				▲			
	PTC cleaner B	1				▲				▲			
	Primary transfer drive coupling	1				▲				▲			
	Transfer drive roller	—				×				×			
	Transfer follower roller	—				×				×			
	Transfer tension roller	—				×				×			
	Backup shaft	—				×				×			
	Registration backup shaft	—				×				×			
	Separation cam F	1				○				○			After cleaning with alcohol, apply HANARL (FL955R).
	Separation cam R	1				○				○			
	Roller separation link F BK	1				○				○			Clean the cam-contact section with alcohol.
	Roller separation link R BK	1				○				○			
Fusing	Upper heat roller unit	1				▲				▲			
	Lower heat roller unit	1				▲				▲			
	External heating unit	1				▲				▲			
	Separation pawl lower	2				▲				▲			
	Separation pawl lower spring	2				▲				▲			
	Thermistor retainer	1				▲				▲			
	External heat roller contact thermistor 1 (RTH_EX1)	1				▲				▲			Part with four thermistors integrated in it
	External heat roller contact thermistor 2 (RTH_EX2)												
	Upper heat roller non-contact thermistor (RTH_Main)												
	Upper heat roller contact thermistor (RTH_Sub)												
	Lower heat roller contact thermistor (RTH_Low)	1				▲				▲			
Filter	Ozone filter	1				▲				▲			
Roller	Paper pickup roller (Tray 1)	1		×		×		×		×		×	Replace as needed. Reference: About 100K or 1 year of use.
	Paper feed roller	1		×		×		×		×		×	
	Separation roller	1		×		×		×		×		×	
	Paper feed roller (Manual paper feed tray)	1		×		×		×		×		×	
	Manual paper feed separation pad unit	1		×		×		×		×		×	
	Paper pickup roller unit	1		×		×		×		×		×	

B. Maintenance list (MX-B400P/B380P)

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

Section		Quantity	60 K	72 K	120 K	144 K	180 K	216 K	240 K	288 K	300 K	Remark
Drum cartridge		1		▲		▲		▲		▲		
Developer cartridge		1		▲		▲		▲		▲		
Toner cartridge		1	Replace at every toner empty.									Replacement is made by the user.
Toner collection box		1	Replace at every full detection.									Replacement is made by the user.
Secondary transfer unit		1	▲		▲		▲		▲		▲	
Primary transfer unit	Intermediate transfer belt	1			▲				▲			
	Primary transfer roller	1			▲				▲			
	Cleaning blade	1			▲				▲			
	PTC wire	1			▲				▲			
	PTC cleaner	1			▲				▲			
	PTC cleaner B	1			▲				▲			
	Primary transfer drive coupling	1			▲				▲			
	Transfer drive roller	–			×				×			
	Transfer follower roller	–			×				×			
	Transfer tension roller	–			×				×			
	Backup shaft	–			×				×			
	Registration backup shaft	–			×				×			
	Separation cam F	1			○				○			After cleaning with alcohol, apply HANARL (FL955R).
	Separation cam R	1			○				○			
	Roller separation link F BK	1			○				○			Clean the cam-contact section with alcohol.
	Roller separation link R BK	1			○				○			
Fusing	Upper heat roller unit	1			▲				▲			
	Lower heat roller unit	1			▲				▲			
	External heating unit	1			▲				▲			
	Separation pawl lower	2			▲				▲			
	Separation pawl lower spring	2			▲				▲			
	Thermistor retainer	1			▲				▲			
	External heat roller contact thermistor 1 (RTH_EX1)	1			▲				▲			Part with four thermistors integrated in it
	External heat roller contact thermistor 2 (RTH_EX2)											
	Upper heat roller non-contact thermistor (RTH_Main)											
	Upper heat roller contact thermistor (RTH_Sub)											
	Lower heat roller contact thermistor (RTH_Low)	1			▲				▲			
Filter	Ozone filter	1			▲				▲			
Roller	Paper pickup roller (Tray 1)	1	×		×		×		×		×	Replace as needed. Reference: About 100K or 1 year of use.
	Paper feed roller	1	×		×		×		×		×	
	Separation roller	1	×		×		×		×		×	
	Paper feed roller (Manual paper feed tray)	1	×		×		×		×		×	
	Manual paper feed separation pad	1	×		×		×		×		×	
	Paper pickup roller unit	1	×		×		×		×		×	

C. Maintenance list (MX-B382P)

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

Section		Quantity	60 K	72 K	120 K	144 K	180 K	216 K	240 K	288 K	300 K	Remark
Drum cartridge		1		▲		▲		▲		▲		
Developer section	Developer	1		▲		▲		▲		▲		
	DV blade	1		▲		▲		▲		▲		
	DV side seal F/R	1		×		×		×		×		
	Toner filter	2		×		×		×		×		
	Bias terminal/Connector	1		×		×		×		×		
Toner cartridge		1	Replace at every toner empty.									Replacement is made by the user.
Toner collection box		1	Replace at every full detection.									Replacement is made by the user.
Secondary transfer unit		1	▲		▲		▲		▲		▲	
Primary transfer unit	Intermediate transfer belt	1			▲				▲			
	Primary transfer roller	1			▲				▲			
	Cleaning blade	1			▲				▲			
	PTC wire	1			▲				▲			
	PTC cleaner	1			▲				▲			
	PTC cleaner B	1			▲				▲			
	Primary transfer drive coupling	1			▲				▲			
	Transfer drive roller	—			×				×			
	Transfer follower roller	—			×				×			
	Transfer tension roller	—			×				×			
	Backup shaft	—			×				×			
	Registration backup shaft	—			×				×			
	Separation cam F	1			○				○			After cleaning with alcohol, apply HANARL (FL955R).
	Separation cam R	1			○				○			Clean the cam-contact section with alcohol.
	Roller separation link F BK	1			○				○			
	Roller separation link R BK	1			○				○			
Fusing	Upper heat roller assembly	1			▲				▲			
	Lower pressure roller	1			▲				▲			
	Lower roller bearing	2			▲				▲			
	Separation pawl lower/ Separation pawl lower spring	2			▲				▲			
	Upper thermistor	1			▲				▲			
	Thermistor retainer	1			▲				▲			
	Separation plate assembly	1			▲				▲			
	Separation spring	2			▲				▲			
	Oil roller	1			▲				▲			
	Oil roller bearing	4			▲				▲			
	Oil roller spring	4			▲				▲			
	Cleaning roller	1			▲				▲			
	Lower pressure roller, Cleaning roller	1			▲				▲			
Filter	Ozone filter	1			▲				▲			The part for maintenance is supplied as a service part.
Roller	Paper pickup roller (Tray 1)	1	×		×		×		×		×	Replace as needed.
	Paper feed roller	1	×		×		×		×		×	Reference: About 100K or 1 year of use.
	Separation roller	1	×		×		×		×		×	
	Paper feed roller (Manual paper feed tray)	1	×		×		×		×		×	The part for maintenance is supplied as a service part.
	Manual paper feed separation pad	1	×		×		×		×		×	

D. Drum cartridge

(1) MX-C400P/C380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	30K	60K	90K	120K	150K	180K	210K	240K	270K	300K	Remark
1	Drum cartridge (Black)		▲		▲		▲		▲		▲	
2	Drum cartridge (Cyan)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
3	Drum cartridge (Magenta)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
4	Drum cartridge (Yellow)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	

NOTE: When handling the drum cartridge, be careful not to put fingerprints, oil, grease, or other foreign material on the OPC drum surface.

NOTE: When fingerprints or foreign materials are attached to the OPC drum surface, the cleaning blade may be reversed and defective images may be generated. In this case, use dry cloth to clean the drum. If foreign materials cannot be removed by cleaning, replace the drum with a new one.

NOTE: Avoid exposing the OPC drum surface to strong lights (sunlight, fluorescent lamp lights, incandescent lamp lights).

Remove the black protection sheet which covers the OPC drum before installing the drum cartridge to the machine.

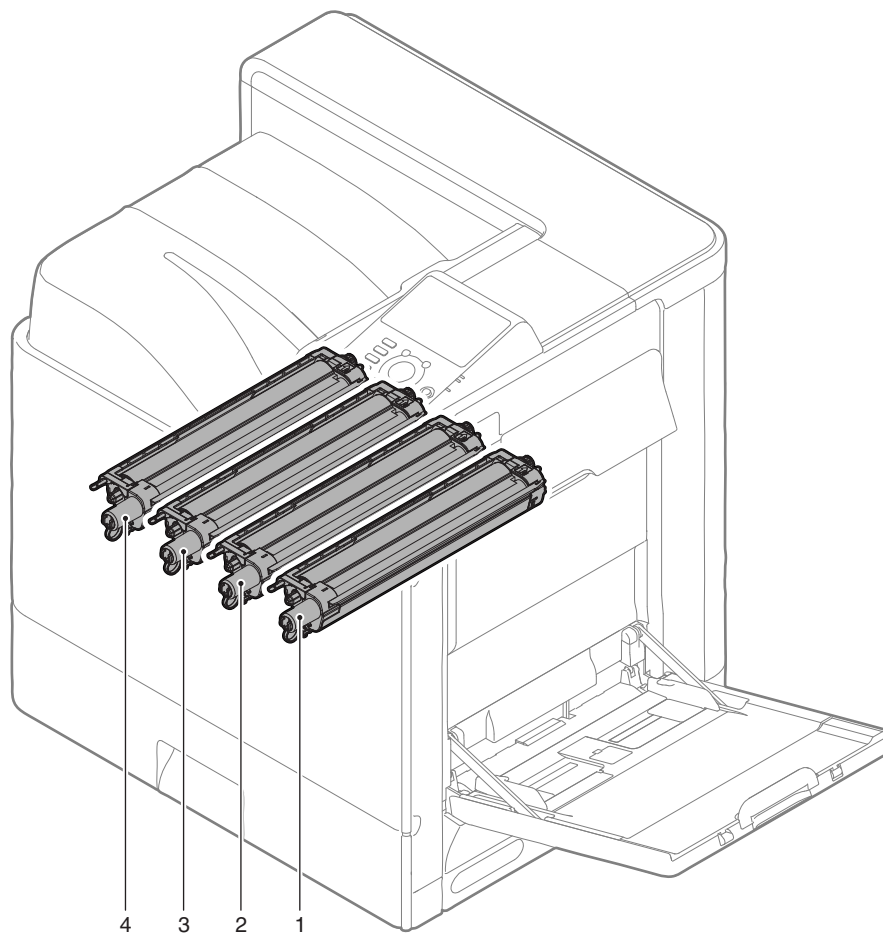
NOTE: When putting the drum cartridge outside the machine, cover the OPC drum with light-blocking material. (When using paper, use about 10 sheets of paper to cover.)

NOTE: When the drum cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared.

NOTE: If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, SIM24-7 must be used to reset the counters manually.



▲ (2) **MX-B400P/B380P/B382P**

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Drum cartridge		▲		▲		▲		▲		

NOTE: When handling the drum cartridge, be careful not to put fingerprints, oil, grease, or other foreign material on the OPC drum surface.

NOTE: When fingerprints or foreign materials are attached to the OPC drum surface, the cleaning blade may be reversed and defective images may be generated. In this case, use dry cloth to clean the drum. If foreign materials cannot be removed by cleaning, replace the drum with a new one.

NOTE: Avoid exposing the OPC drum surface to strong lights (sunlight, fluorescent lamp lights, incandescent lamp lights).

Remove the black protection sheet which covers the OPC drum before installing the drum cartridge to the machine.

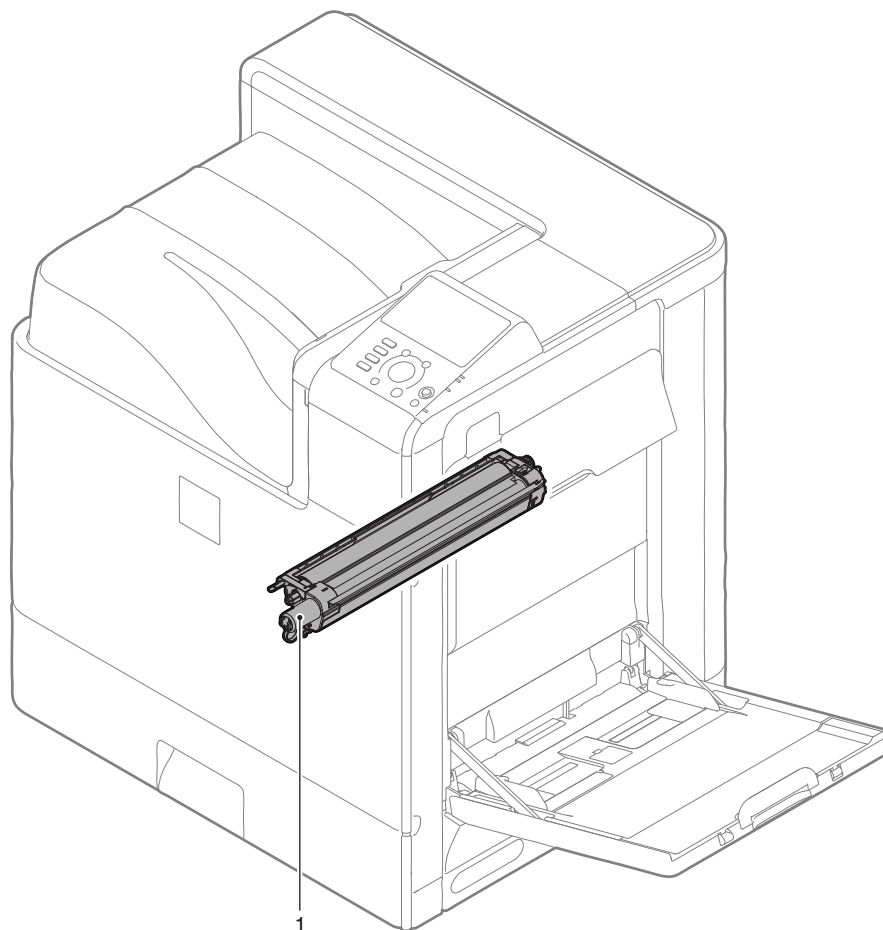
NOTE: When putting the drum cartridge outside the machine, cover the OPC drum with light-blocking material. (When using paper, use about 10 sheets of paper to cover.)

NOTE: When the drum cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically cleared.

If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, SIM24-7 must be used to reset the counters manually.



E. Developer cartridge

(1) MX-C400P/C380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	30K	60K	90K	120K	150K	180K	210K	240K	270K	300K	Remark
1	Developer cartridge (Black)		▲		▲		▲		▲		▲	
2	Developer cartridge (Cyan)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
3	Developer cartridge (Magenta)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
4	Developer cartridge (Yellow)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	

NOTE: When the developer cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically reset, and the initial setting of the toner density is automatically executed.

If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, use SIM24-4 to reset the counters manually.

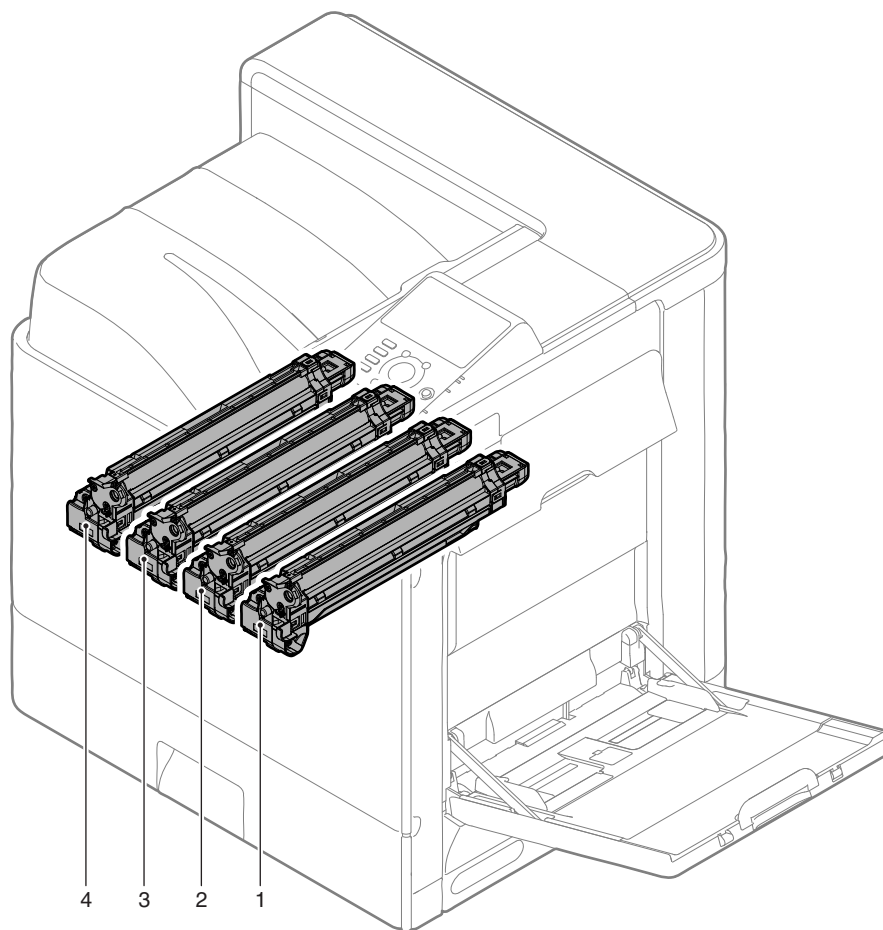
NOTE: When installing a new developer cartridge, be sure to install the toner cartridge in advance. If a new developer cartridge is installed without installing the toner cartridge, the initial setting of the toner density is not executed.

NOTE: If the initial setting of the toner density is not automatically executed when the developer cartridge is replaced, SIM25-2 must be used to execute the initial setting of the toner density.

NOTE: When handling the developer cartridge, be careful not to put fingerprints, oil, grease, or other foreign material on the developer roller surface.

NOTE: When fingerprints or foreign materials are attached to the developer roller surface, defective images may be generated. In this case, use dry cloth and alcohol to clean the roller. If foreign materials cannot be removed by cleaning, replace the developer cartridge with a new one.

If developer or toner is attached to the developer roller surface, never use alcohol.



(2) MX-B400P/B380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Developer cartridge		▲		▲		▲		▲		

NOTE: When the developer cartridge is replaced with a new one, the print counter, the accumulated traveling distance counter, the accumulated rotation number counter, and the usage day counter are automatically reset, and the initial setting of the toner density is automatically executed.

If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, use SIM24-4 to reset the counters manually.

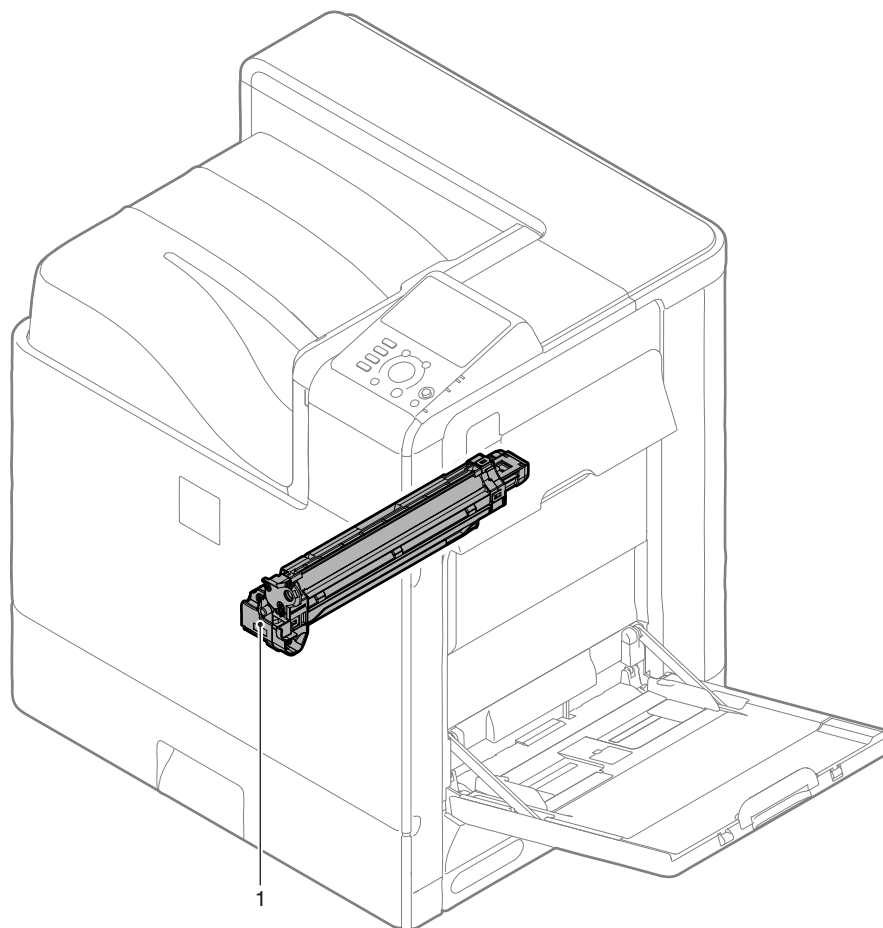
NOTE: When installing a new developer cartridge, be sure to install the toner cartridge in advance. If a new developer cartridge is installed without installing the toner cartridge, the initial setting of the toner density is not executed.

NOTE: If the initial setting of the toner density is not automatically executed when the developer cartridge is replaced, SIM25-2 must be used to execute the initial setting of the toner density.

NOTE: When handling the developer cartridge, be careful not to put fingerprints, oil, grease, or other foreign material on the developer roller surface.

NOTE: When fingerprints or foreign materials are attached to the developer roller surface, defective images may be generated. In this case, use dry cloth and alcohol to clean the roller. If foreign materials cannot be removed by cleaning, replace the developer cartridge with a new one.

If developer or toner is attached to the developer roller surface, never use alcohol.



▲ F. Developer section (MX-B382)

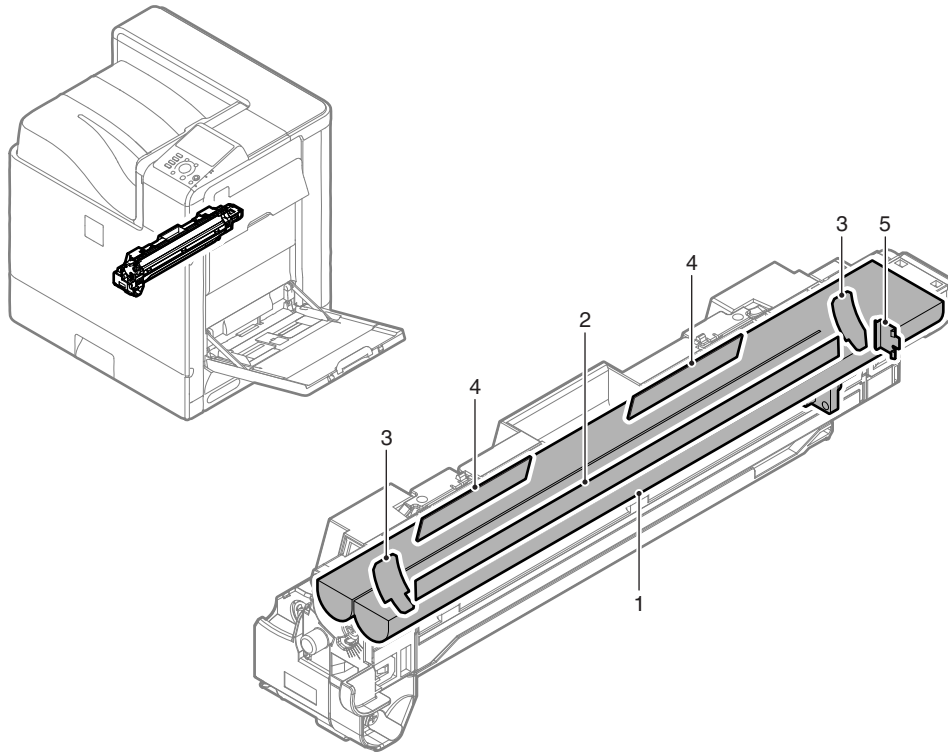
×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Section	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Developer		▲		▲		▲		▲		
2	DV blade		▲		▲		▲		▲		
3	DV side seal F/R		×		×		×		×		
4	Toner filter		×		×		×		×		
5	Bias terminal/Connector		×		×		×		×		

NOTE: When handling the developing unit, be careful not to put fingerprints, oil, grease, or other foreign material on the developer roller surface.

NOTE: When fingerprints or foreign materials are attached to the developer roller surface, defective images may be generated. In this case, use dry cloth and alcohol to clean the roller.

If developer or toner is attached to the developer roller surface, never use alcohol.

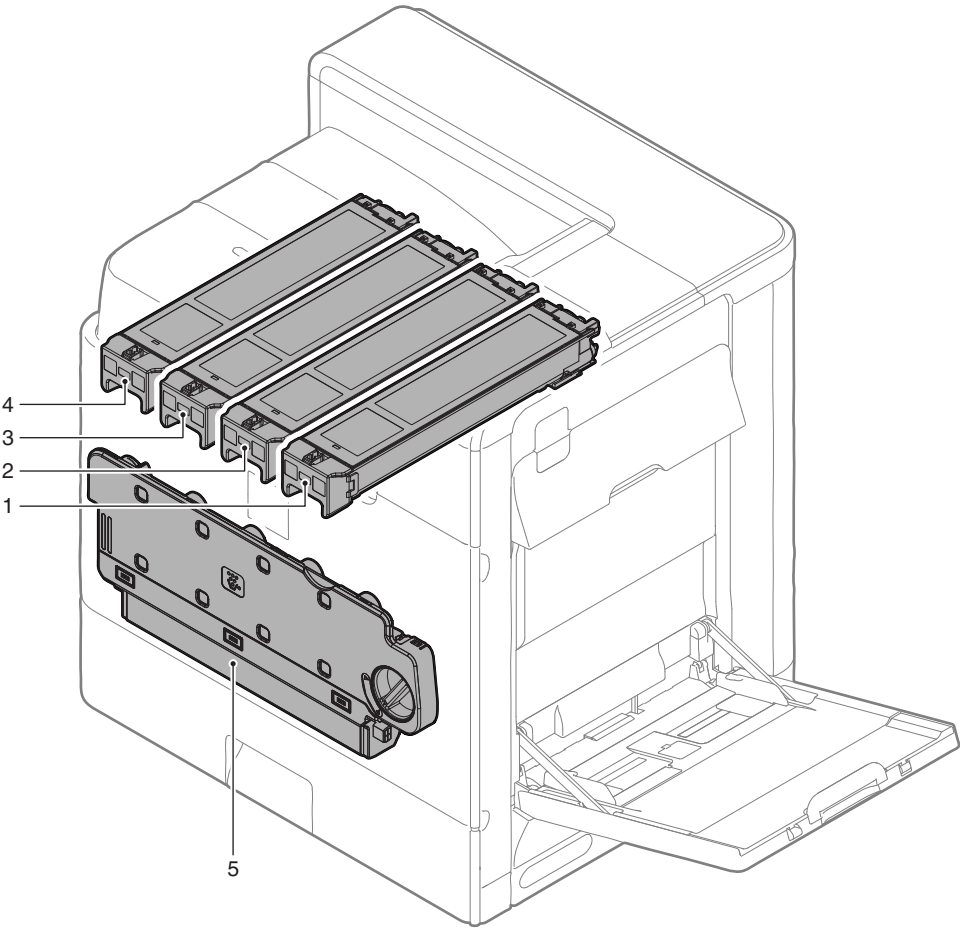


G. Toner cartridge

(1) MX-C400P/C380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

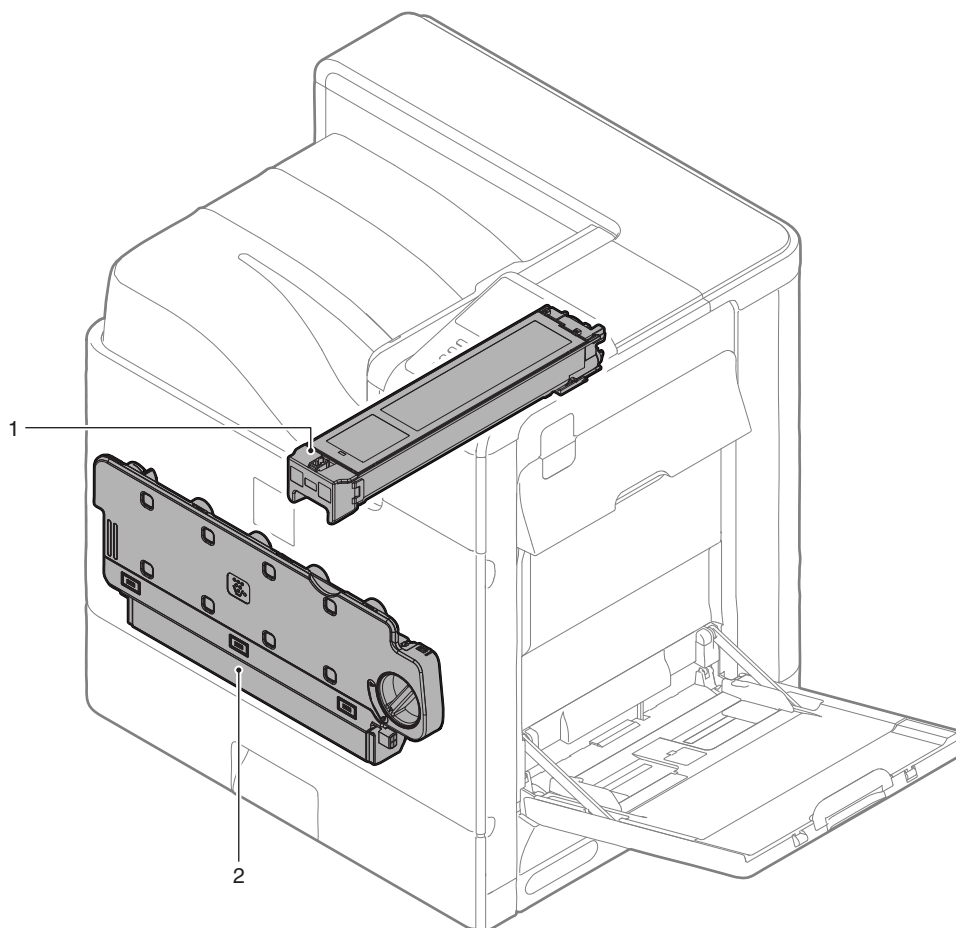
No.	Part name	30K	60K	90K	120K	150K	180K	210K	240K	270K	300K	Remark
1	Toner cartridge (Black)	Replace at every toner empty.										Replacement is made by the user.
2	Toner cartridge (Cyan)											
3	Toner cartridge (Magenta)											
4	Toner cartridge (Yellow)											
5	Waste toner box	Replace at every full detection.										Replacement is made by the user.



▲ (2) **MX-B400P/B380P/B382P**

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Toner cartridge	Replace at every toner empty.									Replacement is made by the user.
2	Toner collection box	Replace at every full detection.									Replacement is made by the user.



The illustration of MX-B400P/B380P is indication.

H. Secondary transfer section

(1) MX-C400P/C380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	30K	60K	90K	120K	150K	180K	210K	240K	270K	300K	Remark
1	Secondary transfer roller unit		▲		▲		▲		▲		▲	

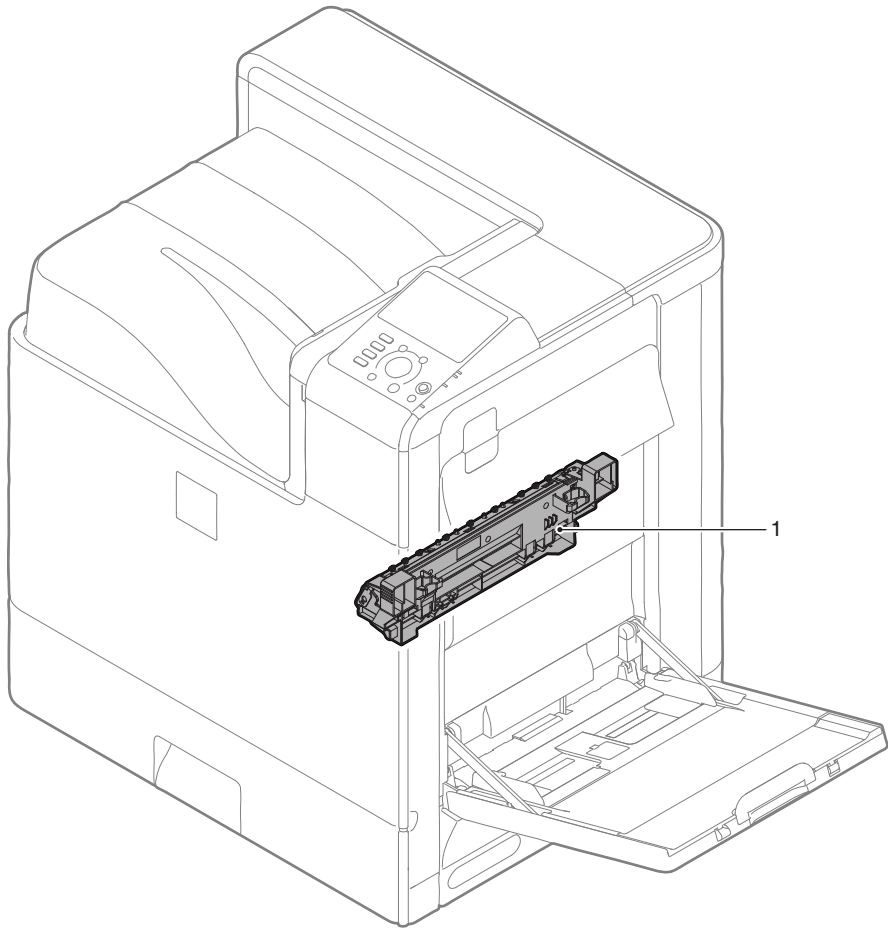
NOTE: When the secondary transfer unit is replaced with a new one, the print counter, the accumulated traveling distance counter, and the usage day counter are automatically reset.

If a simulation is executed or the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, use SIM24-4 to reset the counters manually.

NOTE: When handling the secondary transfer unit, be careful not to put fingerprints, oil, grease, or other foreign material on the secondary transfer roller surface.



▲ (2) **MX-B400P/B380P/B382P**

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Secondary transfer unit	▲		▲		▲		▲		▲	

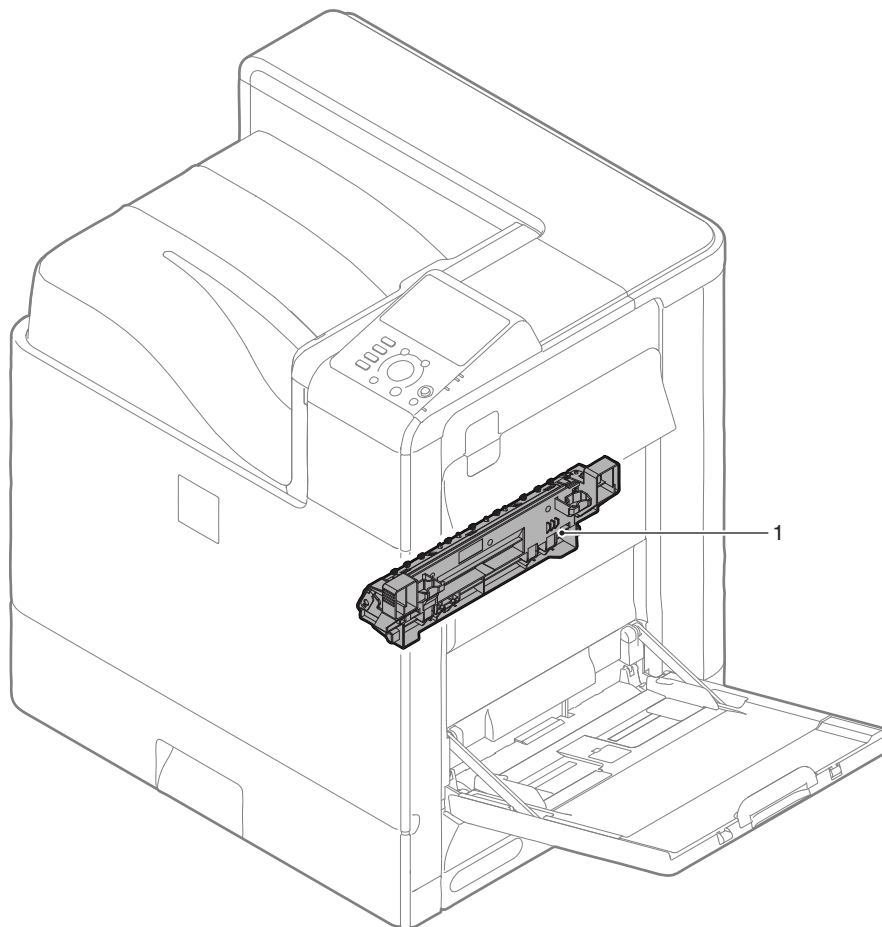
NOTE: When the secondary transfer unit is replaced with a new one, the print counter, the accumulated traveling distance counter, and the usage day counter are automatically reset.

If a simulation is executed or the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, use SIM24-4 to reset the counters manually.

NOTE: When handling the secondary transfer unit, be careful not to put fingerprints, oil, grease, or other foreign material on the secondary transfer roller surface.



I. Primary transfer section

(1) MX-C400P/C380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	30K	60K	90K	120K	150K	180K	210K	240K	270K	300K	Remark
1	Primary transfer belt				▲				▲			
2	Primary transfer roller				▲				▲			
3	Cleaning blade				▲				▲			
4	PTC wire				▲				▲			
5	PTC cleaner				▲				▲			
6	PTC cleaner B				▲				▲			
7	Primary transfer drive coupling				▲				▲			
8	Transfer drive roller				×				×			
9	Transfer follower roller				×				×			
10	Transfer tension roller				×				×			
11	Backup shaft				×				×			
12	Registration backup shaft				×				×			
13	Separation cam F				○				○			After cleaning with alcohol, apply HANARL (FL955R).
14	Separation cam R				○				○			
15	Roller separation link F BK				○				○			Clean the cam-contact section with alcohol.
16	Roller separation link R BK				○				○			

NOTE: When the primary transfer unit is replaced with a new one, the print counter, the accumulated traveling distance counter, and the usage day counter are automatically reset.

If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print (copy) ready state), the initial detection function may not operate normally.

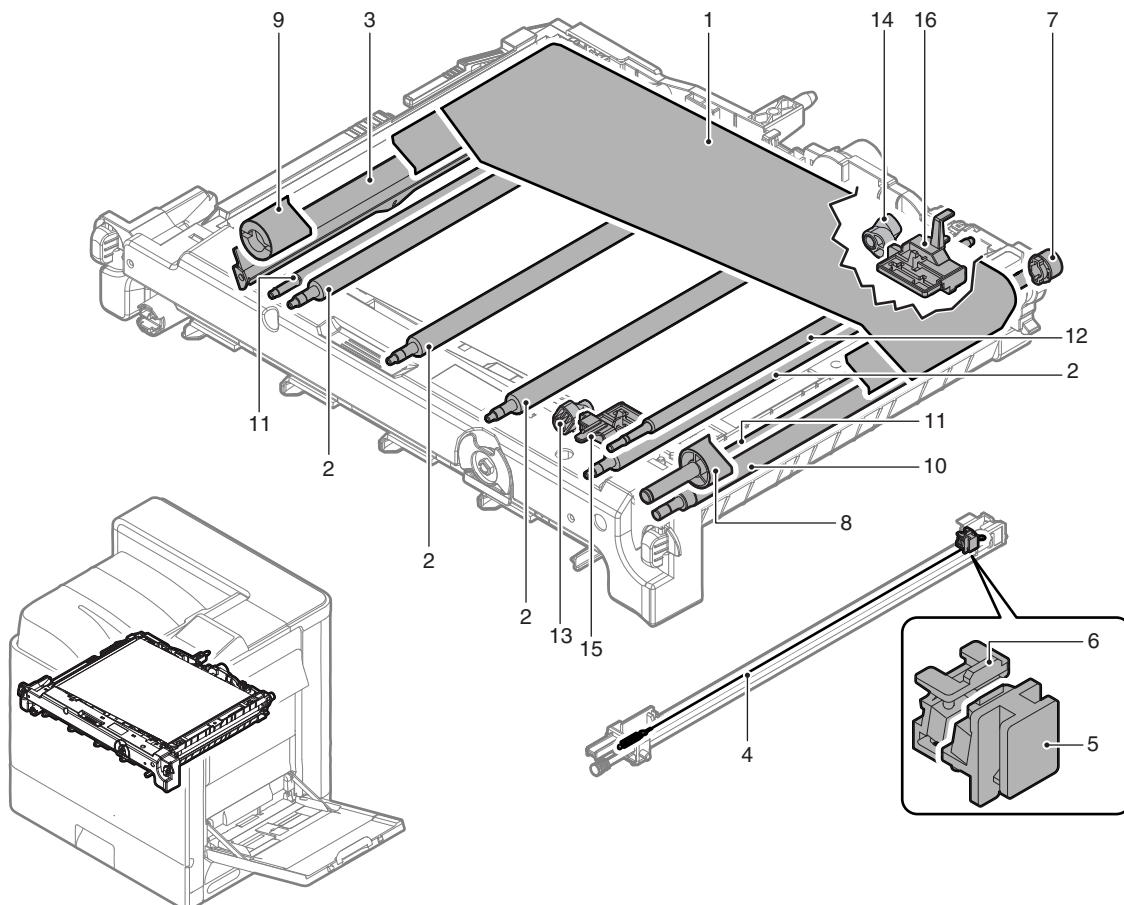
Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print (copy) ready state.

If the counters are not automatically reset, use SIM24-4 to reset the counters manually.

NOTE: When a sub part is used to execute the maintenance, SIM24-4 must be used to reset the counters manually.

NOTE: When handling the primary transfer unit, be careful not to put fingerprints, oil, grease, or other foreign material on the transfer belt surface.

NOTE: When fingerprints or foreign materials are attached to the transfer belt surface, defective images may be generated. In this case, use dry cloth and alcohol to clean the belt. When alcohol is used, wipe with dry cloth carefully.



▲ (2) MX-B400P/B380P/B382P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Intermediate transfer belt			▲				▲			
2	Primary transfer roller			▲				▲			
3	Cleaning blade			▲				▲			
4	PTC wire			▲				▲			
5	PTC cleaner			▲				▲			
6	PTC cleaner B			▲				▲			
7	Primary transfer drive coupling			▲				▲			
8	Transfer drive roller			×				×			
9	Transfer follower roller			×				×			
10	Transfer tension roller			×				×			
11	Backup shaft			×				×			
12	Registration backup shaft			×				×			
13	Separation cam F			○				○			After cleaning with alcohol, apply HANARL (FL955R).
14	Separation cam R			○				○			
15	Roller separation link F BK			○				○			Clean the cam-contact section with alcohol.
16	Roller separation link R BK			○				○			

NOTE: When the primary transfer unit is replaced with a new one, the print counter, the accumulated traveling distance counter, and the usage day counter are automatically reset.

If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

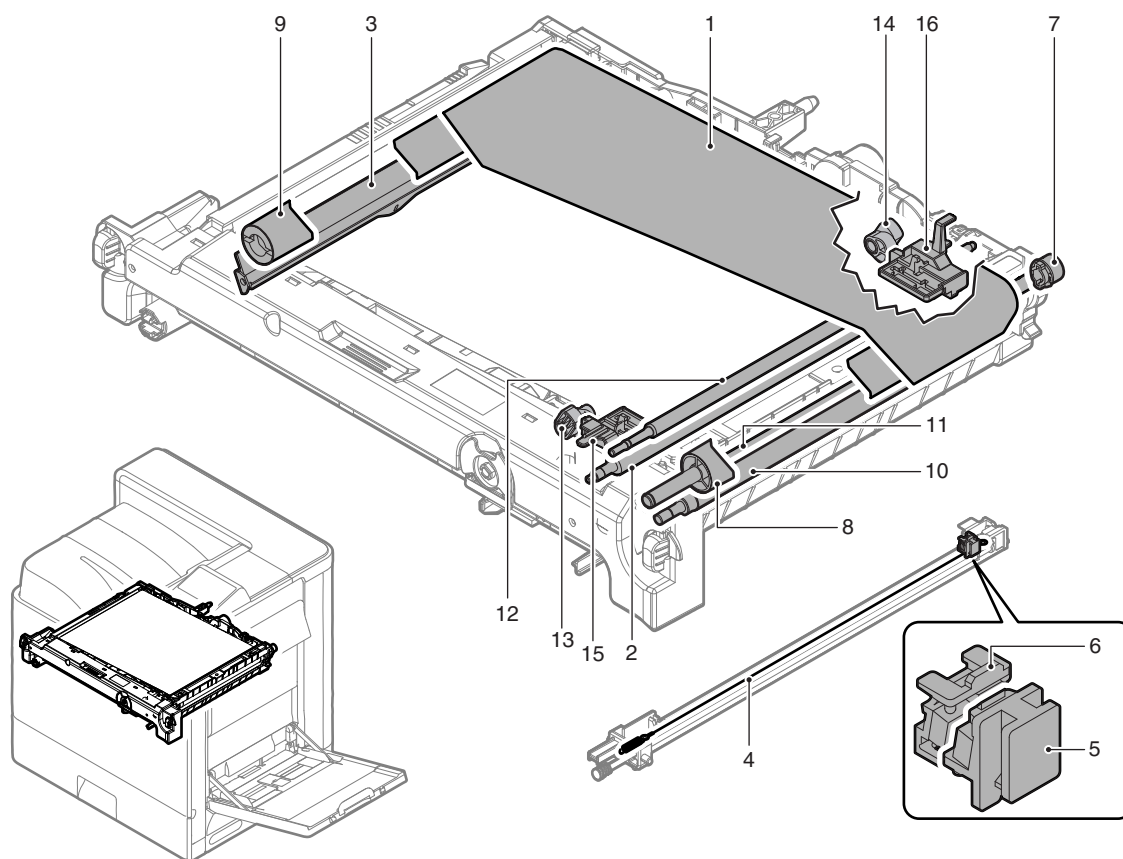
Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, use SIM24-4 to reset the counters manually.

NOTE: When a sub part is used to execute the maintenance, SIM24-4 must be used to reset the counters manually.

NOTE: When handling the primary transfer unit, be careful not to put fingerprints, oil, grease, or other foreign material on the transfer belt surface.

NOTE: When fingerprints or foreign materials are attached to the transfer belt surface, defective images may be generated. In this case, use dry cloth and alcohol to clean the belt. When alcohol is used, wipe with dry cloth carefully.

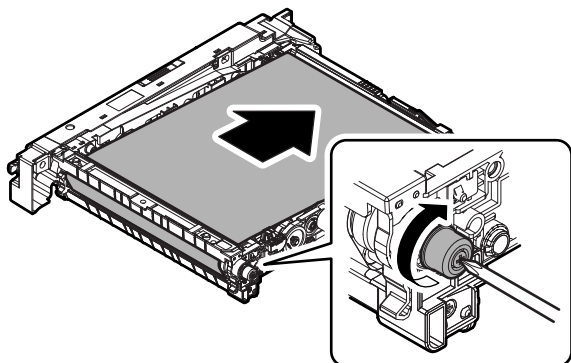


▲ (3) Notes for maintenance

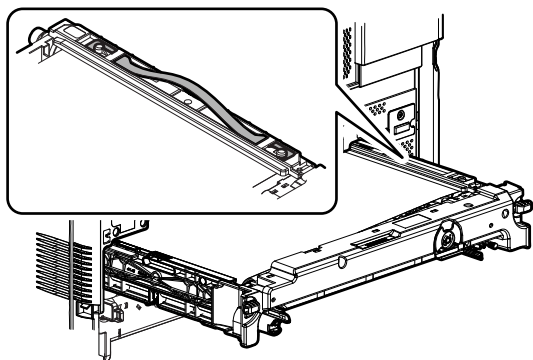
NOTE: Be careful not to put fingerprints or oily dirt on the transfer belt surface. (Do not put the transfer belt on a place where there is oily dirt or dust.)

NOTE: When replacing the transfer belt, hold the edge section (within 8mm from the edge) of the transfer belt.

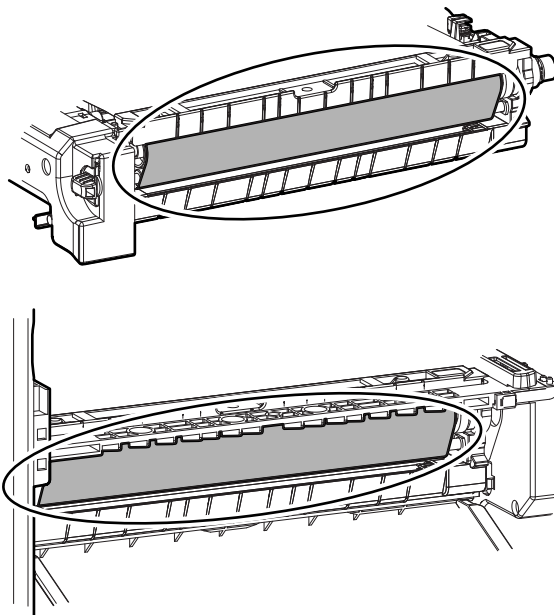
NOTE: When rotating the transfer belt manually, use a screwdriver to rotate the drive gear section.



NOTE: To install or remove the primary transfer unit, hold the grip.



NOTE: When installing or removing the primary transfer unit, be careful not to touch the section marked with a red circle in the figure below. When opening the right door, be careful not to touch the exposed section of the transfer belt.

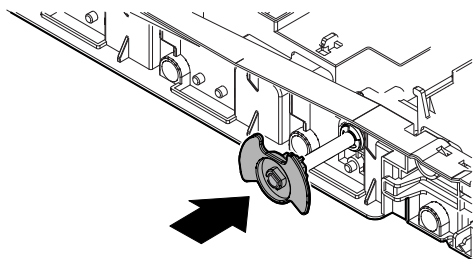


• Procedures when the primary transfer belt is touched mistakenly

- 1) Clean and remove oily dirt from the transfer belt surface with alcohol.
- 2) Wipe off the alcohol with a clean cloth. (If not, alcohol stain may be printed on a copy image.)
- 3) To prevent against reversing of the cleaning blade, apply KYNAR to the primary transfer belt.
- 4) Make three continuous multi-print copies of half tone images on the whole surface of A4R (8.5" x 11"R), and check to confirm that there are no fingerprints or alcohol taint on the copy images. If there are fingerprints or alcohol taint, repeat the procedure again.

▲ **Cleaning the separation cams F/R and the roller separation links F/R BK**

Before cleaning, attach the separation lever so that the separation cam can be easily rotated.

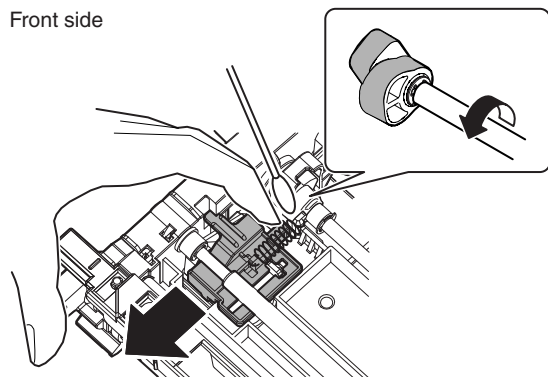


Check if the separation cam is dirtied.

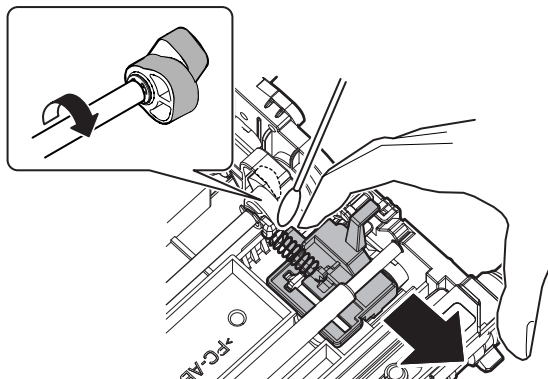
Hold the roller separation links F/R BK and the primary transfer frame, and slide the roller separation links F/F BK to the driver roller side to make a clearance between the separation cams F/R and the roller separation links F/R BK. Immerse a cotton swab or waste cloth in alcohol, and clean the contact section while rotating the separation lever.

Apply HANARL (FL955R) to the contact section and the whole circumference of the separation cam while rotating the separation lever.

Front side



Rear side



NOTE: Do not remove the spring of the roller separation link.

Installation may be missed and parts may be damaged when removing.

NOTE: When applying HANARL, it may be applied around the cam of the roller separation link.

If, however, HANARL is applied to the section which may be transported to the transfer belt (such as rollers), clean with alcohol. Be careful not to remove HANARL from around the cam.

J. Fusing section

(1) MX-C400P/C380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	30K	60K	90K	120K	150K	180K	210K	240K	270K	300K	Remark
1	Upper heat roller unit				▲				▲			
2	Lower heat roller unit				▲				▲			
3	External heating unit				▲				▲			
4	Separation pawl lower				▲				▲			
5	Separation pawl lower spring				▲				▲			
6	Thermistor retainer				▲				▲			
7	External heat roller contact thermistor 1 (RTH_EX1) External heat roller contact thermistor 2 (RTH_EX2) Upper heat roller non-contact thermistor (RTH_Main) Upper heat roller contact thermistor (RTH_Sub)				▲				▲			Part with four thermistors integrated in it
8	Lower heat roller contact thermistor (RTH_Low)				▲				▲			

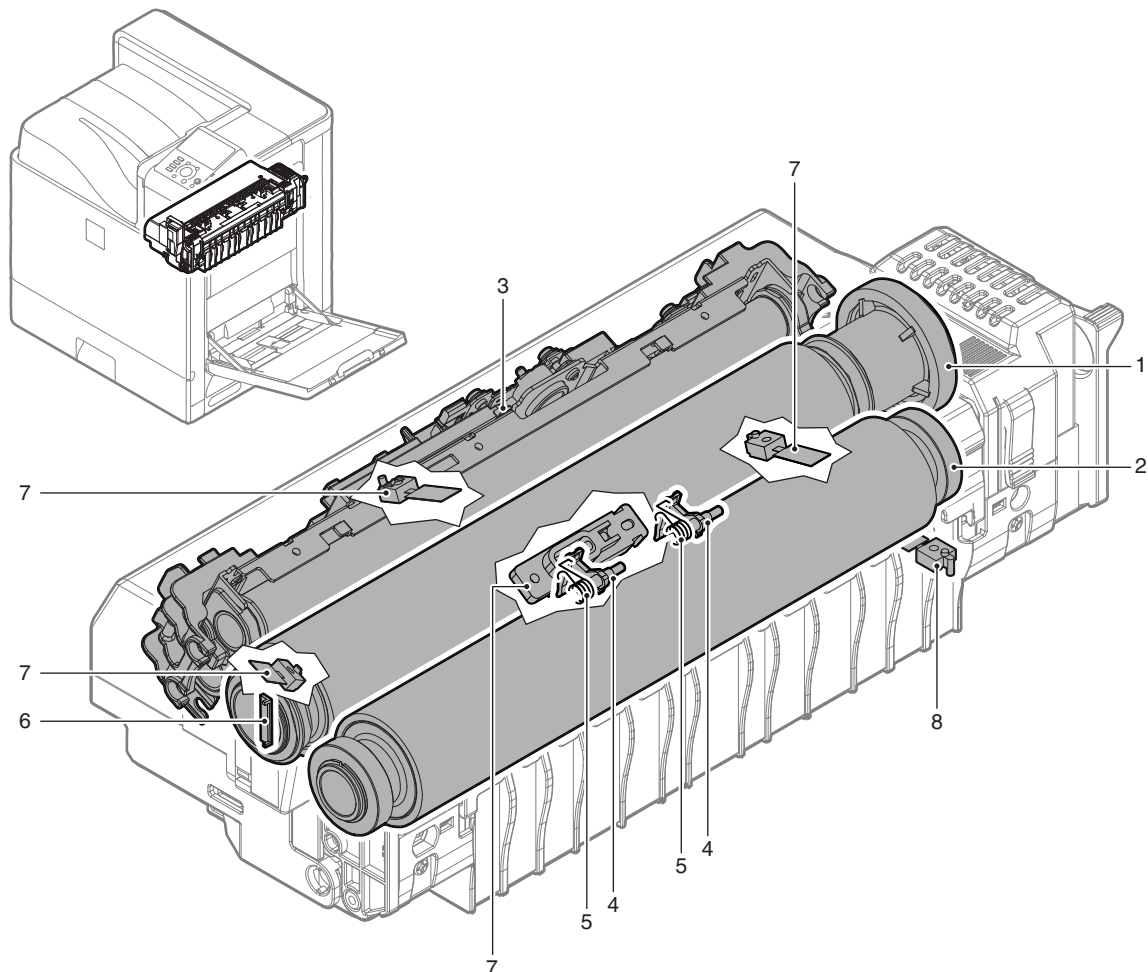
NOTE: When the fusing unit is replaced with a new one, the print counter (on the upper side of the heat roller), the usage day counter (on the upper side of the heat roller), the print counters (on the lower side and the outside of the heat roller), and the usage day counters (on the lower side and the outside of the heat roller) are automatically reset.

If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, SIM24-4 must be used to reset the counters manually.

NOTE: When a sub part is used to execute the maintenance, SIM24-4 must be used to reset the counters manually.



(2) MX-B400P/B380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Upper heat roller unit			▲				▲			
2	Lower heat roller unit			▲				▲			
3	External heating unit			▲				▲			
4	Separation pawl lower			▲				▲			
5	Separation pawl lower spring			▲				▲			
6	Thermistor retainer			▲				▲			
7	External heat roller contact thermistor 1 (RTH_EX1) External heat roller contact thermistor 2 (RTH_EX2) Upper heat roller non-contact thermistor (RTH_Main) Upper heat roller contact thermistor (RTH_Sub)			▲				▲			Part with four thermistors integrated in it
8	Lower heat roller contact thermistor (RTH_Low)			▲				▲			

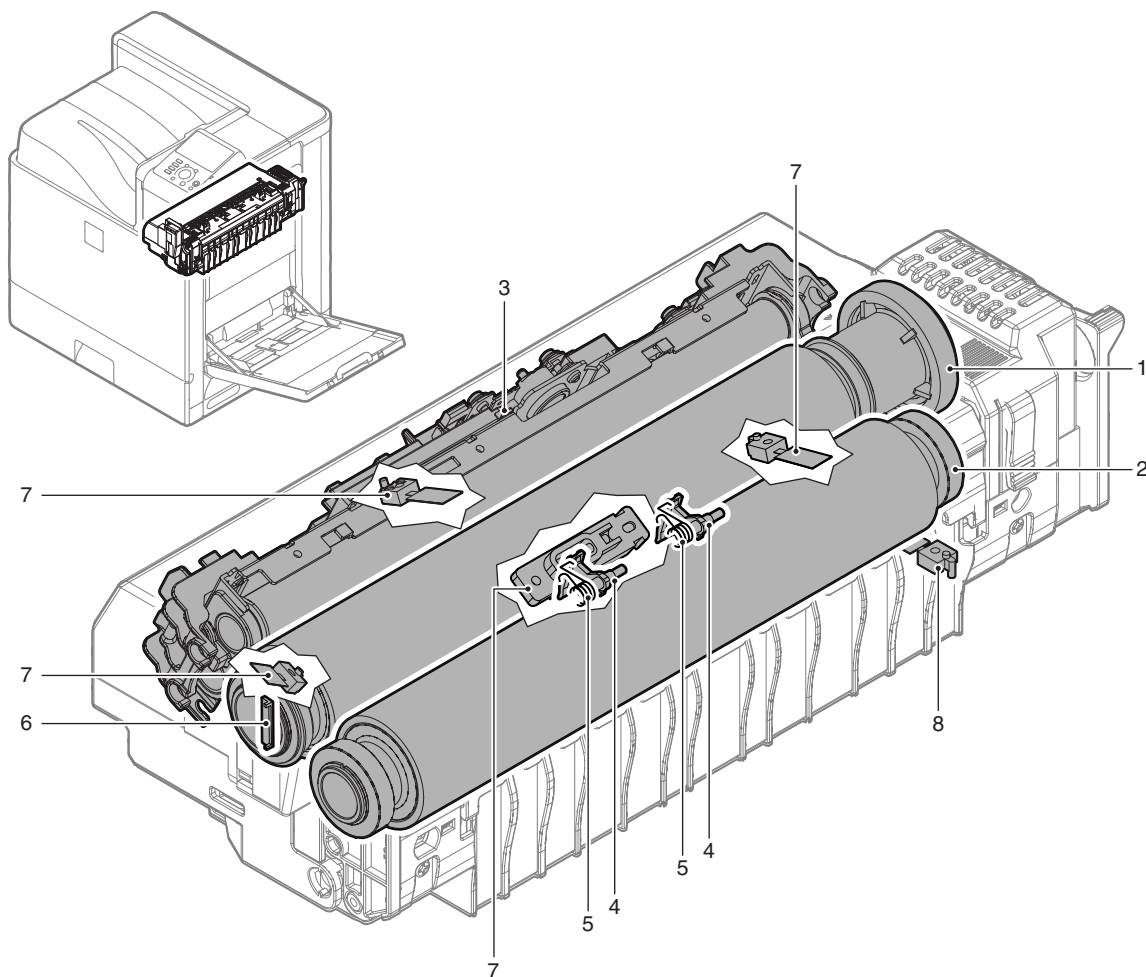
NOTE: When the fusing unit is replaced with a new one, the print counter (on the upper side of the heat roller), the usage day counter (on the upper side of the heat roller), the print counters (on the lower side and the outside of the heat roller), and the usage day counters (on the lower side and the outside of the heat roller) are automatically reset.

If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print ready state.

If the counters are not automatically reset, SIM24-4 must be used to reset the counters manually.

NOTE: When a sub part is used to execute the maintenance, SIM24-4 must be used to reset the counters manually.



(3) MX-B382P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Upper heat roller assembly			▲				▲			
2	Lower pressure roller			▲				▲			
3	Lower roller bearing			▲				▲			
4	Separation pawl lower/Separation pawl lower spring			▲				▲			
5	Upper thermistor			▲				▲			
6	Thermistor retainer			▲				▲			
7	Separation plate assembly			▲				▲			
8	Separation spring			▲				▲			
9	Oil roller			▲				▲			
10	Oil roller bearing			▲				▲			
11	Oil roller spring			▲				▲			
12	Cleaning roller			▲				▲			
13	Lower pressure roller, Cleaning roller			▲				▲			

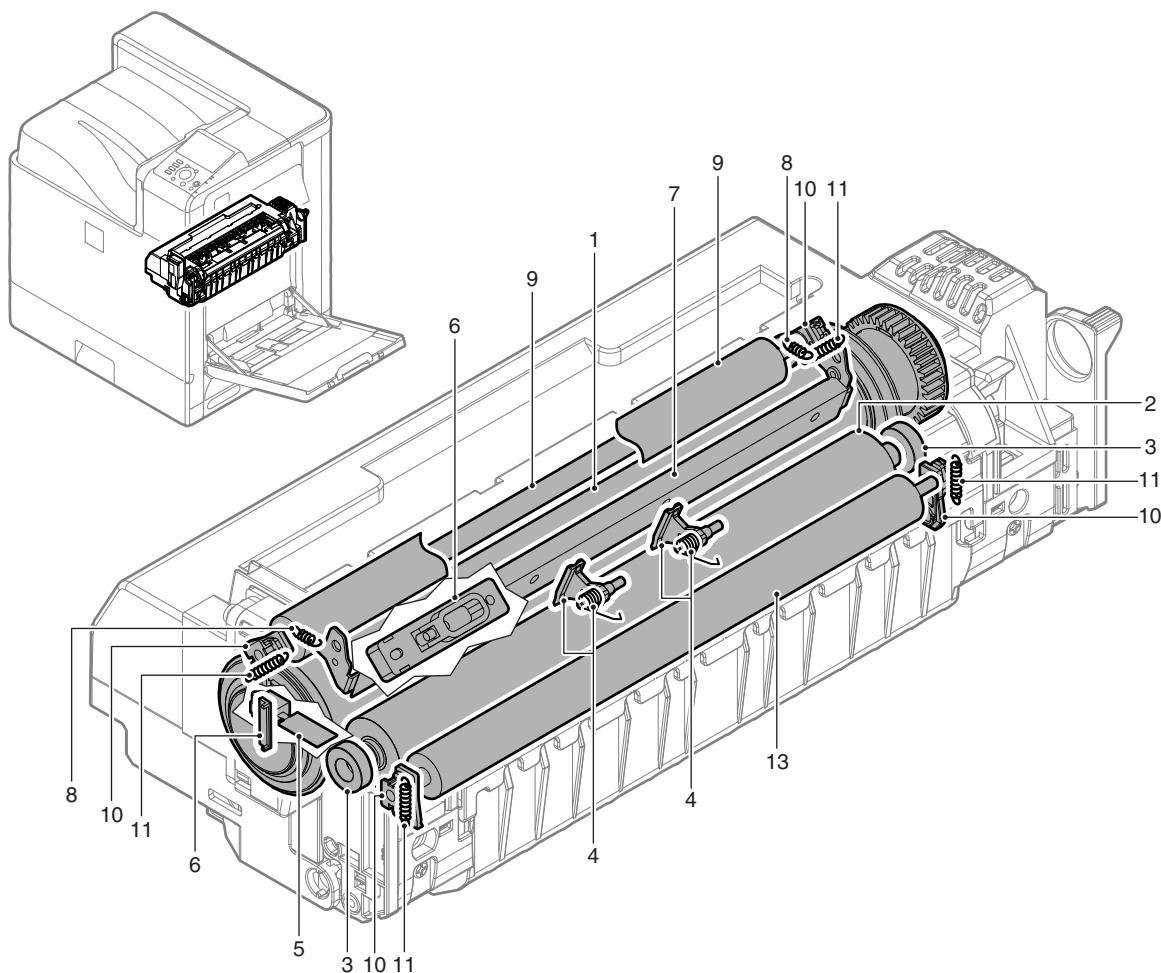
NOTE: When the fusing unit is replaced with a new one, the print counter (on the upper side of the heat roller), the usage day counter (on the upper side of the heat roller), the print counters (on the lower side and the outside of the heat roller), and the usage day counters (on the lower side and the outside of the heat roller) are automatically reset.

If the machine power is turned OFF or the door is opened during warming up and initializing (until the machine enters the print (copy) ready state), the initial detection function may not operate normally.

Never operate the machine such as execution of the simulation, turning OFF the machine power, or opening the door during the period after turning ON the power before the machine enters the print (copy) ready state.

If the counters are not automatically reset, SIM24-4 must be used to reset the counters manually.

NOTE: When a sub part is used to execute the maintenance, SIM24-4 must be used to reset the counters manually.

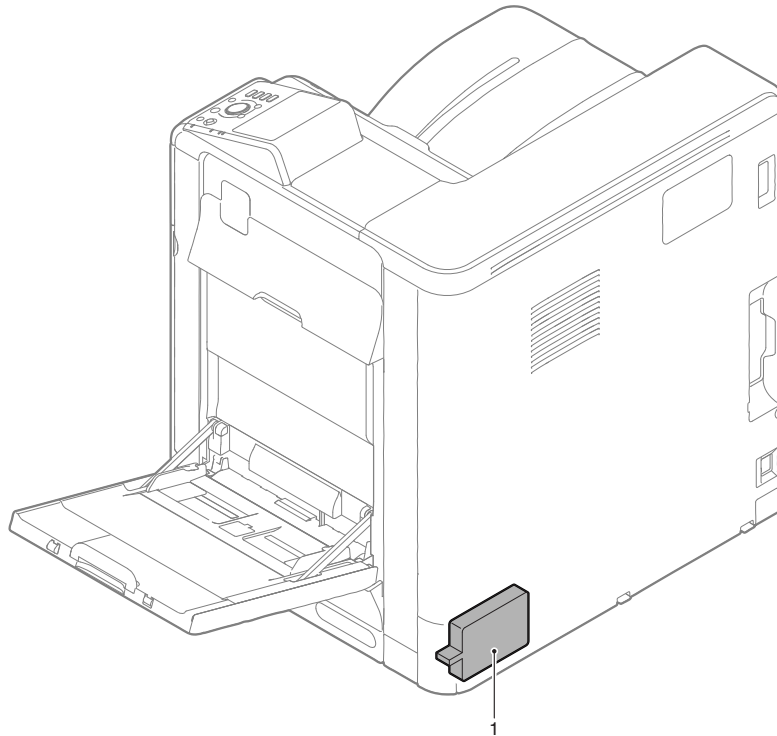


K. Filter section

(1) MX-C400P/C380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

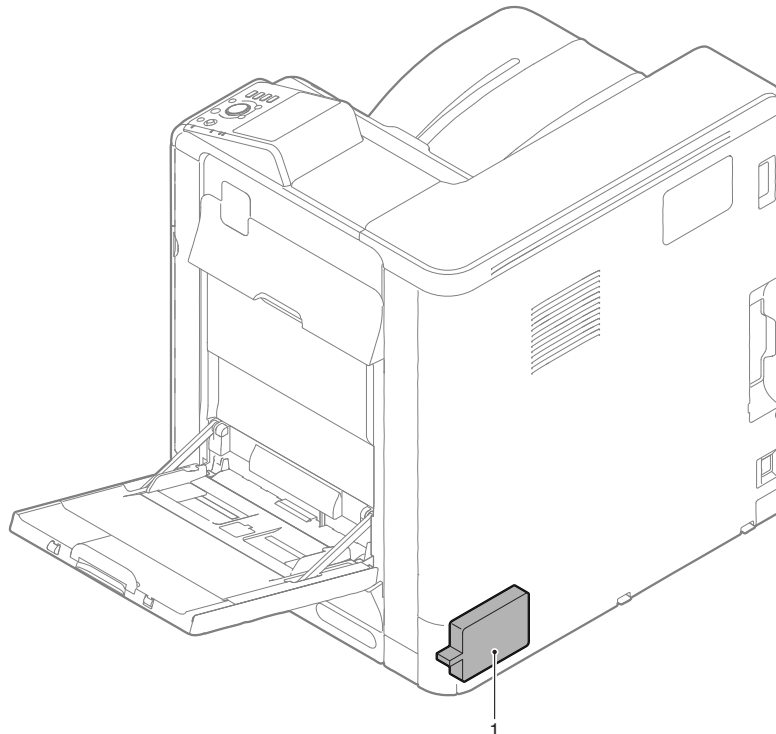
No.	Part name	30K	60K	90K	120K	150K	180K	210K	240K	270K	300K	Remark
1	Ozone filter				▲				▲			



▲ (2) MX-B400P/B380P/B382P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Ozone filter			▲				▲			

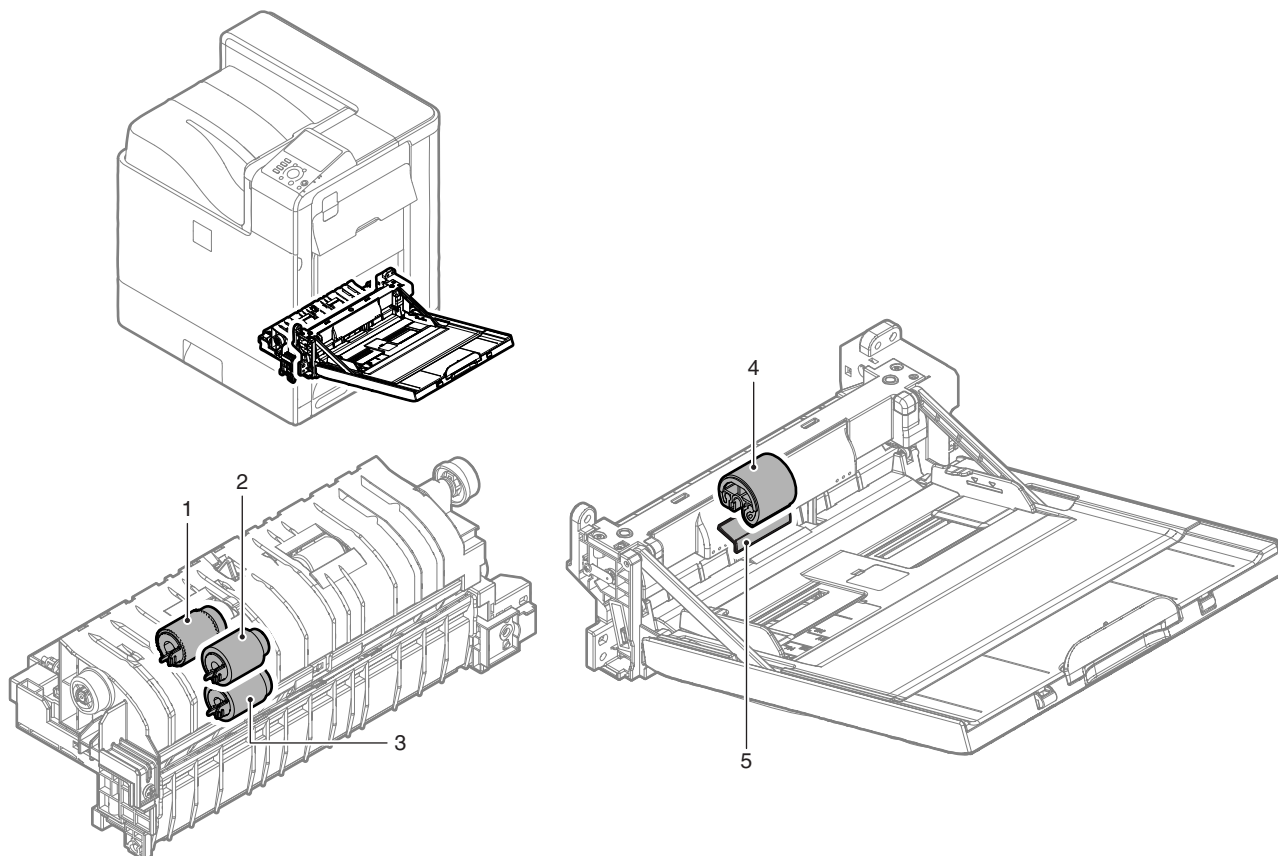


▲ L. Roller section

(1) MX-C400P/C380P

×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	30K	60K	90K	120K	150K	180K	210K	240K	270K	300K	Remark
1	Paper pickup roller (Tray 1)		×		×		×		×		×	Replace as needed. Reference: About 100K or 1 year of use.
2	Paper feed roller		×		×		×		×		×	
3	Separation roller		×		×		×		×		×	
4	Paper feed roller (Manual paper feed tray)		×		×		×		×		×	The part for maintenance is supplied as a service part.
5	Manual paper feed separation pad		×		×		×		×		×	

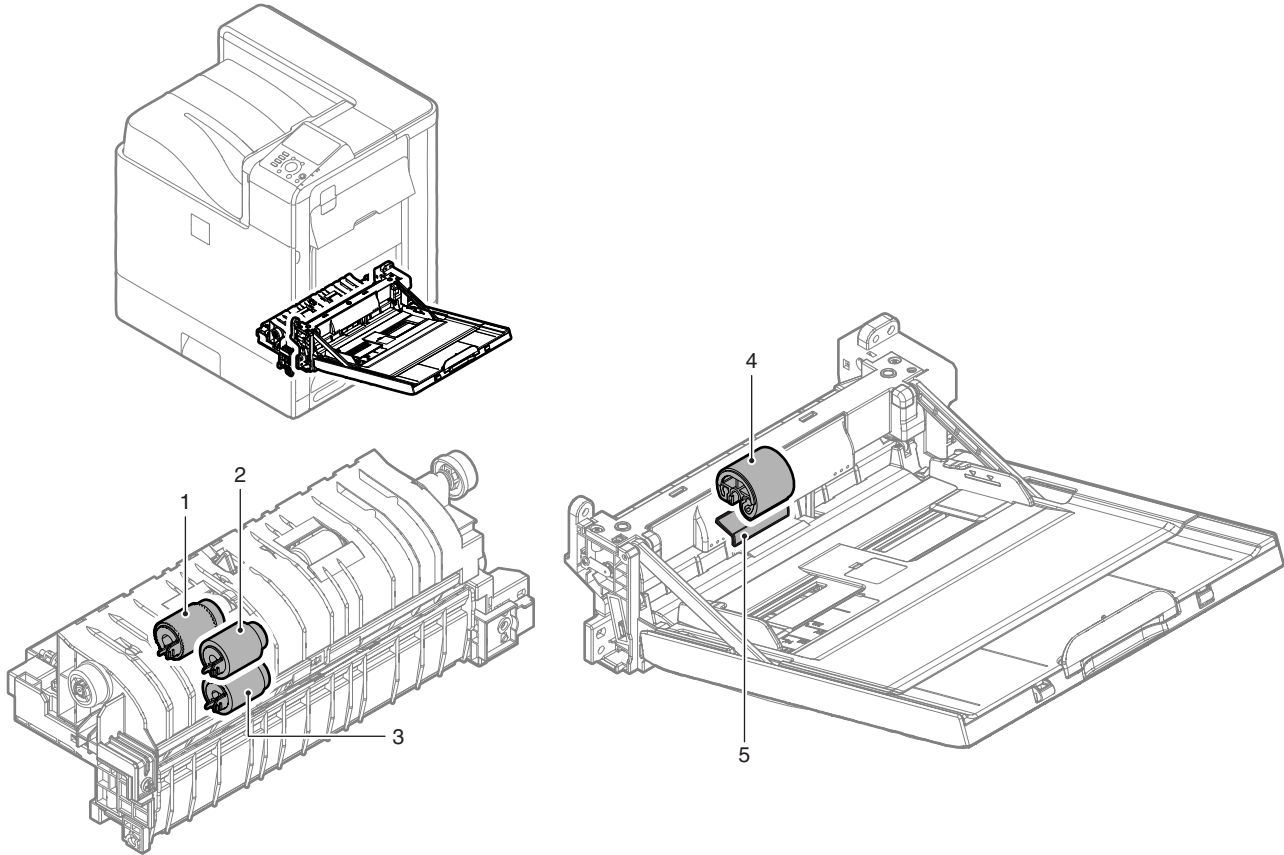




(2) MX-B400P/B380P/B382P

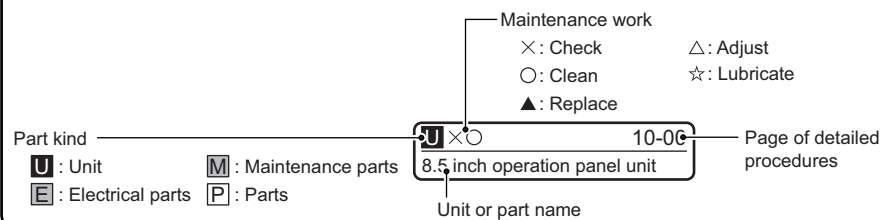
×: Check ○: Clean ▲: Replace △: Adjust ☆: Lubricate

No.	Part name	60K	72K	120K	144K	180K	216K	240K	288K	300K	Remark
1	Paper pickup roller (Tray 1)	×		×		×		×		×	Replace as needed. Reference: About 100K or 1 year of use.
2	Paper feed roller	×		×		×		×		×	
3	Separation roller	×		×		×		×		×	
4	Paper feed roller (Manual paper feed tray)	×		×		×		×		×	The part for maintenance is supplied as a service part.
5	Manual paper feed separation pad	×		×		×		×		×	

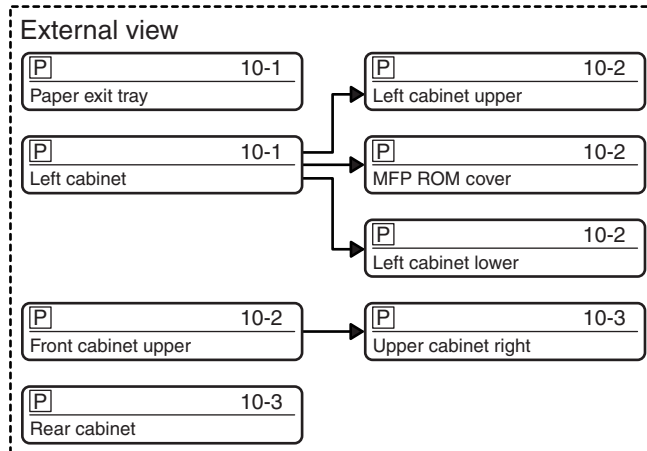
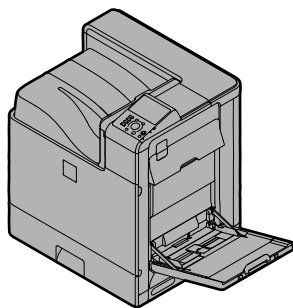


[10] DISASSEMBLY AND ASSEMBLY

Descriptions on icons in the disassembly and assembly procedures flowchart

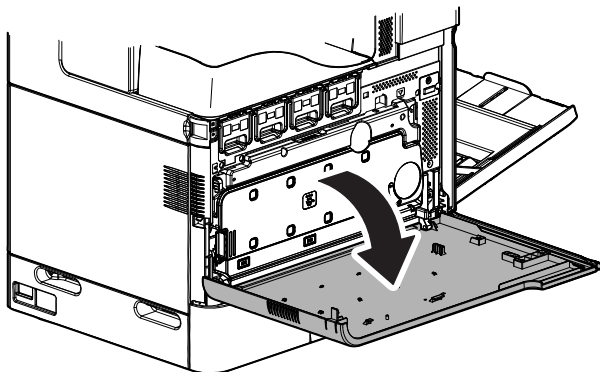


1. External view

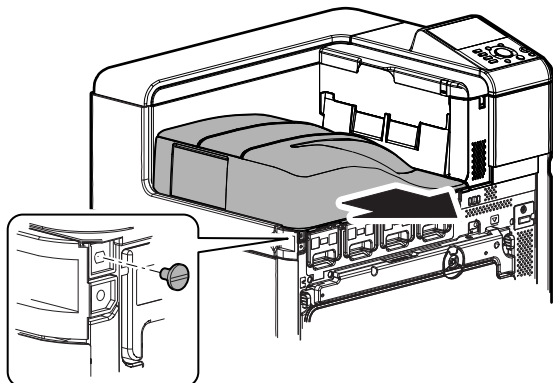


A. Paper exit tray

- 1) Open the front cover.

