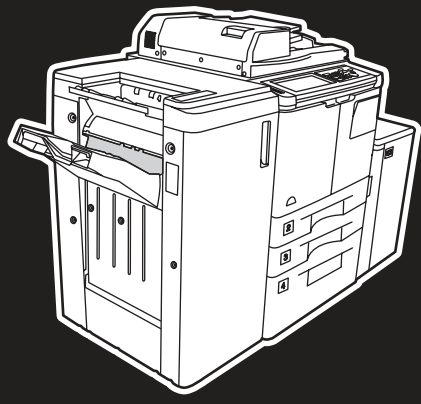
invent



hp LaserJet 9055 mfp
hp LaserJet 9065 mfp

field service handbook

hp LaserJet 9055mfp/9065mfp

field service handbook

Part number: Q3631-90909
Edition 1, 11/2003

Contents

1 Safety

2 Adjustments

3 Software tools

4 Print controller

5 Service

6 Troubleshooting

A Terminology cross-reference

Index

1 Safety

Safety and important warning items

Read carefully the safety and important warning items described below to understand them before doing service work.

Important notices

Because of possible hazards to an inexperienced person servicing this MFP as well as the risk of damage to the MFP, HP corporation strongly recommends that all servicing be performed only by HP-trained service technicians.

Changes may have been made to this MFP to improve its performance after this service manual was printed. Accordingly, HP corporation does not warrant, either explicitly or implicitly, that the information contained in this service manual is complete and accurate.

The user of this service manual must assume all risks of personal injury and/or damage to the MFP while servicing the MFP for which this service manual is intended.

Therefore, this service manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the MFP properly.

Keep this service manual also for future service.

When it is impossible to read the description about safety and warning (due to contamination or tear), the relevant page should be replaced.

Description items for Warning, Caution, and Note

In this service manual, Warning, Caution, and Note are defined as follows together with a symbol mark to be used in a limited meaning.

When servicing the MFP, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, and so forth) need to be conducted with utmost care.

WARNING! Warning messages alert the reader to a specific procedure or practice which, if not followed correctly, could cause personal injury or catastrophic loss of data or equipment.

CAUTION Caution messages appear before procedures which, if not observed, could result in loss of data or damage to equipment

Note Notes contain important information.

Symbols used for safety and important warning items are defined as follows:


Precaution when using the MFP


General precaution


Electric hazard


High temperature


Prohibition when using the MFP


General prohibition


Do not touch with wet hand


Do not disassemble


Direction when using the MFP


General instruction


Unplug

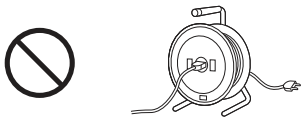
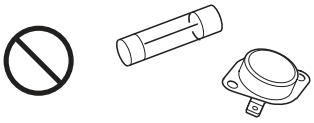
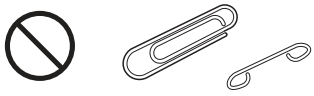

Ground/Earth

Safety warnings

Modifications not authorized by hp

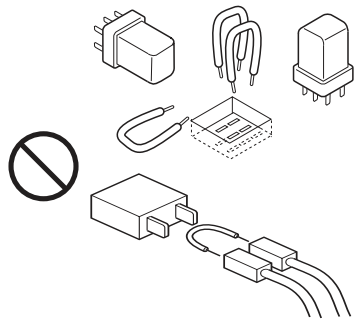
HP MFPs are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.

MFP design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

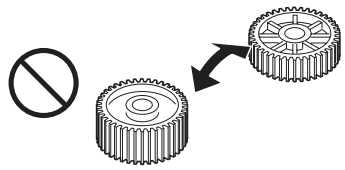
WARNING: Prohibited actions	
• Using any cables or power cord not specified by HP.	
• Using any fuse or thermostat not specified by HP. • Safety will not be assured, leading to a risk of fire and injury.	
• Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.	

WARNING: Prohibited actions

- Disabling relay functions (such as wedging paper between relay contacts).



- Disabling safety functions (interlocks, safety circuits, and so forth) Safety will not be assured, leading to a risk of fire and injury.
- Making any modification to the MFP unless instructed by HP.
- Using parts not specified by HP.



Checkpoints when performing on-site service

HP MFPs are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

Power supply

WARNING: Wall outlet

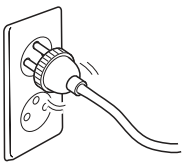
- Check that mains voltage is as specified. Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.
- If excessive current flows in the wall outlet, fire may result.

- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.
- If excessive current flows in the wall outlet, fire may result.

WARNING: Power plug and cord

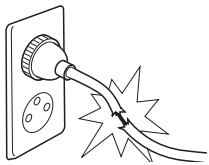
- Make sure the power cord is plugged in the wall outlet securely.

  Contact problems may lead to increased resistance, overheating, and the risk of fire.



- Check whether the power cord is damaged. Check whether the sheath is damaged.

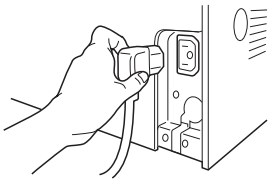
  If the power plug, cord, or sheath is damaged, replace with a new power cord (with plugs on both ends) specified by HP. Using the damaged power cord may result in fire or electric shock.

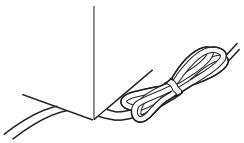


- When using the power cord (inlet type) that came with this MFP, be sure to observe the following precautions:

  a Make sure the MFP-side power plug is securely inserted in the socket on the rear panel of the MFP.
  Secure the cord with a fixture properly.

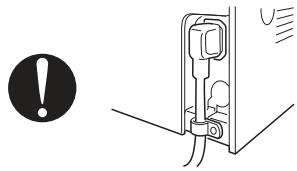
  b If the power cord or sheath is damaged, replace with a new power cord (with plugs on both ends) specified by HP.
  If the power cord (inlet type) is not connected to the MFP securely, a contact problem may lead to increased resistance, overheating, and risk of fire.





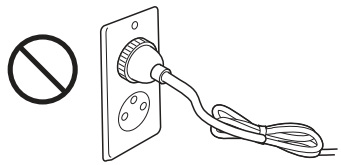
WARNING: Power plug and cord

- Check whether the power cord is not stepped on or pinched by a table and so on.
- Overheating may occur there, leading to a risk of fire.



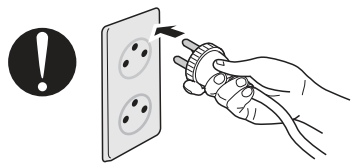
- Do not bundle or tie the power cord.

  Overheating may occur there, leading to a risk of fire.



- Check whether dust is collected around the power plug and wall outlet.

  Using the power plug and wall outlet without removing dust may result in fire.

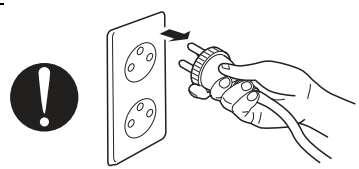


- Do not insert the power plug into the wall outlet with a wet hand.

  The risk of electric shock exists.

- When unplugging the power cord, grasp the plug, not the cable.

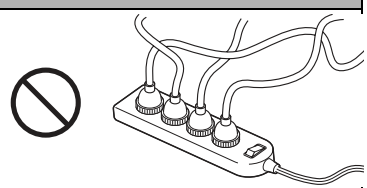
  The cable may be broken, leading to a risk of fire and electric shock.



WARNING: Wiring

- Never use multi-plug adapters to plug multiple power cords in the same outlet.

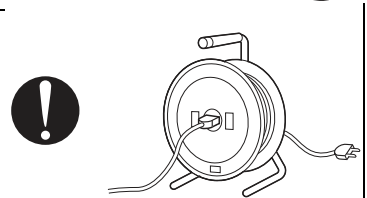
  If used, the risk of fire exists.



- When an extension cord is required, use the specified type.

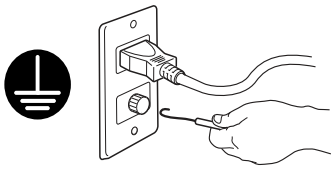
  Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.

  Do not use an extension cable reel with the cable taken up. Fire may result.

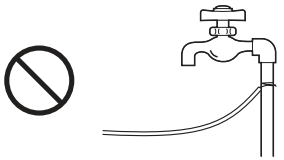


WARNING: Ground lead

- Check whether the MFP is grounded properly.
  If current leakage occurs in an ungrounded MFP, you may suffer electric shock while operating the MFP.
  Connect the ground lead to one of the following points:
  - **a** Ground terminal of wall outlet
  - **b** Ground terminal for which Class D work has been done



- Pay attention to the point to which the ground lead is connected.
  Connecting the ground lead to an improper point such as the points listed below results in a risk of explosion and electric shock:
  - **a** Gas pipe (A risk of explosion or fire exists.)
  - **b** Lightning rod (A risk of electric shock or fire exists.)
  - **c** Telephone line ground (A risk of electric shock or fire exists in the case of lightning.)
  - **d** Water pipe or faucet (It may include a plastic portion.)



Installation requirements

WARNING: Prohibited installation place

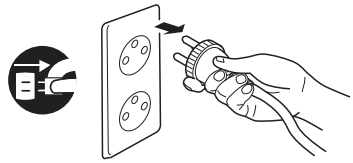
- Do not place the MFP near flammable materials such as curtains or volatile materials that may catch fire.
  A risk of fire exists.

- Do not place the MFP in a place exposed to water such as rain water.
  A risk of fire and electric shock exists.

WARNING: Non-operational handling

- When the MFP is not used over an extended period of time (holidays, and so forth), switch it off and unplug the power cord.

  Dust collected around the power plug and outlet may cause fire.



CAUTION: Temperature and humidity

- Do not place the MFP in a place exposed to direct sunlight or near a heat source such as a heater.

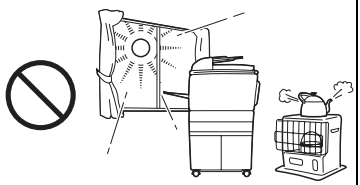
  A risk of degradation in MFP performance or deformation exists.

  Do not place the MFP in a place exposed to cool wind. Recommended temperature and humidity are as follows:

  Temperature: 10° C to 30° C

  Humidity: 10 percent to 80 percent (no dew condensation)

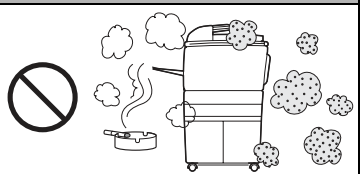
  Avoid other environments as much as possible.



CAUTION: Ventilation

- Do not place the MFP in a place where there is much dust, cigarette smoke, or ammonia gas.

  Place the MFP in a well ventilated place to prevent MFP problems and image issues.



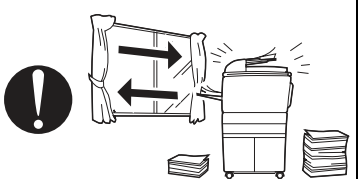
- The MFP generates ozone gas during operation, but it is not sufficient to be harmful to the human body.

  If a bad smell of ozone is present in the following cases, ventilate the room.

  a When the MFP is used in a poorly ventilated room

  b When making a lot of copies

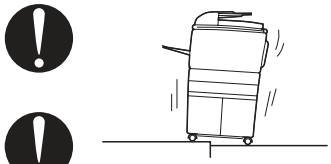
  c When using multiple MFPs at the same time



CAUTION: Vibration

- When installing the MFP, read the installation guide thoroughly. Be sure to install the MFP on a level and sturdy place.

  Constant vibration will cause problems.



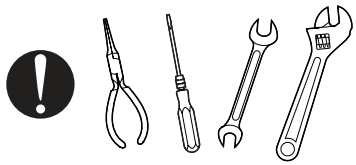
- Be sure to lock the caster stoppers.

  In the case of an earthquake and so on, the MFP may slide, leading to a injury.

CAUTION: Inspection before servicing

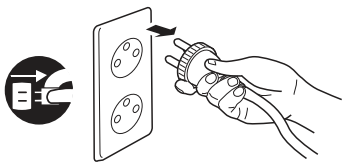
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, and so forth) and proceed with the inspection following the prescribed procedure in safety clothes, using only the prescribed tools. Do not make any adjustment not described in the documentation.

  If the prescribed procedure or tool is not used, the MFP may break and a risk of injury or fire exists.



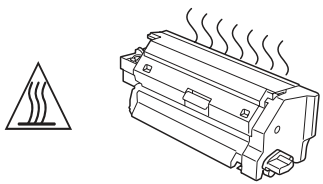
- Before conducting an inspection, be sure to disconnect the power plugs from the MFP and options.

  When the power plug is inserted into the wall outlet, some units are still powered even if the power switch is turned off. A risk of electric shock exists.



- The area around the fuser is hot.

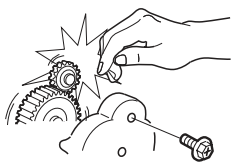
  You may get burned.



WARNING: Work performed with the MFP powered

- Take every care when making adjustments or performing an operation check with the MFP powered.

  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



WARNING: Work performed with the MFP powered

- Take every care when servicing with the external cover detached.

  High-voltage exists around the drum unit. A risk of electric shock exists.

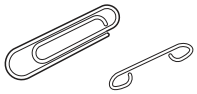
WARNING: Safety checkpoints

- Check the exterior and frame for edges, burrs, and other damages.

  The user or CE may be injured.

- Do not allow any metal parts such as clips, staples, and screws to fall into the MFP.

  They can short internal circuits and cause electric shock or fire.

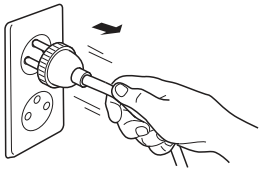


- Check wiring for squeezing and any other damage.

  Current can leak, leading to a risk of electric shock or fire.

- When disconnecting connectors, grasp the connector, not the cable. (Specifically, connectors of the AC line and high-voltage parts.)

  Current can leak, leading to a risk of electric shock or fire.



- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.

  Current can leak, leading to a risk of MFP trouble or fire.

- Check high-voltage cables and sheaths for any damage.

  Current can leak, leading to a risk of electric shock or fire.

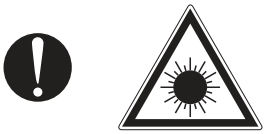
- Check electrode units such as a charging corona unit for deterioration and sign of leakage.

  Current can leak, leading to a risk of trouble or fire.

WARNING: Safety checkpoints

- Before disassembling or adjusting the laser/scanner assembly incorporating a laser, make sure that the power cord has been disconnected.

  The laser light can enter your eye, leading to a risk of loss of eyesight.

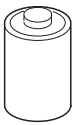


- Do not remove the cover of the laser/scanner assembly. Do not supply power with the laser/scanner assembly shifted from the specified mounting position.

  The laser light can enter your eye, leading to a risk of loss of eyesight.

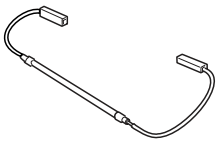
- When replacing a lithium battery, replace it with a new lithium battery specified in the parts guide manual. Dispose of the used lithium battery using the method specified by local authority.

  Improper replacement can cause explosion.



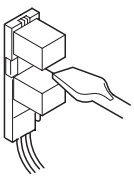
- After replacing a part to which AC voltage is applied (for example, optical lamp and fuser lamp), be sure to check the installation state.

  A risk of fire exists.



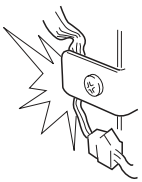
- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.

  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the MFP (for example, for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.

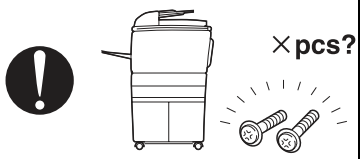
  Current can leak, leading to a risk of electric shock or fire.



WARNING: Safety checkpoints

- Make sure that all screws, components, wiring, connectors, and so forth that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, and so forth.)

  A risk of MFP trouble, electric shock, and fire exists.



WARNING: Handling of service materials

- Unplug the power cord from the wall outlet.
- Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.

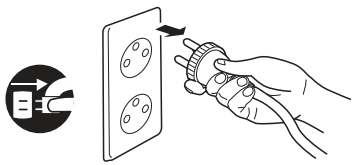
  Use sparingly with wipes to avoid fumes.

  Collect wipes in a resealable plastic bag, and remove the bag from the customer's site.

  Have flammable spill absorbents in your tool box in case material is spilled.

  Consider using protective gloves if skin irritation develops.

  Containers should be labeled with the chemical name and the word/symbol Flammable.



- Do not replace the cover or turn the MFP on before any solvent remnants on the cleaned parts have fully evaporated.

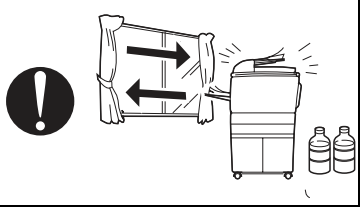
  A risk of fire exists.

- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.

  A risk of fire exists.

- When using any solvent, ventilate the room well.

  Breathing large quantities of organic solvents can lead to discomfort.



WARNING: Handling of service materials

- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, and so on. It may be stimulative.

  If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

  Avoid creating dust and inhaling dust, particularly wen removing waste developer and adding new developer.

  Place waste toner and developer in a resealable plastic bag, and remove the bag from the customer's site.

  Use an explosion-proof vacuum with a HEPA filter for cleaning up toner and developer.

- Never throw the used cartridge and toner into fire.

  You may be burned due to dust explosion.

Measures to take in case of an accident

If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.

If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and HP Corporation must be notified.

To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by HP Corporation.

Conclusion

Safety of users and customer engineers depends highly on accurate maintenance and administration. Therefore, safety can be maintained by the appropriate daily service work conducted by the customer engineer.

When performing service, each MFP on the site must be tested for safety. The customer engineer must verify the safety of parts and ensure appropriate management of the equipment.

Handling and disposition of consumables

All preventive maintenance replacement parts, consumables, and associated supplies, including all wipes, waste developer, and so on, should be removed from the customer's site. Wipes, in particular wipes used with drum cleaner and roller cleaner, should be placed in a resealable bag or other sealable container to avoid fumes and potential fire danger. Waste developer should also be placed in a resealable bag or other sealable container to avoid creating dust. Care should be taken when removing waste developer and when placing the waste in the sealable container to avoid creating dust.

All parts, consumables, and associated supplies should be returned to the service office location for appropriate recycling or disposal. Service office Environment, Health, and Safety staff should be consulted to determine the proper handling and disposition.

Regulatory statements

FCC Regulations

FCC Class A Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense. The end user of this product should be aware that any changes or modifications made to this equipment without the approval of Hewlett-Packard could result in the product not meeting the Class A limits, in which case the FCC could void the user's authority to operate the equipment.

- Reorient or relocate the receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.

Note

Any changes or modifications to the MFP that are not expressly approved by HP could void the user's authority to operate this equipment.

Use of a shielded interface cable is required to comply with the Class A limits of Part 15 of FCC rules.

Safety information

Safety circuits

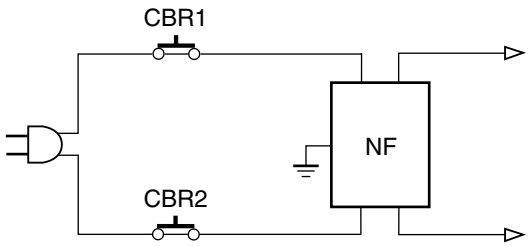
This MFP is provided with the following safety circuits to prevent MFP issues from resulting in serious accidents.

Overall protection circuit

L2 and L3 (fuser heater lamps) overheating prevention circuit

These safety circuits are described below to provide the service engineer with a renewed awareness of them in order to prevent servicing errors that may impair their functions.

Overall protection circuit

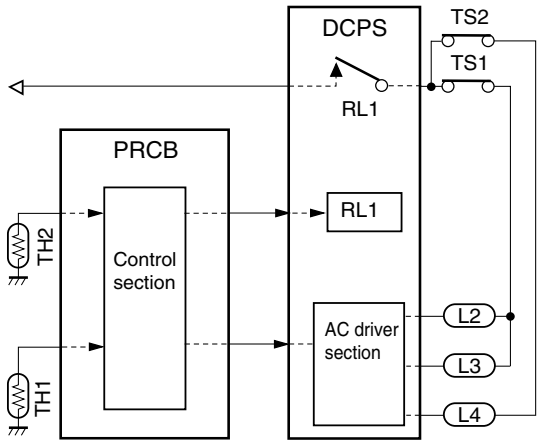


Protection by CBR1 and CBR2 (circuit breakers)

CBR1 and CBR2 interrupt the AC line instantaneously when an excessive current flows due to a short in the AC line.

CAUTION The CBR1 and CBR2 functions must not be deactivated under any circumstances.

Protection by L2, L3, and L4 (fuser heater lamps) overheating prevention circuit



Protection by software

The output voltage from TH1 (fuser temperature sensor 1) is read by the CPU. If this voltage is abnormal, L2 (fuser heater lamp 1), L3 (fuser heater lamp 2), L4 (fuser heater lamp 3), and RL1 (main relay) are turned off.

CAUTION Do not change the gap between the roller and TH1. When replacing TH1, check the specified mounting dimensions. The RL1 function must not be deactivated under any circumstances.

Protection by the hardware circuit

The output voltages from TH1 and TH2 (fuser temperature sensors) are compared with the abnormality judgment reference value in the comparator circuit. If the output voltage from TH1 or TH2 exceeds the reference value, L2 (fuser heater lamp 1), L3 (fuser heater lamp 2), L4 (fuser heater lamp 3), and RL1 (main relay) are turned off in hardware means.

CAUTION Periodically check the TH2 face contacting the roller, and replace TH2 if any abnormality is detected.

Since theTH1 (fuser temperature sensor) face does not contact the roller, check the distance from the roller and the sensor orientation if any abnormality is detected.

The RL1 function must not be deactivated under any circumstances.

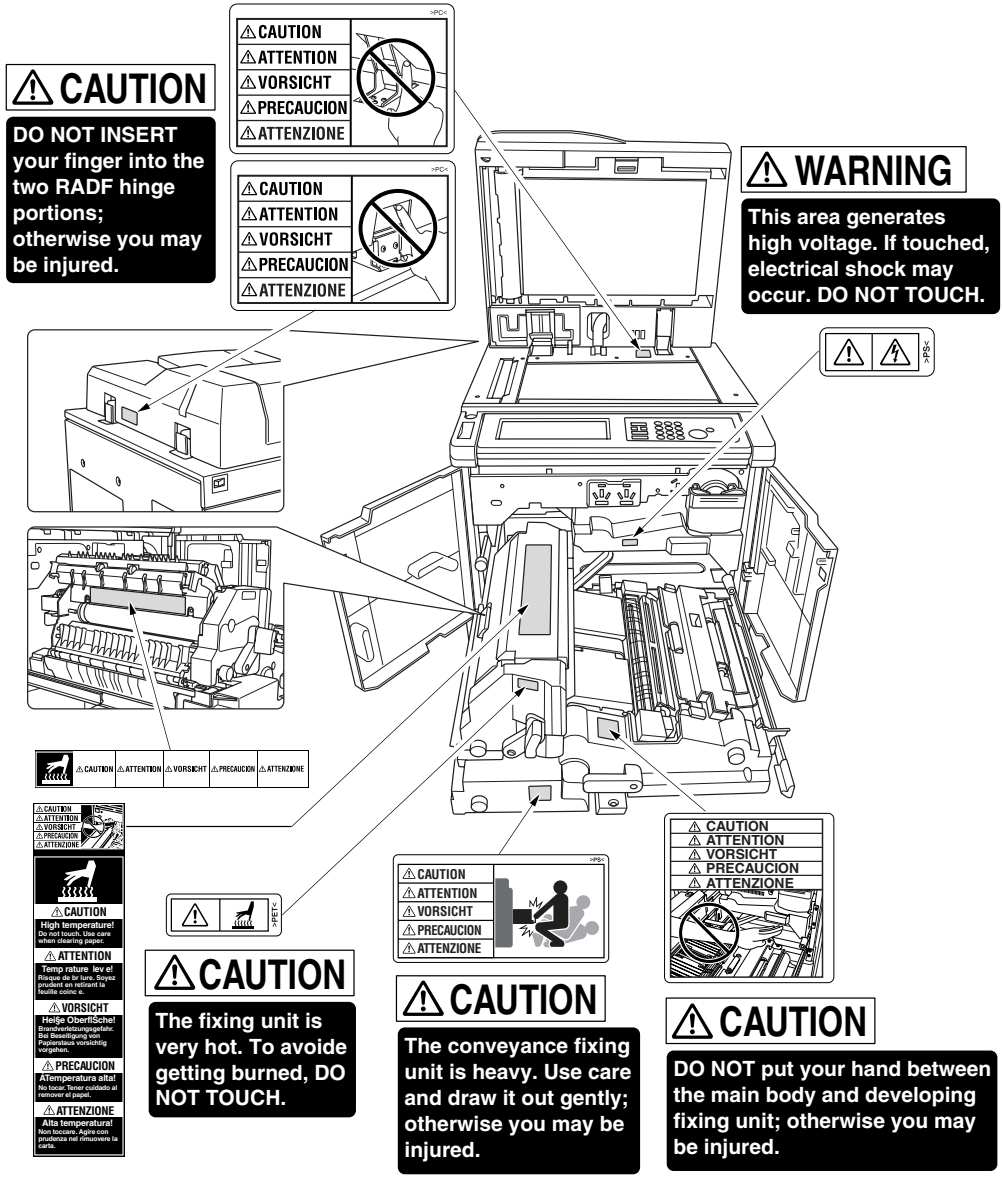
Protection by TS1 (thermostat/U) and TS2 (thermostat/L)

When the temperature of the fuser roller (upper/lower) exceeds the specified value, TSs are turned off, thus interrupting the power to L2 (fuser heater lamp/1), L3 (fuser heater lamp/2), and L4 (fuser heater lamp/3) directly.

CAUTION Do not use any other electrical conductor in place of TS1 and TS2. Do not change the distance between the roller and TS (thermostat).

Safety labels on the MFPs

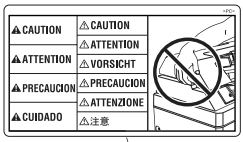
Caution labels shown below are attached in some areas on/in the MFP. When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.



(Finisher with Q3636A Cover Sheet Feeder only)

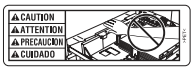
CAUTION

DO NOT insert your finger into the bottom of the upper part of the feeder when returning to its original position; otherwise you may be injured.



CAUTION

DO NOT put your hand between the main body and tray; otherwise you may be injured.



(All trays)

(Q3633A/Q3634A Finisher)

CAUTION

To avoid injury, DO NOT put your hand on top of the printed sheets.
Be sure to hold both sides of the printed sheets when removing them, and DO NOT leave your hand on the printed sheets while the primary (main) tray goes up.

(Q3634A Finisher only)

CAUTION

Inside the lower paper exit outlet is the roller drive unit. DO NOT put your hand into it; otherwise you may be injured.

(Q3633A and Q3634A Finisher)

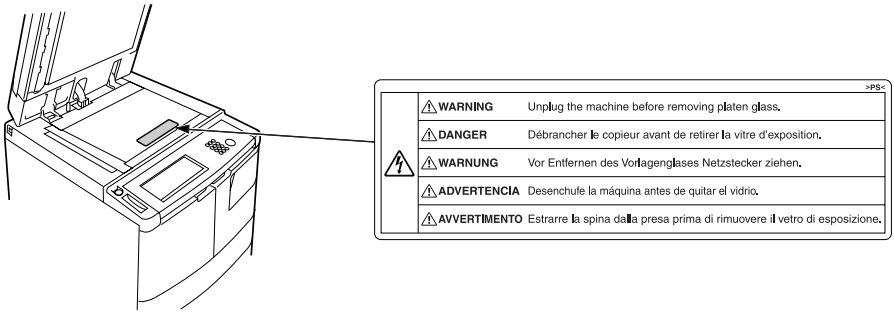
CAUTION

Use care after opening the paper exit outlet. DO NOT put your hand into it; otherwise you may be injured.

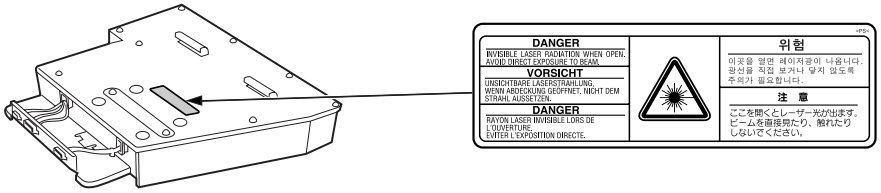
CAUTION You may be burned or injured if you touch any area that you are advised by any caution label to avoid.

CAUTION Do not remove caution labels. If any caution label has come off or is soiled and therefore the caution cannot be read, contact our Service Office.

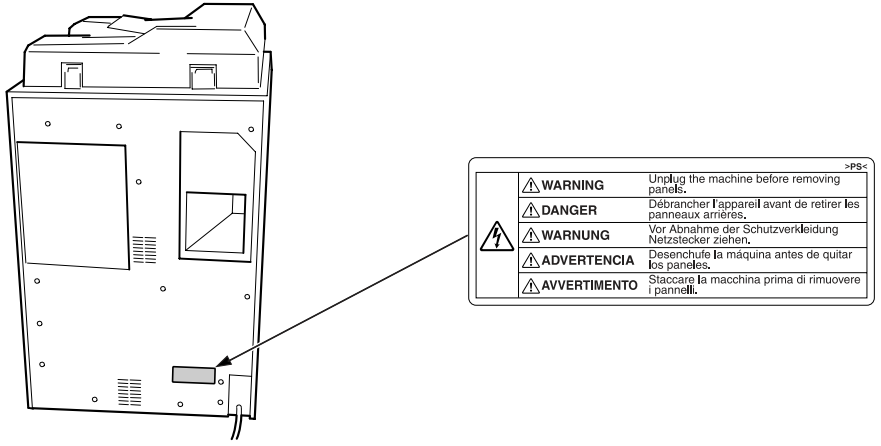
Scanner section



Laser/scanner assembly



Rear cover



CAUTION You may be burned or injured if you touch any area that you are advised by any caution label to avoid.

2 Adjustments

How to use this section

Note Disregard any references in this manual to the following:
- KRDS
- PZ
- PK-110

They are not used with the HP LaserJet 9055mfp and HP LaserJet 9065mfp.

Scope and precautions

This section provides detailed information about adjustment items and procedures. Before addressing customer complaints, perform the following checks.

1. Check whether the power supply voltage meets the specifications.
2. Check whether the power supply is properly grounded.
3. Check whether this MFP shares the power supply with any other MFP that draws large current intermittently (for example, elevator and air conditioners that produce electrical noise).
4. Check whether the installation environment is good.
   - **a** High temperature/high humidity, direct sunlight, ventilation, and so forth.
   - **b** Level of installed location
5. Check whether original has a problem that may cause defective images.
6. Check whether the selected density value is correct.
7. Check whether the scanner glass, ADF glass, and so forth is soiled.
8. Check whether correct paper is used for copying.
9. Check whether copying materials and parts (for example, developer, drum, and cleaning blade) are replenished and replaced when they reach the end of their useful life.
10. Check whether toner remains.
    When servicing the MFP, observe the following precautions:
    - **a** Only either side of the AC line is shut off when the primary power switch (SW1) of this MFP is turned off. Always unplug the power cord before starting service work. If it is necessary to service the MFP with the power on, take care not to be caught in the scanning gear of the exposure unit.
    - **b** Special care should be taken when handling the fuser because it operates at extremely high temperatures.
    - **c** The developing unit has a strong magnetic field. Keep watches and measuring equipment away from it.
    - **d** Take care not to damage the drum with tools and so on.
    - **e** Do not touch IC pins with bare hands.

Adjustments made when replacing parts

Adjustments (including checks) and settings are not only required when a customer complaint about the copy image quality is received but also after replacing or reassembling parts.

How to read tables

Components of the tables used in this section are as follows:

1 Mode
Adjustment mode to be selected.
[P]: P mode [25]: 2-5 mode
[36]: 3-6 mode [47]: 4-7 mode
[?]: key operator mode

2 Code
Code and copy quantity setting button used in each mode.

3 Page
Page in the “Adjustment” section.

4 Circled numbers
① ② Indicate that adjustments (including checks) must be made in order of precedence.
◯ (Circle without numeric character): Indicates that adjustments (including checks) can be made independently.

List of adjustment items on 9055mfp/9065mfp

Item No.	Classification by Adjustment		Adjustment Item	Mode	Page	Drum	Developer	Laser/scanner assembly	Dust-proof glass	Each tray unit	Tray 1 paper feed unit	Tray up/down wire	Registration roller	Registration unit	Registration clutch	Mis-centering detection sensor	ADU unit	CCD unit	Fuser	Memory board	ADF	HCI	Finisher	Stapler unit	PI	PK (Punch kits)
1	Process adjustment	High voltage adjustment	Charging grid manual adjustment	36	1-48	①														O						
2		Drum calibration adjustment	Blade setting mode		1-49	③														O						
3			Auto maximum contrast adjustment		1-49	④	②	①	①											O						
4			Auto dot diameter adjustment		1-50	⑤	③	②	②											O						
5			LD1 offset adjustment		1-51	⑥	④	③												O						
6			LD2 offset adjustment		1-52	⑦	⑤	④												O						
7			Auto gamma adjustment (1dot)		1-53	⑧	⑥	⑤	③											O						
8			Auto gamma adjustment (2dot)		1-54	⑨	⑦	⑥	④											O						
9			Cartridge set mode (drum)		1-54	②	①													O						
10	Image adjustment	Tray adjustment			1-56					O	O									O						
11		Magnification adjustment	MFP vertical magnification adjustment		1-57								O	O						O						
12			MFP horizontal magnification adjustment		1-58			O										O		O						
13			Scanner drum clock adjustment		1-58													O		O						
14			ADF drum clock adjustment		1-59															O	O					
15		Timing adjustment	MFP leading edge timing adjustment		1-61			O					O	O	O					O						
16			MFP registration loop adjustment		1-61															O						
17			MFP pre-registration adjustment		1-62															O						
18			MFP leading edge timing adjustment		1-62															O						
19			Scanner restart timing adjustment		1-63													O		O						
20			ADF restart timing adjustment		1-63													O		O	O					
21			Scanner (ADF) registration loop adjustment		1-64															O						
22		Document feeder adjustment	Document feeder contrast adjustment		1-65															O						
23			ADF original size adjustment		1-65															O	O					
24			ADF skew offset adjustment		1-66															O	O					
25		Centering adjustment	MFP centering adjustment		1-67				O							O				O						
26			Scanner (platen) centering adjustment		1-67													O		O						
27			ADF centering adjustment		1-68													O		O	O					
28		Warp adjustment (MFP)	Scanner (platen) warp (main scan)		1-68													O		O						
29			Scanner (platen) warp (secondary)		1-68													O		O						
30			Scanner (ADF) warp (main scan)		1-68													O		O						
31			Scanner (ADF) warp (secondary)		1-68													O		O						
32	Finisher adjustment	Stapling and folding stopper adjustment			1-79															O			O			
33		Folding stopper adjustment			1-79															O			O			
34		Cover sheet tray size adjustment			1-80															O					O	
35	Finisher adjustment	Punch adjustment	Punch vertical position adjustment	36	1-81															O						O
36			Punch horizontal position adjustment		1-81															O						O
37			Punch registration loop adjustment		1-81-1															O						O

Item No.	Classification by Adjustment	Adjustment item	Mode	Page	Drum	Developer	Laser/scanner assembly	Dust-proof glass	Each tray unit	Tray 1 paper feed unit	Tray up/down wire	Registration roller	Registration unit	Registration clutch	Mis-centering detection sensor	ADU unit	CCD unit	Fuser	Memory board	ADF	HCI	Finisher	Stapler unit	PI	PK (Punch kits)
40	Tri-folding stopper adjustment			1-82															O			O			
41	2 Positions staple pitch adjustment			1-82															O			O			
42	Tray centering adjustment			1-97					O												O				
43	ADF mounting position adjustment			1-108																O					
44	ADF skew adjustment			1-109																O					
45	ADF paper skew adjustment	Face side of original paper	Other Adjustments	1-110																O					
46		Back side of original paper		1-111																O					
47	PI centering adjustment			1-129																					
48	PK adjusting the skew of punched holes position			1-127																					
49	PK adjusting the vertical positioning of punched holes			1-128																					
50	Drum count reset			1-38	O																				
51	Developer count reset		25	1-38		O																			
52	Web counter reset			1-38														O							

CAUTION

When replacing the Image Control Board (ICB), the memory board located on the ICB must be installed on the replacement ICB. The memory board contains the adjustment values for the MFP.

If the memory board requires replacement, contact HP technical support for instructions.

LCD adjustment

LCD control panel adjustment

Enter the key operator mode and touch 10 `Touch panel adjustment` to adjust the LCD touch panel.

* If you cannot select the touch panel adjustment mode, follow this procedure:

1 Power on the MFP secondary power switch while holding down the **Help** button. This will take you directly to key operator mode.

2 Touch any key on the numeric key pad to access 10 `Touch panel adjustment`.

LCD panel contrast/key sound adjustment

Enter the key operation mode and touch 7 `LCD Panel contrast/Key sound adjustment` to adjust the contrast, backlight, and/or buzzer as desired.

Settings and adjustments made with the P function

The P function allows you to perform following numerical value checks using the P button:

1 Total counter

2 Copy controller counter

3 MFP counter

4 PM counter *

5 Density shift (auto <text/photo>)

6 Density shift (increase contrast)

7 Density shift (photo)

8 Density shift (text)

Checking and printing the P function

1 Turn on the secondary power switch (SW2).

2 Press the **P** button.

3 Counter list is displayed.

4 Touch the COUNTER MENU key.

5 Press the **START** button to print out the counter list. The P function is cancelled automatically.

6 If the counter list need not be displayed, touch the EXIT key.

Setting up the P function

1 Turn on the secondary power switch (SW2).

2 Touch the SPECIAL ORIGINAL key.

3 Select the required image quality, text, photo, and so forth. Then press the **P** button to set the desired density shift.

4 Enter a value (0-5) with a numeric key, then touch the OK key. The smaller the value, the darker the density.

5 Touch the OK key to return to the main screen.

Mode changing menu

Mode selection

You can select a mode from the following Mode changing menu: Select mode without turning off and on the power switch.

1. Main screen
2. 3-6 mode
3. 2-5 mode
4. Key operation mode
5. 4-7 mode

Step	Operation
1	Turn on the secondary power switch (SW2).
2	Press **P** button and wait until `Enter password for mode selection` message appears.
3	Enter the password `9272` and press the **START** button. (Note that this password is fixed and cannot be changed.)The Mode changing menu appears.
4	Enter the number to select the desired mode.
5	To return to the Mode Changing menu, press the **P** button and wait until the menu appears again.
6	Upon completion of the adjustment, touch EXIT key to return to the main screen.

2-5 mode

Setting the 2-5 mode

This MFP has an adjustment mode called the 2-5 Mode. Select this mode to rewrite data in the non-volatile memory or make various settings.

1 Turn off the secondary power switch (SW2).

2 While pressing the copy quantity setting buttons **2** and **5**, turn on the SW2.

The Memory Setting mode menu screen will appear. Now the MFP is in the 2-5 mode, disabling normal copy operations.

Figure 2.1 Memory Setting mode menu screen.

3 Touch the numeric button of the desired setting item. The associated setting screen will appear.

4 Enter data in the setting screen.

5 Turning off the secondary power switch (SW2) cancels the 2-5 mode.

6 New data will take effect after restart.

List of adjustment items for 2-5 mode

Adjustment item menu				Remarks
1	Software SW setting			See “List of software switches” on page 32.
2	Paper size setting			
3	PM count	Resetting PM count		
		Setting PM cycle		
4	Data collection	1	Total count of each paper size	
		2	Copy count of each paper size	
		3	Print count of each paper size	
		4	ADF count	
		5	Pixel ratio of each section	
		6	Pixel ratio ranking list	
		7	Jam data by date and time series	
		8	Jam count	
		9	Count of each copy mode	
		10	Service call count	
		11	Jam count of each section	
		12	Service call count of each section	
5	Parts counter	1	Count of special parts	COUNT RESET
		2	Count of each part	COUNT RESET Part name setting P/N setting Limit setting
6	Password setting	Key operator password		4 digits
		Monitor master key code		8 digits
		Weekly timer password		4 digits
		Hard disk management password		4 digits
7	Telephone/Fax number setting	Customer support telephone number		16 digits
		Customer support fax number		16 digits
8	M/C serial number setting	MFP		
		Optional tray		
		Finisher		
9	Indication of ROM version			Indication of firmware versions of the ICB, PRCB, finisher, and punch kit.
11	Firware updating			
12	Setting date input			

Setting software switches

Procedure

Bring up the software SW setting screen and set software DIP switches.

Step	Operation
1	Enter the 2-5 mode.
2	**Memory setting mode menu screen** Touch [1] `Software DIP SW setting`.
3	**Software SW setting screen** Select a DIP switch number. Use the [▲] or [▼] key or numeric keys. To use numeric keys, touch the DIP switch number key at the left before entering a DIP switch number.
4	Select a bit number of the selected switch. Use the [▲] or [▼] key or numeric keys. To use numeric keys, touch the bit number key at the upper center before entering a DIP switch number.
5	Select `On` (1), or `Off` (0) of the switch. Use the [ON] or [OFF] key. [ON] : Sets 1. [OFF] : Sets 0.
6	Touch the [RETURN] key to return to the Memory setting mode menu screen.

For the function of each switch, see “List of software switches” on page 32.

List of software switches

Note Do not change any bit settings that do not have a description in the Function column.

SW	Bit	Function	0	1	Initial value			
					US	Europe	Asia	Taiwan
1	0	Condition for stopping copying after indication of toner supply	* 1	* 1	1	1	1	1
	1				0	0	0	0
	2	Method for stopping copying after indication of toner supply	* 2	* 2	1	1	1	1
	3				0	0	0	0
	4	Inhibition of copying when PM count is reached	Disabled	Inhibited	0	0	0	0
	5	Number of copies made before inhibition of copying when PM count is reached	* 3	* 3	0	0	0	0
	6				0	0	0	0
	7				0	0	0	0
2	0	Hard disk connection	Disconnected	Connected	0	0	0	0
	1	Electrode cleaning cycle (when power is turned on, fuser temperature is 50º C or less)	* 4	* 4	0	0	0	0
	2				0	0	0	0
	3				0	0	0	0
	4	Electrode cleaning cycle (after power is turned on)	* 5	* 5	0	0	0	0
	5				0	0	0	0
	6	-	-	-	0	0	0	0
	7	-	-	-	0	0	0	0
3	0	-	-	-	0	0	0	0
	1	Service call latch	Unlatched	Latched	0	0	0	0
	2	2-5, 3-6, 4-7 mode password request (9272)	Not requested	Requested	0	0	0	0
	3	Charger cleaning function	On	Off	0	0	0	0
	4	Transfer/separation cleaning function	On	Off	0	0	0	0
	5	-	-	-	0	0	0	0
	6	4-7 mode 15-01 data collection clearing	Disabled	Enabled	0	0	0	0
	7	Job editor connection	Disconnected	Connected	0	0	0	0
4	0	ADF automatic skew adjustment	Enabled	Disabled	0	0	0	0
	1	Inhibition of postcard double-sided copy	Disabled	Enabled	0	0	0	0
	2	Destination Area	* 6	* 6	1	0	0	0
	3	Destination Area	* 6	* 6	0	1	1	1
	4	Key counter removal recovery	Disabled	Enabled	0	0	0	0
	5	Inhibition of magnified auto paper	Enabled	Disabled	1	0	0	0
	6	Fixed magnification rate setting change in key operator mode	Enabled	Disabled	0	0	0	0
	7	A3 (Ledger) counting method	Increased by 1	Increased by 2	0	0	0	0
5	0	Image density selection (toner concentration threshold)	* 7	* 7	0	0	0	0
	1				0	0	0	0
	2	Image density selection (laser PWM) for MFP	* 8	* 8	1	1	1	1
	3				0	0	0	0
	4	-	-	-	0	0	0	0
	5	-	-	-	0	0	0	0
	6	-	-	-	0	0	0	0
	7	-	-	-	0	0	0	0

SW	Bit	Function	0	1	Initial value			
					US	Europe	Asia	Taiwan
6	0	Transfer/separation output for plain paper	* 9	* 9	0	0	0	0
	1				0	0	0	0
	2				0	0	0	0
	3	Transfer/separation output for thick paper	* 10	* 10	0	0	0	0
	4				0	0	0	0
	5	Transfer/separation output for thin paper	* 11	* 11	0	0	0	0
	6				0	0	0	0
	7	-	-	-	0	0	0	0
7	0	Toner guide roller current correction	* 12	* 12	0	0	0	0
	1				0	0	0	0
	2	-	-	-	0	0	0	0
	3	TSL timing/location	Under transfer corona	Under separation corona	1	1	1	1
	4	-	-	-	0	0	0	0
	5	Transfer/separation output for recycled paper	* 13	* 13	0	0	0	0
	6				0	0	0	0
	7				0	0	0	0
8	0	Image density selection (laser PWM) for IP	* 35	* 35	0	0	0	0
	1				0	0	0	0
	2	Fuser roller initial rotation	* 14	* 14	0	0	0	0
	3				1	1	1	1
	4	Fuser roller initial rotation time setting	* 15	* 15	1	1	1	1
	5				0	0	0	0
	6	A3 (Ledger) PM counter switch	1 count	2 count	0	0	0	0
	7	Store on hard disk	Enable	Disable	0	0	0	0
9	0	Operation at key counter removal (copy)	Same as stop key	Immediate stop (jam)	0	0	0	0
	1	Operation at key counter removal (Q3639A print kit)	Ignored	Same as DIPSW 9-0	0	0	0	0
	2	Message switching	* 16	* 16	0	0	0	0
	3				0	0	0	0
	4	Copy count limit	* 17	* 17	0	0	0	0
	5				0	0	0	0
	6				0	0	0	0
	7				0	0	0	0
10	0	Page memory allocation when powered.	* 18	* 18	0	0	0	0
	1				1	1	1	1
	2	Page memory allocation when job starts	* 19	* 19	0	0	0	0
	3	Duplex shift printing from Adobe PS3 (Note1)	Common shift	Independent shift	0	0	0	0
	4	Transfer/separation output for high-quality paper	* 20	* 20	0	0	0	0
	5				0	0	0	0
	6				0	0	0	0
	7				0	0	0	0
	Note 1: When printing from an Adobe PS3 driver in duplex mode with the image shift function, the shift amount of the copier (it can be set from “APPLICATION-Image sift”) is used for the print job. 0: Both front and back side is decided by the front side shift amount data of copier. 1: The shift data for each front and back side set in the copier is used for duplex print mode.							

SW	Bit	Function	0	1	Initial value			
					US	Europe	Asia	Taiwan
11	0	-	-	-	0	0	0	0
	1	-	-	-	0	0	0	0
	2	Index paper rear end erasing amount	3 mm erased	1 mm erased	0	0	0	0
	3	Service call/E code screen switchover	Switched	Not switched (All are F codes)	0	0	0	0
	4	Selection of filter for jagged edges on slanting lines	Not selected	Selected	0	0	0	0
	5	Tone switchover in photo mode	2bit ED-2dot PWM	1bit ED-2dot PWM	0	0	0	0
	6	-	-	-	0	0	0	0
	7	Jam indication screen type	Without jam code	With jam code	1	1	1	1
12	0	Black stripe creation interval	Every 10 copies	Every 50 copies	0	0	0	0
	1	Coin vendor paper size signal switchover	A3/ledger	A3R	1	1	1	1
	2	-	-	-	0	0	0	0
	3	MFP automatic centering correction	Enable	Disable	0	0	0	0
	4	High voltage output in 36/4-7 mode	Not output	Output	1	1	1	1
	5	Paper exit direction of booklet mode	Face down	Face up	0	0	0	0
	6	-	-	-	0	0	0	0
	7	-	-	-	0	0	0	0
13	0	Size detection 1	A5	5.5 by 8.5	1	0	0	0
	1	Size detection 2	A4R	Letter R	1	0	0	0
	2	Size detection 3	Legal	F4	0	1	1	1
	3	Size detection 4	* 21	* 21	0	0	0	0
	4				1	0	0	0
	5	F4 size detection	* 22	* 22	0	1	1	1
	6				0	1	1	1
	7	-	-	-	0	0	0	0
14	0	Size detection 5 (MFP)	B4: Ledger/ B5: Letter/B5R	8K/16K/16KR	1	0	0	1
	1	-	-	-	0	0	0	0
	2	-	-	-	0	0	0	0
	3	Size detection 5 (tray 1 feed)	B4: Ledger/ B5: Letter/B5R	8K/16K/16KR	1	0	0	1
	4	Size detection 5 (platen)	B4: Ledger/ B5: Letter/B5R	8K/16K/16KR	1	0	0	1
	5	Size detection 5 (ADF)	B4: Ledger/ B5: Letter/B5R	8K/16K/16KR	1	0	0	1
	6	Size detection 5 (PI)	B4: Ledger/ B5: Letter/B5R	8K/16K/16KR	1	0	0	1
	7	-	-	-	0	0	0	0
15	0	Not used on the HP LaserJet 9055mfp/9065mfp	Telephone line	E-mail	0	0	0	0
	1	Maximum number of sheets to be stapled	* 23	* 23	0	0	0	0
	2				0	0	0	0
	3	Finisher alarm stop SW	* 24	* 24	0	0	0	0
	4				0	0	0	0
	5	Not used on the HP LaserJet 9055mfp/9065mfp	Disconnected	Connected	0	0	0	0
	6	Dmax. (maximum contrast) value during print jobs	1.43	1.35	0	0	0	0
	7	-	-	-	0	0	0	0

SW	Bit	Function	0	1	Initial value			
					US	Europe	Asia	Taiwan
16	0	-	-	-	0	0	0	0
	1	Copy reserve function	Enabled	Disabled	0	0	0	0
	2	-	-	-	0	0	0	0
	3	Key counter counting in MFP mode	Not counted	Counted	0	0	0	0
	4	TC start date indication (P mode)	Indicated	Not indicated	0	0	0	0
	5	Non-original area automatic erasure mode judgement level	* 25	* 25	0	0	0	0
	6				0	0	0	0
	7	Not used on the HP LaserJet 9055mfp/9065mfp	-	-	0	0	0	0
17	0	Weekly timer summer time setting	* 26	* 26	0	0	0	0
	1				1	1	1	1
	2				1	1	1	1
	3				0	0	0	0
	4	Density selection for scanning tab paper	* 27	* 27	0	0	0	0
	5				0	0	0	0
	6				0	0	0	0
	7	-	-	-	0	0	0	0
18	0	Tray 2's faulty part isolation	Normal	Unavailable	0	0	0	0
	1	Tray 3's faulty part isolation	Normal	Unavailable	0	0	0	0
	2	Tray 4's faulty part isolation	Normal	Unavailable	0	0	0	0
	3	HCI faulty part isolation	Normal	Unavailable	0	0	0	0
	4	ADF faulty part isolation	Normal	Unavailable	0	0	0	0
	5	Folding, stapling, and tri-folding faulty part isolation	Normal	Unavailable	0	0	0	0
	6	PI faulty part isolation	Normal	Unavailable	0	0	0	0
	7	Hard disk faulty part isolation	Normal	Unavailable	0	0	0	0
19	0	-	-	-	0	0	0	0
	1	Fuser temperature setting switch over	* 28	* 28	0	0	0	0
	2				0	0	0	0
	3				0	0	0	0
	4				0	0	0	0
	5	PK faulty part isolation	Normal	Unavailable	0	0	0	0
	6	IP scanner default resolution	* 29	* 29	0	0	0	0
	7				0	0	0	0
20	0	Group stapling	Disabled	Enabled	0	0	0	0
	1	Original size scanning with shift function (Note 2)	Normal	Original priority	0	0	0	0
	2	Stamp page number switching	Based on original	Based on transfer paper	0	0	0	0
	3	Keyboard layout	ABC layout	QWERTY layout	1	1	1	1
	4	-	-	-	0	0	0	0
	5	-	-	-	0	0	0	0
	6	-	-	-	0	0	0	0
	7	Tandem connection	Disconnected	Connected	0	0	0	0
	Note 2: When Normal is selected, the original size is compared with the copy paper size and the smaller one is assumed to be the image area size. When Original priority is selected, the original size is compared assumed to be the image area size only when the image shift mode is selected.							