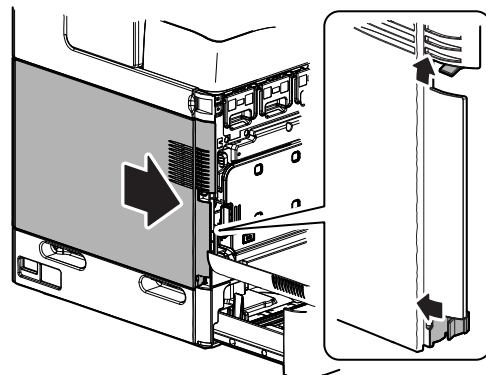


- 2) Remove the coin screw, and remove the paper exit tray.



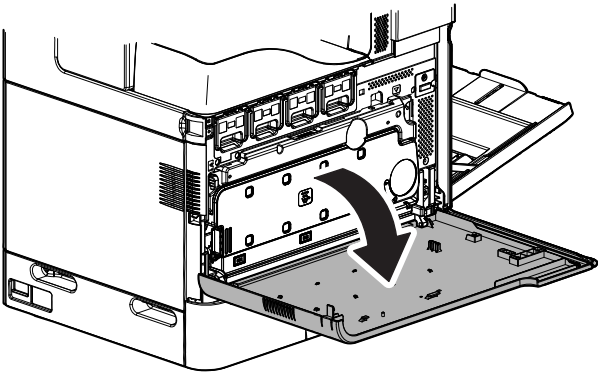
B. Left cabinet

- 1) Remove the stopper. Slide the left cabinet to the front side to remove.

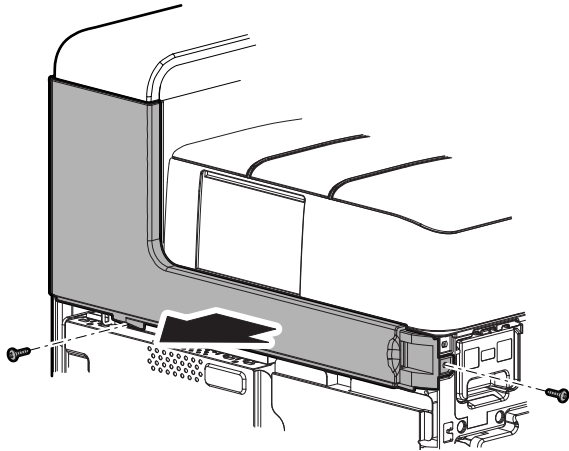


C. Left cabinet upper

- 1) Open the front cover.

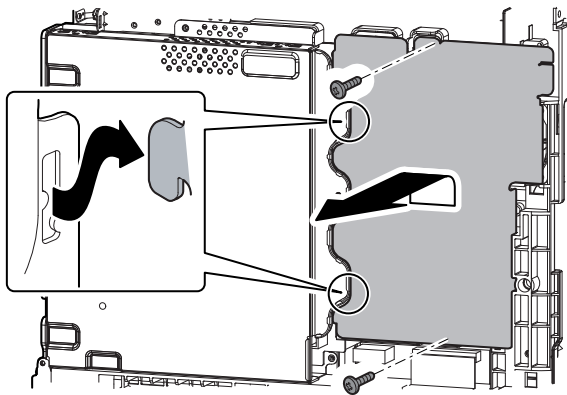


- 2) Remove the screw, and remove the left cabinet upper.



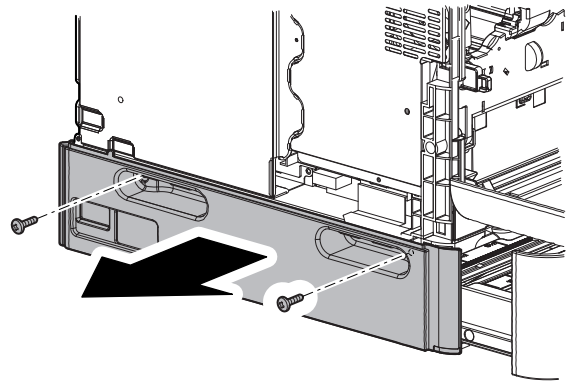
D. MFP ROM cover

- 1) Remove the screw, and remove the MFP ROM cover.



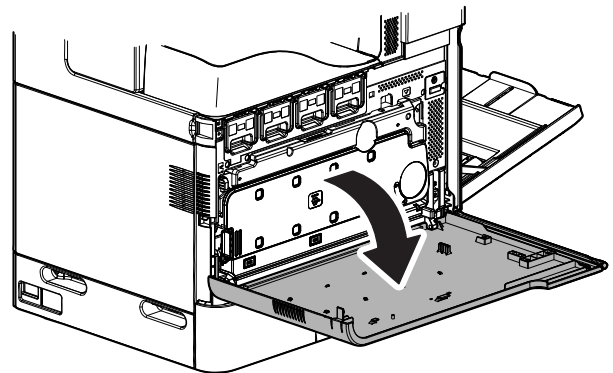
E. Left cabinet lower

- 1) Remove the screw, and remove the left cabinet lower.

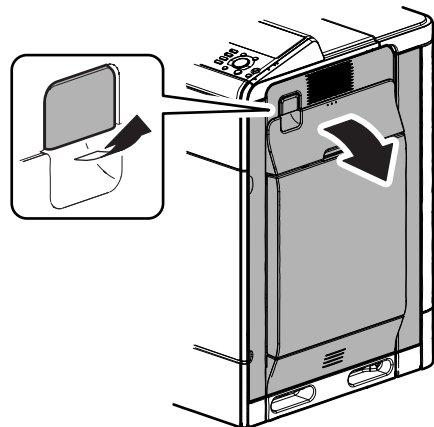


F. Front cabinet upper

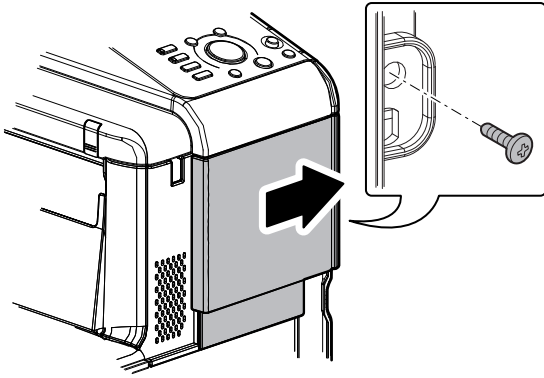
- 1) Open the front cover.



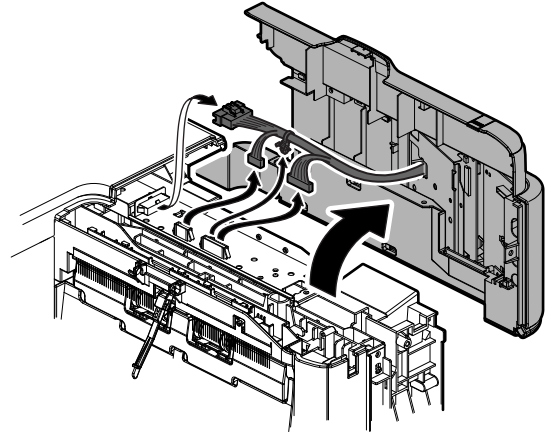
- 2) Pull the lever to release the lock, and open the right door.



- 3) Remove the screw, and slide the front cabinet upper to the right to remove.

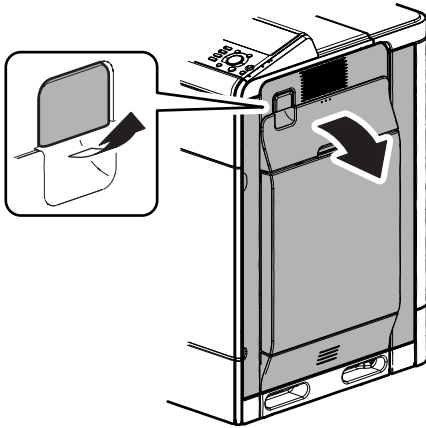


- 3) Tilt up the upper cabinet right to remove the connectors and the snap band.

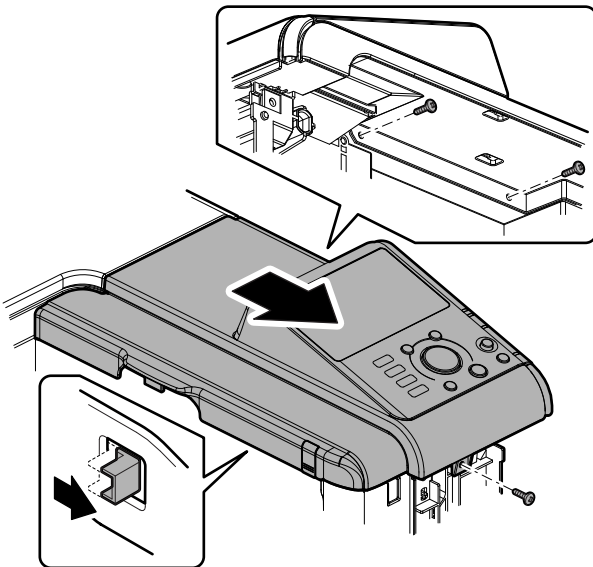


G. Upper cabinet right

- 1) Pull the lever to release the lock, and open the right door.

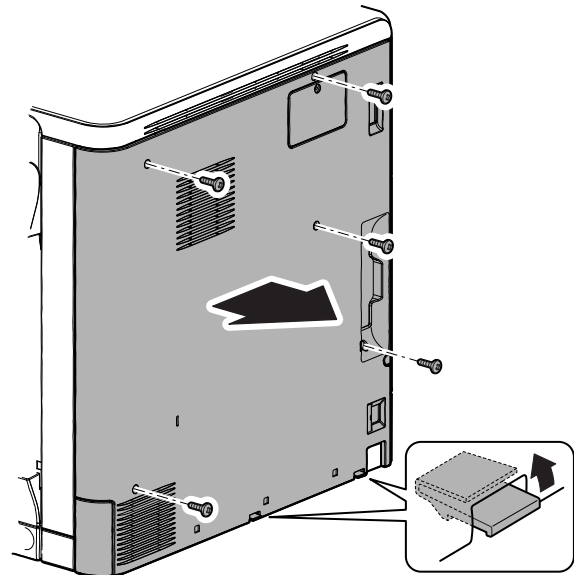


- 2) Remove the screw, and slide the upper cabinet right to the front side.

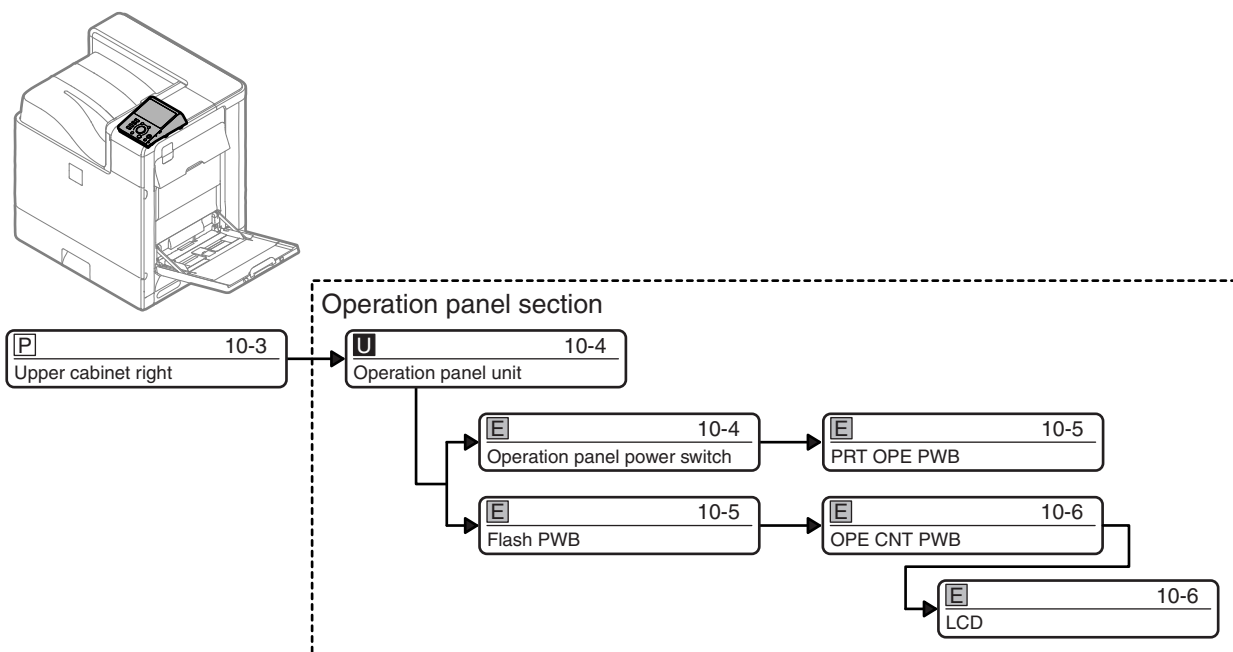


H. Rear cabinet

- 1) Remove the screw. Disengage the pawl, and remove the rear cabinet.

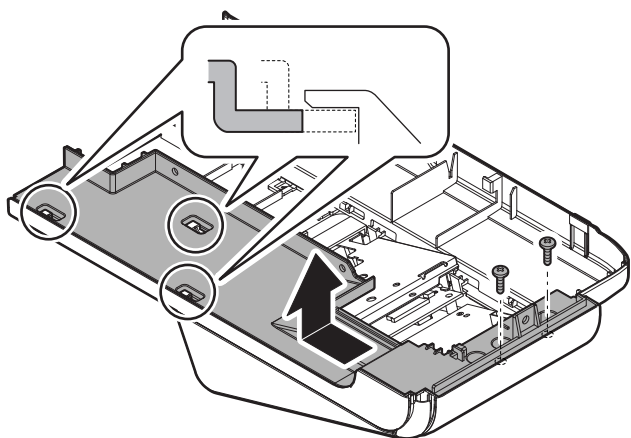


2. Operation panel section

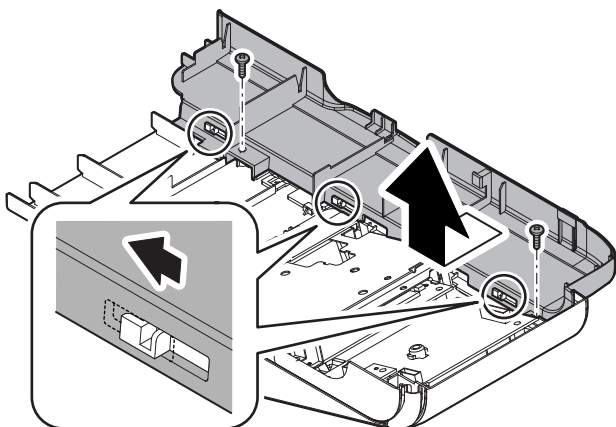


A. Operation panel unit

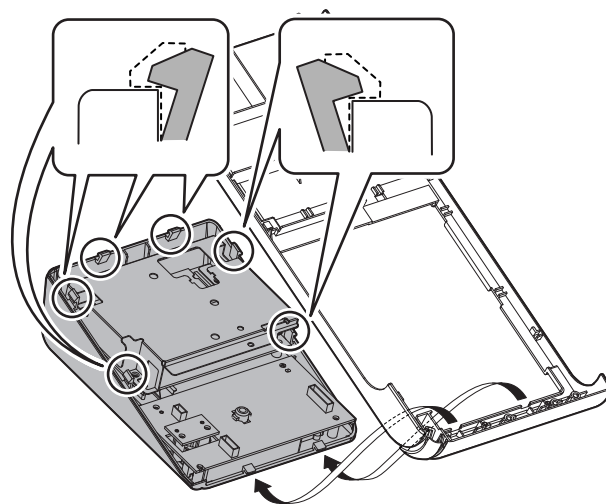
- 1) Remove the screw, and slide the upper cabinet right center to remove.



- 2) Remove the screw, and slide the paper exit port cabinet upper to remove.

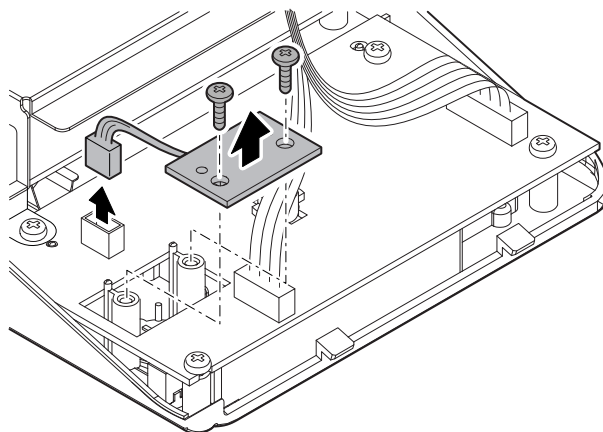


- 3) Disengage the pawl, and remove the operation panel unit.



(1) Operation panel power switch

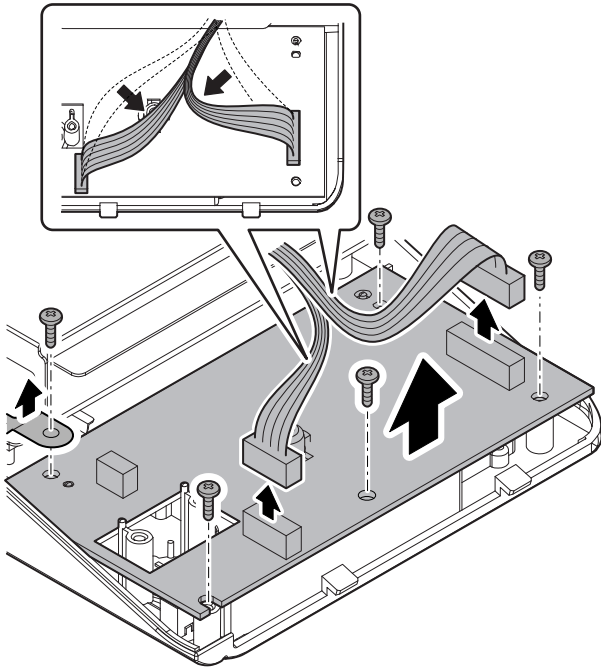
- 1) Disconnect the connector. Remove the screw, and remove the operation panel power switch.



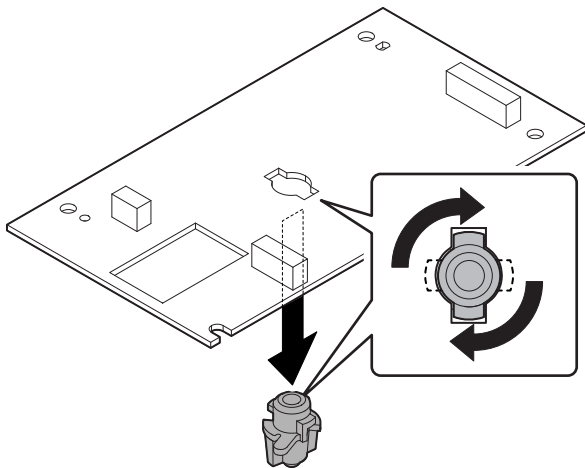
(2) PRT OPE PWB

- 1) Disconnect the connector. Remove the screw, and the earth sheet, and remove the PRT OPE PWB.

NOTE: After connecting the connectors, get the harnesses together at the center of the PRT OPE PWB.



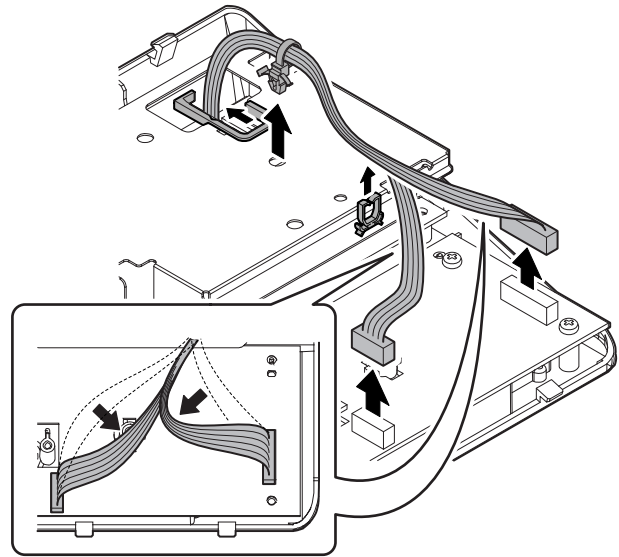
- 2) Turn the cross key boss through the hole in the PRT OPE PWB to remove it.



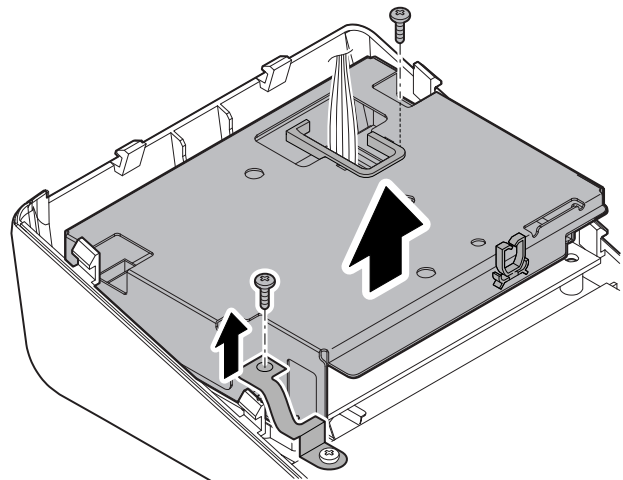
(3) Flash PWB

- 1) Remove the connectors and the snap band. Remove the harness from the clamp and the edge holder.

NOTE: After connecting the connectors, get the harnesses together at the center of the PRT OPE PWB.

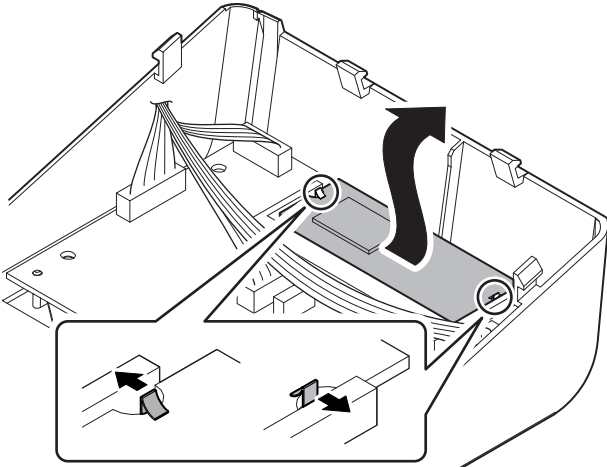


- 2) Remove the screw, and the earth sheet, and remove the panel mounting plate.



3) Release the lock, and remove the Flash PWB.

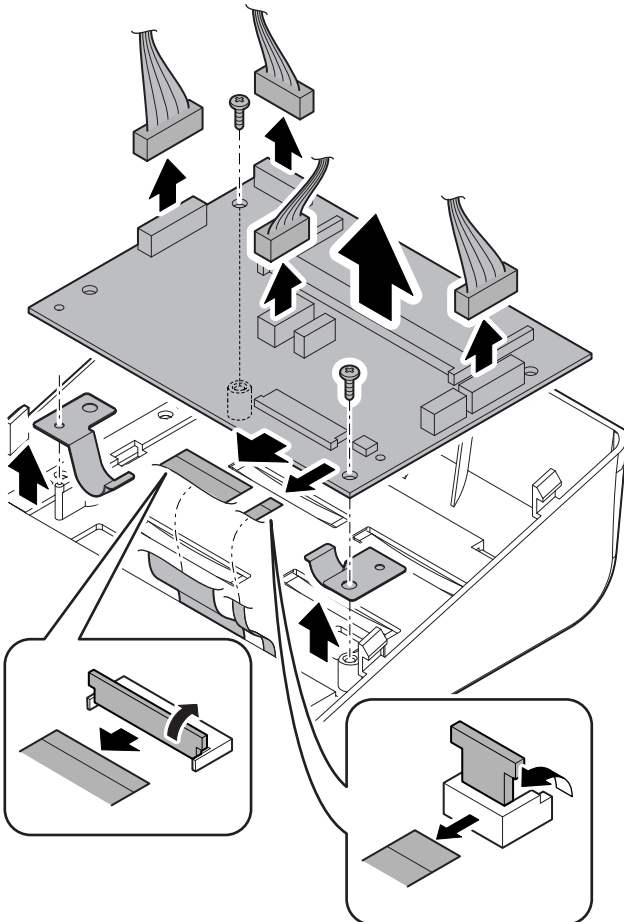
NOTE: After installing, check to confirm that the Flash PWB is securely locked.



(4) OPE CNT PWB

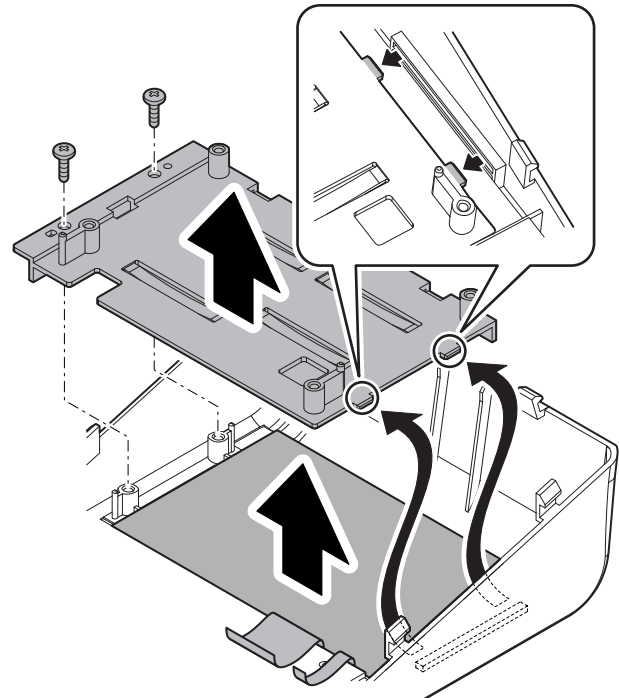
1) Disconnect the connector. Remove the screw, and remove the OPE CNT PWB.

NOTE: When the OPE CNT PWB is disassembled, the earth plate is also disassembled. Be careful to install the earth plate when installing the OPE CNT PWB.

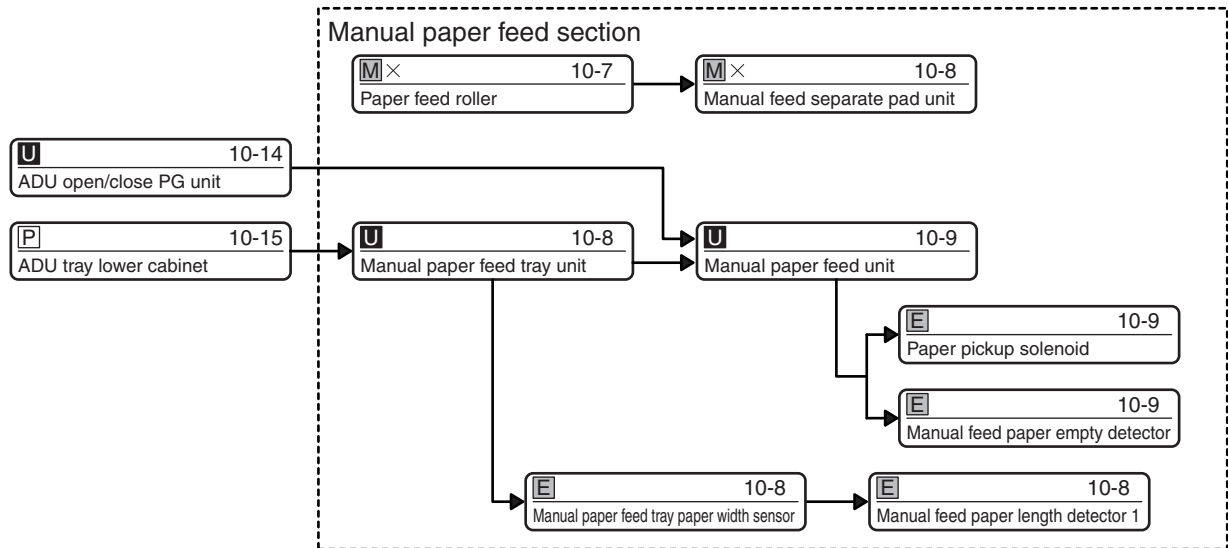
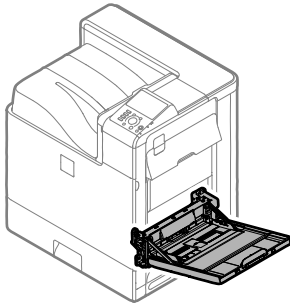


(5) LCD

1) Remove the screw, and remove the LCD holder. Remove the LCD.

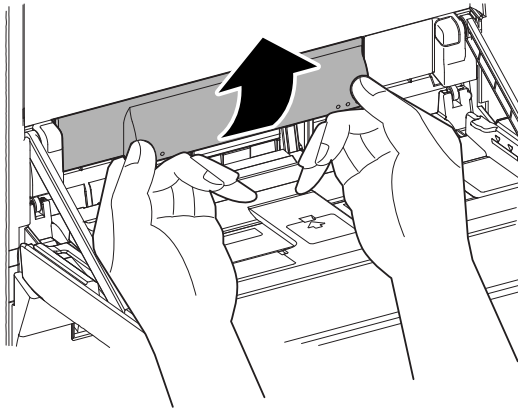


3. Manual paper feed section

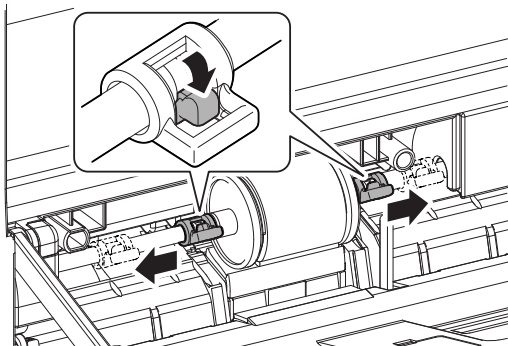


A. Paper feed roller

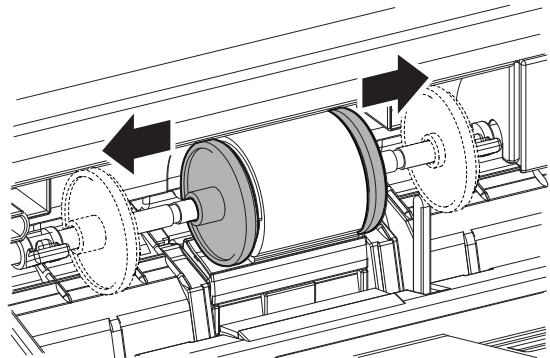
1) Remove the cover.



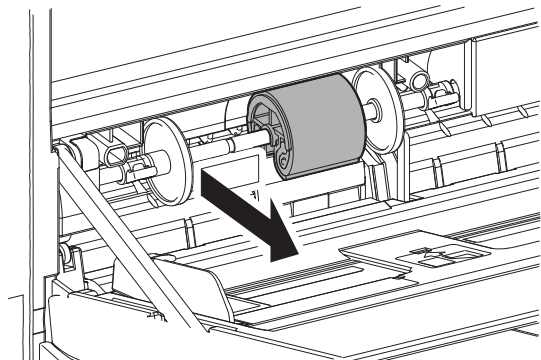
2) Disengage the pawl, and slide the roller stopper to the front side and the rear side.



3) Slide the collar to the front side and the rear side.

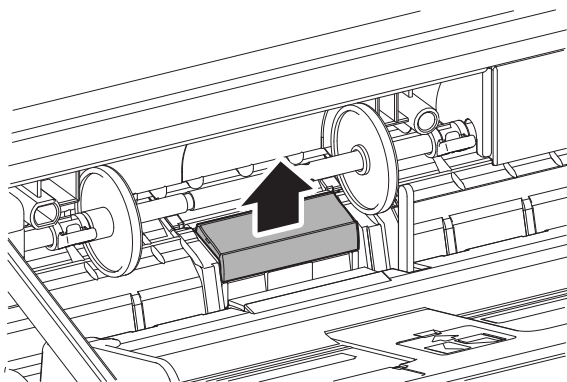


4) Slide the paper feed roller to the front side to remove.



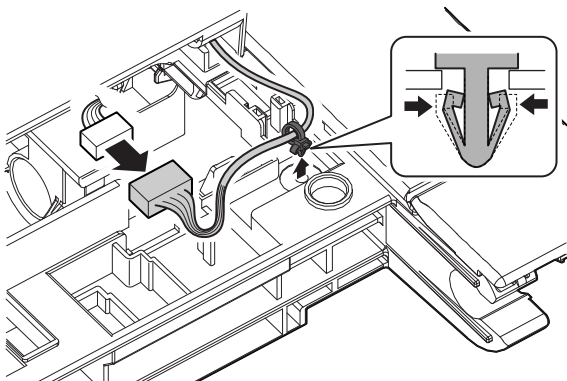
B. Manual feed separate pad unit

- 1) Remove the manual feed separate pad unit.

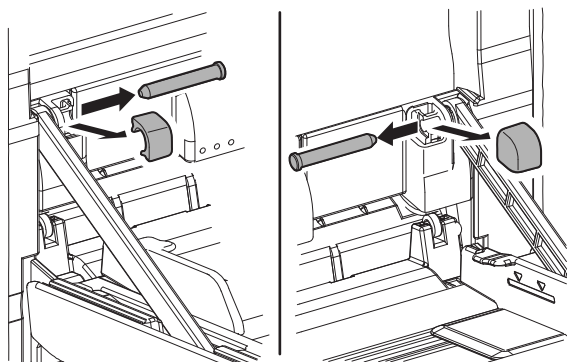


C. Manual paper feed tray unit

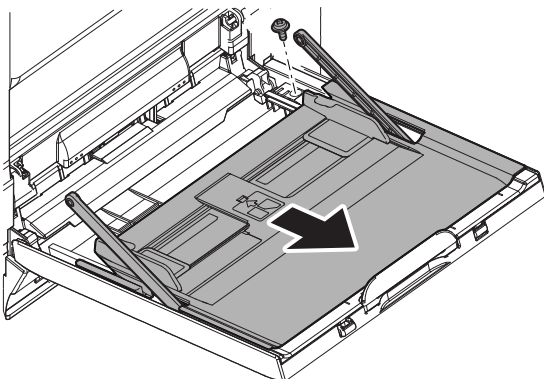
- 1) Disconnect the connector, and remove the snap band.



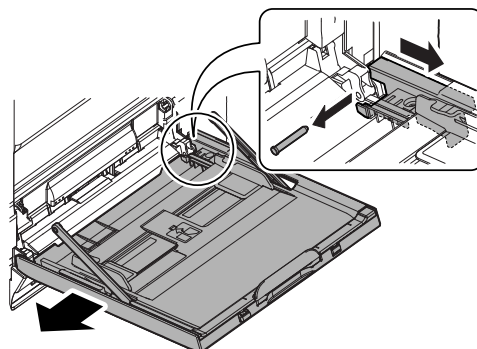
- 2) Remove the cover, and remove the shaft.



- 3) Slide the tray, and remove the screw.

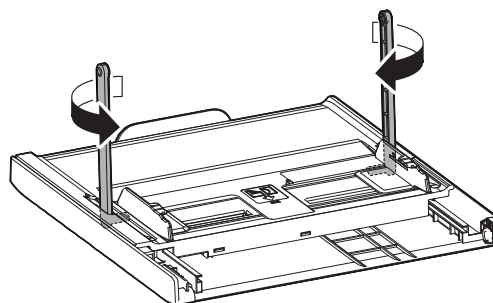


- 4) Slide the cover, and remove the shaft. Then remove the manual paper feed tray unit.

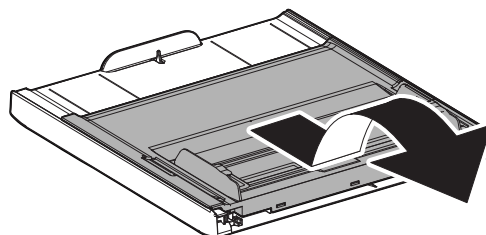


(1) Manual paper feed tray paper width sensor

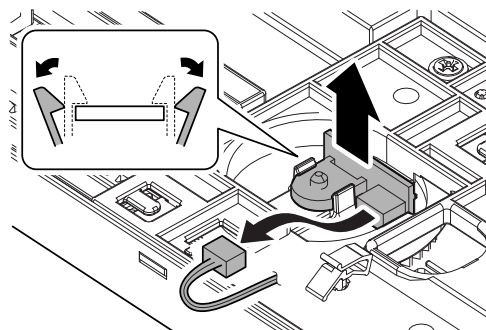
- 1) Remove the arm.



- 2) Slide the tray and turn it back.

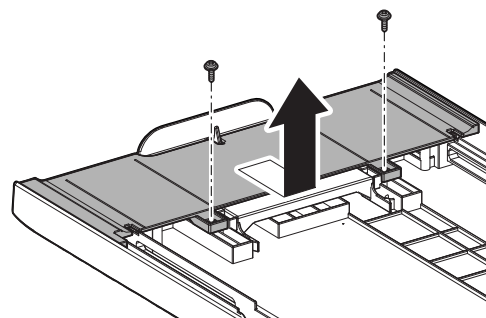


- 3) Disconnect the connector. Disengage the pawl, and remove the manual paper feed tray paper width sensor.

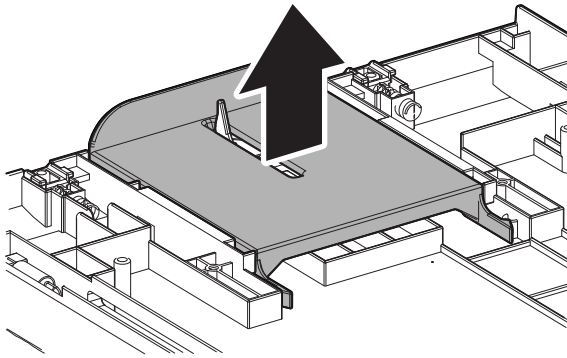


(2) Manual feed paper length detector 1

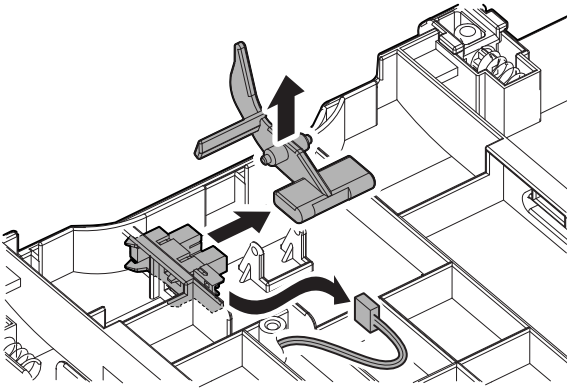
- 1) Remove the screw, and remove the cover.



- 2) Set the extension tray in the storage state, and remove it.

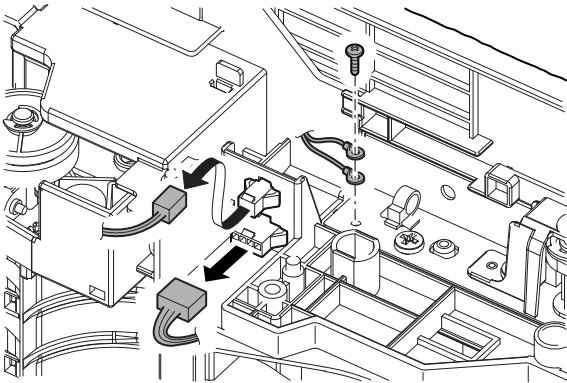


- 3) Remove the actuator. Disconnect the connector, and remove the manual feed paper length detector 1.

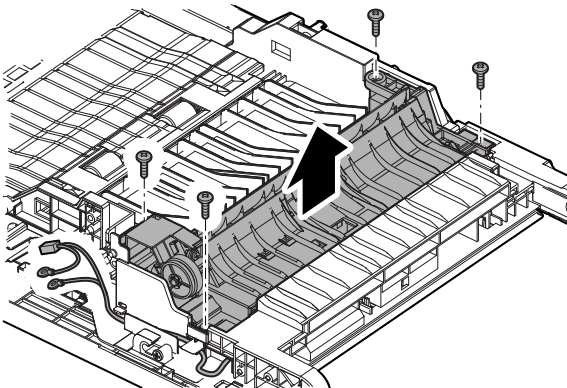


D. Manual paper feed unit

- 1) Remove the screw, and remove the earth wire. Disconnect the connector.

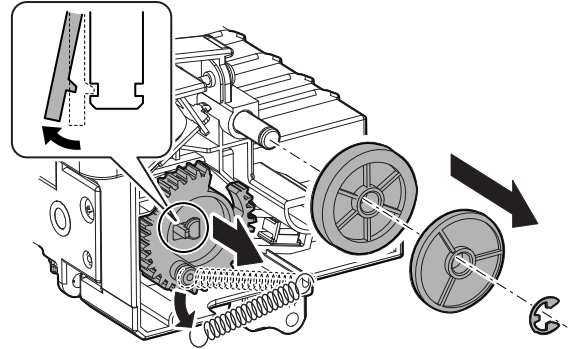


- 2) Remove the screw, and remove the manual paper feed unit, and pull out the harness.

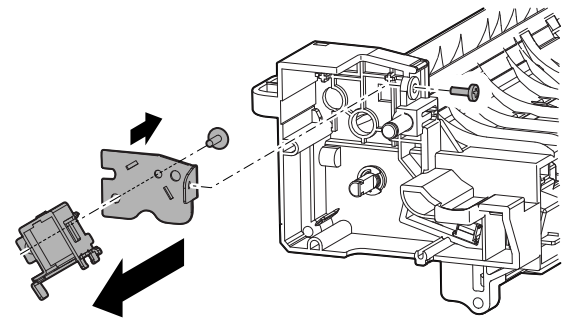


(1) Paper pickup solenoid

- 1) Remove the E-ring, and remove the collar and the gear. Remove the spring. Disengage the pawl, and remove the gear.

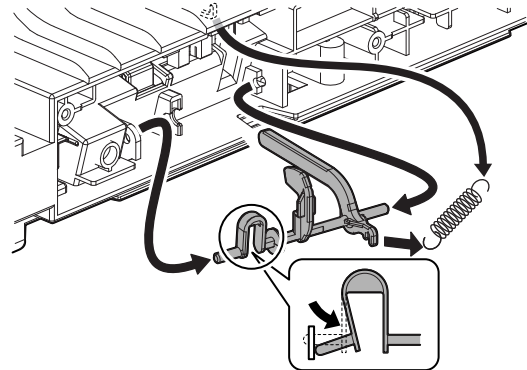


- 2) Remove the screw, and remove the paper pickup solenoid. Remove the screw from the paper pickup solenoid, and remove the fixing plate.

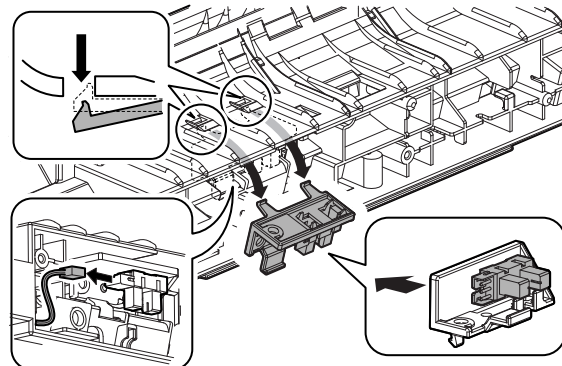


(2) Manual feed paper empty detector

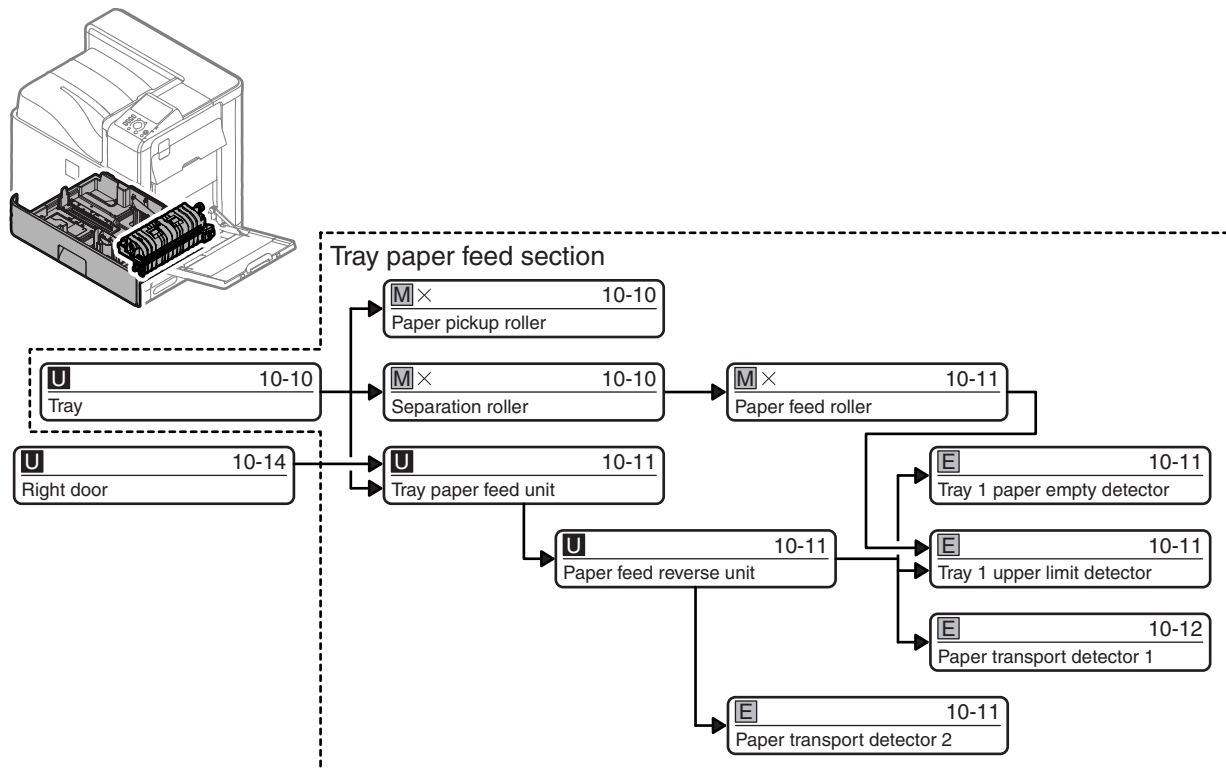
- 1) Remove the spring, and deflect the actuator to remove.



- 2) Disconnect the connector, and disengage the pawl. Remove the manual feed paper empty detector. Remove the holder from the manual feed paper empty detector.

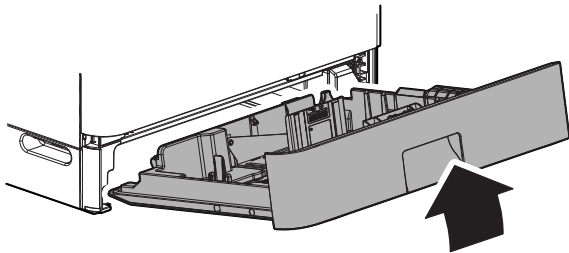


4. Tray paper feed section



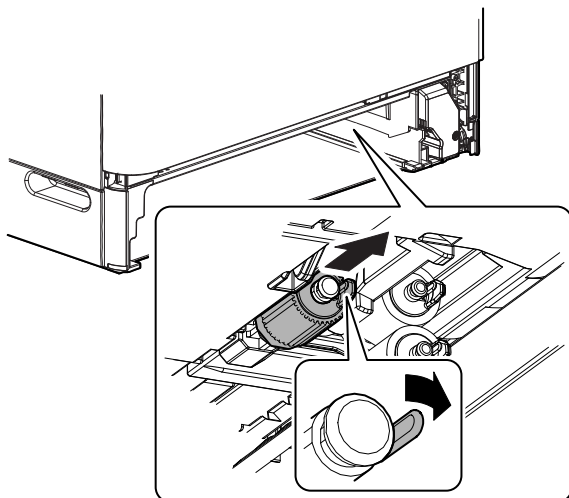
A. Tray

- 1) Pull out the tray, and lift and remove it.



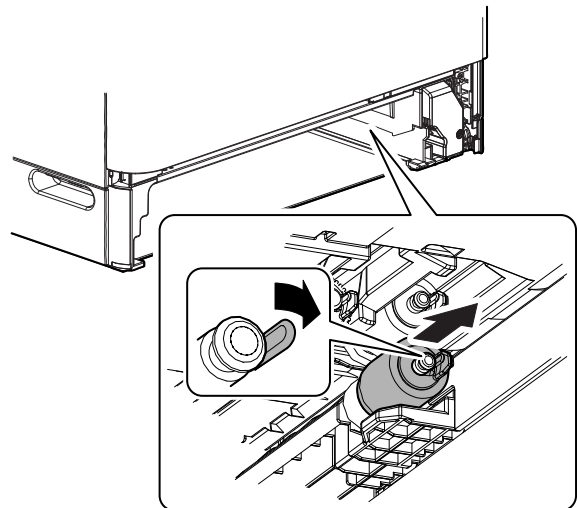
B. Paper pickup roller

- 1) Disengage the pawl, and remove the paper pickup roller.



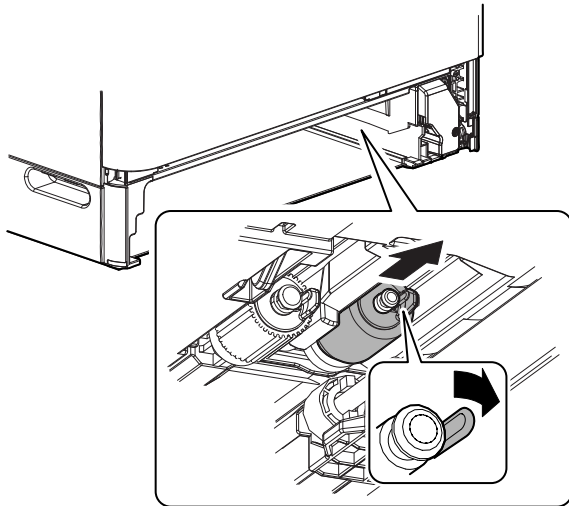
C. Separation roller

- 1) While disengaging the pawl, remove the separation roller.



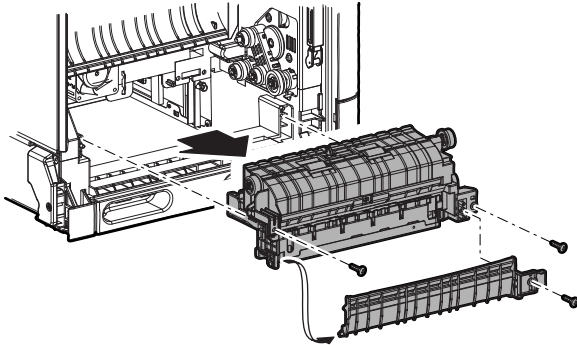
D. Paper feed roller

- 1) While disengaging the pawl, remove the paper feed roller.



E. Tray paper feed unit

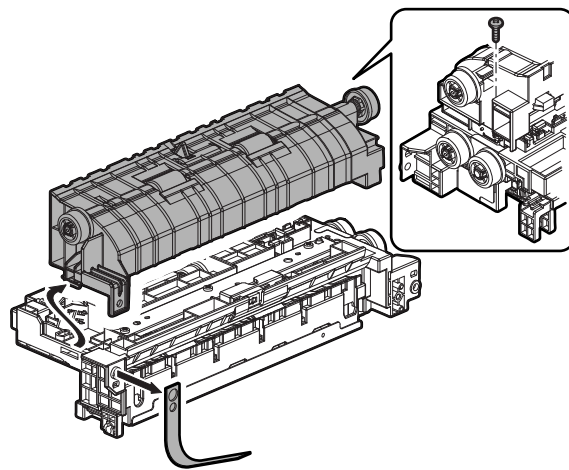
- 1) Remove the screw, and remove the paper guide. Remove the screw, and remove the tray paper feed unit.



(1) Paper feed reverse unit

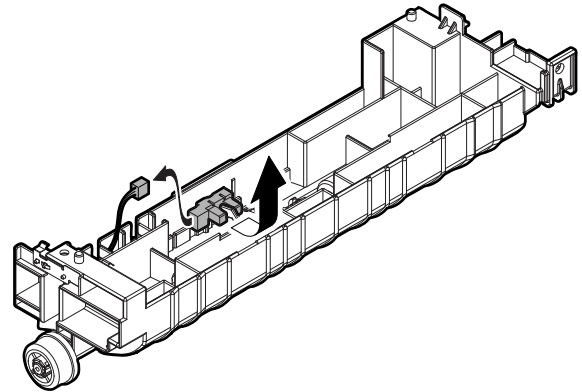
- 1) Disconnect the connector. Remove the screw, and remove the paper feed reverse unit.

NOTE: When installing, pinch the band with the paper feed reverse unit and install.



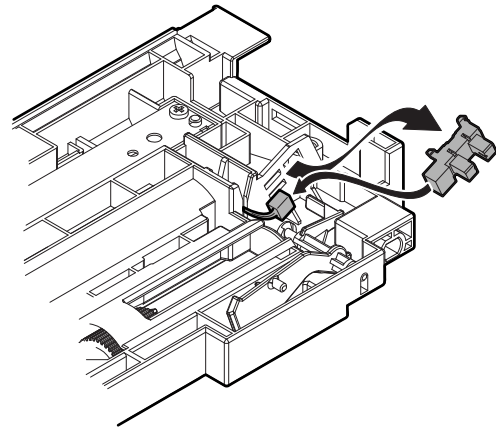
a. Paper transport detector 2

- 1) Disconnect the connector, and remove the paper transport detector 2.



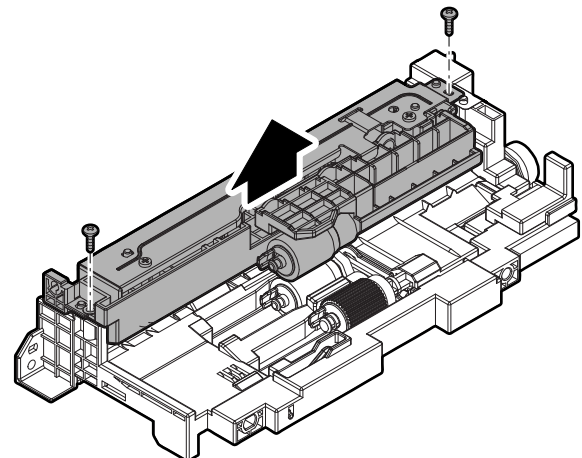
(2) Tray 1 paper empty detector

- 1) Remove the tray 1 paper empty detector. Disconnect the connector.

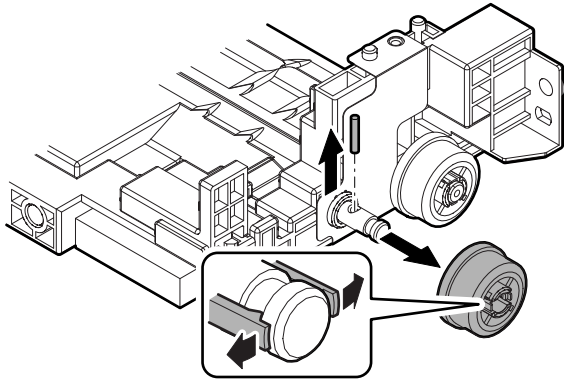


(3) Tray 1 upper limit detector

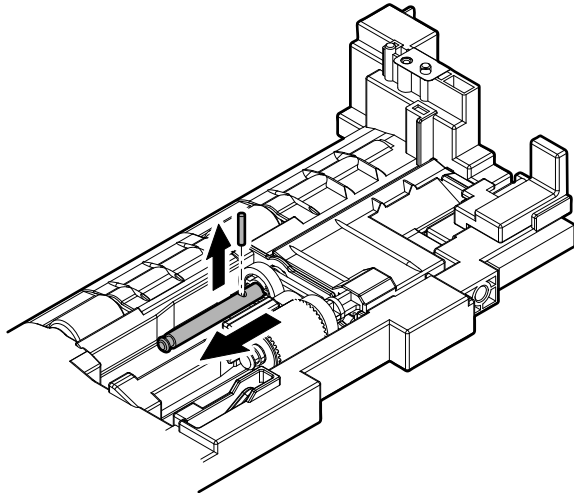
- 1) Remove the screw, and remove the paper feed lower unit.



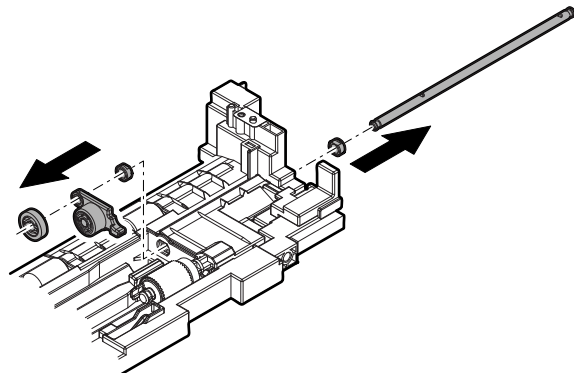
- 2) Disengage the pawl, and remove the gear. Remove the parallel pin.



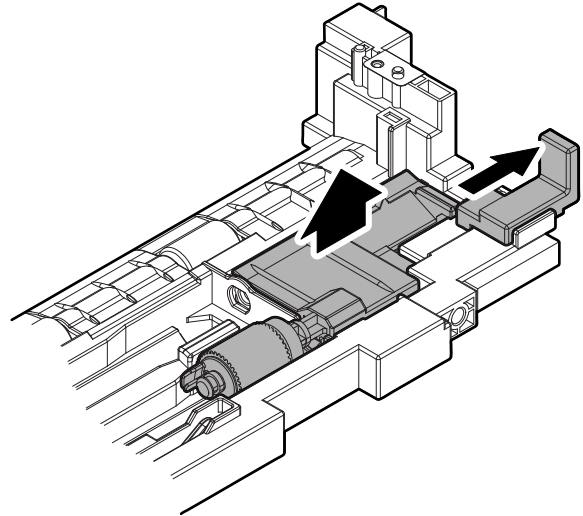
- 3) Slide the shaft, and remove the parallel pin.



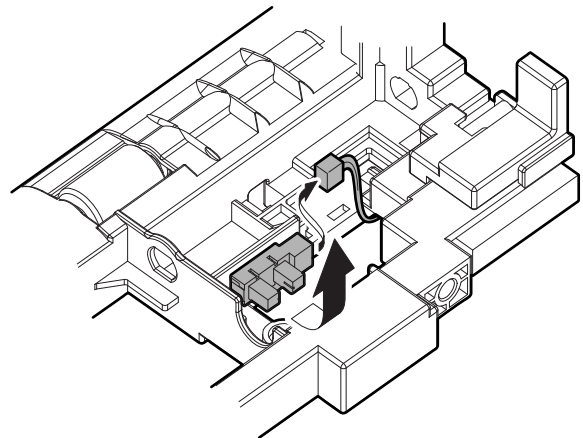
- 4) Remove the shaft. Remove the gear, the holder, and the bearing.



- 5) While pulling the lever, remove the holder.

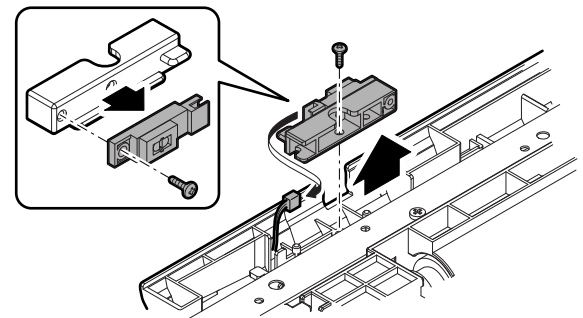


- 6) Disconnect the connector, and remove the tray 1 upper limit detector.

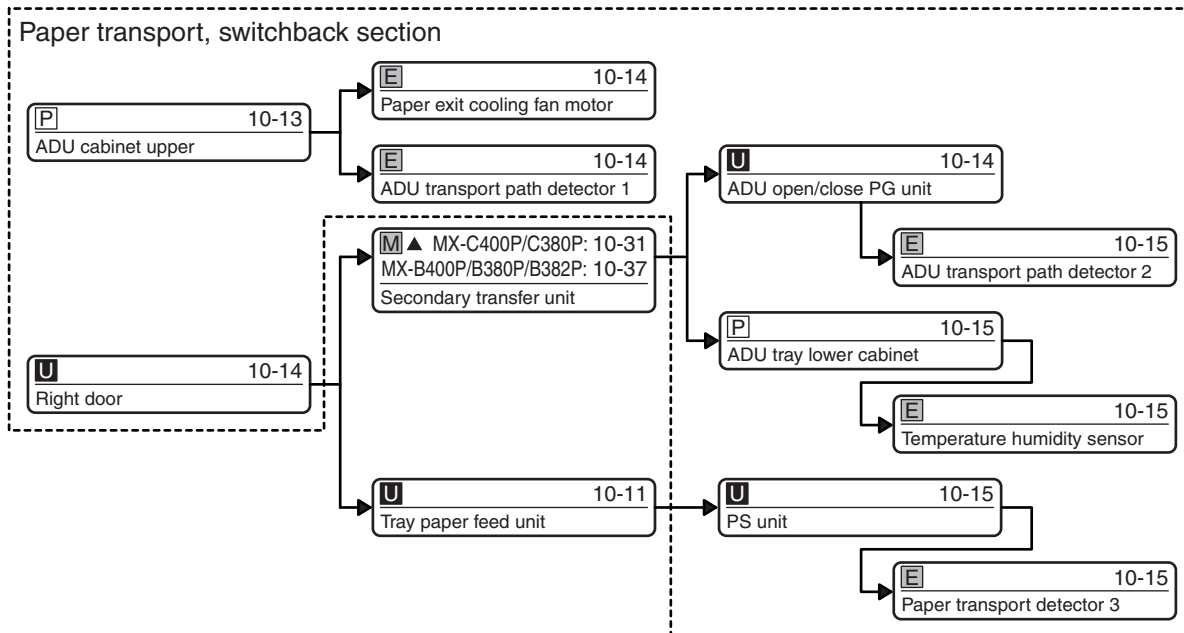
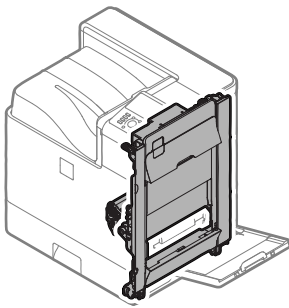


(4) Paper transport detector 1

- 1) Remove the screw, and remove the holder. Disconnect the connect. Remove the screw from the holder, and remove the paper transport detector 1.

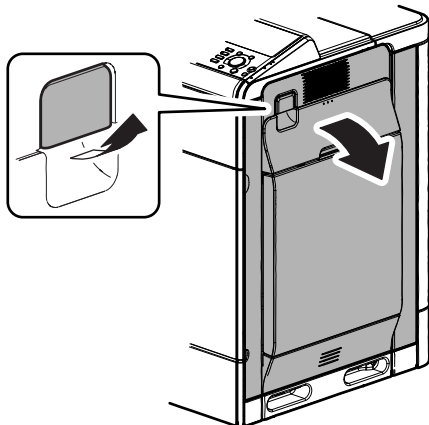


5. Paper transport, switchback section

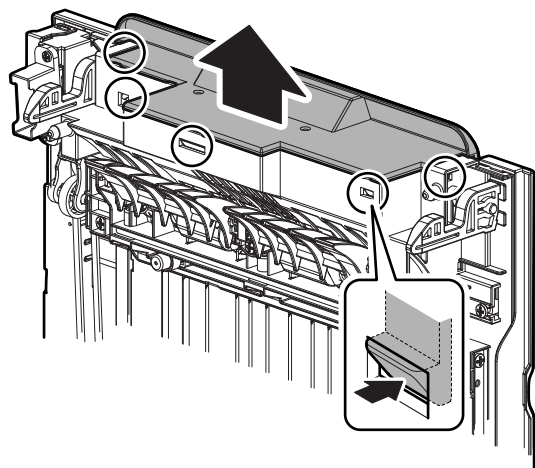


A. ADU cabinet upper

1) Pull the lever, and release the lock, and open the right door.



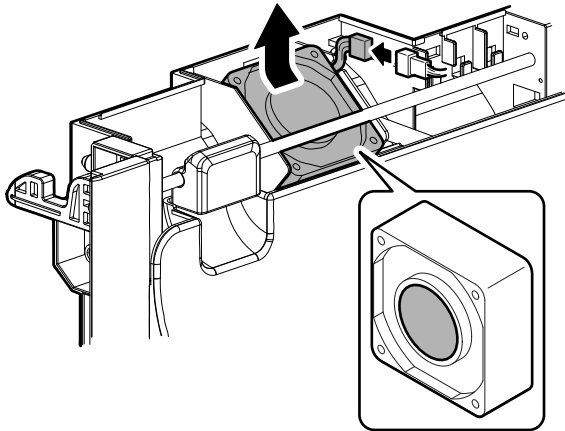
2) Disengage the pawl, and remove the ADU cabinet upper.



B. Paper exit cooling fan motor

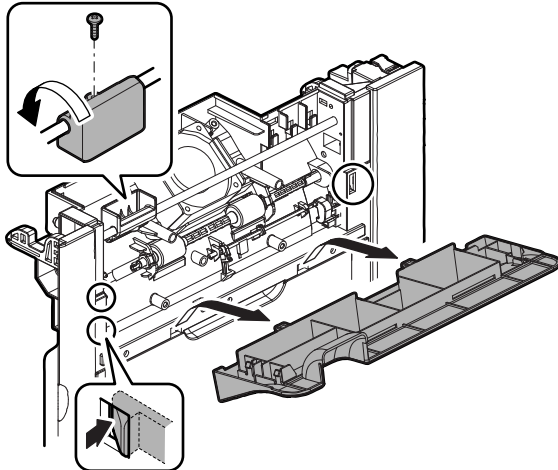
- 1) Remove the paper exit cooling fan motor, and disconnect the connector.

NOTE: When installing, install so that the fan label faces down.

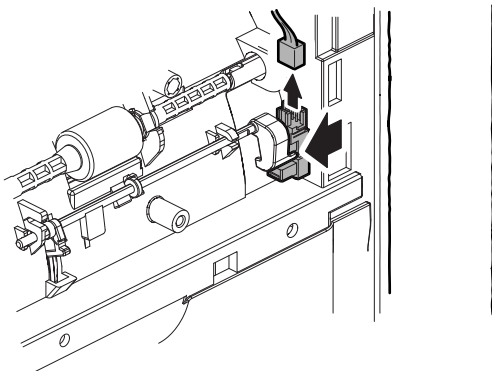


C. ADU transport path detector 1

- 1) Remove the screw, and turn the lever. Disengage the pawl, and remove the cover.

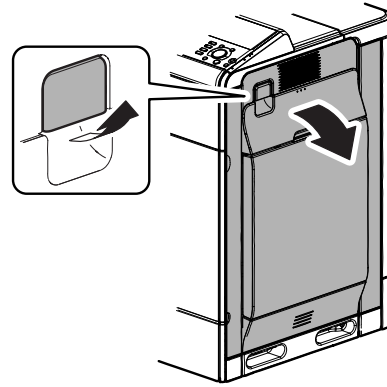


- 2) Disconnect the connector, and remove the ADU transport path detector 1.

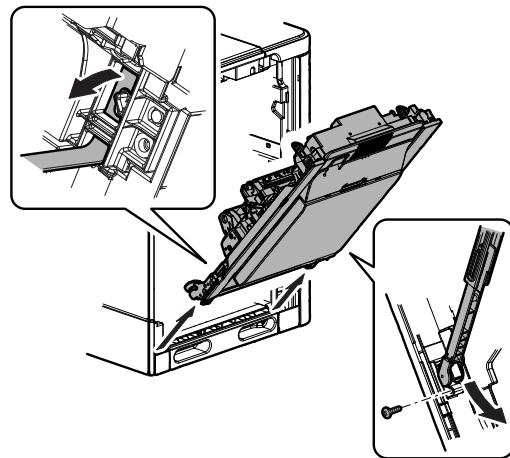


D. Right door

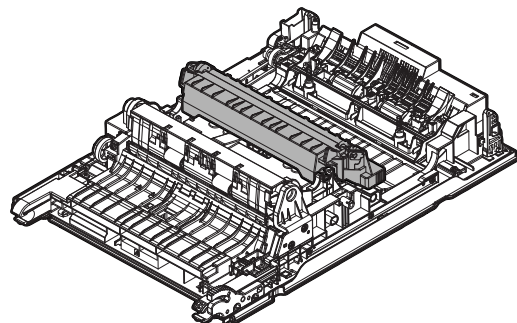
- 1) Pull the lever to release the lock, and open the right door.



- 2) Remove the screw on the rear side, and remove the arm from the right door. Remove the band on the front side, and remove the right door.

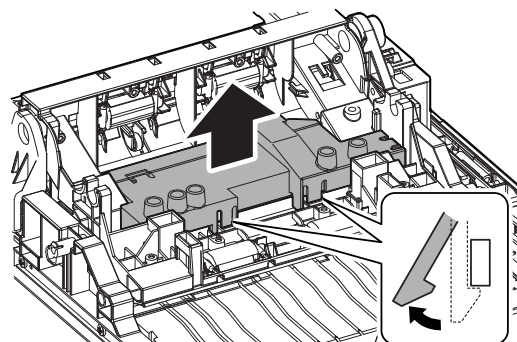


NOTE: When placing the right door, place so that the secondary transfer unit faces up.

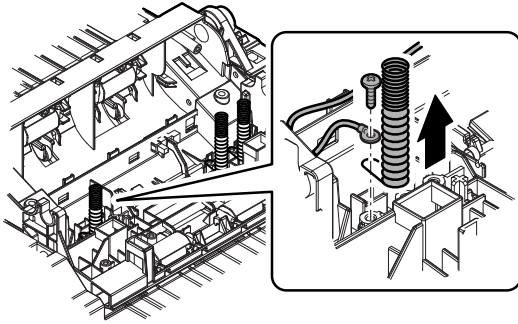


(1) ADU open/close PG unit

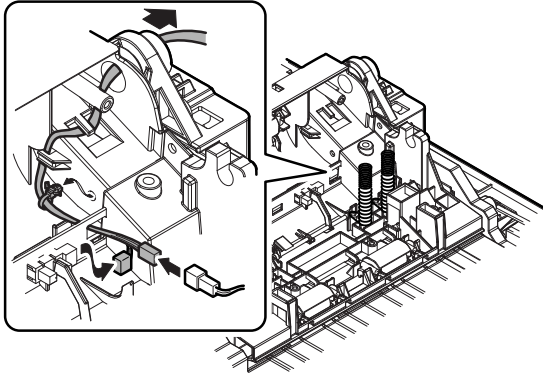
- 1) Disengage the pawl, and remove the cover.



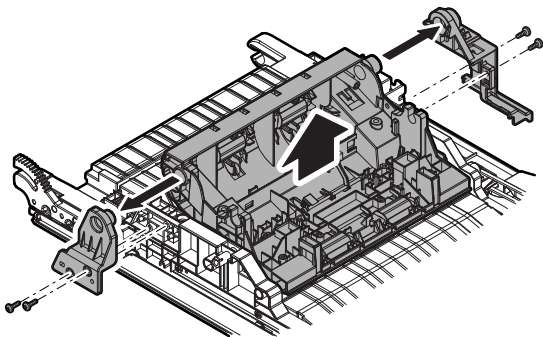
- 2) Remove the screw, and remove the earth wire and the spring.



- 3) Disconnect the connector, and remove the snap band, and pull out the harness.

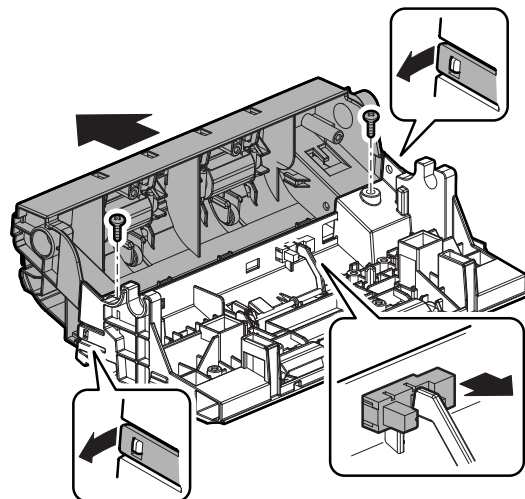


- 4) Remove the screw, and remove the holder and remove the ADU open/close PG unit.