SW	Bit	Function	0	1	Initial value			
					US	Europe	Asia	Taiwan
21	0	Mixed sized print stapling inhibition (Q3639A print kit)	Enabled (realtime output)	Disabled (batch processing)	0	0	0	0
	1	HCI size setting in key operator mode	Disabled	Enabled	0	0	0	0
	2	Original count display	Displayed	Not displayed	0	0	0	0
	3	-	-	-	0	0	0	0
	4	-	-	-	0	0	0	0
	5	-	-	-	0	0	0	0
	6	Special paper auto paper response	Disabled	Enabled (except thick paper)	0	0	0	0
	7	IP scanner 600/400 dpi	Enabled	Disabled	0	0	0	0
22	0	IP address setting	Inhibited	Allowed	1	1	1	1
	1	Number of punched holes	* 30	* 30	1	0	0	0
	2				0	1	1	1
	3	Image reference position of unspecified size of paper	-	-	0	0	0	0
	4	Sleep button function	Enabled	Disabled	0	0	0	0
	5	-	-	-	0	0	0	0
	6	Finisher no staple operation	Staple supply requested	Request for staple supply and stapling canceled	0	0	0	0
	7	Jam indication screen type	Position	Illustration	0	0	0	0
23	0	Print controller installed	Not installed	Installed	0	0	0	0
	1	Operation when MFP monitor password is not matched	Counted and output to monitor or other user domain	Not output (display it on the JOB list that is not produced)	0	0	0	0
	2	Image density selection (toner density selection of developer)	* 31	* 31	0	0	0	0
	3				0	0	0	0
	4	-	-	-	0	0	0	0
	5	-	-	-	0	0	0	0
	6	Registration of tray 1 special paper setting for job memory	Prohibited	Allowed	0	0	0	0
	7	Ejection of the thick paper 2 to sub-tray (IP)	Face down	Face up	0	0	0	0
24	0	Method of accessing hard disk job	Password	Password + file name	0	0	0	0
	1	Job editor image transfer method default setting	Automatic	Manual	0	0	0	0
	2	-	-	-	0	0	0	0
	3	-	-	-	0	0	0	0
	4	Maximum number of sheets with Z-fold (paper exit face down tray)	* 33	* 33	0	0	0	0
	5				0	0	0	0
	6	Maximum number of sheets with Z-fold + stapling (paper exit face down tray)	* 34	* 34	0	0	0	0
	7				0	0	0	0

SW	Bit	Function	0	1	Initial value			
					US	Europe	Asia	Taiwan
25	0	IP scanner image format	TIFF	TIFF/PDF	0	0	0	0
	1	-	-	-	0	0	0	0
	2	Mixplex rotation control	Each job	Each page	0	0	0	0
	3	-	-	-	0	0	0	0
	4	-	-	-	0	0	0	0
	5	Coin vendor reset timing	When coin is inserted	When coin runs out	0	0	0	0
	6	Image shift on tandem sub MFP (IP).	Master MFP data	Sub MFP data	0	0	0	0
	7	Proof/wait with tandem mode (IP).	Disabled	Enabled	0	0	0	0
26	0				0	0	0	0
	1				0	0	0	0
	2				0	0	0	0
	3				0	0	0	0
	4				0	0	0	0
	5				0	0	0	0
	6				0	0	0	0
	7				0	0	0	0
27	0	Image's gray background control at power on (Toner density reduction control) * 32	Not performed	Performed	0	0	0	0
	1	Image's gray background control at power on (Toner recycle CL control during printing) * 32	Not performed	Performed	0	0	0	0
	2	Toner supply operation (use prohibited)	Performed	Not performed	0	0	0	0
	3	Image's gray background control at power on (Drum/developer rotation control at power on after γ correction) * 32	Not performed	Performed	0	0	0	0
	4	Image density optimization control (use prohibited)	Performed	Not performed	0	0	0	0
	5	Image's gray background control at power on (Toner recycle CL on control during drum/developer rotation performed when the power is turned on) * 32	Not performed	Performed	0	0	0	0
	6				0	0	0	0
	7	Image's gray background control at power on (Toner recycle CL on control during Dmax (maximum contrast) and γ correction) * 32	Not performed	Performed	0	0	0	0
28	0	Correspondence of Mixplex (IP)	Correspond	Not correspond	1	1	1	1
	1	IP scanner function	Enabled	Disabled	0	0	0	0
	2	-	-	-	0	0	0	0
	3	Limitation of punch function	Selected	Not selected	0	0	0	0
	4	-	-	-	0	0	0	0
	5	-	-	-	0	0	0	0
	6	-	-	-	0	0	0	0
	7	-	-	-	0	0	0	0

SW	Bit	Function	0	1	Initial value			
					US	Europe	Asia	Taiwan
29	0	Not used on the HP LaserJet 9055mfp/9065mfp	Not correspond	Correspond	0	0	0	0
	1	Correspondence of memory overflow when IP printing	* 36	* 36	0	0	0	0
	2				0	0	0	0
	3	Include of proof copy to the set copy quantity	Not included	Included	0	0	0	0
	4	-	-	-	0	0	0	0
	5	-	-	-	0	0	0	0
	6	-	-	-	0	0	0	0
	7	-	-	-	0	0	0	0
30	0	-	-	-	0	0	0	0
	1	2-5 mode collection data 7-12 for checking	Display restriction	No display restriction	1	1	1	1
	2	-	-	-	0	0	0	0
	3	-	-	-	1	1	1	1
	4	-	-	-	0	0	0	0
	5	-	-	-	0	0	0	0
	6	-	-	-	0	0	0	0
	7	Passwords to save/access hard disk JOB	Not displayed	Displayed	0	0	0	0
31	0				1	1	1	1
	1				0	0	0	0
	2				0	0	0	0
	3				0	0	0	0
	4				1	1	1	1
	5				0	0	0	0
	6				0	0	0	0
	7				0	0	0	0
32	0				0	0	0	0
	1				1	1	1	1
	2				0	0	0	0
	3				0	0	0	0
	4				0	0	0	1
	5				0	0	0	0
	6				0	0	0	0
	7				0	0	0	0

Note IP refers to interaction with the Print Kit.

***1** Condition for stopping copying after indication of toner supply request

Mode	1-1	1-0
Stops after printing 1,500 copies	0	0
Stops after printing 3,000 copies	0	1
Stops after printing 4,000 copies	1	0
Stops after printing 5,000 copies	1	1

***2** Method for stopping copying after indication of toner supply request

Mode	1-3	1-2
Stops after ejecting the paper remaining in the MFP	0	0
Stops after printing specified number of copies	0	1
Stops at the end of the current job	1	0
Does not stop	1	1

***3** Number of copies made before inhibition of copying when PM count is reached

Mode	1-7	1-6	1-5
1,000 copies	0	0	0
2,000 copies	0	0	1
3,000 copies	0	1	0
4,000 copies	0	1	1
5,000 copies	1	0	0
1,000 copies	1	0	1
1,000 copies	1	1	0
1,000 copies	1	1	1

***4** Electrode cleaning cycle (fuser temp is 50° C or lower when power is turned on)

Mode	2-3	2-2	2-1
When power is turned on	0	0	0
5,000 copies	0	0	1
10,000 copies	0	1	0
15,000 copies	0	1	1
20,000 copies	1	0	0
25,000 copies	1	0	1
30,000 copies	1	1	0
Not cleaned	1	1	1

***5** Electrode cleaning cycle (after power is turned on)

Mode	2-5	2-4
10,000 copies	0	0
20,000 copies	0	1
30,000 copies	1	0
40,000 copies	1	1

***6** Destination area

Mode	4-3	4-2
Japan	0	0
Inch area	0	1
Metric area	1	0

***7** Image density selection (toner concentration threshold)

These bits set the read level of the toner concentration patch formed on the drum to determine the toner concentration. Against image excessive density, image blur, and toner scattering in all tone areas, the setting should be made by shifting the threshold of black color to the positive side.

Against insufficient density in all tone areas, shift to the negative side.

- Standard -10: The image becomes darker.
- Standard +10: The image becomes lighter.
- Standard + 20: The image becomes far lighter.

Mode	5-1	5-0
Standard	0	0
Standard -10	0	1
Standard +10	1	0
Standard +20	1	1

Note

There are three DIP switches to change the image density: 5-0/1 (toner concentration threshold, 5- 2/3 (laser PWM), and 23-2/3 (toner density of developer). The priority of order of these adjustments are as follows:
(1) Laser PWM
(2) Toner density of developer
(3) Toner concentration threshold

***8** Image density selection (laser PWM) for MFP

These bits set image write laser PWM. Against excessive density of 100 percent black color, thick letters and lines, and excessive toner consumption, the setting should be made by selecting `light`. In the opposite case, select `dark`.

Mode	5-3	5-2
Darker (255)	0	0
Normal (235)	0	1
Lighter (215)	1	0

Note There are three DIP switches to change the image density: 5-0/1(toner concentration threshold), 5-2/3 (laser PWM), and 23-2/3 (toner density of developer). The priority of order of these adjustments are as follows:
(1) Laser PWM
(2) Toner density of developer
(3) Toner concentration threshold

***9** Transfer/separation output for plain paper

These bits are used when `Normal`, `Color`, `Special`, or `Seal` is selected for `paper type/special size setting` in the key operator mode.

When `Custom paper` is selected with this bit, the transfer/separation output for the `Custom paper setting` made in the 3-6 mode is applied.

When `No specification` is selected, the output data by destination and paper size (metric or inch system) (Japan/metric: 64 g/m^2 plain paper, inch: 20 lb plain paper, inch area/inch: 20 lb plain paper, metric: 75 g/m^2 plain paper, metric area/metric: 75 g/m^2 plain paper, inch: 20 lb plain paper) is used.

Mode	6-2	6-1	6-0
No specification	0	0	0
Not used	0	0	1
Not used	0	1	0
Not used	0	1	1
Recycled paper 1 (Japan)	1	0	0
Recycled paper 2 (inch area)	1	0	1
Recycled paper 3 (metric area)	1	1	0
Custom paper	1	1	1

***10** Transfer/separation output for thick paper

This bit is used when `Thick` is selected for `Paper type/special size setting` in the key operator mode to change transfer/separation output, linear speed, and fuser temperature.

When `No specification` is selected, standard data for 170 g/m^2 or heavier paper is used.

- 170 g/m^2 or heavier (TSL off): When toner is scattered around the image.
- Plain paper: Transfer/separation data for plain paper of each destination is used to set only the line speed and fuser temperature for thick paper. This setting is applied when the fuser condition is insufficient even though paper is not so thick.

Mode	6-4	6-3
No specification	0	0
170 g/m^2 or more (TSL off)	0	1
Plain paper	1	0

***11** Transfer/separation output for thin paper

This bit is used when `Thin` is selected for `Paper type/special size setting` in the key operator mode.

When `No specification` is selected, the output data by destination (Japan: 52.4 g/m^2 paper, inch area: 16 lb paper, metric area: 48 g/m^2 paper) is used.

Mode	6-6	6-5
No specification	0	0
52.4 g/m^2 paper	0	1
64 g/m^2 paper	1	0

***12** Toner guide roller current correction

When the room temperature causes defect cleaning, the bias value of the toner guide roller should be changed to +10 µA or +20 µA. If the original setting value is changed without any defective cleaning observed, the drum can be damaged, or the toner may be spilled. In this case, the use of the MFP is never recommended.

Mode	7-1	7-0
Standard	0	0
Approx. +10 µA	0	1
Approx. +20 µA	1	0
No correction	1	1

***13** Transfer/separation output for recycled paper

These bits are used when `Recycle` is selected for `Paper type/special size setting` in the key operator mode.

When `Custom paper` is selected with these bits, the transfer/separation output for the custom paper setting made in the 3-6 mode is applied. When `No specification` is selected, output data by destination and paper size (metric or inch series) (Japan/metric: 64 g/m^2 recycled paper, Inch: 20 lb recycled paper, Inch area/inch: 20 lb recycled paper, metric: 75 g/m^2 recycled paper, Metric area/metric: 75 g/m^2 recycled paper, inch: 20 lb recycled paper) is used.

When humid paper causes uneven image, select `Humid paper 1/2/3`.

Mode	7-7	7-6	7-5
No specification	0	0	0
64 g/m^2 standard paper (Japan)	0	0	1
20 lb standard paper (USA)	0	1	0
75 g/m^2 standard paper (Europe)	0	1	1
Humid paper 1 (Japan)	1	0	0
Humid paper 2 (USA)	1	0	1
Humid paper 3 (Europe)	1	1	0
Custom paper	1	1	1

***14** Fuser roller initial rotation

Fuser may be insufficient if the temperature of the place where the MFP is installed is low. To prevent this, increase the warm-up time (fuser roller initial rotation time) to allow the fuser roller to be evenly warmed up. This bit specifies the condition(s) under which initial rotation of the fuser roller is required.

- Low temperature: Initial rotation of the fuser roller is carried out only under the low temperature condition.
- Low and normal temperatures: Initial rotation of the fuser roller is carried out under low and normal temperature conditions.
- Low, normal, and high temperatures: Initial rotation of the fuser roller is carried out under low, normal, and high temperature conditions.

Mode	8-3	8-2
Low temperature	0	0
Low and normal temperature	0	1
Low, normal, and high temperatures	1	0
No initial rotation	1	1

***15** Fuser roller initial rotation time setting

This bit sets the maximum time of initial rotation of the fuser roller.

Mode	8-5	8-4
2 minutes (Japan)	0	0
3 minutes (inch and metric series)	0	1
4 minutes	1	0
10 minutes	1	1

***16** Message switching

Mode	9-3	9-2
Please insert key counter.	0	0
Please insert copy card.	0	1
Please insert coin.	1	0
Please insert key counter.	1	1

***17** Copy count limit

Mode	9-7	9-6	9-5	9-4
No limit	0	0	0	0
1 copy	0	0	0	1
3 copies	0	0	1	0
5 copies	0	0	1	1
9 copies	0	1	0	0
10 copies	0	1	0	1
20 copies	0	1	1	0
30 copies	0	1	1	1
50 copies	1	0	0	0
99 copies	1	0	0	1
250 copies	1	0	1	0
No limit	1	0	1	1

Mode	9-7	9-6	9-5	9-4
No limit	1	1	0	0
No limit	1	1	0	1
No limit	1	1	1	0
No limit	1	1	1	1

***18** Page memory allocation when powered

Mode	10-1	10-0
No allocation	0	0
32 MB (default for DP65)	0	1
64 MB	1	0

***19** Page memory allocation when starts

When memory overflow occurs in a mode where page memory is used, this bit allocates page memory at the start of job to print out copied paper, the data of which was already read in the memory.

Page memory quantity differs as in the following table, according to the number of gradation.

1 bit ED	18 MB (A3 by 2)
2 bit ED	36 MB (A3 by 2)

Mode	10-2
No allocation	0
Allocated	1

When `Allocated` is selected by DIP switch 10-0 or 10-1 with power supply on, this setting has priority.

***20** Transfer/separation output for high-quality paper

These bits are used when `High-quality` is selected for `Paper type/special size setting` in the key operator mode.

When `No specification` is selected, output data by paper size (metric or inch system) (metric: 64 g/m^2 standard paper, inch: 20 lb standard paper) is used.

Mode	10-7	10-6	10-5	10-4
No specification	0	0	0	0
64 g/m^2 paper for printing press	0	0	0	1
75 g/m^2 paper for printing press	0	0	1	0

***21** Size detection 4

Destination	Mode	13-4	13-3
Metric series	A5R	0	0
	B6R	0	1
Inch series	5.5 by 8.5R	1	0

***22** F4 size detection

Mode	13-6	13-5
8 by 13	0	0
8.25 by 13	0	1
8.125 by 13.25	1	0
8.5 by 13	1	1

***23** Maximum number of sheets that can be stapled

Mode	15-2	15-1
50 sheets	0	0
45 sheets	0	1
40 sheets	1	0
35 sheets	1	1

***24** Finisher alarm stop SW

Mode	15-4	15-3
Stop immediately after detection	0	0
Stop at end of copy after detection	0	1
No alarm stop	1	0
No alarm stop	1	1

***25** Selection of area to be erased in non-original area automatic erasure

These bits are used to make a setting associated with the non-original automatic erasure mode (application function).

Mode	16-6	16-5
Standard	0	0
Dark original	0	1
Coping with light interference	1	0

***26** Weekly timer summer time setting

Mode	17-3	17-2	17-1	17-0
0 minute	0	0	0	0
10 minutes	0	0	0	1
20 minutes	0	0	1	0
30 minutes	0	0	1	1
40 minutes	0	1	0	0
50 minutes	0	1	0	1
60 minutes	0	1	1	0
70 minutes	0	1	1	1
80 minutes	1	0	0	0

Mode	17-3	17-2	17-1	17-0
90 minutes	1	0	0	1
100 minutes	1	0	1	0
110 minutes	1	0	1	1
120 minutes	1	1	0	0
130 minutes	1	1	0	1
140 minutes	1	1	1	0
150 minutes	1	1	1	1

***27** Density selection for scanning tab paper

The higher the brightness level, the higher the density.

Mode	17-6	17-5	17-4
80 (brightness level)	0	0	0
40	0	0	1
60	0	1	0
100	0	1	1
120	1	0	0
160	1	0	1
200	1	1	0
255(not clipped)	1	1	1

***28** Fuser temperature setting switch over

This setting is performed to change the fuser temperature when fuser is insufficient or paper curl is excessive.

This setting is effective only when standard paper is used. Therefore, it is not applied when thick or thin paper is used or temperature is specified in power mode.

- Standard setting value
- Standard+α Set when fuser is insufficient
- Standard-α Set when paper curl is excessive

Mode	19-3	19-2	19-1
Standard	0	0	0
Standard +5° C	0	0	1
Standard +10° C	0	1	0
Standard +15° C	0	1	1
Standard -5° C	1	0	0
Standard -10° C	1	0	1
Standard -15° C	1	1	0
Standard +20 C	1	1	1

***29** IP scanner default resolution

Mode	19-7	19-6
400 dpi	0	0
600 dpi	0	1
200 dpi	1	0
300 dpi	1	1

***30** Number of punched holes

Mode	22-2	22-1
2 or 3 holes (inch area)	0	1
4 hole (metric area)	1	0

***31** Image density selection (toner density selection of developer)

These bits set the toner density of developer by changing toner supply threshold and developing sleeve rotation speed with image density unchanged.

Decrease toner density when the image is gray background or toner is scattered. Increase toner density when the image is unevenly transferred or white spots occur.

Mode	23-3	23-2
Standard toner density	0	0
Approx. 0.75 percent up	0	1
Approx. 0.75 percent down	1	0
Approx. 1.5 percent down	1	1

Note

There are three DIP switches to change the image density: 5-0/1 (toner concentration threshold), 5-2/3 (lase PWM), and 23-2/3 (toner density of developer). The priority order of these adjustments are as follows:
(1) Laser PWM
(2) Toner density of developer
(3) Toner concentration threshold

***32** Image's gray background control at power on

If an image's gray background problem occurs while making about 100 copies after power on (the fuser temperature is 50° C or lower), set bits 0, 1, 3, 5, 6, and 7 of DIPSW27 to 1.

Note When this setting is used, be sure to set six bits to 1 all together. And never set bits 2 and 4 of DIPSW27 to 1.

***33** Maximum number of sheets with Z-fold (paper exit face down tray)

Mode	24-5	24-4
Up to 50 sheets	0	0
Up to 40 sheets	0	1
Up to 30 sheets	1	0
Up to 20 sheets	1	1

***34** Maximum number of sheets with Z-fold + stapling

Mode	24-7	24-6
Up to 5 sheets	0	0
Up to 8 sheets	0	1
Up to 10 sheets	1	0
Up to 3 sheets	1	1

***35** Image density selection (laser PWM) for IP

Mode	8-1	8-0
Normal (235)	0	0
Dark (255)	0	1
Lighter (175)	1	0
Lightest (150)	1	1

***36** Countermeasure for memory overflow during IP printing

When MFP stops due to paper empty and so on during large amount printing from IP without reserved print, a memory overflow will occur on the MFP, and then a time out will occur on PC. When remaining capacity of E-RDH memory is reached to the specified amount, the transmission speed from IP to E-RDH memory will be delayed to gain time until memory overflow occurs.

Mode	29-2	29-1
No countermeasure	0	0
Remaining capacity 10 percent	0	1
Remaining capacity 20 percent	1	0
Remaining capacity 30 percent	1	1

Setting the paper size

When the HCI paper type is changed, it must be stored in the MFP. This setting is effective when an optional HCI is added.

Select a paper size among standard, custom paper sizes. After selecting a tray size, specify a paper size.

Setting the standard size

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch [2] `Paper size setting`.
3	**Paper Size Setting mode screen** Touch the [STD SIZE] key.
4	Touch the [▲] or [▼] button to select a paper size.
5	Touch the [OK] key to finish setting.To cancel the new setting, touch the [CANCEL] key, Pressing either key will display the Memory setting mode menu screen again.

Setting the custom size

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch [2] `Tray Size Setting`.
3	**Paper Size Setting mode screen** Touch the [Non STD size] key.
4	**Paper Size input screen** Touch the key for specifying the main (vertical) scanning direction to highlight it.
5	Touch the [▲] or [▼] key or numeric keys to enter the size in the main (vertical) scanning direction. Max. 314 mm

6	Touch the key for specifying the sub (horizontal) scanning direction to highlight it.
7	Touch the ▲ or ▼ key or numeric keys to enter the size in the sub (horizontal) scanning direction. Max. 223 mm (HP 4000-sheet high capacity input [letter/A4]), 459 mm (HP 4000-sheet high capacity input [ledger/A3])
8	Touch the OK key to finish setting. To cancel the new setting, touch the CANCEL key. Pressing either key will display the Memory setting mode menu screen again.

Setting the wide paper

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch 2 `Paper size setting`.
3	**Paper Size Setting mode screen** Touch the Wide size paper key.
4	**Paper Size Selecting screen** Touch the ▲ or ▼ key to select a wide paper size.
5	Input size key.
6	**Paper Size input screen** Touch the key for specifying the main (vertical) scanning direction to highlight it.
7	Touch the ▲ or ▼ key or numeric keys to enter the size in the main (vertical) scanning direction. Max. 314 mm
8	Touch the button for specifying the sub (horizontal) scanning direction to highlight it.
9	Touch the ▲ or ▼ key or numeric keys to enter the size in the sub (horizontal) scanning direction. Max. 223 mm (HP 4000-sheet high capacity input [letter/A4]), 459 mm (HP 4000-sheet high capacity input [ledger/A3])
10	Touch the OK key to finish setting. To cancel the new setting, touch the CANCEL key. Pressing either key will display the Memory setting mode menu screen again.

Reference 1: Each time the current tray size is changed on this screen, the new setting will be written into the non-volatile memory.

PM count resetting

Care should be taken not to reset the PM count by mistake. The PM count should only be reset after all PM has been completed.

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch 3 `PM count`.
3	**PM Count/cycle screen** Touch the COUNT RESET key.
4	**Reset Confirmation screen** Touch the YES key.The PM count is reset and the start date is input automatically. Pressing the NO key closes the Reset Confirmation screen at once.
5	Touch the OK key to finish setting. To cancel the new setting, touch the CANCEL key. Pressing either key will display the Memory setting mode menu screen again.

Setting the PM cycle

This function allows you to change the PM cycle.

The PM cycle is factory-set. Use this function to change the factory-set PM cycle.

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch `PM count`.
3	**PM Count/Cycle screen** Touch the PM Cycle Setting key.
4	After making sure that three digits of the cycle value are displayed in reverse video, enter a desired cycle value using numeric keys. Only the three digits of the cycle value can be entered. The entered digits will be shifted to the left one after another.

5	Touch the [OK] key to finish setting. To cancel the new setting, touch the [CANCEL] key. Pressing either key will display the Memory setting mode menu screen again.

Collecting data

This function allows you to view various data retained by the MFP.

Data that can be viewed

No.	Data type	Pre-operation
1	Total count of each paper size	
2	Copy count of each paper size	
3	Print count of each paper size	
4	ADF count	
5	Pixel ratio of each section	
6	Pixel ratio ranking list	
7	Jam data of time series	Enter the 2-5 mode, select `Software DIPSW Setting`, and set bit 1 of address 30-1 to 1. (Note 1)
8	Jam count	
9	Count of each copy mode	
10	Service call count	
11	Jam count of each section	
12	Service call count of each section	

When bit 1 of DIP switch 30-1 is set to 0, only collected data 1 to collected data no. 6 can be viewed.

Viewing collecting data no.1 to no.6

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch [4] `Data collection`.
3	**Collecting Data menu screen** Select the collecting data you want to view by touching one of numeric keys [1] to [6].
4	**Individual Data view screen** View the selected data by scrolling the screen using the [▼] and [▲] keys.
5	Touch the [RETURN] key to return to the Memory setting mode menu screen.

Viewing collecting data no.7 to no.12

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch [1] `Software DIP SW setting`.
3	**Software DIP SW Setting screen** Set bit 1 of DIP switch 30-1 to `1`.
4	Touch the [RETURN] key to return to the Memory setting mode menu screen.
5	**Memory Setting mode menu screen** Touch [4] `Data Collection`.
6	**Collecting Data menu screen** Select the collected data you want to view by pressing one of numeric keys [7] to [12]. To select the key [11] or later touch the [▼] key. If the [▲] key is pressed with key [11] displayed, the Collected data selection screen containing keys [1] to [12] appears again.
7	**Individual Data view screen** View the selected data by scrolling the screen using the [▼] and [▲] keys. (Note)
8	Touch the [RETURN] key to return to the Memory setting mode menu screen.

On the individual data view screen showing the jam count of each section (collected data [11]) or service call count of each section (collected data [12]), the [COUNT RESET] key appears.

Pressing the [COUNT RESET] key resets the selected data count.

Details on display data

1 Collecting data No. 1 to No. 3: Total, copy, and print counts of each paper size

No.	Destination			Maximum count	Remarks
	Japan	Inch area	Metric area		
1	A2	17 by 22	A2	99999999	All counters are 8-digit counters.
2	A3	Ledger	A3		
3	B4	Legal	B4 (8K)		
4	A4	Letter	A4		
5	B5	5.5 by 8.5	B5 (16K)		
6	A5	-	A5		
7	B6	-	F4		
8	Legal	-	-		
9	Letter	A4	-		
10	Special	Special	Special		

- Each time a printed copy is ejected, the counter is increased by 1 regardless of the paper size.
- Any size other than paper sizes 1-9 is counted as Special size. (SEF/LEF are counted as the same size.)

2 Collecting data No. 4: ADF mode

No.	Items	Maximum count	Remarks
1	Number of originals fed in ADF mode	99999999	All counters are 8-digit counters.
2	Number of originals fed in ADF mode		
3	Number of 1-sided mixed original fed		
4	Number of 2-sided mixed original fed		
5	Number of 1-sided Z-fold mode original fed		
6	Number of 2-sided Z-fold mode original fed		
7	Undefined		
8			
9			
10			
11			
12			
13			
14			
15			
16			

- The counter is increased each time one original side has been scanned in each mode.
- Counters 1 and 2 count original sides independently of counters 3-7.

3 Collecting data No. 5: Pixel ratio of each section *1

This allows checking the average pixel ratio of 5000 prints for latest 30 data.

4 Collecting data No. 6: Pixel ratio ranking list *1

This allows checking pixel ratio data, number of prints, transfer paper size, mode, and date for the top 15 job data ranked from highest rates of pixel ratio.
The pixel ratio rank list is allowed to contain only those jobs which have five or more copies, so that jobs that have made erroneous copies will be excluded from the list.

5 Collecting data No. 7: Jam data of time series

A jam code, total count, date and time of occurrence, tray type, paper size, and magnification can be displayed for the latest 100 jams.

***1** This pixel ratio is the theoretical value obtained by converting the black dot area on the image data and the area of the transfer paper, therefore it is different from the black ratio obtained by the actual printing.

6 Collecting data No. 8: Jam count/Collecting data; No. 11: Jam count of each section (can be reset)

No.	Description of jam		Jam position display on control panel	Maximum count	Counting condition
	Location of jam	Code displayed when display of jam code is selected by 25DIPSW			
1	Tray 1 paper feed	10-1	6	999999	All counts are 6-digit counters.
2		10-2	6		
3	Tray 2 paper feed	11-1	1		
4		11-2	1		
5	Tray 3 paper feed	12-1	2		
6		12-2	2		
7	Tray 4 paper feed	13-1	3		
8		13-2	3		
9	**Note:** Not used on the HP LaserJet 9055mfp/9065mfp.	14-1	4		
10		14-2	4		
11	HCI paper feed	15-1	5		
12		15-2	5		
13	Paper feed conveyance (common to all trays)	17-1	9		
14	Paper feed conveyance (Tray 2)	17-2	7		
15	Paper feed conveyance (Tray 3/4)	17-3	7		
16	Paper feed conveyance (Tray 3)	17-4	7		
17	Paper feed conveyance (Tray 4)	17-5	7		
18	**Note:** Not used on the HP LaserJet 9055mfp/9065mfp.	17-6	7		
19		17-7	7		
20	HCI	17-8	8		
21	Drum	21-1	10		
22	Second paper feed conveyance	31-1	9		
23		31-2	10		
24	Fuser/Exit	32-1	11		
25		32-2	11		
26		32-3	11		
27		32-4	11		
28		32-5	11		
29	ADU	92-1	12		
30		92-2	12		
31		93-1	13		
32		94-1	13		
33		94-2	13		
34	Vertical conveyance door	19-1	-		
35	HCI	19-2	-		
36	Front door	51-1	-		

No.	Description of jam		Jam position display on control panel	Maximum count	Counting condition
	Location of jam	Code displayed when display of jam code is selected by 25DIPSW			
37	Finisher	71-1	-	999999	All counts are 6-digit counters.
38		71-2	-		
39	ADF	61-1	-		
40		61-2	-		
41		62-1	14		
42		62-2	14		
43		62-3	14		
44		62-4	14		
45		62-5	14		
46		62-6	14		
47		62-7	14		
48		62-8	14		
49		62-9	14		
50		62-10	14		
51		63-1	15		
52		63-2	15		
53		63-3	15		
54		63-4	15		
55		63-5	15		
56	Finisher	72-16	16		
57		72-17	16		
58		72-18	16		
59		72-19	16		
60		72-20	16		
61		72-21	16		
62		72-22	17		
63		72-23	17		
64		72-24	18		
65		72-25	18		
66		72-26	18		
67		72-27	16		
68		72-28	16		
69		72-29	16		
70		72-30	16		
71	-	72-32	19		
72		72-33	19		
73		72-34	19		
74	PI	72-35	17		
75	PZ	72-38	20		
76		72-39	20		
77		72-40	20		
78		72-41	20		
79		72-42	20		
80	PK	72-43	16		
81	PZ	72-44	20		
82		72-45	20		
83		72-46	20		
84		72-47	20		
85	Finisher	72-48	18		

No.	Description of jam		Jam position display on control panel	Maximum count	Counting condition
	Location of jam	Code displayed when display of jam code is selected by 25DIPSW			
86	PI	72-49	17	999999	All counts are 6-digit counters.
87		72-50	17		
88		72-51	17		
89	Finisher	72-81	16		
90		72-82	16		
91		72-83	16		
92		72-90	16		
93	PZ	72-60	20		
94		72-61	20		
95		72-62	20		
96		72-63	20		
97		71-3	-		

When a jam occurs, the associated counter is increased by 1. (Static jams are not counted.)

7 Collecting Data No. 7: Count of each copy mode

No.	Item	Maximum count	Counting condition
1	1-1 mode	99999999	All counters are 8-digit counters.
2	1-2 mode		
3	2-1 mode		
4	2-2 mode		
5	ADF1-1 mode		
6	ADF1-2 mode		
7	Mixed original mode		
8	Index original		
9	Z-fold original mode		
10	LEF/portrait, SEF/landscape normal set		
11	LEF/landscape, SEF/portrait normal set		
12	LEF/portrait, SEF/landscape reverse set		
13	LEF/landscape, SEF/portrait reverse set		
14	Auto (text/photo)		
15	Text		
16	Photo		
17	Pencil		
18	custom size		
19	1 staple (upper-left)		
20	1 staple (upper-right)		
21	2 staples (left side)		
22	2 staples (top side)		
23	Stapled at left		
24	Stapled at right		
25	Stapled on top		
26	Tri-fold		
27	Staple-and-fold		
28	Fold		
29	Paper exit face down tray: Group		
30	Paper exit face down tray: Sort		
31	Paper exit face down tray: Non sort		
32	Upper tray: Group (face down)		

No.	Item	Maximum count	Counting condition
33	Upper tray: Group (FACE UP)	99999999	All counters are 8-digit counters.
34	Upper tray: Sort (FACE DOWN)		
35	Upper tray: Sort (FACE UP)		
36	Upper tray: Non sort (FACE DOWN)		
37	Upper tray: Non sort (FACE UP)		
38	Cover sheet		
39	Trimmer		
40	Real size copy		
41	Preset magnification E4		
42	Preset magnification E3		
43	Preset magnification E2		
44	Preset magnification E1		
45	Preset magnification R4		
46	Preset magnification R3		
47	Preset magnification R2		
48	Preset magnification R1		
49	User lens mode 1		
50	User lens mode 2		
51	User lens mode 3		
52	Zoom		
53	Vertical/Horizontal zoom		
54	Maximum zoom		
55	Minimum zoom		
56	Auto paper		
57	Auto scale		
58	Auto density (EE)		
59	User density level 1		
60	User density level 2		
61	Interrupted copy		
62	Automatic image rotation cancellation		
63	Inter sheet		
64	Chapter control		
65	Combination		
66	Booklet copy		
67	Transparency interleave (copy)		
68	Transparency interleave (blank)		
69	Image insert		
70	Dual page		
71	Program job		
72	Non-image area erase		
73	Reverse image		
74	Auto repeat		
75	Manual repeat		
76	STD size repeat		
77	Frame erasure		
78	Folding erasure		
79	Auto layout		
80	Full-image area		
81	Image shift		
82	Reduction shift		
83	Overlay		
84	Water mark		

No.	Item	Maximum count	Counting condition
85	Stamp	99999999	All counters are 8-digit counters.
86	Date/time		
87	Page		
88	Numbering		
89	Set quantity 1		
90	Set quantity 2-5		
91	Set quantity 6-10		
92	Set quantity 11 or more		
93	Energized time of power condition 1		Total period of time during which image control board is energized. Total period of time during the operation of CPU.
94	Energized time of power condition 2		Total period of time during which remote power supply 2 is on. 1 is counted per minute.
95	Unused		
96	Energized time of power condition 4		Total period of time during which remote power supply 3 is on. 1 is counted per minute.
97	Time during low power mode		Total period of time during which low power mode is selected. The count is increased by 1 per minute.
98	Time during WUP		Total period of time during which fuser heater is on when the fuser is UNREADY. The count is increased by 1 per second. Data is output per minute.
99	Time during front door open		Total period of time during which front door is open. The count is increased by 1 per second. Data is output per minute.
100	Operation time in 1 side straight exit		Total time from start to end of printing. The count is increased by 1 per second. Data is output per minute. (Halt time caused by jam stop, and so forth is not included.)
101	Operation time in 1 side reverse exit		
102	Operation time in 2 side print		
103	Operation time in ADF mode		Total operation time of ADF. The count is increased by 1 per second. Data is output per minute.
104	Morning correction count		The count is increased by 1 each time correction is made before starting work in the morning.
105	Time during document size detection sensor on		Total period of time during which document size detection sensor is on. The count is increased by 1 per second. Data is output per minute.
106	N of paper exit face down tray used jobs		Number of jobs
107	N of paper exit tray used jobs		
108	N of stapling folding used jobs		
109	N of folding jobs		
110	N of ADF NF occurred		
111	N of ADF special error 1 occurred		Original size detection error occurrence count
112	N of ADF special error 2 occurred		Next original information error occurrence count
113	N of ADF special error 3 occurred		Mixed loading prohibited original size error occurrence count
114	N of scanner scanned		The count is increased by 1 each time Platen Mode Copy button is pressed.
115	N of electrode cleaned		
116	N of memory overflow		
117	N of fuser alarm occurred		
118	N of no toner stop occurred		
119	N of AGC retry		

No.	Item	Maximum count	Counting condition
120	N of sub scan beam correct error	99999999	The count is increased by 1 each time Platen Mode Copy button is pressed.
121	N of mis-centering correct error		
122	N of ADF distortion adjust error		
123	N of ADF distortion data error		
124	Compression memory overflow		
125	Page memory overflow (scan)		
126	Page memory overflow (print)		
127	Finisher alarm (tray/trimming)		
128	Finisher alarm (staple)		
129	Scanner count		
130	N of ADF special error 4 occurred		Ready-time out error
131	Store for hard disk (sync. with copying)		
132	Store for hard disk (SRV mode scan-> Hard disk)		
133	Store for PC (SRV mode scan-> hard disk)		
134	Store for PC (SRV mode hard disk-> PC)		
135	Recall from Hard disk (SRV mode hard disk)		
136	Recall from PC (SRV mode PC)		
137	Image edit count by SRV		
138	Wide paper count (A3W or LedgerW)		
139	Wide paper count (A4W or LetterW)		
140	Wide paper count (A4RW or LetterRW)		
141	Wide paper count (A5W or 5.5 by 8.5W)		
142	Wide paper count (Others)		
143	Punch		
144	Z-fold		
145	Unused		
146	Mixplex (1-sided)		
147	Mixplex (2-sided)		

8 Collecting data No. 10: Service call count /collecting data No. 12: Service call count of each section (can be reset)

No.	Trouble code		Description	Maximum count	Remarks
1	13	1	Paper feed MT EM	9999	All counters are 4-digit counters.
2	13	2	HCI conveyance MT EM		
3	18	10	Tray 2 up MT EM		
4	18	11	Tray 2 up error		
5	18	20	Tray 3 up MT EM error		
6	18	21	Tray 3 up error		
7	18	30	Tray 4 up MT EM error		
8	18	31	Tray 4 up error		
9	18	40	**Note:** Not used on the HP LaserJet 9055mfp/9065mfp		
10	18	41	**Note:** Not used on the HP LaserJet 9055mfp/9065mfp		
11	18	50	HCI up/down MT EM		
12	18	51	HCI up/down error		
13	18	60	Tray 1 up error		
14	21	1	Charging corona unit cleaning MT error 1		
15	21	2	Charging corona unit cleaning MT error 2		
16	21	3	Charging corona unit cleaning MT error 3		
17	21	4	Charging corona unit cleaning MT error 4		

No.	Trouble code		Description	Maximum count	Remarks
18	21	5	Transfer/separation corona unit cleaning MT error 1	9999	All counters are 4-digit counters.
19	21	6	Transfer/separation corona unit cleaning MT error 2		
20	21	7	Transfer/separation corona unit cleaning MT error 3		
21	21	8	Transfer/separation corona unit cleaning MT error 4		
22	22	1	Developing suction fan lock		
23	22	2	Cleaner cooling fan lock		
24	23	1	Toner bottle MT EM		
25	23	2	Developing MT EM		
26	23	3	Drum MT error		
27	28	1	Charging EM		
28	28	2	Transfer EM		
29	28	3	Separation EM		
30	29	1	Maximum density correction error 1		
31	29	2	Maximum density correction error 2		
32	29	3	Maximum density correction error 3		
33	29	4	γ correction error 1		
34	29	5	γ correction error 2		
35	29	6	γ correction error 3		
36	29	7	Dot diameter correction error 1		
37	29	8	Dot diameter correction error 2		
38	32	1	Conveyance suction fan lock		
39	32	2	Paper exit fan/2 lock		
40	32	3	Paper exit fan/R lock		
41	32	4	Paper exit fan/F lock		
42	32	1	Second paper feed MT EM		
43	33	1	Fuser upper roller high temperature error detection		
44	34	2	Fuser upper roller high temperature error detection		
45	34	1	Fuser upper roller low temperature error detection 1		
46	35	2	Fuser upper roller low temperature error detection 2		
47	35	3	Fuser upper roller low temperature error detection 3		
48	35	1	Fuser upper roller sensor error detection		
49	36	2	Fuser lower roller sensor error detection		
50	36	1	Scanner home position return error		
51	41	2	Polygon MT error		
52	41	1	Scanner cooling fan lock		
53	42	2	Laser scanner unit cooling fan lock		
54	42	1	APC error		
55	46	2	Scanner FIFO error		
56	46	3	MFP FIFO error		
57	46	5	Compressed input/output FIFO error		
58	46	6	Expansion error		
59	46	8	Index sensor error		
60	46	10	No margin of scanner control		
61	46	11	No margin of MFP control		
62	46	12	SVV length error		
63	46	13	Scanner time-out		
64	46	14	MFP time-out		
65	46	15	Expansion device access error		
66	46	16	Compression device access error		
67	46	17	Filter factory error		
68	46	19	Memory device access error on data flow		
69	46	21	Data flow memory mode time-out		

No.	Trouble code		Description	Maximum count	Remarks
70	46	23	SVV off error	9999	All counters are 4-digit counters.
71	46	24	Black/white collection error		
72	46	25	AOC/AOG Level adjustment error		
73	46	26	Invalid correction data by resolution		
74	46	27	Density conversion (γ curve generation error)		
75	46	29	Calibration start error		
76	46	30	Calibration abnormal end		
77	46	31	APC initial sampling error		
78	46	32	MPC error		
79	46	33	Sub-scan beam correction error		
80	46	34	Unfinished calibration		
81	46	35	Continuous copy page area error		
82	46	40	Hard disk initialization trouble		
83	46	41	Hard disk job save error		
84	46	42	Hard disk periodic cleaning error		
85	46	43	Hard disk access failure		
86	46	50	Tandem communication error		
87	46	51	Tandem image communication error		
88	46	64	PWMg curve generation failure		
89	46	80	Insufficient/broken message queue		
90	46	81	Invalid message or method parameter		
91	46	82	Invalid task		
92	46	83	Invalid event		
93	46	90	Memory access error		
94	46	91	Header access error		
95	46	99	DIMM initialization error		
96	49	1	-		
97	49	2	Print kit communication error		
98	49	3	Direct memory access error		
99	49	4	-		
100	49	5	-		
101	50	1	MFP drive serial input error 1		
102	50	2	MFP drive serial input error 2		
103	50	3	MFP drive serial input error 3		
104	50	4	MFP drive serial input error 4		
105	50	5	Drive board communication reception error detection		
106	50	10	Image control board communication connection error		
107	50	11	Detection error of image control board communication serial reception error		
108	52	1	Power supply cooling fan lock		
109	52	2	MFP cooling fan/1 lock		
110	53	1	Fuser MT EM		
111	56	2	Operation section communication error		
112	62	1	ADF fan lock		
113	70	1	Finisher communication error		
114	70	2	Finisher communication start acknowledgement error detection error		
115	77	1	Shift driving error		
116	77	2	Tray up/down driving error		
117	77	3	Alignment plate/U drive error		
118	77	4	Exit roller drive error		
119	77	5	Exit driving error		

No.	Trouble code		Description	Maximum count	Remarks
120	77	6	Stapler movement driving error	9999	All counters are 4-digit counters.
121	77	7	Clincher rotation driving error		
122	77	8	Stapler rotation driving error		
123	77	11	Stapler/F error		
124	77	12	Stapler/R error		
125	77	13	Clincher/F driving error		
126	77	14	Clincher/F driving error		
127	77	21	Stopper motor drive error		
128	77	22	Alignment plate/L drive error		
129	77	25	Folding knife motor drive error		
130	77	26	Folding conveyance motor drive error		
131	77	31	Trimmer conveyance drive error		
132	77	32	Trimmer conveyance error		
133	77	33	Trimmer rear end stopper drive error		
134	77	34	Trimmer rear end release motor driving error		
135	77	35	Trimmer press motor driving error		
136	77	36	Trimmer pusher motor driving error		
137	77	37	Trimmer holder motor driving error		
138	77	41	Sheet feeder up motor driving error /L		
139	77	42	Sheet feeder up motor driving error /U		
140	77	43	Sheet feeder conveyance driving error		
141	77	52	Motor drive error for Z-fold stopper 1		
142	77	53	Motor drive error for Z-fold stopper 2		
143	77	54	Punch drive motor driving error		
144	77	81	Gate motor drive error		
145	77	91	Sub-CPU reception error		
146	77	92	Main CPU reception error		
147	80	1	MFP control initial communication error		
148	80	2	MFP control communication error		
149	80	3	Control panel communication error		
150	80	1*	MFP control ISW not written		
151	80	21	VIF control ISW not written		
152	80	30	ISW time-out error		
153	80	31	ISW data error		
154	80	32	ISW write error		
155	80	40	Finisher with unwritten ISW		
156	80	41	ZU with unwritten ISW		
157	90	1	ADU drive serial input error 1		
158	90	2	ADU drive serial input error 2		
159	92	1	ADU cooling fan lock		
160	77	44	Punch shift motor driving error		
161	77	45	Unused		
162	77	46	Stacker fan driving error		
163	77	47	Communication error between the finisher and punch kits		
164	77	55	PZ punch shift motor driving error		
165	77	56	PZ conveyance motor fan driving error		
166	77	57	PZ punch motor driving error		
167	77	58	PZ Punch switching motor driving error		

- When DIP switch is set to 3-1-1, SC34, 35, and 36 are not counted.

Copy count by parts to be replaced (fixed parts)

This function allows you to display or reset the copy count for a fixed part or data.

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch [5] `Parts counter.`
3	**Copy Count of Parts menu screen** Touch [1] `Count of special parts.`
4	**Copy Count of Special menu screen** Data numbers (No.), part names (Name), and count values are displayed in a list format. Using [▲] and [▼] keys, select a part name. To scroll the screen, use [⬆] and [⬇] keys.
5	Touch the [COUNT RESET] key to reset the count value of the part highlighted.
6	Touch the [RETURN] key to return to the Memory setting mode menu screen.

Copy count parts counter

No.	Part name	Part number	Maximum count	Counting condition
1	Web unit * 1	56AA-543	99999999	Count 1 per ejected paper for single-sided, 2 for double-sided 25DIPSW8-6 =0: Count 1 per ejected paper for single-sided, 2 for double-sided =1: For A3, Ledger, 8k, count 2 per ejected paper for single-sided, 4 for double-sided
2	Developer * 1	56AA3060		
3	OPC drum * 1	56AA-220		
4	Cleaning blade	56AA2010		
5	Toner reclaim roller unit assembly	56AA-213		
6	Charging grid	56AA2503		
7	Charger cleaning block for upper assembly	56AA-253		
8	Charger cleaning block for lower assembly	56AA-254		
9	Drum separation claw	56AA2070		
10	Discharging wire	56AA2609		
11	Trans./sep. cleaning assembly	56AA-264		25DIPSW8-6 =0: Count 1 per ejected paper for single-sided, 2 for double-sided =1: For A3, Ledger, 8k, count 2 per ejected paper for single-sided, 4 for double-sided
12	Fuser upper roller	56AA5305		
13	Fuser lower roller	56AA5306		
14	Fuser upper claw	56AA5427		
15	Fuser lower claw	25BA5333		
16	Heat insulate sleeve (upper)	45405339		
17	Upper roller bearing	45407504		
18	Cleaning roller	56AA5308		
19	Toner control board unit	56AA-910		
20	Trans./sep. corona unit	56AA-260		
21	Separation cleaning assembly	56AA-267		
22	Charging wire	56AA2509		
23	Upper roller error detection sensor	56AA8804		
24	Ozone filter	56FA7301		
25	Charging corona unit	56AA-250		
26	PCL assembly	56AA-256		
27	Developer	56AA-300		

No.	Part name	Part number	Maximum count	Counting condition
28	TSL cover assembly	56AA-387	99999999	1 is counted each time the paper from Tray 2 is ejected.
29	Tray 2 feed rubber	25AA4001		
30	Tray 2 feed conv/rev rubber	25SA4096		
31	Tray 2 feed clutch	56AA8201		
32	Tray 2 convey clutch	56AA8201		
33	Tray 2 feed count	56AA-400		
34	Tray 3 feed rubber	25AA4001		1 is counted each time the paper from Tray 3 is ejected.
35	Tray 3 feed conv/rev rubber	25SA4096		
36	Tray 3 feed clutch	56AA8201		
37	Tray 3 convey clutch	56AA8201		
38	Tray 3 feed count	56AA-400		
39	Tray 4 feed rubber	25AA4001		1 is counted each time the paper from Tray 4 is ejected.
40	Tray 4 feed conv/rev rubber	25SA4096		
41	Tray 4 feed clutch	56AA8201		
42	Tray 4 convey clutch	56AA8201		
43	Tray 4 feed count	56AA-400		
44		25AA4001		1 is counted each time the paper from Tray 5 is ejected.
45		25SA4096		
46		56AA8201		
47		56AA8201		
48		56AA-400		
49	Tray 1 pick roller	55FA4233		1 is counted each time the paper from Tray 1 is ejected.
50	Tray 1 conveyance/reverse roller	54004056		
51	Tray 1 count	56AA-460		
52	HCI pick roller	55VA-484		1 is counted each time the paper from the HCI is ejected.
53	HCI conveyance/reverse roller	55VA-483		
54	HCI feed clutch	56AA8201		
55	HCI conveyance clutch	56AA8201		
56	HCI feed count	13RJ/RE-050		
57	Loop roller	56AA4251		1 is counted each time the paper from Tray 2, Tray 3, Tray 4, Tray 5 (HCI) and HCI is ejected.
58	V-convey exit pick roller	56AA4408		1 is counted each time the paper from Tray 3, Tray 4 and Tray 5 (HCI) is ejected.
59	V-convey pick roller/M	56AA4408		1 is counted each time the paper from Tray 4 and Tray 5 (HCI) is ejected.
60	V-convey pick roller/ L	56AA4408		1 is counted each time the paper from Tray 5 (HCI) is ejected.
61	V-convey feed clutch 1	56AA8201		1 is counted each time the paper from Tray 3, Tray 4, and Tray 5 (HCI) is ejected.
62	V-convey feed clutch 2	56AA8201		1 is counted each time the paper from Tray 4 and Tray 5 (HCI) is ejected.
63	Web solenoid	55VA8252		Every operation
64	Registration clutch	56AA8201		1 is counted each time single-side original is ejected; 2 is counted each time double-side paper is ejected.
65	ADU preregistration clutch	56AA8201		1 is counted each time double-side paper is ejected (not counted for single-side paper)
66	Registration feed count	-		1 is counted each time single-side original is ejected; 2 is counted each time double-side original is ejected.