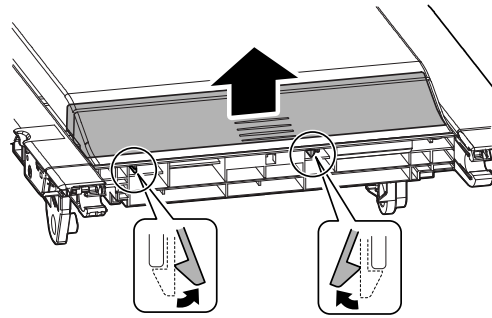
a. ADU transport path detector 2

- 1) Remove the screw. Disengage the pawl, and remove the paper guide. Remove the ADU transport path detector 2.



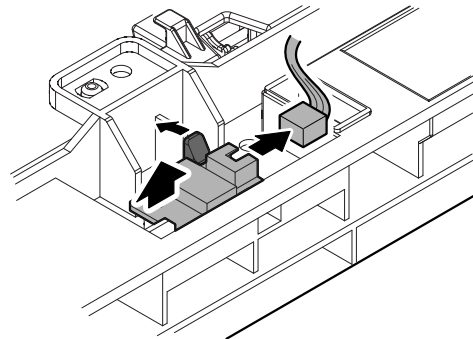
(2) ADU tray lower cabinet

- 1) Disengage the pawl, and remove the ADU tray lower cabinet.



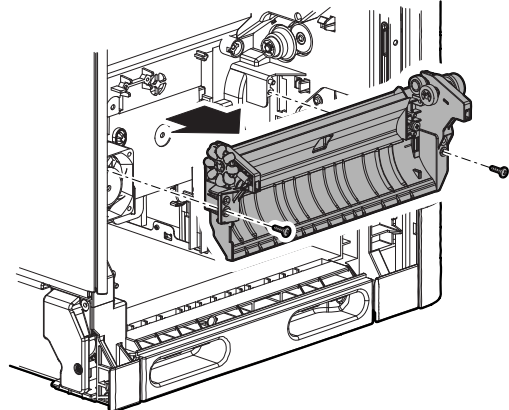
(3) Temperature humidity sensor

- 1) Disengage the pawl, and remove the temperature humidity sensor, and disconnect the connector.



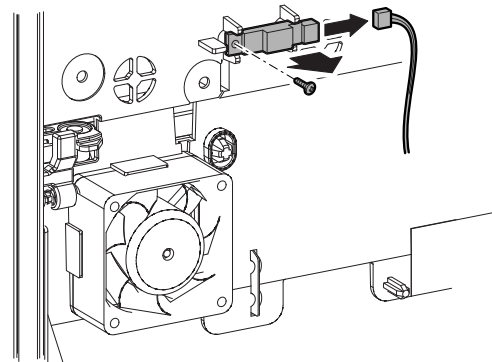
E. PS unit

- 1) Remove the screw, and remove the PS unit.

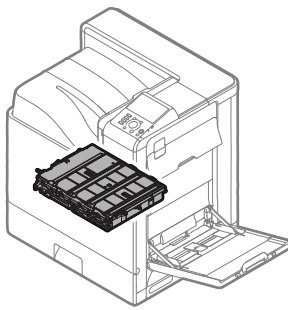


F. Paper transport detector 3

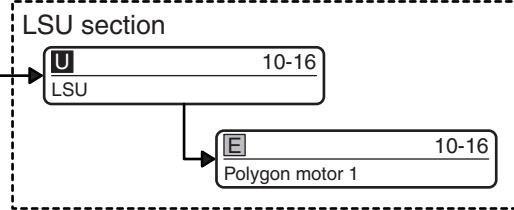
- 1) Disconnect the connector. Remove the screw, and remove the paper transport detector 3.



6. LSU section

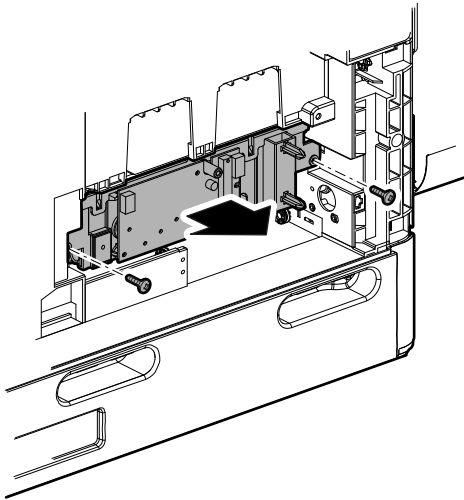


- U** 10-70
MFPC unit
- U** 10-75
HDD cooling fan motor unit



A. LSU

- 1) Remove the screw, and remove the LSU.



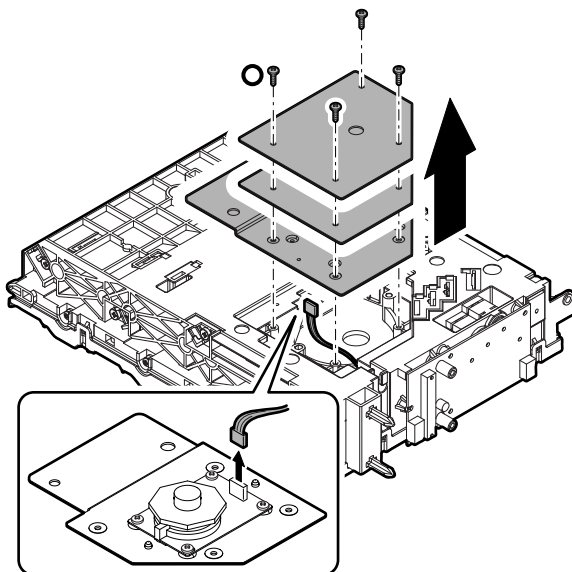
NOTE: When installing the LSU, be sure to remove the waste toner box.

(1) Polygon motor 1

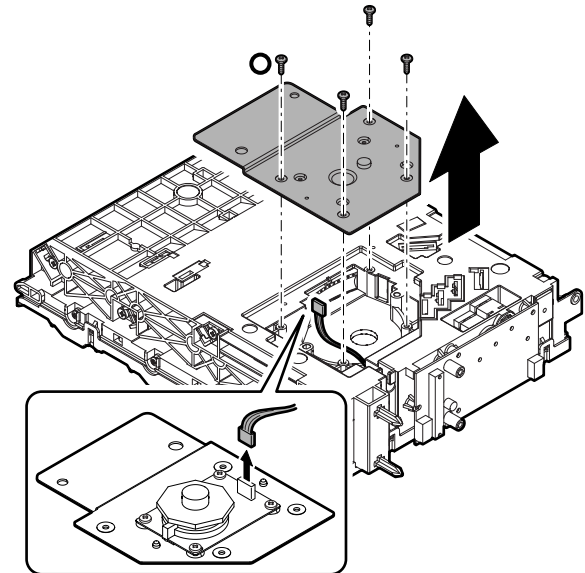
- 1) Remove the screw from the bottom of the LSU, and remove the weight plate and the mounting plate, and disconnect the connector.

NOTE: When installing, tighten the screw which is marked with a circle (○) first.

- **MX-C400P/C380P**

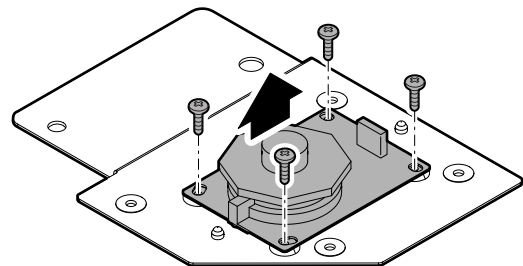


- **MX-B400P/B380P/B382P**



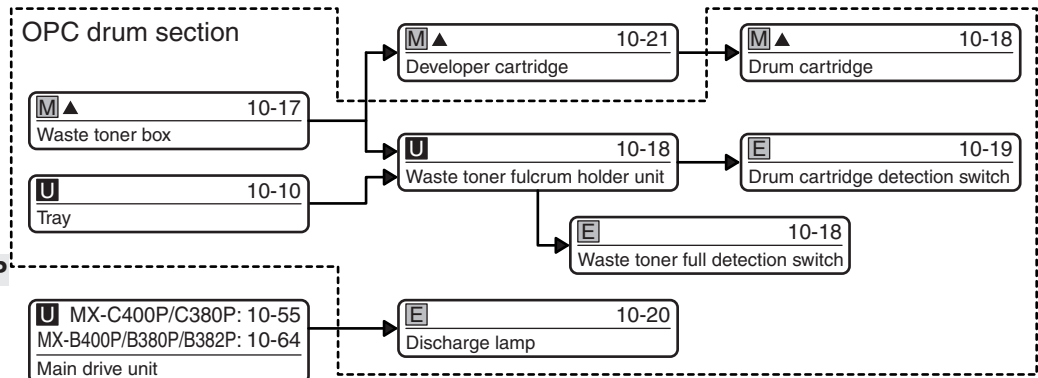
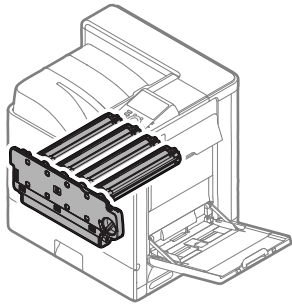
- 2) Remove the screw, and remove the polygon motor 1.

NOTE: Be careful not to scratch or dirt the mirror section of the polygon motor. Do not touch the movable section and the mirror surface of the polygon motor

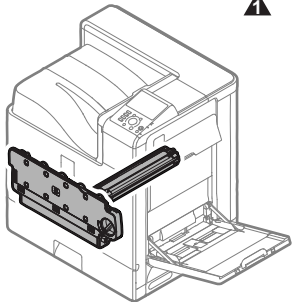


7. OPC drum section

MX-C400P/C380P

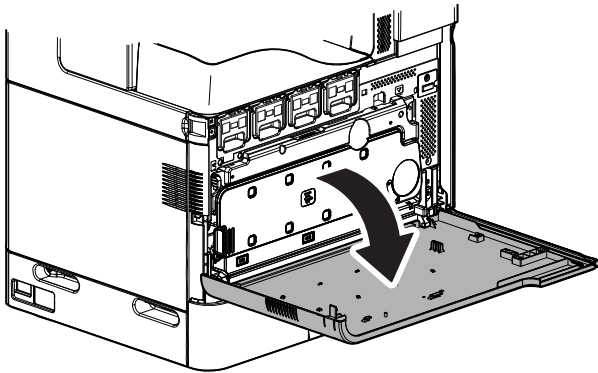


MX-B400P/B380P/B382P



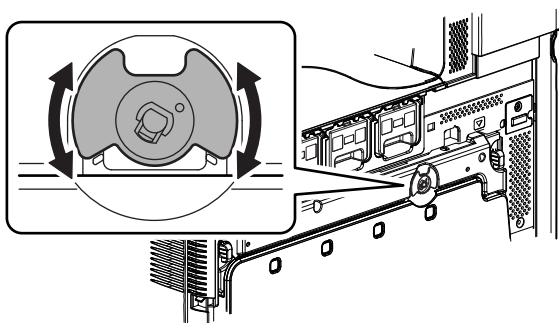
A. Waste toner box

- 1) Open the front cover.



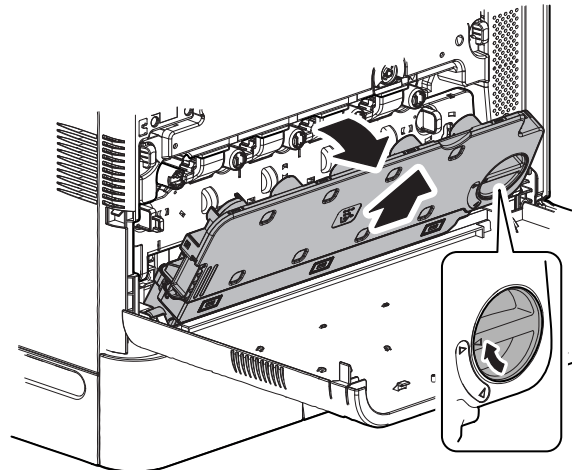
- 2) Check to confirm that the belt tension of the primary transfer unit is released (the separation lever of the primary transfer unit is under the state shown in the figure).

If the belt tension is not released, turn the separation lever to the state shown in the figure.

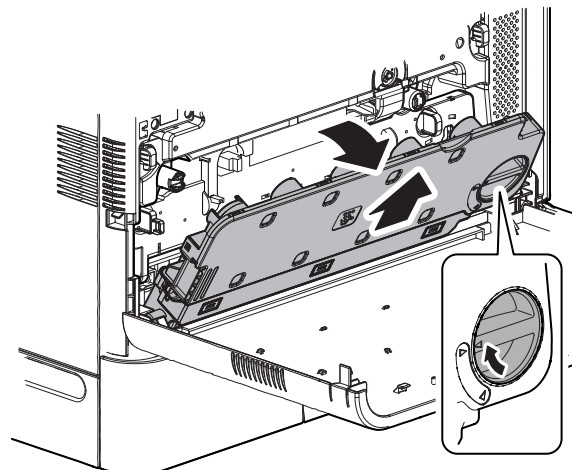


- 3) Turn the lock lever until it stops to release the lock, and remove the waste toner box.

• MX-C400P/C380P

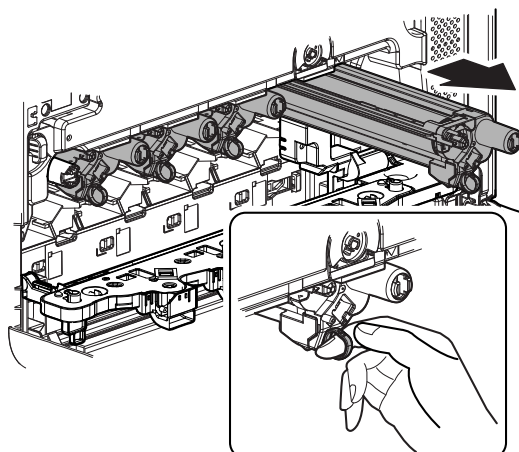


• MX-B400P/B380P/B382P

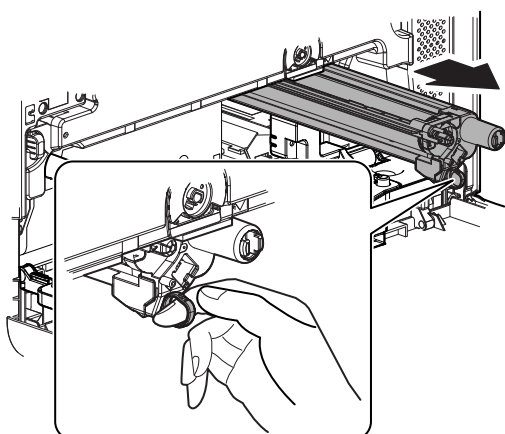


B. Drum cartridge

- 1) Put your finger on the drum cartridge lever, and pull it out straight and horizontally.
 - MX-C400P/C380P

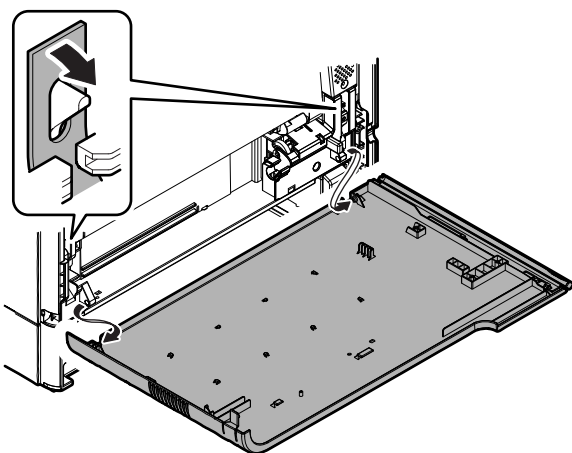


▲ • MX-B400P/B380P/B382P

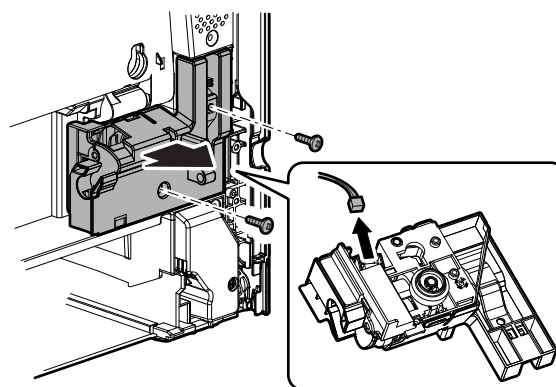


C. Waste toner fulcrum holder unit

- 1) Remove the band, and remove the front cover.

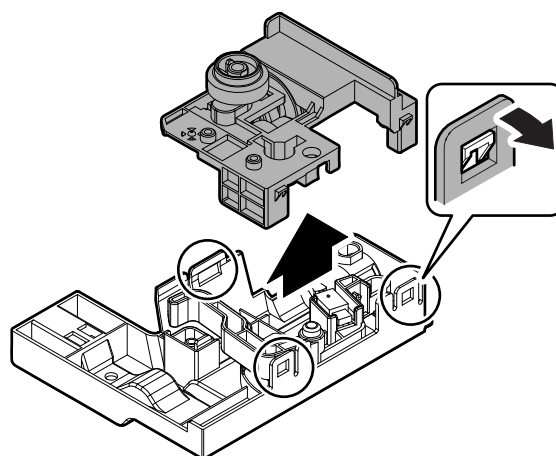


- 2) Remove the screw, and remove the waste toner fulcrum holder unit, and disconnect the connector.

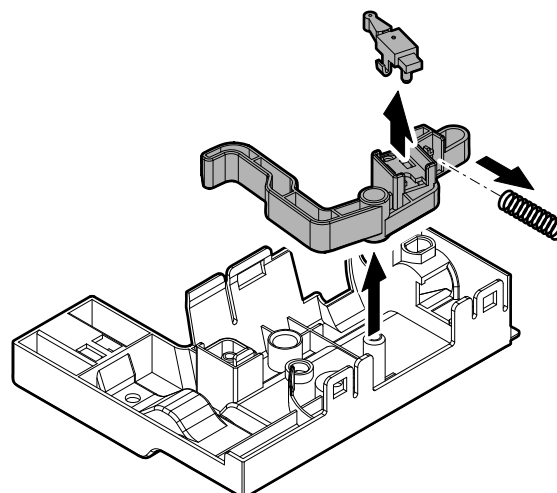


(1) Waste toner full detection switch

- 1) Disengage the pawl, and remove the waste toner drive holder.

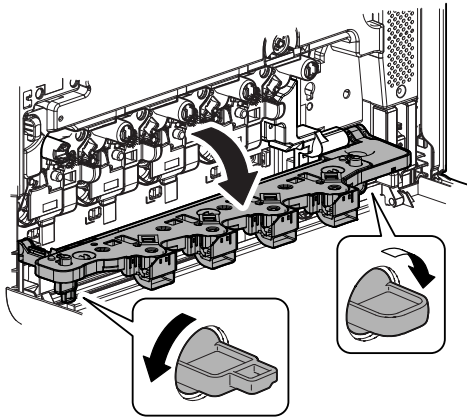


- 2) Remove the spring and the lever. Remove the waste toner full detection switch from the lever.

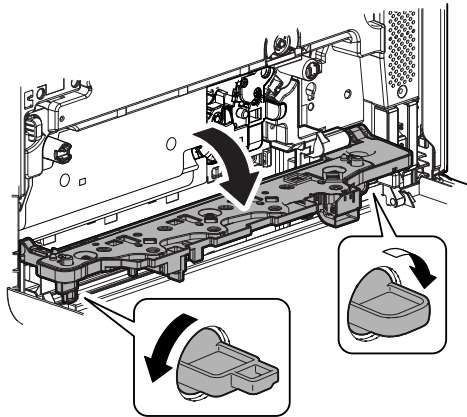


D. Drum cartridge detection switch

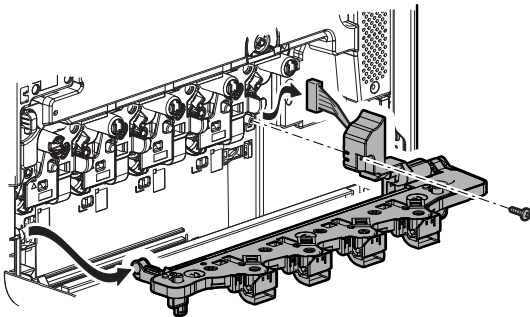
- 1) Put the lock lever horizontally, release the lock, and open the drum positioning plate unit.
 - **MX-C400P/C380P**



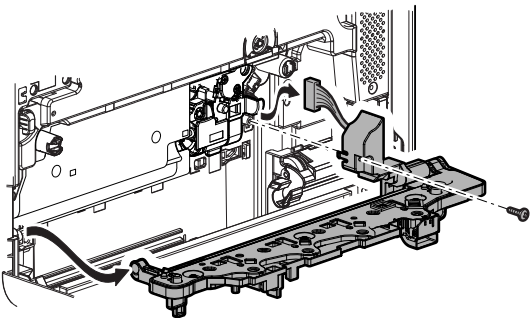
▲ • **MX-B400P/B380P/B382P**



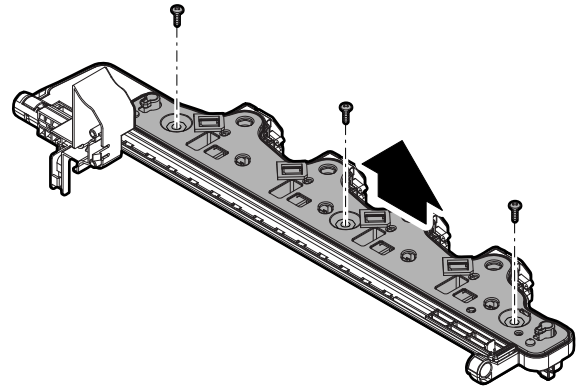
- 2) Remove the screw, and remove the drum positioning plate unit, and disconnect the connector.
 - **MX-C400P/C380P**



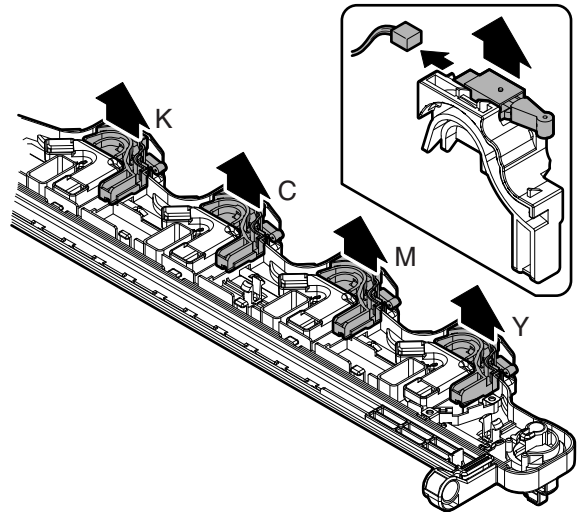
▲ • **MX-B400P/B380P/B382P**



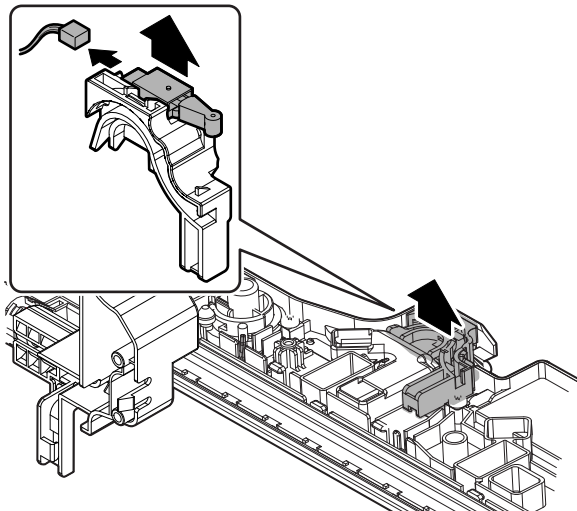
- 3) Remove the screw, and remove the plate.



- 4) Remove the holder. Disconnect the connector, and remove the drum cartridge detection switch.
 - **MX-C400P/C380P**



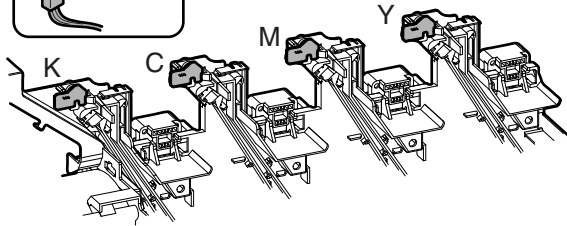
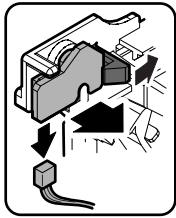
▲ • **MX-B400P/B380P/B382P**



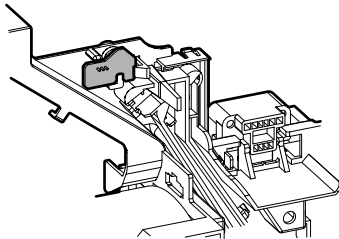
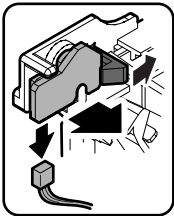
E. Discharge lamp

- 1) Disengage the pawl, and remove the discharge lamp, and disconnect the connector.

• **MX-C400P/C380P**

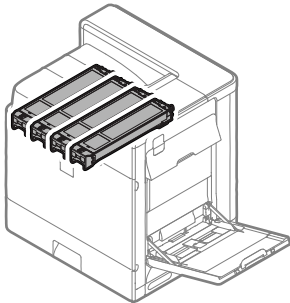


• **MX-B400P/B380P/B382P**

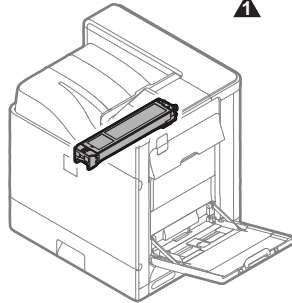


8. Toner supply section

• **MX-C400P/C380P**



• **MX-B400P/B380P/B382P**



Toner supply section

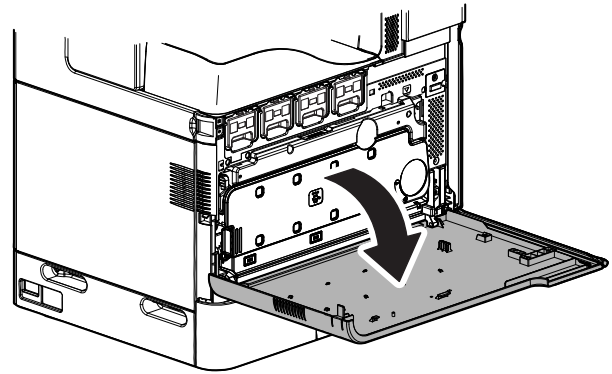


10-20

Toner cartridge

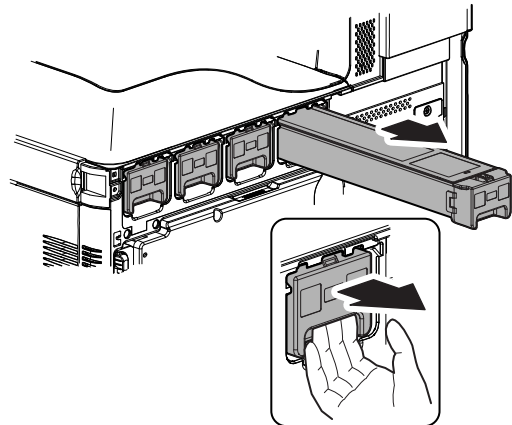
A. Toner cartridge

- 1) Open the front cover.



- 2) Hold the handle of the toner cartridge, and pull it out straight.

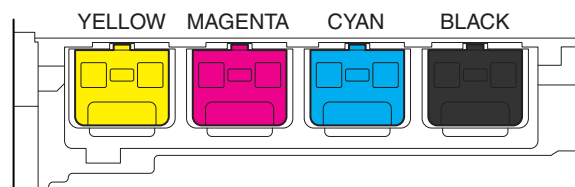
• **MX-C400P/C380P**



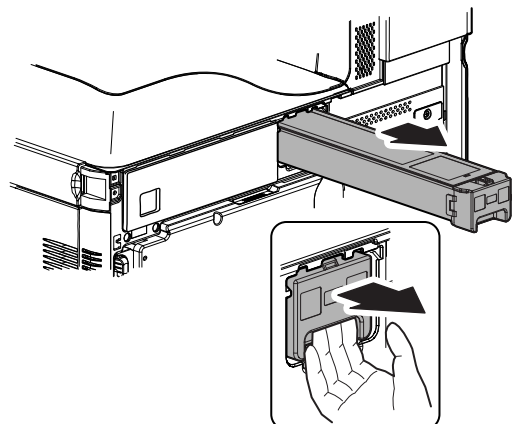
NOTE: Do not install a toner cartridge of a different color. Be sure to install a toner cartridge of the same color.

NOTE: When installing, do not insert with great force. Put your hand until it is completely inserted.

[Arrangement of toner cartridge colors]



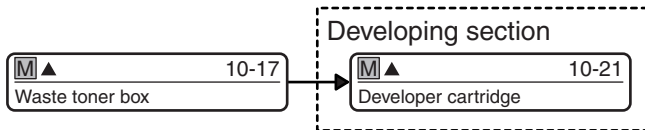
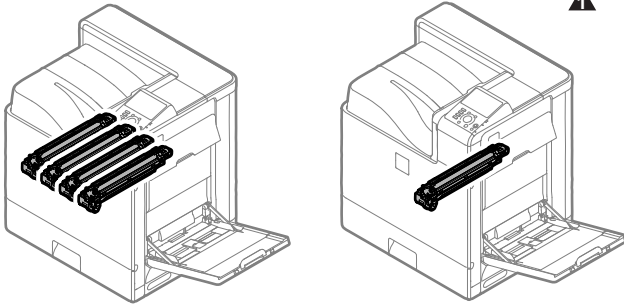
• **MX-B400P/B380P/B382P**
(the size of Toner cartridge different)



9. Developing section

• MX-C400P/C380P

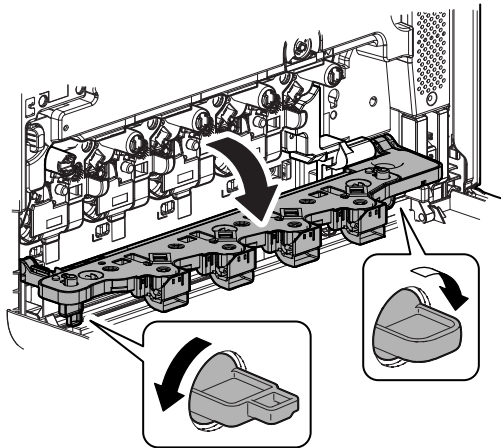
• MX-B400P/B380P/B382P



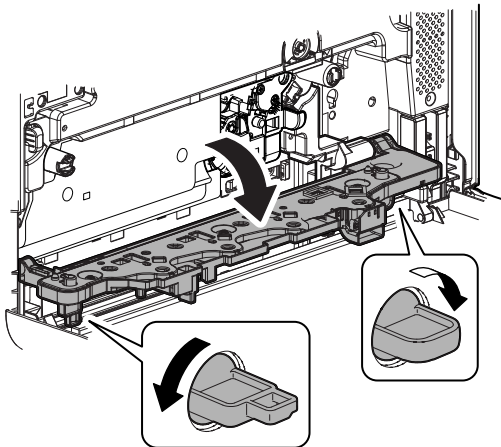
A. Developer cartridge

- 1) Put the lock lever horizontally, release the lock, and open the drum positioning plate unit.

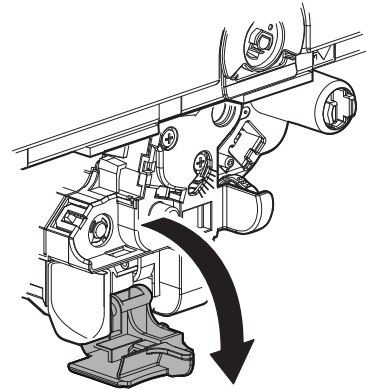
• MX-C400P/C380P



▲ • MX-B400P/B380P/B382P



- 2) Open the lock cover of the developer cartridge.

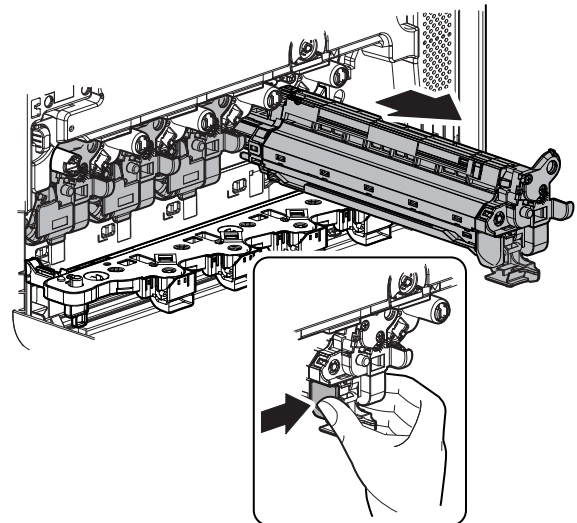


- 3) Hold the handle of the developer cartridge, and pull it out straight.

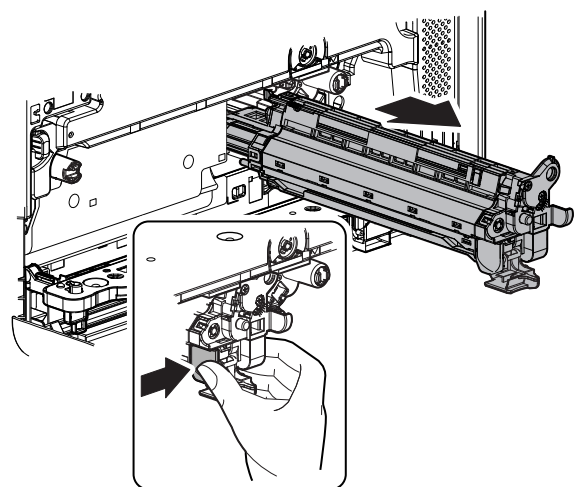
* Be careful not to put fingerprints or oil dirt on the roller surface.

Do not hold the case adjacent to the DV roller strongly.

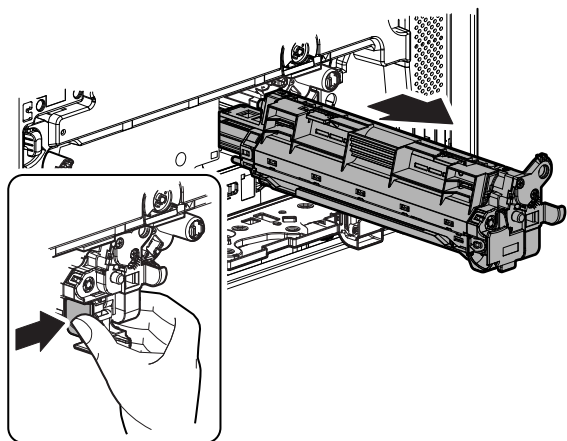
• MX-C400P/C380P



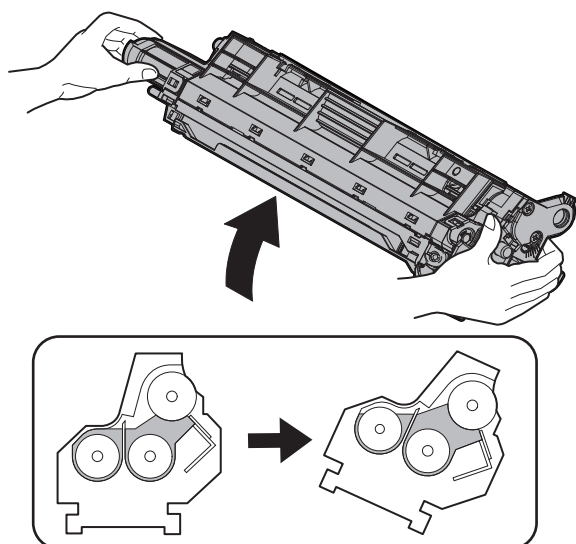
• MX-B400P/B380P



• MX-B382P



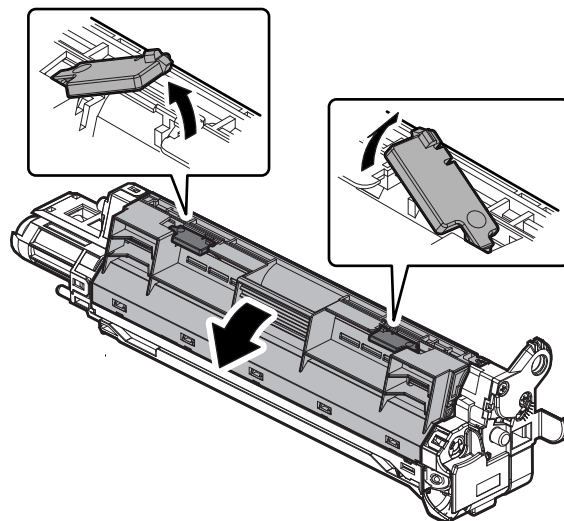
* Tilt the developer unit so as not to disperse developer when removing the cover.



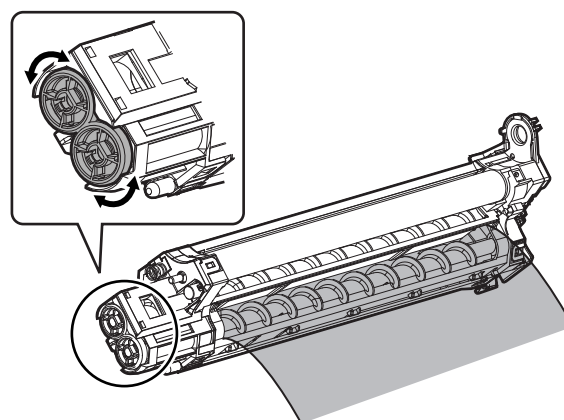
4) Remove the DV cover.

Raise the two levers. Hold the knob, and remove the cover.

- * Tilt the developing unit until this procedure so as not to splash developer.
 - * Use enough care not to splash developer when removing the DV upper cover as well as replacing developer.
- Never put dispersed developer in the developing unit, because foreign materials may intrude.



5) Turning the gear, take out the old developer.



Since developer may remain in the front and the back sections, tilt the developing unit to remove all.

Be careful not to smear the MG roller surface with oil or foreign materials.

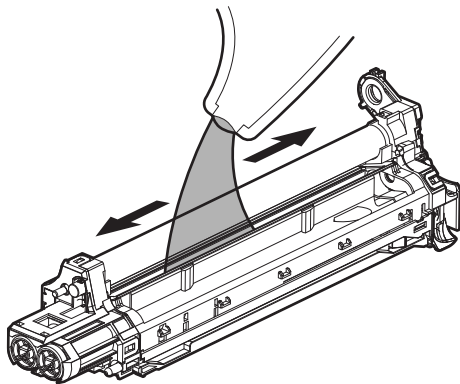
* Use a special care not to spill developer on the drive section (marked with O).

* [IMPORTANT] (Note for cleaning the developing unit)

If the developing unit is cleaned by a vacuum cleaner or an air blower with much developer remaining in the unit, static electricity may be charged in the unit. Therefore, observe the following cautions.

- * When transporting developer from the MG roller and removing foreign materials, if the MG roller surface is brought into contact with metal, etc, developer may adhere to the roller surface, causing a trouble. Be careful of that when handling the MG roller.
- * Discharge developer in the developing unit as well as that attached to the MG roller naturally as far as possible.

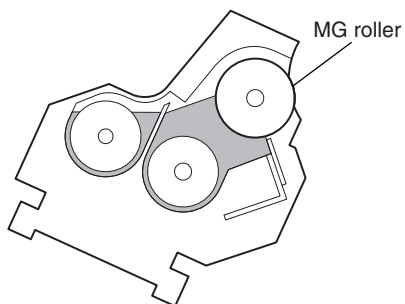
6) Insert the new developer.



* When supplying developer, be careful not to disperse developer.

Never put dispersed developer in the developing unit, because foreign materials may intrude.

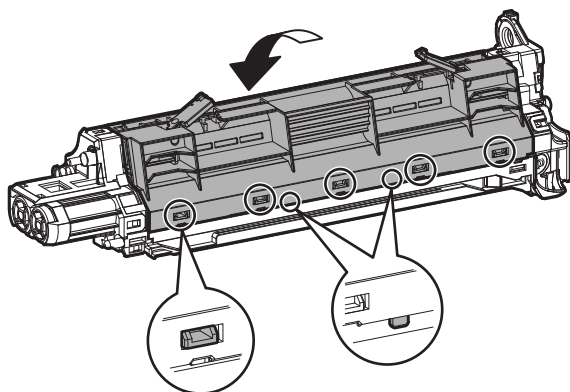
It is advisable to tilt the developing unit and put much developer to the MG roller side for preventing dispersion of developer.



7) Attach the DV cover to the unit.

* Hang on the two projections under the cover, rotate the cover and attach it.

Check to confirm that the five pawls are securely engaged.



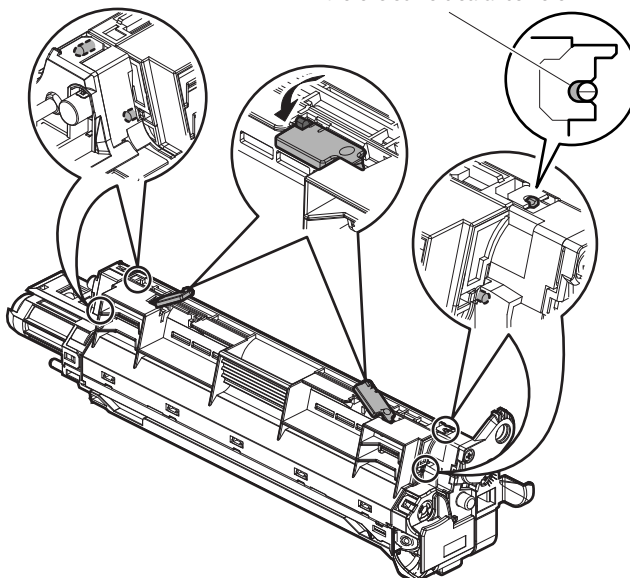
8) Lower the two levers and lock the cover.

* Since there is some resistance from the sealing material, push the cover onto the developing unit and lower the lever simultaneously.

Check to confirm that the two bosses are securely inserted on the front side and the two bosses on the rear side.

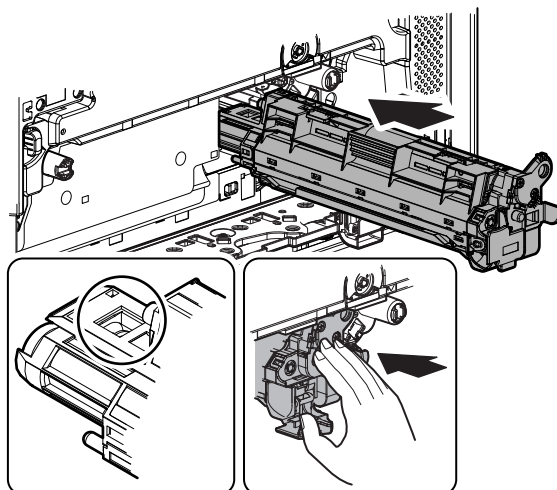
Check to confirm that the lock section of the lever is locked.

* Though the lever is completely locked, there is some clearance here.

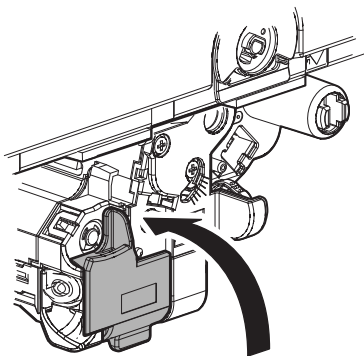


9) Shake the developing unit 5 - 6 times horizontally, and insert the developing unit straight and horizontally until it locks.

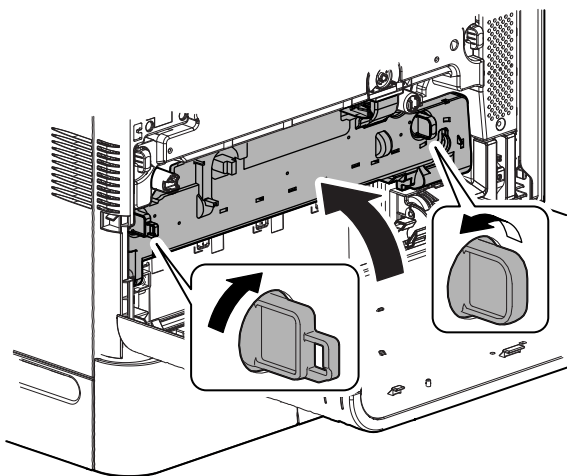
NOTE: When handling the developing unit, do not touch the magnet roller section and the shutter section.



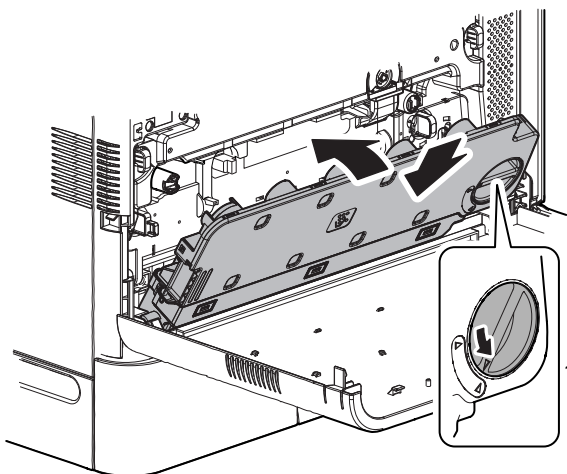
- 10) Close the lock cover of the developing unit.



- 11) Close the drum positioning plate unit, and put the lock lever upright to lock.



- 12) Install the waste toner box, and turn the lock lever to the left until it stops to lock the waste toner box.



- 13) Close the front cover.

B. Toner density reference control level setting

- 1) Insert the power plug into a power outlet. With the front cabinet open, turn ON the power switch of the machine and the power switch on the operation panel.
- 2) With the front cabinet open, enter SIM 25-2.
WARNING: Do not install the toner cartridge before completing the Toner density reference control level setting (SIM 25-2).
- 3) Close the front cover.
- 4) After completion of the adjustment of the toner density control reference value, insert the toner cartridge.
- 5) When [EXECUTE] key is pressed, it is highlighted. The developing roller rotates, and the toner density sensor detects toner density, and the output value is displayed.

The above operation is executed for 3 minutes, and the average value of the toner density sensor detection level is set (saved) as the reference toner density control value.

When the reference toner density control adjustment operation is completed, [EXECUTE] key returns to normal from highlight. This makes known about whether the adjustment operation is completed or not.

- 6) Press the CA key to exit the simulation.

NOTE:

If the operation is interrupted within 3 minutes, the adjustment result is not reflected.

When [EXECUTE] key is pressed during rotation, the operation is stopped and [EXECUTE] key returns to the normal display.

If [EE-EU] or [EE-EL] is displayed, setting of the reference toner density control value is not completed normally.

Error display	Content	Details of content
EE-EL	EL abnormality	Sensor output level less than 67, or sensor control voltage level over 197
EE-EU	EU abnormality	Sensor output level over 154, or sensor control voltage level less than 49
EE-EC	EU abnormality	Sensor output level less than 95, or sensor control voltage level over 105

NOTE: When not replacing the developer, do not execute SIM25-2.

Only execute SIM 25-2 when replacing the Developer.

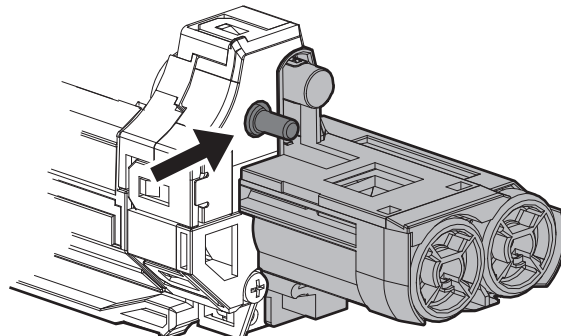
SIM 25-2 should only be run immediately after installing new DV material.

Toner Concentration Reference Control Level Setting will be incorrect if SIM 25-2 is performed at any other time.

(When cleaning inside of the developing unit with an air duct)

Before cleaning with an air duct, discharge developer in the unit as far as possible. Ground the core section (arrow mark section) at the side edge on the rear side of the MG roller, and clean with an air duct. (Since the core section may be easily damaged, do not pinch the grounding wire with nippers, etc.)

When handling the developing unit, do not apply a great force to the shaded area in the figure.



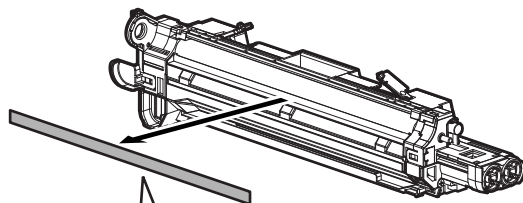


1) Replace the DV blade.

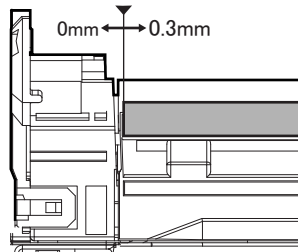
• Maintenance

DV blade: Replace at every 72K.

Side seal, Toner filter: Replace as needed.

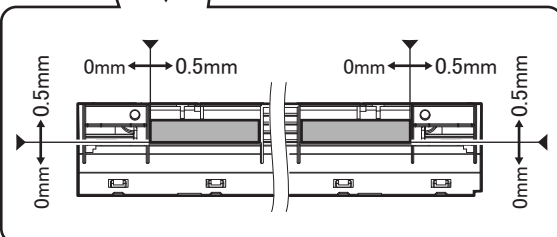
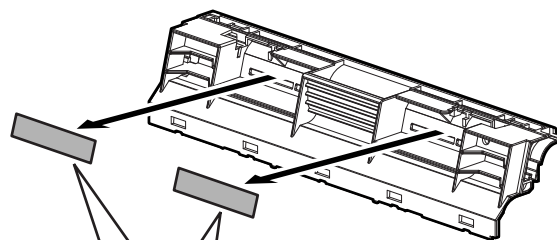


Attachment reference
DV doctor cover rib side wall



Attachment reference
DV doctor cover corner

• Toner filter attachment



2) Check the side seals F and R and the toner filter, and clean or replace as needed.

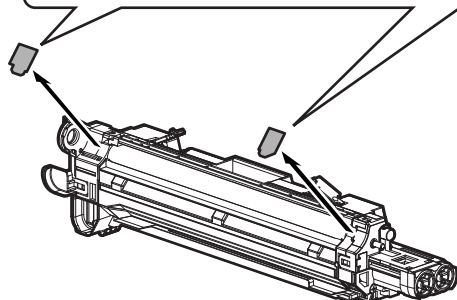
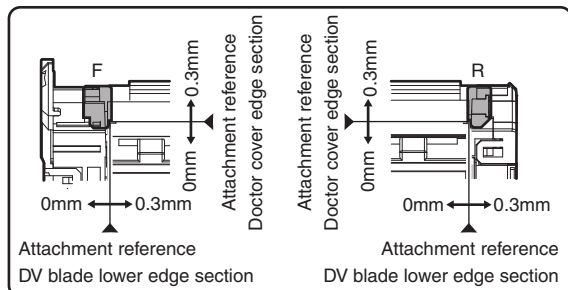
Remove adhesive completely when removing a seal.

When attaching, clean the attachment surface with alcohol to remove oil and fit with the reference.

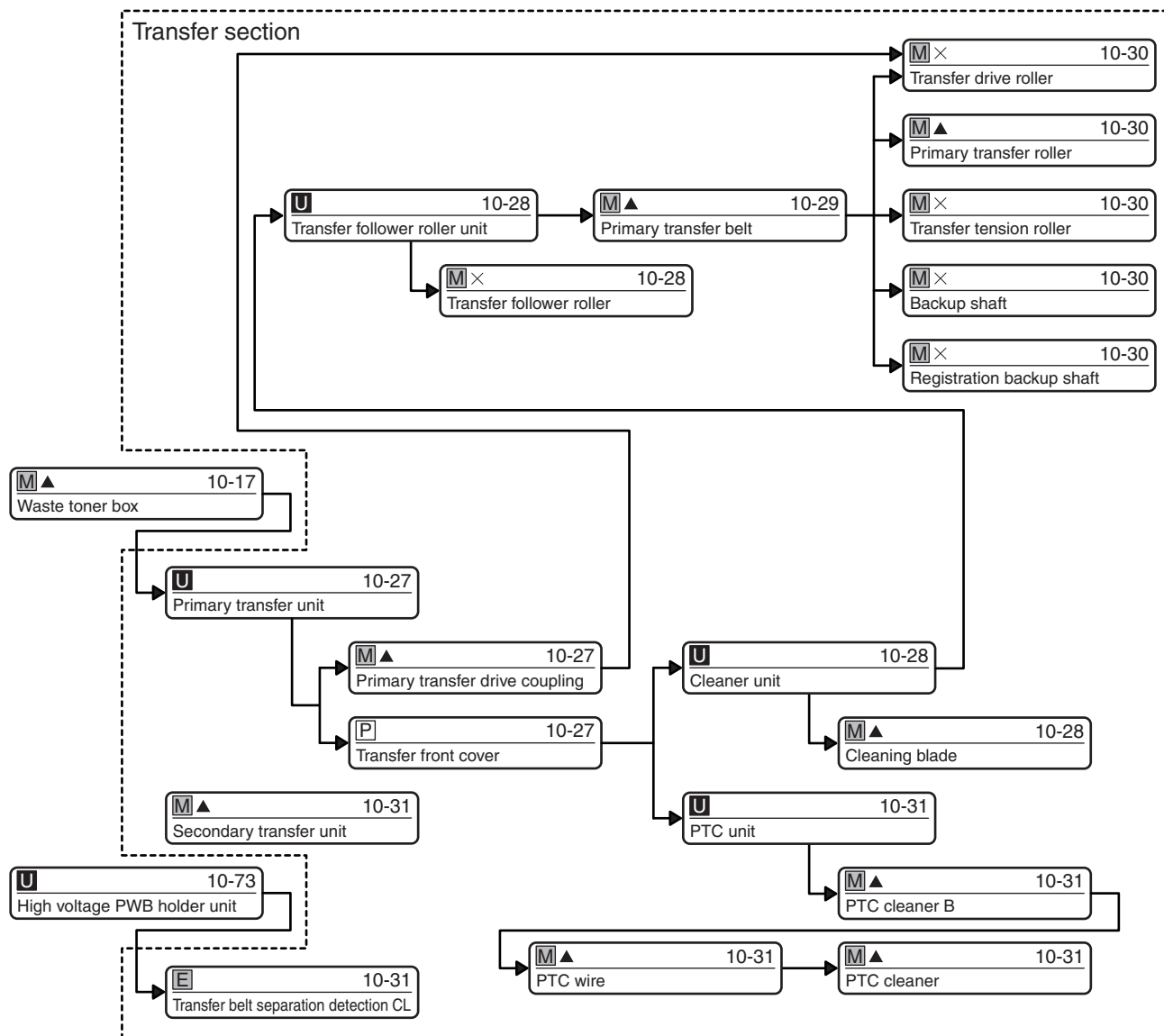
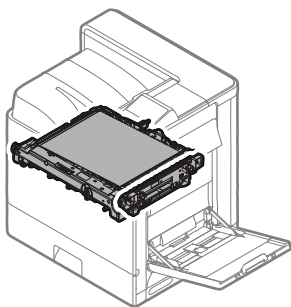
Attach the seal so that the clearance is 0 - 0.3mm from the edge, and press to secure attachment.

Before attaching the DV side seal F, check to confirm that the DV-BOX molt is not broken. If it is broken, replace it.

• DV side seals F/R attachment

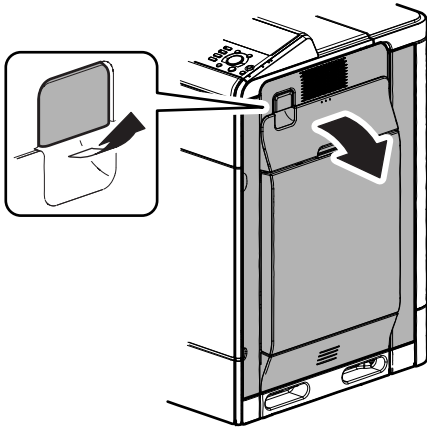


10. Transfer section (MX-C400P/C380P)

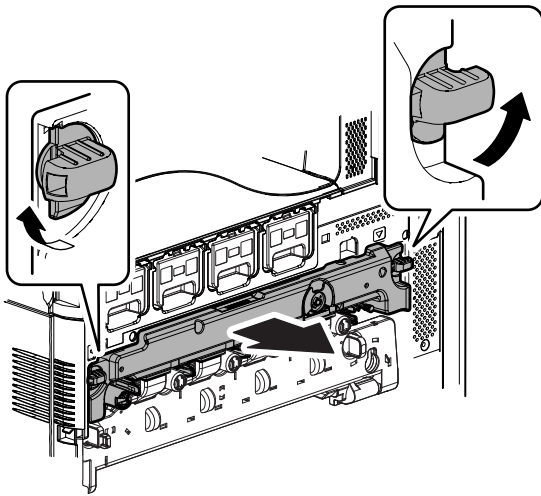


A. Primary transfer unit

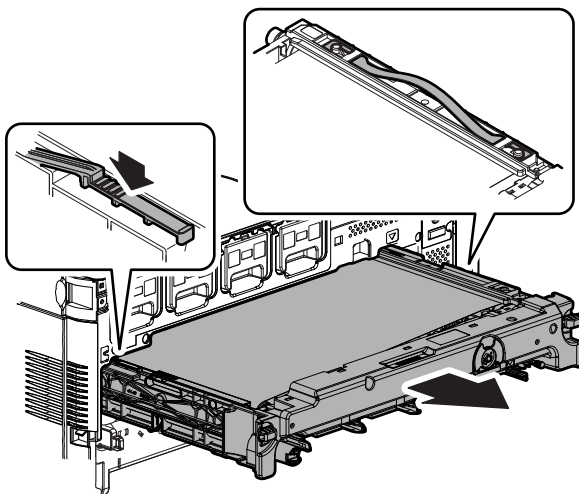
- 1) Pull the lever to release the lock, and open the right door.



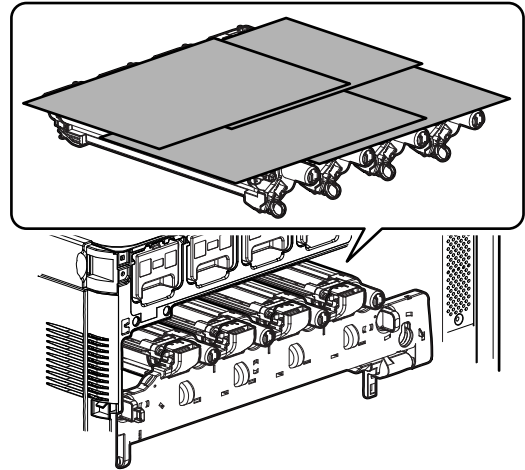
- 2) Put the lock lever horizontally, release the lock, and pull out the primary transfer unit until it stops.



- 3) Hold the handle, push the lock on the left side of the primary transfer unit and remove the primary transfer unit.

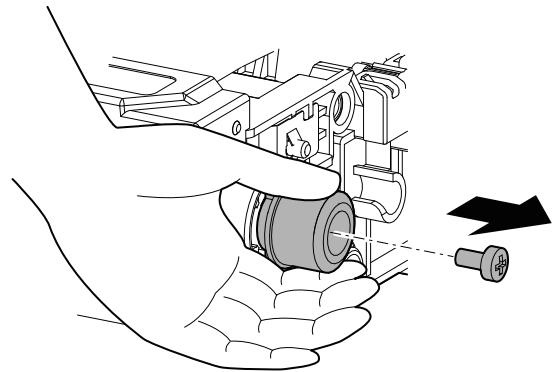


NOTE: When the primary transfer unit is removed, place several sheets of paper on the drum cartridge in order to protect the drum from being exposed.

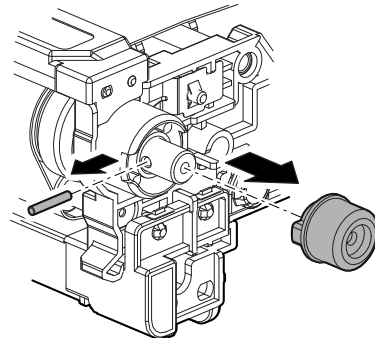


(1) Primary transfer drive coupling

- 1) Press the primary transfer drive coupling, and remove the screw.

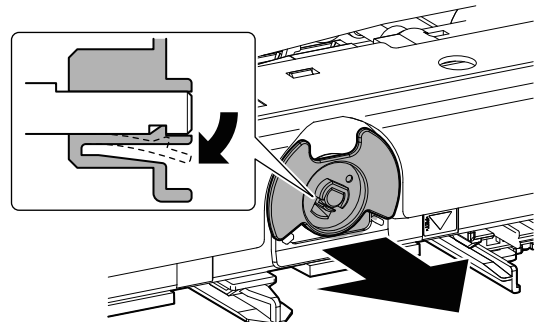


- 2) Remove the primary transfer drive coupling, and remove the parallel pin.

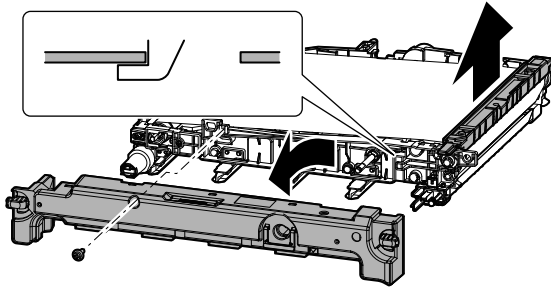


(2) Transfer front cover

- 1) Disengage the pawl, and remove the separation lever.

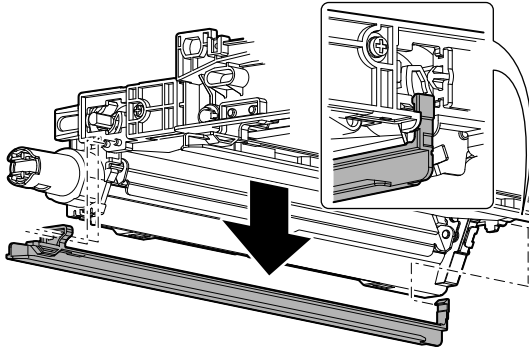


- 2) Remove the blue screw. Slide the transfer front cover to the left to remove. Remove the handle.

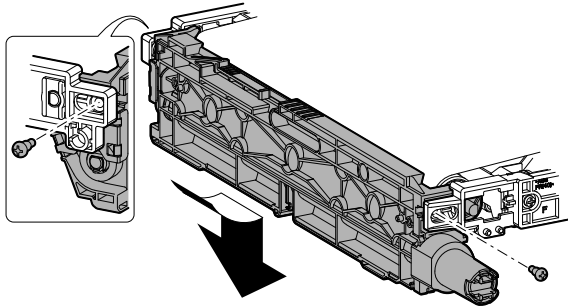


(3) Cleaner unit

- 1) Disengage the pawl, and remove the guide.

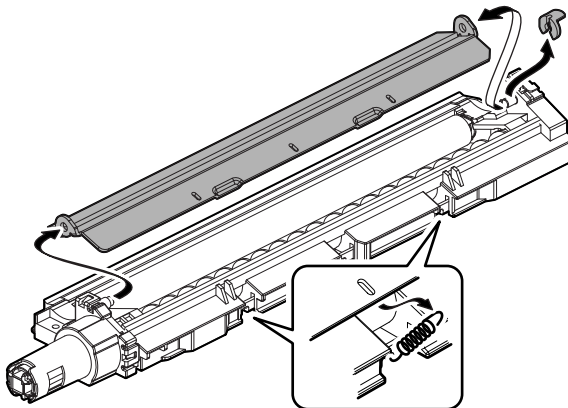


- 2) Remove the blue screw. Turn the cleaner unit downward to remove.



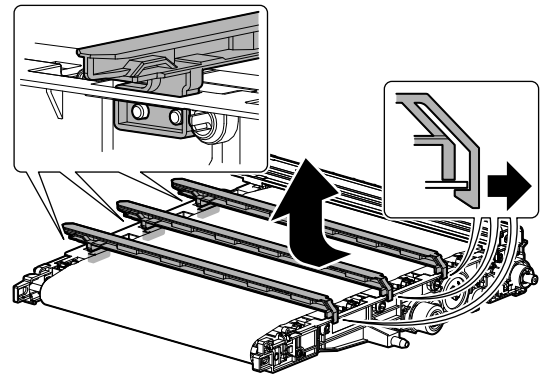
a. Cleaning blade

- 1) Remove the spring. Remove the resin E-ring, and remove the cleaning blade.

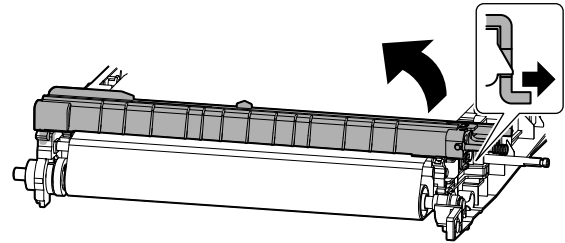


(4) Transfer follower roller unit

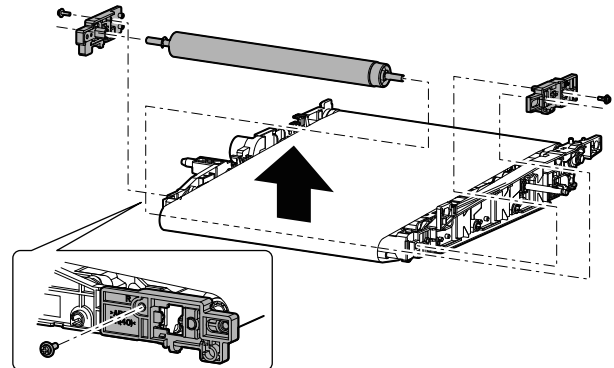
- 1) Disengage the pawl, and remove the guide.



- 2) Disengage the pawl, and remove the frame.

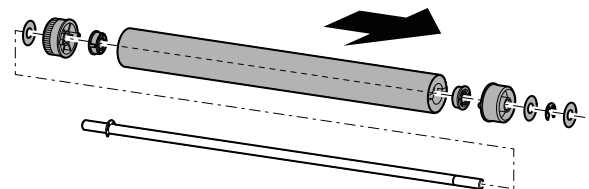


- 3) Remove the blue screw. Remove the holder and remove the transfer follower roller unit.



a. Transfer follower roller

- 1) Remove the polyslider, the E-ring, the collar, and the bearing. Remove the transfer follower roller.

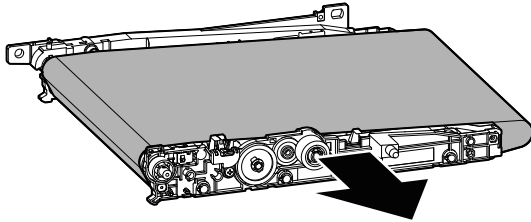


(5) Primary transfer belt

1) Remove the primary transfer belt from the frame.

NOTE: Use enough care not to scratch, bend, or smear the primary transfer belt.

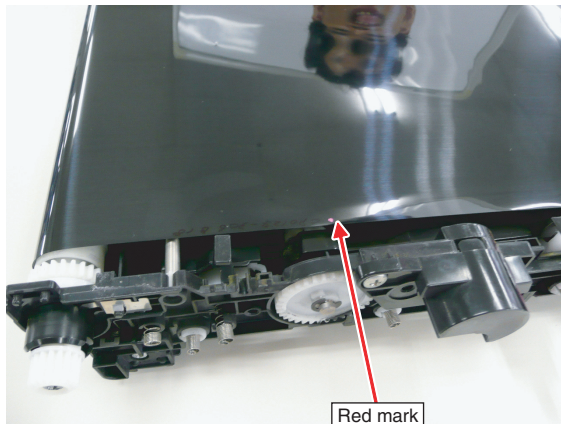
NOTE: When handling the primary transfer belt, use gloves not to put fingerprints or oil on its surface.



When replacing the transfer belt, perform the following procedures and observe the note in order to prevent reversion or meandering of the cleaning blade, or any trouble.

a. Transfer belt direction

When installing the transfer belt, arrange so that the red mark at the edge of the transfer belt is on the rear frame side. If it is installed in the wrong direction, the cleaning blade may be reversed or another trouble may occur.



NOTE: * Use enough care not to scratch or bend the transfer belt.
* Use enough care not to put fingerprints or foreign materials on the transfer belt surface. (Be sure to use gloves.)

b. Application of setting powder (UKOG-0123FCZZ)

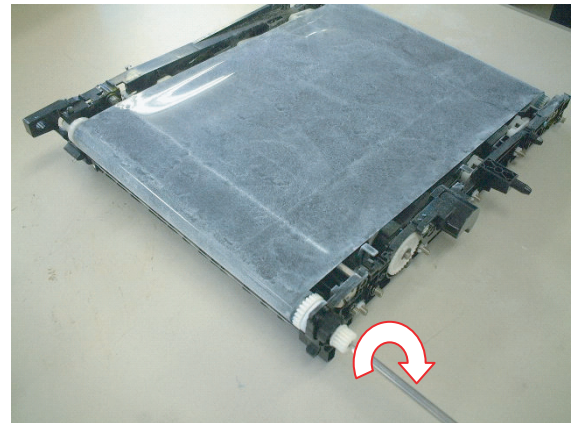
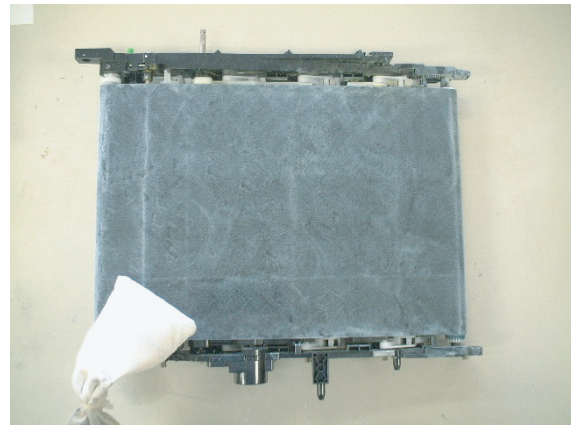
When the transfer belt is replaced, apply setting powder (UKOG-0123FCZZ) according to the following procedures.

1) Place the transfer unit with the transfer cleaner unit removed on a flat surface. Shake the bag of setting powder slightly, and apply setting powder evenly to the whole surface of the transfer belt.

Use a screwdriver to rotate the transfer belt drive gear in the arrow direction, changing the application position so that setting powder is applied evenly to the whole surface of the transfer belt.

(Key points for applying setting powder)

- * Apply setting powder by using the weight of the setting powder bag so that setting powder is evenly applied to the surface.
- * Use care to apply evenly to the edge of the transfer belt so that it is evenly applied in the F/R direction.



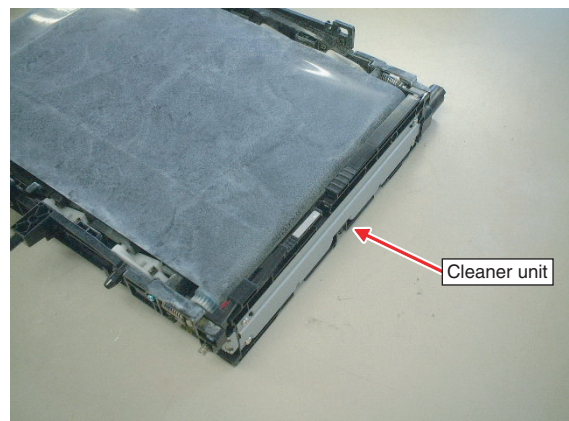
NOTE: * Use enough care not to scratch the transfer belt.

* The procedure to rotate the transfer belt must be executed on a flat surface. If not, the transfer belt may meander.

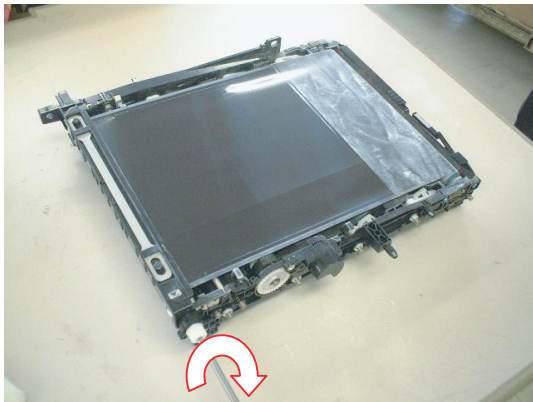
* When starting rotation of the transfer belt, carefully and slowly rotate in order not to apply a sudden great load to the cleaner blade.

2) Install the transfer cleaner unit.

At that time, check to confirm that setting powder is applied to the contact section between the cleaner blade and the transfer belt.



- 3) Use a screwdriver to rotate the transfer belt drive gear slowly in the arrow direction until setting powder is cleaned and removed from the transfer belt by the cleaner.



NOTE: * The procedure to rotate the transfer belt must be executed on a flat surface. If not, the transfer belt may meander.

* When starting rotation of the transfer belt, carefully and slowly rotate in order not to apply a sudden great load to the cleaner blade.

* When setting powder is completely removed, stop rotation of the belt. Do not rotate it unnecessarily.

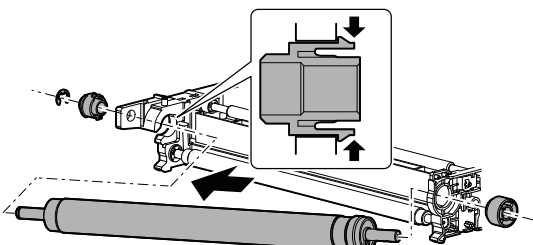
* Do not rotate reversely with the blade installed.

- 4) After installing the transfer unit, make three prints of half-tone or black background on A4 (11 x 8.5) paper, and check to confirm that there is no scratch or dirt on the transfer belt.

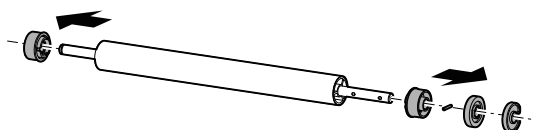
(6) Transfer drive roller

- 1) Remove the E-ring. Remove the bearing. Remove the transfer drive roller unit.

NOTE: When installing the transfer drive unit, fit the collar slit with the frame rib.

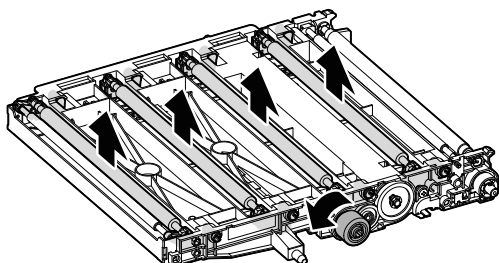


- 2) Remove the collar, the gear, and parallel pin, and the collar from the transfer drive roller.



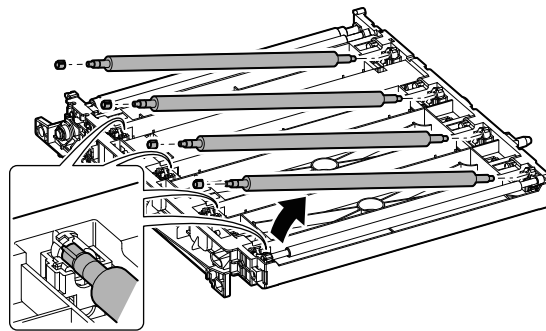
(7) Primary transfer roller

- 1) Turn back the primary transfer unit. Turn the gear to lift the primary transfer roller.



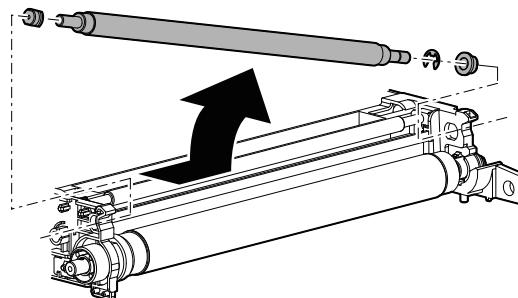
- 2) Remove the bearing side of the primary transfer roller, and remove the primary transfer roller. Remove the bearing from the primary transfer roller.

NOTE: When installing the primary transfer roller, be careful of the direction of the concave section of the bearing.



(8) Transfer tension roller

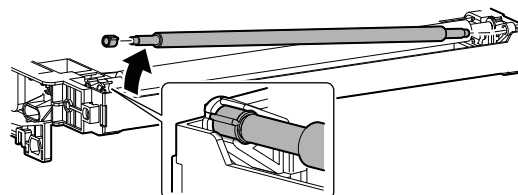
- 1) Turn back the primary transfer unit. Remove the E-ring. Slide the transfer tension roller to the front side to remove. Remove the bearing from the transfer tension roller.



(9) Backup shaft

- 1) Turn back the primary transfer unit. Remove the bearing side of the backup shaft, and remove the backup shaft. Remove the bearing from the backup shaft.