No.	Part name	Part number	Maximum count	Counting condition
67	Reverse exit count	-	99999999	2 is counted each time single-side paper is ejected after being reversed. 0 is counted each time single-side paper is ejected straight. 1 is counted each time double-side paper is ejected.
68	ADU feed count	-		1 is counted each time double-side paper is ejected (not counted for single-side paper)
69	Finisher up/down motor	129U8004		1 is counted each time the paper from finisher paper exit face down tray is ejected. 1 is counted each time a copy is ejected in stapling mode.
70	Finisher stapler/front	20AK42410KC		1 is counted each time a copy is ejected in stapling front 1-point stapling, stapling 2-point stapling, or middle binding mode.
71	Finisher stapler/rear	12QE4241		
72	Finisher shift motor	12QR-357		1 is counted each time even-numbered paper is ejected.
73	Finisher exit opening open/close motor	12QR-361		1 is counted each time large size stapling (A4R/LetterR or larger) job starts. 1 is counted each time paper is ejected from each section. 1 is counted each time stapling and folding or folding job starts.
74	Finisher folding knife motor	120H8001		1 is counted each time one set of paper in stapling/folding, folding, or tri-folding mode is ejected.
75	Finisher Tray 1 SD	12QR-263		1 is counted each time one set of paper in DM folding mode is ejected.
76	Finisher DM gate SD	12QR-263		Counted each time one paper is ejected in tri-fold mode
77	PI sheet feed clutch/U	13QN8201		Counted each time paper is fed into PI/U
78	PI pick roller unit/A	50BA-574		
79	PI pick roller unit/B	50BA-575		
80	PI reverse robber unit	13QN-443		
81	PI torque limiter	13QN4073		
82	PI sheet feed clutch/L	13QN8201		Counted each time one paper is fed into PI/L
83	PI pick roller unit/A	50BA-574		
84	PI pick roller unit/B	50BA-575		
85	PI reverse robber unit	13QN-443		
86	PI torque limiter	13QN4073		
87	-	13LH1026		1 is counted each time knife movement is made
88	Punched holes (2 holes)	13NK5001		Number of ejected papers with the punch mode selected
89	Punched holes (3 holes)	13NL5001		
90	Punched holes (4 holes)	13NM5001		
91	-	-		Not used
92	ADF pick roller	13QA4127		Number of originals passes in all modes
93	ADF Separation roller	13QA4104		
94	ADF double-feed prevention robber	13QA4045		
95	ADF double-feed prevention roller	13QA4001		
96	ADF paper exit solenoid	12QV8251		1 is counted each time one original passes in the double-side or the mixed mode
97	ADF feed clutch	56AA8201		Single-side: Number of originals passes in every Single-side mode count Double-side: Number of originals passes in every Double-side mode x3 counts
98	ADF reverse solenoid	12QV8251		1 is counted each time one original passes in the double-side or the mixed mode
99	ADF pressure roller release solenoid	25SA8265		2 is counted each time one original passes in the double-side or the mixed mode
100	Exposure on time	55TA8301		Unit

No.	Part name	Part number	Maximum count	Counting condition
101	Sub power switch	55GA8602	99999999	1 is counted each time sub power is switched off.
102	Door switch	40AA8501		1 is counted each time front door is opened.
103	Drum separation claw solenoid	26NA8251		1 is counted each time a paper is ejected, 2 is counted for double-sided.
104	Main power switch	25AA8502		1 is counted each time image control turns on (number of times CPU is activated from other than sub power supply (SK/SHUT OFF/WT))
105	PI registration clutch	13QN8201		1 is counted each time PI sheet is ejected.
106	Punch motor	54008003		Number of papers ejected when punch mode is selected.

124				
125				
126				
127				
128				

Copy count by parts to be replaced (optional parts)

This function allows you to make the following settings for an optional part or data:

1 Copy count resetting

2 Limit value setting

3 Part number setting

4 Part name setting

The above settings can be made for 30 data numbers, No. 1 to No. 30. The copy count is increased by 1 for each side irrespective of the paper size.

Resetting the copy count by parts to be replaced (optional parts)

This function allows you to reset the copy count by parts to be replaced (optional parts).

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch the [5] Parts counter.
3	**Copy Count of Part menu screen** Touch the [2] Count of each parts.
4	**Copy Count of Each Part screen** Data numbers (No.), part names (name), part numbers (P/N), and count/limit values are displayed in a list format. Using [▲] and [▲] keys, select a part name. To scroll the screen, use [▼] and [▲] keys.
5	Touch the [COUNT RESET] key to reset the count value of the part highlighted.
6	Touch the [RETURN] key to return to the Memory setting mode menu screen.

Reference: If the copy count exceeds the limit, the * mark appears to the left of the limit value.

Changing the data on the copy count by parts to be replaced (optional parts)

This function allows you to change the limit value, part number, or part name for the desired optional copy count by parts to be replaced (optional parts).

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch the [5] `Parts counter`.
3	**Copy Count of Part menu screen** Touch the [2] `Count of each parts`.
4	**Copy Count of Each Part screen** Data numbers (No.), part names (Name), part numbers (P/N), and count/limit values are displayed in a list format. Using [▲] and [▲] keys, select a data number. To scroll the screen, use [▼] and [▲] keys.
5	Touch the `Part Name Set`, `P/N Set`, or `Limit Set` key.
6	**Data Change screen by parts to be replaced** Touch the [Parts name], [P/N set] or [Limit set] key corresponding to the data you want to change.
7	Enter new data using alphabetic and numeric keys.
8	Perform steps 6 and 7 repeatedly to change other data.
9	Touch the [OK] key to allow the new data to take effect. To cancel the new data, touch the [CANCEL] key. Pressing either key will display the Copy count by parts to be replaced (optional parts) screen again.
10	**Data Change screen by parts to be replaced** Touch the [RETURN] key to return to the Memory setting mode menu screen.

Reference 1: The characters entered in the data field of each data item will be shifted to the left, one after another.

Reference 2: When the number of entered characters exceeds 10, the leftmost character will disappear.

Setting passwords

This function allows you to set the following passwords:

1 Key operator password (4 digits)

This password is required to enter the key operator mode.

2 Monitor master key code (8 digits)

This code is necessary when entering various monitor setting modes.

3 Weekly timer password (4 digits)

This password is necessary when entering various weekly timer setting modes.

Note This password cannot be set if weekly timer is not specified for the weekly timer in the key operator mode.

4 Hard disk management password (4 digits)

This password is necessary when entering the hard disk management modes in the key operator mode while connecting the optional hard disk.

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch the [6] `Password setting`.
3	**Password Setting mode screen** Select `Key operator password (4 digits)`, `monitor master key code (8 digits)`, `Weekly timer password (4 digits)` or `Hard disk management password (4 digits)`.
4	Enter a new password using numeric keys.
5	Perform step 3 and 4 repeatedly to set other passwords.
6	Touch the [OK] key to allow the passwords to take effect. To cancel the new passwords, touch the [CANCEL] key. Pressing either key will display the Memory setting mode menu screen again.

Reference 1: The digits entered in the data field of each data item will be shifted to the left one after another.

Reference 2: When the number of entered digits exceeds 4 or 8, the leftmost character will disappear.

Reference 3: Setting the key operator password, weekly timer password, and hard disk management password to 0000 allows you to use individual modes without passwords. That is, the menu screen of each mode appears directly without displaying the password input screen.

Setting the telephone number and/or fax number of the service center

This function allows you to set the telephone and/or fax numbers of the service center displayed when a service call occurs. The telephone number and/or fax number are/is also displayed as the basic help topic "Contact Number of Service Center on the user screen. The telephone and/or fax numbers are/is displayed on the screen.

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch the [7] Telephone number/FAX number setting.
3	**Customer Support TEL/FAX setting screen** Touch Service center telephone number (16 digits) or Service center fax number (16 digits).
4	Enter the telephone or fax number using numeric keys.
5	To set both telephone number and fax numbers, perform steps 3 and 4 repeatedly.
6	Touch the [OK] key to allow the telephone number and/or fax number to take effect. To cancel the telephone number and/or fax number, touch the [CANCEL] key. Pressing either key will display the Memory setting mode menu screen again.

Reference 1: If the length of a telephone or fax number is shorter than 16 digits, use a hyphen(s) to make the overall length 16 digits.

Reference 2: The entered digits will be shifted to the left one after another, starting at the right end.

Setting the serial number

This function allows you to display, set, or change the serial number of the MFP or option.

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch the [8] Serial number setting.
3	**Serial Number setting mode screen** Touch the key you want to change among the [Main body], [Option tray], or [Finisher] key.
4	Enter the serial number using alphabetic and numeric keys.
5	Perform steps 3 and 4 repeatedly to set other serial numbers.
6	Touch the [OK] key to allow the serial numbers to take effect. To cancel the serial numbers, touch the [CANCEL] key. Pressing either key will display the Memory setting mode menu screen again.

Reference 1: If the set serial number is invalid, a pop-up window appears to display a warning message. Touch the [OK] key to close the pop-up window, then enter a valid serial number again.

Reference 2: The entered characters will be shifted to the left one after another, starting at the right end.

Displaying the ROM version

Indication of firmware versions of the ICB, PRCB, finisher, and punch kit.

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch [9] Indication of ROM version.
3	**Indication of ROM version screen** The versions of the ROMs installed in the image control (I1 to I5), MFP control (C1 to C5), finisher (N), and punch (H) are displayed.
4	Touch the [RETURN] key to return to the Memory setting mode menu screen.

Setting date

Set the total count start day

Step	Operation
1	Enter the 2-5 mode.
2	**Memory Setting mode menu screen** Touch 12 `Setting date input`.
3	**Setting Date input screen** Using the numeric keys, input the new setting date.
4	Touch the OK key to return to the Memory setting mode menu screen.

Note Ends when the CANCEL key is pressed without amending the entered date, and returns to the Memory setting mode menu screen.

3-6 mode

Setting method

This MFP is provided with 3-6 mode as an adjustment mode.

1 Turn off the secondary power switch (SW2).

2 Turn on the SW2 while holding down both paper quantity buttons 3 and 6.

The Adjustment mode menu screen appears.

At this point, you are in 3-6 mode and normal copy operation is disabled.

3 Touch the number key corresponding to the item to adjust.

The setting screen for each item is displayed.

4 Enter data in each adjustment screen.

5 If there are several adjustment items, touch the NEXT or BACK key to select the desired item. If there are more screens below, touch the key displayed on screen to change screen.

6 Enter data and touch the SET key if it is available, to confirm your entry.

7 Touch the RETURN key to end adjustment.

8 Turn off the SW2 and exit the 3-6 mode.

9 The new adjustment values take effect after restarting the MFP.

List of adjustment items for 3-6 mode

1	process adj	1	hv	1	hv adj (charge)
				2	hv adj (transfer)
				3	hv adj (sep AC)
				4	hv adj (sep DC)
				5	hv adj (charging grid)
				6	hv adj (dev bias)
				7	transfer guide confirm
				8	hv adj (TGR)
		2	drum cal	1	blade setting
				2	auto max contrast adj
				3	auto dot diameter adj
				4	LD1 offset adj
				5	LD2 offset adj
				6	LD2 bias adj
				7	LD2 bias adj
				8	auto gamma (1dot)
				9	auto gamma (2dot)
				10	cartridge set mode
		3	drum cal mnl		
		4	custom paper setting		
		5	recall std data		

2	image adj	1	trayadj		
		2	magnification adj	1	printer drum clk adj
				2	printer horizontal adj
				3	scanner drum clk adj
				4	ADF drum clk adj
		3	timing adj	1	printer restart timing
				2	printer regis loop adj
				3	printer pre-regist adj
				4	printer leading edge timing
				5	scanner restart timing
				6	ADF restart timing
				7	ADF regist loop adj
		4	document feeder adj	1	doc feeder contrast adj
				2	ADF original size adj
				3	ADF skew offset adj
		5	centering adj	1	printer centering adj
				2	scanner centering adj
				3	ADF centering adj
		6	warp adj (copier)		
		7	non-image area erase		
		8	recall std data		
3	running test	1	intermittent copy		
		2	paperless running		
		3	paperless		
		4	paperless endless		
		5	running		
4	test pattern output				
5	test pattern contrast				
6	finisher	1	stapling & folding		
		2	folding stopper		
		3	cover sheet tray size		
		4	(trimmer)		
		5	punch		
		6	tri-folding stopper		
		7	2-position staple pitch		

7	list output mode	1	machine mgmt list1		
		2	adj data list		
		3	black ratio data list		
		4	machine mgmt list2		
		5	parameter list		
		6	memory dump list		
		7	font pattern		

High voltage adjustment

Process adjustment

Adjusting the high voltage for charging, transfer, separation, and development.

1 Touch 1 `Process adjustment` in the Adjustment mode menu screen to display the Process Adjustment mode menu screen.

2 Touch 1 `High voltage adjustment` in the Process Adjustment mode menu screen to display the High Voltage Adjustment mode menu.

3 High Voltage Adjustment consists of the following:

1 HV adjustment (charge)
2 HV adjustment (transfer)
3 HV adjustment (separation AC)
4 HV adjustment (separation DC)
5 HV adjustment (charging grid voltage)
6 HV adjustment (bias of development)
7 Transfer guide confirm
8 HV adjustment (TGR)

4 Touch the number key corresponding to the item to be adjusted.

The adjustment screen of the selected item is displayed.

5 When adjustment completes, the screen returns to the High Voltage Adjustment mode menu screen.

6 Touch the RETURN key in the High Voltage Adjustment mode menu screen to return to the Process Adjustment mode menu screen.

1 Charging main manual adjustment

Charging main manual adjustment is inhibited in the field.

2 Transfer manual adjustment

Default setting value must be set under the guidance of HP support.

3 Separation (AC) manual adjustment

Default setting value must be set under the guidance of HP support.

4 Separation (DC) manual adjustment

Default setting value must be set under the guidance of HP support.

5 Charging grid manual adjustment

See “Charging grid voltage adjustment” below.

6 Developing bias manual adjustment

Default setting value must be set under the guidance of HP support.

7 Transfer guide confirm

Transfer guide confirm is inhibited in the field.

8 TGR manual adjustment

TGR manual adjustment is inhibited in the field.

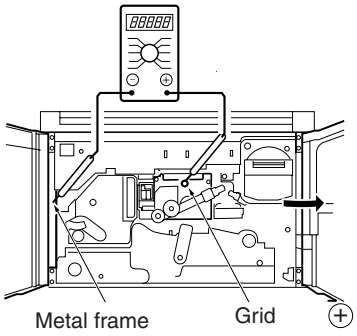
Charging grid voltage adjustment

Adjusting the charging grid voltage. Before performing this adjustment, check that the drum counter was reset.

Insert the door SW tool to interlock SW/L and interlock SW/R.

Step	Operation
1	Check the adjustment value of the charging grid voltage on the drum flange.
2	Connect the V tester as shown below. +: Grid pin -: GND (Earth) Range: DC1000V
3	Enter the 3-6 mode.
4	**Adjustment mode menu screen** Touch [1] `Process adjustment`.
5	**Process Adjustment mode menu screen** Touch [1] `High voltage adjustment`.
6	**High Voltage Adjustment mode menu screen** Touch [5] `HV adjustment (charging grid voltage)`.
7	**HV Adjustment (charging grid voltage) screen** Press **START** button, and check the voltage shown, then press the **CANCEL** button.
8	When the voltage measured is not satisfactory, change the data using the numeric keys on the screen and touch the [SET] key.
9	Turn the secondary power switch (SW2) off.

Standard value specified value on the drum flange ±5V
Range of input: 0 to 255
1 step: 1.6V



Drum calibration adjustment

Adjusting the blade set, maximum density (Dmax), dot diameter, laser offset and gamma.

1 Touch [1] `Process adjustment` in the Adjustment mode menu screen to display the Process Adjustment mode menu screen.

2 Touch [2] `Drum calibration adjustment` in the Process Adjustment mode menu screen to display the Drum Calibration Adjustment mode menu screen.

3 Drum calibration adjustment consists of the following:

[1] Blade setting mode
[2] Auto maximum contrast
[3] Auto dot diameter adjustment
[4] LD1 offset adjustment
[5] LD2 offset adjustment
[6] LD1 bias adjustment
[7] LD2 bias adjustment
[8] Auto gamma adjustment (1 dot)
[9] Auto gamma adjustment (2 dot)
[10] Cartridge set mode (drum)

4 Touch the number key corresponding to the item to be adjusted.

The adjustment screen of the selected item is displayed.

5 When adjustment completes, the screen returns to the drum calibration adjustment mode menu screen.

6 Touch the [RETURN] key in the Drum Calibration Adjustment mode menu screen to return to the Process Adjustment mode menu screen.

Blade setting mode

In this mode, toner stuck on the drum surface during replacement of the cleaning blade or drum is removed to prevent damage to the drum and cleaning blade.

Preparation: Be sure the drum unit is set. Apply setting powder to all the surface of the drum.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [1] `Process adjustment`.
3	**Process Adjustment mode menu screen** Touch [2] `Drum calibration adjustment`.
4	**Drum Calibration Adjustment mode menu screen** Touch [1] `Blade setting mode`.
5	**Blade Setting mode screen** Touch the [Start] key. Adjustment completes in about 1 second and a complete message is displayed.
6	Touch the [RETURN] key to return to the Drum Calibration Adjustment mode menu screen.

Auto maximum contrast adjustment (Dmax adjustment)

Automatically adjusting the maximum density (Dmax). This adjustment should be performed when the drum, developer, laser/scanner assembly, or dust-proof glass is replaced.

Preparation: Be sure the drum unit is set and developer is in the developing unit.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [1] `Process adjustment`.
3	**Process Adjustment mode menu screen** Touch [2] `Drum calibration adjustment`.
4	**Drum Calibration Adjustment mode menu screen** Touch [2] `Auto maximum density adjustment`
5	**Auto Maximum Contrast Adjustment screen** Touch the [Start] key. The maximum density (Dmax) is adjusted automatically. Adjustment completes in about 15 seconds and an complete message is displayed.
6	Touch the [RETURN] key to return to the Drum Calibration Adjustment mode menu screen.

Reference: If any one of the following error messages appears during auto maximum contrast adjustment, clean the TSCB (toner control sensor board), check its installation state, and retry the auto maximum contrast adjustment.

<1> Error 1: The Dmax (maximum contrast) sensor dirt correction has been corrected.

<2> Error 2: Maximum density adjustment is not complete when the number of rotation of developing sleeve reaches the specified value.

<3> Error 3: No signal is output from the Dmax (maximum contrast) sensor. No control patch is output.

Auto dot diameter adjustment

Automatically adjusting the dot diameter.

This adjustment should be performed when the drum, developer, laser/scanner assembly, or dust-proof glass is replaced.

Preparation: Be sure the drum unit is set and developer is in the developing unit. Auto maximum contrast adjustment must have been completed.

Step	Operation
1	Enter the 3-6 mode.

2	**Adjustment mode menu screen** Touch 1 `Process adjustment`.
3	**Process Adjustment mode menu screen** Touch 2 `Drum calibration adjustment`.
4	**Drum Calibration Adjustment mode menu screen** Touch 3 `Auto dot diameter adjustment`.
5	**Auto Dot Diameter Adjustment screen** Touch the Start key. The dot diameter is adjusted automatically. Adjustment completes in about 10 seconds and a complete message is displayed.
6	Touch the RETURN key to return to the Drum calibration adjustment mode menu screen.

Reference: If either of the following error messages appears during auto dot diameter adjustment, clean the TSCB (toner control sensor board), check its installation state, and retry the auto dot diameter adjustment.

<1> Error 1: The γ sensor dirt correction has been corrected.

<2> Error 2: Auto dot diameter adjustment has ended with an abnormal value.

LD1 offset adjustment

This adjusts the place at which LD1 laser starts writing.

Note

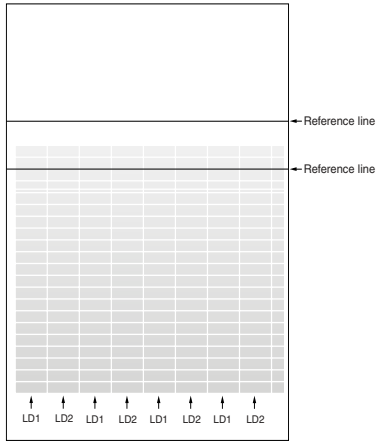
This adjustment should be performed when the drum or developer is replaced.

The adjustment is performed:
- at a line speed of 320 mm/sec (normal) and 185 mm/sec (thick) for the HP LaserJet 9065mfp
- at a line speed of 280 mm/sec (normal) and 185 mm/sec (thick) for the HP LaserJet 9055mfp

Be sure the drum unit is set.

Auto maximum contrast adjustment and auto dot diameter adjustment must have been completed.

Reference:

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 1 `Process adjustment`.
3	**Process Adjustment mode menu screen** Touch 2 `Drum calibration adjustment`.
4	**Drum Calibration Adjustment mode menu screen** Touch 4 `LD1 offset adjustment`.
5	**LD1 Offset Adjustment screen** Touch any key of LS320, LS280, or LS185.
6	Touch the COPY SCREEN key.
7	Touch `A3 size paper` and press the **START** button to output the test pattern.
8	Check the test pattern. **Specification:** Check if two output patterns from laser are consistent and the beginning of the lower density part is aligned between the two lines as illustrated below. 
9	If the specification is not satisfied, press the **C** button while pressing the **P** button.
10	**LD1 Offset Adjustment screen** Enter an offset value using the numeric keys and touch the SET key. Setting range: -128 to +127
11	Repeat steps 6 to 10 until the specification is satisfied.

Step	Operation
12	Touch the [RETURN] key to return to the Drum Calibration Adjustment mode menu screen.

LD2 offset adjustment

This adjusts the place at which LD2 laser starts writing.

Note

This adjustment should be performed when the drum or developer is replaced.

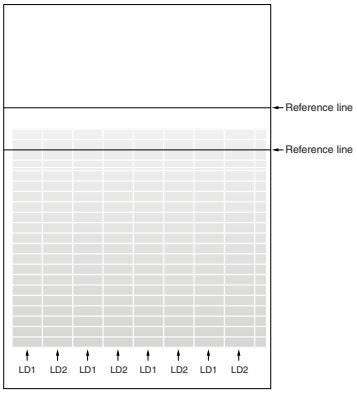
The adjustment is performed:

- at a line speed of 320 mm/sec (normal) and 185 mm/sec (thick) for the HP LaserJet 9065mfp
- at a line speed of 280 mm/sec (normal) and 185 mm/sec (thick) for the HP LaserJet 9055mfp

Be sure the drum unit is set.

Auto maximum contrast adjustment, auto dot diameter adjustment, and LD1 offset adjustment must have been completed.

Reference:

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [1] `Process adjustment`.
3	**Process Adjustment mode menu screen** Touch [2] `Drum calibration adjustment`.
4	**Drum Calibration Adjustment mode menu screen** Touch [5] `LD2 offset adjustment`.
5	**LD2 Offset Adjustment screen** Touch any key of [LS320], [LS280], or [LS185].
6	Touch the [COPY SCREEN] key.
7	Touch `A3 size paper` and press the **START** button to output the test pattern.
8	Check the test pattern. **Specification:** Check if two output patterns from laser are consistent and the beginning of the lower density part is aligned between the two lines as illustrated below. 
9	If the specification is not satisfied, press the **C** button while pressing the **P** button.
10	**LD2 Offset Adjustment screen** Enter an offset value using the numeric keys and touch the [SET] key. Setting range: -128 to +127
11	Repeat steps 6 to 10 until the specification is satisfied.
12	Touch the [RETURN] key to return to the Drum Calibration Adjustment mode menu screen.

LD1 bias adjustment

LD1 bias adjustment is inhibited in the field.

LD2 bias adjustment

LD2 bias adjustment is inhibited in the field.

Auto gamma adjustment (1 dot)

Performs gamma adjustment (1 dot) automatically.

This adjustment should be performed when the drum, developer, laser/scanner assembly, or dust-proof glass is replaced.

Preparation: Be sure the drum unit is set. Auto maximum contrast adjustment, auto dot diameter adjustment, LD1 offset adjustment and, LD2 offset adjustment must have been completed.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 1 Process adjustment.
3	**Process Adjustment mode menu screen** Touch 2 Drum calibration adjustment.
4	**Drum Calibration Adjustment mode menu screen** Touch 8 Auto gamma adjustment (1 dot).
5	**Auto Gamma Adjustment (1 dot) screen** Touch the Start key. The drum and developer operate to automatically adjust gamma. Adjustment completes in about 10 seconds and a complete message is displayed.
6	Touch the RETURN key to return to the Drum Calibration Adjustment mode menu screen.

Reference: If any one of the following error messages appears during auto gamma adjustment, clean the TSCB (toner control sensor board), check its installation state, and retry the auto gamma adjustment.

<1> Error 1: The γ sensor dirt correction has been corrected.

<2> Error 2: No signal is output from the γ sensor. No control patch is output.

<3> Error 3: A recurrence error occurred during γ curve calculation.

Auto gamma adjustment (2 dot)

Performs gamma adjustment (2 dot) automatically.

This adjustment should be performed when the drum, developer, laser/scanner assembly, or dust-proof glass is replaced.

Preparation: Be sure the drum unit is set. Auto maximum contrast adjustment, auto dot diameter adjustment, LD1 offset adjustment, LD2 offset adjustment, and auto gamma adjustment (1 dot) must have been completed.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 1 Process adjustment.
3	**Process Adjustment mode menu screen** Touch 2 Drum calibration adjustment.
4	**Drum Calibration Adjustment mode menu screen** Touch 9 Auto gamma adjustment (2 dot).
5	**Auto Gamma Adjustment (2 dot) screen** Touch the Start key. The drum and developer operate to automatically adjust gamma. Adjustment completes in about 10 seconds and an complete message is displayed.
6	Touch the RETURN key to return to the Drum Calibration Adjustment mode menu screen.

Reference: If any one of the following error messages appears during auto gamma adjustment, clean the TSCB (toner control sensor board), check its installation state, and retry the auto gamma adjustment.

<1> Error 1: The γ sensor dirt correction has been corrected.

<2> Error 2: No signal is output from the γ sensor. No control patch is output.

<3> Error 3: A recurrence error occurred during γ curve calculation.

Cartridge set mode (drum)

This adjustment should be performed when black dots appear on the copy after removing and installing the drum.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 1 Process adjustment.
3	**Process Adjustment mode menu screen** Touch 2 Drum calibration adjustment.