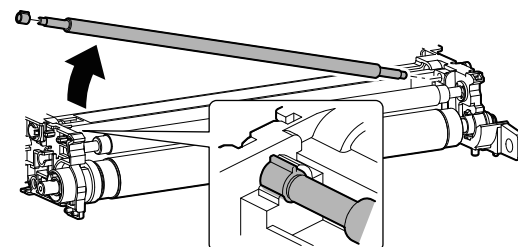
NOTE: When installing the backup shaft, be careful of the direction of the concave section of the bearing.



(10) Registration backup shaft

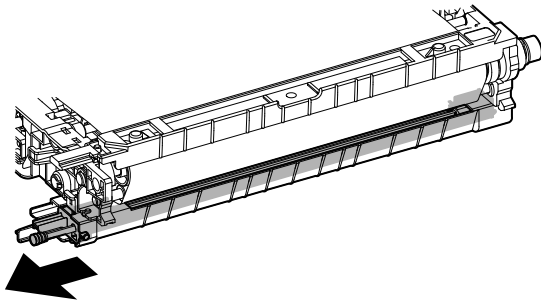
- 1) Turn back the primary transfer unit. Remove the bearing side of the registration backup shaft. Remove the bearing from the registration backup shaft.

NOTE: When installing the backup shaft, be careful of the direction of the concave section of the bearing.



(11) PTC unit

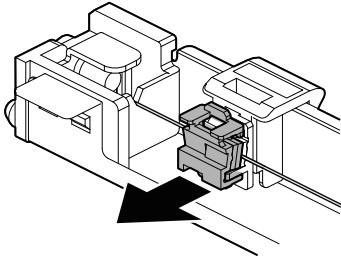
- 1) Pull out the PTC unit from the frame and remove it.



a. PTC cleaner B

- 1) Remove the PTC cleaner B.

NOTE: When installing, pinch the PTC wire and install it.

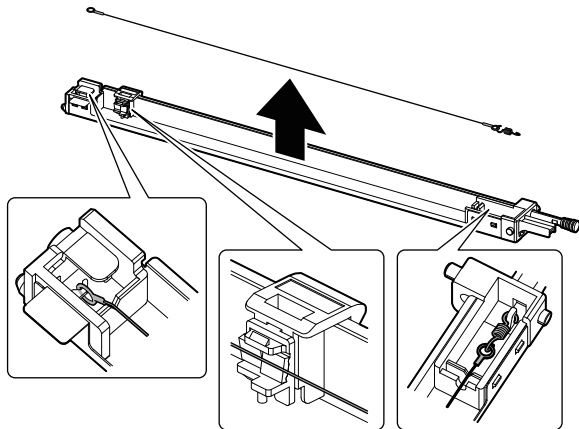


b. PTC wire

- 1) Remove the spring on the front side of the PTC wire. Remove the rear side and remove the PTC wire.

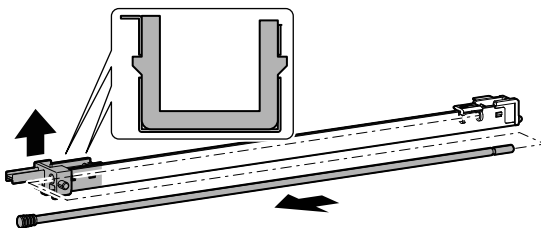
NOTE: Do not touch the wire section of the PTC wire with a bare hand.

NOTE: When installing, arrange so that the PTC wire is on the PTC cleaner.

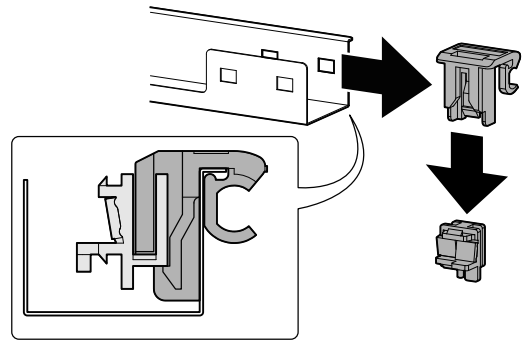


c. PTC cleaner

- 1) Remove the cleaner rod. Disengage the pawl, and remove the holder.

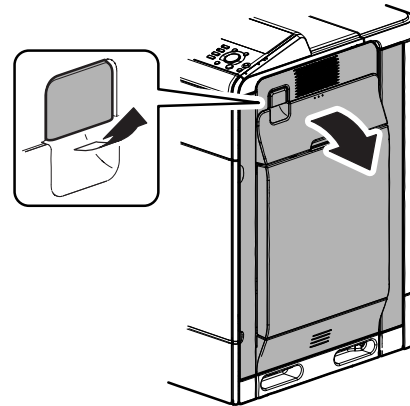


- 2) Slide the cleaner holder to the front side to remove. Remove the PTC cleaner from the cleaner holder.

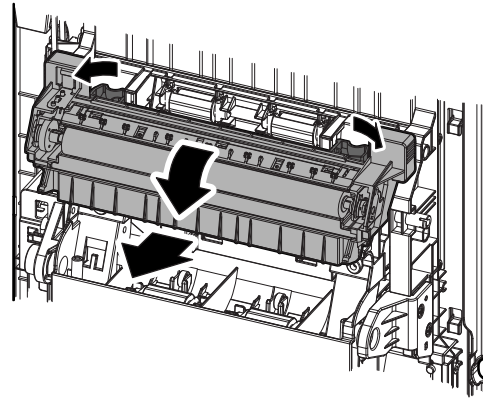


B. Secondary transfer unit

- 1) Pull the lever to release the lock, and open the right door.

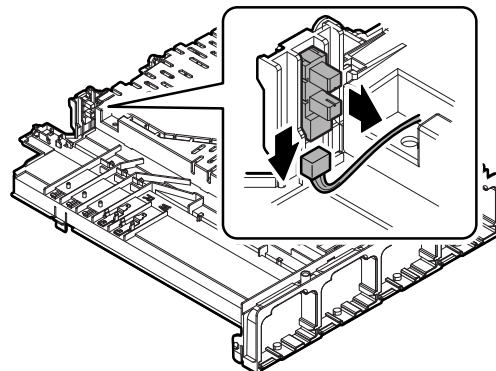


- 2) Release the lock, and remove the secondary transfer unit.

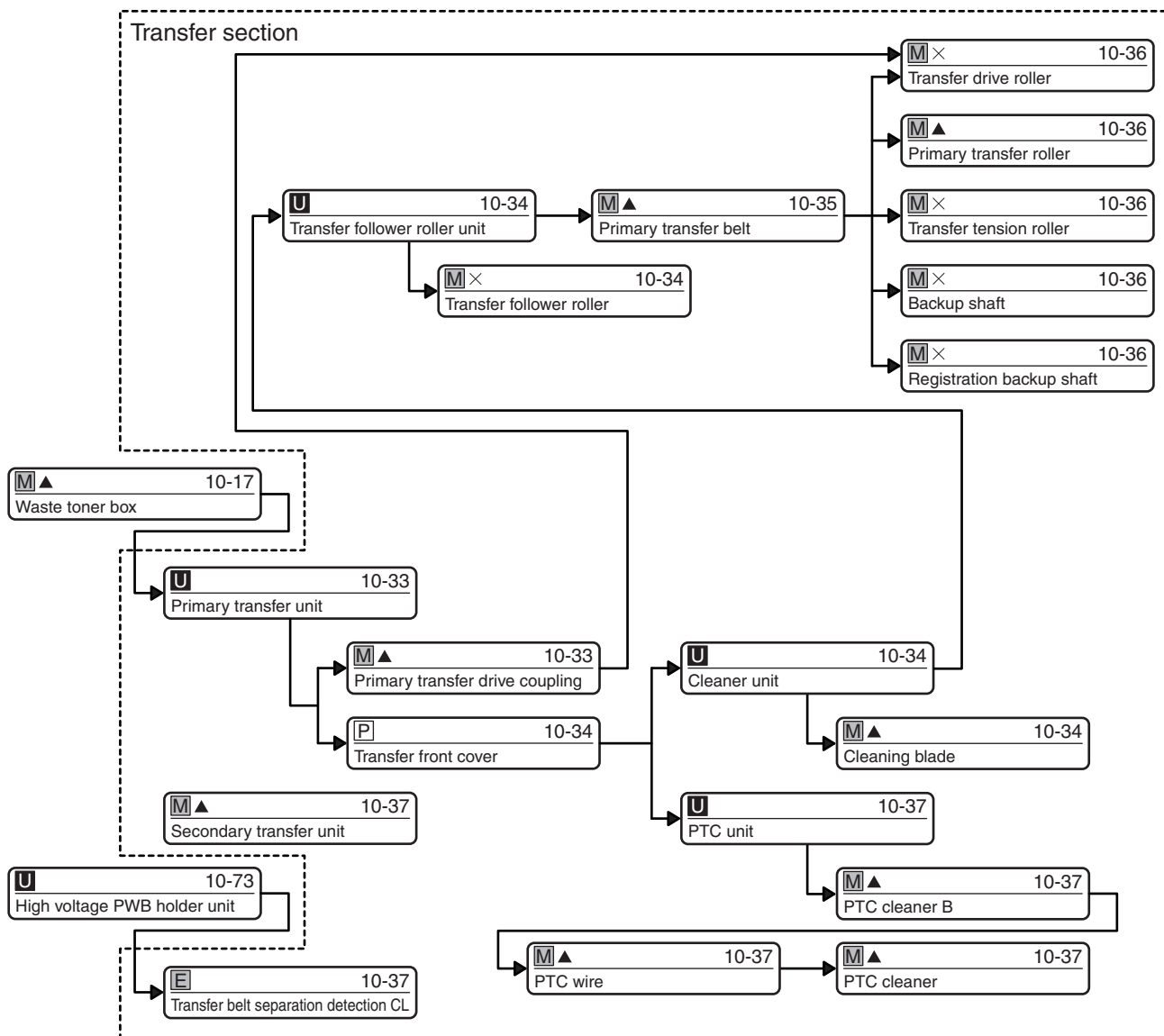
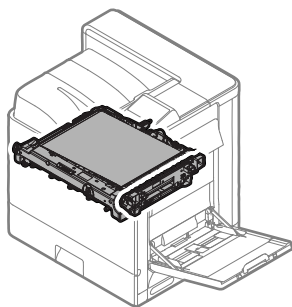


C. Transfer belt separation detection CL

- 1) Disconnect the connector, and remove the transfer belt separation detector CL.

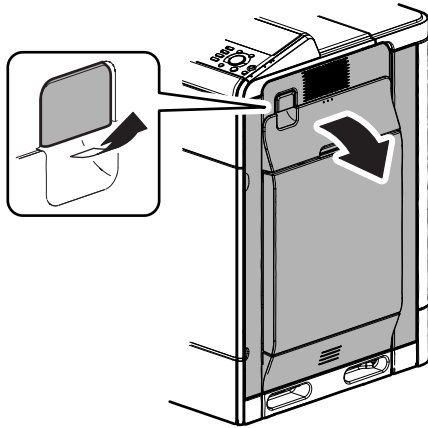


▲ 11. Transfer section (MX-B400P/B380P/B382P)

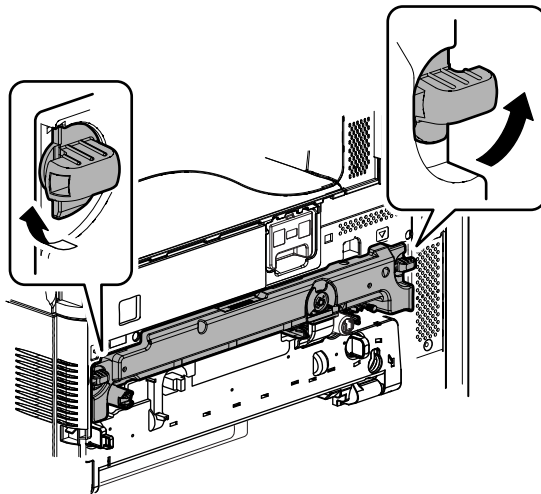


A. Primary transfer unit

- 1) Pull the lever to release the lock, and open the right door.

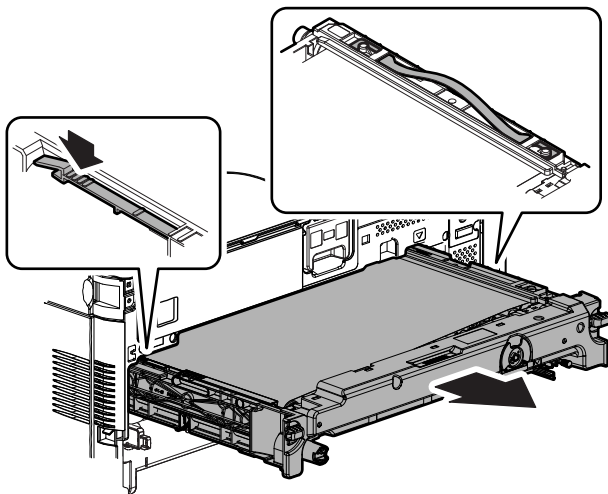


- 2) Put the lock lever horizontally, release the lock, and pull out the primary transfer unit until it stops.



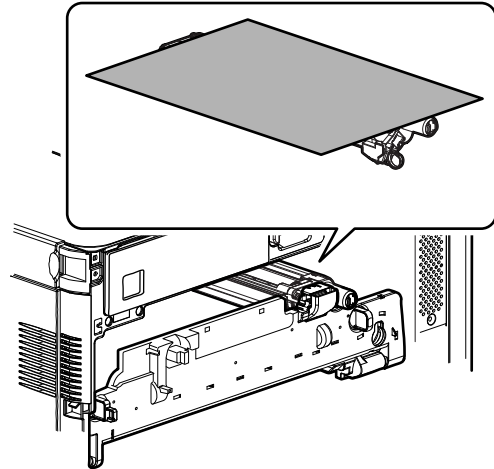
(The illustration of MX-B400P/B380P)

- 3) Hold the handle, push the lock on the left side of the primary transfer unit and remove the primary transfer unit.



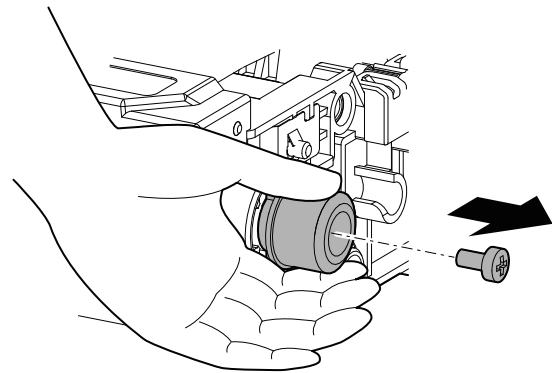
(The illustration of MX-B400P/B380P)

NOTE: When the primary transfer unit is removed, place several sheets of paper on the drum cartridge in order to protect the drum from being exposed.

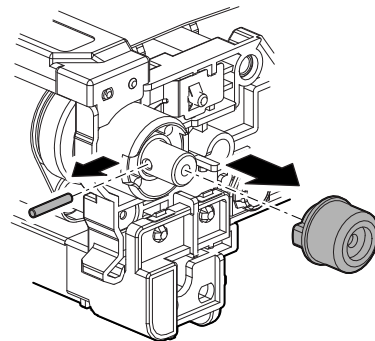


(1) Primary transfer drive coupling

- 1) Press the primary transfer drive coupling, and remove the screw.

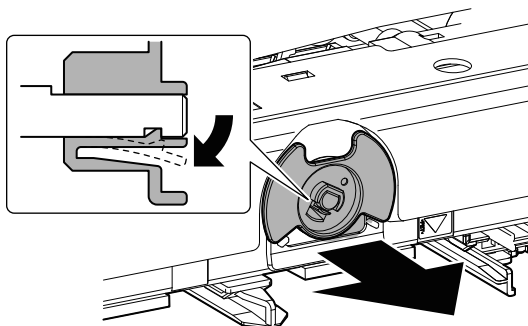


- 2) Remove the primary transfer drive coupling, and remove the parallel pin.

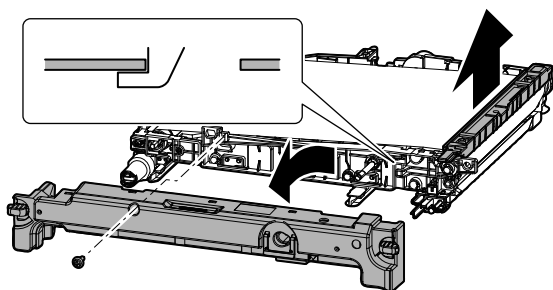


(2) Transfer front cover

- 1) Disengage the pawl, and remove the separation lever.

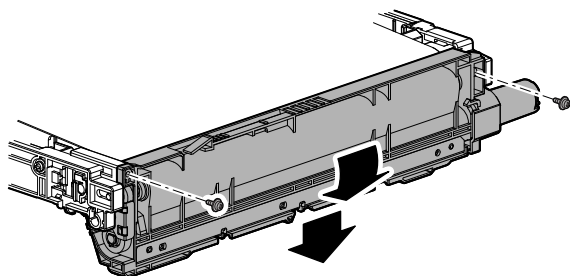


- 2) Remove the blue screw. Slide the transfer front cover to the left to remove. Remove the handle.



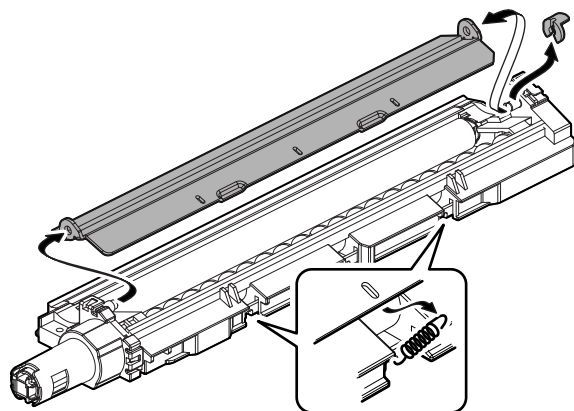
(3) Cleaner unit

- 1) Remove the blue screw. Turn the cleaner unit downward to remove.



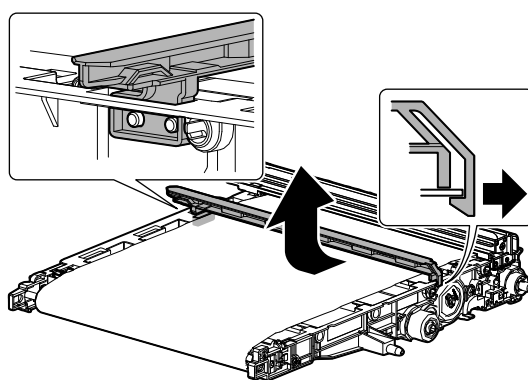
a. Cleaning blade

- 1) Remove the spring. Remove the resin E-ring, and remove the cleaning blade.

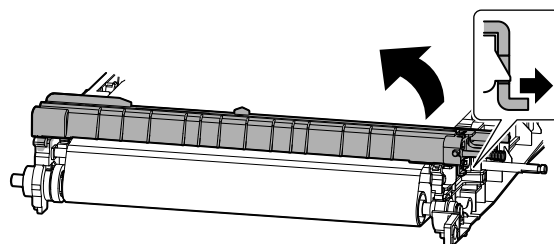


(4) Transfer follower roller unit

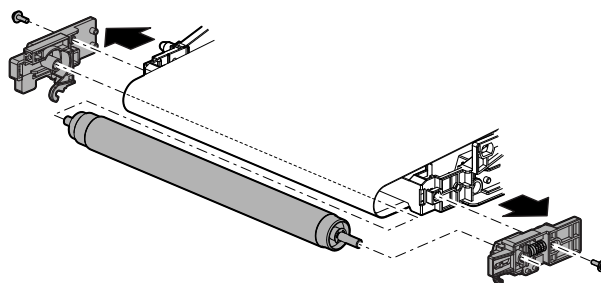
- 1) Disengage the pawl, and remove the guide.



- 2) Disengage the pawl, and remove the frame.

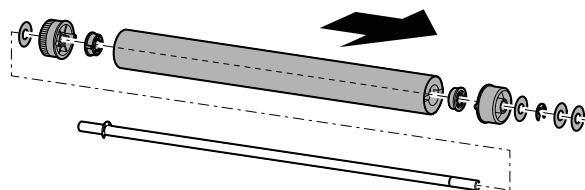


- 3) Remove the blue screw. Remove the holder and remove the transfer follower roller unit.



a. Transfer follower roller

- 1) Remove the polyslider, the E-ring, the collar, and the bearing. Remove the transfer follower roller.

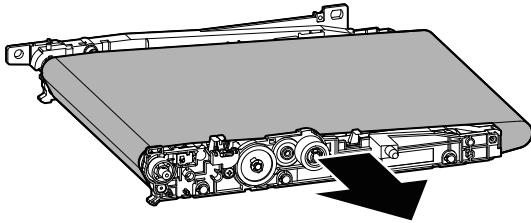


(5) Primary transfer belt

- 1) Remove the primary transfer belt from the frame.

NOTE: Use enough care not to scratch, bend, or smear the primary transfer belt.

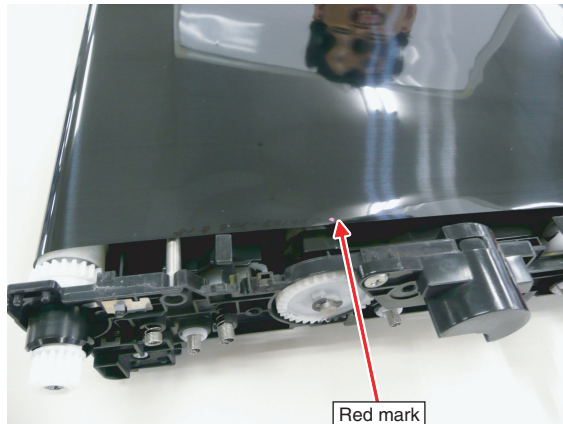
NOTE: When handling the primary transfer belt, use gloves not to put fingerprints or oil on its surface.



When replacing the transfer belt, perform the following procedures and observe the note in order to prevent reversion or meandering of the cleaning blade, or any trouble.

a. Transfer belt direction

When installing the transfer belt, arrange so that the red mark at the edge of the transfer belt is on the rear frame side. If it is installed in the wrong direction, the cleaning blade may be reversed or another trouble may occur.



NOTE: *

- * Use enough care not to scratch or bend the transfer belt.
- * Use enough care not to put fingerprints or foreign materials on the transfer belt surface. (Be sure to use gloves.)

b. Application of setting powder (UKOG-0123FCZZ)

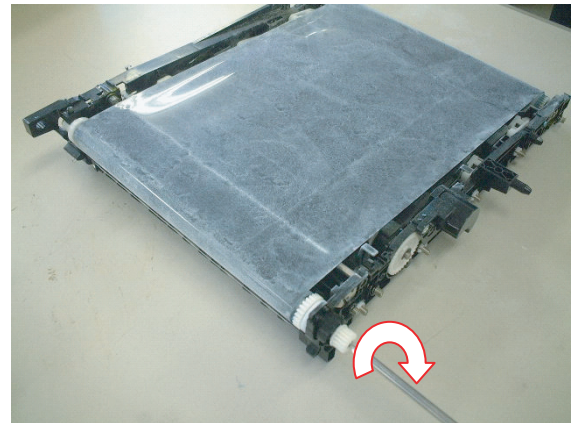
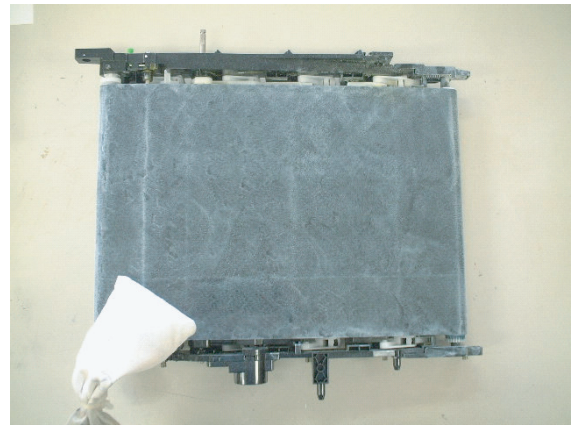
When the transfer belt is replaced, apply setting powder (UKOG-0123FCZZ) according to the following procedures.

- 1) Place the transfer unit with the transfer cleaner unit removed on a flat surface. Shake the bag of setting powder slightly, and apply setting powder evenly to the whole surface of the transfer belt.

Use a screwdriver to rotate the transfer belt drive gear in the transfer unit slowly in the arrow direction, changing the application position so that setting powder is applied evenly to the whole surface of the transfer belt.

(Key points for applying setting powder)

- * Apply setting powder by using the weight of the setting powder bag so that setting powder is evenly applied to the surface.
- * Use care to apply evenly to the edge of the transfer belt so that it is evenly applied in the F/R direction.

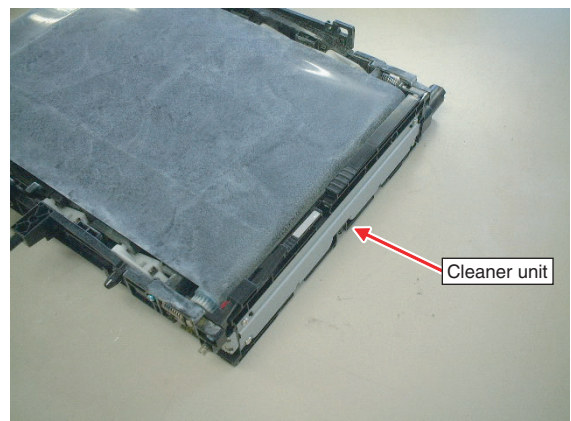


NOTE: *

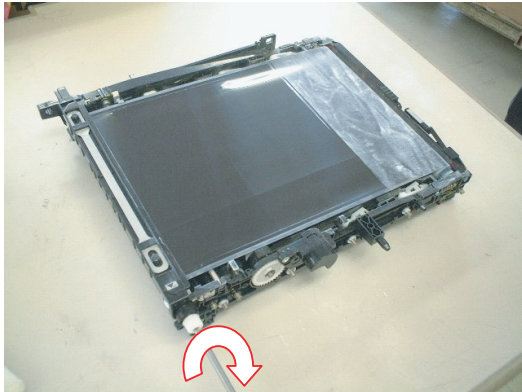
- * Use enough care not to scratch the transfer belt.
- * The procedure to rotate the transfer belt must be executed on a flat surface. If not, the transfer belt may meander.
- * When starting rotation of the transfer belt, carefully and slowly rotate in order not to apply a sudden great load to the cleaner blade.

- 2) Install the transfer cleaner unit.

At that time, check to confirm that setting powder is applied to the contact section between the cleaner blade and the transfer belt.



- 3) Use a screwdriver to rotate the transfer belt drive gear slowly in the arrow direction until setting powder is cleaned and removed from the transfer belt by the cleaner.



NOTE: * The procedure to rotate the transfer belt must be executed on a flat surface. If not, the transfer belt may meander.

* When starting rotation of the transfer belt, carefully and slowly rotate in order not to apply a sudden great load to the cleaner blade.

* When setting powder is completely removed, stop rotation of the belt. Do not rotate it unnecessarily.

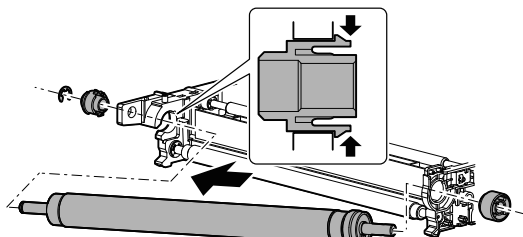
* Do not rotate reversely with the blade installed.

- 4) After installing the transfer unit, make three prints of half-tone or black background on A4 (11 x 8.5) paper, and check to confirm that there is no scratch or dirt on the transfer belt.

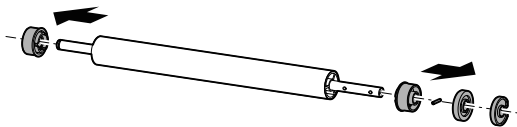
(6) Transfer drive roller

- 1) Remove the E-ring. Remove the bearing. Remove the transfer drive roller unit.

NOTE: When installing the transfer drive unit, fit the collar slit with the frame rib.

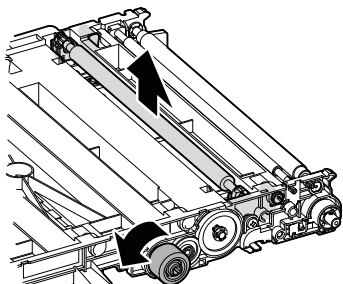


- 2) Remove the collar, the gear, and parallel pin, and the collar from the transfer drive roller.



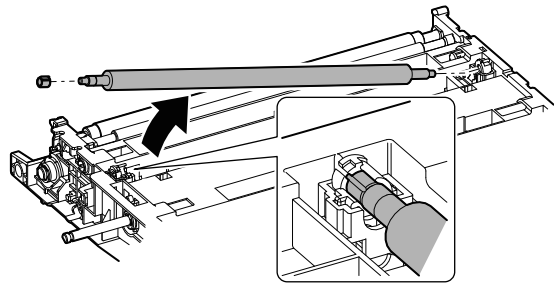
(7) Primary transfer roller

- 1) Turn back the primary transfer unit. Turn the gear to lift the primary transfer roller.



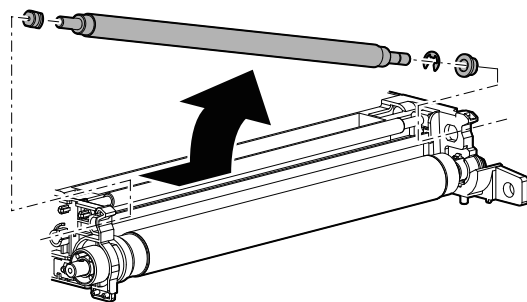
- 2) Remove the bearing side of the primary transfer roller, and remove the primary transfer roller. Remove the bearing from the primary transfer roller.

NOTE: When installing the primary transfer roller, be careful of the direction of the concave section of the bearing.



(8) Transfer tension roller

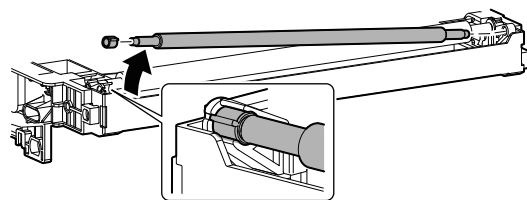
- 1) Turn back the primary transfer unit. Remove the E-ring. Slide the transfer tension roller to the front side to remove. Remove the bearing from the transfer tension roller.



(9) Backup shaft

- 1) Turn back the primary transfer unit. Remove the bearing side of the backup shaft, and remove the backup shaft. Remove the bearing from the backup shaft.

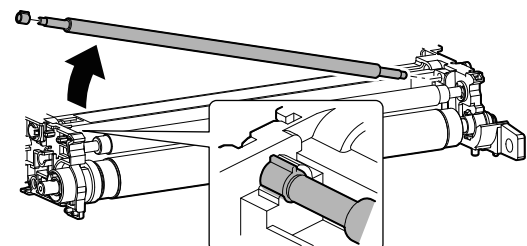
NOTE: When installing the backup shaft, be careful of the direction of the concave section of the bearing.



(10) Registration backup shaft

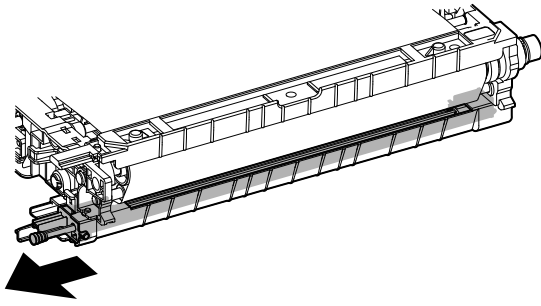
- 1) Turn back the primary transfer unit. Remove the bearing side of the registration backup shaft. Remove the bearing from the registration backup shaft.

NOTE: When installing the backup shaft, be careful of the direction of the concave section of the bearing.



(11) PTC unit

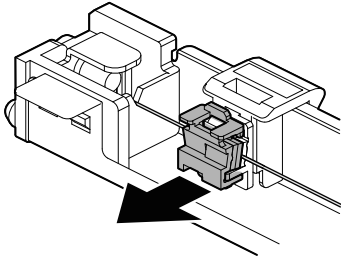
- 1) Pull out the PTC unit from the frame and remove it.



a. PTC cleaner B

- 1) Remove the PTC cleaner B.

NOTE: When installing, pinch the PTC wire and install it.

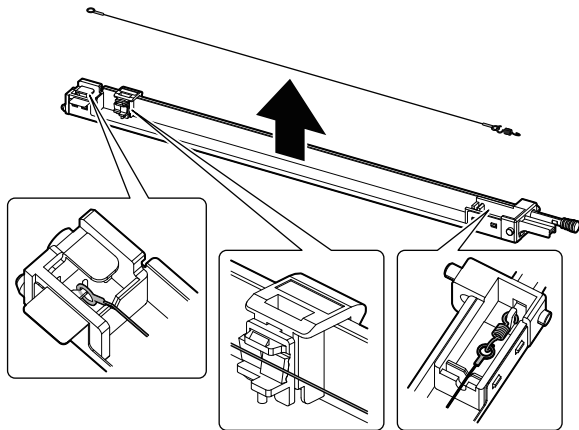


b. PTC wire

- 1) Remove the spring on the front side of the PTC wire. Remove the rear side and remove the PTC wire.

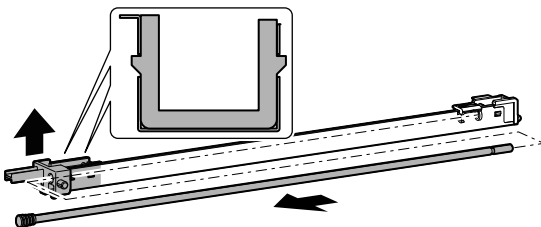
NOTE: Do not touch the wire section of the PTC wire with a bare hand.

NOTE: When installing, arrange so that the PTC wire is on the PTC cleaner.

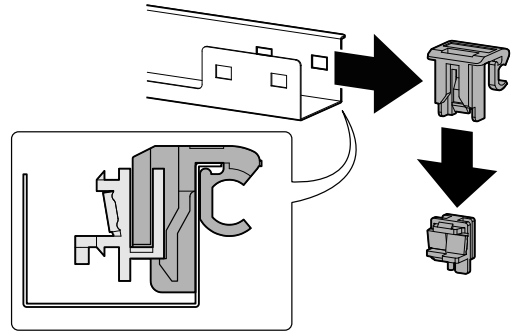


c. PTC cleaner

- 1) Remove the cleaner rod. Disengage the pawl, and remove the holder.

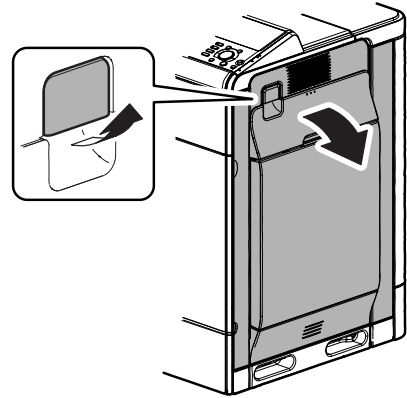


- 2) Slide the cleaner holder to the front side to remove. Remove the PTC cleaner from the cleaner holder.

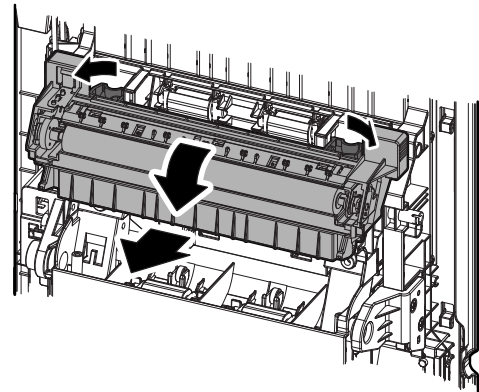


B. Secondary transfer unit

- 1) Pull the lever to release the lock, and open the right door.

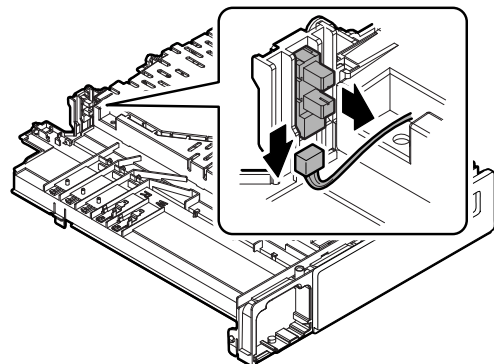


- 2) Release the lock, and remove the secondary transfer unit.

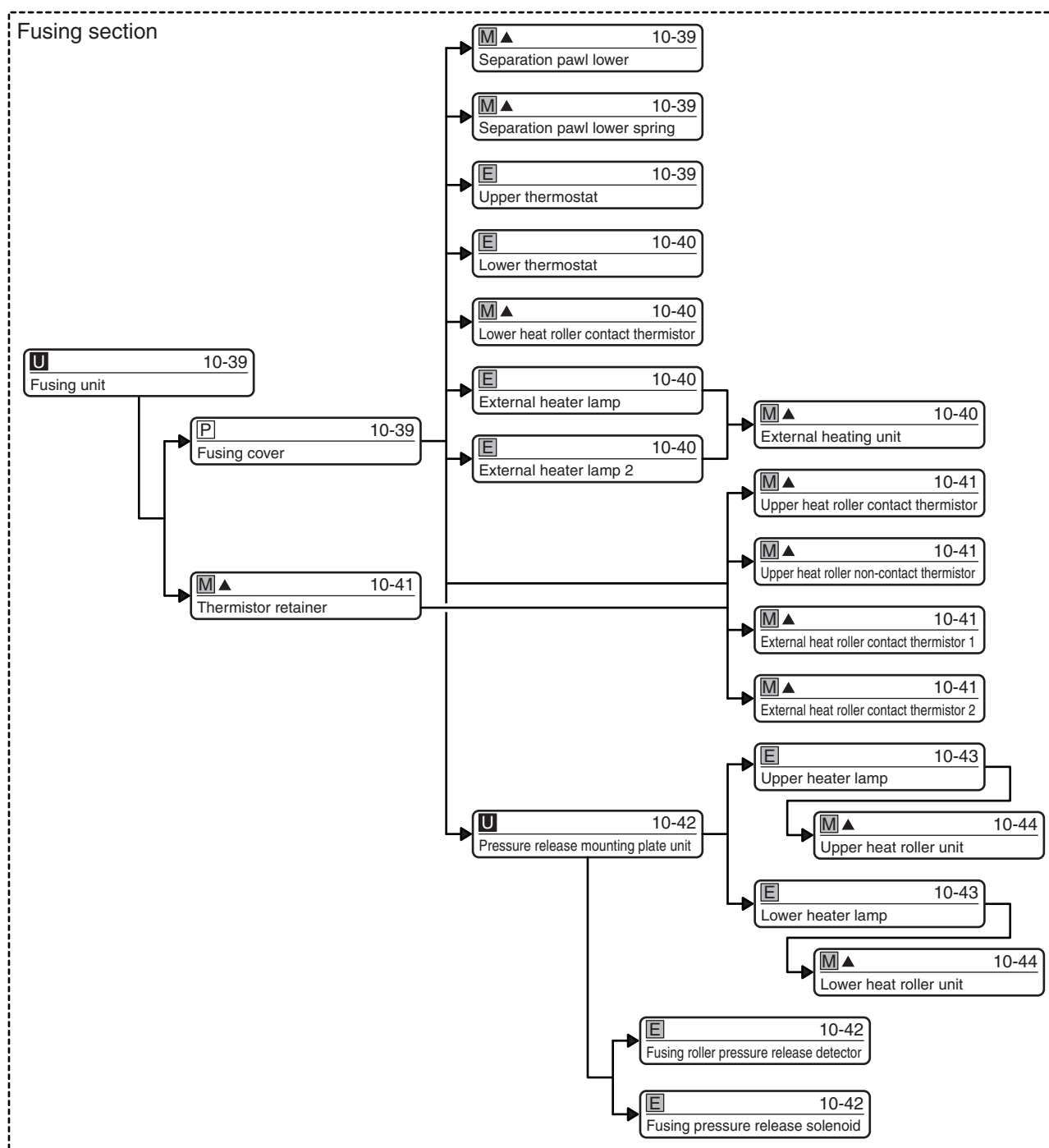
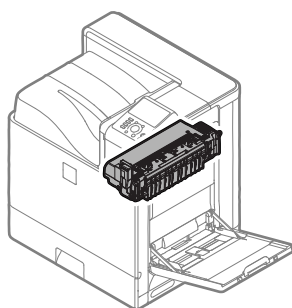


C. Transfer belt separation detection CL

- 1) Disconnect the connector, and remove the transfer belt separation detector CL.

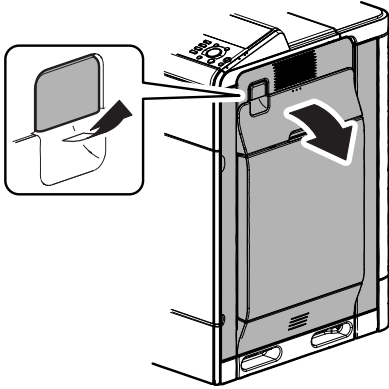


12. Fusing section (MX-C400P/C380P, MX-B400P/B380P)

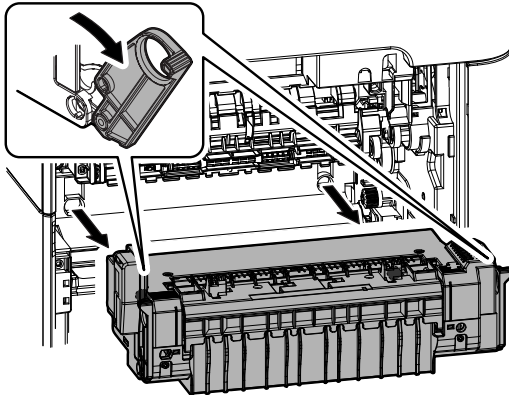


A. Fusing unit

- 1) Pull the lever to release the lock, and open the right door.

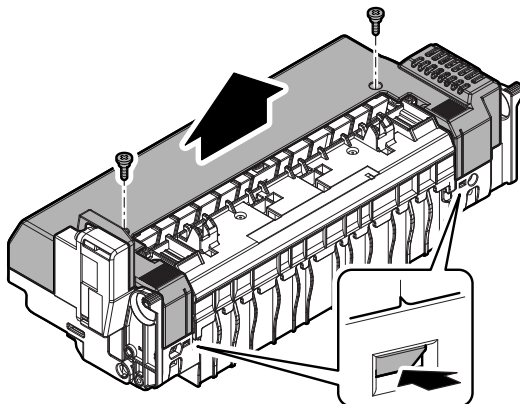


- 2) Pull the lever and remove the fusing unit.

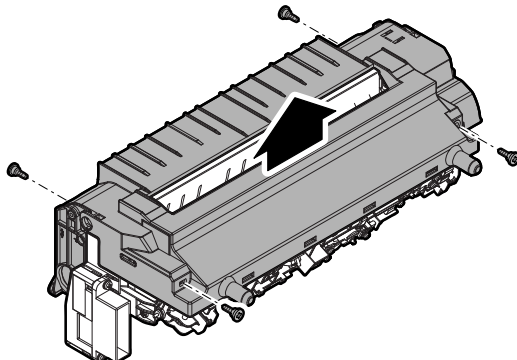


(1) Fusing cover

- 1) Remove the screw, disengage the pawl, and remove the fusing upper cover.

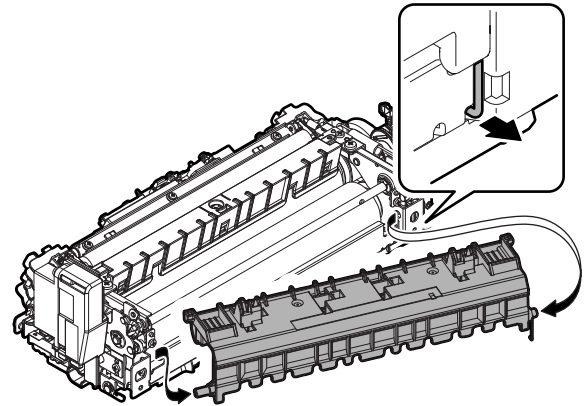


- 2) Remove the screw, and remove the fusing lower cover.



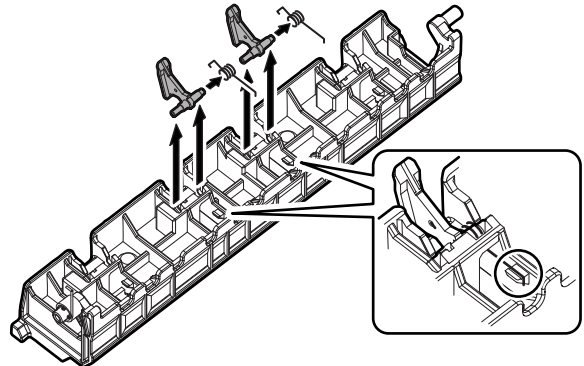
(2) Separation pawl lower / Separation pawl lower spring

- 1) Disengage the hook of the spring. Slide the paper guide to the front side and remove it.



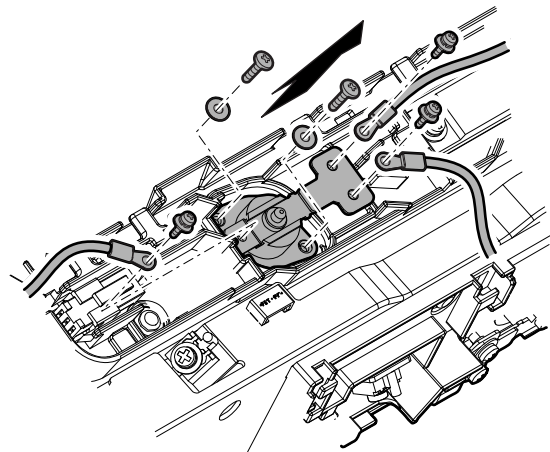
- 2) Disengage the hook of the separation pawl lower spring, and remove the separation pawl lower. Remove the separation pawl lower spring from the separation pawl lower.

NOTE: When installing, be sure to engage the hook of the separation pawl lower spring with the paper guide rib.



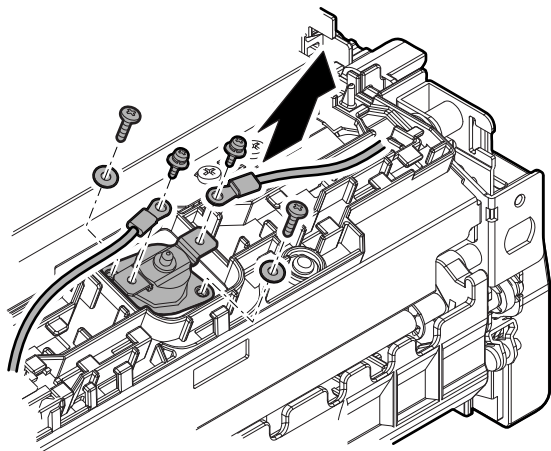
(3) Upper thermostat

- 1) Remove the screw, and remove the terminal. Remove the screw and the washer, and remove the upper thermostat.



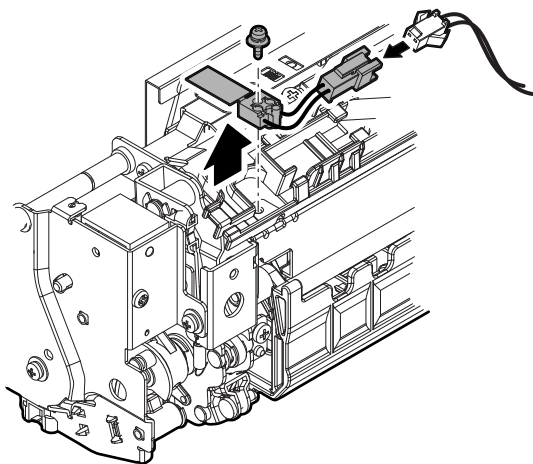
(4) Lower thermostat

- 1) Remove the screw, and remove the terminal. Remove the screw and the washer, and remove the lower thermostat.



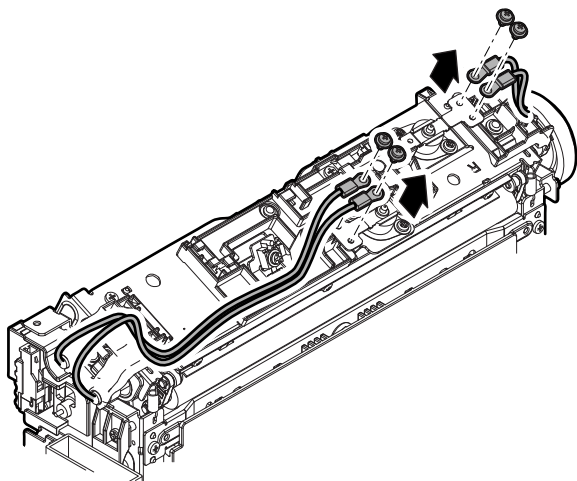
(5) Lower heat roller contact thermistor

- 1) Disconnect the connector. Remove the screw, and remove the lower heat roller contact thermistor.



(6) External heater lamp / External heater lamp 2

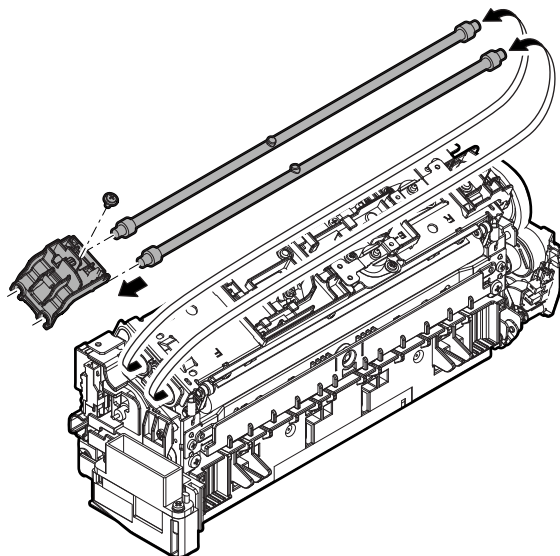
- 1) Remove the screw, and remove the terminal. Remove the harness.



- 2) Remove the screw of the holder on the front side, and remove the holder. Remove the external heater lamp and the external heater lamp 2.

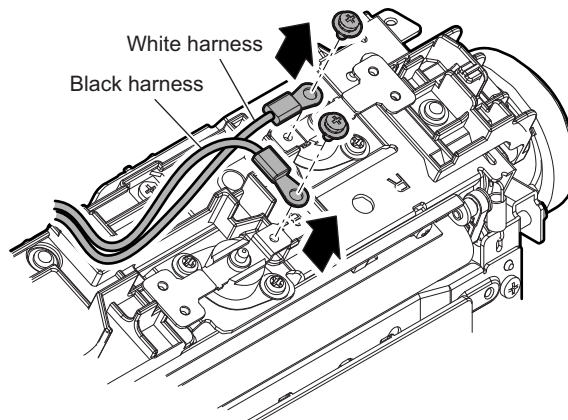
NOTE: Do not touch the glass section of the heater lamp with a bare hand.

NOTE: When installing, arrange so that the white harness of the heater lamp comes on the front side.

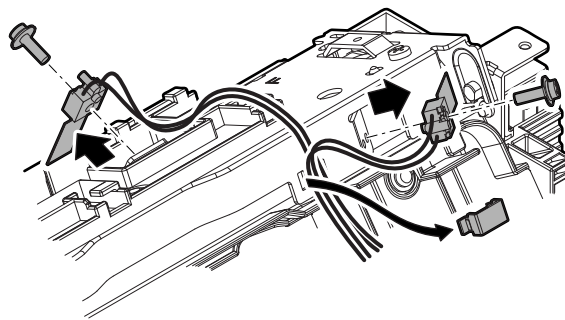


(7) External heating unit

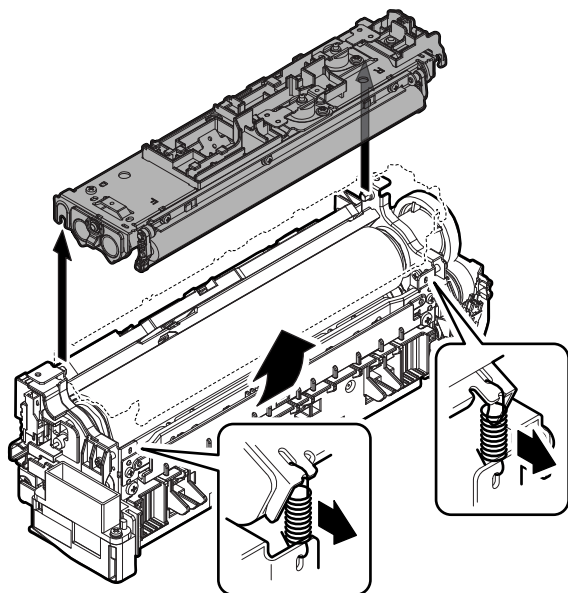
- 1) Remove the screw, and disconnect the terminal. Remove the harness.



- 2) Remove the clip. Remove the screw, and remove the external heat roller contact thermistor 1 and the external heat roller contact thermistor 2.



- 3) Remove the spring. Lift the external heating unit slightly and remove it.

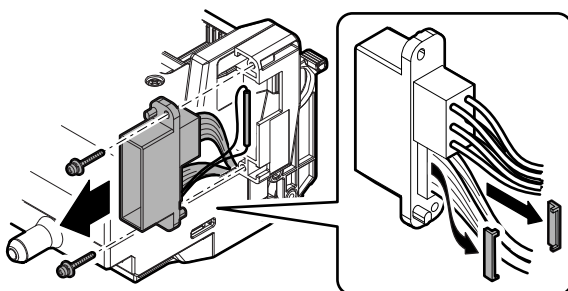


(8) Thermistor retainer

- 1) Remove the screw, and remove the drawer. Remove the thermistor retainer.

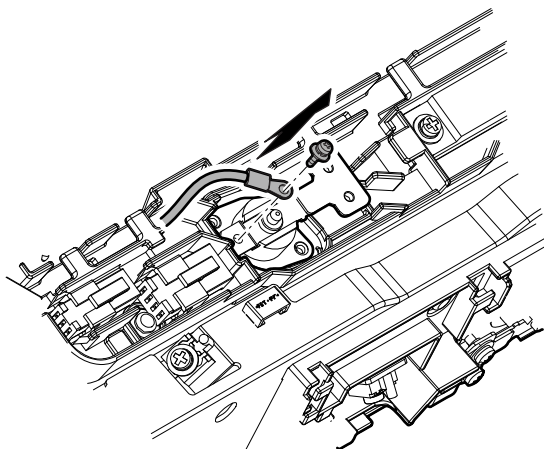
NOTE: When installing the thermistor retainer, push it until it clicks.

NOTE: When installing the drawer, push the harness with a tube first, then install the drawer so that the harness is not pinched.

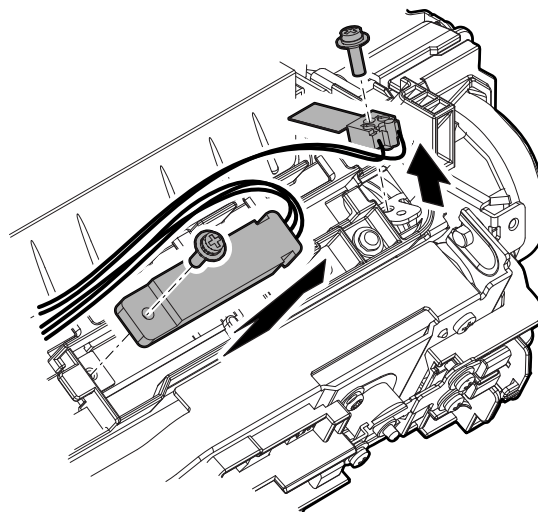


(9) Upper heat roller contact thermistor / Upper heat roller non-contact thermistor / External heat roller contact thermistor 1 / External heat roller contact thermistor 2

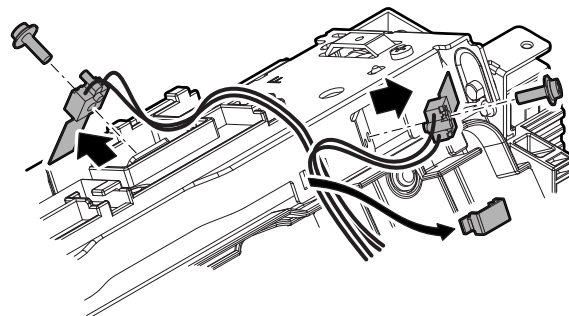
- 1) Remove the screw from the upper thermostat, and remove the terminal.



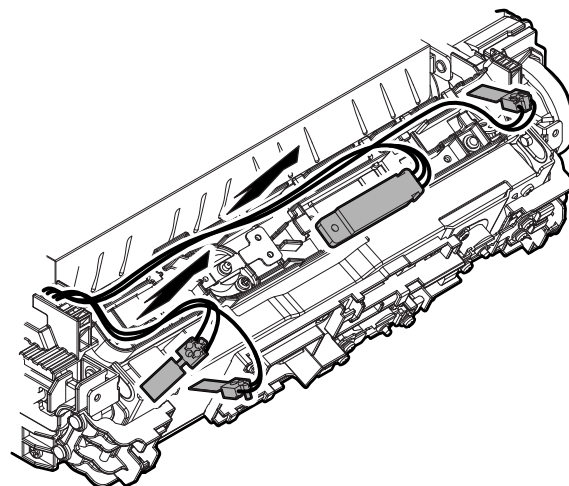
- 2) Remove the screw, and remove the upper heat roller contact thermistor and the upper heat roller non-contact thermistor.



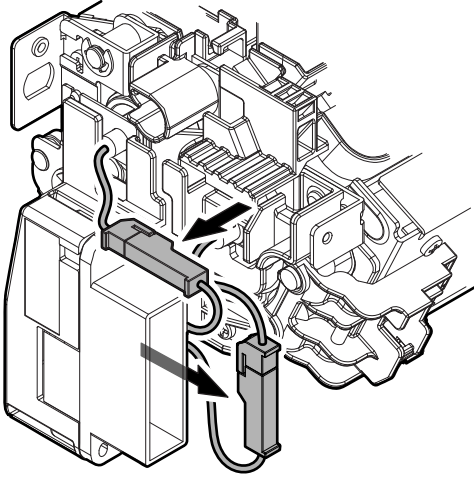
- 3) Remove the clip. Remove the screw, and remove the external heat roller contact thermistor 1 and the external heat roller contact thermistor 2.



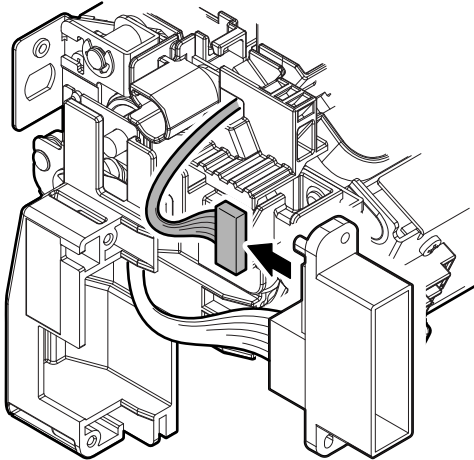
- 4) Remove the harness of the upper heat roller contact thermistor, the upper heat roller non-contact thermistor, the external heat roller contact thermistor 1, the external heat roller contact thermistor 2.



- 5) Remove the harness of the upper heater lamp and the lower heater lamp.

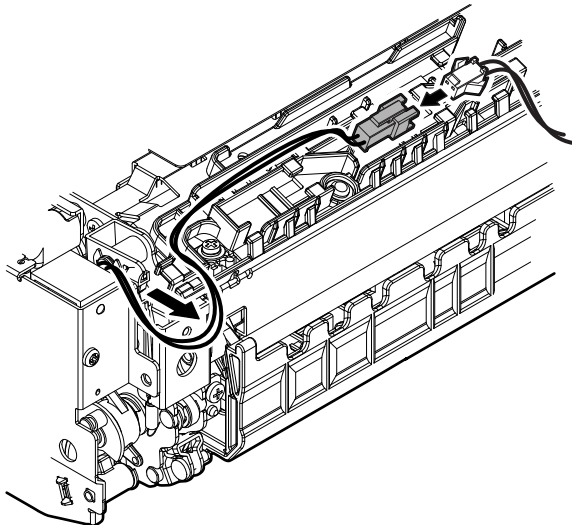


- 6) Remove the harness of the upper heat roller contact thermistor, the upper heat roller non-contact thermistor, the external heat roller contact thermistor 1, the external heat roller contact thermistor 2, and disconnect the connector from the drawer.

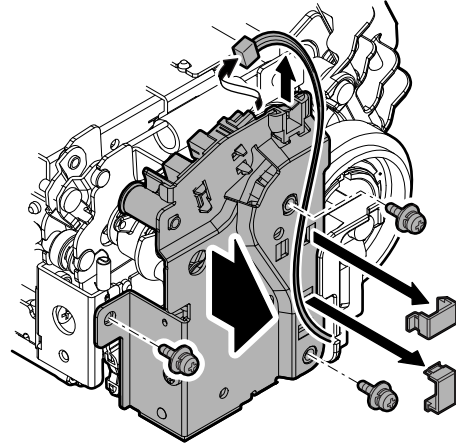


(10) Pressure release mounting plate unit

- 1) Disconnect the connector of the fusing pressure release solenoid, and remove the harness from the wire saddle.

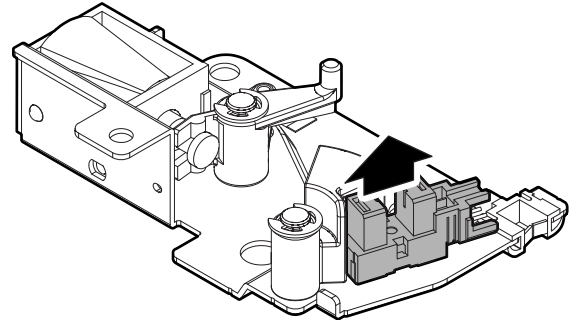


- 2) Disconnect the connector of the fusing roller pressure release detector, and remove the clip. Remove the screw, and remove the pressure release mounting plate unit.



a. Fusing roller pressure release detector

- 1) Remove the fusing roller pressure release detector.

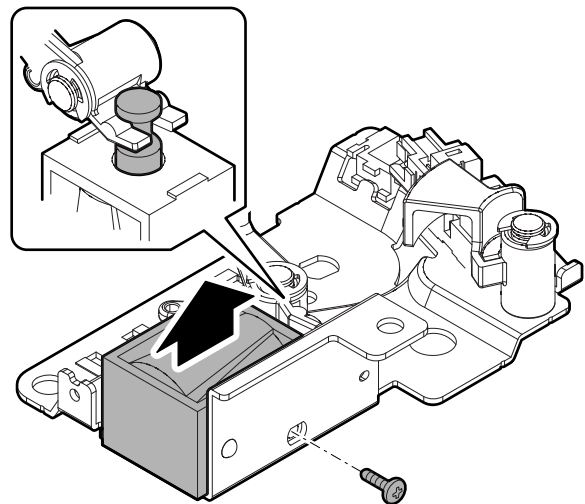


NOTE: When removing the fusing roller pressure release detector once, and then installing it again, apply screw lock to the pawl section.

b. Fusing pressure release solenoid

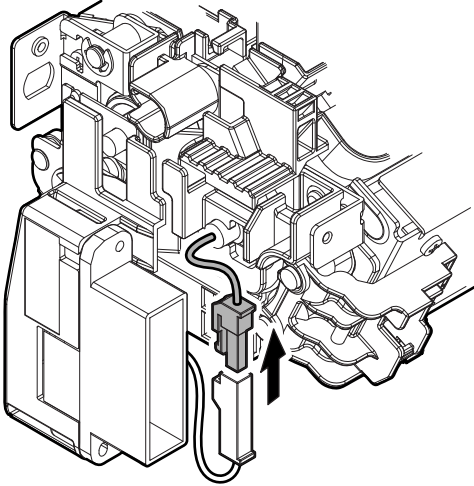
- 1) Remove the screw, and remove the fusing pressure release solenoid.

NOTE: When installing the fusing pressure release solenoid, engage the solenoid plunger with the groove in the lever.

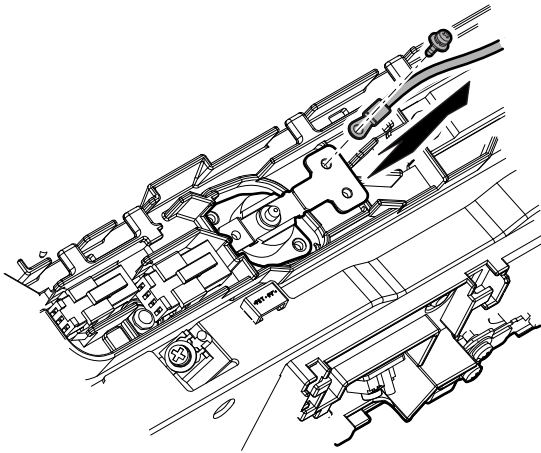


(11) Upper heater lamp

- 1) Disconnect the connector on the front side of the upper heater lamp.



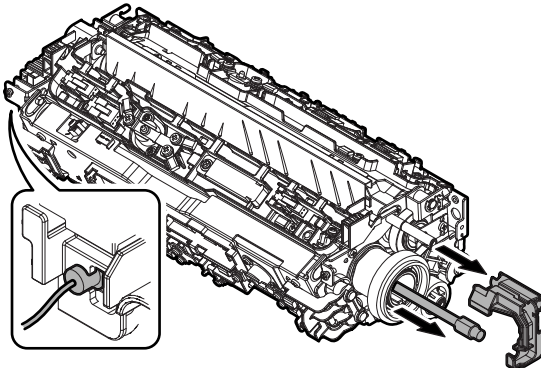
- 2) Remove the screw of the upper thermostat, and remove the terminal. Remove the harness.



- 3) Remove the holder, and remove the upper heater lamp.

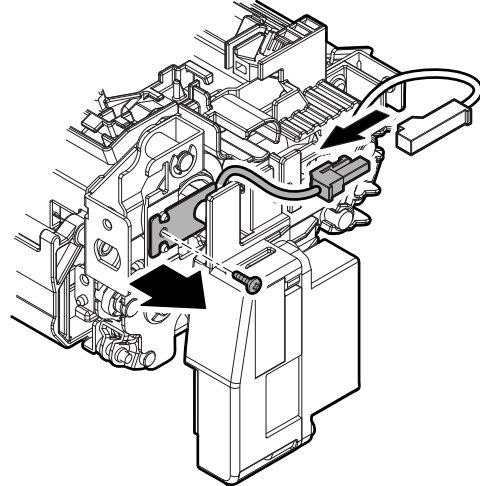
NOTE: Do not touch the glass section of the heater lamp with a bare hand.

NOTE: When installing, arrange so that the white harness of the heater lamp comes on the front side.

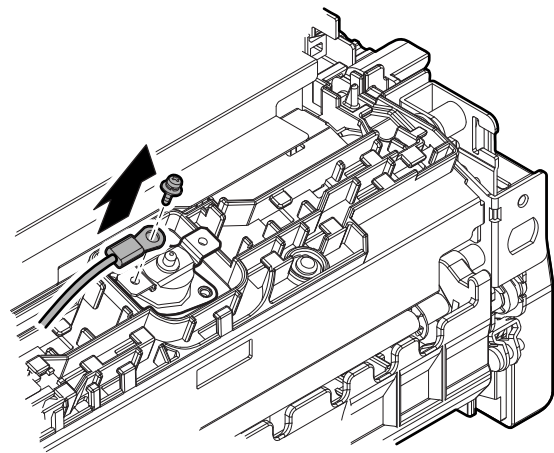


(12) Lower heater lamp

- 1) Disconnect the connector on the front side of the upper heater lamp. Remove the screw, and remove the fixing plate.



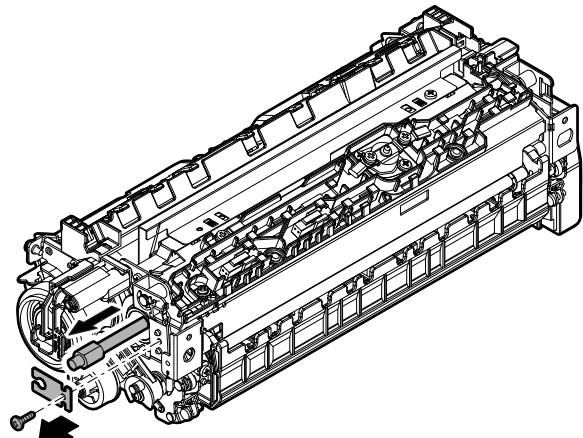
- 2) Remove the screw of the lower thermostat, and remove the terminal. Remove the harness.



- 3) Remove the screw, and remove the fixing plate. Remove the lower heater lamp.

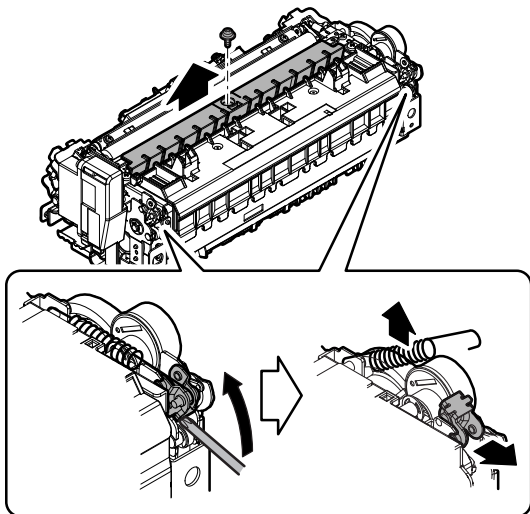
NOTE: Do not touch the glass section of the heater lamp with a bare hand.

NOTE: When installing, arrange so that the white harness of the heater lamp comes on the front side.

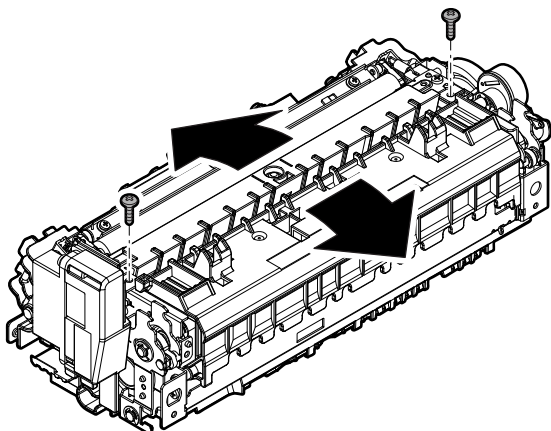


(13) Upper heat roller unit

- 1) Remove the screw, and remove the paper guide. Release the pressure, and remove the fulcrum plate and the spring.



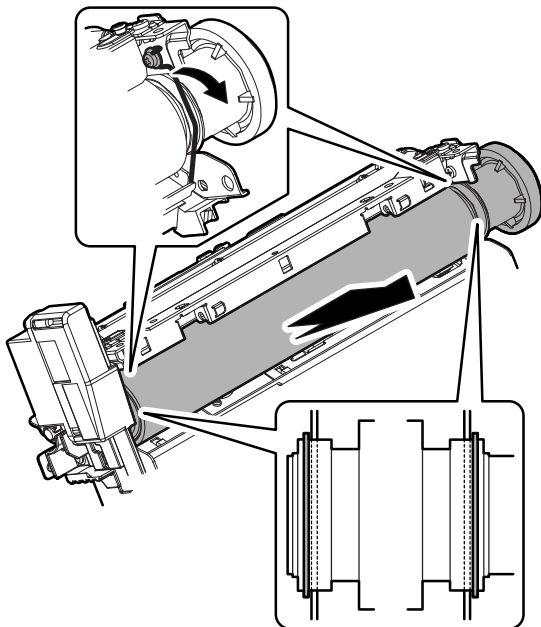
- 2) Remove the screw, and open the fusing unit.



- 3) Remove the stopper from the step screw, and remove the upper heat roller unit.

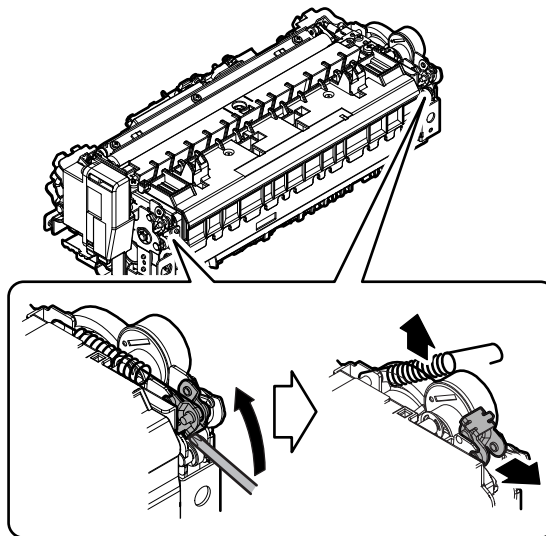
NOTE: Be careful not to scratch or put dirt on the heat roller.

NOTE: When installing the upper heat roller unit, check to confirm that the bearing ring is outside of the frame.

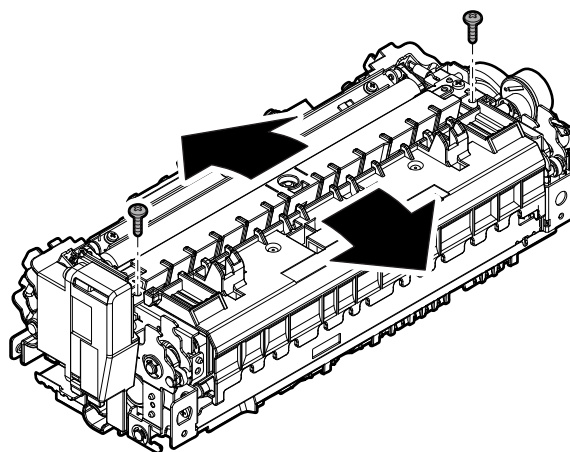


(14) Lower heat roller unit

- 1) Release the pressure, and remove the fulcrum plate and the spring.

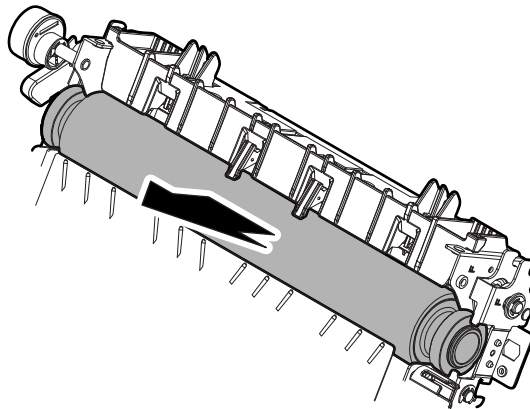


- 2) Remove the screw, and open the fusing unit.

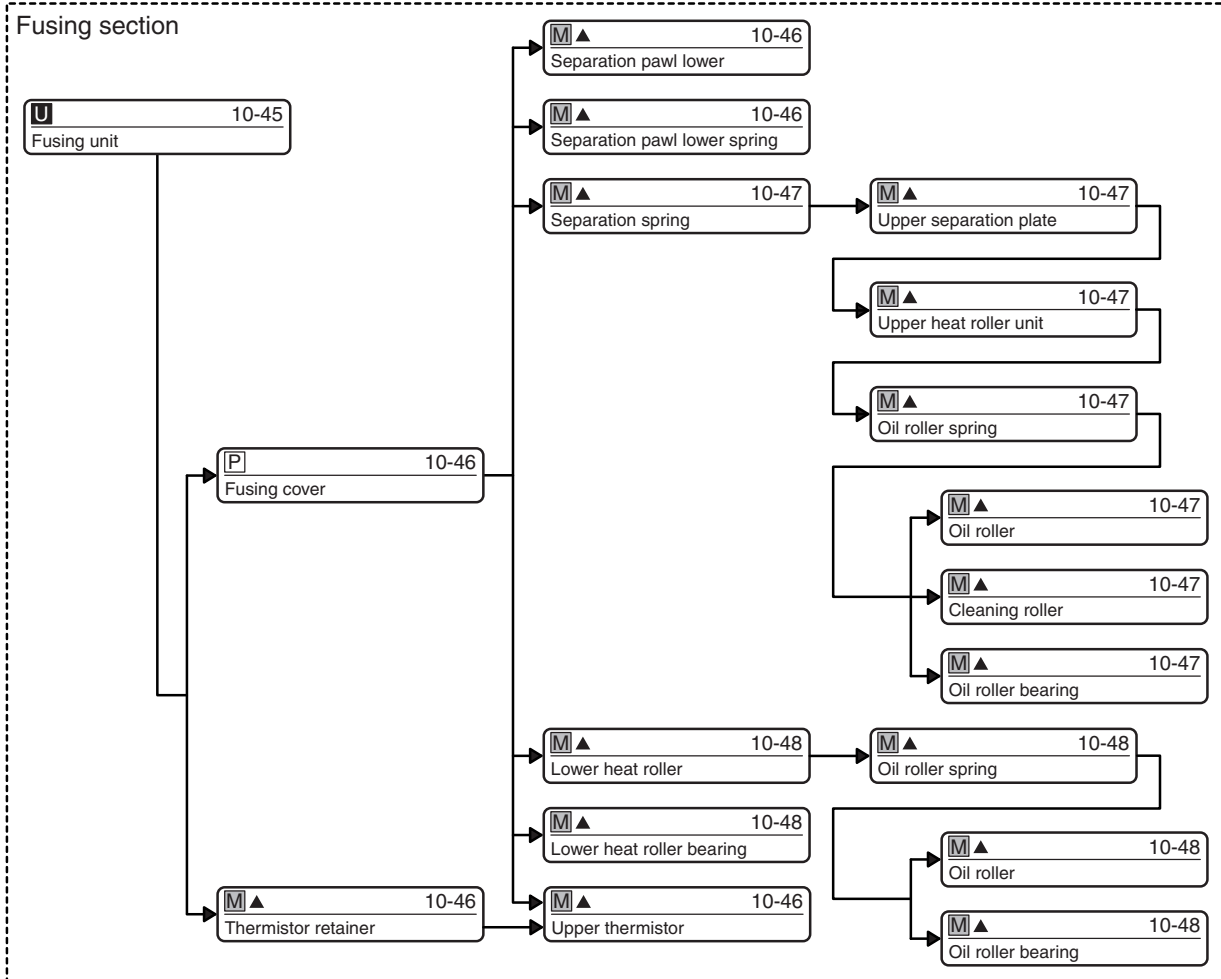
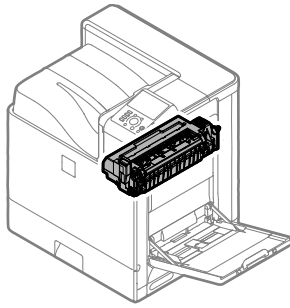


- 3) Remove the lower heat roller unit.

NOTE: Be careful not to scratch or put dirt on the heat roller.

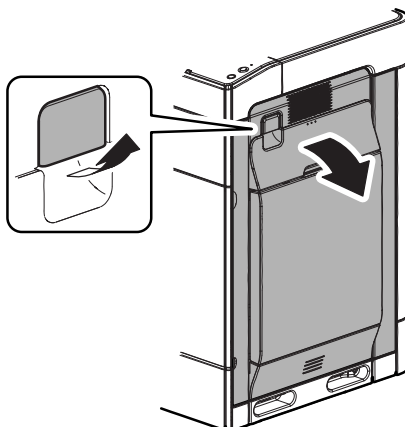


13. Fusing section (MX-B382P)

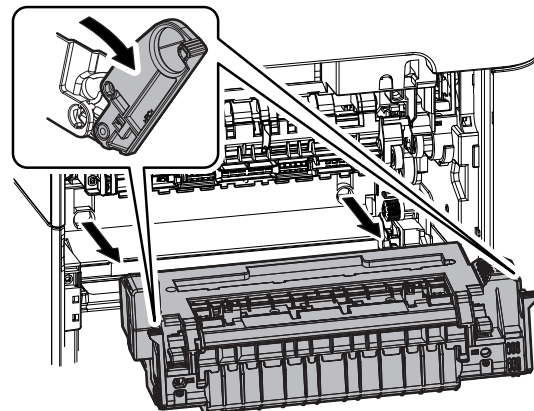


A. Fusing unit

1) Pull the lever to release the lock, and open the right door.

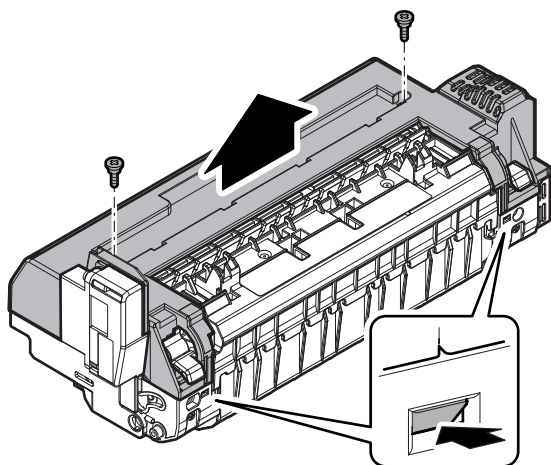


2) Pull the lever and remove the fusing unit.

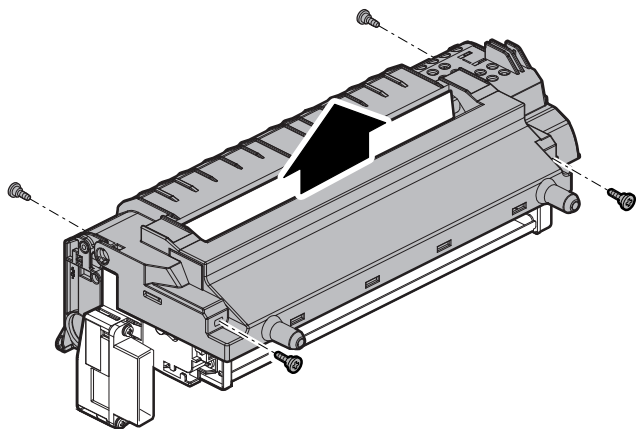


(1) Fusing cover

- 1) Remove the screw, disengage the pawl, and remove the fusing upper cover.

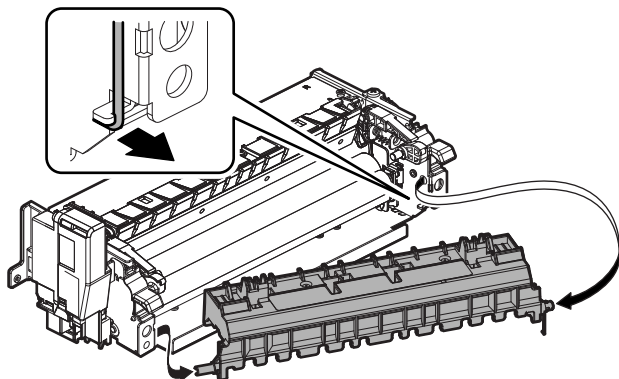


- 2) Remove the screw, and remove the fusing lower cover.



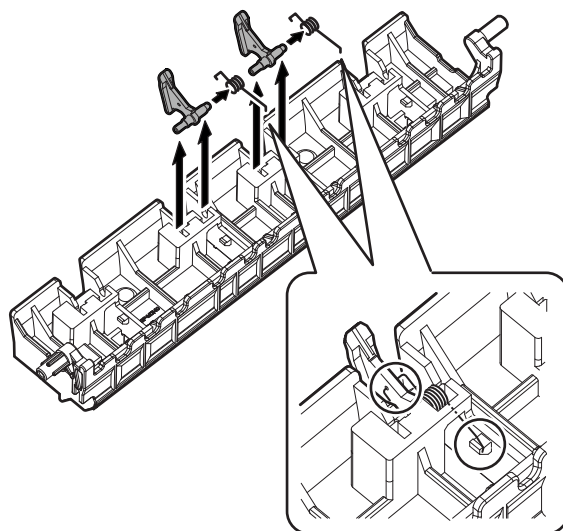
(2) Separation pawl lower / Separation pawl lower spring

- 1) Disengage the hook of the spring. Slide the paper guide to the front side and remove it.



- 2) Disengage the hook of the separation pawl lower spring, and remove the separation pawl lower. Remove the separation pawl lower spring from the separation pawl lower.

NOTE: When installing, be sure to engage the hook of the separation pawl lower spring with the paper guide rib.

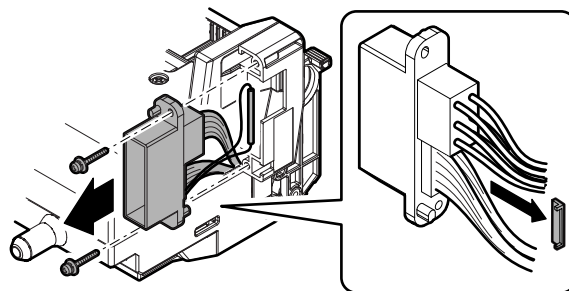


(3) Thermistor retainer

- 1) Remove the screw, and remove the drawer. Remove the thermistor retainer (red only).

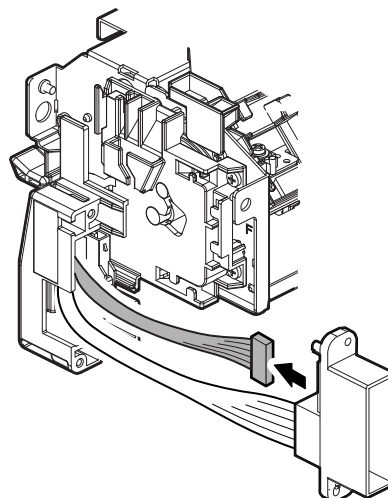
NOTE: When installing the thermistor retainer, push it until it clicks.

NOTE: When installing the drawer, push the harness with a tube first, then install the drawer so that the harness is not pinched.

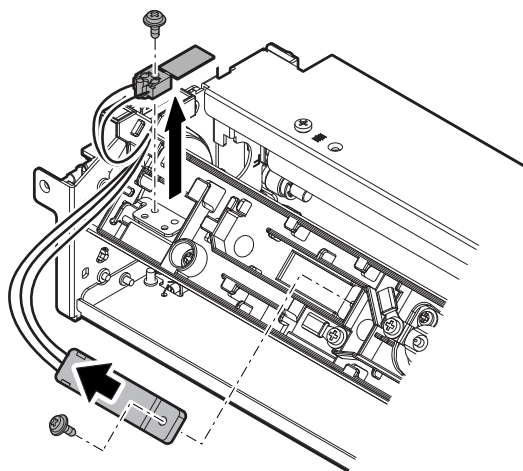


(4) Upper thermistor

- 1) Disconnect the connector of the upper thermistor from the drawer.

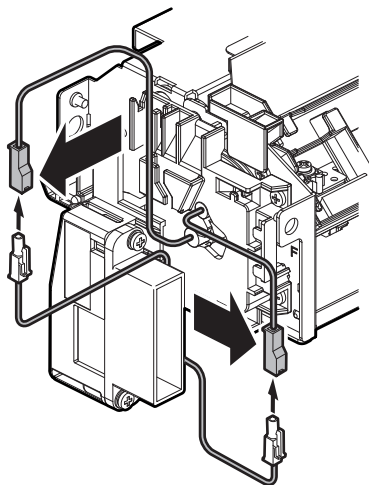


- ▲ 2) Remove the screw, and remove the upper thermistor.

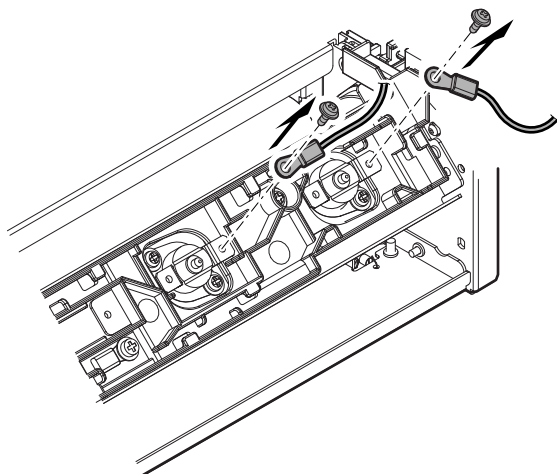


**(5) Upper separation plate/Separation spring/
Upper heat roller unit/Oil roller spring/Oil roller/
Cleaning roller/Oil roller bearing**

- 1) Disconnect the connector on the front side of the upper heater lamp.

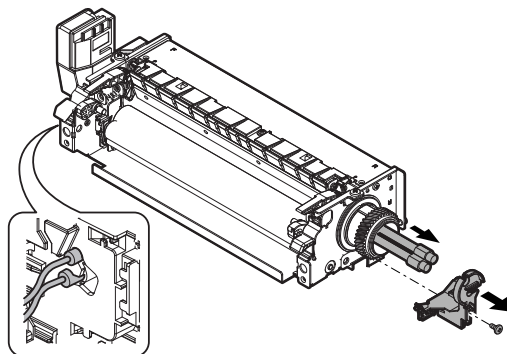


- 2) Remove the screw of the upper thermostat, and remove the terminal. Remove the harness.

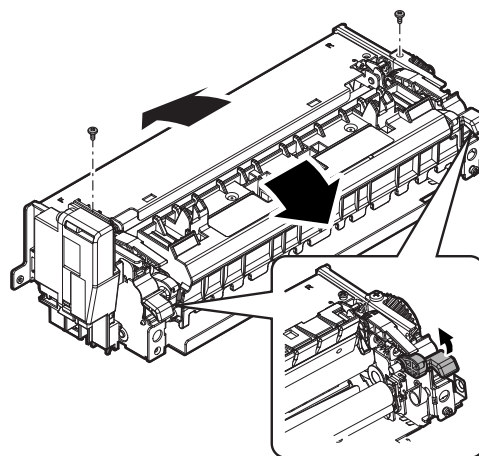


- 3) Remove the holder, and remove the upper heater lamp.

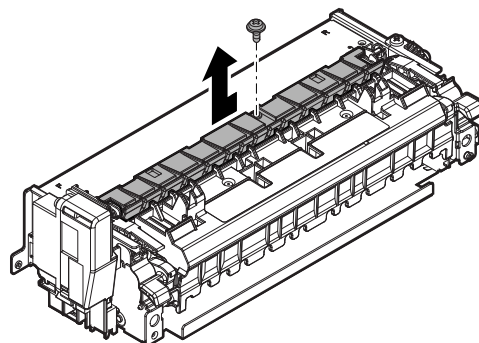
NOTE: Do not touch the glass section of the heater lamp with a bare hand.



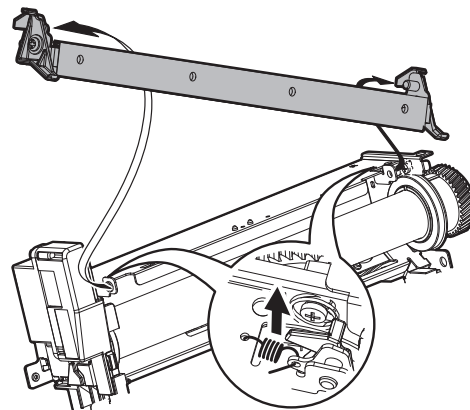
- 4) Raise the lever to release the pressure of the heat roller. Remove the screw, and open the fusing unit.



- 5) Remove the screw, and slide the paper guide to remove.



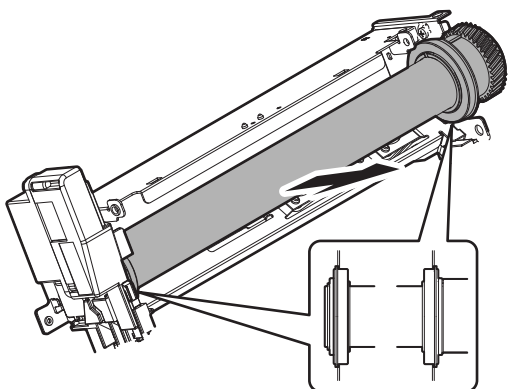
- 6) Remove the spring, slide the upper separation plate and remove it.



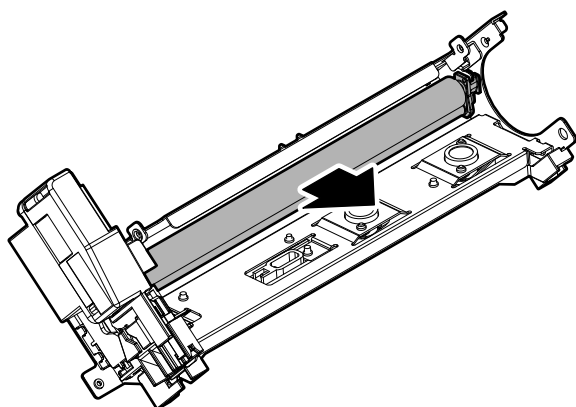
▲ 7) Remove the upper heat roller unit.

NOTE: Be careful not to scratch or put dirt on the heat roller.

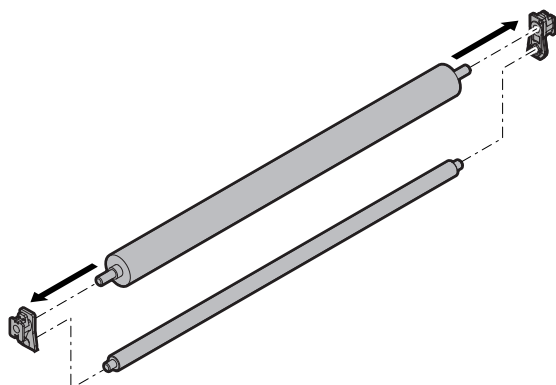
NOTE: When installing the upper heat roller unit, check to confirm that the bearing ring is outside of the frame.



8) Remove the oil roller unit.

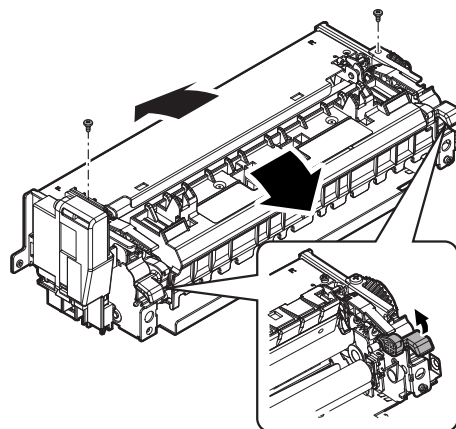


9) Remove the oil roller bearing. Remove the oil roller and the cleaning roller.



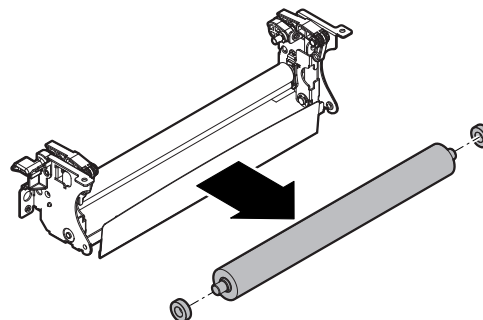
(6) Lower heat roller/Lower heat roller bearing

- 1) Raise the lever to release the pressure of the heat roller. Remove the screw, and open the fusing unit.



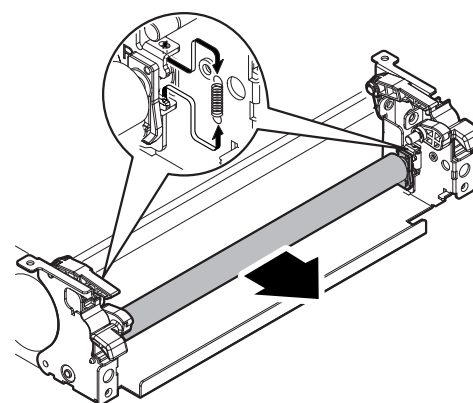
- 2) Remove the lower heat roller, and remove the lower heat roller bearing.

NOTE: Be careful not to scratch or put dirt on the heat roller.

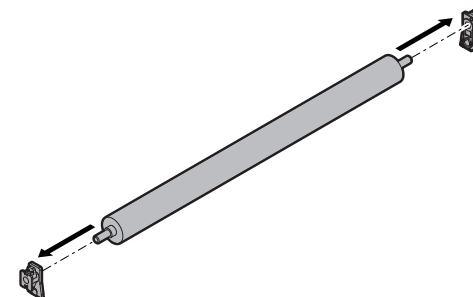


(7) Oil roller spring/Oil roller/Cleaning roller

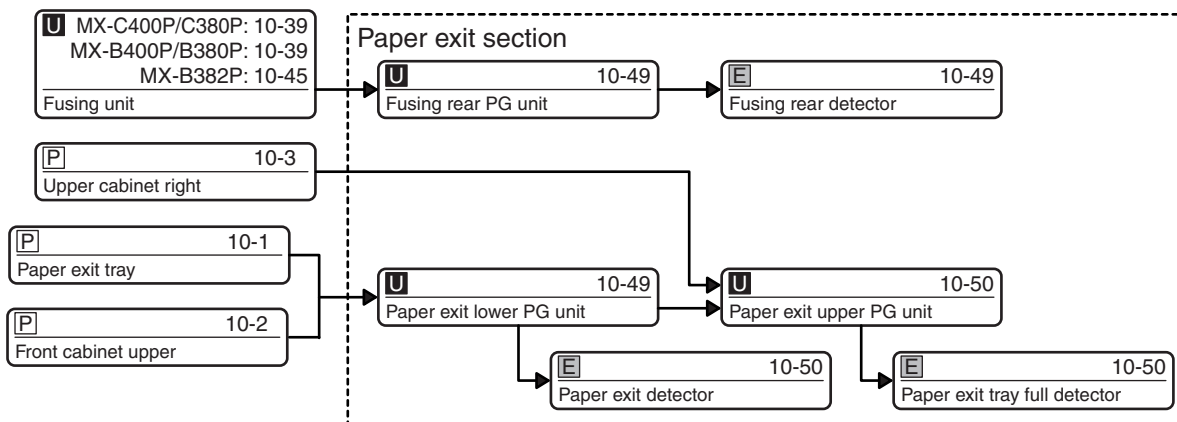
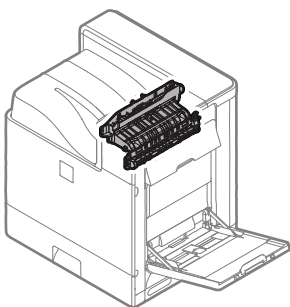
- 1) Remove the oil roller spring and remove the cleaning roller unit.



- 2) Remove the oil roller bearing and the cleaning roller.

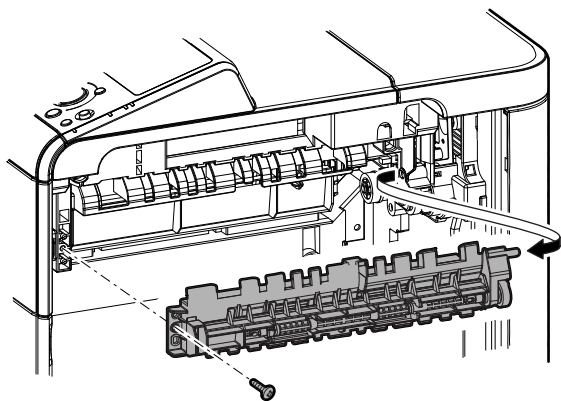


14. Paper exit section



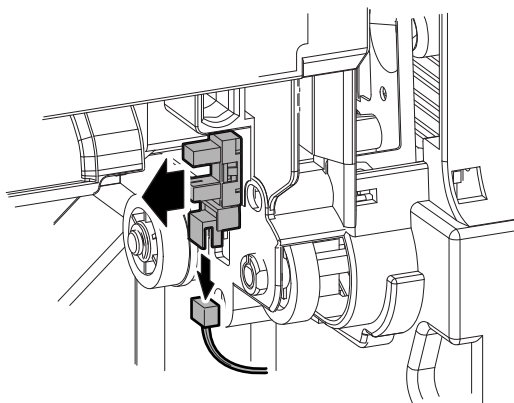
A. Fusing rear PG unit

- 1) Remove the screw, and remove the fusing rear PG unit.



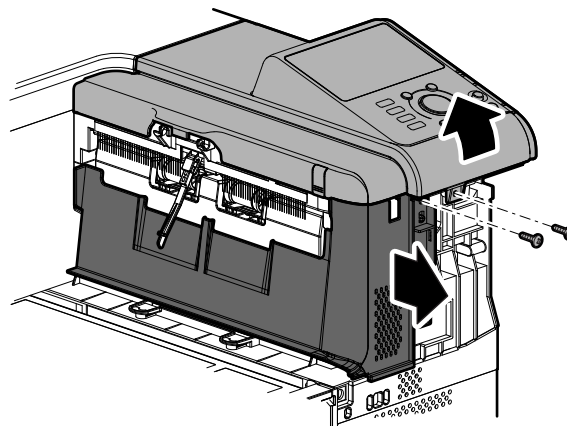
B. Fusing rear detector

- 1) Disconnect the connector, and remove the fusing rear detector.

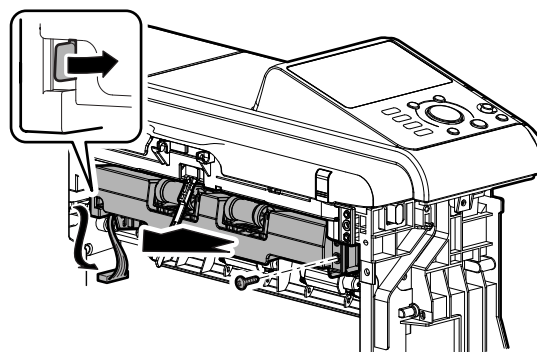


C. Paper exit lower PG unit

- 1) Slightly lift the operation panel unit, and remove the front connection cabinet.

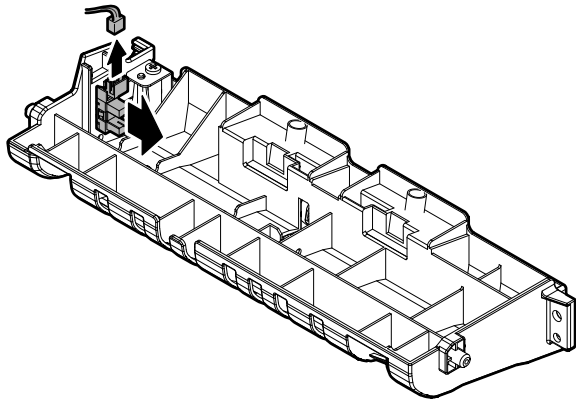


- 2) Disconnect the connector. Remove the screw, disengage the pawl, and remove the paper exit lower PG unit.



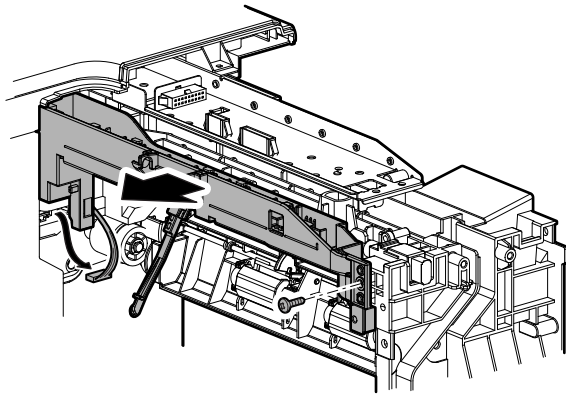
(1) Paper exit detector

- 1) Disconnect the connector, and remove the paper exit detector.



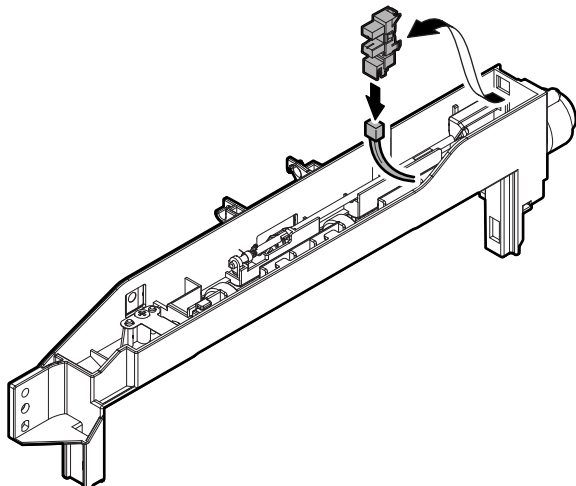
D. Paper exit upper PG unit

- 1) Disconnect the connector. Remove the screw, and remove the paper exit upper PG unit.

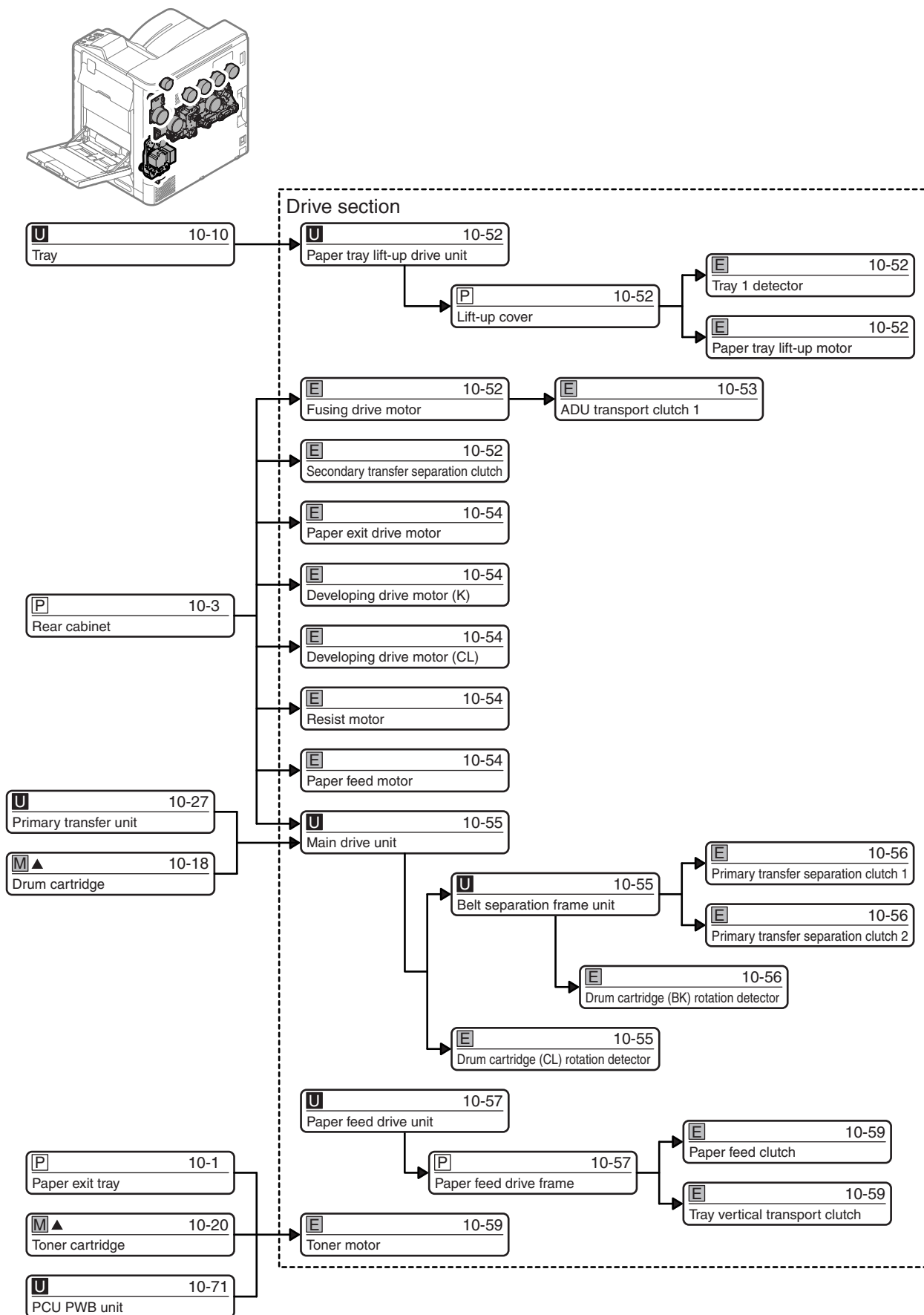


(1) Paper exit tray full detector

- 1) Remove the paper exit tray full detector, and disconnect the connector.

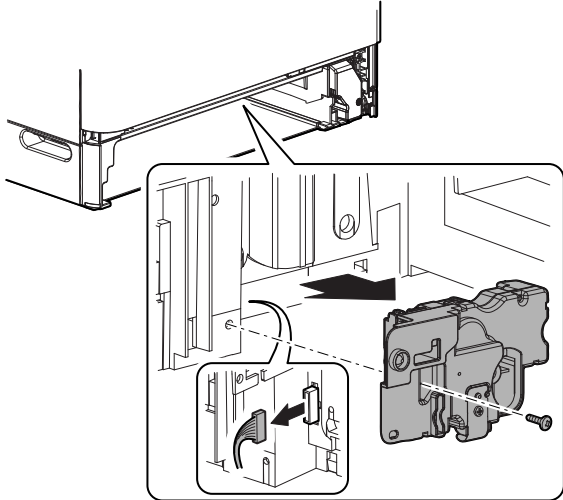


15. Drive section (MX-C400P/C380P)



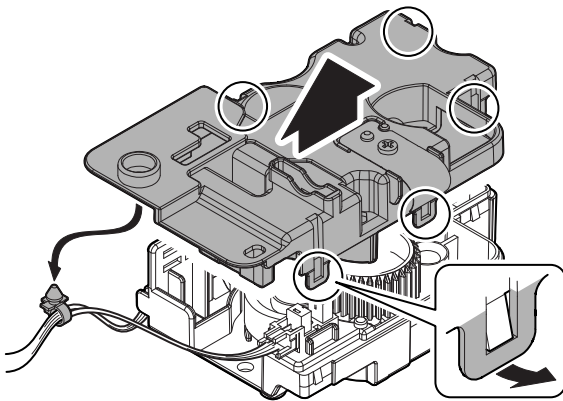
A. Paper tray lift-up drive unit

- 1) Remove the screw, and remove the paper tray lift-up drive unit. Disconnect the connector.



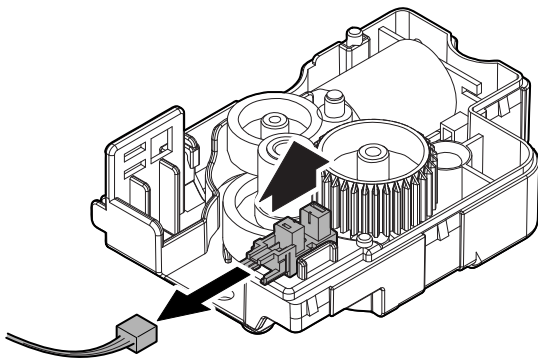
(1) Lift-up cover

- 1) Remove the snap band. Disconnect the connector, and remove the lift-up cover.



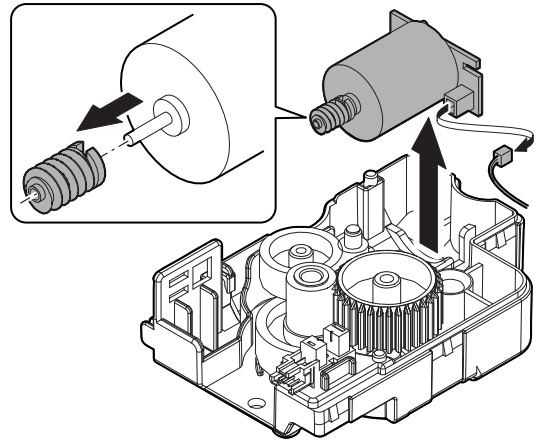
(2) Tray 1 detector

- 1) Disconnect the connector, and remove the tray 1 detector.



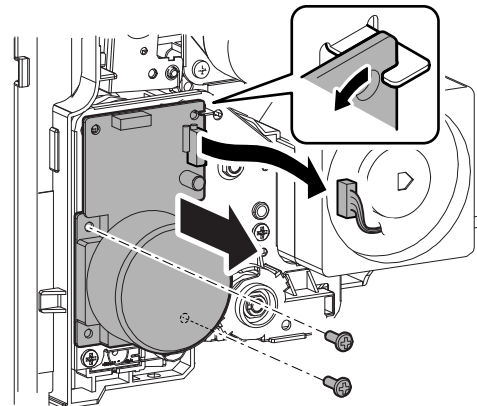
(3) Paper tray lift-up motor

- 1) Remove the paper tray lift-up motor, and disconnect the connector. Remove the gear from the paper tray lift-up motor.



B. Fusing drive motor

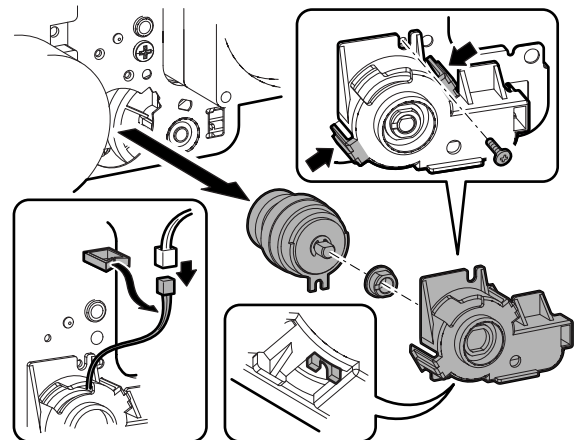
- 1) Disconnect the connector. Remove the screw, and slightly slide the fusing drive motor and rotate and remove it.



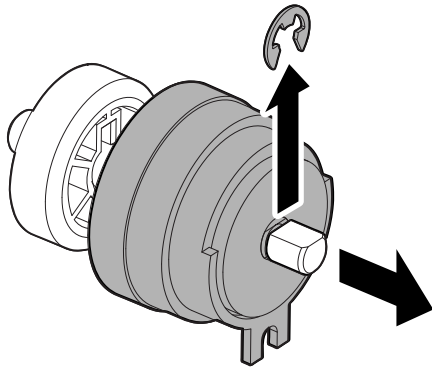
C. Secondary transfer separation clutch

- 1) Disconnect the connector, and remove the harness from the wire saddle. Remove the screw. Disengage the pawl, and remove the holder. Remove the bearing and the secondary transfer separation clutch unit.

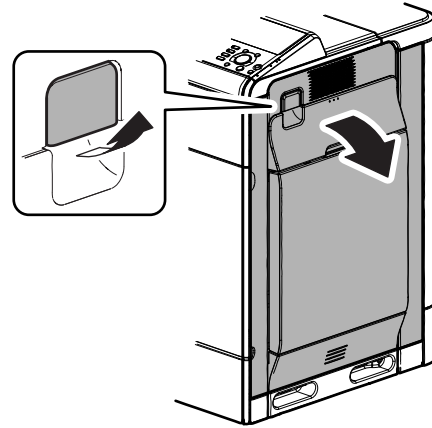
NOTE: When installing, fit the turn-stopper of the clutch.



- 2) Remove the E-ring, and remove the secondary transfer separation clutch.

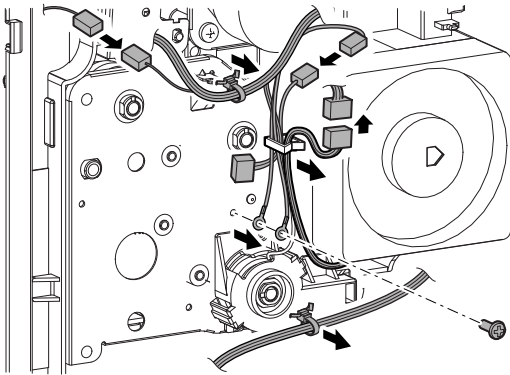


- 3) Pull the lever to release the lock, and open the right door.



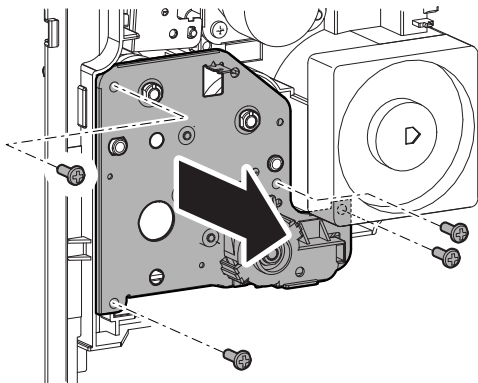
D. ADU transport clutch 1

- 1) Disconnect the connector. Remove the snap band, and remove the harness from the wire saddle. Remove the screw, and remove the earth wire.



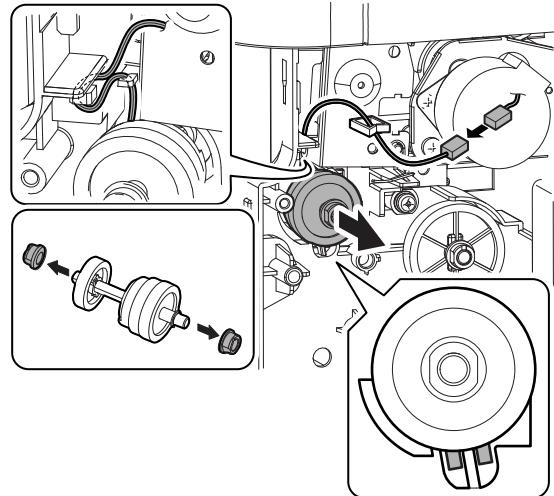
- 2) Remove the screw, and remove the fusing drive frame unit.

NOTE: When the fusing drive frame unit is removed, the bearing and the shaft may easily come off. Be careful not to lose them.

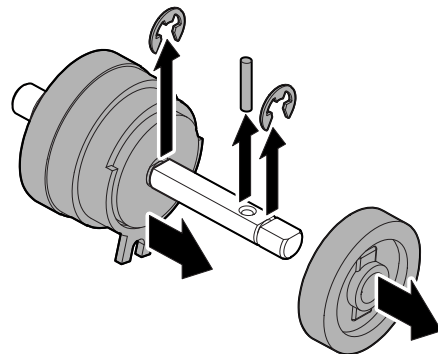


- 4) Disconnect the connector, and remove the harness from the wire saddle. Remove the ADU transport clutch 1 unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.

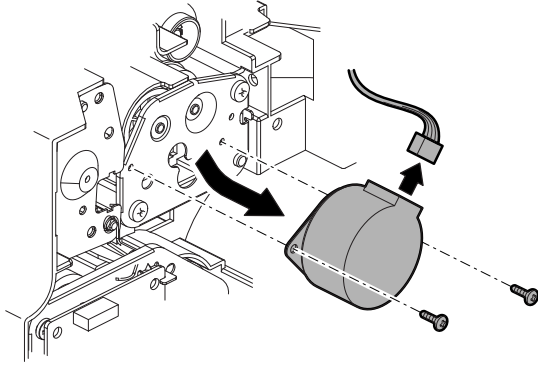


- 5) Remove the E-ring, and remove the gear. Remove the parallel pin. Remove the E-ring, and remove the ADU transport clutch 1.



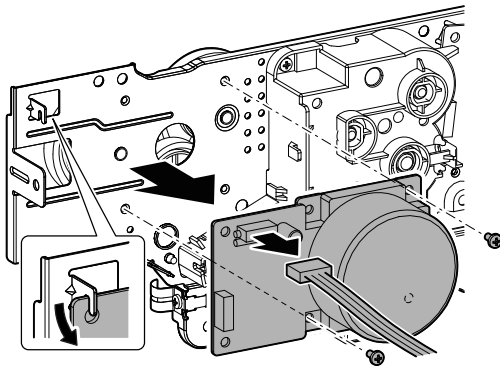
E. Paper exit drive motor

- 1) Disconnect the connector. Remove the screw, and remove the paper exit drive motor.



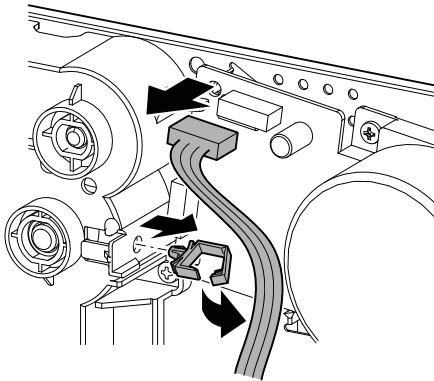
F. Developing drive motor (K)

- 1) Disconnect the connector. Remove the screw, and slightly turn the developing drive motor (K) and remove it.

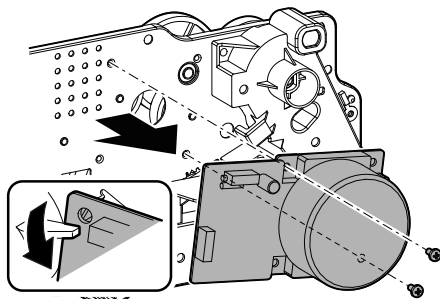


G. Developing drive motor (CL)

- 1) Disconnect the connector. Remove the harness from the wire saddle, and remove the wire saddle.

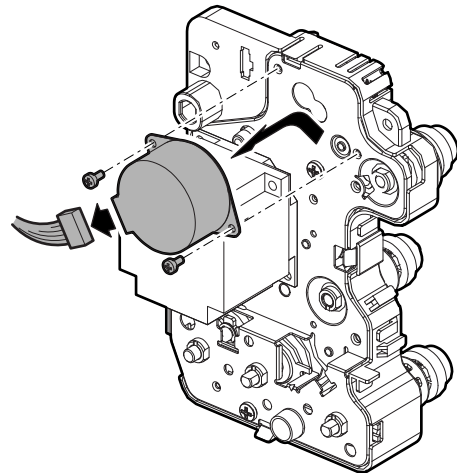


- 2) Remove the screw, and slightly turn the developing drive motor (CL) and remove it.

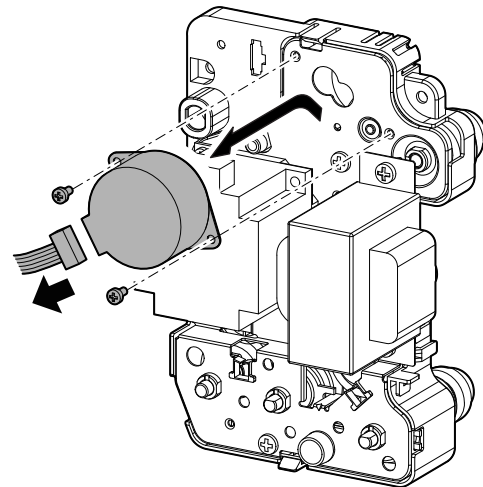


H. Resist motor

- 1) Disconnect the connector. Remove the screw, and remove the resist motor.
 - 100V series

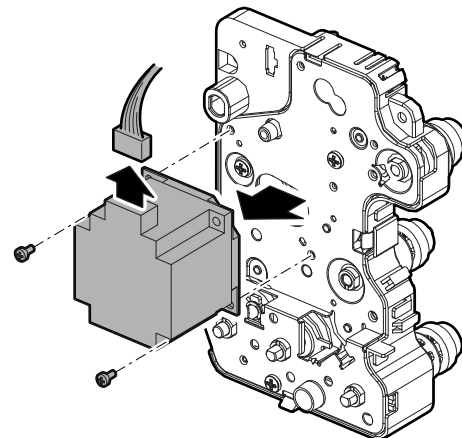


• 200V series

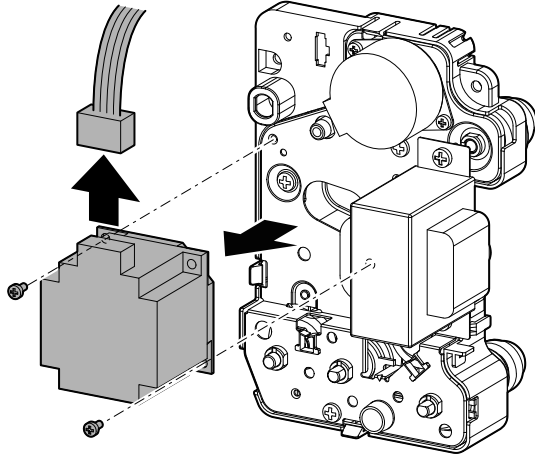


I. Paper feed motor

- 1) Disconnect the connector. Remove the screw, and remove the paper feed motor.
 - 100V series



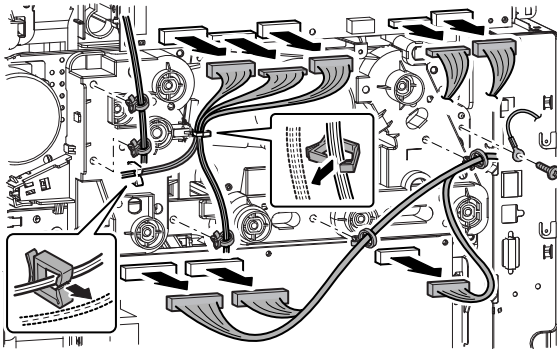
- 200V series



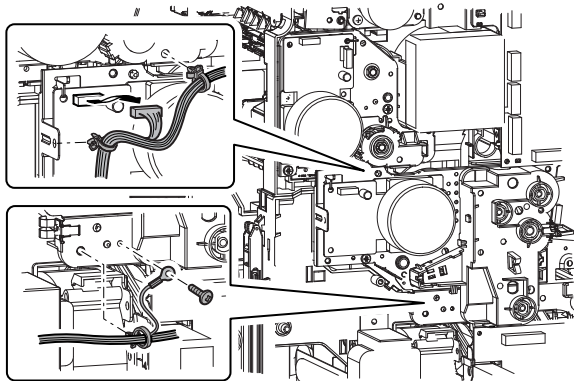
J. Main drive unit

NOTE:

- Before removing the main drive unit, pull out the primary transfer unit, the drum cartridge, and the developer cartridge about 10cm.
 - Use care not to expose the drum cartridge to lights during the work.
 - Take great care not to scratch the tooth surfaces of the main drive unit gear and not to pinch a foreign material.
- 1) Disconnect the connector. Remove the snap band, and remove the harness from the wire saddle. Remove the screw, and remove the earth wire.

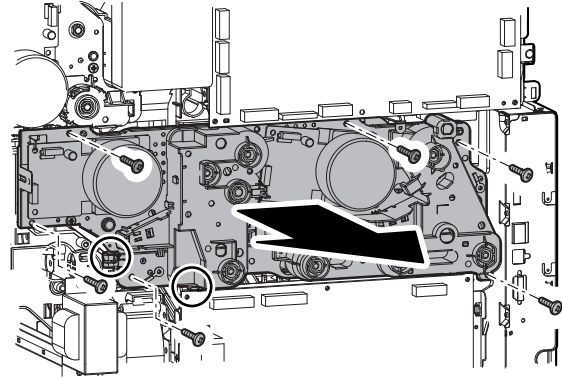


- 2) Disconnect the connector, and remove the snap band. Remove the screw, and remove the earth wire.

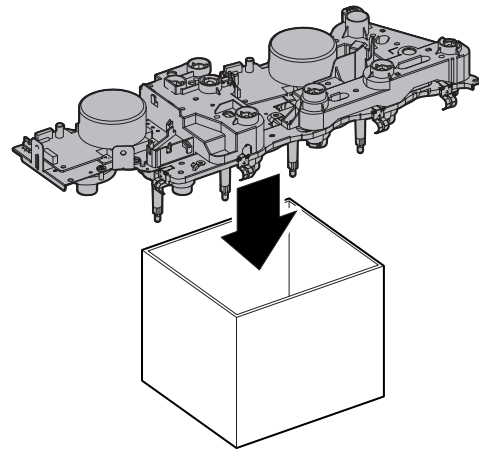


- 3) Remove the screw, and remove the main drive unit.

NOTE: When removing the main drive unit, be careful not to deform the earth plate (marked with O).



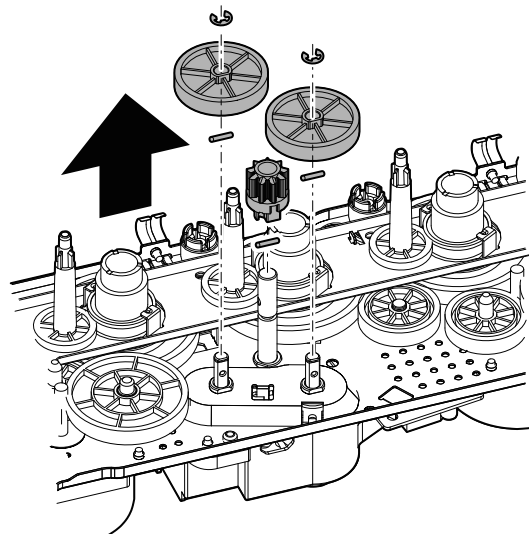
NOTE: When placing the main drive unit, place so that the motor side comes down or place on an open box so that no load is applied to the gear inside the unit.



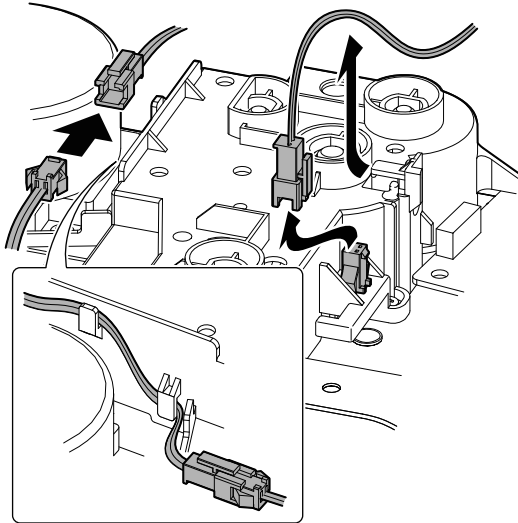
(1) Belt separation frame unit

- 1) Remove the E-ring, and remove the gear. Remove the parallel pin.

* When removing the belt separation frame unit, this procedure is not required. When, however, removing the primary transfer separation clutch 1 and the primary transfer separation clutch 2 are removed, this procedure must be performed in advance.

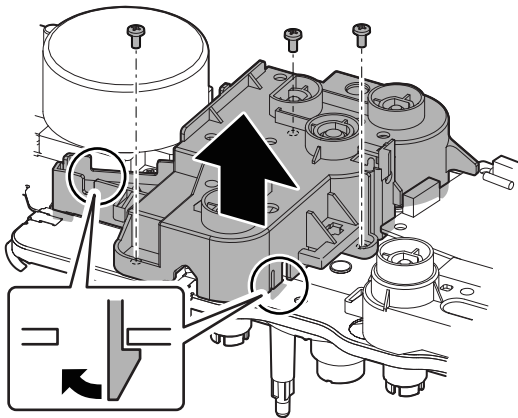


- 2) Disconnect the connector, and remove the harness from the belt separation frame unit.



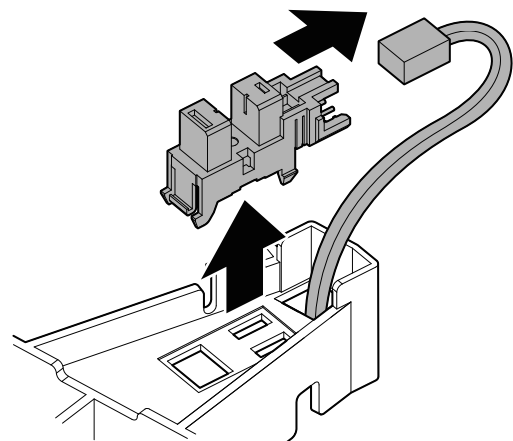
- 3) Remove the screw. Disengage the pawls (2 positions), and remove the belt separation frame unit.

NOTE: When the belt separation frame unit is removed, the bearing may easily come off. Be careful not to lose it.



a. Drum cartridge (BK) rotation detector

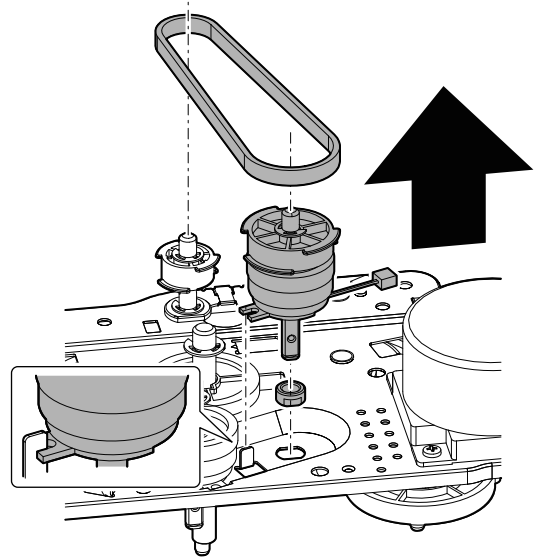
- 1) Disconnect the connector, and remove the drum cartridge (BK) rotation detector.



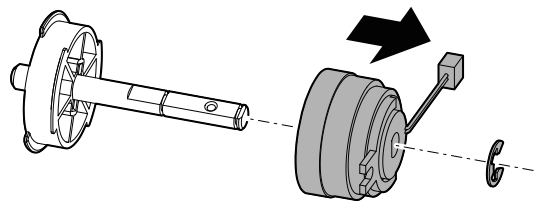
(2) Primary transfer separation clutch 1

- 1) Remove the belt. Remove the primary transfer separation clutch 1 unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.



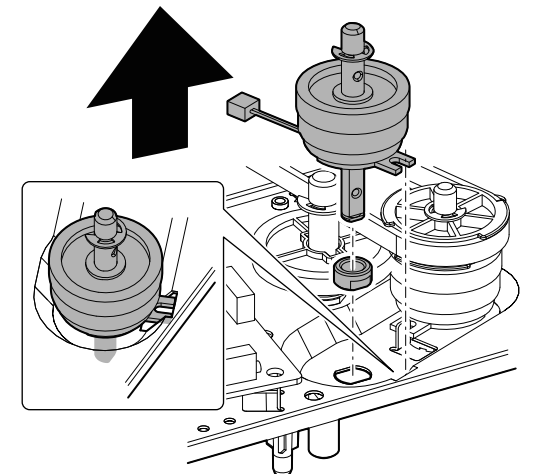
- 2) Remove the E-ring, and remove the primary transfer separation clutch 1.



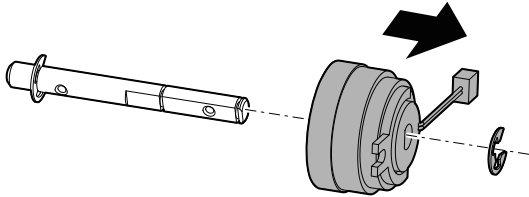
(3) Primary transfer separation clutch 2

- 1) Remove the primary transfer separation clutch 2 unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.



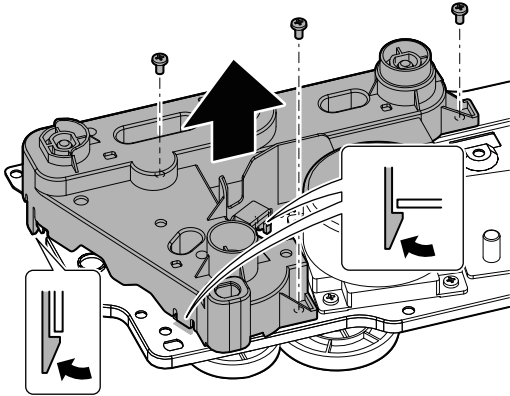
- 2) Remove the E-ring, and remove the primary transfer separation clutch 2.



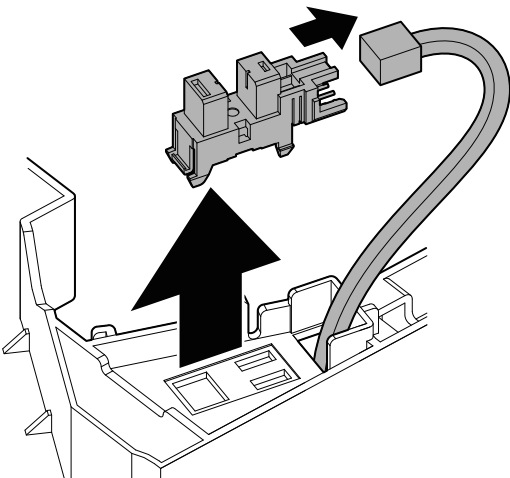
(4) Drum cartridge (CL) rotation detector

- 1) Remove the screw. Disengage the pawl, and remove the DV drive frame unit.

NOTE: When the DV drive frame unit is removed, the bearing may come off easily. Be careful not to lose it.

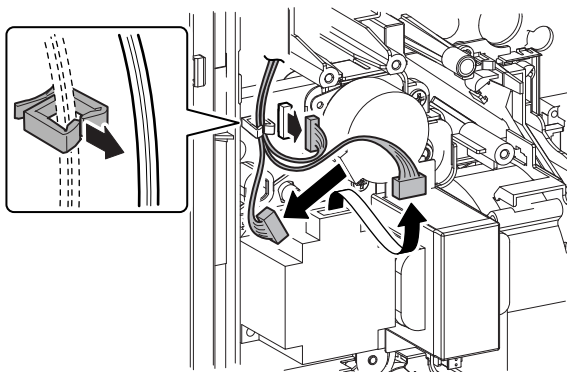


- 2) Disconnect the connector, and remove the drum cartridge (CL) rotation detector.

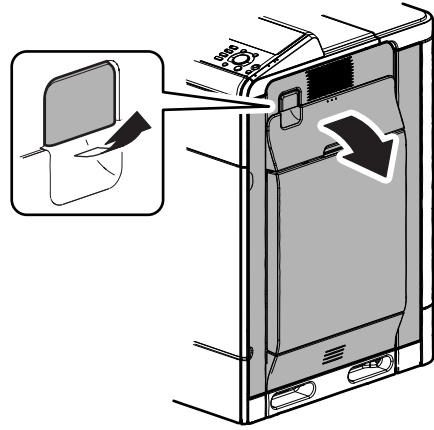


K. Paper feed drive unit

- 1) Disconnect the connector, and remove the harness from the wire saddle.

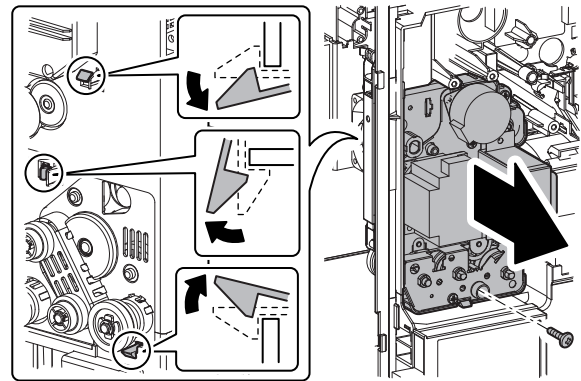


- 2) Pull the lever to release the lock, and open the right door.



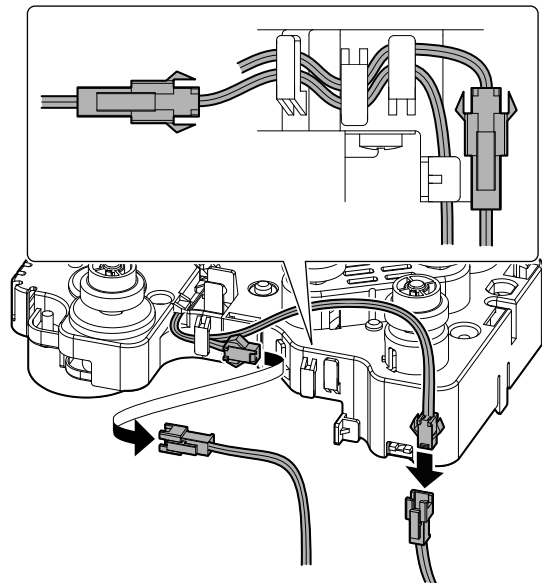
- 3) Remove the screw. Disengage the pawls (3 positions), and remove the paper feed drive unit.

NOTE: When placing the removed paper feed drive unit, place so that the motor is on the lower side.

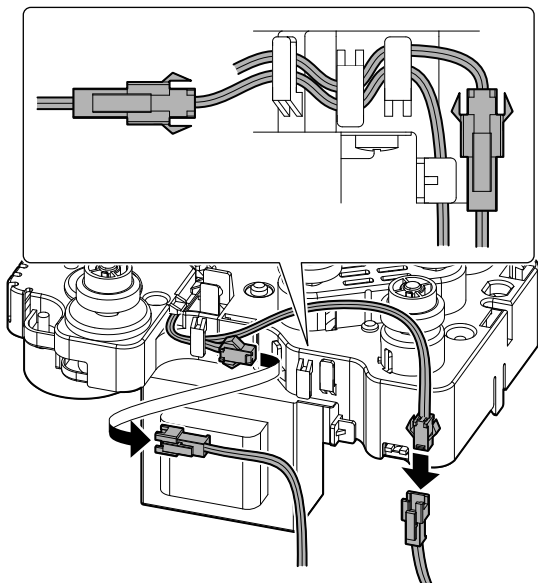


(1) Paper feed drive frame

- 1) Disconnect the connector, and remove the harness from the paper feed drive frame.
 - 100V series

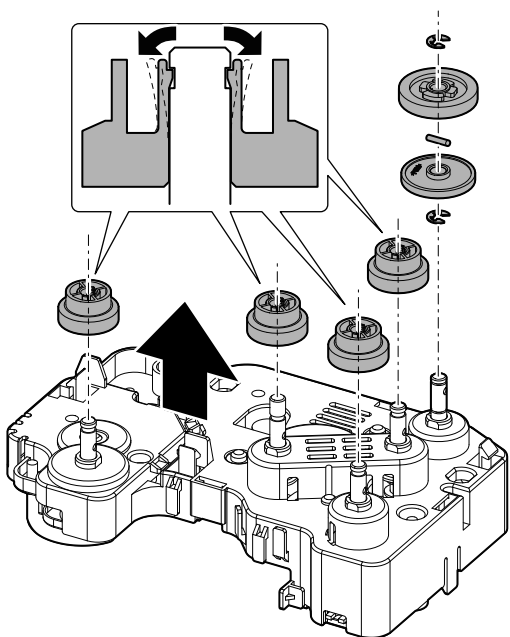


- 200V series

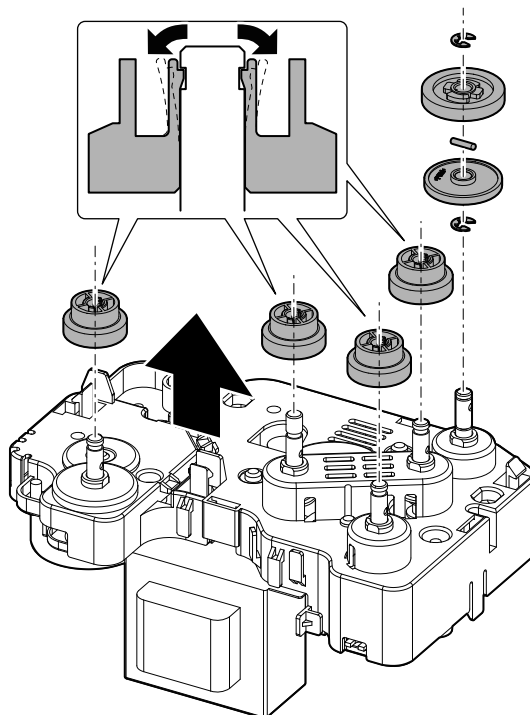


- 2) Remove the E-ring, and remove the parallel pin and the collar. Remove the E-ring. Disengage the pawl, and remove the gear and the parallel pin.

- 100V series

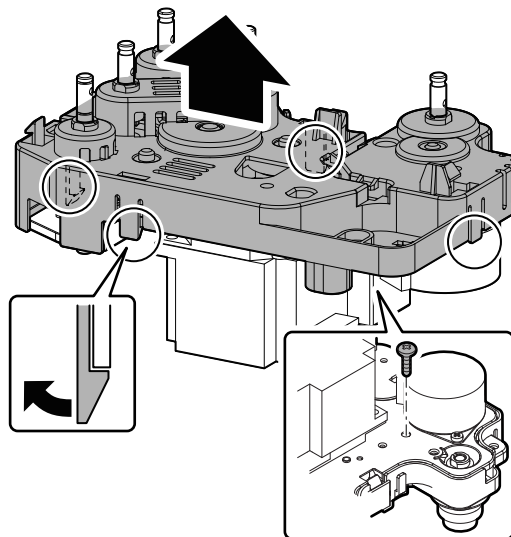


- 200V series



- 3) Remove the screw. Disengage the pawls (4 positions), and remove the cover.

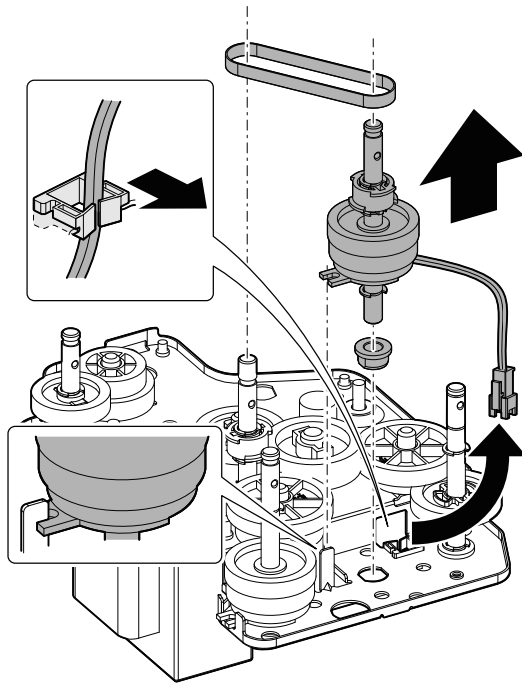
NOTE: When the paper feed drive frame is removed, the bearing may come off easily. Be careful not to lose it.



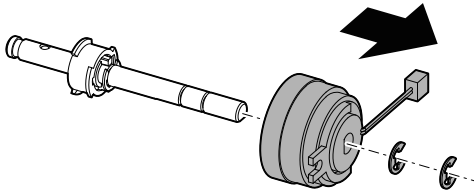
a. Paper feed clutch

- 1) Remove the belt. Remove the harness from the wire saddle, and remove the paper feed clutch unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.



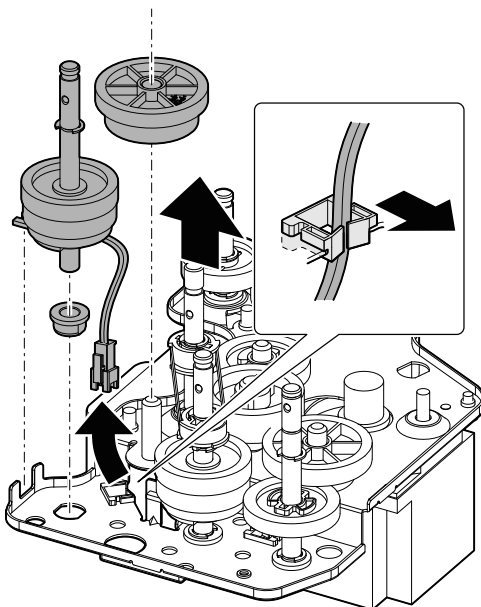
- 2) Remove the E-ring, and remove the paper feed clutch.



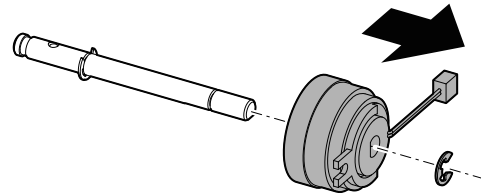
b. Tray vertical transport clutch

- 1) Remove the gear. Remove the harness from the wire saddle, and remove the tray vertical transport clutch unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.

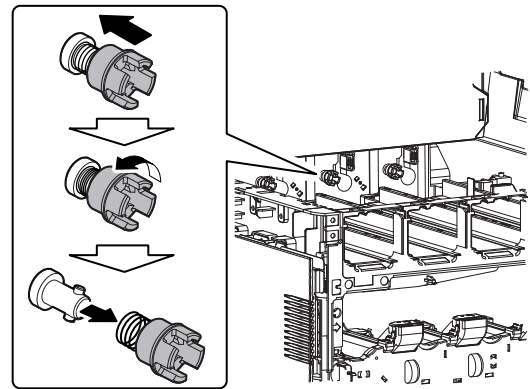


- 2) Remove the E-ring, and remove the tray vertical transport clutch.

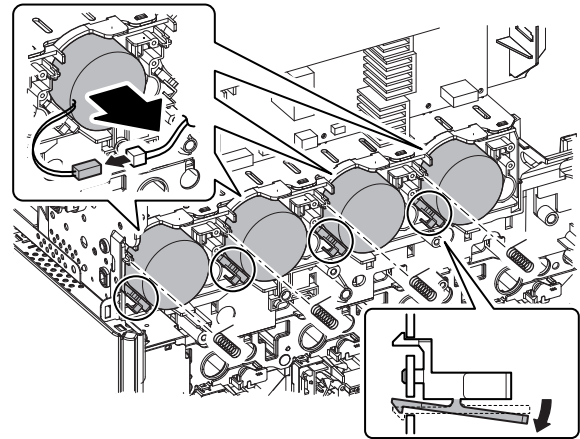


L. Toner motor

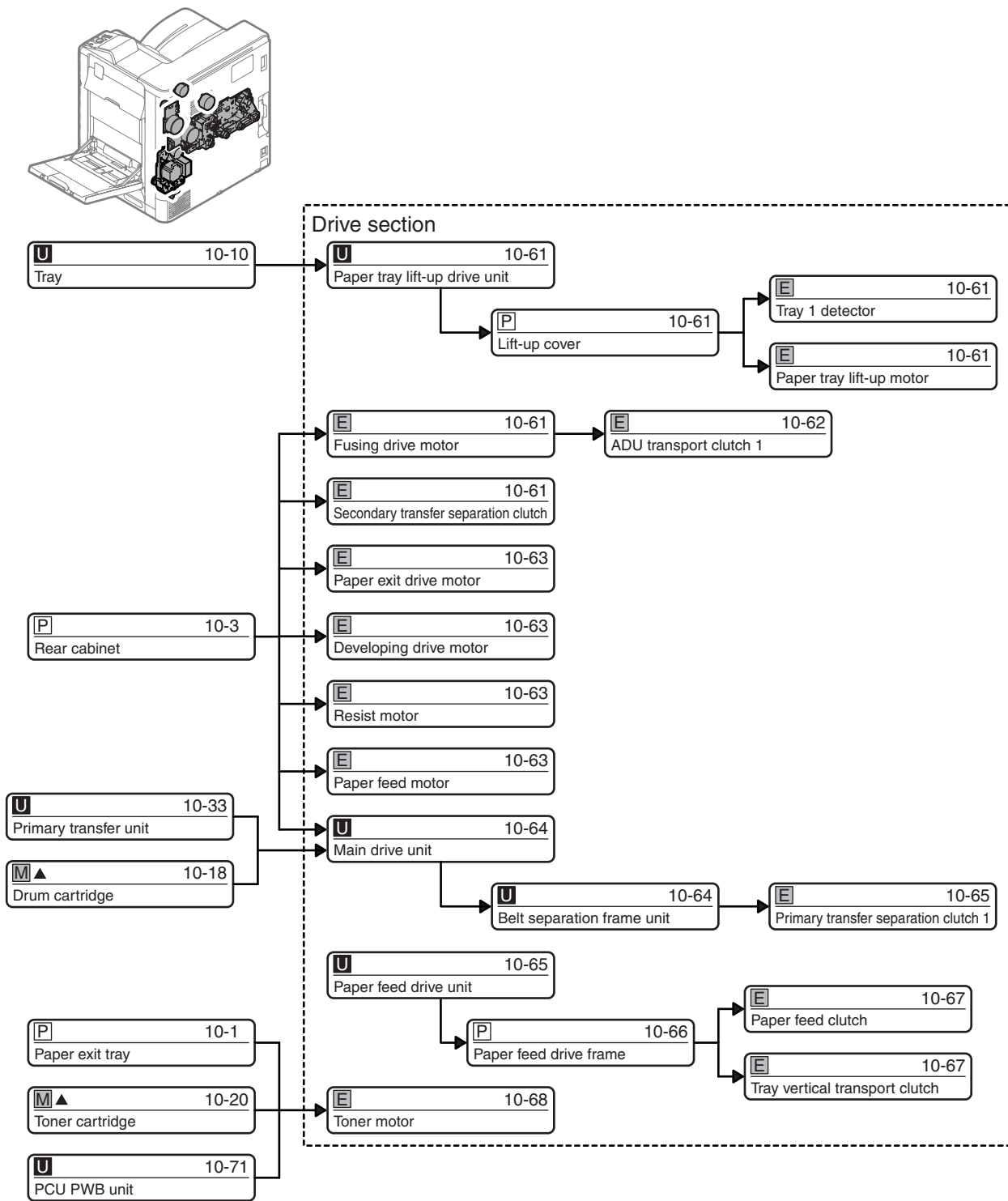
- 1) Push the coupling and rotate it 90° and remove the coupling and the spring.



- 2) Remove the spring. Disconnect the connector, and remove the stopper and the toner motor.

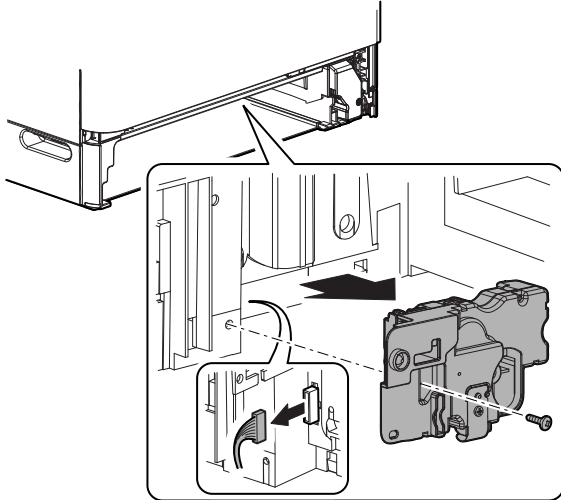


▲ 16. Drive section (MX-B400P/B380P/B382P)



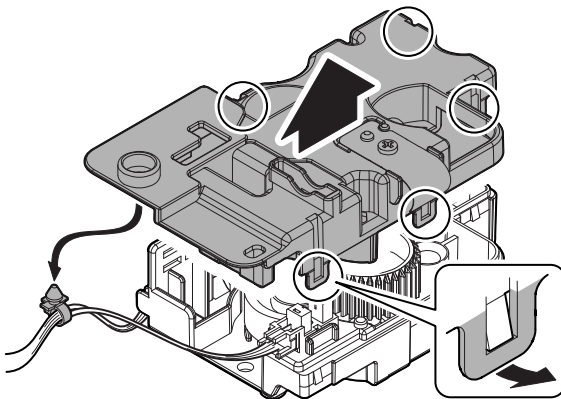
A. Paper tray lift-up drive unit

- 1) Remove the screw, and remove the paper tray lift-up drive unit. Disconnect the connector.