Step	Operation
4	**Drum Calibration Adjustment mode menu screen** Touch 10 `Cartridge set mode (drum).`
5	**Cartridge Set mode (drum) screen** Touch the Start key.
6	The developing unit and the drum rotate for two minutes, and return to Cartridge Set mode (drum) screen.
7	Touch the COPY SCREEN key.
8	Select the wide paper (i.e. A3, A4, Ledger, Letter) in the direction of the drum shaft, set 10 copies, and press the **START** button.
9	If black dots still appear, press the **C** button while pressing the **P** button to return to the cartridge set mode (drum), and repeat the step 5 to 8.
10	Press the **C** button while pressing P button when black dots disappear.
11	Touch RETURN key to return to the Drum Calibration Adjustment mode menu screen.

Drum calibration adjustment (manual)

Maximum density manual adjustment

This adjustment must be performed under the guidance of HP support.

Variable range: 0 to 41

Dot diameter manual adjustment

This adjustment must be performed under the guidance of HP support.

Variable range: 0 to 255

Custom paper setting

This adjustment is only performed when using special copy paper and the settings cannot be adjusted using the standard adjustment process.

This setting is applied when `User` is selected for `Paper type/Special size setting` in the key operator mode or when `Custom paper` is selected for `Transfer/separation output for plain paper` or `Recycled paper` in 2-5 Mode DIPSW.

The data for 64 g/m^2 plain paper is input as the default.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 1 `Process adjustment.`
3	**Process Adjustment mode menu screen** Touch 4 `Custom paper setting.`
4	Transfer/separation output screen appears. Enter data according to the user specified paper. Data should be input under the guidance of HP support.

Recall standard data (process adjustment)

Restoring process adjustment settings to standard values (factory setting data).

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 1 `Process adjustment.`
3	**Process Adjustment mode menu screen** Touch 5 `Recall standard data.`
4	**Recall Standard Data screen** Touch the YES key. Various data is restored to standard values.
5	Touch the RETURN key to return to the Process Adjustment screen.

Image adjustment

Tray adjustment

This adjustment should be performed when the tray or bypass unit is replaced.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment.`
3	**Image Adjustment mode menu screen** Touch 1 `Tray adjustment.`

Step	Operation
4	**Tray adjustment screen** Touch the [NEXT] or [BACK] key to select the tray to be adjusted. The screen changes from Tray 2 to Tray 3 to Tray 4 to Tray 1-1 to Tray 1-2. Using a scale, perform each adjustment individually, set the distance between (the inner surfaces of) the paper side guide plates of Trays 2, 3, and 4 to 210 mm (A4R). Set the distance between (the inner surfaces of) the paper side guide plates of Tray 1-1 to 210 mm (A4R) and Tray 1-2 to 280 mm (Letter) respectively. The variable resistor is recalibrated.
5	Touch the [Start] key. The selected tray is automatically adjusted. After adjustment completes, a message is displayed.
6	Touch the [RETURN] key.

Magnification adjustment

Adjusting the MFP vertical and horizontal magnifications.

1 Touch [2] `Image adjustment` in the Adjustment mode menu screen to display the Image Adjustment mode menu screen.

2 Touch [2] `Magnification adjustment` in the Image Adjustment mode menu screen to display the Magnification Adjustment mode menu screen.

3 Magnification adjustment consists of the following:

- [1] MFP drum clock adjustment
- [2] MFP horizontal adjustment
- [3] Scanner drum clock adjustment
- [4] ADF drum clock adjustment

4 Touch the number key corresponding to the item to be adjusted.

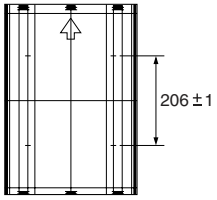
5 After adjustment completes, return to the Magnification Adjustment menu screen.

6 Touch the [RETURN] key on the Magnification adjustment menu screen to return to the Image adjustment mode menu screen.

Note Check and adjust the MFP vertical magnification adjustment during maintenance. Also adjust the MFP restart timing because it changes with the MFP vertical magnification adjustment.

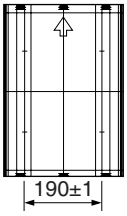
MFP drum clock magnification adjustment

Adjusting the MFP vertical magnification.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [2] `Image adjustment`.
3	**Image Adjustment mode menu screen** Touch [2] `Magnification adjustment`.
4	**Magnification Adjustment mode menu screen** Touch [1] `MFP drum clock adjustment`.
5	**MFP Drum Clock Adjustment screen** Touch the [COPY SCREEN] key.
6	Touch `A3 size paper` and press the **START** button to output the test pattern (No.16).
7	Measure the vertical magnification with a ruler. ± 0.5 percent or less (100 percent magnification) Within ± 1 mm with respect to 206 mm. 
8	If the specification is not satisfied, press the **C** button while pressing the **P** button.
9	**MFP Drum Clock Adjustment screen** Enter a value using the numeric keys and touch the [SET] key. Setting range: -27 to +100 1 step=0.05 percent
10	Repeat steps 5 to 9 until the specification is satisfied.
11	Touch the [RETURN] key to return to the Magnification Adjustment mode menu screen.

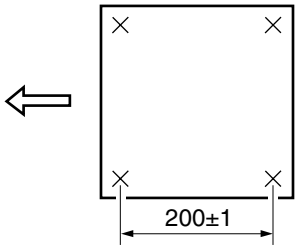
MFP horizontal magnification adjustment

Adjusting the horizontal magnification.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image Adjustment mode menu screen** Touch 2 `Magnification adjustment`.
4	**Magnification Adjustment mode menu screen** Touch 2 `MFP horizontal magnification adjustment`.
5	**MFP Horizontal Adjustment screen** Touch the COPY SCREEN key.
6	Touch `A3 size paper` and press the **START** button to output the test pattern (No.16).
7	Measure the horizontal magnification with a ruler. ± 0.5 percent or less (100 percent magnification) Within ± 1 mm with respect to 190 mm. 
8	If the specification is not satisfied, press the **C** button while pressing the **P** button.
9	**MFP horizontal adjustment screen** Enter a value using the numeric keys and touch the SET key. Setting range: -10 to +10 1 step=0.1 percent
10	Repeat steps 5 to 9 until the specification is satisfied.
11	Touch the RETURN key to return to the Magnification Adjustment mode menu screen.

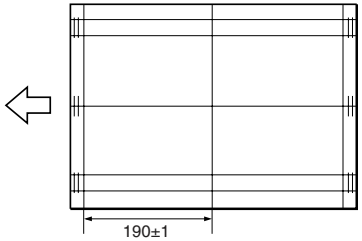
Scanner drum clock magnification adjustment

Adjusting the vertical magnification for the scanner.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image Adjustment mode menu screen** Touch 2 Magnification adjustment.
4	Magnification adjustment mode menu screen Touch 3 `Scanner drum clock adjustment`.
5	**Scanner drum clock adjustment screen** Touch the COPY SCREEN key.
6	Touch `A3 size paper`, set a pyramid chart on the original glass, and press the **START** button.
7	Measure the vertical magnification with a ruler. ± 0.5 percent or less (100 percent magnification) Within ± 1 mm with respect to 200 mm. 
8	If the specification is not satisfied, press the **C** button while pressing the **P** button.
9	**Scanner drum clock adjustment screen** Enter a value with the numeric keys and press the SET key. Setting range: -40 to +40 1 step=0.05 percent
10	Repeat steps 5 to 9 until the specification is satisfied.
11	Touch the RETURN key to return to the Magnification Adjustment mode menu screen.

Scanner (ADF) drum clock magnification adjustment

Adjusting the vertical magnification during ADF copy.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 Image adjustment.
3	**Image Adjustment mode menu screen** Touch 2 Magnification adjustment.
4	**Magnification Adjustment mode menu screen** Touch 4 ADF drum clock adjustment.
5	**ADF Drum Clock Adjustment screen** Touch the NEXT or BACK key to select the magnification to be adjusted. The screen rotates from 100 percent to 50 percent to 200 percent to 400 percent.
6	Touch the COPY SCREEN key.
7	Touch A3 size paper, set an adjustment chart on ADF, and press the **START** button.
8	Measure the vertical magnification with a ruler. ± 0.5 percent or less (100 percent magnification) Within ± 1 mm with respect to 190 mm. 
9	If the specification is not satisfied, press the **C** button while pressing the **P** button.
10	**ADF Drum Clock Adjustment screen** Enter a value with the numeric keys and touch the SET key. Setting range: -40 to +40 1 step=0.05 percent
11	Repeat steps 5 to 11 until the specification is satisfied.
12	Touch the BACK key to return to the Magnification adjustment mode menu screen.

Timing adjustment

Adjusting the leading edge timing (paper feed restart timing), registration loop amount, and leading edge erasure amount.

1 Touch 2 Image adjustment in the Adjustment mode menu screen to display the Image adjustment mode menu screen.

2 Touch 3 Timing adjustment in the Image adjustment mode menu screen to display the Timing adjustment mode menu screen.

3 Timing adjustment consists of the following adjustments:

1 MFP restart timing adjustment
2 MFP registration loop adjustment
3 MFP pre-registration adjustment
4 MFP lead edge timing adjustment
5 Scanner restart timing adjustment
6 ADF restart timing adjustment
7 ADF Registration loop adjustment

4 Touch the number key corresponding to the item to be adjusted.

The adjustment screen of the selected item appears.

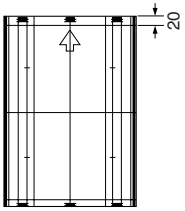
5 After adjustment completes, return to the Timing Adjustment mode menu screen.

6 Touch the RETURN key in the Timing Adjustment mode menu screen to return to the Image adjustment mode menu screen.

MFP restart timing adjustment

This adjusts the MFP restart timing (paper feed timing). The adjustment is performed at line speed of 320, 280, and 185 respectively.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 Image adjustment.
3	**Image Adjustment mode menu screen** Touch 3 Timing adjustment.

Step	Operation
4	**Timing Adjustment mode menu screen** Touch [1] MFP restart timing adjustment.
5	**MFP Restart Timing Adjustment screen** Touch any key of [LS320], [LS280], or [LS185].
6	Touch the [COPY SCREEN] key.
7	Touch A3-size paper and press the **START** button to output the test pattern (No.16).
8	Check the leading edge detection timing. **Specification**: 20 mm+1.0 mm-0 mm 
9	If the specification is not satisfied, press the **C** button while pressing the **P** button.
10	**MFP Restart Timing Adjustment screen** Enter a value with the numeric keys and touch the [SET] key. Setting range: -30 to +60 1 step=0.1 mm
11	Repeat steps 5 to 10 until the specification is satisfied.
12	Touch the [RETURN] key to return to the Timing Adjustment mode menu screen.

MFP registration loop adjustment

Adjusting the MFP registration loop amount for Trays 1, 2, 3, and 4), and the ADF.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [2] Image adjustment.
3	**Image Adjustment mode menu screen** Touch [3] Timing adjustment.
4	**Timing Adjustment mode menu screen** Touch [2] MFP registration loop adjustment.
5	**MFP Registration Loop Adjustment screen** Touch the [NEXT] or [BACK] key to select the item to be adjusted. The screen changes from Tray to Tray 1 to ADU.
6	Touch the [COPY SCREEN] key.
7	Press the **START** button to make a copy.
8	Check the MFP registration loop amount.
9	If the MFP registration loop amount is not appropriate, press the **C** button while pressing the **P** button.
10	**MFP Registration Loop Adjustment screen** Enter a value with the numeric keys and touch the [SET] key. Tray (tray 2, 3, 4 and 5) Setting range: -5 to +5 1 step=2ms Tray 1 Setting range: -10 to +10 1 step=2ms ADU Setting range: -10 to +10 1 step=2ms
11	Repeat steps 5 to 10 until the MFP registration loop amount is appropriate.
12	Touch the [RETURN] key to return to the Timing Adjustment mode menu screen.

MFP pre-registration amount adjustment

Adjusting the pre-registration loop amount for Trays 1, 2, 3, the HCI, and the ADU.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [2] Image adjustment.
3	**Image adjustment mode menu screen** Touch [3] Timing adjustment.
4	**Timing adjustment mode menu screen** Touch [3] MFP pre-registration adjustment.
5	**MFP Pre-registration Adjustment screen** Touch the [NEXT] or [BACK] key to select the item to be adjusted. The screen changes from Tray 2 to Tray 3 to Tray 4 to HCI to ADU.
6	Touch the [COPY SCREEN] key.
7	Press the **START** button to make a copy.

Step	Operation
8	Check the MFP pre-registration loop amount.
9	If the MFP pre-registration loop amount is not appropriate, press the **C** button while pressing the **P** button.
10	**MFP Pre-registration Adjustment screen** Enter a value with the numeric keys and touch the SET key. Tray (Tray 2, 3, 4, and 5 Setting range: -5 to +5 1 step=2ms ADU Setting range: -10 to +10 1 step=2ms
11	Repeat steps 5 to 10 until the MFP preregistration loop amount is appropriate.
12	Touch the RETURN key to return to the Timing Adjustment mode menu screen.

MFP leading edge timing adjustment

Adjusting the MFP leading edge timing (image erasure amount).

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image adjustment mode menu screen** Touch 3 `Timing adjustment`.
4	**Timing Adjustment mode menu screen** Touch 4 `MFP lead edge timing adjustment`.
5	**MFP lead edge timing adjustment screen** Touch the COPY SCREEN key.
6	Touch `A3 size paper`, place a pyramid chart on the original glass, and press the **START** button.
7	Check the MFP leading edge erasure amount. **Specification***:* Within 3 mm
8	If the MFP leading edge erasure amount is not appropriate, press the **C** button while pressing the **P** button.
9	**MFP Lead Edge Timing Adjustment screen** Enter a value with the numeric keys and touch the SET key. Setting range: -20 to +40 1 step=0.1 mm
10	Repeat steps 5 to 10 until the MFP leading edge erasure amount is within specification.
11	Touch the RETURN key to return to the Timing Adjustment mode menu screen.

Scanner (platen) restart timing adjustment

Adjusting the scanner restart timing during platen copy.

Note MFP restart timing adjustment must be completed before performing this adjustment.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image Adjustment mode menu screen** Touch 3 `Timing adjustment`.
4	**Timing Adjustment mode menu screen** Touch 5 `Scanner restart timing adjustment`.
5	**Scanner (Platen) Restart Timing Adjustment screen** Touch the COPY SCREEN key.
6	Touch `A3-size paper`, set a pyramid chart on the original glass, and press the **START** button.
7	Check the restart timing. **Specification***:* Within 3 mm
8	If the leading edge timing is not appropriate, press the **C** button while pressing the **P** button.
9	**Scanner (Platen) Restart Timing Adjustment screen** Enter a value with the numeric keys and touch the SET key. Setting range: -60 to +20 1 step=0.1 mm
10	Repeat steps 5 to 10 until the leading edge timing is within specification.
11	Touch the RETURN key to return to the Timing Adjustment mode menu screen.

ADF restart timing adjustment

Adjusting the scanner leading edge timing during ADF copy.

Note MFP restart timing adjustment must be completed before performing this adjustment.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image Adjustment mode menu screen** Touch 3 `Timing adjustment`.
4	**Timing Adjustment mode menu screen** Touch 6 `ADF Restart timing adjustment`.
5	**ADF Restart Timing Adjustment screen** Touch the COPY SCREEN key and then switch to double-sided /single-sided copy mode.
6	Touch `A3 size paper`, set an adjustment chart on ADF, and press the **START** button.
7	Check the leading edge timing on front and back side. **Specification***:* Within 3 mm
8	If the restart timing is not appropriate, press the **C** button while pressing the **P** button.
9	**ADF Restart Timing Adjustment screen** Touch the NEXT or BACK key to select the item to be adjusted. The screen changes from single-side to double-side (front), to double-side (back) copy.
10	Enter a value with the numeric keys and touch the SET key. Setting range: -60 to +50 1 step=0.1 mm
11	Repeat steps 5 to 10 until the leading edge timing is within specification.
12	Touch the RETURN key to return to the Timing Adjustment mode menu screen.

ADF registration loop amount adjustment

Adjusting the registration loop amount during ADF copy.

Note MFP restart timing adjustment must be completed before performing this adjustment.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image Adjustment mode menu screen** Touch 3 `Timing adjustment`.
4	**Timing Adjustment mode menu screen** Touch 7 `ADF Registration loop adjustment`.
5	**ADF Registration Loop Adjustment screen** Touch the COPY SCREEN key and then switch to double-sided/single-sided copy mode.
6	Touch `A3 size paper`, set an adjustment chart on ADF, and press the **START** button.
7	Check the loop amounts on the front and back side.
8	If the registration loop amount is not appropriate, press the **C** button while pressing the **P** button.
9	**ADF Registration loop adjustment screen** Touch the NEXT or BACK key to select the item to be adjusted. The screen changes from single-sided to double-sided (front) to double-sided (back), to double-sided pre-registration.
10	Enter a value with the numeric keys and touch the SET key. Setting range: -10 to +10 1 step=0.5 mm
11	Repeat steps 5 to 11 until the registration loop amount is within specification.
12	Touch the RETURN key to return to the Timing Adjustment mode menu screen.

Document feeder adjustment

Performing document feeder contrast adjustment, ADF original size adjustment and ADF skew offset adjustment.

1 Touch [2] `Image adjustment` in the Adjustment mode menu screen to display the Image adjustment mode menu screen.

2 Touch [4] `Document feeder adjustment` in the Image adjustment mode menu screen and display the Document feeder adjustment mode menu screen.

3 Document feeder adjustment consists of the following items:

[1] Document feeder contrast adjustment

[2] ADF original size adjustment

[3] ADF skew offset adjustment

4 Touch the number key corresponding to the item to be adjusted.

The adjustment screen of the selected item appears.

5 After adjustment completes, return to the Document feeder adjustment mode menu screen.

6 Touch the [RETURN] key in the Document Feeder Adjustment mode menu screen to return to the Image adjustment mode menu screen.

Document feeder contrast adjustment

When the original reader ADF glass is replaced, the density when reading originals with the ADF must be adjusted.

Preparation: Wipe the original reader ADF glass clean. Check that the white chart is not dirty or folded.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [2] `Image adjustment`.
3	**Image adjustment mode menu screen** Touch [4] Document feeder adjustment.
4	**Document Feeder Adjustment mode menu screen** Touch [1] `Document feeder contrast adjustment`.
5	**Document Feeder Contrast Adjustment screen** Set white chart on ADF (Caution 1).
6	Touch the [Start] key. ADF density is adjusted automatically. When adjustment completes, a message appears on the screen.
7	If an error message is displayed, repeat steps 5 and 6 (Caution 2).
8	Touch the [RETURN] key to return to the Document Feeder Adjustment mode menu screen.

Note Be sure to set the white chart in letter/A4 orientation.

CAUTION If the error message appears repeatedly, there is a possibility of a scanner system mechanical, optical, or electrical adjustment error or parts defect.

ADF original size adjustment

Perform this adjustment when the ADF original size detection does not operate properly.

Note ADF original size adjustment consists of letter/A4 and 5.5 x 8.5R/A5R. Use the [NEXT] or [BACK] key to select the desired adjustment item.

Step	Operation
1	Enter the 3-6 mode.

Step	Operation
2	**Adjustment mode menu screen** Touch [2] Image adjustment.
3	**Image adjustment mode menu screen** Touch [4] Document feeder adjustment.
4	**Document feeder adjustment mode menu screen** Touch [2] ADF Original size adjustment.
5	**ADF original size adjustment screen** Touch the [NEXT] or [BACK] key to select original size to adjust. The screen changes between letter/A4 to A5R.
6	Set the original of the selected size on ADF and touch the [Start] key. ADF original size is adjusted automatically.
7	Repeat steps 5 and 6 and adjust both sizes.
8	Touch the [RETURN] key to return to the Document Feeder Adjustment mode menu screen.

ADF skew offset adjustment

Adjusting the standard value of the distortion adjustment (MFP).

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [2] Image adjustment.
3	**Image adjustment mode menu screen** Touch [4] Document feeder adjustment.
4	**Document feeder adjustment mode menu screen** Touch [3] ADF Skew offset adjustment.
5	**ADF skew offset adjustment screen** Touch the [COPY SCREEN] key.
6	Touch A3 size paper, set an adjustment chart on ADF, and press the **START** button.
7	Check the ADF Skew offset amount. **Specification***:* 0.5 percent
8	If the ADF incline offset amount is not appropriate, press the **C** button while pressing the **P** button.
9	**ADF skew offset adjustment screen** Enter a value with the numeric keys and touch the [SET] key. Setting range: -60 to +60 1 step = 0.05 percent
10	If the ADF skew offset amount is not within specification, repeat steps 5 to 9.
11	Touch the [RETURN] key to return to the Document Feeder Adjustment mode menu screen.

Image centering adjustment

Perform this adjustment to center the image in a direction perpendicular to the paper feed direction.

1 Touch [2] Image adjustment in the Adjustment mode menu screen to display the Image adjustment mode menu screen.

2 Touch [5] Centering adjustment in the Image adjustment mode menu screen to display the centering adjustment menu screen.

3 Centering adjustment consists of the following:

- [1] MFP centering adjustment
- [2] Scanner centering adjustment
- [3] ADF centering adjustment

4 Touch the number key corresponding to the item to be adjusted.

The adjustment screen of the selected item appears.

5 After adjustment completes, return to the centering adjustment menu screen.

6 Touch the [RETURN] key in the Centering Adjustment menu screen to return to the Image Adjustment mode menu screen.

MFP centering adjustment

Adjusting the MFP centering.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [2] Image adjustment.
3	**Image adjustment mode menu screen** Touch [5] Centering adjustment.

Step	Operation
4	**centering adjustment mode menu screen** Touch 1 MFP Centering adjustment.
5	**MFP centering adjustment screen** Touch the COPY SCREEN key.
6	Touch A3-size paper and press the **START** button to output the test pattern (No.16).
7	Folding ledger/A3 size paper in half in the short edge (landscape) orientation and check whether the lines on the left and right overlap completely. **Specification**: ± 1 mm or less
8	If the printed image is not appropriate, press the **C** button while pressing the **P** button.
9	**MFP Centering adjustment screen** Enter a value with the numeric keys and touch the SET key. Setting range: -64 to +63 1 step = 0.1 mm
10	Repeat steps 5 to 9 until the offset is within specification.
11	Touch the RETURN key to return to the Centering Adjustment mode menu screen.

Scanner (platen) centering adjustment

Adjusting the scanner (platen) centering.

Preparation: MFP centering adjustment must be completed before performing this adjustment.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 Image adjustment.
3	**Image Adjustment mode menu screen** Touch 5 Centering adjustment.
4	**Centering Adjustment mode menu screen** Touch 2 Scanner centering adjustment.
5	**Scanner (Platen) centering adjustment screen** Touch the COPY SCREEN key.
6	Touch A3 size paper, set a pyramid chart on the original glass, and press the **START** button.
7	Folding ledger/A3 size paper in half in the short edge (landscape) orientation and check whether the lines on the left and right overlap completely. **Specification**: ± 2 mm
8	If the offset is not within specification, press the **C** button while pressing the **P** button.
9	**Scanner (Platen) centering adjustment screen** Enter a value with the numeric keys and touch the SET key. Setting range: -30 to +30 1 step=0.1 mm
10	Repeat steps 5 to 9 until the offset is within specification.
11	Touch the RETURN key to return to the centering adjustment mode menu screen.

ADF Centering adjustment

This adjusts centering for the ADF copy.

There are six adjustment items as follows:

- Single-sided small size
- Double-sided (front) small size
- Double-sided (back) small size
- Single-sided large size
- Double-sided (front) large size
- Double-sided (back) large size

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 Image adjustment.
3	**Image adjustment mode menu screen** Touch 5 Centering adjustment.
4	**Centering adjustment mode menu screen** Touch 3 ADF Centering adjustment.
5	**ADF centering adjustment screen** Touch the COPY SCREEN key and enter double-sided/single-sided copy mode.
6	Load ledger/A3 size paper in the tray, place small size or large size original on ADF, and press the **START** button.
7	Folding ledger/A3 size paper in half in the short edge (landscape) orientation and check whether the lines on the left and right overlap completely. **Specification**: ± 1 mm
8	If the offset is not within specification, press the **C** button while pressing the **P** button.

Step	Operation
9	**ADF centering adjustment screen** Touch the NEXT or BACK key to select the item to be adjusted. The screen changes from single-sided small size to double-sided (front) small size to double-sided (back) small size to single-sided large size to double-sided (front) large size to double-sided (back) large size.
10	Enter a value with the numeric keys and touch the SET key. Setting range: -30 to +30 1 step=0.1 mm
11	Repeat steps 5 to 10 until the centering is within specification.
12	Touch the RETURN key to return to the centering adjustment mode menu screen.

Distortion adjustment (MFP)

This is to correct distortion during platen/ADF copying. There are four adjustment items as follows:

- Scanner (platen) distortion (main scan)
- Scanner (platen) distortion (sub-scan)
- Scanner (ADF) distortion (main scan)
- Scanner (ADF) distortion (sub-scan)

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image adjustment mode menu screen** Touch 6 `Warp adjustment (MFP)`.
4	**Scanner warp adjustment screen** Touch the COPY SCREEN key.
5	Touch `A3 size paper`. To check the platen, set an adjustment chart on the original glass. To check ADF, set it on ADF.
6	Check for platen copy distortion or ADF copy distortion. **Specification***:* The difference in lengths of two diagonals of a 200 mm square must be within 1.4 mm.
7	If the platen copy distortion or ADF copy distortion is not within specification, press the **C** button while pressing the **P** button.
8	**Scanner warp adjustment screen** Touch the NEXT or BACK key to select the desired adjustment item.
9	Enter a value with the numeric keys and touch the SET key. Range of setting: -50 to +50 1 step=0.05 percent
10	Repeat steps 6 to 9 until the distortion is within specification.
11	Touch the RETURN key to return to the Image Adjustment mode menu screen.