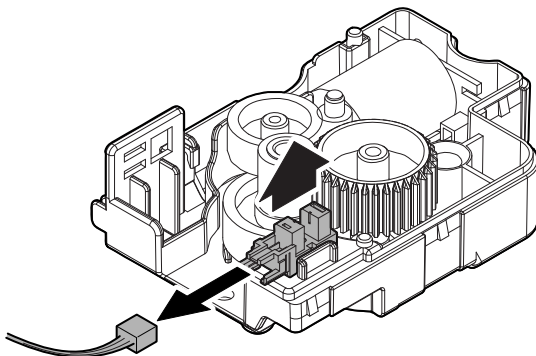
(1) Lift-up cover

- 1) Remove the snap band. Disconnect the connector, and remove the lift-up cover.



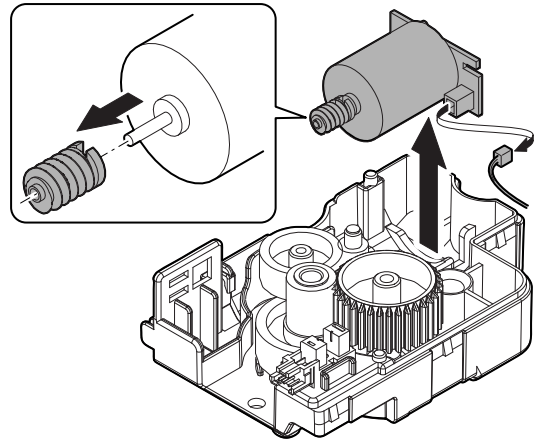
(2) Tray 1 detector

- 1) Disconnect the connector, and remove the tray 1 detector.



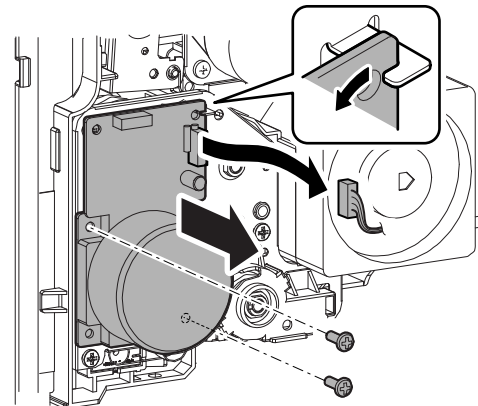
(3) Paper tray lift-up motor

- 1) Remove the paper tray lift-up motor, and disconnect the connector. Remove the gear from the paper tray lift-up motor.



B. Fusing drive motor

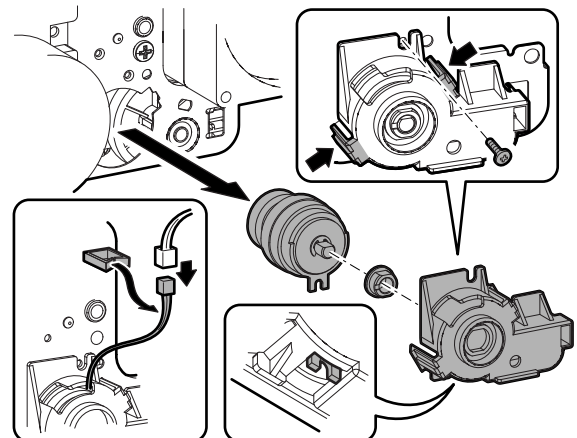
- 1) Disconnect the connector. Remove the screw, and slightly slide the fusing drive motor and rotate and remove it.



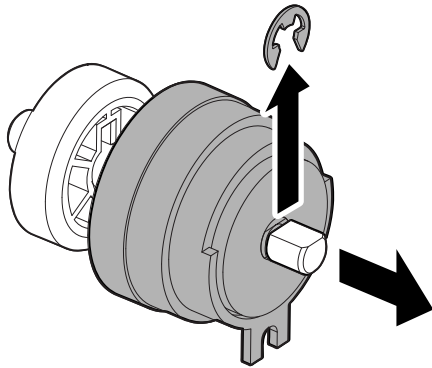
C. Secondary transfer separation clutch

- 1) Disconnect the connector, and remove the harness from the wire saddle. Remove the screw. Disengage the pawl, and remove the holder. Remove the bearing and the secondary transfer separation clutch unit.

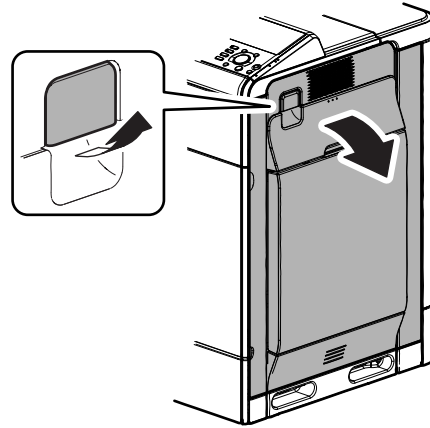
NOTE: When installing, fit the turn-stopper of the clutch.



- 2) Remove the E-ring, and remove the secondary transfer separation clutch.

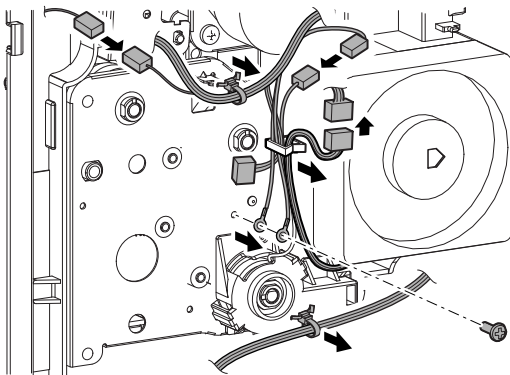


- 3) Pull the lever to release the lock, and open the right door.



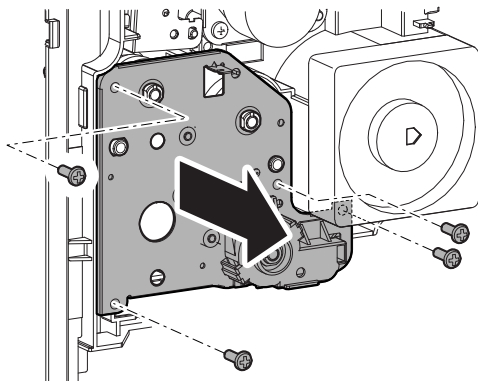
D. ADU transport clutch 1

- 1) Disconnect the connector. Remove the snap band, and remove the harness from the wire saddle. Remove the screw, and remove the earth wire.



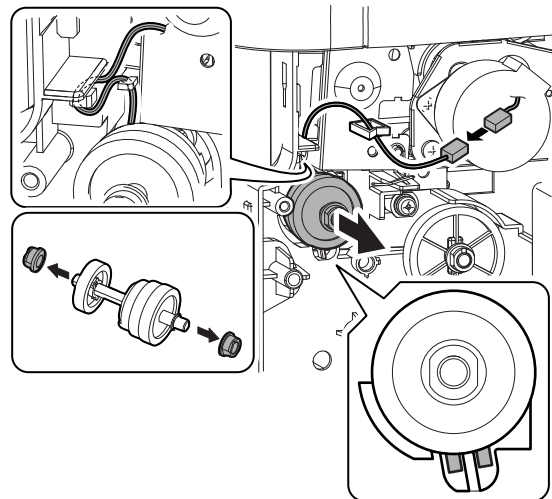
- 2) Remove the screw, and remove the fusing drive frame unit.

NOTE: When the fusing drive frame unit is removed, the bearing and the shaft may easily come off. Be careful not to lose them.

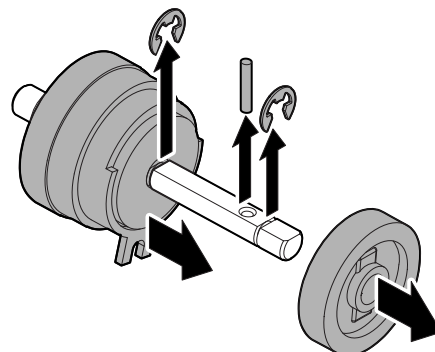


- 4) Disconnect the connector, and remove the harness from the wire saddle. Remove the ADU transport clutch 1 unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.

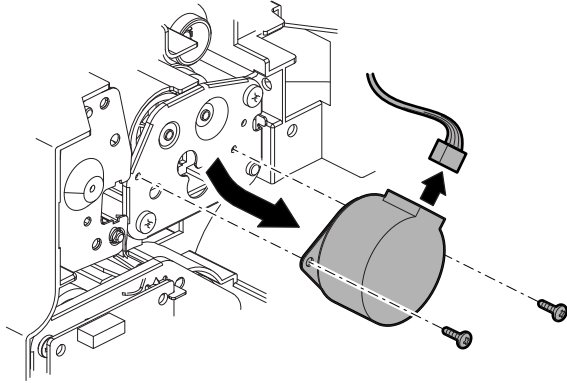


- 5) Remove the E-ring, and remove the gear. Remove the parallel pin. Remove the E-ring, and remove the ADU transport clutch 1.

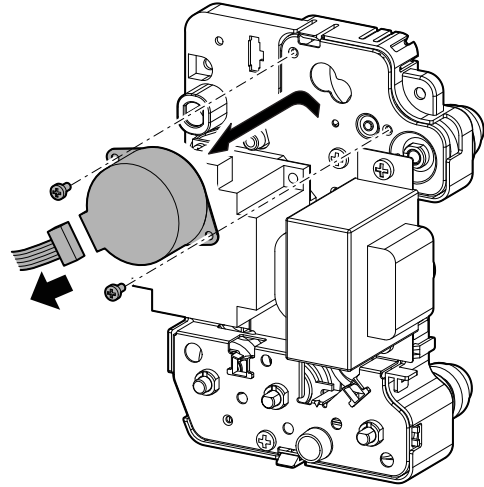


E. Paper exit drive motor

- 1) Disconnect the connector. Remove the screw, and remove the paper exit drive motor.

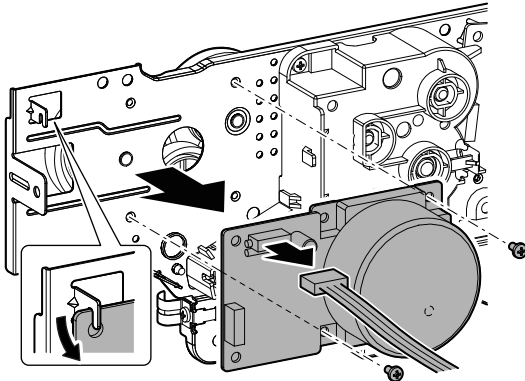


• 200V series



F. Developing drive motor

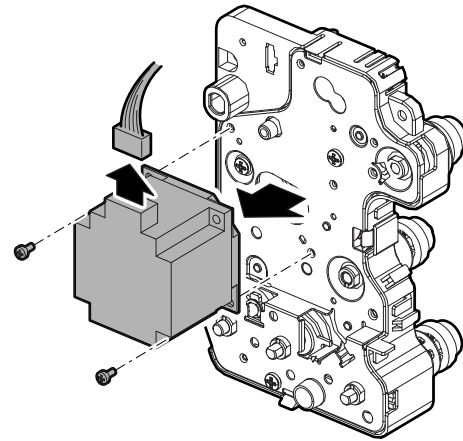
- 1) Disconnect the connector. Remove the screw, and slightly turn the developing drive motor (K) and remove it.



H. Paper feed motor

- 1) Disconnect the connector. Remove the screw, and remove the paper feed motor.

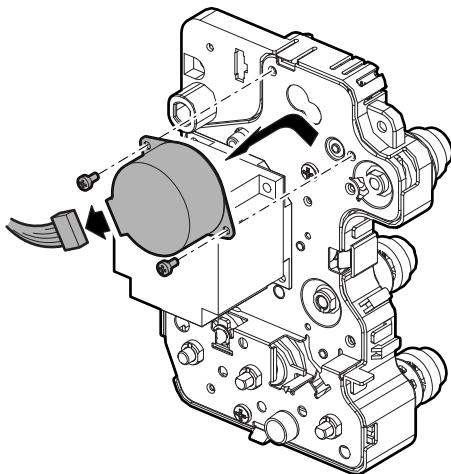
• 100V series



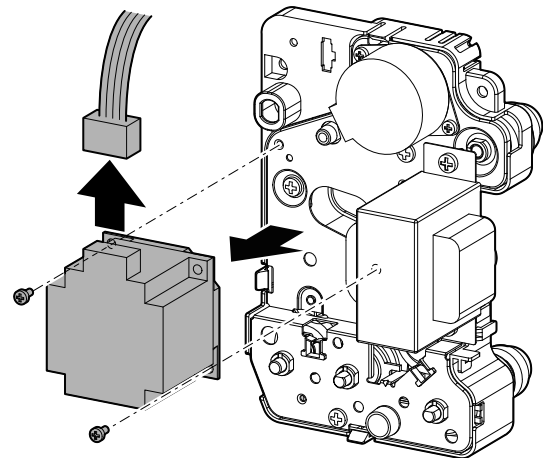
G. Resist motor

- 1) Disconnect the connector. Remove the screw, and remove the resist motor.

• 100V series



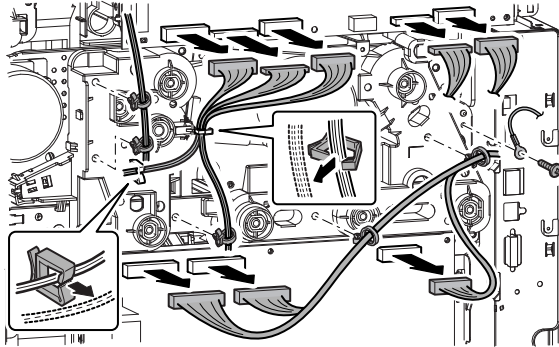
• 200V series



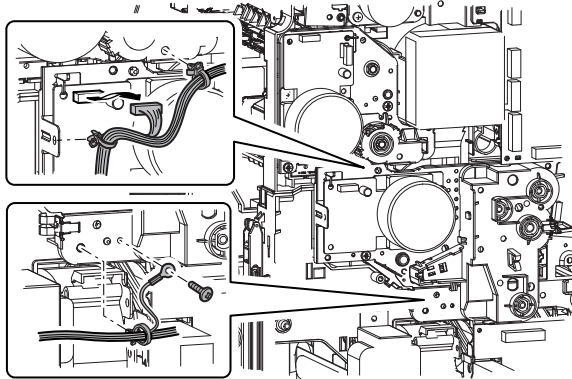
I. Main drive unit

NOTE:

- Before removing the main drive unit, pull out the primary transfer unit, the drum cartridge, and the developer cartridge about 10cm.
 - Use care not to expose the drum cartridge to lights during the work.
 - Take great care not to scratch the tooth surfaces of the main drive unit gear and not to pinch a foreign material.
- 1) Disconnect the connector. Remove the snap band, and remove the harness from the wire saddle. Remove the screw, and remove the earth wire.

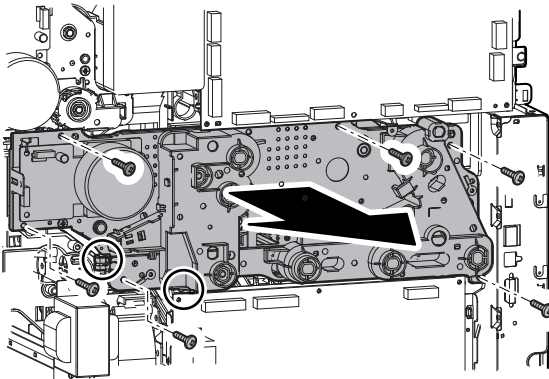


- 2) Disconnect the connector, and remove the snap band. Remove the screw, and remove the earth wire.

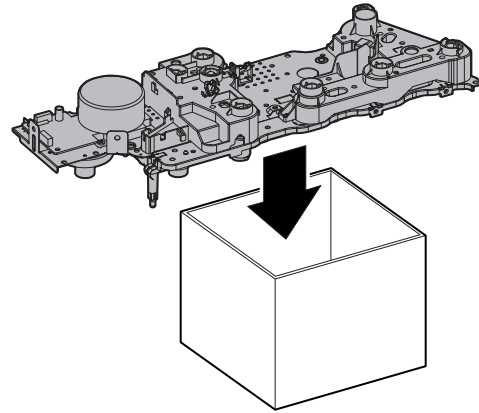


- 3) Remove the screw, and remove the main drive unit.

NOTE: When removing the main drive unit, be careful not to deform the earth plate (marked with O).



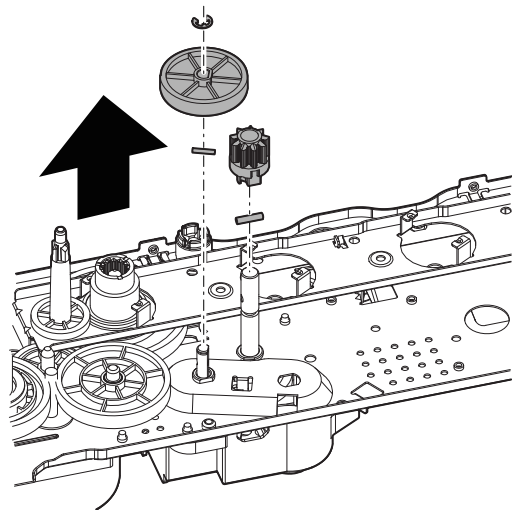
NOTE: When placing the main drive unit, place so that the motor side comes down or place on an open box so that no load is applied to the gear inside the unit.



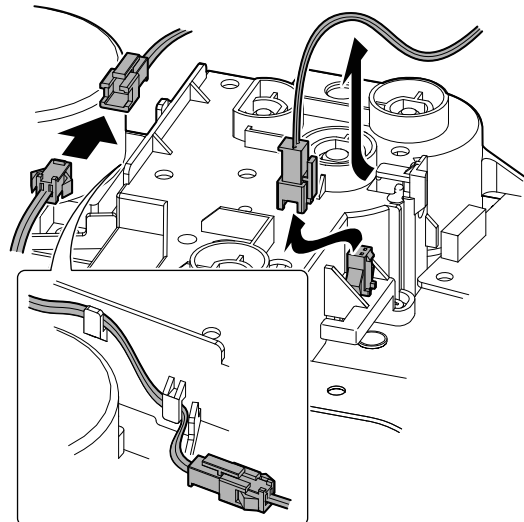
(1) Belt separation frame unit

- 1) Remove the E-ring, and remove the gear. Remove the parallel pin.

* When removing the belt separation frame unit, this procedure is not required. When, however, removing the primary transfer separation clutch 1 is removed, this procedure must be performed in advance.

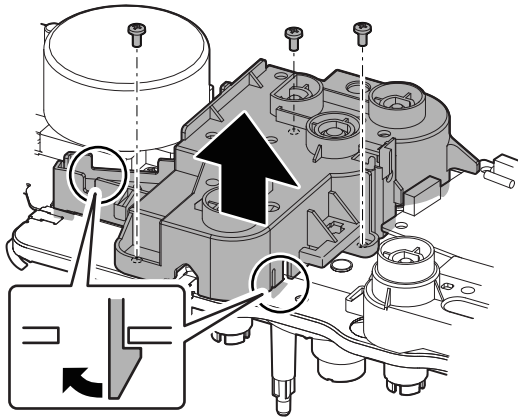


- 2) Disconnect the connector, and remove the harness from the belt separation frame unit.



- 3) Remove the screw. Disengage the pawls (2 positions), and remove the belt separation frame unit.

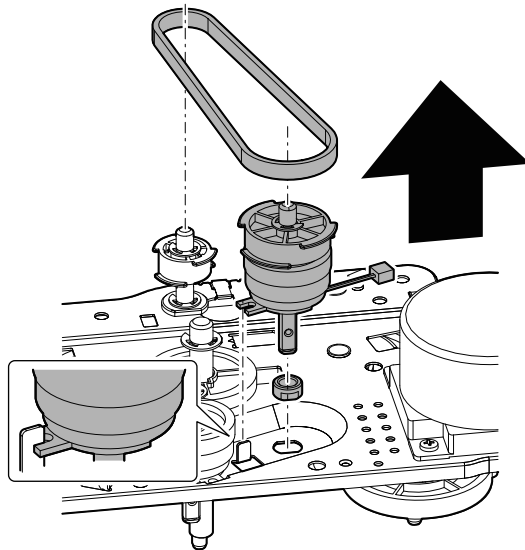
NOTE: When the belt separation frame unit is removed, the bearing may easily come off. Be careful not to lose it.



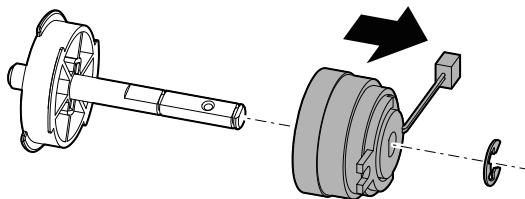
(2) Primary transfer separation clutch 1

- 1) Remove the belt. Remove the primary transfer separation clutch 1 unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.

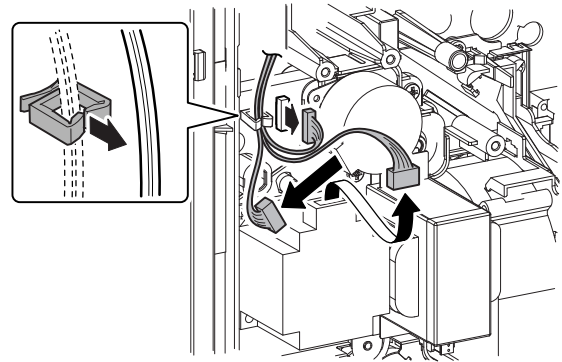


- 2) Remove the E-ring, and remove the primary transfer separation clutch 1.

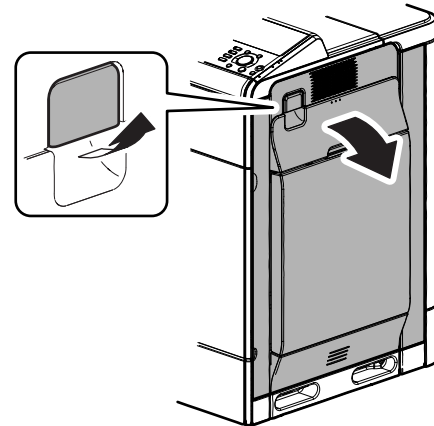


J. Paper feed drive unit

- 1) Disconnect the connector, and remove the harness from the wire saddle.

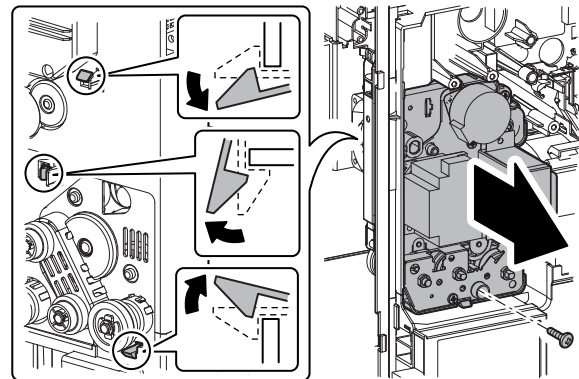


- 2) Pull the lever to release the lock, and open the right door.



- 3) Remove the screw. Disengage the pawls (3 positions), and remove the paper feed drive unit.

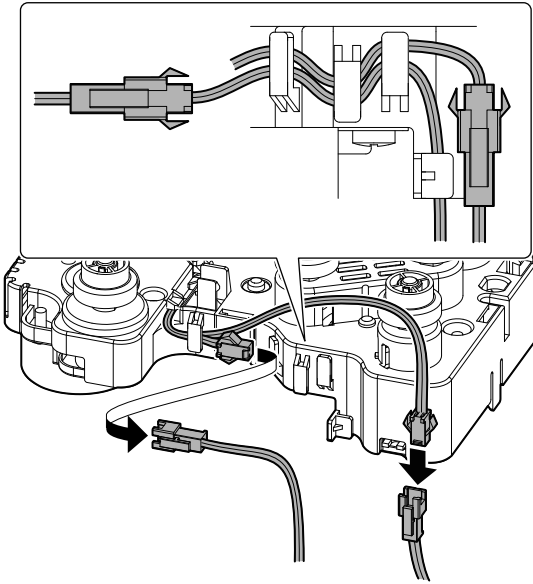
NOTE: When placing the removed paper feed drive unit, place so that the motor is on the lower side.



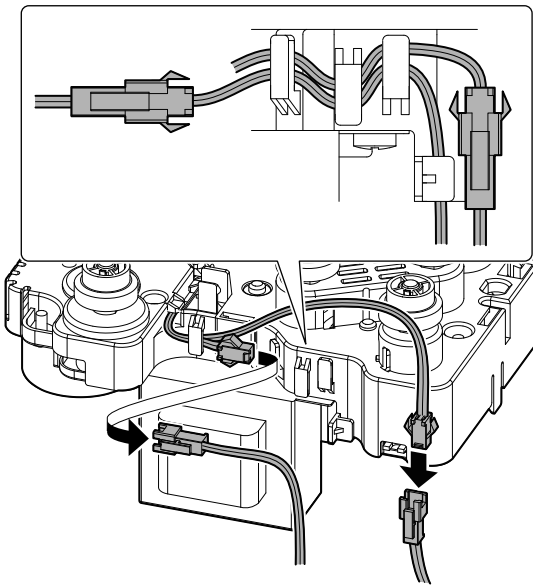
(1) Paper feed drive frame

- 1) Disconnect the connector, and remove the harness from the paper feed drive frame.

- 100V series

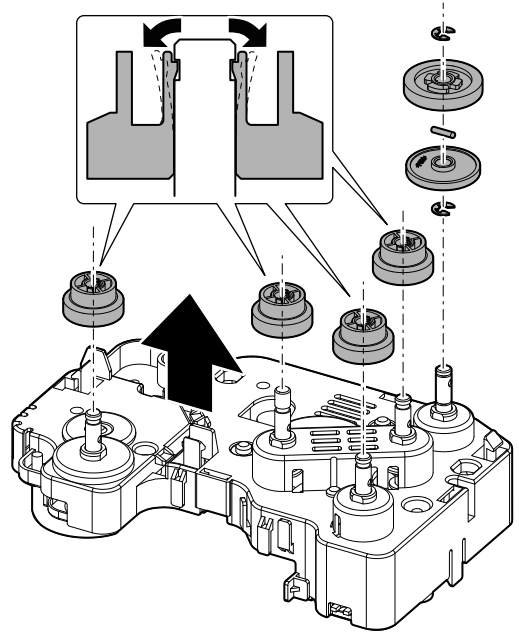


- 200V series

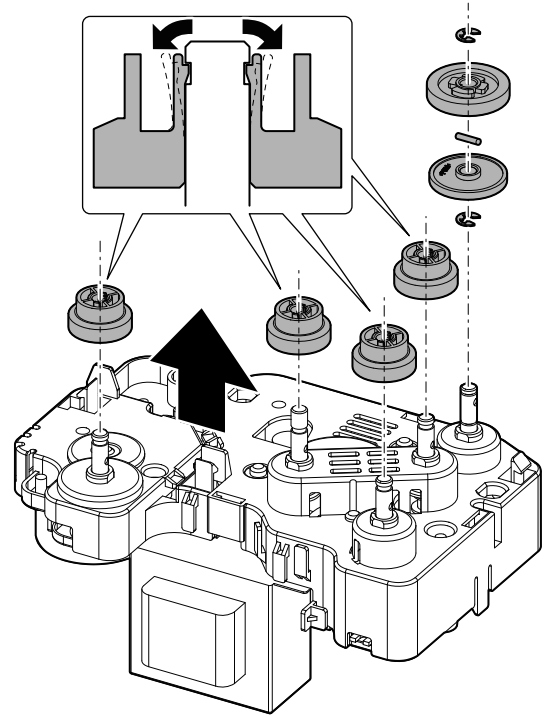


- 2) Remove the E-ring, and remove the parallel pin and the collar. Remove the E-ring. Disengage the pawl, and remove the gear and the parallel pin.

- 100V series

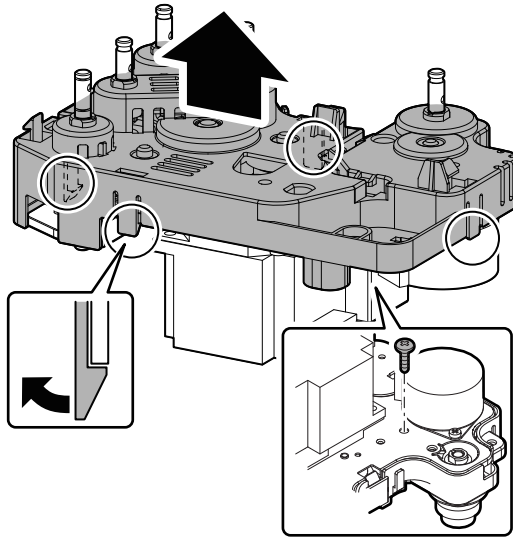


- 200V series



- 3) Remove the screw. Disengage the pawls (4 positions), and remove the cover.

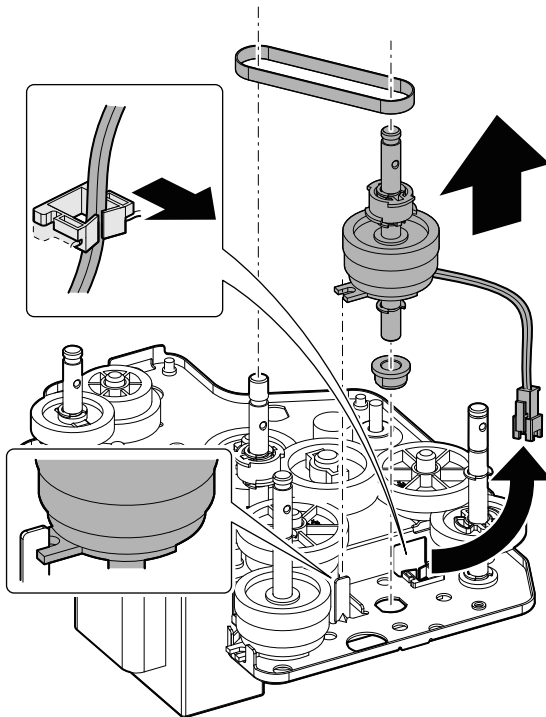
NOTE: When the paper feed drive frame is removed, the bearing may come off easily. Be careful not to lose it.



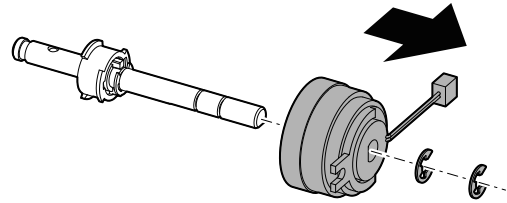
a. Paper feed clutch

- 1) Remove the belt. Remove the harness from the wire saddle, and remove the paper feed clutch unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.



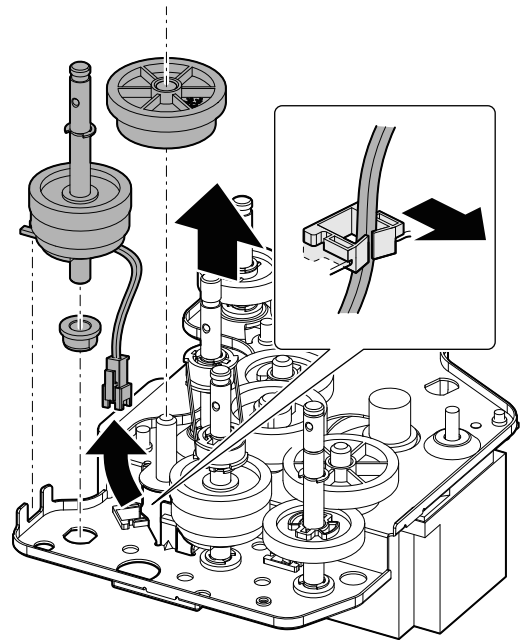
- 2) Remove the E-ring, and remove the paper feed clutch.



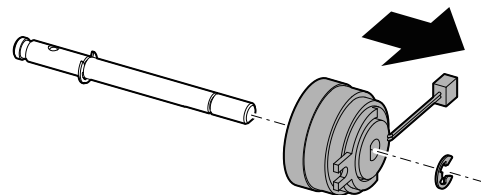
b. Tray vertical transport clutch

- 1) Remove the gear. Remove the harness from the wire saddle, and remove the tray vertical transport clutch unit. Remove the bearing.

NOTE: When installing, fit the turn-stopper of the clutch.

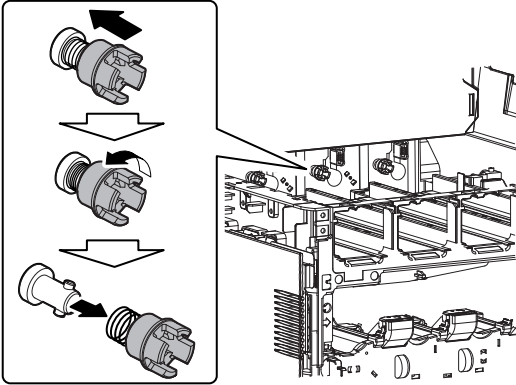


- 2) Remove the E-ring, and remove the tray vertical transport clutch.

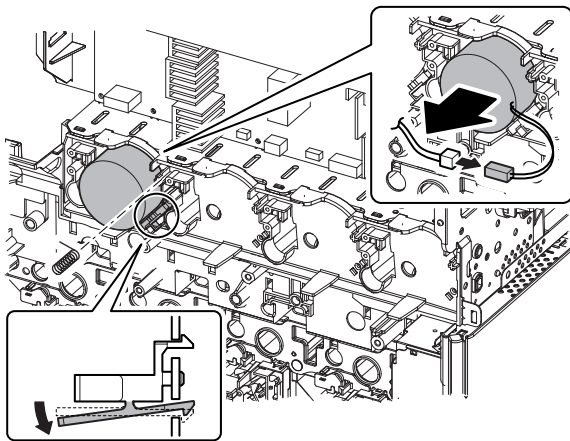


K. Toner motor

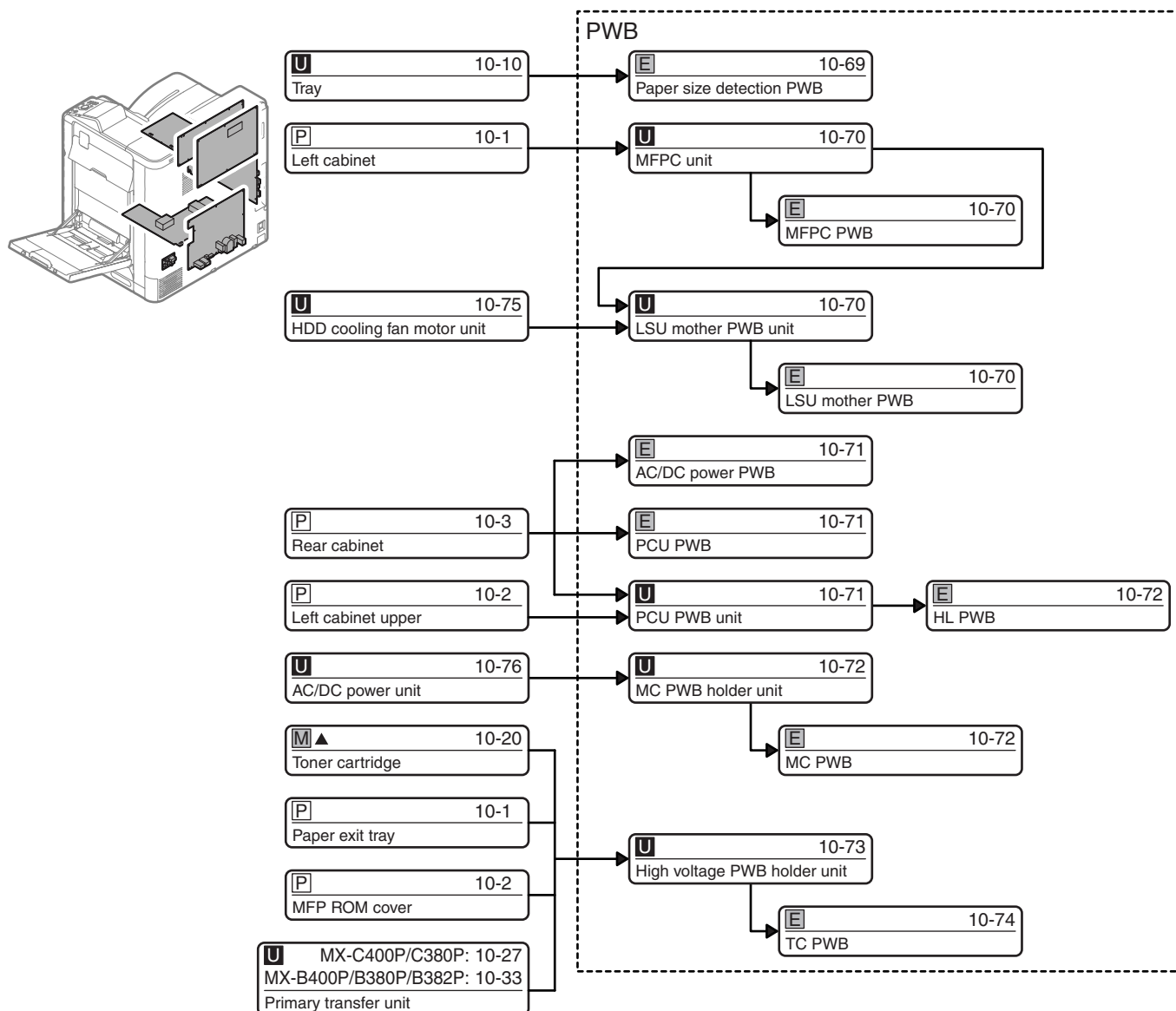
- 1) Push the coupling and rotate it 90° and remove the coupling and the spring.



- 2) Remove the spring. Disconnect the connector, and remove the stopper and the toner motor.

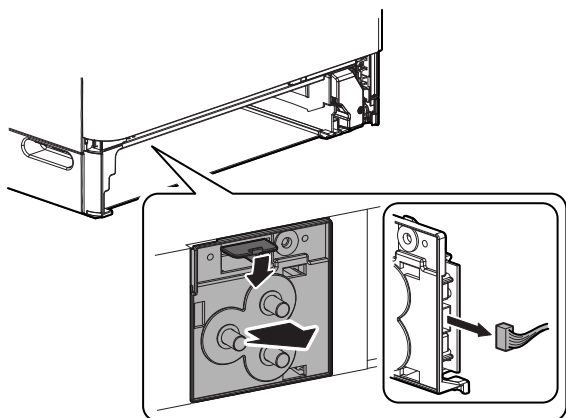


17. PWB

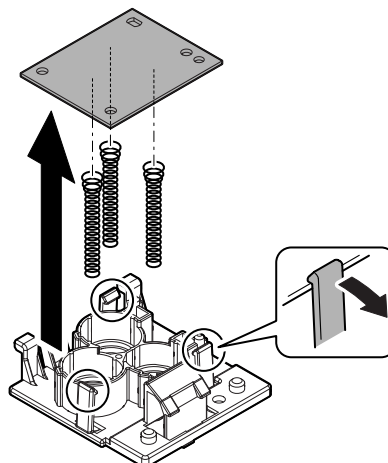


A. Paper size detection PWB

- 1) Disengage the pawl, and remove the paper size detection holder. Disconnect the connector.

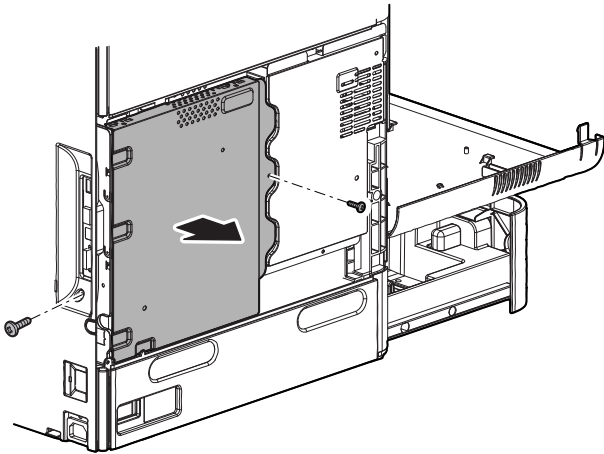


- 2) Disengage the pawl, and remove the paper size detection PWB. Remove the spring from the paper size detection PWB.

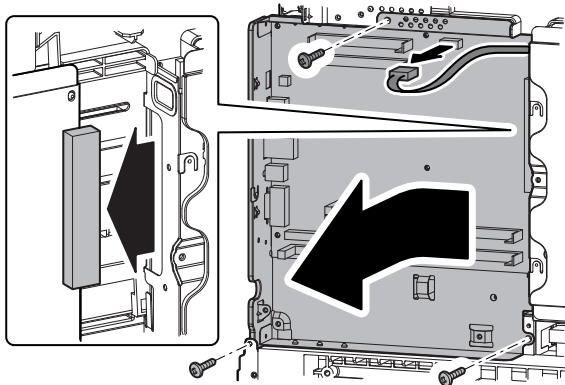


B. MFPC unit

- 1) Remove the screw, and remove the controller cover.



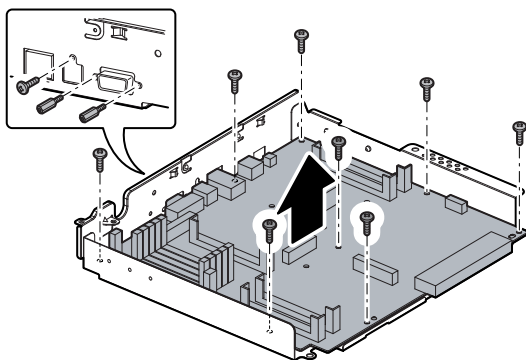
- 2) Remove the screw, and slide the MFPC unit to the rear side and disconnect the connector which is connected to the LSU mother PWB. Remove the MFPC unit.



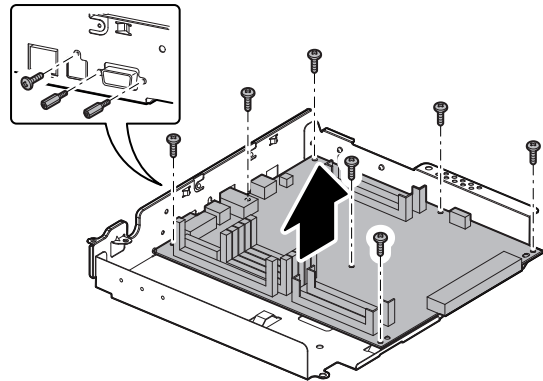
(1) MFPC PWB

- 1) Remove the hex screw and the screw. Remove the MFPC PWB.

• MX-C400P/C380P, MX-B400P/B380P

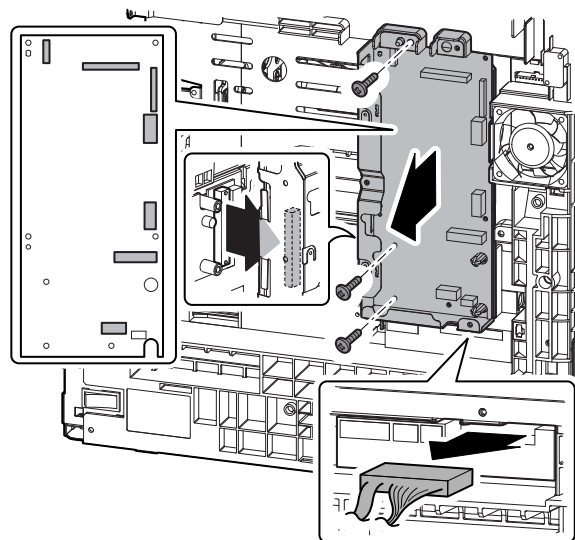


• MX-B382P



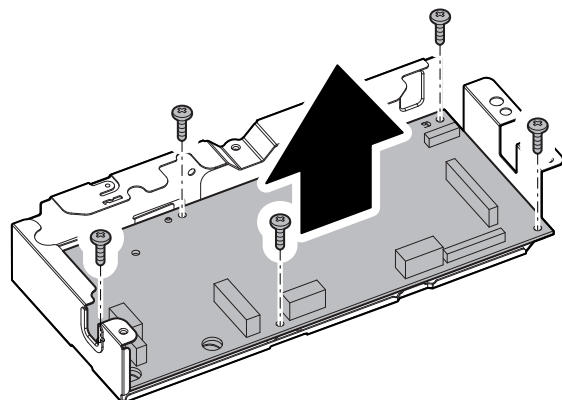
C. LSU mother PWB unit

- 1) Disconnect the connector. Remove the screw, and remove the LSU mother PWB unit.



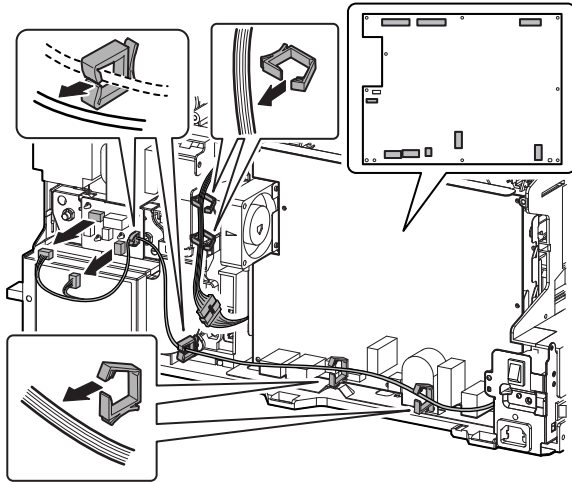
(1) LSU mother PWB

- 1) Remove the screw, and remove the LSU mother PWB.

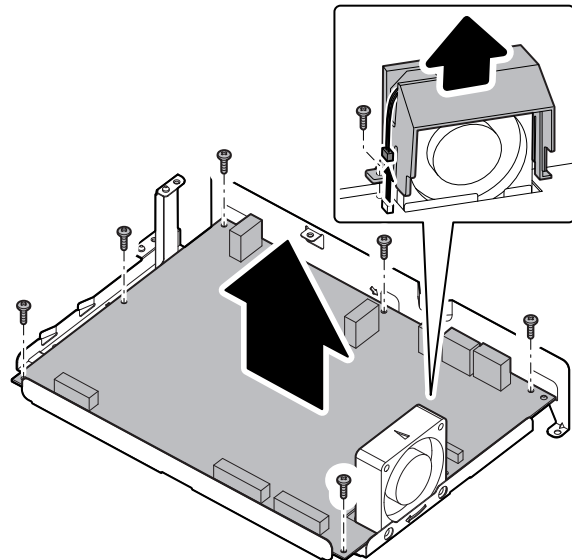


D. AC/DC power PWB

- 1) Disconnect the connector. Remove the harness from the wire saddle.

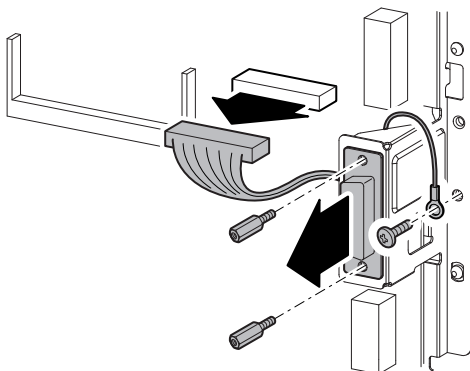


- 2) Disconnect the connector. Remove the screw, and remove the duct. Remove the screw, and remove the AC/DC power PWB.

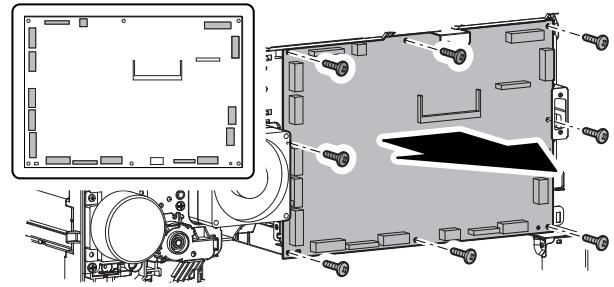


E. PCU PWB

- 1) Disconnect the connector, and remove the screw and the earth wire. Remove the hex screw, and disconnect the connector for the inner finisher connection.

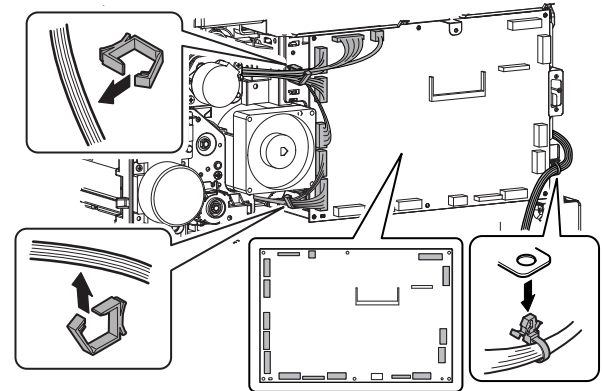


- 2) Disconnect the connector. Remove the screw, and remove the PCU PWB.

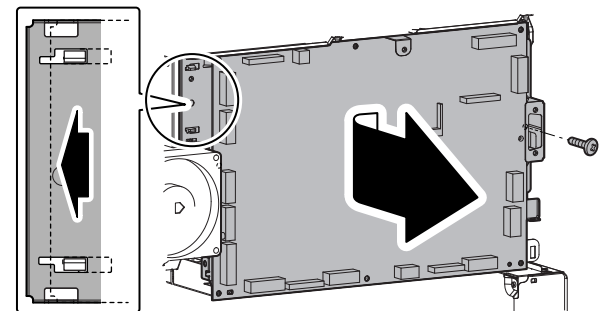


F. PCU PWB unit

- 1) Disconnect the connector. Remove the harness from the wire saddle. Remove the snap band.

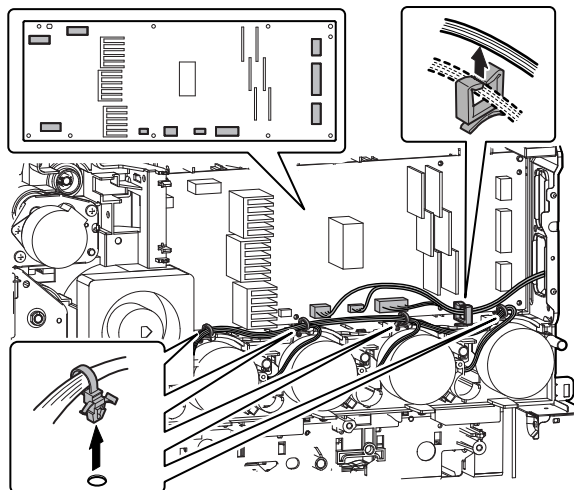


- 2) Remove the screw, and remove the PCU PWB unit.

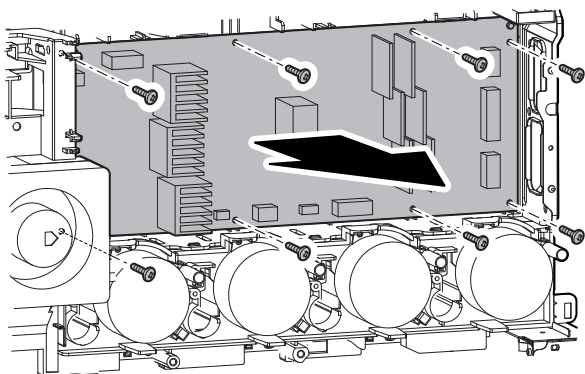


G. HL PWB

- 1) Disconnect the connector. Remove the harness from the wire saddle.



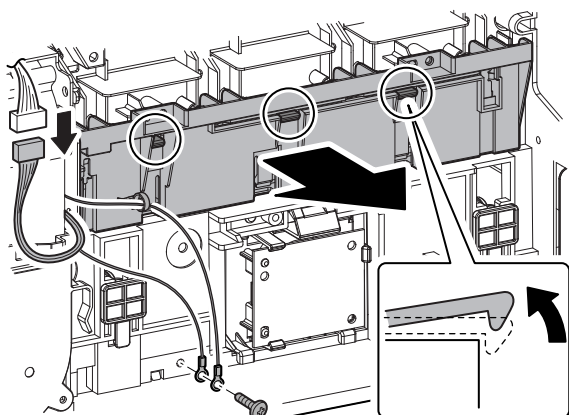
- 2) Remove the screw, and remove the HL PWB.



H. MC PWB holder unit

- 1) Disconnect the connector. Remove the screw, and remove the earth wire. Disengage the pawl, and remove the MC PWB holder unit.

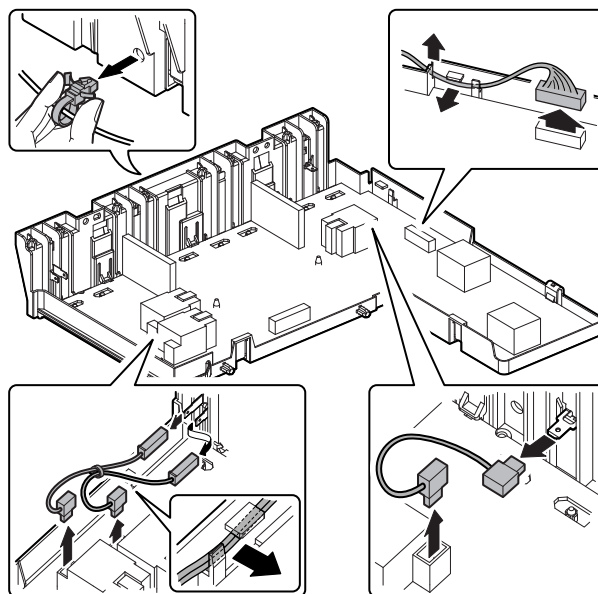
NOTE: When installing, check to confirm that there is no deformation or tilt in the high voltage terminal spring on the machine frame side.



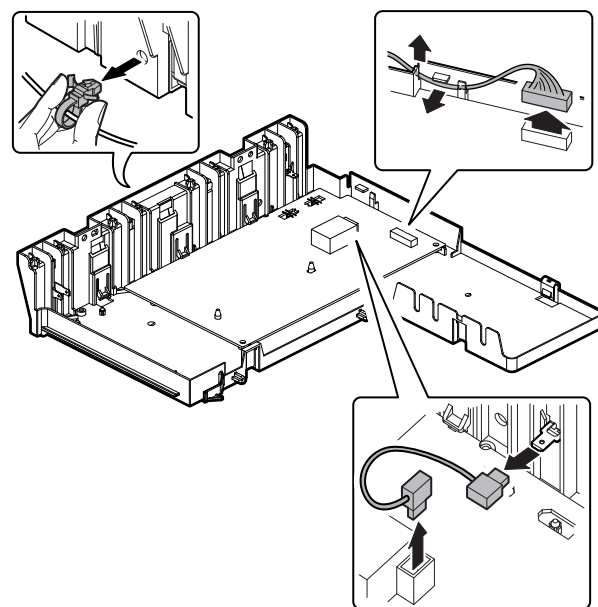
(1) MC PWB

- 1) Disconnect the connector. Remove the snap band, and remove the harness.

• MX-C400P/C380P, MX-B400P/B380P

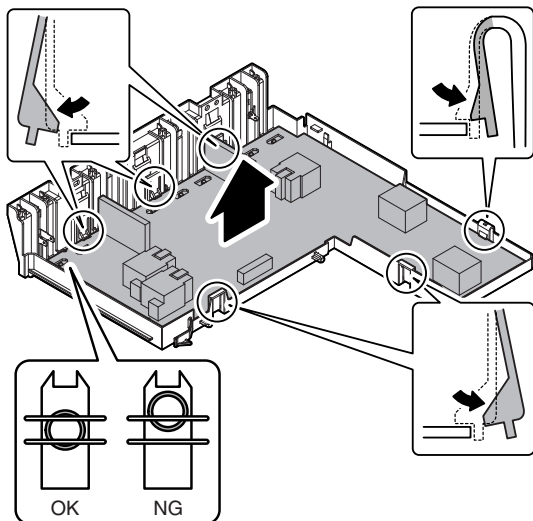


• MX-B382P



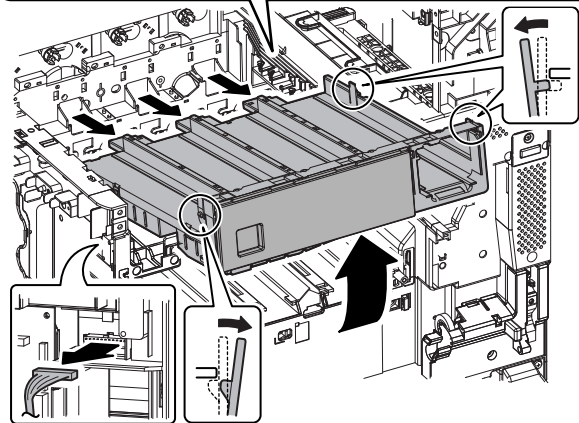
- 2) Disengage the pawl, and remove the MC PWB.

• MX-C400P/C380P, MX-B400P/B380P

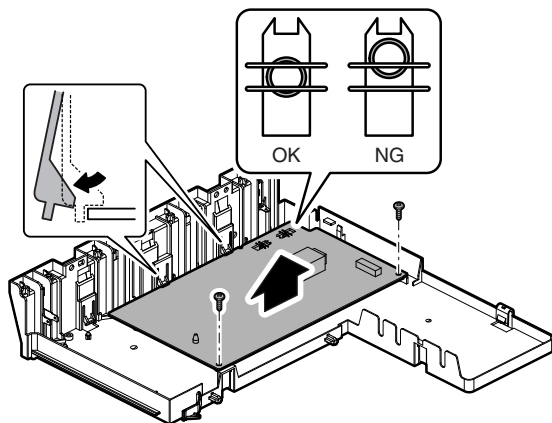


• MX-B400P/B380P

NOTE: After installing the high voltage PWB holder unit, check to confirm that the high voltage terminal in this section is not deformed. Checking can be made from the installing section of the primary transfer unit.



▲ • MX-B382P



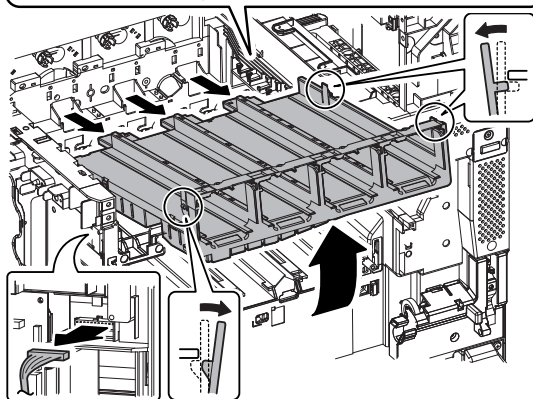
NOTE: When installing the PWB, check to confirm that there is no shift between the PWB terminal and the terminal on the MC PWB holder side.

I. High voltage PWB holder unit

- 1) Disconnect the connector. Disengage the pawl, and remove the high voltage PWB holder unit.

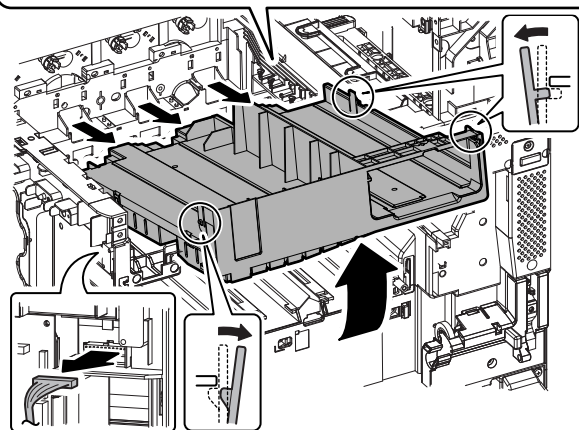
• MX-C400P/C380P

NOTE: After installing the high voltage PWB holder unit, check to confirm that the high voltage terminal in this section is not deformed. Checking can be made from the installing section of the primary transfer unit.



▲ • MX-B382P

NOTE: After installing the high voltage PWB holder unit, check to confirm that the high voltage terminal in this section is not deformed. Checking can be made from the installing section of the primary transfer unit.

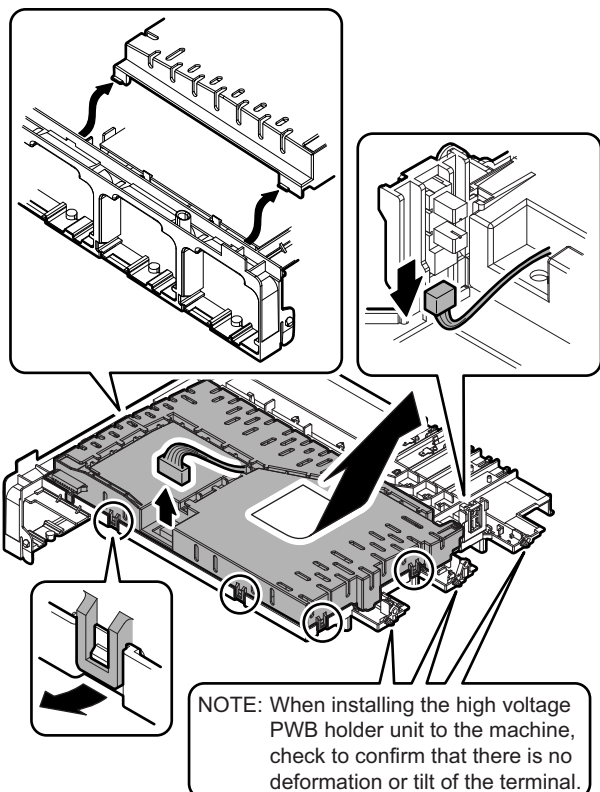


NOTE: When installing, engage the rear side of the high voltage PWB holder unit first, and then lower the front side to engage.

(1) TC PWB

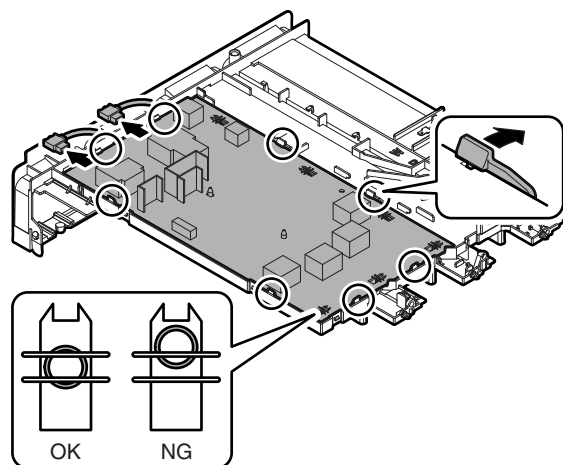
- 1) Disconnect the connector. Disengage the pawl, and remove the cover.

• MX-C400P/C380P, MX-B400P/B380P

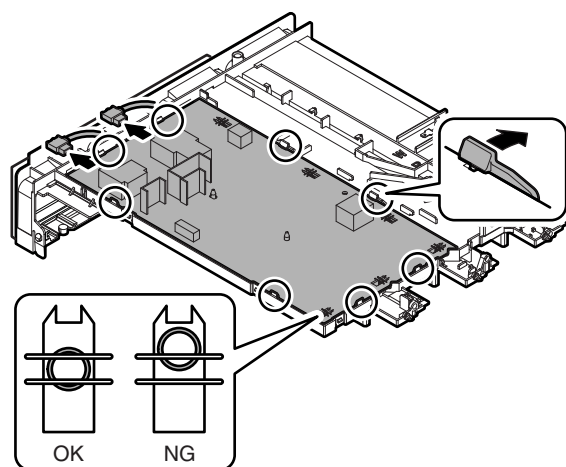


- 2) Disconnect the connector. Disengage the pawl, and remove the TC PWB.

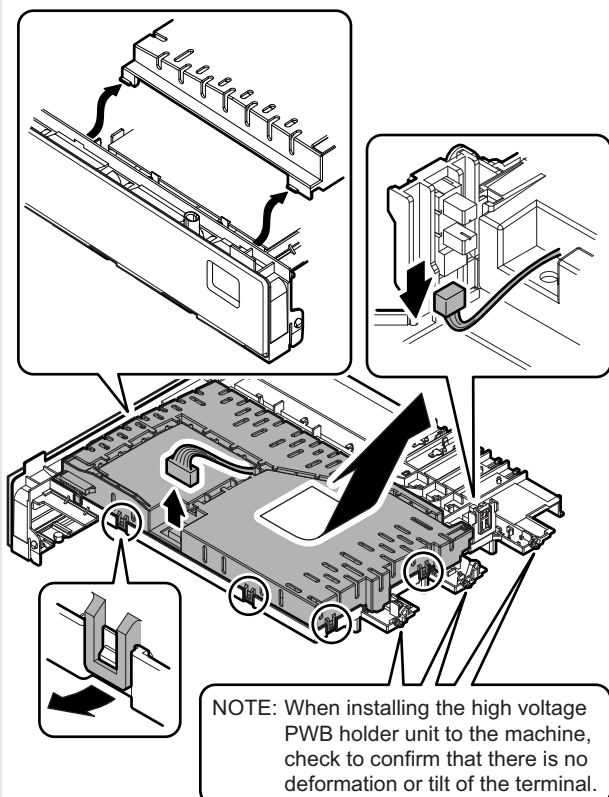
• MX-C400P/C380P



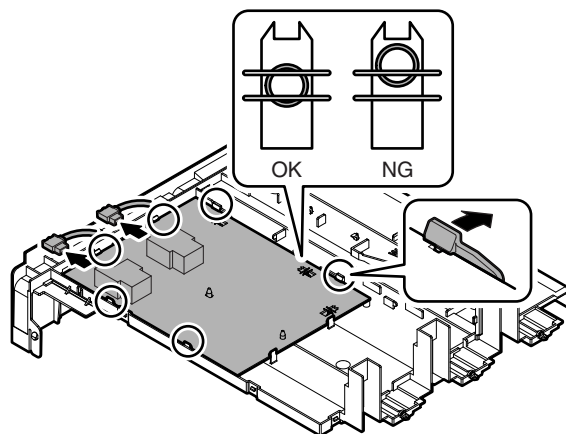
• MX-B400P/B380P



• MX-B382P

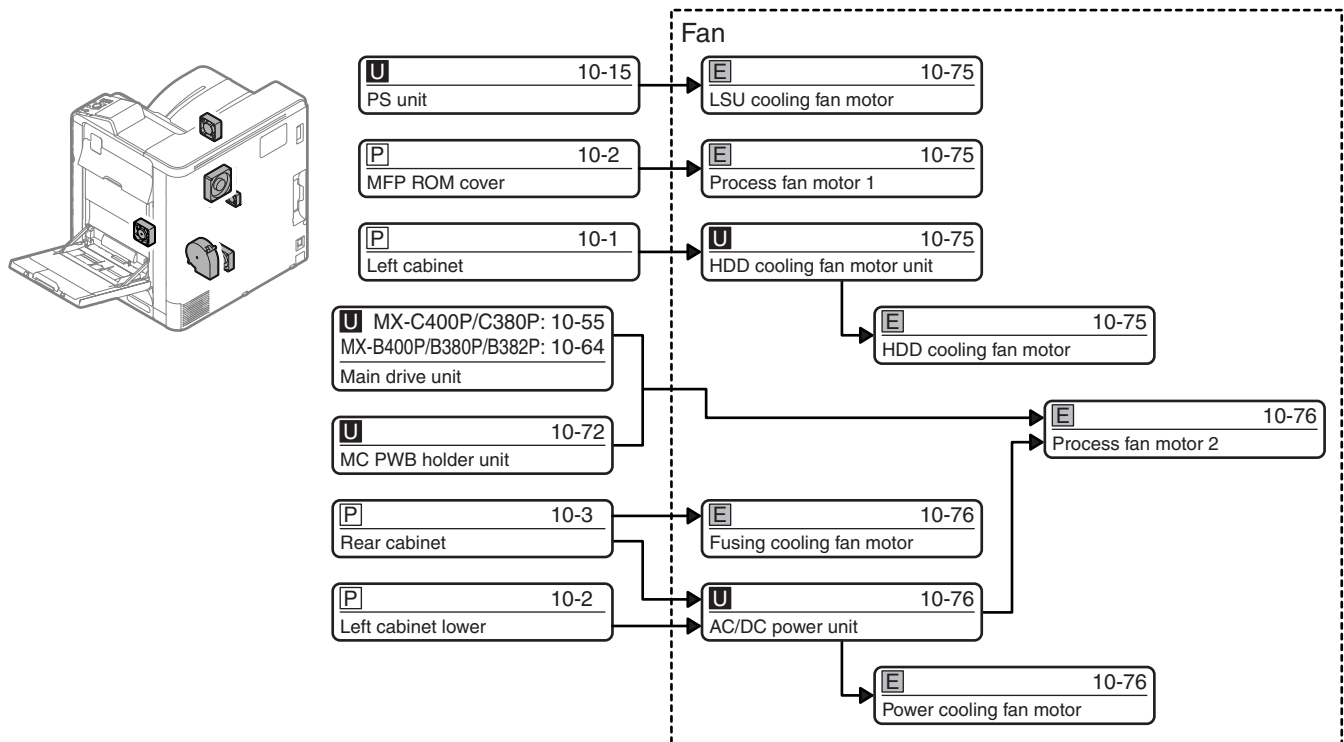


• MX-B382P



NOTE: When installing the PWB, check to confirm that there is no shift between the PWB terminal and the terminal on the high voltage PWB holder side.

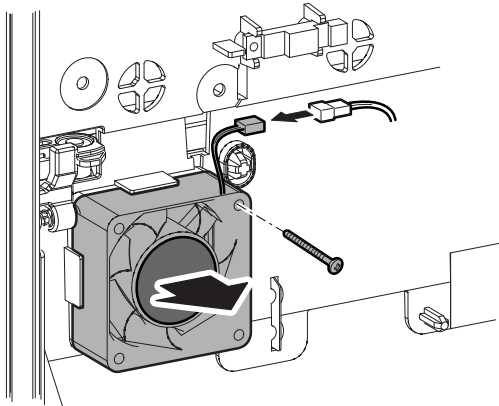
18. Fan



A. LSU cooling fan motor

- 1) Disconnect the connector. Remove the screw, and remove the LSU cooling fan motor.

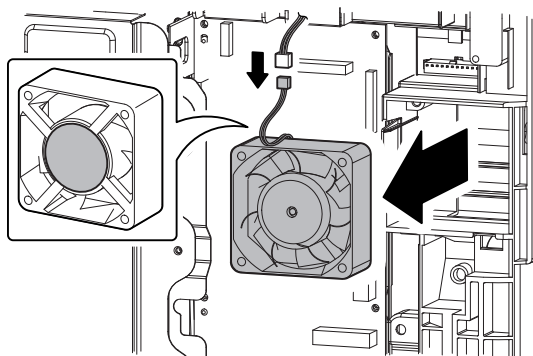
NOTE: When installing, install so that the fan label faces outside.



B. Process fan motor 1

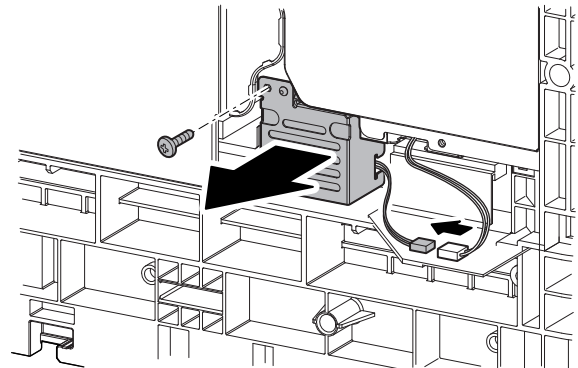
- 1) Disconnect the connector, and remove the process fan motor 1.

NOTE: When installing, install so that the fan label faces inside.



C. HDD cooling fan motor unit

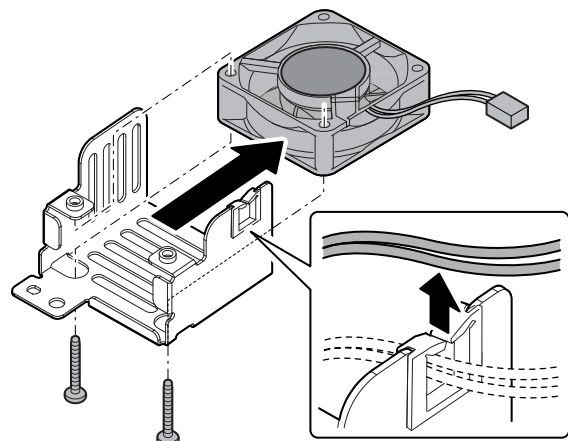
- 1) Remove the screw, and remove the HDD cooling fan motor unit, and disconnect the connector.



(1) HDD cooling fan motor

- 1) Remove the screw, and remove the HDD cooling fan motor.

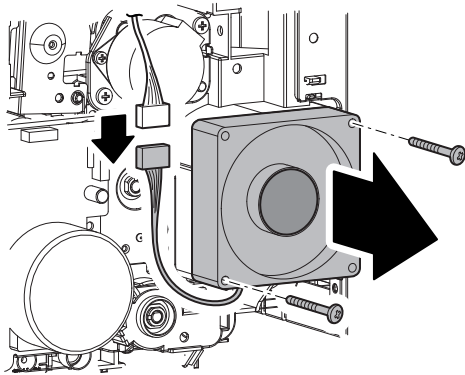
NOTE: When installing, install so that the fan label faces inside.



D. Fusing cooling fan motor

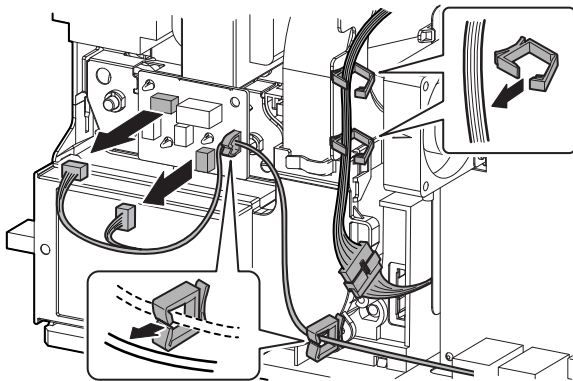
- 1) Disconnect the connector. Remove the screw, and remove the fusing cooling fan motor.

NOTE: When installing, install so that the fan label faces outside.

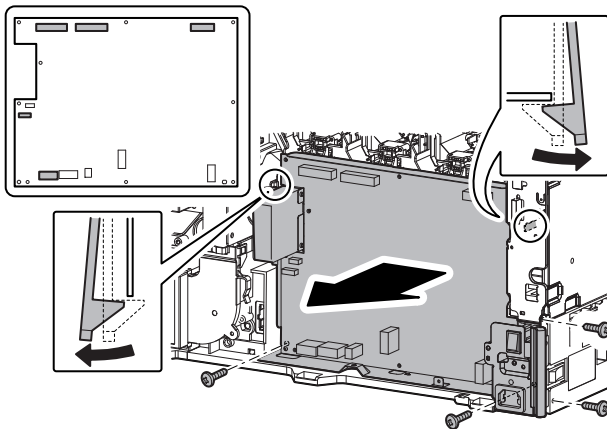


E. AC/DC power unit

- 1) Disconnect the connector from the WH PWB, and remove the harness from the wire saddle.



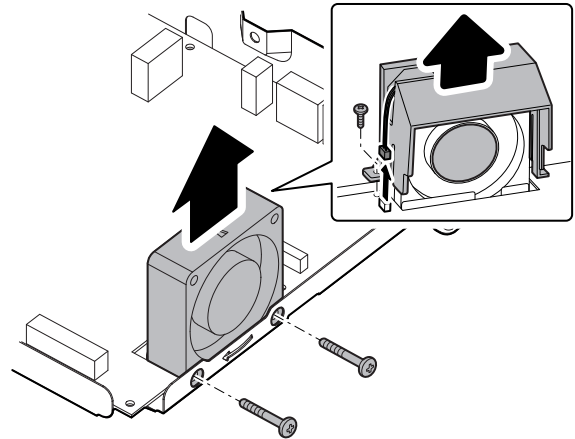
- 2) Disconnect the connector. Remove the screw, and disengage the pawl, and remove the AC/DC power unit.



(1) Power cooling fan motor

- 1) Disconnect the connector. Remove the screw, and remove the duct. Remove the screw, and remove the power cooling fan motor.

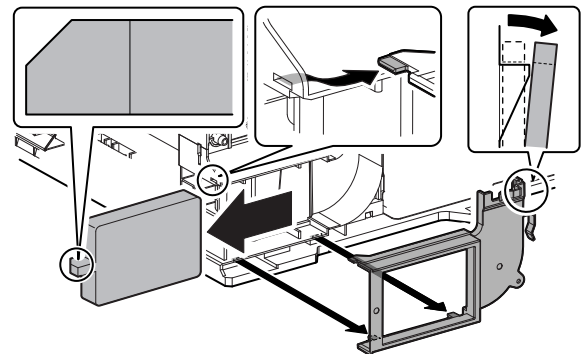
NOTE: When installing, install so that the fan label faces to the PWB side.