Non-image area erase check

When this MFP is installed in a place or is moved to another location, research should be conducted on the conditions under which the MFP is placed.

Preparation: ADF must be opened. Nothing should be put on the original glass. The original glass must be clean and transparent.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image adjustment mode menu screen** Touch 7 `Non-image area erase check`.
4	**Non-image area erase check screen** Open the ADF, and touch the Start key.
5	Confirm that a message indicating that it operated normally is displayed in the message display. When a message indicating it did not operate properly is displayed, refer to Reference 1 shown below. Then, perform the non-original automatic erasure installation research again.

Reference: Here are measures to be taken when the following error messages are indicated.

- <Error message 1>
  Adjust for Extreme Brightness. In many cases, the Non-image-area-erase function will not operate correctly. Please confirm “Adjustment” - “3-6 mode columns of the Service Manual.
- <Countermeasure1>
  If you use the non-original erasure function, or copy originals that have a dark

background using the non-original erasure method, infrequently, use the MFP in its present installation environment.

If, however, you copy originals that have a dark background fairly frequently, move the MFP to a dark location and facing a direction such that external light does not get into it, then carry out the installation survey once again.

- <Error message2>
  A datum with potential not to function non-image-area-erase is found.
  Please confirm “Adjustment - “3-6 mode columns of the Service Manual.
- <Countermeasure2>
  If you use the non-original erasure function relatively infrequently, you can use the MFP in its present installation environment.

  If, however, you copy originals that have a dark background fairly frequently, move the MFP to a dark location and facing a direction such that external light does not get into it, then carry out the installation survey once again. In this case, if there is a bright light source, such as a fluorescent light, directly above the MFP, reconsider the installation location and direction, or take steps to block off the light from the light source (by using a cover, for example), then carry out the installation survey once again.

Recall standard data (Image adjustment)

Restoring image adjustment settings to standard values (factory setting data).

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 2 `Image adjustment`.
3	**Image adjustment mode menu screen** Touch 8 `Recall standard data`.
4	**Recall standard data screen** Touch the YES key. Various data is restored to standard values.
5	Touch the RETURN key to return to the Image adjustment mode menu screen.

Running test mode

Testing continuous copy operation.

Touch 3 `Running test mode` in the Adjustment mode menu screen.

This adjustment consists of the following items:

1 Intermittent copy mode

In this mode, the MFP goes into the copy ready state after completing a set number of copy operations, waits 0.5 seconds, and then repeats the same operation.

2 Paper-less running mode

In this mode, the MFP goes into the copy ready state after completing a set number of copy operations without performing paper detection or jam detection, waits 0.5 seconds, and then repeats the same operation.

3 Paper-less mode

In this mode, the MFP makes a set number of copies at approximately the same timing as for normal copy without performing paper detection or jam detection.

4 Medialess endless mode

In this mode, the MFP makes copies at approximately the same timing as for normal copy without performing paper detection or jam detection. The copy quantity is set to infinity automatically.

5 Running mode

This mode consists of Paper-less mode with repetitive scanner scan and auto paper feed tray change.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 3 `Running test mode`.
3	**Running Test mode menu screen** Touch mode keys 1 to 5.
4	**Copy screen** Press the **START** button.
5	Check the copy operation and then press the **STOP** button to stop.
6	Turn the secondary power switch (SW2) off.

Test pattern output mode

Output test pattern.

Touch 4 `Test pattern output mode` in the Adjustment mode menu screen to display the Test pattern output mode screen.

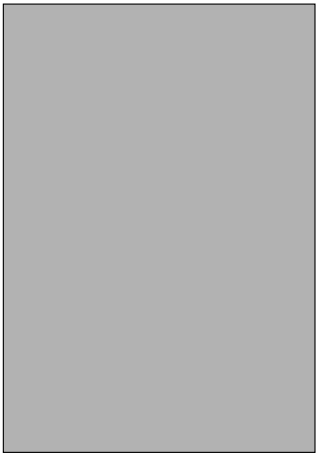
CAUTION Do not touch any mode that is not specifically described.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 4 `Test pattern output mode`.
3	Test pattern output mode screen Use the numeric keys to enter the number of the test pattern to output and touch the SET key.
4	Touch the COPY SCREEN key.
5	**Copy screen** Touch `A3 size paper` and press the **START** button to output the test pattern.
6	To output another test pattern, press the **C** button while pressing the **P** button and repeat steps 3 to 5.
7	Touch the RETURN key to end.

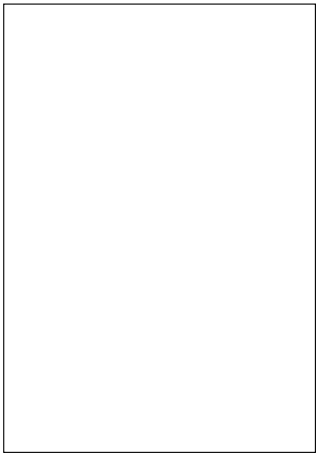
No.1	Overall halftone
	Check items: ● When density is set to 70 (halftone) If there are white stripes, black stripes, or uneven density, determine whether the fault is with the scanner or the MFP. ● When density is set to 0 (white) If the test pattern is gray background, determine whether the fault is with the scanner or the MFP. ● When density is set to 255 (black) If the density is light, determine whether the fault is with the scanner or the MFP. * The above density settings are typical values. See 18 “Test pattern density setting” for more information on density setting.

Test patterns

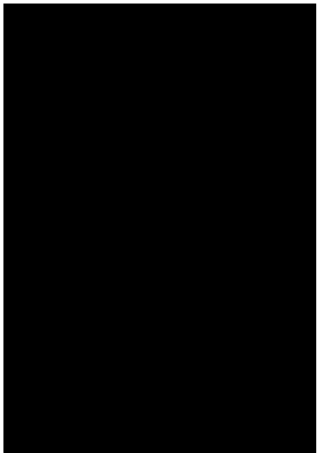
Density set to 70



Density set to 0

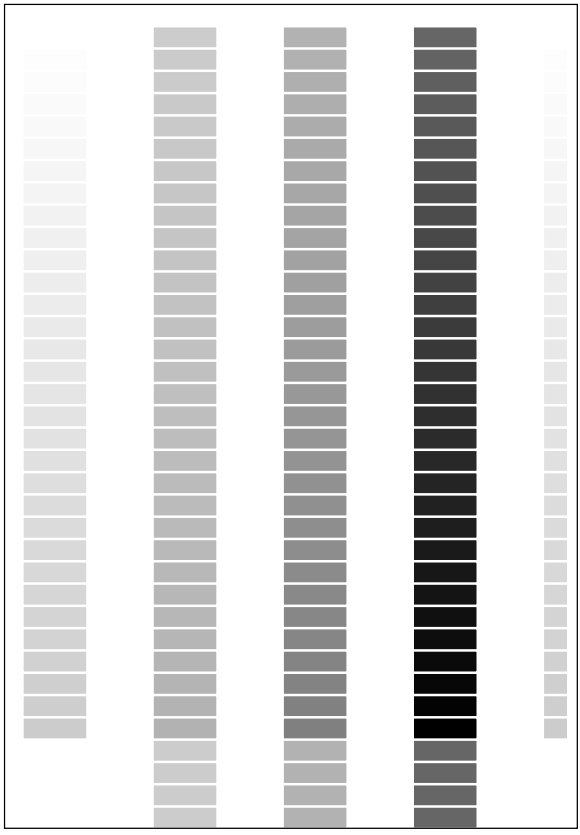


Density set to 255



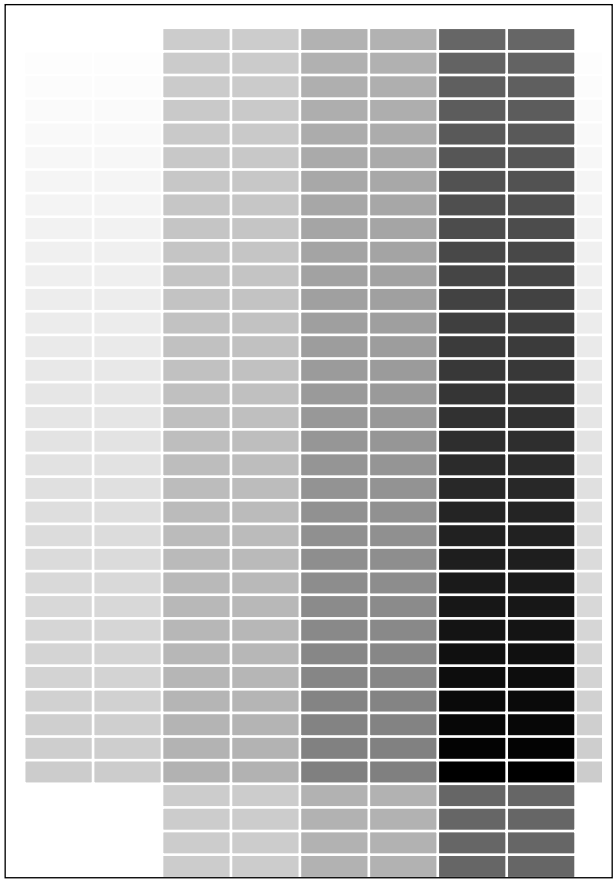
No.2	Gradation pattern
	Check items: If the test pattern is gray background or the density is light, determine whether the fault is with the processing system or with γ correction. If the copy image is abnormal despite this test pattern being normal, either the image processing system or the scanner system is abnormal.

Test patterns



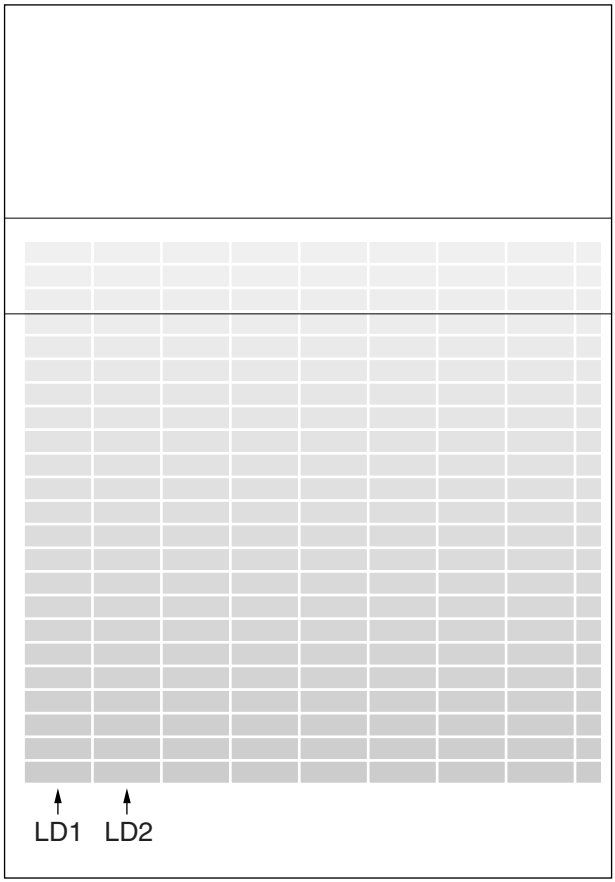
No.3	Gradation pattern
	Check items: If the test pattern is abnormal, check whether the two lasers are emitting light normally.

Test patterns



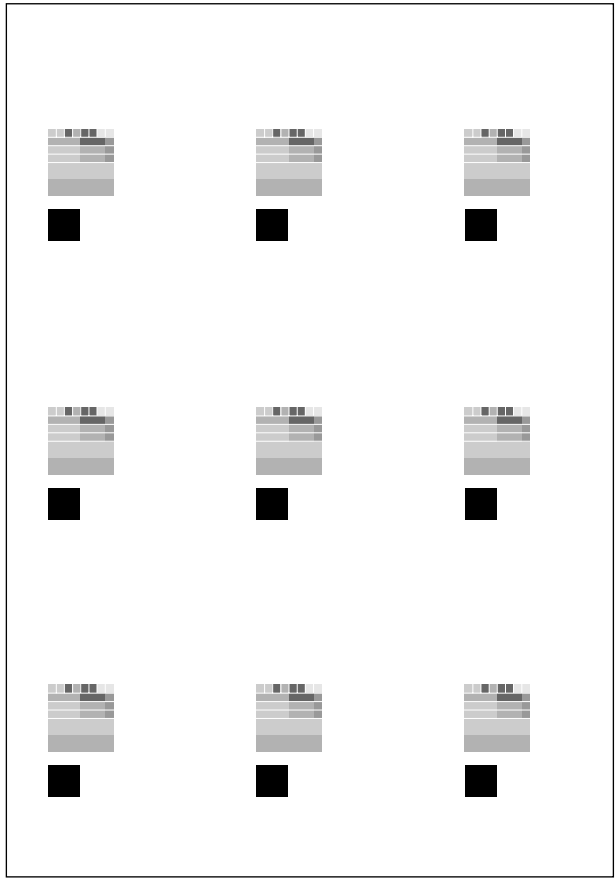
No.5	Gradation pattern
	Check items: If the text pattern is abnormal, check whether the two laser outputs are uniform.

Test patterns



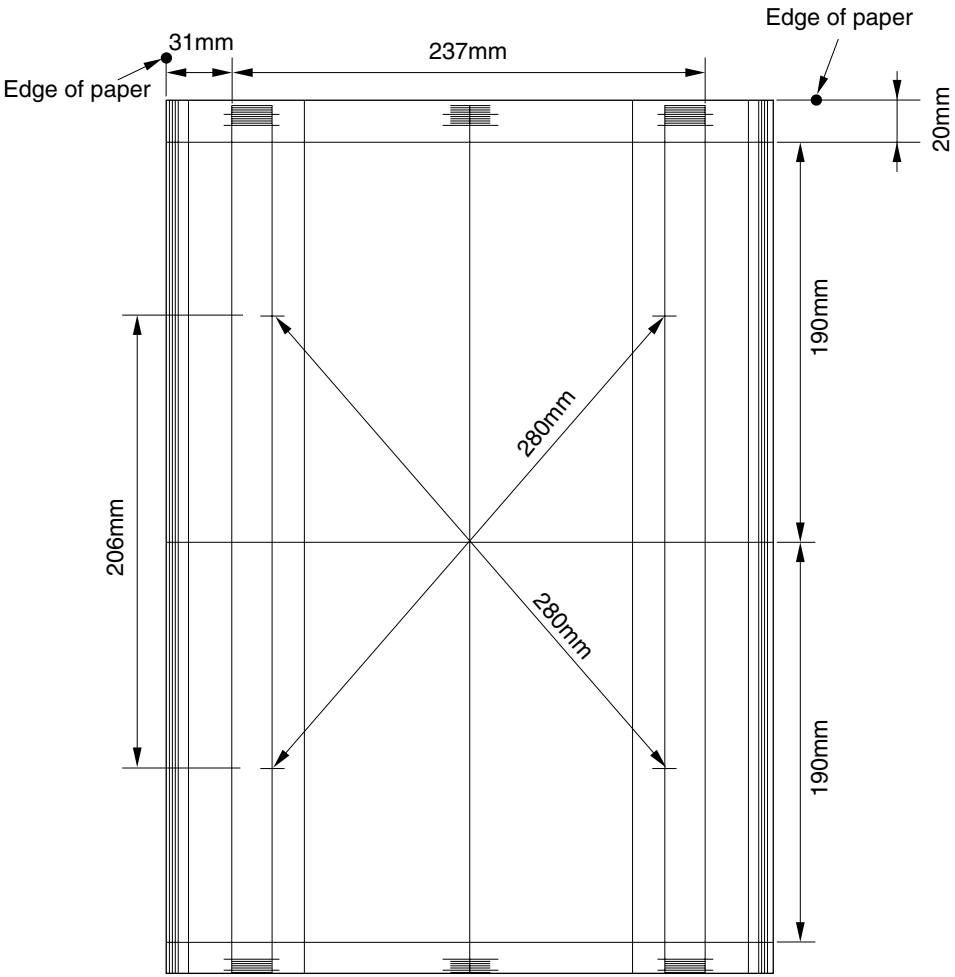
No.11	Beam misalignment check
	Check items: If the text pattern is abnormal, check to see if position correction of the two laser beams is normal.

Test patterns



No.16	Linearity evaluation pattern
	Check item: Use this check pattern to determine whether the fault is with the scanner or the MFP. The MFP horizontal magnification, vertical magnification, tilt, and leading edge timing, and so forth can be checked. If the copy image is defective despite no abnormality in the test pattern, the scanner is at fault.

Test patterns



Test pattern density setting

Setting the test pattern density.

Touch [5] Test pattern density setting in the Adjustment mode menu screen to display the Test pattern density setting screen.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [5] Test pattern density setting.
3	**Test Pattern Density screen** Use the numeric keys to enter the number of the test pattern to output and touch the [SET] key. Setting range: 0 to 255
4	Touch the [COPY SCREEN] key.
5	Press the **START** button to output a test pattern.
6	To output another test pattern, press the **C** button while pressing the **P** button and repeat steps 3 to 5.
7	Touch the [RETURN] key to end.

Finisher adjustment

Adjusting the finisher, cover sheet tray, and puncher.

1 Touch [6] Finisher adjustment on the Adjustment mode menu screen to display the Finisher adjustment mode menu screen.

2 Finisher adjustment items are as follows:

[1] Stapling and folding stopper adjustment

[2] Folding stopper adjustment

[3] Cover sheet tray size adjustment

[5] Punch adjustment

[7] Tri-Folding position adjustment

[8] 2-positions staple pitch adjustment

3 Touch the number key corresponding to the item to be adjusted.

4 The adjustment screen for the selected adjustment item appears.

5 After adjustment completes, return to the Finisher adjustment mode menu screen.

6 Touch the [RETURN] key of the Finisher adjustment mode menu to return to the Adjustment mode menu screen.

Stapling and folding stopper adjustment

Adjusting the stapling position in staple and fold mode.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [6] Finisher adjustment.
3	**Finisher adjustment mode menu screen** Touch [1] Stapling and folding stopper adjustment“.
4	**Stapling and Folding Stopper Adjustment screen** Touch the [COPY SCREEN] key.
5	Set paper in the tray, set originals on ADF, and press the **START** button.
6	Check the paper center and stapling position. **Specification***:* ± 1 mm
7	If the stapling position is not within specification, press the **C** button while pressing the **P** button.
8	**Stapling and Folding Stopper Adjustment screen** Touch the [NEXT] or [BACK] key to select a desired paper size.
9	Enter a value with numeric keys and touch the [SET] key. Setting range: -128 to +127 1 step=0.1 mm
10	Repeat steps 4-9 until the stapling position is within specification.
11	Touch the [RETURN] key to return to the Finisher adjustment mode menu screen.

Folding stopper adjustment

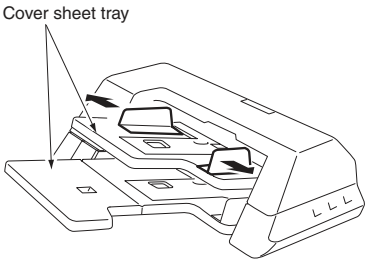
Adjusting the folding position in staple and fold or fold mode.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [6] Finisher adjustment.

Step	Operation
3	**Finisher Adjustment mode menu screen** Touch 2 Folding stopper adjustment.
4	**Folding Stopper Adjustment screen** Touch the COPY SCREEN key.
5	Set paper in the tray, set originals on ADF, and press the **START** button.
6	Check the paper center and folding position. **Specification**: ± 1 mm
7	If the folding position is not within specification, press the **C** button while pressing the **P** button.
8	**Folding Stopper Adjustment screen** Touch the NEXT or BACK key to select a desired paper size.
9	Enter a value with numeric keys and touch the SET key. Setting range: -128 to +127 1 step=0.1 mm
10	Repeat steps 4-9 until the folding position is within specification.
11	Touch the RETURN key to return to the Finisher adjustment mode menu screen.

Cover sheet tray size adjustment

This adjustment should be performed when the cover sheet tray size cannot be detected properly and when centering adjustment for cover sheet tray is performed.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch 6 Finisher adjustment.
3	**Finisher Adjustment mode menu screen** Touch 3 Cover sheet tray size adjustment.
4	**Cover Sheet Tray Size Adjustment screen** Touch NEXT or BACK key to select the tray to be adjusted.
5	Set A4R or Letter-R size paper on the cover sheet tray (upper/lower), touch the Start key on the LCD. A complete message appears on the screen. 
6	Touch the RETURN key to return to the Finisher Adjustment mode menu screen.

Punch kit adjustment

This adjusts the punch vertical positions, punch horizontal positions, and punch registration loop amount.

1 Touch 5 Punch adjustment on the Finisher adjustment mode menu screen to display the Punch Adjustment menu screen.

2 Punch adjustment includes the following items:

1 Punch kit vertical position adjustment

2 Punch kit horizontal position adjustment

3 Punch registration loop adjustment

3 Touch the number key corresponding to the item to be adjusted. The adjustment screen for the selected adjustment item appears.

4 After adjustment completes, return to the Punch adjustment menu screen.

5 Touch the RETURN key of the Punch Adjustment menu to return to the Finisher Adjustment mode menu screen.

Punch kit vertical position adjustment

Adjusting the punch vertical position.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [6] `Finisher adjustment`.
3	**Finisher Adjustment mode menu screen** Touch [5] `Punch adjustment`.
4	**Punch Adjustment menu screen** Touch [1] `Punch kit vertical position adjustment` or "[3] `Punch unit vertical position adjustment`.
5	**Punch Vertical Position Adjustment** Touch the [COPY SCREEN] key.
6	Set paper in the tray, set originals on ADF, and press the **START** button.
7	Check the punch vertical position.
8	If the punch vertical position is not appropriate, press the **C** button while pressing down the **P** button.
9	**Punch Vertical Position Adjustment screen** Touch the [NEXT] or [BACK] key to select a desired paper size.
10	Enter a value with numeric keys and touch the [SET] key. Setting range: -50 to +50 1 step=0.1 mm
11	Repeat steps 5-10 until the punch vertical position is appropriate.
12	Touch the [RETURN] key to return to the Punch Adjustment menu screen.

Punch kit horizontal position adjustment

Adjusting the punch horizontal position.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [6] `Finisher adjustment`.
3	**Finisher Adjustment mode menu screen** Touch [5] `Punch adjustment`.
4	**Punch Adjustment menu screen** Touch [2] `Punch kit horizontal position adjustment` or [4] `Punch unit horizontal position adjustment`.
5	**Punch Horizontal Position Adjustment.** Touch the [COPY SCREEN] key.
6	Load paper in the tray, place the original on ADF, and then press the **START** button.
7	Check the paper center and the position of punch holes. Specification (length between the edge of paper and the center of punch hole): 10.5 mm (2 holes/4 holes/Swedish 4 holes), 9.5 mm (3 holes/inch 2 holes)
8	If the punch horizontal position is not appropriate, press the **C** button while pressing down the **P** button.
9	**Punch Horizontal Position Adjustment screen** Touch the [NEXT] or [BACK] key to select a desired paper size.
10	Enter a value with numeric keys and touch the [SET] key. Setting range: -50 to +50 1 step = 0.1 mm
11	Repeat steps 5-9 until the punched position is within the specification.
12	Touch the [RETURN] key to return to the Punch Adjustment menu screen.

Punch registration loop adjustment

Adjusting the registration loop amount for the reversed paper exit (face up), the ADU paper exit (face down) and cover sheet upper/lower

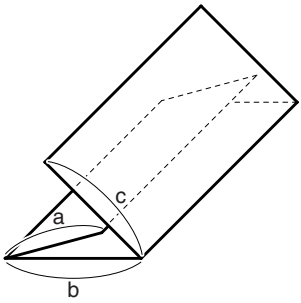
Note This adjustment may be required when vertical hole skew is a problem with thicker papers.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [6] `Finisher adjustment`.
3	**Finisher Adjustment mode menu screen** Touch [5] `Punch adjustment`.

Step	Operation
4	**Punch Adjustment mode screen** Touch [5] Punch registration loop adjustment.
5	Touch [1] Punch registration loop adjustment (MFP) or [2] Punch registration loop adjustment (PI).
6	**Punch Registration Loop adjustment screen** Touch the [NEXT] or [BACK] key to select the item to be adjusted. The screen changes as follows; Reverse Paper eject → ADU Paper eject or Cover sheet Upper → Cover sheet Lower.
7	Touch the [COPY SCREEN] key.
8	Press the **START** button to make a copy.
9	Check the punch registration loop amount.
10	If the punch registration loop amount is not appropriate, press the **C** button while pressing the **P** button.
11	**Punch Registration Loop adjustment screen** Enter a value with numeric keys and press the [SET] key. Setting range: -20 to +20 1 step=0.8 mm
12	Repeat steps 6-11 until the punch registration loop amount is within the specification.
13	Touch the [RETURN] key to return to the Punch Adjustment menu screen.

Tri-folding stopper adjustment (MFF only)

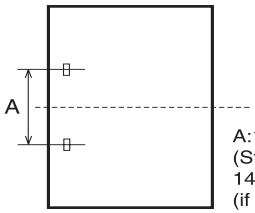
Adjusting the folding positions during the tri-folded copy.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [6] Finisher adjustment.
3	**Finisher adjustment mode menu screen** Touch [7] Tri-fold stopper adjustment.
4	**Tri-Folding adjustment screen** Touch the [COPY SCREEN] key.
5	Load paper in the tray, place the original on ADF, and then press the **START** button.
6	Check the three-folded positions of paper.  **Folded position** / **Reference value** (A4R, Letter R) / **Specification** a: 93 mm, 86.4 mm, ± 2 mm b: 102 mm, 97 mm, ± 2 mm c: 102 mm, 97 mm, ± 2 mm
7	If the folded positions are not within the specification, press the **C** button while pressing the **P** button.
8	**Tri-Folding adjustment screen** Touch the [NEXT] or [BACK] key to select the item to be adjusted.
9	Enter a value with numeric keys and touch the [SET] key. Setting range: -128 to +127 1 step=0.1 mm
10	Repeat steps 4-9 until the folded positions are within the specification.
11	Touch the [RETURN] key to return to the Finisher Adjustment mode menu screen.