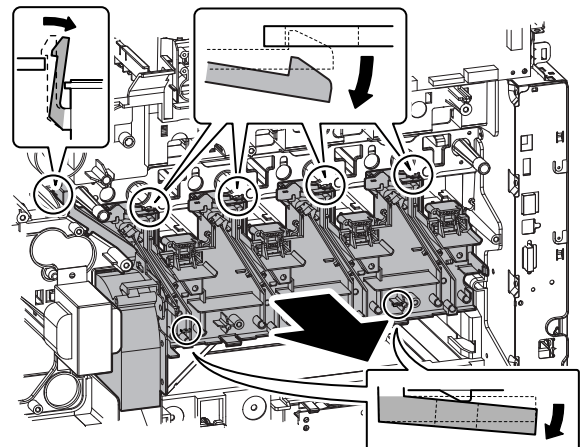
F. Process fan motor 2

- 1) Remove the ozone filter. Disengage the pawl, and remove the ozone duct cover.

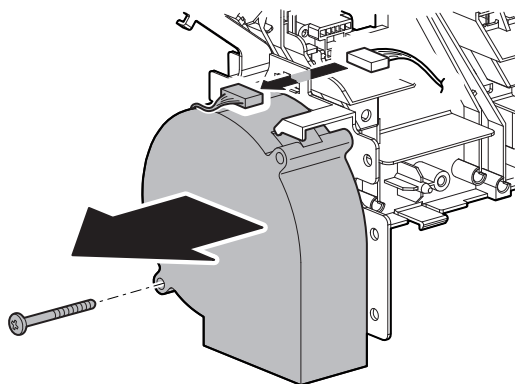
NOTE: When installing the ozone filter, install so that the knob whose corner is cut faces to the front side.



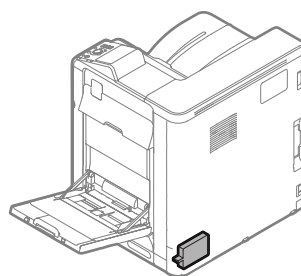
- 2) Disengage the pawl, and remove the ozone duct.



- 3) Disconnect the connector. Remove the screw, and remove the process fan motor 2.



19. Filter



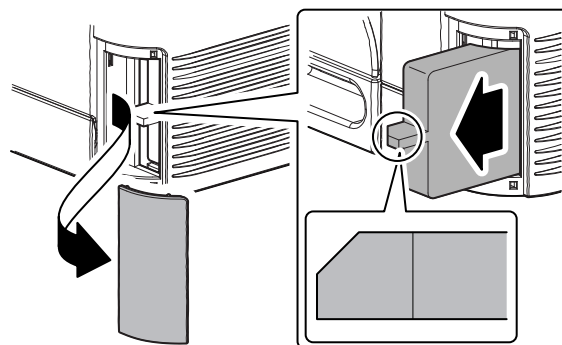
Filter

M ▲	10-77
Ozone filter	

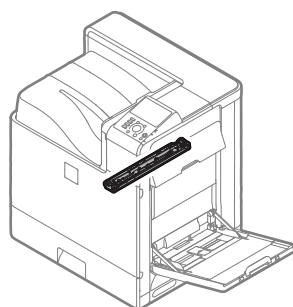
A. Ozone filter

- 1) Remove the filter cover, and remove the ozone filter.

NOTE: When installing the ozone filter, install cut corner (illustrated) facing toward front.



20. Process control sensor, registration sensor



U MX-C400P/C380P: 10-27
MX-B400P/B380P/B382P: 10-35
Primary transfer unit

U MX-C400P/C380P: 10-39
MX-B400P/B380P: 10-39
MX-B382P: 10-45
Fusing unit

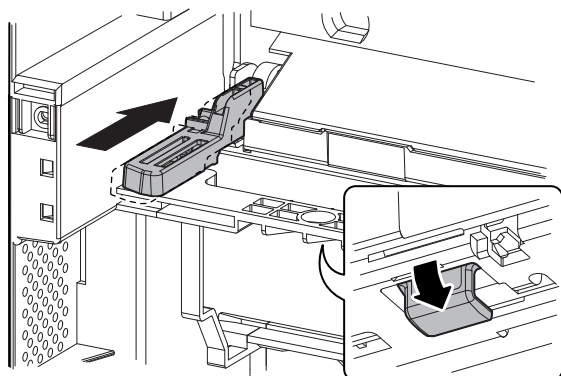
Process control sensor, registration sensor

U 10-77
Registration sensor unit

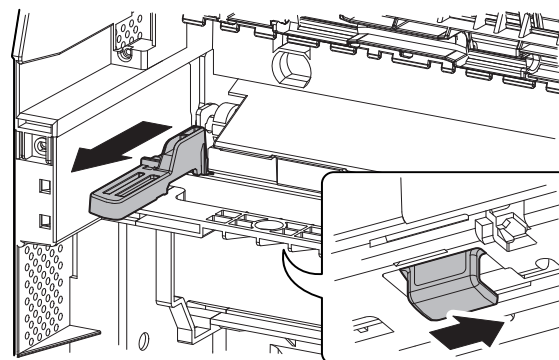
E 10-78
Registration sensor
Process control sensor

A. Registration sensor unit

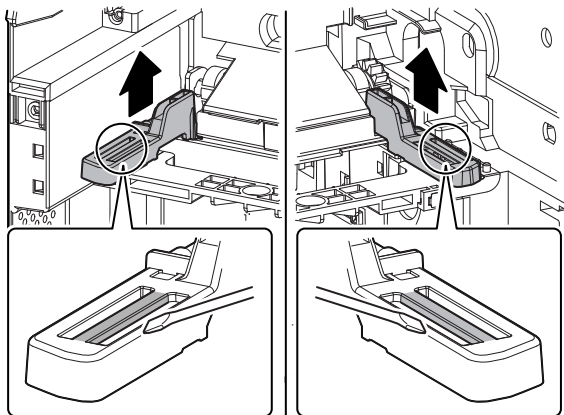
- 1) Push the lever on the front side. The shutter of the registration sensor unit is closed, and the cover comes to the registration sensor unit bottom.



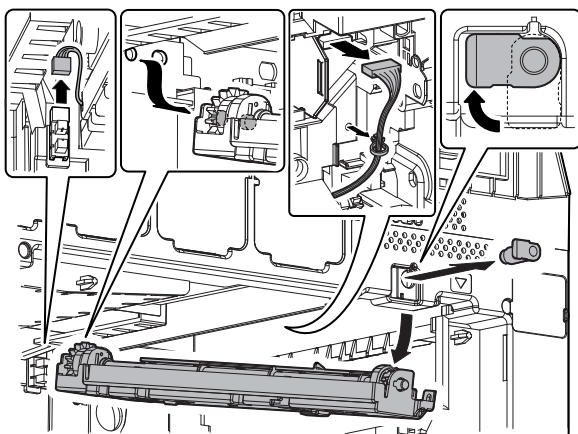
- 2) While pressing the cover which comes on the registration sensor unit bottom, pull out the lever.



- 3) Lift the rib at the center of the lever and remove the levers on the front side and the rear side.

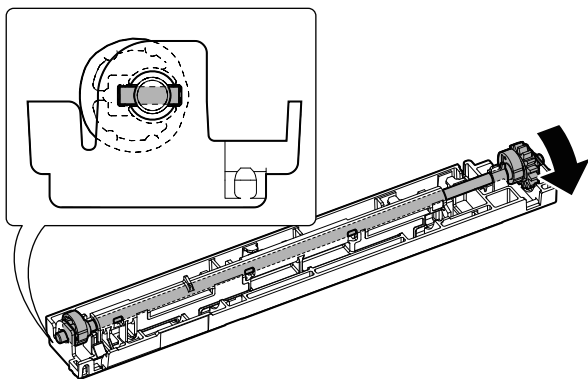


- 4) Release the lock. Disconnect the connector, and remove the snap band. Remove the registration sensor unit.

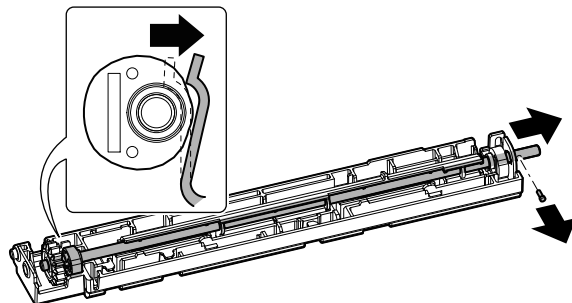


(1) Registration sensor

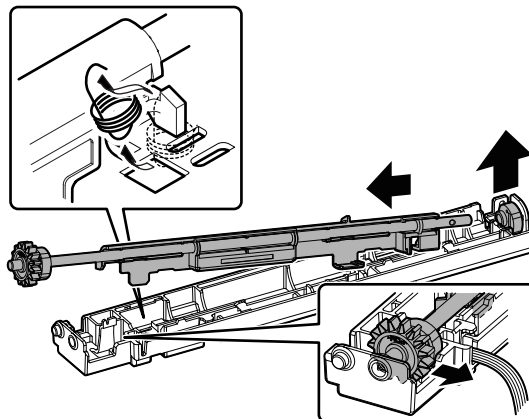
- 1) Turn the gear to fit the parallel pin on the front side with the hole in the frame.



- 2) Slide the shaft to the front side, and remove the parallel pin.



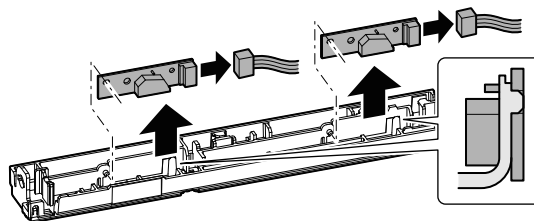
- 3) Remove the shutter spring. Pull the cam on the rear side to the harness side, and remove the shaft. Remove the cam on the front side.



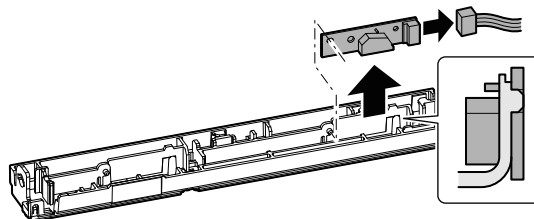
- 4) Disengage the pawl, and remove the sensor, and disconnect the connector.

NOTE: Use care not to touch the light receiving section and the PWB section of the sensor.

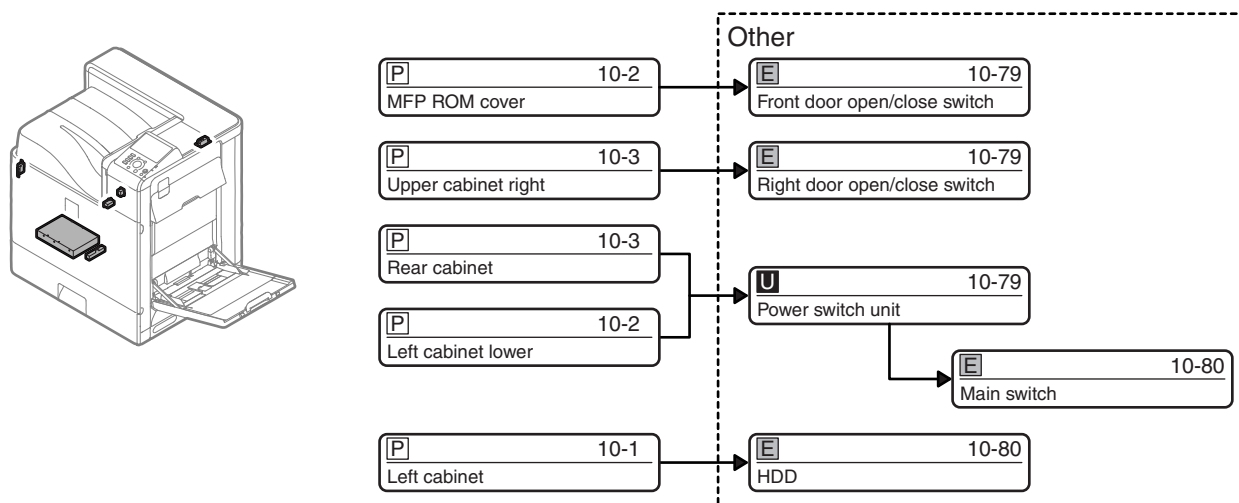
• MX-C400P/C380P



▲ • MX-B400P/B380P/B382P

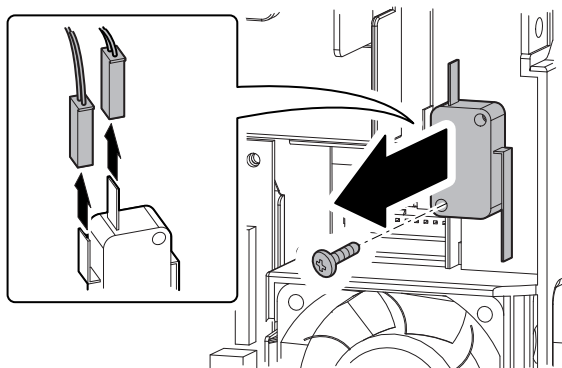


21. Other



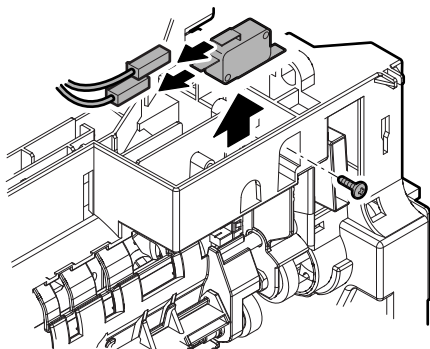
A. Front door open/close switch

- 1) Disconnect the connector. Remove the screw, and remove the front door open/close switch.



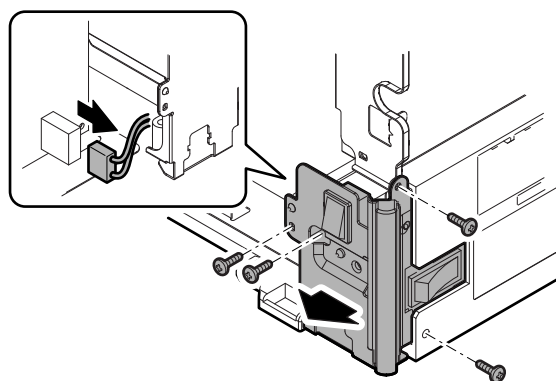
B. Right door open/close switch

- 1) Remove the screw, and remove the right door open/close switch, and disconnect the connector.



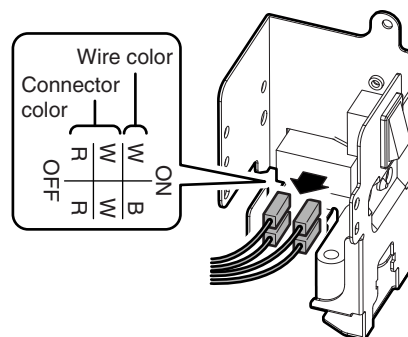
C. Power switch unit

- 1) Disconnect the connector from the AC/DC PWB. Remove the screw, and remove the power switch unit.



- 2) Disconnect the connector from the main switch.

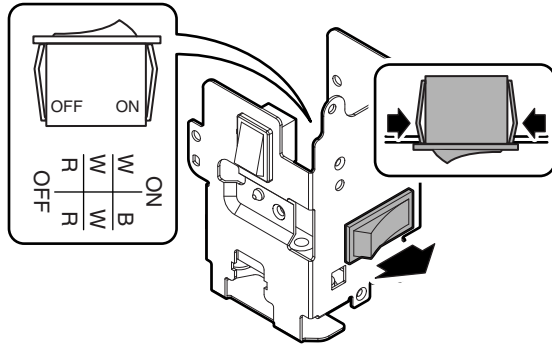
NOTE: When connecting the connector, be sure to fit with the engraved mark inside the mounting plate.



(1) Main switch

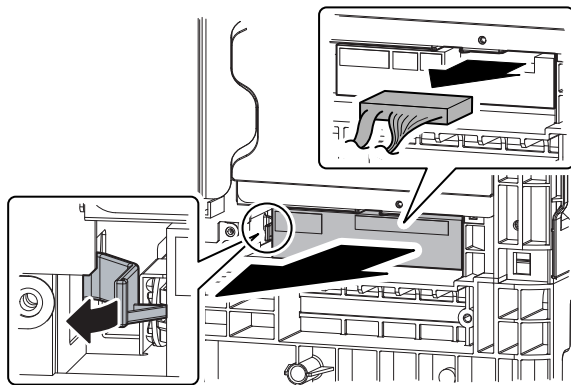
- 1) Disengage the pawl and remove the main switch.

NOTE: When installing the main switch, match the "ON" and "OFF" marks on the main switch with the "ON" and "OFF" marks inside the mounting plate, and be careful of the installing direction.



D. HDD

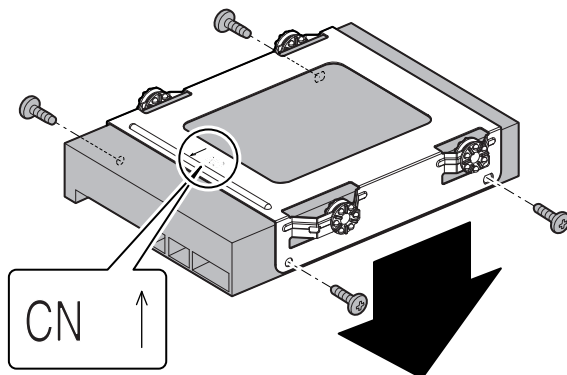
- 1) Disconnect the connector. While disengaging the pawl, remove the HDD unit.



- 2) Remove the screw, and remove the HDD.

NOTE: When installing, match the connector side of the HDD with the mark of "CN ↑" on the fixing plate.

NOTE: Be careful not to drop the HDD, and use care and handle gently.

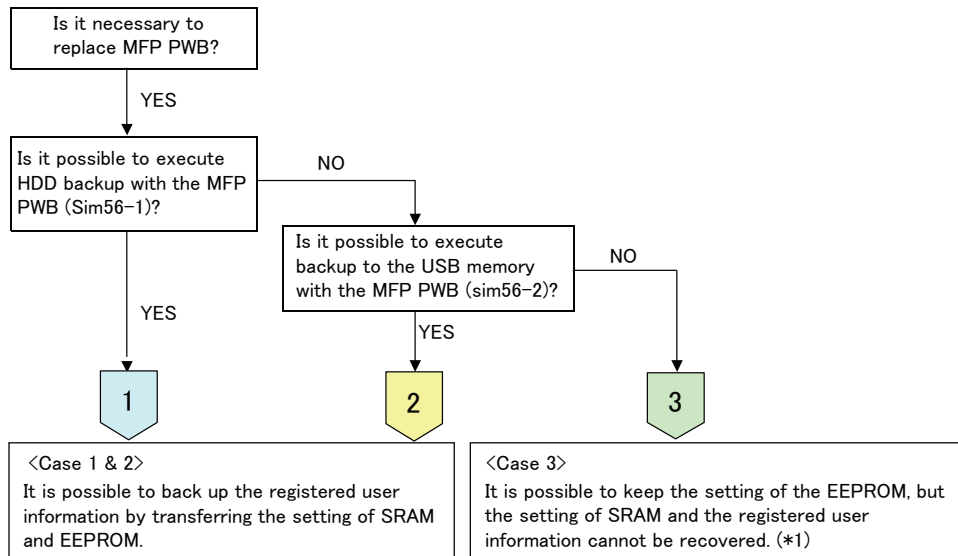


[11] VARIOUS STORAGE DATA HANDLING

1. Necessary works when replacing the PWB and the HDD

A. MFP substrate replacement procedure (work flow)

(Note) Registered user information will not be recovered if the MFP PWB is affected by U2-05 trouble. (*1)



(Note) Never execute Sim16 even if "U2-05" trouble is indicated after turning on the power.
The registered user information will be deleted.

1. Execute Sim56-01 (data transmission) before replacing the MFP PWB, execute "ALL→HDD," and transfer the SRAM data and the EEPROM data to HDD.
 2. Attach the flash ROM, the memory, the EEPROM etc. of the MFP PWB on the service parts MFP PWB and install it to the mainunit.
Note: Ground your body with grounding band during the work.
 3. Execute "HDD→ALL" by Sim56-01 (data transmission) to return the data of SRAM and EEPROM in the HDD to the new MFP PWB.
- * Please be aware that if "ALL→HDD" is not executed by Sim56-01 (data transmission), blank data will be exported to the EEPROM when "HDD→ALL" is executed.

(Note) Never execute Sim16 even if "U2-05" trouble is indicated after turning on the power.
The registered user information will be deleted.

1. Execute "EEPROM&SRAM EXPORT" by Sim56-02 (memory HDD data backup) before replacing the MFP PWB to transfer the data of SRAM and EEPROM to USB memory.
2. Attach the flash ROM, the memory, the EEPROM etc. of the MFP PWB on the service parts MFP PWB and install it to the mainunit.
Note: Ground your body with grounding band during the work.
3. Execute "EEPROM&SRAM IMPORT" by Sim56-02 (memory HDD data backup) to return the data of SRAM and EEPROM in the USB memory to the new MFP PWB.

1. Attach the flash ROM, the memory, the EEPROM etc. of the MFP PWB on the service parts MFP PWB and install it to the mainunit.
Note: Ground your body with grounding band during the work.
2. Turn on the power, execute Sim16 to clear U2-05 trouble.
3. Set as follows after restarting the main unit.
 - (1) Set the appropriate country code by Sim66-02 (clear the software switches related to FAX).

(Note) Make sure to execute even if the fax option is not installed on the machine.

 - (2) Use SIM67-70 to clear the contents of the MFP PWB SRAM.
 - (3) Select "Printer environment setting" at System setting, select "Printer initial setting," open "Standard paper feed paper size" screen, and set A4 size if you use an AB-type machine and letter size if you use an inch-type machine.

(*1) If you have backed up the data by storage backup (WEB) or device cloning (WEB for service) during normal use before the failure of MFP PWB, it is possible to return to the state when the data was backed up even if Sim16 is executed.

B. Works and procedures necessary for HDD replacement

Note for HDD replacement

- Data of the following list are saved in the HDD of the complex machine. If the HDD operates normally and data backup is possible before replacement, perform data backup and then replace the HDD.
- If the HDD does not operate normally, data cannot be backed up.
- The HDD replacement procedures with a broken HDD differs from that with a normal HDD.

Contents of this chapter

- HDD storage data and backup
- Replacement procedures when HDD storage data can be backed up
- Replacement procedures when HDD storage data cannot be backed up due to breakdown of HDD
- HDD replacement and firmware installation (version up)
- Reinstall and update procedures of Operation Manual data saved in HDD

(1) HDD storage data and backup

Some HDD storage data can be backed up, and some other cannot. Some HDD storage data can be reinstalled, and some other cannot.

If the HDD operates normally before replacement and data can be backed up, back up the data before replacement of the HDD referring to the HDD storage data list. Then reinstall the data after replacement of the HDD.

a. HDD storage data list

No.	Data kind	Before installation (When shipping from the factory)	After installation (After use by users)	Enable/ Disable of data backup	Backup means	Enable/ Disable of data reinstall	Data reinstall procedures	Reinstall operator
1	e-Manual	Available	Available	Disable	*1	Enable	SIM49-3	Service
2	Address book	Not available	Not available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
3	Image send series registration data (Sender's information, meta data, etc.)	Not available	Not available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
4	User authentication	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service
5	Japanese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		—
6	Chinese FEP dictionary (Learning)	Not available	Available	Disable	Not available	Disable		—
7	JOB LOG	Not available	Available	Enable	Perform with WEB PAGE.	Disable		—
8	JOB completion list	Not available	Available	Disable	Not available	Disable		—
9	New N/A (FSS) information	Not available	Available	Disable	Not available	Disable		—
10	Input profile (Printer) (Registration from user WEB page)	Not available	Available	Enable	Perform with WEB PAGE.	Enable	Perform with WEB PAGE.	Service or User
11	Output profile (Printer) (Registration from Service WEB page)	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service
12	User font (Added)	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	Service or User
13	User macro	Not available	Available	Disable	Not available	Enable	Perform with WEB PAGE.	
14	Document filing	Not available	Available	Enable	Perform with WEB PAGE.	Enable	Perform with WEB PAGE.	
15	Main program	Available	Available	Disable	Not available	Enable	Emergency update procedures of the firmware	Service
16	Some of system setting data	Not available	Available	Enable	Sim56-2 / Device cloning / Storage backup	Enable	Sim56-2 / Device cloning / Storage backup	Service

*1: The e-Manual cannot be backed up, but can be reinstalled by using SIM49-3 and USB memory.

(2) Replacement procedures when HDD data can be backed up

a. Work contents and procedures

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Back up the HDD storage data before replacement. (Servicing) Use SIM56-2 or the device cloning, or the storage backup function to backup the data. (Back up the data to the USB memory.) (Backup enable data: HDD storage data list No. 2, 3, 4 (Address book, Image send series registration data, User authentication data))	
Step 2	Back up the HDD storage data before replacement. (User or servicing) Back up the data to PC with Web page. (Backup enable data: HDD storage data list No. 7, 10, 14 (Document filing data, JOB LOG data, Input profile))	
Step 3	Replace the HDD.	
Step 4	Reinstall the firmware (program) in the boot mode.	Use SIM49-1 to reinstall the firmware (program).
Step 5	Boot the complex machine. → Formatting is automatically performed.	Boot the complex machine.
Step 6		The trouble code, U2-05, is displayed. → Cancel with SIM16.
Step 7	Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM.	Use SIM62-1 to format the HDD.
Step 8	Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to keep compliance between the HDD data and the image related memory and to prevent malfunctions. (The memory must be cleared not only in the FAX model but in the scanner and the Internet Fax models.)	
Step 9	Use SIM49-3 to install the manual data to the HDD.	
Step 10	Import the data backed up in Step 1. Use SIM56-2, or the device cloning, or the storage backup to import. (Import enable data: HDD storage data list No. 2, 3, 4 (Address book, Image send series registration data, User authentication data))	
Step 11	Import the data backed up with the Web page function in Step 2. Import enable data: Document filing data, Input profile, Output profile, User font, Use macro (The JOB LOG data can be backed up but cannot be imported.)	

(3) Replacement procedures when the HDD storage data cannot be backed up due to breakdown

a. Display when HDD breakdown

When the machine is booted with the HDD broken down, the following operation and the display are made.

- When the power is turned ON, the main program error is displayed.

Main Program Error!!

- The above error message is displayed for 10 sec. Then the following message is displayed.

Emergency Prog Init
Please wait

- Then the following message is displayed to indicate that a HDD trouble occurred.

Version Check
IcM:HDD Trouble

When the above messages are displayed, the HDD is broken down. Turn OFF the main power and replace the HDD with a new one.

b. Work contents and procedures

Procedures	When a new HDD (blank HDD, service part) is used, or when a HDD which is normal but a program error occurs in it is used.	When a used HDD (used in the same model) is used *
Step 1	Reinstall the firmware (program) in the boot mode.	Use SIM49-1 to reinstall the firmware (program).
Step 2	Install a HDD to the machine, and boot the complex machine. → Formatting is automatically performed.	Install a HDD to the machine, and boot the complex machine.
Step 3		The trouble code, U2-05, is displayed. → Cancel with SIM16.
Step 4	Since a blank HDD is automatically formatted, there is no need to perform formatting procedure with SIM.	Use Sim62-1 to format the HDD.
Step 5	Use SIM66-10 to clear the FAX image memory. The memory is cleared in order to keep compliance between the HDD data and the image related memory and to prevent malfunctions. (The memory must be cleared not only in the FAX model but in the scanner and the Internet Fax models.)	
Step 6	Use SIM49-3 to install the manual data to the HDD.	

With the above procedures, the HDD is reset to the state of factory shipping.

(4) HDD replacement and firmware installation (version up)

a. Operations and displays after HDD replacement

When a new HDD without the main program in it or a normal HDD with abnormal main program data in it is installed to the machine and the main power is turned ON, the following operations and displays are made.

- When the power is turned ON, the main program error is displayed.

Main Program Error!!

- The above error message is displayed for 10 sec. Then the following message is displayed.

Emergency Prog Init
Please wait

- The machine enters the boot mode which indicates that there is an error in the main program.

Version Check
IcM:UNUSUAL

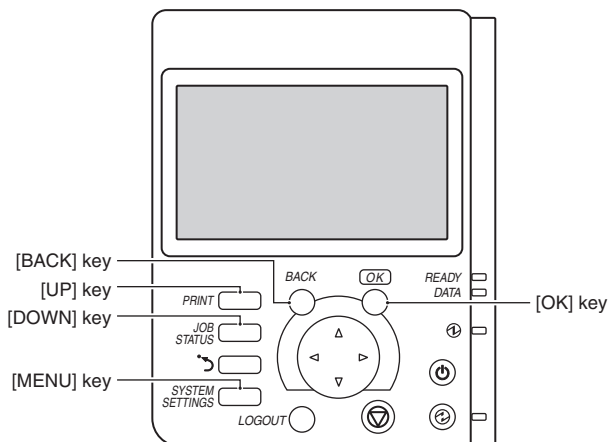
b. Operations in the boot mode

When the machine is booted in the boot mode, the firmware version check, the firmware install, and the version-up operation can be performed.

When a HDD is installed to the machine and the above operation is performed, the firmware must be installed.

* In the boot mode, the following keys are used for operation. Note that the functions of the keys in the boot mode differ from those in the normal mode.

b-1. Key functions and operations in the boot mode



Key name in the normal mode	Key name in the boot mode	Function
[OK] key	[OK] key	Performs the selected item or function.
[SYSTEM SETTINGS] key	[MENU] key	Selects a menu.
[BACK] key	[BACK] key	Selects a menu. (Serves as a cancel key in the execution check screen.)
[PRINT] key	[UP] key	Selects an item.
[JOB STATUS] key	[DOWN] key	Selects an item.

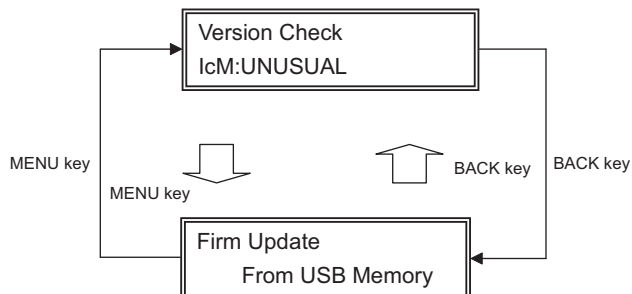
b-2. Functions in the boot mode

The following two functions are available in the boot mode.

Function	Content
Firmware version check function	Displays the firmware version of the ICU PWB, the OPU PWB, the PCU PWB, and the FAX PWB.
Firmware install (update) function	Installs (revises) the firmware by transmitting data from the PC which is connected to the ICU PWB, the OPU PWB, the PCU PWB, the FAX PWB, and other options with the USB memory or the USB cable.

b-3. Selection of functions in the boot mode

There are two functions available in the boot mode. These modes can be selected by pressing [MENU] key and [BACK] key.



c. Firmware install and version-up procedures in the boot mode

- 1) Boot the machine in the boot mode. When the Version Check display is indicated, press [MENU] key, and the machine enters the Firm Update mode.

Firm Update
From USB Memory

- 2) Insert the USB memory which includes the update firmware file (SFU file) into the USB port of the machine, and press [OK] key.

Firm Update
> 0100P200.sfu

SFU file display

- 3) Select the firmware file (SFU file) of the target. Use [UP] key and [DOWN] key to select the target file. When [OK] key is pressed with the directory name displayed, the control can enter the lower level directory. (However, one-step lower level) When [BACK] key is pressed in the lower level directory, the control can return to the upper level directory.

- 4) Press [OK] key. The selected firmware file (SFU) is read. (It takes about 1 minute.)

Firm Update
Reading Data

Display of reading file data

- 5) After completion of reading, the firmware is installed (updated). (It takes about 5 - 6 minutes.)

Firm Update
IcuM

Display of firmware install (Update) process

- * The abbreviated name of the firmware which is currently installed (updated) is displayed sequentially.
- * The screen may flash instantaneously during the install (update) process. This is a normal operation.

- 6) Check the result of install (update) of the firmware. Use [UP] key and [DOWN] key to check the results of install (update) of all the firmware programs.

Firm IcuM Updat Firm IcuM Updat Firm IcuM Updat

Display of firmware update results

OK: Update success

NG: Update failed

Not Update: The update process is not executed.

Cause of Update process not executed:

The option unit for the target firmware is not connected.

- 7) Turn OFF the power to terminate the boot mode.

(5) Reinstall and update procedures of the HDD storage Operation Manual data

1) Obtain the Operation Manual data.

Download the Operation Manual data from the utility menu on the web site (Tech-DS home page).

Copy the downloaded files to the USB device without changing the file hierarchy.

(To upload to the complex machine, files of "***_pdf_fax.idx" and "***_pdf.idx" and "version.txt" as well as the Operation Manual data (**.pdf) are required. When the downloaded files are copied without changing the file hierarchy, these files also are copied.)

NOTE:

When data are uploaded from the USB memory to the HDD, if there are some data in the HDD, the files in the memory are compared with the files in the HDD and only the files which satisfy the following conditions are written into the HDD.

- The file size is different.
- The time stamp is different.
- The file exists only in the USB memory.

2) Insert the USB memory into the machine and enter the SIM49-3 mode.

The screenshot shows a terminal-style interface for the SIM49-3 mode. At the top right, it says 'MAIN' and '10KEY'. Below that, a status bar shows 'TEST SIMULATION NO. 49-03' and a 'CLOSE' button. The main menu is titled 'E-MANUAL UPDATE [/usbdd:1/]'. It contains five options: 01: <DIR> FOLDER1, 02: FILE1, 03: FILE2, 04: <DIR> FOLDER2, and 05: <DIR> MANUAL1. At the bottom, there is a numeric keypad with digits 0-9, *, and #, and a 'C' button. The screen also shows '1/ 1' at the bottom right.



3) Insert the USB memory into the machine.

- When the USB memory is not inserted, "INSERT A STORAGE E-MANUAL STORED ON" is displayed. When [OK] button is pressed, the screen shifts to the folder select menu 1.

4) Select the folder of the Operation Manual data. (The screen shifts to the Operation Manual data install menu.)

The current version and the update version are displayed.

5) Press [EXECUTE] button.

[EXECUTE] button is highlighted, and [YES] and [NO] buttons are changed from gray-out to active display.

6) When [YES] button is pressed, the selected Operation Manual is installed.

When install is completed, "COMPLETE" is displayed. In case of an abnormality, "ERROR" is displayed.

[12] SERVICE WEB PAGE

1. General

The following functions are available on the Hidden Web Page exclusively used for the serviceman.

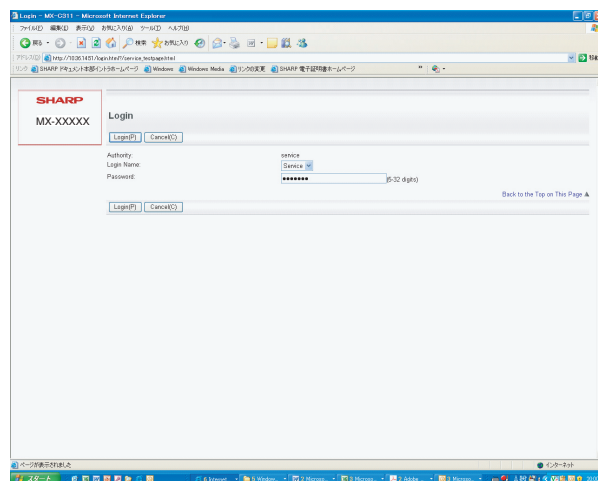
Menu/Item		Function and content
Password Setting		Used to set the password to enter the Hidden Web Page exclusively used for the serviceman.
Output of Test Page		Used to print out the test page (system setting contents).
Font/Form Download		Used to download Font/Form. Font/Form of PCL and PostScript, macro, and other resources are downloaded to the HDD and controlled. (PS, PCL5 only)
Output Profile Settings		Used to add or delete the output profile, and set the default.
Device Cloning		Used to import/export the system setting information in XML format. By importing the export file to the other device, the setting values and setting contents of the device can be copied to another device. This function is useful to set the same setting to two or more machines efficiently.
Filing Data Backup		Used to import/export the document filing data in the unit of folder.
User Control		Used to shift to the user mode. After log in, the screen is shifted to the setting screen of user management.
User Control 2		Used to set the Pages Limit Group and the Favorite Operation Group by authority of the serviceman. (Select among preset items.)
Job Log	Save Job Log	Used to save the Job Log.
	View Job Log	Used to display the Job Log.
Update of Firmware		Used to update the firmware version.
Syslog *1	Administration Settings	Used to set the Log Type. (Set to the default.)
	Storage/Send Settings	Keep all the items selected.
	Save/ Delete Syslog	Used to save or delete the log data.
	View Syslog	Used to display the log data.

*1: This may be useful for troubleshooting when a trouble occurs.
When submission of the log data file is requested in order to troubleshoot, use the log file save mode to export the log data file to the client PC.

2. Details and operation procedures

A. Procedures to enter the Hidden Web page exclusively used for the serviceman

- 1) Boot a browser program.
- 2) Enter
"http://xxx.xxx.xxx.xxx/login.html?/service_testpage.html"
on the address column of the browser, and press ENTER key.
"xxx.xxx.xxx.xxx" is the IP address of the machine.
- 3) Enter the password to log in.
Default Password: service

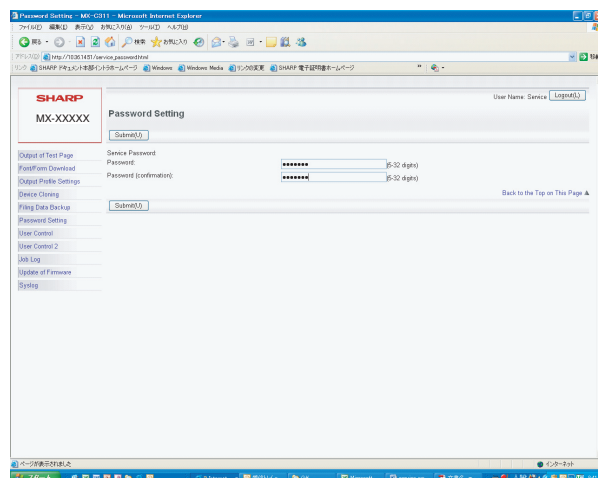


NOTE:

The password can be optionally changed in the Password Setting menu.

If the password is changed and forgotten, use SIM24-31 to reset the password to the default.

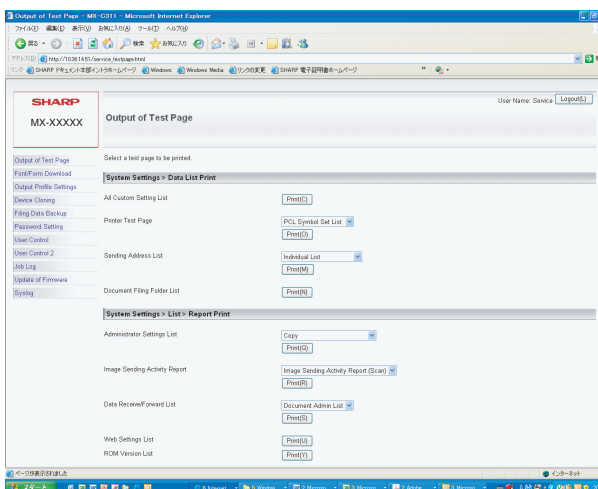
B. Password Setting



- * The password can be optionally changed in the following procedures.

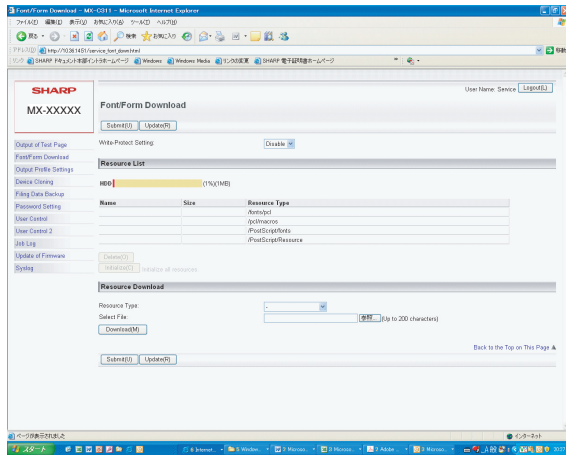
- 1) Enter a new password.
- 2) Enter the new password again to make confirmation.
- 3) Click "Submit" (registration) button.

C. Output of Test Page



- Click "Print" button of an item or report to be printed.
When there is a list of items for selection, select one of the items in the pull-down menu list, and click "Print" button.
The list is printed out.

D. Font/Form Download



(1) Download of Font, Form, and Macro

- Select "Resource Type" from the pull-down menu list.
(Example: PCL/PostScript Font/Form or Macro)
- Click "Refer" button to select a target file.
- Click "Download" button.
- Click "Submit" (registration) button.
The file is downloaded to the HDD.
The list of the downloaded files and the use percentage of the HDD are displayed.

(2) Delete of downloaded font (Procedures to delete a file separately)

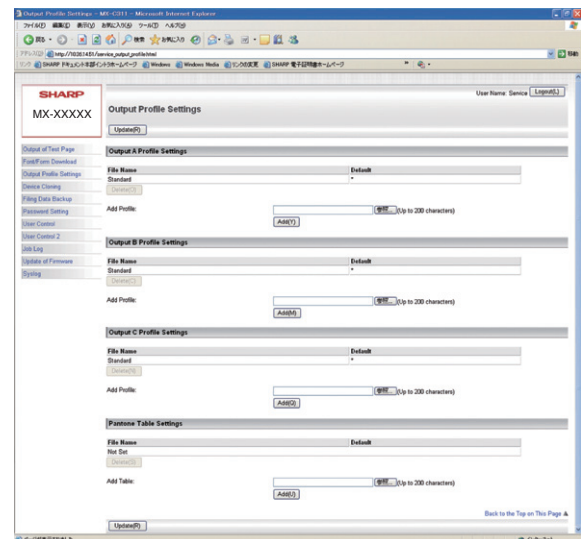
- Select a file to be deleted from the list of the downloaded files, and click "Delete" button.
- Check that the confirmation message is displayed, and press Yes key.
- Click "Submit" (registration) button.
The file in the HDD is deleted.

(3) Procedures to delete all the files at a time

- Click "Initialize" button.
- Check that the confirmation message is displayed, and press Yes key.
- Click "Submit" (registration) button.

NOTE: By the Write-Protect Setting function, the downloaded files can be set to write protect.

E. Output Profile Settings



(1) Download procedures of custom output profile

- Click "Refer" button to select the output profile.
- Click "Add" button to add the output profile.
- Click "Add" button to add the output profile.
The added profile is displayed on the list. For the output A profile and the output B profile, the newly added profile becomes valid.

When no profile is added, the default output profile in the firmware of the machine set when shipping from the factory is valid.

For the output C profile, the custom profile is valid.

Output A profile / Output B profile: Commonly used.

Output C profile: PS mode, for CMYK simulation (Custom)

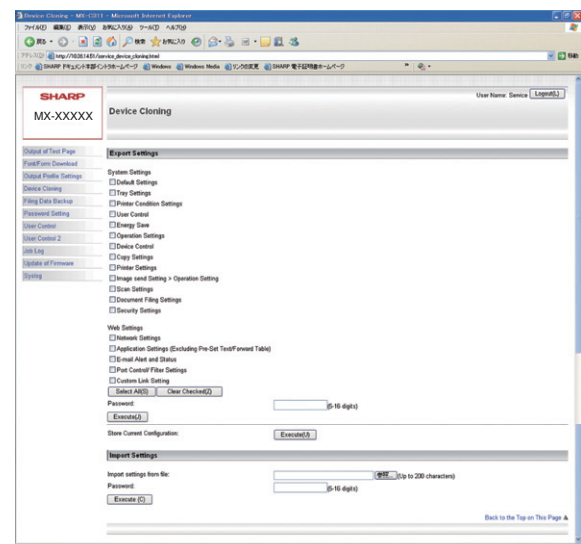
Pantone Table: For PS mode

(2) Procedures to delete the custom output profile and return to the default output profile

- Click "Delete" button of the output profile to be deleted.
- Click "Update" button.

The custom output profile is deleted and the default output profile in the firmware of the machine becomes valid.

F. Device Cloning



(1) Export

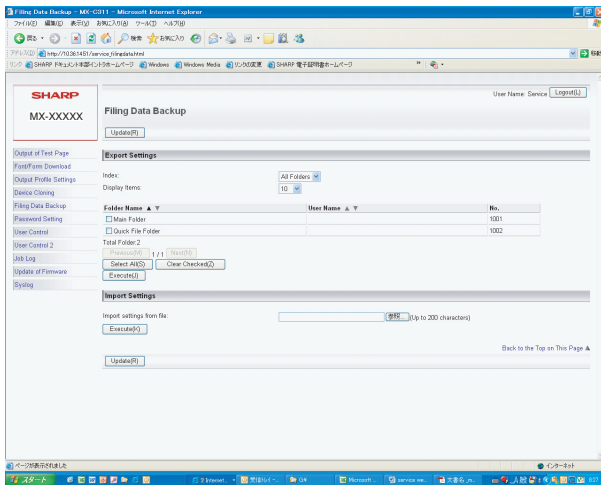
- 1) Select an item to be backed up.
- 2) Click "Execute" button to execute backup.
(File name: *****.bin)

When the password is set, the set password must be entered when importing.

(2) Import

- 1) Import from a file: Click "Refer" button to select the back-up file. (File name: *****.bin)
- 2) Click "Execute" button to execute import.
If the password is set when exporting, the password must be entered.

G. Filing Data Backup



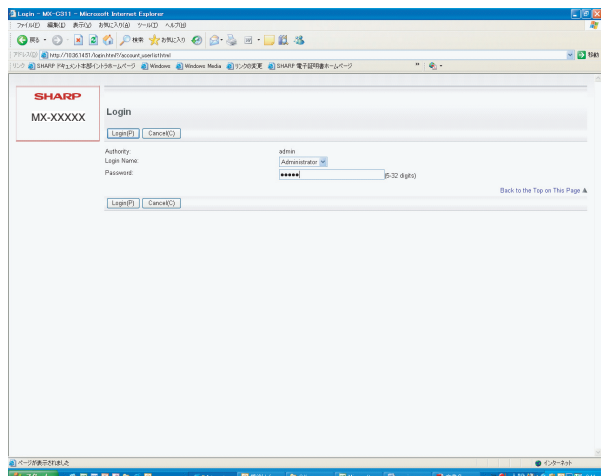
(1) Export

- 1) Select the folder to be backed up.
The list display conditions can be specified by changing the index and the number of display items on the pull-down menu.
- 2) Click "Execute" button.
Specify the save position of the file, and save the file. (File name: *****.bin)
- 3) Click "Update" button.

(2) Import

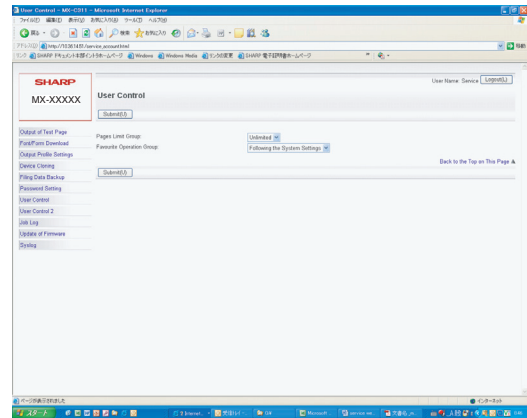
- 1) Click "Refer" button to select a target file. (File name: *****.bin)
- 2) Click "Execute" button.
The target file is imported.
- 3) Click "Update" button.

H. User Control



- 1) Enter the password to log in.
Default Password: admin
The screen is shifted to the setting menu of user management.

I. User Control 2



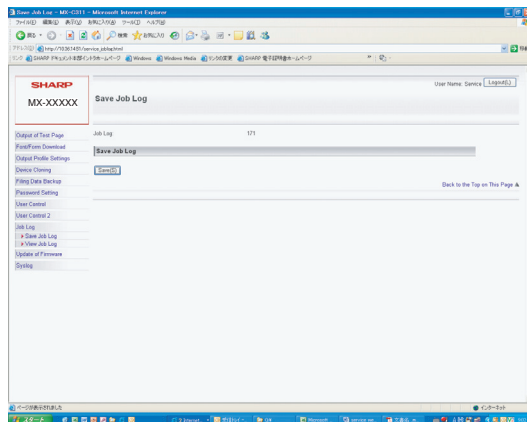
Select the Pages Limit Group and the Favorite Operation Group.
(The Pages Limit Group and the Favorite Operation Group must be set in advance.)

(Example of use)

The use sets the conditions for servicing work by using the Pages Limit Group and the Favorite Operation Group functions in advance, and the serviceman selects the set conditions in this mode for servicing work.

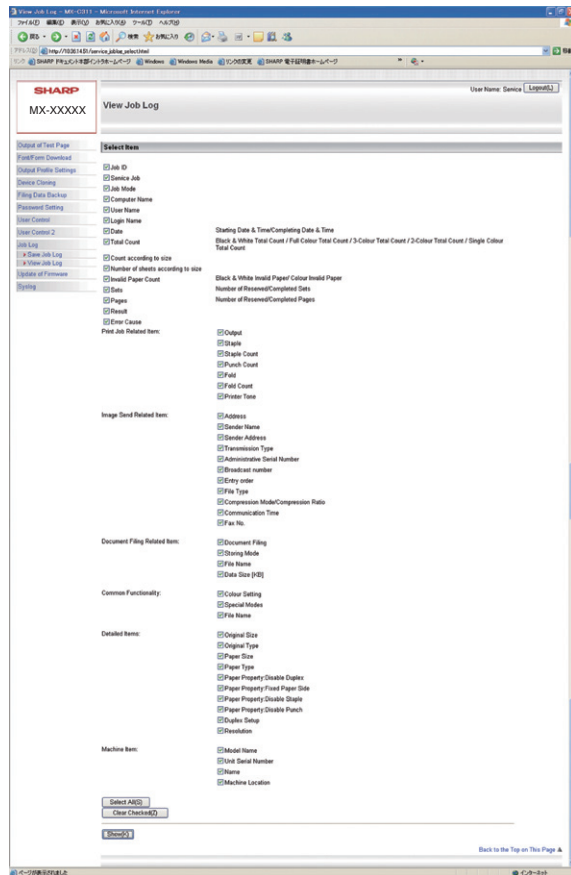
J. Job Log

(1) Save Job Log



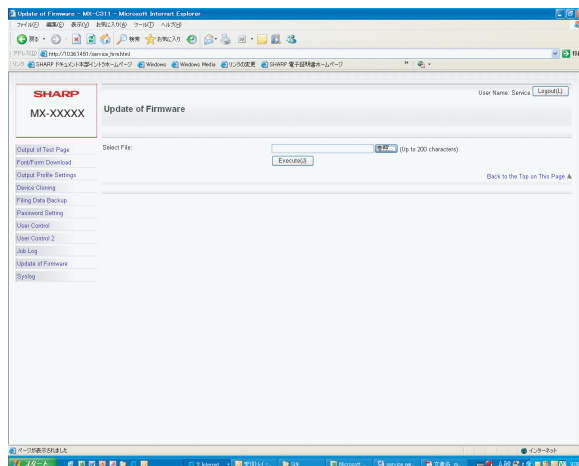
- 1) Click "Save" button, and specify the save position of the Job Log to save it.

(2) View Job Log



- 1) Select a Jog Log item to be displayed.
- 2) Click "Show" (display) button.
The Jog Log is displayed.

K. Update of Firmware



- 1) Click "Refer" button to select a firmware file.
- 2) After selecting a firmware file, click "Submit" (registration) button.

The firmware data are sent to the machine, and update of the firmware is processed.

During the process, the message of "Firmware Update, now processing..." is displayed.

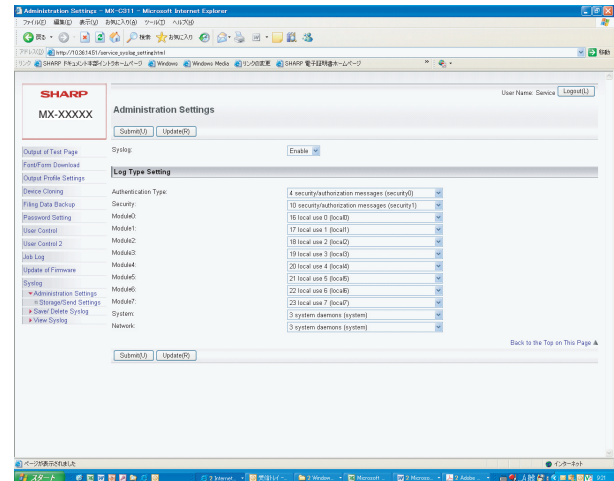
L. Syslog

There are following functions in the Syslog mode.

This function is provided to acquire the detailed Syslog to trouble-shoot when a trouble occurs.

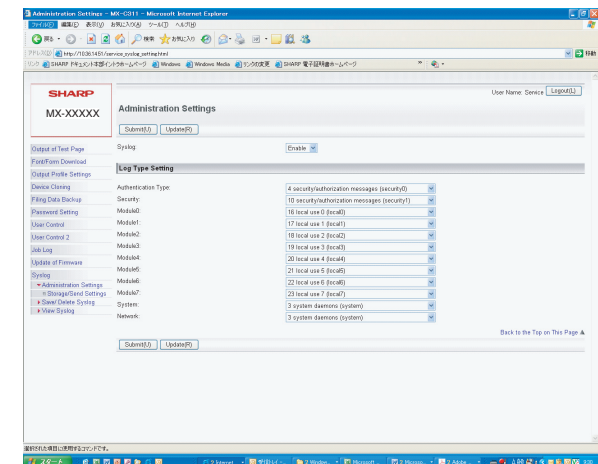
When submission of the log data file is requested for troubleshooting, use the log file save mode to export the log data file to the client PC.

Syslog	Administration Settings	Log Type Setting (Set to the default.)
	Storage/Send Settings	Set all the items selected.
	Save/ Delete Syslog	Log data save, delete
	View Syslog	Log data display



(1) Administration Settings/ Log Type Setting

Set to the default.

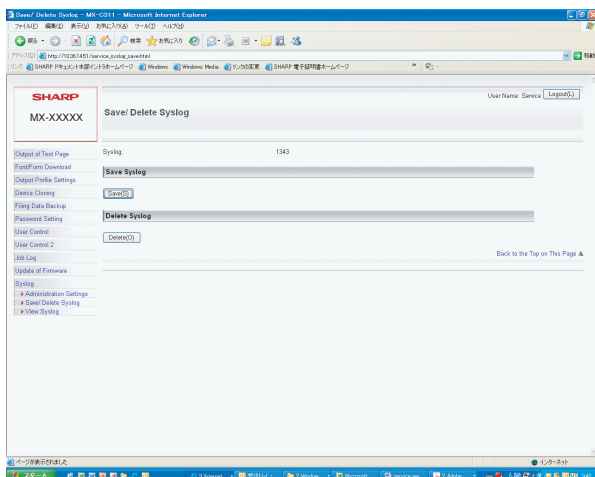


(2) Storage/Send Settings

Keep all the items selected.



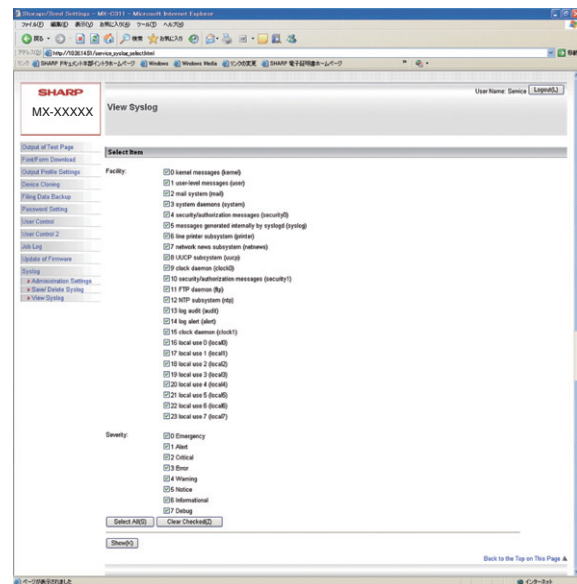
(3) Save/ Delete Syslog



When saving the Syslog, click "Save" button and specify the save position and save it.

When deleting, click "Delete" button.

(4) View Syslog



1) Select a Syslog item to be displayed.

2) Click "Show" button.

The Syslog is displayed.

[13] SPECIFICATIONS

1. Basic specifications

A. Base engine

(1) Type

	MX-C400P/C380P	MX-B400P/B380P/ B382P
Type	Desktop	
Color support	Full color	Monochrome

(2) Engine composition

Photo-conductor kind	OPC (Drum diameter:φ30mm) Black x 1, Color x 3 (MX-C400P/C380P)
Copying method	Electronic photo (Laser)
Developing system	Dry, 2-component magnetic brush development
Charging system	Corona discharge system
Primary transfer system	Intermediate transfer system
Secondary transfer system	Transfer roller system
Cleaning system	Counter blade
Fusing system	Heat roller
Waste toner disposal	No toner recycling system / Waste toner bottle system
Toner supply during operation	Disable
Color of the external view	Warm white, woodgrain

(3) Dimensions / Weight

Outer dimensions		560 x 438 x 610 mm
Dimensions occupied by Machine (State of the manual paper feed tray is expansion.)		868 x 438mm
Weight	Machine weight (with OPC drum) (Without Consumable parts)	Approx. 39kg (MX-C400P/C380P) Approx. 36kg (MX-B400P/B380P/B382P)
	Consumable parts (with developer cartridge, toner cartridge)	Approx. 44kg (MX-C400P/C380P) Approx. 37kg (MX-B400P/B380P/B382P)

(4) Warm-up

Warm-up time *1	90 sec or less
Pre-heat	Yes
Recovery time from jam *2	45 sec. or less

*1: Result may change depending on conditions.

*2: Condition: After the door is kept open for 60 seconds, the standard conditions, the polygon motor halt.

The warm-up time must be measured under the stable power voltage.

(5) Engine resolution

• MX-C400P/C380P

Writing resolution		600 x 600dpi, 1200 x 1200dpi
Smoothing		No
Gradation	Monochrome	600 x 600 (1bit): PCL5c (e)/PCL6/PS 600 x 600 (4bit): PCL5c (e)/PCL6/PS 1200 x 1200 (1bit): PCL6/PS
	Color	600 x 600 (1bit): PCL5c/PCL6/PS 600 x 600 (4bit): PCL6/PS 1200 x 1200 (1bit): PCL6/PS

• MX-B400P/B380P/B382P

Writing resolution		600 x 600dpi, 1200 x 1200dpi
Smoothing		No
Gradation	Monochrome	600 x 600 (1bit): PCL5e/PCL6/PS 600 x 600 (4bit): PCL5e/PCL6/PS *1 1200 x 1200 (1bit): PCL6/PS

*1: In direct print (including OSA print), TIFF/JPEG/ (low-compression Sharp Scan) PDF are not printed in 600 x 600 dpi (4bit).

(6) Printable area

A4R	206 x 290mm	8.5" x 14"	212 x 349mm
B5R	178 x 250mm	8.5" x 13.5"	212 x 336mm
A5R	144 x 203mm	8.5" x 13.4"	212 x 333mm
Executive R	180 x 260mm	8.5" x 13"	212 x 323mm
Postcard	96 x 141mm	8.5" x 11"R	212 x 272mm
16KR	191 x 263mm	5.5" x 8.5"R	136 x 209mm

(7) Engine speed (ppm)

a. Tray 1 - 4 (Tray 2 - 4: Option)

Paper size	MX-C400P/C380P		MX-B400P/ B380P/B382P
	Monochrome	Color	
8.5" x 14", 8.5" x 13", 8.5" x 13.4", 8.5" x 13.5"	32	32	32
A4R, B5R, 16KR	38	38	38
8.5" x 11"R, 7.25" x 10.5"R	40	40	40
A5R, 5.5" x 8.5"R	40	40	40
Extra	28	28	28

b. Manual paper feed tray

Paper size	MX-C400P/C380P		MX-B400P/ B380P/B382P
	Monochrome	Color	
8.5" x 14", 8.5" x 13", 8.5" x 13.4", 8.5" x 13.5"	28	26	28
A4R	33	30	33
A5R, 5.5" x 8.5"R	40	37	40
8.5" x 11"R, B5R, 7.25" x 10.5"R, 16KR	35	31	35
Extra	28	26	28
OHP (A4R, 8.5" x 11"R)	16	15	16
Envelope (Monarch, Com-10, DL, C5)	12	12	12
Heavy paper (A4R, A5R, 8.5" x 11"R, 8.5 x 5.5R, 16KR)	16	15	16
Heavy paper (Postcard High)	16	16	16
Heavy paper (Postcard Low)	13	13	13
Heavy paper (Other sizes than above)	13	13	13

(8) Power source

	100V series	200V series
Voltage	100-127V 12A	220 - 240V 8A
Frequency	50/60Hz	50/60Hz
Power source code	Fixed type (Direct connection)	Inlet
Power switch	2 positions (Primary side switch: Left side of the machine, Secondary side switch: Operation panel)	

(9) Power consumption

	100V series	200V series
Max. Rated Power Consumption *1	1.44kW	1.84kW

*1: When the power supply is turned on, when the dehumidification heater is OFF.

B. Controller, Interface

(1) Controller board

Item	MX-C400P/C380P	MX-B400P/B380P/ B382P
CPU	Power QUICCIII- MPC8533E (1GHz)	Power QUICCIII- MPC8533E (800MHz)
Interface		
IEEE 1284 Parallel	No	
Ethernet	1 port	
Interface	10Base-T, 100Base-TX, 1000Base-T	
Support Protocol	TCP/IP (IPv4 IPv6), IPX/SPX, NetBEUI, EtherTalk	
USB 2.0 (High speed) (Host)	1 port (Either on the front section or rear section) For connection of USB memory, USB keyboard or USB hab	
USB 2.0 (High speed) (Device)	1 port	
USB authentication acquisition	No	
Video I/F (For EFI)	No	
Serial I/F (For new coin vendor)	1 port	
Memory slot	System 2 slots (Empty 1) Local 1 slot Codec memory 1 slot	System 2 slots (Empty 1) Local 1 slot

(2) Memory capacity, HDD capacity

Model	Memory for copy (Local memory)			Memory for printer (System memory)			Codec memory			HDD
	Standard	Expansion	Max.	Standard	Expansion	Max.	Standard	Expansion	Max.	
MX-C400P/C380P	512MB	—	512MB	1GB	1GB	2GB	256MB	—	256MB	80GB *1
MX-B400P/B380P/B382P				512MB		1.5GB	—		—	

*1: The HDD capacity may vary depending on the production date.

C. Operation panel

(1) Display device

	4.3 Inch LCD
Type	Dot matrix LCD (4.3 inch Q-VGA)
Display dot number	480 x 272 dots
LCD drive display area (W x D)	95.04 x 53.856mm
LCD back-light	LED
Brightness adjustment	YES
Angle/Position adjustment	Disable

D. Paper feed, transport, paper exit section

(1) Paper feed section

Type	Standard: 1-stage paper feed tray + Multi manual feed Max.: 4-stage paper feed tray + Multi manual feed
Dehumidifying heater	Service parts (Supported by kit)

(2) Paper feed tray section (main unit), manual paper feed tray

Tray	Tray 1	Manual paper feed tray
Paper capacity Standard paper (80g/m ²)	500 sheets	100 sheets
Paper size	Refer to the "Table of paper feed/exit limitations".	
Paper size detection	Refer to the "Table of paper feed/exit limitations".	
Paper type setting	YES (Refer to the "Table of paper feed/exit limitations".)	
Paper size change method	Changed by the user	
Paper size setting when factory shipping	NO because of auto detection	
Paper remaining quantity detection	3 steps (100%, 67%, 33%, none)	Paper empty detection only
Tray hold section forward/backward support	No	—

(3) Manual paper feed tray special paper capacity

Paper type	Manual paper feed tray Capacity	
	MX-C400P/C380P	MX-B400P/B380P/ B382P
Postcard	20 sheets	
Envelope	20 sheets	
OHP	20 sheets	
Heavy paper	40 sheets	
Glossy paper	20 sheets	—
Other special paper	1 sheet	

(4) Duplex

System	Non-stack system
Feedable paper size / weighing capacity	Refer to the "Table of paper feed/exit limitations".
Logo paper support	YES

(5) Paper exit section

Paper exit section	Center section of the main unit
Paper exit system	Face-down paper exit system
Paper exit capacity	250 sheets (When A4R, 8.5x11R, color recommended paper is used)
Paper exit paper size/weight	Refer to the table of paper feed/exit limitations.
Shifter function	NO
Discharged paper detection	NO
Paper exit full detection	YES

(6) Table of paper feed/exit limitations

			Paper feed section						Paper exit section	
			Tray 1			Manual feed tray			Paper exit tray	
			Auto detection AB series	Auto detection inch series	Manual setting	Auto detection AB series	Auto detection inch series	Manual setting	Normal paper exit	Duplex
Size setting			User setting			User setting				
Paper size	8.5" x 14" (Legal)	216 x 356	No	Yes	No	No	8.5" x 14"	No	Yes	Yes
	8.5" x 13.4" (Mexican Legal)	216 x 340	No	No	Yes	8.5" x 13.4" 8.5" x 13.5" 8.5" x 13"	8.5" x 13.4" One of the above can be selected. Default: 8.5" x 14"	No	Yes	Yes
	8.5" x 13.5" (Asian Legal)	216 x 343	No	No	Yes	One of the above can be selected. Default: 8.5" x 13"	No	No	Yes	Yes
	8.5" x 13" (Foolscap)	216 x 330	Yes	No	No		No	No	Yes	Yes
	8.5" x 11"R (Letter R)	216 x 279	No	Yes	No	No	Yes	No	Yes	Yes
	5.5" x 8.5"R (Invoice R)	140 x 216	No	Yes	No	No	Yes	No	Yes	Yes
	7.25" x 10.5" (Executive R)	184 x 266	No	Yes	No	No	Yes	No	Yes	No
	A4-R	210 x 297	Yes	No	No	Yes	No	No	Yes	Yes
	B5-R	182 x 257	Yes	No	No	Yes	No	No	Yes	Yes
	A5-R	148 x 210	Yes	No	No	Yes	No	No	Yes	Yes
	16K-R	195 x 270	No	No	Yes	No	No	Yes	Yes	Yes
	Postcard	100 x 148	No	No	No	No	No	No	-	-
	Monarch	98 x 191	No	No	No	No	No	Yes	Yes	No
	COM10	105 x 241	No	No	No	No	No	Yes	Yes	No
	DL	110 x 220	No	No	No	No	No	Yes	Yes	No
	C5-R	162 x 229	No	No	No	No	No	Yes	Yes	No
Indeterminate form setting			No	No	No	Yes	Yes	Yes	Yes	No
Custom size setting			No	No	Yes *1	No	No	Yes	Yes	No
Custom range	Main scan (Inch in the parentheses)	min	No	No	132	No	No	100 (5 1/2)	98	-
		max	No	No	216	No	No	216 (8 1/2)	216	-
	Sub scan (Inch in the parentheses)	min	No	No	210	No	No	148 (5 1/2)	148	-
		max	No	No	356	No	No	356 (14)	356	-

		Paper feed section						Paper exit section	
		Tray 1			Manual feed tray			Paper exit tray	
		Auto detection AB series	Auto detection inch series	Manual setting	Auto detection AB series	Auto detection inch series	Manual setting	Normal paper exit	Duplex
Size setting		User setting			User setting				
Paper type	Thin paper 55-59g/m ²	No			Yes			Yes	No
	Plain paper 60-79g/m ²	Yes			Yes			Yes	Yes
	Plain paper 80-105g/m ²	Yes			Yes			Yes	Yes
	Heavy paper 106-209g/m ²	No			Yes			Yes	No
	Recycled paper	Yes			Yes			Yes	Yes
	Letterhead	Yes			Yes			Yes	Yes
	Punched paper	Yes			Yes			Yes	Yes
	Color paper	Yes			Yes			Yes	Yes
	Printed paper	Yes			Yes			Yes	Yes
	Envelope monarch 99 x 191	No			Yes			Yes	No
	Envelope Com-10 105 x 241	No			Yes			Yes	No
	Envelope DL 110 x 220	No			Yes			Yes	No
	Envelope C5 162 x 229	No			Yes			Yes	No
	Label sheet	No			Yes			Yes	No
	OHP	No			Yes			Yes	No
	Glossy paper	No			Yes			Yes	No
	User type 1-7	Yes			Yes			Yes	Yes *2

*1: Switch ON/OFF with SIM. Default is OFF.

*2: Follows the paper type registration setting.

* For the option paper feed tray, refer to the separate Service Manual (MX-CSX1/CSX2).

(7) Inhibited paper

- Special paper for ink-jet printers (Fine paper/Glossy paper/ Glossy film/Postcard, etc.)
- Carbon paper/Heat sensitive paper
- Irregular form paper
- Paper with glue, staplers, or clips
- Wet paper
- Folded paper, curled paper, broken paper
- Paper wrinkled with humidity
- OHP for oil feed (Example: S4BG746)
- Inhibited OHP SF4A6CS, SF4A6FS
- Thin paper less than 55g/m² (15lbs Bond) and heavy paper of 209g/m² (56lbs Bond) or above (Thin paper of 55 - 59g/m² (15 - 16lbs Bond) and heavy paper of 106 - 209g/m² (28 - 56lbs Bond) are limited to manual paper feed.)
- Paper with printing on the reverse side with the other printer or the copier
- Pre-print paper printed with the other printer or the copier
- Tracing paper

(8) Paper which is not recommended

- Heat transfer paper
- Perforated paper
- Return postcard with folding line

E. Printer function

(1) Platform

- IBM PC/AT
- Macintosh

(2) Support OS

NOTE: The providing method differs depending on the content.

1

OS		Custom PCL6	Custom PCL5c	Custom PS	PPD
Windows	2000	Yes	Yes	Yes	Yes
	XP		No		
	XP x 64		Yes		
	Server 2003		No		
	Server 2003 x 64		Yes		
	Server 2008		No		
	Server 2008 x 64		Yes		
	Vista		No		
	Vista x 64		Yes		
	Windows 7		No		
	Windows 7 x 64		Yes		
Mac	9.0 - 9.2.2	No	No	No	Yes
	X 10.2.8				
	X 10.3.9				
	10.4.11				
	X 10.5-10.5.8				
	10.6-10.6.2				

(3) PDL emulation

	MX-C400P/C380P	MX-B400P/B380P/ B382P
PCL5c compatibility	Compatible with PCL of Hewlett-Packard.	—
PCL5e compatibility	—	Compatible with PCL of Hewlett-Packard.
PCL6 compatibility	—	Compatible with PCL of Hewlett-Packard.
PCL XL compatibility	Compatible with PCL of Hewlett-Packard.	
PostScript 3 compatibility	Compatible with PS3 of Adobe Systems.	

(4) Font

Emulation	Built-in fonts	Option font
PCL5e compatibility, PCL6 compatibility	Roman outline fonts = 80 fonts Line printer font (BMP) = 1 font	Font for bar code = 28 fonts
PostScript 3 compatibility	Roman outline fonts = 136 fonts	—

(5) Print channel

USB	USB1.1: Windows 2000 / Server 2003 / XP / Vista / Server 2008 / 7 USB2.0 (High-Speed): Windows 2000 / XP / Vista / Server 2003 / Server 2008 / 7
PSEVER/RPRINT for NetWare environment	PSEVER/RPRINT used in the NetWare environment
LPR	UNIX LPR/LPD command compatible
IPP	IPP1.0 conforming print channel
PAP: EtherTalk (Apple Talk)	Macintosh environment
FTP	Data received through the built-in FTP server
NetBEUI	Microsoft NetBEUI compatible
Raw Port (Port9100)	Supporting 9100 TCP port (Raw Port).
HTTP (Web Submit Print)	Yes
POP3 (E-Mail To Print)	Yes

IPP, HTTP and POP3 support SSL.

(6) Environment setting



Setting item	General
Default setting	Basic settings for using the printer such as the number of copies and the print direction
PCL setting	Setting of the PCL symbol and fonts
PS setting	Setting of enabling/disabling of print in case of a PS error, setting of binary data outputting

F. Print hold function

(1) Basic function

Document filing capacity	Standard folder	38GB
	User folder	N/A
	Temporary save folder	N/A
Number of pages and files which can be filed	Standard folder	5,500 pages or 3,000 files (Sharp standard document)

Reference of pages which can be filed:

	Color *1	Monochrome
Document	Greg fruit 	Test Sheet C 
Number of pages which can be filed	38GB 2,000	10,000

▲ *1: MX-C400P/C380P only.

(2) Data operation by each function

Printer	Yes
Direct print (FTP pull)	Yes
Direct print (FTP push)	Yes
Direct print (USB pull)	Yes
Direct print (e-mail push)	Yes
Direct print (Web push)	Yes
Direct print (SMB pull)	Yes

(3) Reprint operation limitations

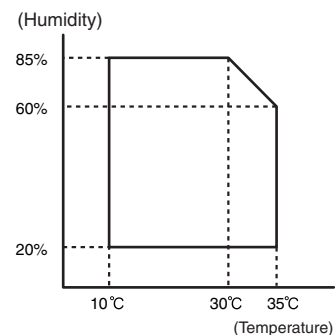
Job kind	Color print	B/W print
Printer	Yes	No
	No	Yes

"Color" includes "Color and B/W mixed."

Function setting for reprint	Basic function	Number of prints, finish, paper specification, duplex, document control data (when the data security kit is installed)
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G. Ambient conditions

(1) Working environment



Standard environmental conditions	Temperature	20 – 25 °C
	Humidity	65 ± 5 %RH
Usage environmental conditions	Temperature	10 – 35 °C
	Humidity	20 – 85 %RH
	Atmospheric pressure	590 – 1013 hPa (height: 0 – 2000m)
Quality Guarantee Period	Toner and Developer: 24 months from the production month (unopened) Drum: 36 months from the production month	

[14] SIGNAL LIST

1. MX-C400P/C380P

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
1TNFD	Waste toner full detection [Mechanical switch]	Detects waste toner full.	Empty	Full	CN13	B8	PCU	
1TUD_CL	Primary transfer belt separation CL detection [Transmission type]	Detects the primary transfer unit position. Detects initialization of the primary transfer unit.	–	–	CN6	1	PCU	
1TUD_K	Primary transfer belt separation BK detection [Transmission type]	Detects the primary transfer unit position. Detects initialization of the primary transfer unit.	–	–	CN18	6	PCU	
1TURC_1	Primary transfer separation clutch 1 [Electromagnetic clutch]	Controls the primary transfer separation mode.	Separation select	–	CN9	14	PCU	
1TURC_2	Primary transfer separation clutch 2 [Electromagnetic clutch]	Controls the primary transfer separation mode. (The mode is reversed.)	Separation select	–	CN9	9	PCU	
2TCCRU	Secondary transfer initial detection	Detects the initial state of the secondary transfer unit.	–	–	CN17	A4	PCU	
2TURC	Secondary transfer separation clutch [Electromagnetic clutch]	Controls the secondary transfer separation mode.	Separation select	–	CN16	10	PCU	
ADUC1	ADU transport clutch [Electromagnetic clutch]	Controls ON/OFF of the paper transport roller in the ADU.	ON	OFF	CN16	14	PCU	
APPD1	ADU transport path detection 1 [Transmission type]	Detects paper pass in the ADU upper stream section.	Pass	–	CN17	A11	PCU	
APPD2	ADU transport path detection 2 [Transmission type]	Detects paper pass in the ADU lower stream section.	Pass	–	CN17	A8	PCU	
BD	LSU synchronization detection signal (BD signal)	Detects synchronization in the main scanning direction of the LSU.	–	Detection	CN17	52	LSU-Mother	
BRAKE	Polygon motor brake signal	Stops the polygon motor.	–	Brake	CN17	27	LSU-Mother	
CLUD	Tray 1 upper limit detection (Lift HP detection) [Transmission type]	Detects the tray 1 upper limit.	–	Upper limit	CN13	A8	PCU	
CLUM	Paper tray lift-up motor (Paper feed tray 1) [DC brush motor]	Drives the paper tray lift plate.	Stop	Drive	CN8	7	PCU	
CPED1	Tray paper empty detection [Transmission type]	Detects paper empty in the tray 1.	YES	NO	CN13	A14	PCU	
CPFC	Tray vertical transport clutch [Electromagnetic clutch]	Controls ON/OFF of the paper transport roller in the paper feed tray section.	ON	OFF	CN15	16	PCU	
CPFD1	Tray transport detection [Reflection type]	Detects paper exit from the tray.	Pass	–	CN13	A11	PCU	
CPFM	Paper feed motor [Stepping motor]	Drives the paper feed section.	–	–	CN15	9, 13, 15, 19	PCU	Drives with the 4-phase signal.
CPUC1	Paper feed clutch (Paper feed tray 1) [Electromagnetic clutch]	Controls ON/OFF of the roller in the paper feed tray section.	ON	OFF	CN15	12	PCU	
CSPD1	Tray remaining paper quantity detection [Transmission type]	Detects the remaining paper quantity in the tray.	Remaining quantity	–	CN8	11	PCU	Detects during lifting up.
CSS11	Tray paper size detection 1	Detects the paper size in the tray.	–	–	CN8	21	PCU	
CSS12	Tray paper size detection 2	Detects the paper size in the tray.	–	–	CN8	19	PCU	
CSS13	Tray paper size detection 3	Detects the paper size in the tray.	–	–	CN8	17	PCU	
DHPD_CL	CL phase detection [Transmission type]	Detects the CL phase.	Reference	–	CN9	6	PCU	
DHPD_K	BK phase detection [Transmission type]	Detects the BL phase.	Reference	–	CN9	11	PCU	
DL_BK	Discharge lamp BK [LED]	Discharges electric charges on the OPC drum.	OFF	ON	CN12	8	PCU	
DL_C	Discharge lamp C [LED]	Discharges electric charges on the OPC drum.	OFF	ON	CN12	6	PCU	
DL_M	Discharge lamp M [LED]	Discharges electric charges on the OPC drum.	OFF	ON	CN12	4	PCU	
DL_Y	Discharge lamp Y [LED]	Discharges electric charges on the OPC drum.	OFF	ON	CN12	2	PCU	
DRCRU_C	Drum (C) initial detection	Detects the initial state of the drum unit (C).	–	–	CN13	B6	PCU	
DRCRU_K	Drum (K) initial detection	Detects the initial state of the drum unit (K).	–	–	CN13	B7	PCU	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
DRCRU_M	Drum (M) initial detection	Detects the initial state of the drum unit (M).	–	–	CN13	B5	PCU	
DRCRU_Y	Drum (Y) initial detection	Detects the initial state of the drum unit (Y).	–	–	CN13	B4	PCU	
DRSET	Process installation detection	Detects installation of the process unit.	YES	NO	CN13	B2	PCU	4-color series detection
DSW_F	Front door open/close switch [Micro switch]	Detects open/close of the front door, and fusing, motor, LSU laser power line.	Open	Close	CN3	8	PCU	
DSW_R	Right door open/close switch [Micro switch]	Detects open/close of the right door unit, and fusing, motor, LSU laser power line.	Open	Close	CN1	2	PCU	
DVCRU_C	Development (C) initial detection [Fuse]	Detects the initial state of the developing unit (C).	–	–	CN11	B3	PCU	
DVCRU_K	Development (K) initial detection [Fuse]	Detects the initial state of the developing unit (K).	–	–	CN11	B11	PCU	
DVCRU_M	Development (M) initial detection [Fuse]	Detects the initial state of the developing unit (M).	–	–	CN11	A6	PCU	
DVCRU_Y	Development (Y) initial detection [Fuse]	Detects the initial state of the developing unit (Y).	–	–	CN11	A14	PCU	
DVM_CL_CK	Development drive motor (CL) speed control	Controls the speed of the development drive motor (CL).	–	–	CN9	3	PCU	
DVM_CL_D	Development drive motor (CL) [Brush-less motor]	Drives the development section, the color OPC drum, and the transfer section.	Drive	Stop	CN9	4	PCU	
DVM_CL_LD	Development drive motor (CL) lock detection	Detects the development drive motor (CL) lock.	–	Lock detection	CN9	5	PCU	
DVM_K_CK	Development drive motor (K) speed control	Controls the speed of the development drive motor (K).	–	–	CN15	6	PCU	
DVM_K_D	Development drive motor (K) [Brush-less motor]	Drives the development section, the black OPC drum, and the transfer section.	Drive	Stop	CN15	8	PCU	
DVM_K_LD	Development drive motor (K) lock detection	Detects the development drive motor (K) lock.	–	Lock detection	CN15	10	PCU	
FUCRU	Fusing unit initial detection	Detects the initial state of the fusing unit.	–	–	CN19	18	PCU	
FUFM_CNT	Fusing fan motor speed control	Controls the speed of the fusing fan motor.	–	–	CN16	4	PCU	Pulse (Duty) drive
FUFM_LD	Fusing fan motor lock detection	Detects the fusing fan motor lock.	–	Lock detection	CN16	8	PCU	
FUFM_V	Fusing fan motor	Cools the fusing unit.	Stop	Drive	CN16	2	PCU	
FUM_CK	Fusing motor speed control	Controls the speed of the fusing motor.	–	–	CN16	5	PCU	
FUM_D	Fusing motor [Brush-less motor]	Drives the fusing section.	Drive	Stop	CN16	7	PCU	
FUM_LD	Fusing motor lock detection	Detects the fusing motor lock.	–	Lock detection	CN16	9	PCU	
HDDFAN	Machine cooling fan motor	Cools inside of the machine.	Stop	Drive	CN14	1	LSU-Mother	
HDDFM_LD	HDD fan motor lock detection	Detects the HDD fan motor lock.	–	Lock detection	CN23	4	PCU	
HDDFM_V	HDD fan motor	Cools the HDD unit.	Stop	Drive	CN23	1	PCU	
HLOUT_EX	External heater lamp	Turns ON/OFF the external heater lamp 1/2.	OFF	ON	CN14	8	PCU	
HLOUT_LOW	Lower heater lamp	Turns ON/OFF the lower heater lamp.	OFF	ON	CN14	12	PCU	
HLOUT_MAIN	Upper heater lamp	Turns ON/OFF the upper heater lamp.	OFF	ON	CN14	10	PCU	
HLPCD	Fusing pressure detection sensor [Transmission type]	Detects a change in the fusing pressure.	Pressure release	Pressure applying	CN19	13	PCU	
HLPCS	Fusing pressure release solenoid [Electromagnetic solenoid]	Controls the fusing pressure mode.	Pressure select	–	CN19	16	PCU	
HUD_M	Humidity detection	Detects the humidity.	–	–	CN17	B14	PCU	Analog detection
LOCK_HDDFAN	Machine fan motor lock detection	Detects the machine cooling fan motor lock.	–	Lock detection	CN14	4	LSU-Mother	
LSUFM_LD	LSU fan motor lock detection	Detects the LSUFM lock.	–	Lock detection	CN13	B12	PCU	
LSUFM_V	LSU fan motor	Cools the LSU unit.	Stop	Drive	CN13	B10	PCU	
MC_BK_ERR	High voltage BK error detection	Detects an abnormal output of high voltage BK.	Error detection	–	CN12	13	PCU	Judged when a high voltage is outputted.
MC_CL_ERR	High voltage CL error detection	Detects an abnormal output of high voltage CL.	Error detection	–	CN12	14	PCU	Judged when a high voltage is outputted.

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
MPED	Manual feed paper empty detection [Transmission type]	Detects paper empty in the manual paper feed tray.	YES	NO	CN17	B5	PCU	Manual paper feed unit
MPFS	Manual paper feed solenoid [Electromagnetic solenoid]	Controls ON/OFF of the paper pickup roller.	Pickup	–	CN17	B2	PCU	
MPLD	Manual feed paper length detector [Transmission type]	Detects the paper length in the manual paper feed tray.	–	–	CN17	B8	PCU	Manual paper feed unit
MPWD	Manual paper feed tray paper width detector [Volume resistance]	Detects the paper width in the manual paper feed tray.	–	–	CN17	B10	PCU	Analog detection
OFF_CNT (DC_CNT2)	+5VL power OFF signal	Turns OFF the power of +5VL.	Power ON	Power OFF	CN13	8	LSU-Mother	Only 5VO is ON.
PCS_F	Registration process control sensor (Front, diffusion) [Reflection type]	Detects the toner patch density.	–	–	CN18	11	PCU	Analog detection
POD1	Fusing rear detection [Transmission type]	Detects the paper exit from fusing.	Pass	–	CN18	10	PCU	
POD2	Paper exit detection [Transmission type]	Detects the discharged paper.	Pass	–	CN18	16	PCU	
POFM_CNT	Paper exit cooling fan motor speed control	Controls the speed of the paper exit cooling fan motor.	–	–	CN17	A14	PCU	Pulse (Duty) drive
POFM_LD	POFM lock detection	Detects the POFM lock.	–	Lock detection	CN17	A12	PCU	
POFM_V	Paper exit cooling fan motor	Cools the paper exit unit.	Stop	Drive	CN17	A15	PCU	
POLY_CK	Polygon motor clock signal	Controls the speed of the polygon motor.	–	–	CN17	28	LSU-Mother	
POLY_LOCK	Polygon motor lock signal	Detects the polygon motor lock.	–	Lock detection	CN17	29	LSU-Mother	Pulse (Duty) drive
POM	Paper exit drive motor [Stepping motor]	Drives the paper exit roller.	–	–	CN16	11, 13, 15, 17	PCU	Drives with the 4-phase signal.
PORY_START	Polygon motor ON signal	Drives the polygon motor of the LSU unit.	Drive	Stop	CN17	30	LSU-Mother	
PPD1	Registration front detection [Transmission type]	Detects paper in front of the registration roller.	Pass	–	CN13	A5	PCU	
PPD2	Registration detection [Reflection type]	Detects paper at the rear of the registration roller.	Pass	–	CN13	B14	PCU	
PROFM1_CNT	Process fan motor 1 speed control	Controls the speed of the process fan motor 1.	–	–	CN6	10	PCU	Pulse (Duty) drive
PROFM1_LD	Process fan motor 1 lock detection	Detects PROFM1 lock.	–	Lock detection	CN6	14	PCU	
PROFM1_V	Process fan motor 1	Cools the process unit.	Stop	Drive	CN6	8	PCU	
PROFM2_CNT	Process fan motor 2 speed control	Controls the speed of the process fan motor 2.	–	–	CN12	10	PCU	Pulse (Duty) drive
PROFM2_LD	Process fan motor 2 lock detection	Detects PROFM2 lock.	–	Lock detection	CN12	12	PCU	
PROFM2_V	Process fan motor 2	Cools the process unit.	Stop	Drive	CN12	9	PCU	
PSFM_LD	Power cooling fan motor lock detection	Detects the power cooling fan motor lock.	–	Lock detection	CN8	10	PCU	
PSFM_V	Power cooling fan motor	Cools the power unit.	Stop	Drive	CN8	8	PCU	
PTC_ERR	PTC high voltage error detection	Detects the output abnormality of the PTC high voltage.	Error detection	–	CN6	7	PCU	Judgment at PTC high voltage output
PWM_HDDFAN	Machine cooling fan motor speed control	Controls the speed of the machine cooling fan motor.	–	–	CN14	2	LSU-Mother	Pulse (Duty) drive
REGS_F	Registration process control sensor (Front, reflection) [Reflection type]	Detects the registration shift and toner patch density.	–	–	CN18	13	PCU	Analog detection
REGS_F_LED	Registration process control sensor LED (Front) [LED]	Registration process control sensor LED light emitting	–	–	CN18	15	PCU	Analog output
REGS_R	Registration process control sensor (Rear, reflection) [Reflection type]	Detects the registration shift and toner patch density.	–	–	CN18	3	PCU	Analog detection
REGS_R_LED	Registration process control sensor LED (Rear) [LED]	Registration process control sensor LED light emitting	–	–	CN18	5	PCU	Analog output
RRM	PS motor [Stepping motor]	Drives the registration roller and controls ON/OFF.	–	–	CN15	1, 3, 5, 7	PCU	Drives with the 4-phase signal.
RY_CNT (DC_CNT1)	Main system power OFF signal	Turns OFF the power other than +5VO and +5VL.	Power ON	Power OFF	CN13	7	LSU-Mother	Only 5VL_5VO is ON.
TCS_C	Toner density sensor [Magnetic sensor]	Detects the toner density (C).	–	–	CN11	B6	PCU	Analog detection
TCS_K	Toner density sensor [Magnetic sensor]	Detects the toner density (K).	–	–	CN11	B14	PCU	Analog detection
TCS_M	Toner density sensor [Magnetic sensor]	Detects the toner density (M).	–	–	CN11	A3	PCU	Analog detection
TCS_Y	Toner density sensor [Magnetic sensor]	Detects the toner density (Y).	–	–	CN11	A11	PCU	Analog detection

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
TFD2	Paper exit full detection [Transmission type]	Detects the face-down paper exit tray full.	Full	–	CN18	22	PCU	
TH_EX1_IN	External heater lamp 1 contact thermistor	Detects the temperature.	–	–	CN19	6	PCU	Analog detection
TH_EX2_IN	External heater lamp 2 contact thermistor	Detects the temperature.	–	–	CN19	8	PCU	Analog detection
TH_LOW_IN	Lower heater lamp contact thermistor	Detects the temperature.	–	–	CN19	10	PCU	Analog detection
TH_M	Temperature detection	Detects the temperature.	–	–	CN17	B12	PCU	Analog detection
TH_MAIN_CS_IN	Upper heater lamp non-contact thermistor	Detects the temperature.	–	–	CN19	2	PCU	Analog detection
TH_MAIN_IN	Upper heater lamp non-contact thermistor	Detects the temperature.	–	–	CN19	1	PCU	Analog detection
TH_SUB_IN	Upper heater lamp contact thermistor	Detects the temperature.	–	–	CN19	4	PCU	Analog detection
TH1_LSU	LSU UN thermistor	Detects the temperature.	–	–	CN7	A3	PCU	Analog detection
TNM_C	Toner motor C [Synchronous motor]	Transports toner from the toner cartridge to the developing unit.	–	–	CN14	5, 7	PCU	
TNM_K	Toner motor K [Synchronous motor]	Transports toner from the toner cartridge to the developing unit.	–	–	CN14	1, 3	PCU	
TNM_M	Toner motor M [Synchronous motor]	Transports toner from the toner cartridge to the developing unit.	–	–	CN14	9, 11	PCU	
TNM_Y	Toner motor Y [Synchronous motor]	Transports toner from the toner cartridge to the developing unit.	–	–	CN14	2, 4	PCU	
WH_CNT	Dehumidifying heater control	Turns ON/OFF the dehumidifying heater.	OFF	ON	CN8	1	PCU	

2. MX-B400P/B380P

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
1TNFD	Waste toner full detection [Mechanical switch]	Detects waste toner full.	Empty	Full	CN13	B8	PCU	
1TUD_CL	Primary transfer belt separation detection [Transmission type]	Detects the primary transfer unit position.	–	–	CN6	1	PCU	
1TUD_K	Primary transfer belt initialization detection [Transmission type]	Detects the primary transfer belt initialization.	–	–	CN18	6	PCU	
1TURC_1	Primary transfer separation clutch 1 [Electromagnetic clutch]	Controls the primary transfer separation mode.	Separation select	–	CN9	14	PCU	
2TCCRU	Secondary transfer initial detection	Detects the initial state of the secondary transfer unit.	–	–	CN17	A4	PCU	
2TURC	Secondary transfer separation clutch [Electromagnetic clutch]	Controls the secondary transfer separation mode.	Separation select	–	CN16	10	PCU	
ADUC1	ADU transport clutch [Electromagnetic clutch]	Controls ON/OFF of the paper transport roller in the ADU.	ON	OFF	CN16	14	PCU	
APPD1	ADU transport path detection 1 [Transmission type]	Detects paper pass in the ADU upper stream section.	Pass	–	CN17	A11	PCU	
APPD2	ADU transport path detection 2 [Transmission type]	Detects paper pass in the ADU lower stream section.	Pass	–	CN17	A8	PCU	
BD	LSU synchronization detection signal (BD signal)	Detects synchronization in the main scanning direction of the LSU.	–	Detection	CN17	52	LSU-Mother	
BRAKE	Polygon motor brake signal	Stops the polygon motor.	–	Brake	CN17	27	LSU-Mother	
CLUD	Tray 1 upper limit detection (Lift HP detection) [Transmission type]	Detects the tray 1 upper limit.	–	Upper limit	CN13	A8	PCU	
CLUM	Paper tray lift-up motor (Paper feed tray 1) [DC brush motor]	Drives the paper tray lift plate.	Stop	Drive	CN8	7	PCU	
CPED1	Tray paper empty detection [Transmission type]	Detects paper empty in the tray 1.	YES	NO	CN13	A14	PCU	
CPFC	Tray vertical transport clutch [Electromagnetic clutch]	Controls ON/OFF of the paper transport roller in the paper feed tray section.	ON	OFF	CN15	16	PCU	
CPFD1	Tray transport detection [Reflection type]	Detects paper exit from the tray.	Pass	–	CN13	A11	PCU	

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
CPFM	Paper feed motor [Stepping motor]	Drives the paper feed section.	–	–	CN15	9, 13, 15, 19	PCU	Drives with the 4-phase signal.
CPUC1	Paper feed clutch (Paper feed tray 1) [Electromagnetic clutch]	Controls ON/OFF of the roller in the paper feed tray section.	ON	OFF	CN15	12	PCU	
CSPD1	Tray remaining paper quantity detection [Transmission type]	Detects the remaining paper quantity in the tray.	Remaining quantity	–	CN8	11	PCU	Detects during lifting up.
CSS11	Tray paper size detection 1	Detects the paper size in the tray.	–	–	CN8	21	PCU	
CSS12	Tray paper size detection 2	Detects the paper size in the tray.	–	–	CN8	19	PCU	
CSS13	Tray paper size detection 3	Detects the paper size in the tray.	–	–	CN8	17	PCU	
DL_BK	Discharge lamp BK [LED]	Discharges electric charges on the OPC drum.	OFF	ON	CN12	8	PCU	
DRCRU_K	Drum initial detection	Detects the initial state of the drum unit.	–	–	CN13	B7	PCU	
DRSET	Process installation detection	Detects installation of the process unit.	YES	NO	CN13	B2	PCU	
DSW_F	Front door open/close switch [Micro switch]	Detects open/close of the front door, and fusing, motor, LSU laser power line.	Open	Close	CN3	8	PCU	
DSW_R	Right door open/close switch [Micro switch]	Detects open/close of the right door unit, and fusing, motor, LSU laser power line.	Open	Close	CN1	2	PCU	
DVCRU_K	Development initial detection [Fuse]	Detects the initial state of the developing unit.	–	–	CN11	B11	PCU	
DVM_K_CK	Development drive motor speed control	Controls the speed of the development drive motor.	–	–	CN15	6	PCU	
DVM_K_D	Development drive motor [Brush-less motor]	Drives the development section, the OPC drum, and the transfer section.	Drive	Stop	CN15	8	PCU	
DVM_K_LD	Development drive motor lock detection	Detects the development drive motor lock.	–	Lock detection	CN15	10	PCU	
FUCRU	Fusing unit initial detection	Detects the initial state of the fusing unit.	–	–	CN19	18	PCU	
FUFM_CNT	Fusing fan motor speed control	Controls the speed of the fusing fan motor.	–	–	CN16	4	PCU	Pulse (Duty) drive
FUFM_LD	Fusing fan motor lock detection	Detects the fusing fan motor lock.	–	Lock detection	CN16	8	PCU	
FUFM_V	Fusing fan motor	Cools the fusing unit.	Stop	Drive	CN16	2	PCU	
FUM_CK	Fusing motor speed control	Controls the speed of the fusing motor.	–	–	CN16	5	PCU	
FUM_D	Fusing motor [Brush-less motor]	Drives the fusing section.	Drive	Stop	CN16	7	PCU	
FUM_LD	Fusing motor lock detection	Detects the fusing motor lock.	–	Lock detection	CN16	9	PCU	
HDDFM_LD	HDD fan motor lock detection	Detects the HDD fan motor lock.	–	Lock detection	CN23	4	PCU	
HDDFM_V	HDD fan motor	Cools the HDD unit.	Stop	Drive	CN23	1	PCU	
HLOUT_EX	External heater lamp	Turns ON/OFF the external heater lamp 1/2.	OFF	ON	CN14	8	PCU	
HLOUT_LOW	Lower heater lamp	Turns ON/OFF the lower heater lamp.	OFF	ON	CN14	12	PCU	
HLOUT_MAIN	Upper heater lamp	Turns ON/OFF the upper heater lamp.	OFF	ON	CN14	10	PCU	
HLPCD	Fusing pressure detection sensor [Transmission type]	Detects a change in the fusing pressure.	Pressure release	Pressure applying	CN19	13	PCU	
HLPCS	Fusing pressure release solenoid [Electromagnetic solenoid]	Controls the fusing pressure mode.	Pressure select	–	CN19	16	PCU	
HUD_M	Humidity detection	Detects the humidity.	–	–	CN17	B14	PCU	Analog detection
LSUFM_LD	LSU fan motor lock detection	Detects the LSUFM lock.	–	Lock detection	CN13	B12	PCU	
LSUFM_V	LSU fan motor	Cools the LSU unit.	Stop	Drive	CN13	B10	PCU	
MC_BK_ERR	High voltage BK error detection	Detects an abnormal output of high voltage BK.	Error detection	–	CN12	13	PCU	Judged when a high voltage is outputted.
MPED	Manual feed paper empty detection [Transmission type]	Detects paper empty in the manual paper feed tray.	YES	NO	CN17	B5	PCU	Manual paper feed unit
MPFS	Manual paper pickup solenoid [Electromagnetic solenoid]	Controls ON/OFF of the paper pickup roller.	Pickup	–	CN17	B2	PCU	
MPLD	Manual feed paper length detector [Transmission type]	Detects the paper length in the manual paper feed tray.	–	–	CN17	B8	PCU	Manual paper feed unit
MPWD	Manual paper feed tray paper width detector [Volume resistance]	Detects the paper width in the manual paper feed tray.	–	–	CN17	B10	PCU	Analog detection

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
OFF_CNT (DC_CNT2)	+5VL power OFF signal	Turns OFF the power of +5VL.	Power ON	Power OFF	CN13	8	LSU-Mother	Only 5VO is ON.
POD1	Fusing rear detection [Transmission type]	Detects the paper exit from fusing.	Pass	–	CN18	10	PCU	
POD2	Paper exit detection [Transmission type]	Detects the discharged paper.	Pass	–	CN18	16	PCU	
POFM_CNT	Paper exit cooling fan motor speed control	Controls the speed of the paper exit cooling fan motor.	–	–	CN17	A14	PCU	Pulse (Duty) drive
POFM_LD	POFM lock detection	Detects the POFM lock.	–	Lock detection	CN17	A12	PCU	
POFM_V	Paper exit cooling fan motor	Cools the paper exit unit.	Stop	Drive	CN17	A15	PCU	
POLY_CK	Polygon motor clock signal	Controls the speed of the polygon motor.	–	–	CN17	28	LSU-Mother	
POLY_LOCK	Polygon motor lock signal	Detects the polygon motor lock.	–	Lock detection	CN17	29	LSU-Mother	Pulse (Duty) drive
POM	Paper exit drive motor [Stepping motor]	Drives the paper exit roller.	–	–	CN16	11, 13, 15, 17	PCU	Drives with the 4-phase signal.
PORY_START	Polygon motor ON signal	Drives the polygon motor of the LSU unit.	Drive	Stop	CN17	30	LSU-Mother	
PPD1	Registration front detection [Transmission type]	Detects paper in front of the registration roller.	Pass	–	CN13	A5	PCU	
PPD2	Registration detection [Reflection type]	Detects paper at the rear of the registration roller.	Pass	–	CN13	B14	PCU	
PROFM1_CNT	Process fan motor 1 speed control	Controls the speed of the process fan motor 1.	–	–	CN6	10	PCU	Pulse (Duty) drive
PROFM1_LD	Process fan motor 1 lock detection	Detects PROFM1 lock.	–	Lock detection	CN6	14	PCU	
PROFM1_V	Process fan motor 1	Cools the process unit.	Stop	Drive	CN6	8	PCU	
PROFM2_CNT	Process fan motor 2 speed control	Controls the speed of the process fan motor 2.	–	–	CN12	10	PCU	Pulse (Duty) drive
PROFM2_LD	Process fan motor 2 lock detection	Detects PROFM2 lock.	–	Lock detection	CN12	12	PCU	
PROFM2_V	Process fan motor 2	Cools the process unit.	Stop	Drive	CN12	9	PCU	
PSFM_LD	Power cooling fan motor lock detection	Detects the power cooling fan motor lock.	–	Lock detection	CN8	10	PCU	
PSFM_V	Power cooling fan motor	Cools the power unit.	Stop	Drive	CN8	8	PCU	
PTC_ERR	PTC high voltage error detection	Detects the output abnormality of the PTC high voltage.	Error detection	–	CN6	7	PCU	Judgment at PTC high voltage output
REGS_R	Registration process control sensor (Rear, reflection) [Reflection type]	Detects the registration shift and toner patch density.	–	–	CN18	3	PCU	Analog detection
REGS_R_LED	Registration process control sensor LED (Rear) [LED]	Registration process control sensor LED light emitting	–	–	CN18	5	PCU	Analog output
RRM	PS motor [Stepping motor]	Drives the registration roller and controls ON/OFF.	–	–	CN15	1, 3, 5, 7	PCU	Drives with the 4-phase signal.
RY_CNT (DC_CNT1)	Main system power OFF signal	Turns OFF the power other than +5VO and +5VL.	Power ON	Power OFF	CN13	7	LSU-Mother	Only 5VL_5VO is ON.
TCS_K	Toner density sensor [Magnetic sensor]	Detects the toner density.	–	–	CN11	B14	PCU	Analog detection
TFD2	Paper exit full detection [Transmission type]	Detects the face-down paper exit tray full.	Full	–	CN18	22	PCU	
TH_EX1_IN	External heater lamp 1 contact thermistor	Detects the temperature.	–	–	CN19	6	PCU	Analog detection
TH_EX2_IN	External heater lamp 2 contact thermistor	Detects the temperature.	–	–	CN19	8	PCU	Analog detection
TH_LOW_IN	Lower heater lamp contact thermistor	Detects the temperature.	–	–	CN19	10	PCU	Analog detection
TH_M	Temperature detection	Detects the temperature.	–	–	CN17	B12	PCU	Analog detection
TH_MAIN_CS_IN	Upper heater lamp non-contact thermistor	Detects the temperature.	–	–	CN19	2	PCU	Analog detection
TH_MAIN_IN	Upper heater lamp non-contact thermistor	Detects the temperature.	–	–	CN19	1	PCU	Analog detection
TH_SUB_IN	Upper heater lamp contact thermistor	Detects the temperature.	–	–	CN19	4	PCU	Analog detection
TH1_LSU	LSU UN thermistor	Detects the temperature.	–	–	CN7	A3	PCU	Analog detection
TNM_K	Toner motor K [Synchronous motor]	Transports toner from the toner cartridge to the developing unit.	–	–	CN14	1, 3	PCU	
WH_CNT	Dehumidifying heater control	Turns ON/OFF the dehumidifying heater.	OFF	ON	CN8	1	PCU	

3. MX-B382P

Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
1TNFD	Waste toner full detection [Mechanical switch]	Detects waste toner full.	Empty	Full	CN13	10	PCU	
1TUD_CL	Primary transfer belt separation detection [Transmission type]	Detects the primary transfer unit position.	–	–	CN6	3	PCU	
1TUD_K	Primary transfer belt initialization detection [Transmission type]	Detects the primary transfer belt initialization.	–	–	CN18	13	PCU	
1TURC_1	Primary transfer separation clutch 1 [Electromagnetic clutch]	Controls the primary transfer separation mode.	Separation select	–	CN11	1	PCU	
2TCCR	Secondary transfer initial detection	Detects the initial state of the secondary transfer unit.	–	–	CN17	A4	PCU	
2TURC	Secondary transfer separation clutch [Electromagnetic clutch]	Controls the secondary transfer separation mode.	Separation select	–	CN18	24	PCU	
ADUC1	ADU transport clutch [Electromagnetic clutch]	Controls ON/OFF of the paper transport roller in the ADU.	ON	OFF	CN18	20	PCU	
APPD1	ADU transport path detection 1 [Transmission type]	Detects paper pass in the ADU upper stream section.	Pass	–	CN17	A11	PCU	
APPD2	ADU transport path detection 2 [Transmission type]	Detects paper pass in the ADU lower stream section.	Pass	–	CN17	A8	PCU	
BD	LSU synchronization detection signal (BD signal)	Detects synchronization in the main scanning direction of the LSU.	–	Detection	CN17	52	LSU-Mother	
BRAKE	Polygon motor brake signal	Stops the polygon motor.	–	Brake	CN17	27	LSU-Mother	
CLUD	Tray 1 upper limit detection (Lift HP detection) [Transmission type]	Detects the tray 1 upper limit.	–	Upper limit	CN13	15	PCU	
CLUM	Paper tray lift-up motor (Paper feed tray 1) [DC brush motor]	Drives the paper tray lift plate.	Stop	Drive	CN8	3	PCU	
CPED1	Tray paper empty detection [Transmission type]	Detects paper empty in the tray 1.	YES	NO	CN13	3	PCU	
CPFC	Tray vertical transport clutch [Electromagnetic clutch]	Controls ON/OFF of the paper transport roller in the paper feed tray section.	ON	OFF	CN15	16	PCU	
CPFD1	Tray transport detection [Reflection type]	Detects paper exit from the tray.	Pass	–	CN13	9	PCU	
CPFM	Paper feed motor [Stepping motor]	Drives the paper feed section.	–	–	CN15	9, 13, 15, 19	PCU	Drives with the 4-phase signal.
CPUC1	Paper feed clutch (Paper feed tray 1) [Electromagnetic clutch]	Controls ON/OFF of the roller in the paper feed tray section.	ON	OFF	CN15	12	PCU	
CSPD1	Tray remaining paper quantity detection [Transmission type]	Detects the remaining paper quantity in the tray.	Remaining quantity	–	CN8	11	PCU	Detects during lifting up.
CSS11	Tray paper size detection 1	Detects the paper size in the tray.	–	–	CN8	21	PCU	
CSS12	Tray paper size detection 2	Detects the paper size in the tray.	–	–	CN8	19	PCU	
CSS13	Tray paper size detection 3	Detects the paper size in the tray.	–	–	CN8	17	PCU	
DL_BK	Discharge lamp BK [LED]	Discharges electric charges on the OPC drum.	OFF	ON	CN11	9	PCU	
DRCRU_K	Drum initial detection	Detects the initial state of the drum unit.	–	–	CN13	8	PCU	
DRSET	Process installation detection	Detects installation of the process unit.	YES	NO	CN13	4	PCU	4-color series detection
DSW_F	Front door open/close switch [Micro switch]	Detects open/close of the front door, and fusing, motor, LSU laser power line.	Open	Close	CN3	8	PCU	
DSW_R	Right door open/close switch [Micro switch]	Detects open/close of the right door unit, and fusing, motor, LSU laser power line.	Open	Close	CN1	2	PCU	
DVCRU_K	Development initial detection [Fuse]	Detects the initial state of the developing unit.	–	–	CN11	6	PCU	
DVM_K_CK	Development drive motor speed control	Controls the speed of the development drive motor.	–	–	CN15	6	PCU	
DVM_K_D	Development drive motor [Brushless motor]	Drives the development section, the OPC drum, and the transfer section.	Drive	Stop	CN15	8	PCU	
DVM_K_LD	Development drive motor lock detection	Detects the development drive motor lock.	–	Lock detection	CN15	10	PCU	
DVTYP_K	DV unit type detection	Detects whether the regular type of the DV unit is used or not.	–	–	CN11	4	PCU	Analog detection
FUCRU	Fusing unit initial detection	Detects the initial state of the fusing unit.	–	–	CN19	16	PCU	



Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
FUFM_CNT	Fusing fan motor speed control	Controls the speed of the fusing fan motor.	–	–	CN18	14	PCU	Pulse (Duty) drive
FUFM_LD	Fusing fan motor lock detection	Detects the fusing fan motor lock.	–	Lock detection	CN18	18	PCU	
FUFM_V	Fusing fan motor	Cools the fusing unit.	Stop	Drive	CN18	12	PCU	
FUM_CK	Fusing motor speed control	Controls the speed of the fusing motor.	–	–	CN18	6	PCU	
FUM_D	Fusing motor [Brush-less motor]	Drives the fusing section.	Drive	Stop	CN18	8	PCU	
FUM_LD	Fusing motor lock detection	Detects the fusing motor lock.	–	Lock detection	CN18	10	PCU	
FUSET	Fusing installation detection	Detects installation of the fusing unit	YES	NO	CN19	11	PCU	
HDDFM_LD	HDD fan motor lock detection	Detects the HDD fan motor lock.	–	Lock detection	CN6	10	PCU	
HDDFM_V	HDD fan motor	Cools the HDD unit.	Stop	Drive	CN6	6	PCU	
HLOUT_UA	Upper heater lamp all	Turns ON/OFF the upper all lamp.	OFF	ON	CN15	20	PCU	
HLOUT_UM	Upper heater lamp main	Turns ON/OFF the upper heater lamp main.	OFF	ON	CN15	22	PCU	
HUD_M	Humidity detection	Detects the humidity.	–	–	CN17	B14	PCU	Analog detection
LSUFM_LD	LSU fan motor lock detection	Detects the LSU fan lock.	–	Lock detection	CN13	24	PCU	
LSUFM_V	LSU fan motor	Cools the LSU unit.	Stop	Drive	CN13	20	PCU	
MC_BK_ERR	High voltage BK error detection	Detects an abnormal output of high voltage BK.	Error detection	–	CN11	11	PCU	Judged when a high voltage is outputted.
MPED	Manual feed paper empty detection [Transmission type]	Detects paper empty in the manual paper feed tray.	YES	NO	CN17	B5	PCU	Manual paper feed unit
MPFS	Manual paper feed solenoid [Electromagnetic solenoid]	Controls ON/OFF of the paper pickup roller.	Pickup	–	CN17	B2	PCU	
MPLD	Manual feed paper length detector [Transmission type]	Detects the paper length in the manual paper feed tray.	–	–	CN17	B8	PCU	Manual paper feed unit
MPWD	Manual paper feed tray paper width detector [Volume resistance]	Detects the paper width in the manual paper feed tray.	–	–	CN17	B10	PCU	Analog detection
OFF_CNT (DC_CNT2)	+5VL power OFF signal	Turns OFF the power of +5VL.	Power ON	Power OFF	CN13	8	LSU-Mother	Only 5VO is ON.
POD1	Fusing rear detection [Transmission type]	Detects the paper exit from fusing.	Pass	–	CN18	17	PCU	
POD2	Paper exit detection [Transmission type]	Detects the discharged paper.	Pass	–	CN18	31	PCU	
POFM_CNT	Paper exit cooling fan motor speed control	Controls the speed of the paper exit cooling fan motor.	–	–	CN17	A14	PCU	Pulse (Duty) drive
POFM_LD	POFM lock detection	Detects the POFM lock.	–	Lock detection	CN17	A12	PCU	
POFM_V	Paper exit cooling fan motor	Cools the paper exit unit.	Stop	Drive	CN17	A15	PCU	
POLY_CK	Polygon motor clock signal	Controls the speed of the polygon motor.	–	–	CN17	28	LSU-Mother	
POLY_LOCK	Polygon motor lock signal	Detects the polygon motor lock.	–	Lock detection	CN17	29	LSU-Mother	Pulse (Duty) drive
POM	Paper exit drive motor [Stepping motor]	Drives the paper exit roller.	–	–	CN18	28,30,32,34	PCU	Drives with the 4-phase signal.
PORY_START	Polygon motor ON signal	Drives the polygon motor of the LSU unit.	Drive	Stop	CN17	30	LSU-Mother	
PPD1	Registration front detection [Transmission type]	Detects paper in front of the registration roller.	Pass	–	CN13	21	PCU	
PPD2	Registration detection [Reflection type]	Detects paper at the rear of the registration roller.	Pass	–	CN13	16	PCU	
PROFM1_CNT	Process fan motor 1 speed control	Controls the speed of the process fan motor 1.	–	–	CN6	14	PCU	Pulse (Duty) drive
PROFM1_LD	Process fan motor 1 lock detection	Detects PROFM1 lock.	–	Lock detection	CN6	12	PCU	
PROFM1_V	Process fan motor 1	Cools the process unit.	Stop	Drive	CN6	18	PCU	
PROFM2_CNT	Process fan motor 2 speed control	Controls the speed of the process fan motor 2.	–	–	CN11	20	PCU	Pulse (Duty) drive
PROFM2_LD	Process fan motor 2 lock detection	Detects PROFM2 lock.	–	Lock detection	CN11	22	PCU	
PROFM2_V	Process fan motor 2	Cools the process unit.	Stop	Drive	CN11	18	PCU	
PSFM_LD	Power cooling fan motor lock detection	Detects the power cooling fan motor lock.	–	Lock detection	CN8	24	PCU	
PSFM_V	Power cooling fan motor	Cools the power unit.	Stop	Drive	CN8	22	PCU	

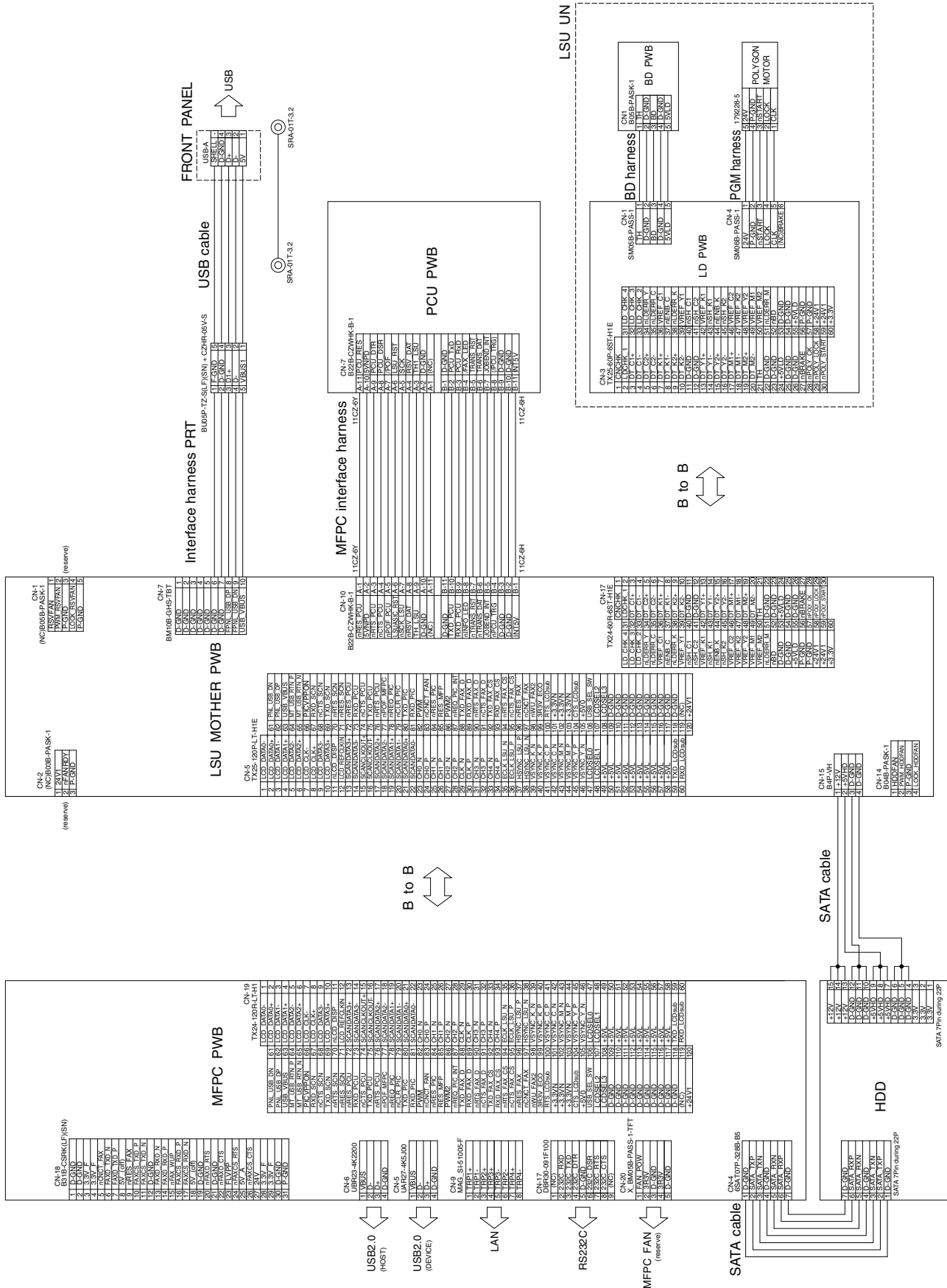


Signal name	Name [Type]	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	NOTE
			"L"	"H"				
PTC_ERR	PTC high voltage error detection	Detects the output abnormality of the PTC high voltage.	Error detection	—	CN6	7	PCU	Judgment at PTC high voltage output
REGS_R	Registration process control sensor (Rear, reflection) [Reflection type]	Detects the registration shift and toner patch density.	—	—	CN18	3	PCU	Analog detection
REGS_R_LED	Registration process control sensor LED (Rear) [LED]	Registration process control sensor LED light emitting	—	—	CN18	5	PCU	Analog output
RRM	PS motor [Stepping motor]	Drives the registration roller and controls ON/OFF.	—	—	CN15	1, 3, 5, 7	PCU	Drives with the 4-phase signal.
RY_CNT (DC_CNT1)	Main system power OFF signal	Turns OFF the power other than +5VO and +5VL.	Power ON	Power OFF	CN13	7	LSU-Mother	Only 5VL_5VO is ON.
TCS_K	Toner density sensor [Magnetic sensor]	Detects the toner density.	—	—	CN11	12	PCU	Analog detection
TFD2	Paper exit full detection [Transmission type]	Detects the face-down paper exit tray full.	Full	—	CN18	23	PCU	
TH_M	Temperature detection	Detects the temperature.	—	—	CN17	B12	PCU	Analog detection
TH_NCUM_CS_IN	Upper heater lamp non-contact thermistor	Detects the temperature.	—	—	CN19	2	PCU	Analog detection
TH_NCUM_IN	Upper heater lamp non-contact thermistor	Detects the temperature.	—	—	CN19	1	PCU	Analog detection
TH_US_IN	Upper heater lamp contact thermistor	Detects the temperature.	—	—	CN19	4	PCU	Analog detection
TH1_LSU	LSU UN thermistor	Detects the temperature.	—	—	CN7	A3	PCU	Analog detection
TNM_K	Toner motor K [Synchronous motor]	Transports toner from the toner cartridge to the developing unit.	—	—	CN15	21, 23	PCU	
TSG_BK	Toner density sensor gain	Adjust the toner density sensor gain.	—	—	CN11	16	PCU	Analog output
WH_CNT	Dehumidifying heater control	Turns ON/OFF the dehumidifying heater.	OFF	ON	CN8	5	PCU	

[15] ACTUAL WIRING DIAGRAM

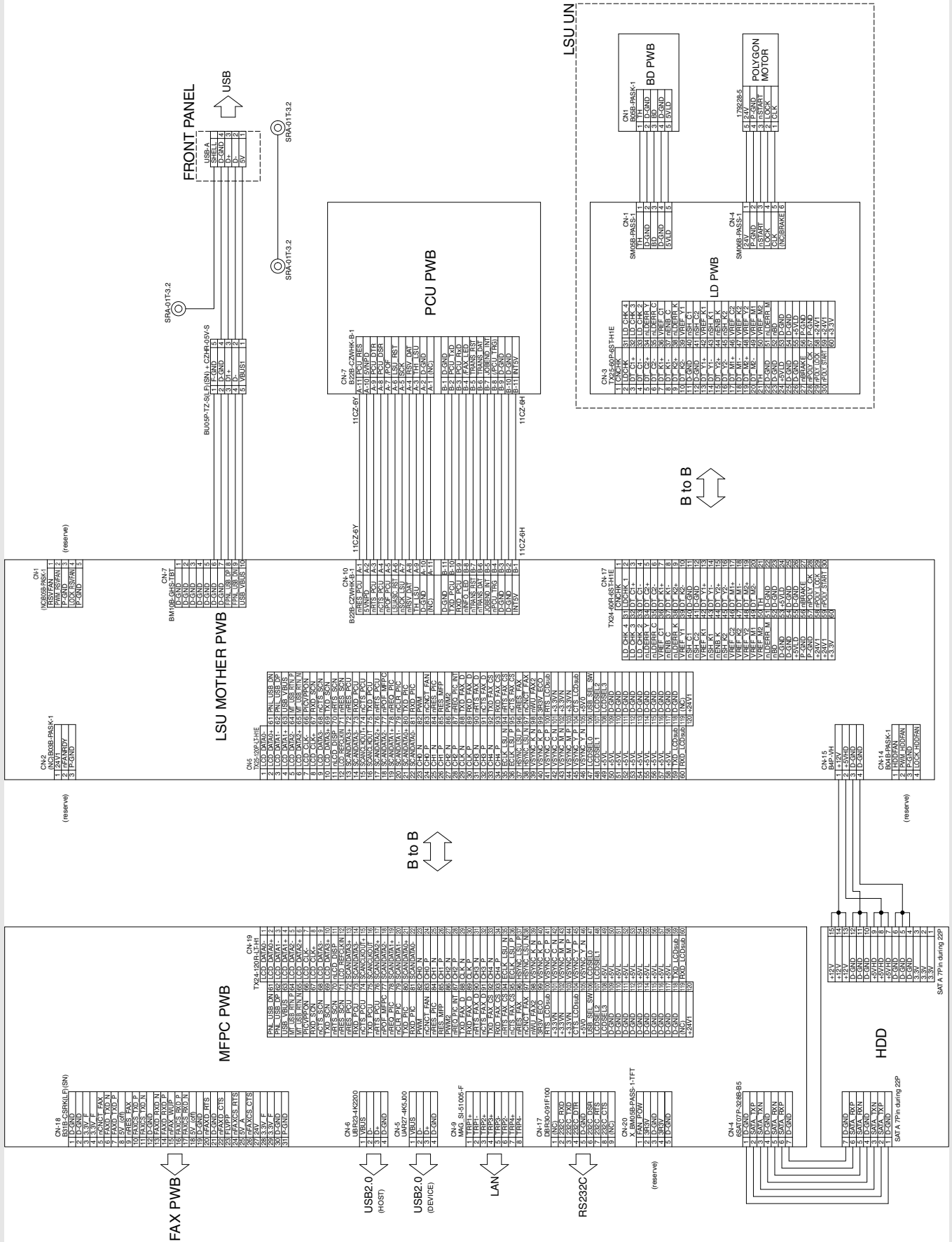
1. Image process (MFPC, LSU)

A. MX-C400P/C380P

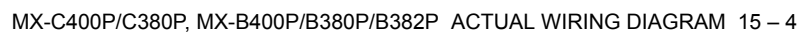


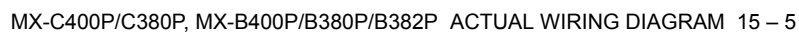
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C. MX-B382P

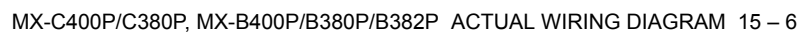


A. MX-C400P/C380P/B400P/B380P

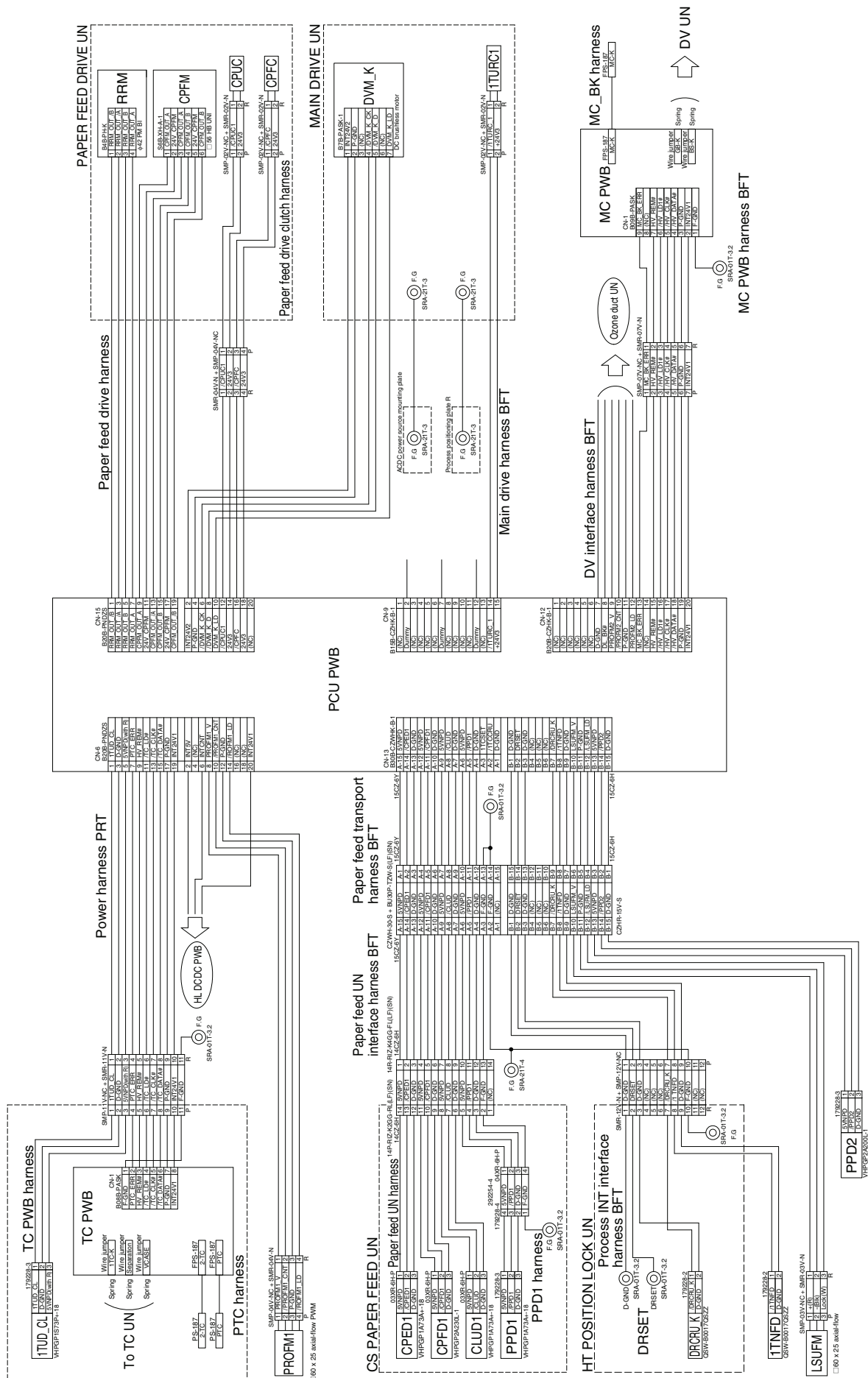




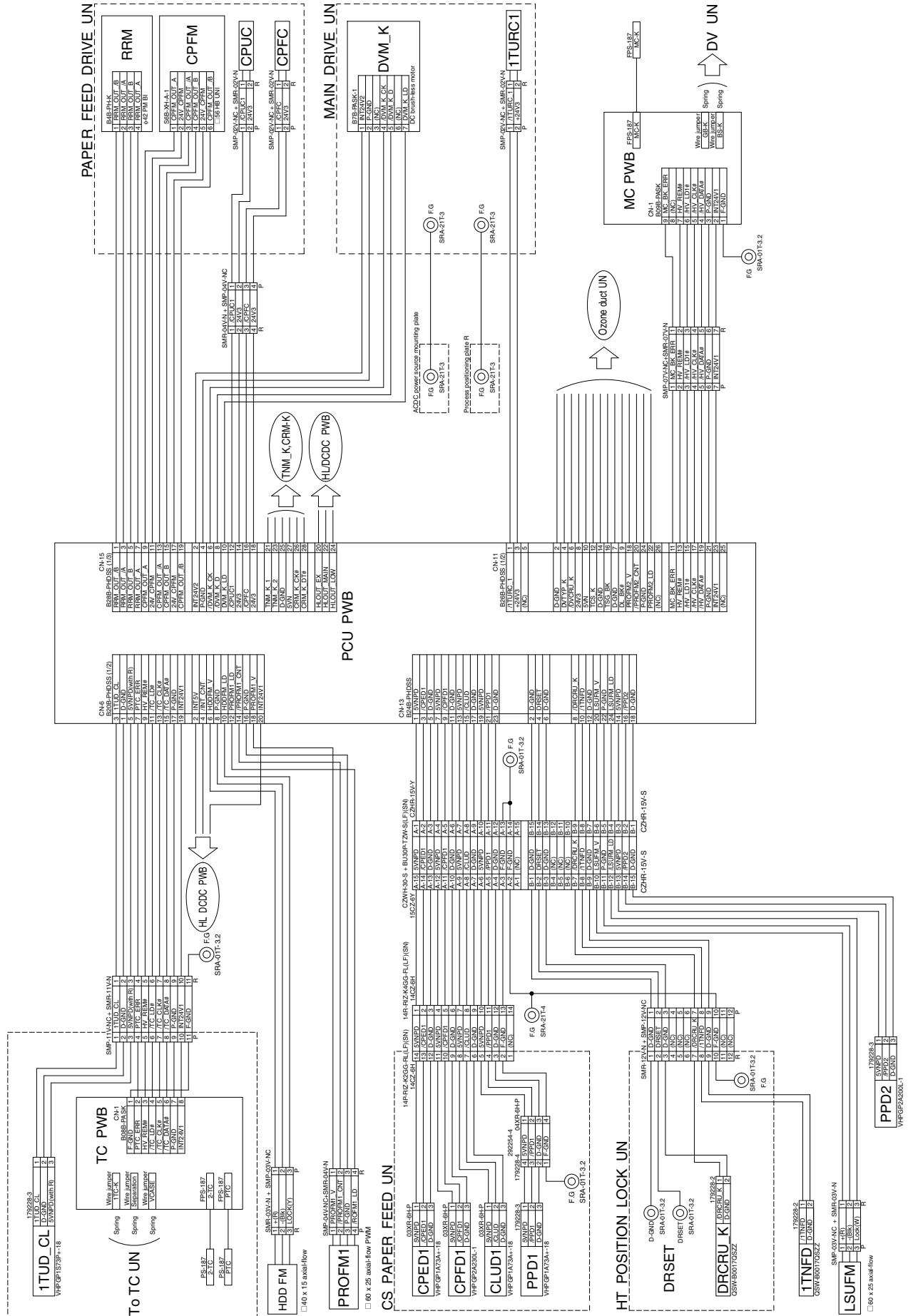
A. MX-C400P/C380P



B. MX-B400P/B380P

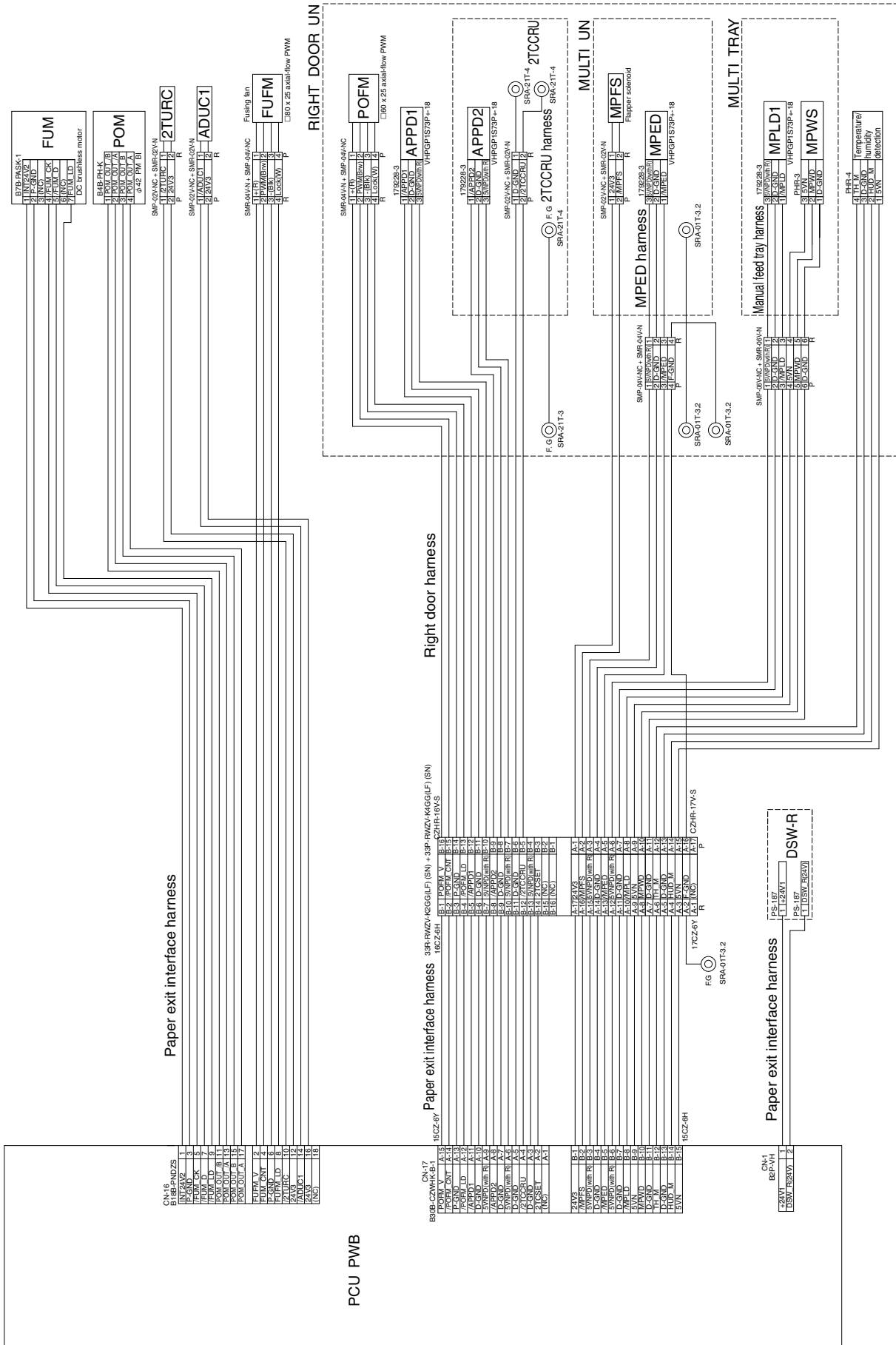


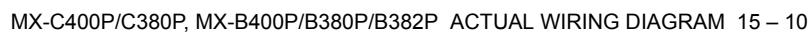
C. MX-B382P



4. Right door, Frame fusing

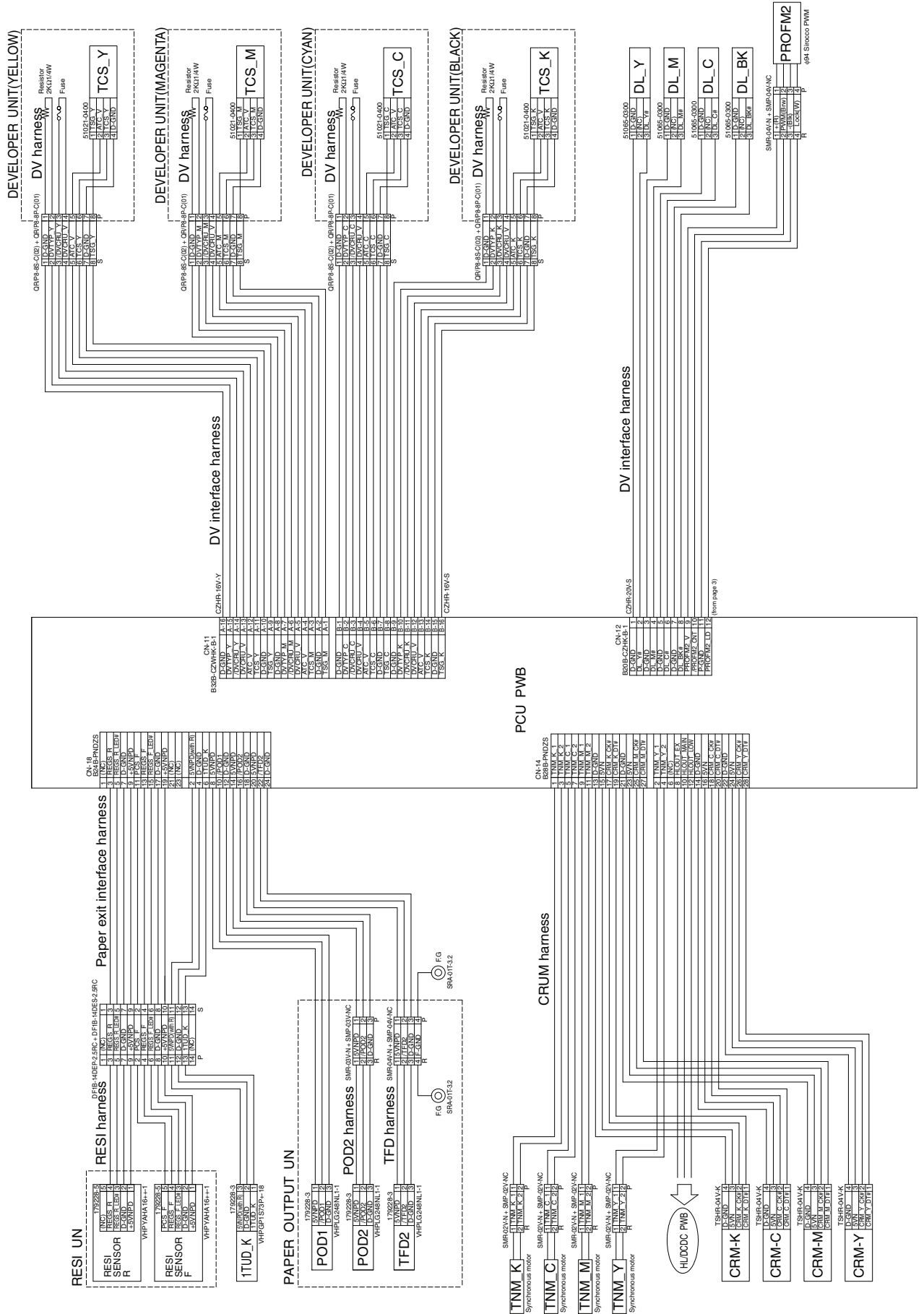
A. MX-C400P/C380P/B400P/B380P



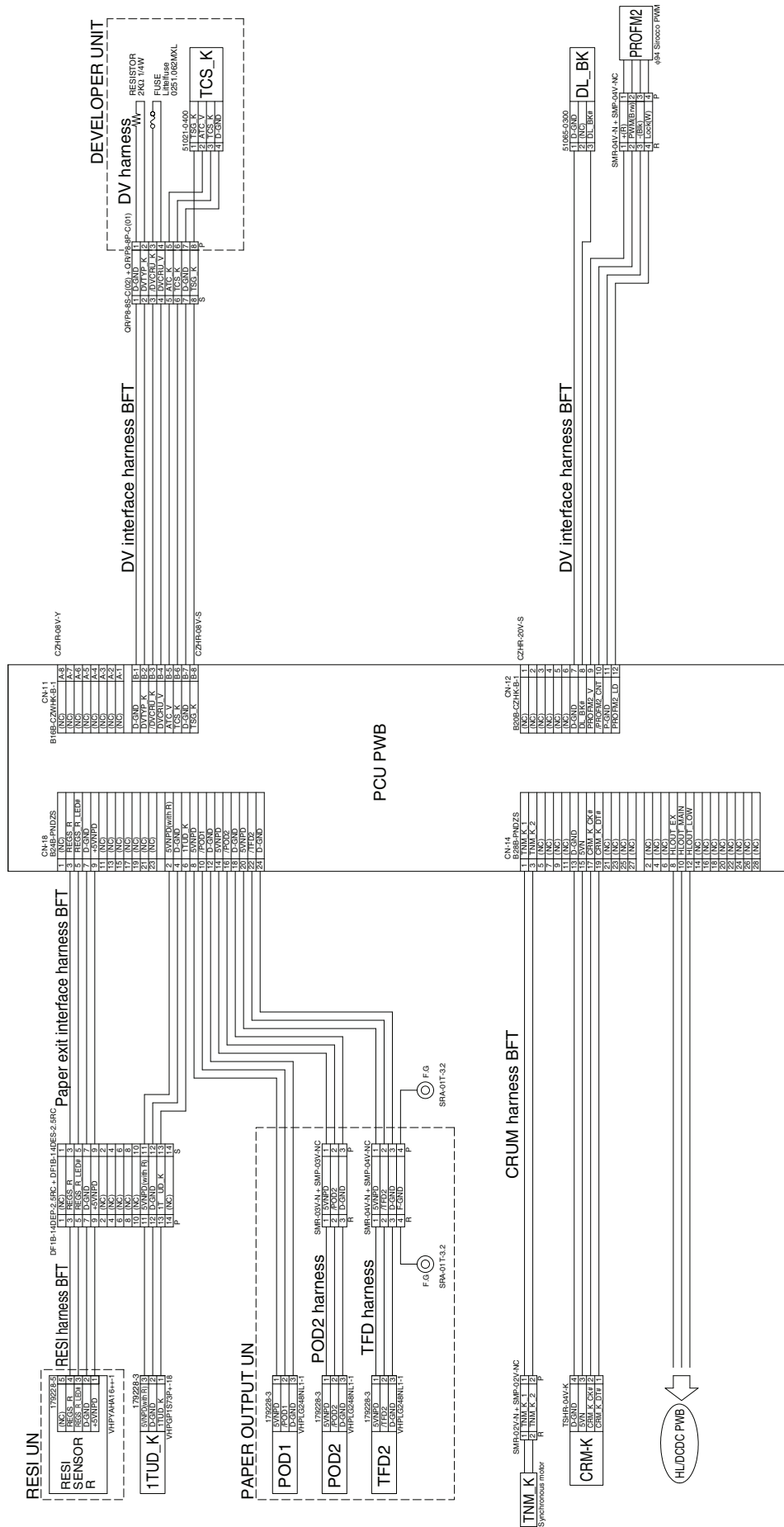


5. Process, DV, RESI, Paper exit

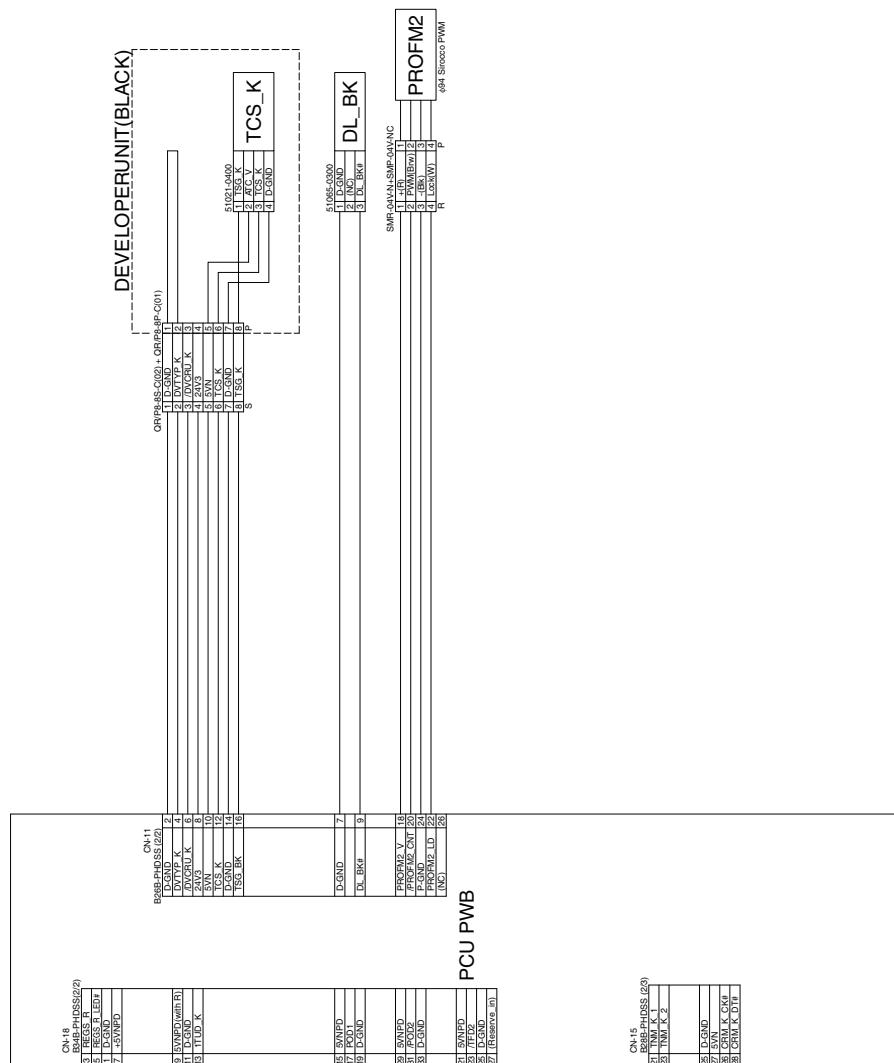
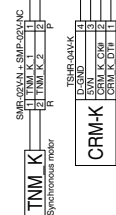
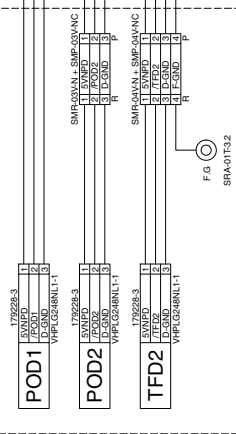
A. MX-C400P/C380P



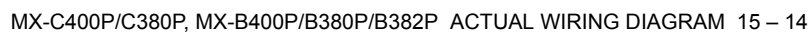
B. MX-B400P/B380P

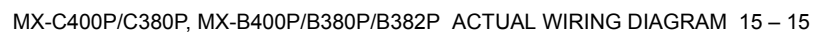


RESI UN



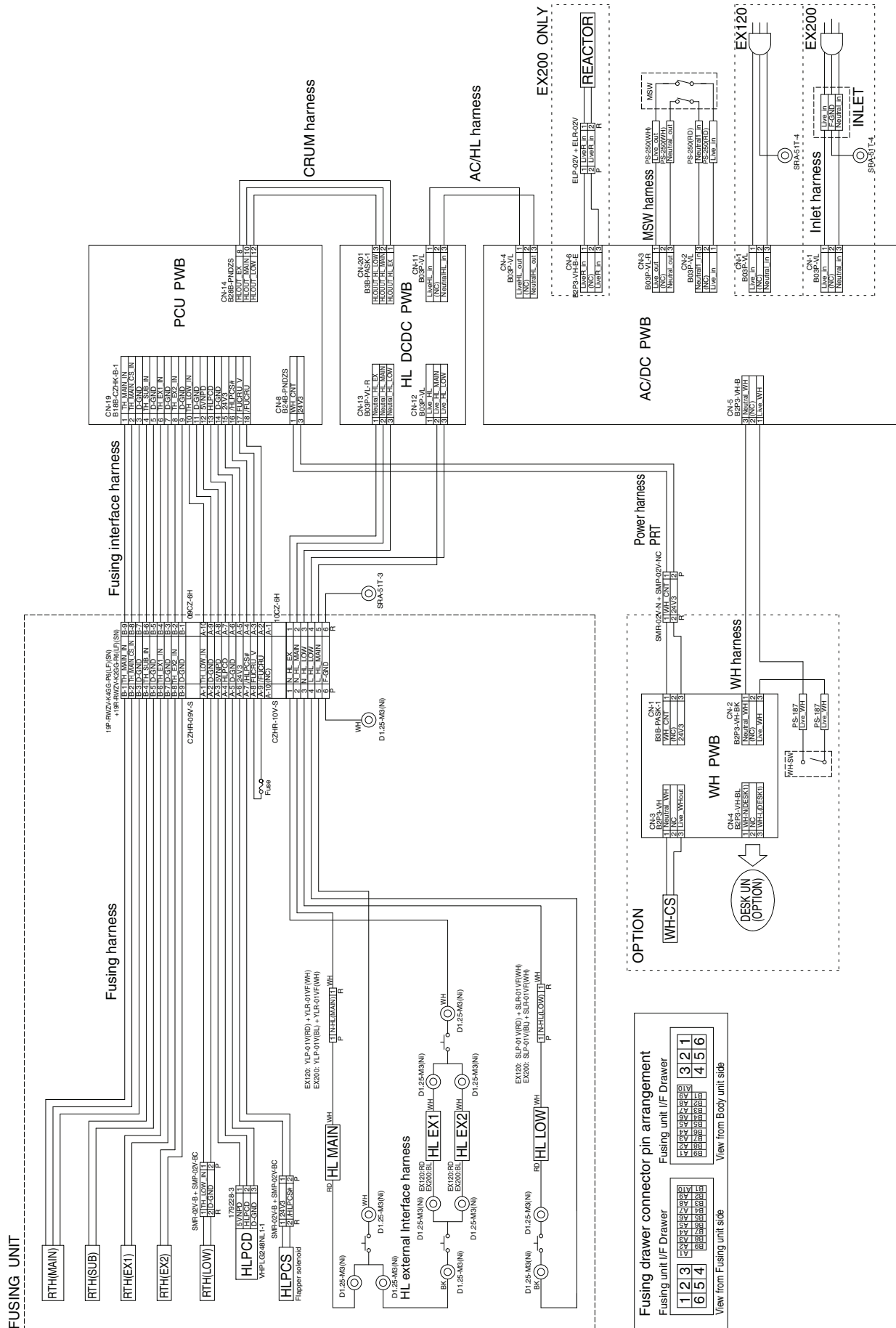
A. MX-C400P/C380P/B400P/B380P



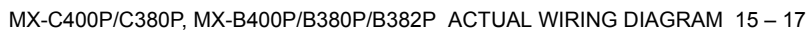


7. AC, Fusing

A. MX-C400P/C380P/B400P/B380P



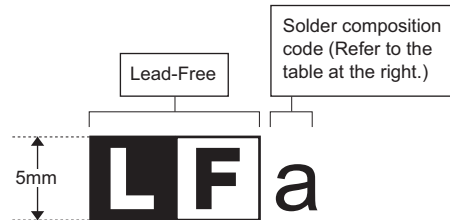
1



LEAD-FREE SOLDER

The PWB's of this model employs lead-free solder. The "LF" marks indicated on the PWB's and the Service Manual mean "Lead-Free" solder. The alphabet following the LF mark shows the kind of lead-free solder.

Example:



<Solder composition code of lead-free solder>

Solder composition	Solder composition code
Sn-Ag-Cu	a
Sn-Ag-Bi Sn-Ag-Bi-Cu	b
Sn-Zn-Bi	z
Sn-In-Ag-Bi	i
Sn-Cu-Ni	n
Sn-Ag-Sb	s
Bi-Sn-Ag-P Bi-Sn-Ag	p

(1) NOTE FOR THE USE OF LEAD-FREE SOLDER THREAD

When repairing a lead-free solder PWB, use lead-free solder thread.

Never use conventional lead solder thread, which may cause a breakdown or an accident.

Since the melting-point of lead-free solder thread is about 40°C higher than that of conventional lead solder thread, the use of the exclusive-use soldering iron is recommended.

(2) NOTE FOR SOLDERING WORK

Since the melting-point of lead-free solder is about 220°C, which is about 40°C higher than that of conventional lead solder, and its soldering capacity is inferior to conventional one, it is apt to keep the soldering iron in contact with the PWB for longer time. This may cause land separation or may exceed the heat-resistive temperature of components. Use enough care to separate the soldering iron from the PWB when completion of soldering is confirmed.

Since lead-free solder includes a greater quantity of tin, the iron tip may corrode easily. Turn ON/OFF the soldering iron power frequently.

If different-kind solder remains on the soldering iron tip, it is melted together with lead-free solder. To avoid this, clean the soldering iron tip after completion of soldering work.

If the soldering iron tip is discolored black during soldering work, clean and file the tip with steel wool or a fine filer.

CAUTION FOR BATTERY REPLACEMENT

(Danish)

ADVARSEL !

Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.

Udskiftning må kun ske med batteri

af samme fabrikat og type.

Levér det brugte batteri tilbage til leverandoren.

(English)

Caution !

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type

recommended by the manufacturer.

Dispose of used batteries according to manufacturer's instructions.

(Finnish)

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.

Vaihda paristo ainoastaan laitevalmistajan suosittelemaan

tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden

mukaisesti.

(French)

ATTENTION

Il y a danger d'explosion s' il y a remplacement incorrect

de la batterie. Remplacer uniquement avec une batterie du

même type ou d'un type équivalent recommandé par

le constructeur.

Mettre au rebut les batteries usagées conformément aux

instructions du fabricant.

(Swedish)

VARNING

Explosionsfara vid felaktigt batteribyte.

Använd samma batterityp eller en ekvivalent

typ som rekommenderas av apparattillverkaren.

Kassera använt batteri enligt fabrikantens

instruktion.

(German)

Achtung

Explosionsgefahr bei Verwendung inkorrektter Batterien.

Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder

vom Hersteller empfohlene Batterien verwendet werden.

Entsorgung der gebrauchten Batterien nur nach den vom

Hersteller angegebenen Anweisungen.

CAUTION FOR BATTERY DISPOSAL

(For USA, CANADA)

"BATTERY DISPOSAL"

THIS PRODUCT CONTAINS A LITHIUM PRIMARY
(MANGANESE DIOXIDE) MEMORY BACK-UP BATTERY
THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE
BATTERY FROM THE PRODUCT AND CONTACT YOUR
LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION
ON RECYCLING AND DISPOSAL OPTIONS.

"TRAITEMENT DES PILES USAGÉES"

CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE
MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANESE)
QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA
PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE
AGENCE ENVIRONNEMENTALE LOCALE POUR DES
INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET
DE TRAITEMENT.

SHARP

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