2-Position staple pitch adjustment

Adjusting the pitch of the 2-position staple.

Step	Operation
1	Enter the 3-6 mode.
2	**Adjustment mode menu screen** Touch [6] Finisher adjustment.
3	**Finisher adjustment mode menu screen** Touch [8] 2-Positions staple pitch adjustment.
4	**2-Position staple pitch adjustment screen** Touch the [COPY SCREEN] key.

Step	Operation
5	Load paper in the tray, place the original on ADF, and then press the **START** button.
6	Check the pitch of the 2-position staple.  A:120mm (Standard) 140mm or greater (if Swedish 4-hole punch is installed)
7	When changing the dimension A, press the **C** button while pressing the **P** button.
8	**2-Position staple pitch adjustment screen** Enter a value with numeric keys and touch the SET key. Setting range: 120 to 160 1 step=1 mm
9	Repeat steps 4 to 8 until the dimension A is improved.
11	Touch the RETURN key to return to the Finisher adjustment mode menu screen.

List output mode

Outputting various data.

1 Touch 7 `List output mode` in the Adjustment mode menu screen to display the List output mode menu screen.

2 List output mode menu consists of the following:

- 1 Machine management list 1
- 2 Adjustment data list
- 3 Black ratio data list
- 4 Machine management list 2
- 5 Parameter list
- 6 Memory dump list
- 7 Font pattern

3 Touch the number key corresponding to the item to output.

The output setting screen for the selected item appears.

4 After output completes, return to the List output mode menu screen.

5 Touch the RETURN key in the List output mode menu screen to return to Adjustment mode menu screen.

Note

List output screen is not displayed for 4 MFP management list 2 and subsequent items unless address 30-1 is set to 1 with 1 Software DIPSW setting in 2-5 mode.

4-7 Mode

4-7 Mode/multi-mode setting method

4-7 Mode

This mode provides self-diagnostic functions (input/output check function) to check and adjust various signals and loads.

4-7 Mode operation

Starting 4-7 mode

1 Turn off the secondary power switch (SW2).

2 Turn the SW2 back on while holding down 4 and 7 of the copy quantity button.

3 Check that the 4-7 mode is started when message `I/O check mode` appears in the first row of the message area.

Input/output check

1 Use the copy quantity button to enter the code (refer to the I/O check code list) for the desired signal sources (such as sensors).

2 The entered code appears enclosed in <> in the second row of the message area.

3 The numbers are shifted left as they are displayed.

4 Check the status of the signal displayed as `H` or `L` after `IN:` in the second row of the message display area.

Note H and L indicate the level of the signal input to PRCB (printer control board). Note the relationship between the status of the input signal source and the message display.

Output check

1 Use the copy quantity button to enter the code (refer to the I/O check code list) for the desired output load.

2 Press the **START** button.

Depending on the output, a load will be activated or a signal will be output.

Start button	Code	Description
Before pressing indication	Input	Input signal level
After pressing	Output	Output load operation/signal

Ending 4-7 mode

1 Press the **STOP** button to cancel the operation.

2 Turn off the primary power switch to exit the 4-7 mode.

Step	Operation
1	Turn on the secondary power switch (SW2) while holding down **4** and **7** on the copy quantity button.
2	**I/O check screen** Use the copy quantity button to enter the code.
3	Check the input signal check result displayed after "`IN:` in the second row of the message area.
4	To perform the output check, press the **START** button to check the output load.
5	Press the **STOP** button to end output check.
6	To perform other checks, enter a new code using the copy quantity button.
7	Turn off the primary power switch to exit the 4-7 mode.

Note No data appears on the second row of the message area when 4-7 mode is entered. Message appears when a number is entered.

Simply enter a new code to switch to another code.

A newly entered number is written over the previously entered number.

Multi mode

This MFP features multi modes among the 4-7 mode functions.

This enables multiple I/O checks using a single I/O check code.

Multi mode operation method

Start the 4-7 mode and proceed as follows:

To check the input

1 Using the copy quantity button, enter the check code for the desired I/O.

2 The 4-7 mode code appears enclosed in <> in the second row of the message area.

3 Press the **P** button.

4 Enter the desired multi number using the copy quantity button. (Refer to the multi mode list.)

5 The multi number will be displayed enclosed in <>, following the 4-7 mode code and -.

I/O check mode
< 10-01 > IN: -- OUT: --

6 Press the **P** button.

7 Check the status of the signal displayed as `H` or `L` after `IN:` in the second row of the message display area.

To check the output

1 Press the **START** button.

2 Press the **STOP** button after checking the output.

Ending multi mode

Turn off the primary power switch to exit the 4-7 mode (multi mode).

Step	Operation
1	Enter the 4-7 mode.
2	**I/O check screen** Use the copy quantity button and enter the code.
3	Press the **P** button.
4	Enter the multi number using the copy quantity button.
5	Press the **P** button.
6	Check the input signal check result displayed after "`IN:` in the second row of the message area.
7	To perform the output check, press the **START** button to check the output load.
8	Press the **STOP** button to end the output check.
9	Turn off the primary power switch to exit the 4-7 mode.

Note To check another multi number in the same code, press the **P** button after completing step 8. And enter another multi number. A newly entered number is written over the previously entered number.

Note To return to the normal 4-7 mode, press the STOP button while holding down the **P** button after completing step 8.

Adjustment data display

Displaying a list of MFP adjustment values (factory-set values and current values).

No adjustment (data value change) can be made in this mode.

Step	Operation
1	Enter the 4-7 mode.
2	**I/O check screen** Enter `94` with numeric keys. Make sure `94` is displayed in the message display field.
3	Press the **START** button.
4	**Adjustment Data Display screen 1** Touch the ▲ or ▼ button to display a desired adjustment item.
5	Touch the End key to return to the I/O check mode screen.

Hard disk check

This adjustment is to be performed when checking the total capacity and remaining capacity of the optional hard disk and when error codes related to the hard disk occur.

Step	Operation
1	Enter the 4-7 mode.
2	Enter `99` with numeric keys.
3	Checking the total capacity of the hard disk: Press the **P** button and enter **1** with a numeric key. Make sure `99-01` is displayed in the message display field.
	Checking the remaining capacity of the hard disk: Press the **P** button and enter **2** with a numeric key. Make sure `99-02` is displayed in the message display field.
	Checking and recovering bad sectors on the hard disk: Press the **P** button and enter **3** with a numeric key. Make sure `99-03` is displayed in the message display field.
4	Press the **START** button.

Step	Operation
5	When the total capacity of the hard disk is checked: The total capacity of the hard disk is displayed after OUT: in the message display field.
	When the remaining capacity of the hard disk is checked: The remaining capacity of the hard disk is displayed after OUT: in the message display field.
	When bad sectors on the hard disk are checked and recovered: NOW is displayed after OUT: in the message display field and bad sector check and recovery start. Several minutes later, OK is displayed in the case of normal termination, NG is displayed in the case of abnormal termination. When NG is displayed, retry bad sector check and recovery. If NG is displayed again, replace the hard disk.

Note

Once the bad sector check and recovery procedure start, it cannot be canceled. (The STOP button and mode change key are ineffective.)

The hard disk is weak against vibration and shock. When moving the copy MFP, be sure to remove the hard disk in advance.

Input checklist

Classification	Code	Symbol	Multi-mode	Name	Display and signal source	
					H	L
Analog signal	001	TLD		Remaining toner detection signal	In	Empty
	002	VR301		ADF original size VR signal	0 to 255	
	003	TH1		Fuser upper roller temperature detection signal		
	004			Fuser upper roller temperature	° C	
	005			Humidity sensor signal	0 to 255	
	006			Dmax (maximum contrast) MONI signal		
	007			Dmax (maximum contrast) signal		
	008			γ signal		
	009			MFP inside temperature signal		
Paper feed	011	PS3	1	Tray 2 no paper detection signal	On	Off
		PS9	2	Tray 3 no paper detection signal		
		PS15	3	Tray 4 no paper detection signal		
		PS21	4	Tray 4 no paper detection signal		
		PS33	5	Tray 1 feed tray no paper detection signal		
		PS108	6	HCI no paper detection signal		
	012	PS4	1	Tray 2 remaining paper detection signal		
		PS10	2	Tray 3 remaining paper detection signal		
		PS16	3	Tray 4 remaining paper detection signal		
		PS22	4	Tray 4 remaining paper detection signal		
		PS102	5	HCI remaining paper detection signal 1		
		PS103	6	HCI remaining paper detection signal 2		
		PS104	7	HCI remaining paper detection signal 3		
		PS105	8	HCI remaining paper detection signal 4		
	013	PS5	1	Tray 2 paper size detection signal 1		
		PS6	2	Tray 2 paper size detection signal 2		
		PS11	3	Tray 3 paper size detection signal 1		
		PS12	4	Tray 3 paper size detection signal 2		
		PS17	5	Tray 4 paper size detection signal 1		
		PS18	6	Tray 4 paper size detection signal 2		
		-	7	-		
		-	8	-		
		PS31	9	Tray 1 feed tray paper size detection signal 1		
		PS32	10	Tray 1 feed tray paper size detection signal 2		
	014	VR1	1	Tray 2 paper size detection VR signal	0 to 255	
		VR2	2	Tray 3 paper size detection VR signal		
		VR3	3	Tray 4 paper size detection VR signal		
		-	4	-		
		VR5	5	Tray 1 feed tray paper size detection VR signal		
	015		1	Tray 2 paper size signal	0: Ledger,1:A3, 2:B4, 3: Legal, 4: A4R, 5: LetterR, 6: B5R, 7: Letter, 8:5.5 by 8.5R, 9: A4, 10: A5R, 11: B5, 12: A5, 13: B6R, 14: 5.5 by 8.5, 15: B6, 16: Special, 17: F4(8.125 by 13.25), 18: F4(8 by 13), 19: F4(8.25 by 13), 20: F4(8.5 by 13)	
			2	Tray 3 paper size signal		
			3	Tray 4 paper size signal		
			4	-		
			5	Tray 1 feed tray paper size signal		

Classification	Code	Symbol	Multi-mode	Name	Display and signal source	
					H	L
Paper feed	016	PS2	1	Tray 2 upper limit detection signal	On	Off
		PS8	2	Tray 3 upper limit detection signal		
		PS14	3	Tray 4 upper limit detection signal		
		-	4	-		
		PS34	5	Tray 1 feed upper limit detection signal		
		PS35	6	Tray 1 feed lower limit detection signal		
		PS109	7	HCI upper limit detection signal		
		PS101	8	HCI lower limit detection signal		
	017		1	Tray 2 tray set detection signal		
			2	Tray 3 tray set detection signal		
			3	Tray 4 tray set detection signal		
			4	-		
Paper feed/conveyance	020	PS1	1	Tray1 pre-registration detection signal		
		PS7	2	Tray2 pre-registration detection signal		
		PS13	3	Tray3 pre-registration detection signal		
		-	4	-		
		PS107	5	HCI pre-registration detection signal		
	021	PS25	1	Tray 2 vertical conveyance detection signal		
		PS26	2	Tray 3 vertical conveyance detection signal		
		PS27	3	Tray 4 vertical conveyance detection signal		
		-	4	-		
	022	PS106	1	HCI paper feed detection signal		
	023	PS43	1	Transfer paper leading edge detection signal		
		PS36	2	Loop detection signal		
		PS44	3	Second paper feed detection signal		
	024	PS30	1	Fuser exit detection signal		
		PS37	2	MFP paper exit detection signal		
		PS42	3	Paper reverse detection signal		
		PS46	4	Reversed paper exit detection signal		
	025	PS29	1	Vertical conveyance door open/close detection signal	Open	Close
		PS39	2	Front door open/close detection signal (left front door)		
		PS38	3	Front door open/close detection signal (right front door)		
		SW1 SW2	4	Front door open/close detection SW signal		
		PS100	5	HCI top cover open/close detection signal		
		PS110	6	HCI jam access cover open/close detection signal		
		PS40	7	Toner supply door open/close detection signal		
Scanner unit	030	PS61	1	Scanner home position detection signal	Off	On
	031	PS63	1	Document size detection sensor 1 detection signal		
		PS64	2	Document size detection sensor 2 detection signal		
		PS65	3	Document size detection sensor 3 detection signal		
		-	4	-		
		-	5	-		
		-	6	-		
		-	7	-		
		PS51	8	Auto paper timing detection signal	Close	Open
Proper functions	051	SW100		HCI tray down SW	On	Off
	052	C(K)		Key counter	Provided	Not provided

Classification	Code	Symbol	Multi-mode	Name	Display and signal source	
					H	L
ADF	060	PS310	1	Original size detection signal 1	On	Off
		PS309	2	Original size detection signal 2		
		PS304	3	Original registration detection signal 1		
		PS305	4	Original registration detection signal 2		
		PS306	5	Original conveyance detection signal		
		PS303	6	Original ejection detection signal		
		PS301	7	Last original detection signal		
		PS302	8	Original setting detection signal		
		SW301	9	Cover open/close SW detection signal	Off	On
		PS311	10	ADF open/close detection signal	On	Off
		PS307	11	Original skew detection signal/F		
		PS308	12	Original skew detection signal/R		
Finisher	076	PS701	0	Paper exit tray detection signal	Off	On
		PS702	1	Tray upper limit detection signal	On	Off
		PS703	2	Tray lower limit detection signal		
		PS704	3	Finisher entrance detection signal	Off	On
		PS705	4	Stacker entrance detection signal	On	Off
		PS706	5	Paper exit face down tray paper exit detection signal		
		PS707	6	Stapler paper exit upper limit detection signal	Off	On
		PS708	7	Alignment HP/U detection signal	On	Off
		PS709	8	Paper exit belt home position detection signal		
		PS713	9	Stapler rotation home position detection signal		
		PS711	10	Stapler movement home position detection signal		
		PS712	11	Paper exit home position detection signal		
		PS714	12	Clincher rotation home position detection signal		
		PS715	13	Counter reset home position detection signal		
		PS718	14	Shift home position detection signal		
		PS720	15	Stacker no paper detection signal		
		SW702	16	Staple/R SW detection signal	Off	On
		PS730	17	Stapler HP/R detection signal		
		SW701	18	Cartridge/R detection signal		
		M710	19	Clincher /R detection signal	Other than start	Start
		-	20	-	-	-
		PS732	21	Clincher HP/R detection signal	Off	On
		PS719	22	Paper exit tray full detection signal	On	Off
		SW701	23	Finisher interlock SW detection signal		
		SW704	24	Staple/F SW detection signal	Off	On
		PS731	25	Stapler HP/F detection signal		
		SW703	26	Cartridge/F detection signal		
		M715	27	Clincher /F detection signal	Other than start	Start
		-	28	-	-	-
		M733	29	Clincher HP/F detection signal	Off	On
		M707	30	Paper exit motor lock detection signal	Other than controlled speed	Controlled speed
		Finisher	31	Finisher connection signal	Connected	Not connected
		PS722	32	Folding knife home position detection signal	On	Off
		PS723	33	Stopper home position detection signal		

Classification	Code	Symbol	Multi-mode	Name	Display and signal source	
					H	L
Finisher	076	PS724	34	Alignment/L home position detection signal	Off	On
		PS725	35	Folding exit detection signal		
		PS726	36	Folding passage detection signal		
		PS729	37	Folding full detection signal	Other than full	Full
Finisher		M720	39	Folding conveyance motor lock detection signal	Other than controlled speed	Controlled speed
PI		M203	44	PI conveyance motor	Other than controlled speed	Controlled speed
		-	45	-	-	-
-		-	46	-	-	-
		-	47	-	-	-
		-	48	-	-	-
		-	49	-	-	-
		-	50	-		
		-	51	-	-	-
PI		PS201	52	PI passage /U detection signal	On	Off
		PS206	53	PI passage /L detection signal		
Finisher		PS716	61	Gate home position detection signal	On	Off
-		-	62	-	-	-
		-	63	-	-	-
PI		PS202	64	No sheet /U detection signal	Off	On
		PS203	65	Sheet setting /U detection signal		
		PS205	66	Tray lower limit/U detection signal	On	Off
		PS204	67	Tray upper limit/U detection signal		
			68	PI start /stop detection signal	Off	On
			69	PI punch SW detection signal		
			70	PI mode SW detection signal		
		SW201	71	PI interlock SW detection signal		
		PS207	72	No sheet /L detection signal		
		PS208	73	Sheet setting /L detection signal		
		PS210	74	Tray lower limit /L detection signal	On	Off
		PS209	75	Tray upper limit /L detection signal		
		-	76	-	-	-
		PS212	77	Sheet size/ L detection signal	Off	On
		-	78	-	-	-
		PI	79	PI connection signal	Not connect	Connect
		-	80	-	-	-
		-	81	-		
		-	82	-		

Classification	Code	Symbol	Multi-mode	Name	Display and signal source	
					H	L
PK		PS801	83	Punch home position detection signal	On	Off
		-	84	-	-	-
		-	85	-		
		PS802	86	Punch waste full detection signal	Off	On
		PS804	87	Punch waste box detection signal	Set	Other than set
		-	88	Paper edge PS (side edge sensor 1)	No paper	With paper
			89	Paper edge PS (side edge sensor 2)		
			90	Paper edge PS (side edge sensor 3)		
			91	Paper edge PS (side edge sensor 4)		
			92	Paper edge PS (side edge sensor 5)		
		PS803	93	Punch shift home position	On	Off
		-	94	Punch kit detection	Off	On
ADU	080	PS45	1	ADU reverse detection signal	On	Off
		PS48	2	ADU conveyance detection signal /2		
		PS49	3	ADU deceleration detection signal		
		PS50	4	ADU pre-registration detection signal		
		PS47	5	ADU handle detection signal		

Output checklist

Classification	Code	Symbol	Multi-mode	Name	Cannot be set or changed in field
Analog signal	000	L1		*1 Exposure lamp	
	001	M13		Toner bottle motor	
	002	HV		Charger	×
	003			Transfer	×
	004			Separation (AC+DC)	×
	005			D max LED	×
	006			γ LED	×
	007			Jam detection LED	×
	008	HV		Transfer access guide plate	×
	009			Bias	
	010			Toner guide roller	×

Classification	Code	Symbol	Multi-mode	Name	Cannot be set or changed in field
Paper feed	020	SD100		HCI paper feed pickup SD	
	021			Feed CL	
		CL3	1	Tray 2	
		CL5	2	Tray 3	
		CL7	3	Tray 4	
		-	4	-	
		CL101	5	HCI	
		CL11	6	Vertical conveyance CL1	
		CL12	7	Vertical conveyance CL2	
	022			Pre-registration CL	
		CL4	1	Tray 2	
		CL6	2	Tray 3	
		CL8	3	Tray 4	
		-	4	-	
		CL102	5	HCI	
	023			Tray up motor /HCI up/down motor	
		M16	1	Tray 2	
		M17	2	Tray 3	
		M18	3	Tray 4	
		-	4	-	
		M100	5	HCI up	
			6	HCI down	
		M20	7	Tray 1 up	
			8	Tray 1 down	
	025	CL1		Registration CL	
	026	M6		Loop roller motor	
			1	Loop motor H (470 mm/s), forward	
			2	Loop motor L (320 mm/s), forward	
			3	Loop motor L (280 mm/s), forward	
			4	Loop motor L (185 mm/s), forward	
			5	Loop motor H (470 mm/s), backward	
			6	Loop motor L (320 mm/s), backward	
			7	Loop motor L (280 mm/s), backward	
			8	Loop motor L (185 mm/s), backward	
	027	M7		Paper exit motor	
			1	Paper exit motor (320 mm/s)	
			2	Paper exit motor (280 mm/s)	
			3	Paper exit motor (185 mm/s)	
			4	Paper exit motor (660 mm/s)	
	028	M1	1	Paper feed motor	
		M101	2	HCI paper feed motor (470 mm/s)	
	029	SD1		Separation claw SD	

Classification	Code	Symbol	Multi-mode	Name	Cannot be set or changed in field
Scanner unit	031	M11		* 2 Scanner drive motor	
	032	M15		* 3 Polygon motor	
			0	320 mm/s	
			1	280 mm/s	
			2	185 mm/s	
	034			* 4 Shading correction	
	037			-	
	038			-	

Note

When the START key is pressed, `Watch input?` [YES] and [NO] appears. When [YES] or [NO] is selected for each code, the following operation is performed:

***1** [YES] Turns on the exposure lamp and scanner cooling fan.
[NO] Turns on the exposure lamp for 10 minutes.

***2** [YES] Performs home position search and scanner to-and-fro operations.
[NO] Moves the scanner 10 mm to the right.

***3** [YES] Turns on the polygon motor and laser/scanner assembly cooling fan.
[NO] Turns on the polygon motor for 30 seconds.

***4** [YES] Performs home position search and shading operations.
[NO] Moves the scanner 10 mm to the right.

Classification	Code	Symbol	Multi-mode	Name	Cannot be set or changed in field
MFP	040	M4		Fuser motor	
			0	Fuser motor (320 mm/s)	
			1	Fuser motor (280 mm/s)	
			2	Fuser motor (185 mm/s)	
	041	M2/M3		Drum motor	
			0	Drum motor/Developing motor (320 mm/s)	
			1	Drum motor/Developing motor (280 mm/s)	
			2	Drum motor/Developing motor (185 mm/s)	
	042		M	Fan motor	
		FM9	1	Scanner cooling fan	
		FM2	2	Laser/scanner assembly cooling fan (high)	
			3	Laser/scanner assembly cooling fan (low)	
		FM3	4	Conveyance suction fan	
		FM4	5	Developing suction fan	
		FM1	6	MFP cooling fan (high)	
			7	MFP cooling low)	
		FM5	8	Cleaner cooling fan (high)	
			9	Cleaner cooling fan (low)	
		FM8	10	MFP cooling fan/2	
		FM13	11	Power supply cooling fan	
		FM10	12	ADU reverse motor cooling fan	
	043			Counter	
		-	1	Total counter	
			2	Key counter	
	045	-	1	-	
			2	-	
			3	-	
		SD2	4	Fuser web SD	
	046	M14		Charger cleaning motor	
			0	To-and-fro operation	
			1	Move to rear	
			2	Move to front	
	047	M10		Transfer/separation cleaning motor	
			0	To-and-fro operation	
			1	Move to rear	
			2	Move to front	
	048	-		Illuminate all LEDs on the operation board	
	049	-		Operation unit check	
	050	M2/M3		Developing motor/drum motor	
	051	PCL		PCL	
	052	TSL		TSL	
	054	CL14		Toner recycle CL	
	055	-		Message test	
	056	M12		Toner supply motor	
	057			-	
	058			-	
	059			-	

Classification	Code	Symbol	Multi-mode	Name	Cannot be set or changed in field
ADF	060	M301	1	Original feed motor (forward)	
			2	Original feed motor (backward)	
		M302	3	Original conveyance motor (forward)	
			4	Original conveyance motor (backward)	
		CL301	5	Paper feed CL	
		SD303	6	Pressure roller release SD	
		SD301	7	Reverse gate SD	
		SD302	8	Paper exit gate SD	
		FM301	9	Original conveyance motor cooling fan	
Finisher	075	M701	1	Finisher conveyance motor	
		M702	2	Shift motor (home position search)	
			3	Shift motor (moves to the shifting position)	
			4	Shift motor (one turn)	
		M703	5	Tray up/down motor (home position search)	
			6	Tray up/down motor (moves to the lower limit)	
			7	Tray up/down motor (up/down operation in the case of small quantity of staple mode)	
		M705	8	Alignment motor /U (home position search)	
		M707	9	Paper exit roller motor (staple mode home position search)	
		M707	10	Paper exit roller motor (reverse)	
		M708	11	Paper exit opening motor (home position search)	
			12	Paper exit opening motor (shifts the opening)	
		M709	13	Stapler motor /R (initial)	
			14	Stapler motor /R (stapling operation)	
		M714	15	Stapler motor /F (initial)	
			16	Stapler motor /F (stapling operation)	
		M711	17	Stapler movement motor home position search (moves 2 stapling positions)	
			18	Stapler movement motor home position search (moves 1 stapling position for letter/A4)	
		M713	19	Stacker entrance motor	
		M718	20	Stopper motor (home position search)	
		M716	21	Alignment motor /L (home position search)	
		-	22	-	
		M719	23	Folding knife motor (home position search)	
		M720	24	Folding conveyance motor	
		-	25	-	
		-	26	-	
		-	27	-	
		-	28	-	
		-	29	-	
		SD704	31	Paper exit SD	
		SD705	32	Tray 1 gate SD	
		M705	33	Alignment /U motor (open)	
			34	Alignment /U motor (close)	
			35	Alignment /U motor (rocking)	

Classification	Code	Symbol	Multi-mode	Name	Cannot be set or changed in field
Finisher	075	M716	36	Alignment motor /L (open)	
			37	Alignment motor /L Close (letter/A4 position) only allowed from home position	
			38	Alignment motor /L rocking (only allowed from open position)	
		M718	39	Stopper motor	
		-	40	-	
		FM701	41	Stacker fan	
		-	50	-	
		-	51	-	
		-	52	-	
		M8	53	Punch switching motor (2-hole position movement)	
		M8	54	Punch switching motor (3/4-hole position movement)	
		-	55	-	
		-	56	-	
		-	57	-	
		-	58	-	
		-	59	-	
		-	60	-	
		-	61	-	
		-	62	-	
		-	63	-	
PI		CL202	64	Conveyance CL /L	
		M202	65	Tray up/down motor /L (move to the lower limit)	
			66	Tray up/down motor /L (home position research)	
		SD202	67	Sheet feed SD /L	
		-	68	-	
		-	69	-	
		-	70	-	
		-	71	-	
PK		M801	78	Punch motor	
		M802	79	Punch shift motor (home position search)	
		-	80	-	
PI		CL201	83	Conveyance CL /U	
		M201	84	Tray up/down motor /U (rise)	
			85	Tray up/down motor /U (home position search)	
		SD201	86	Sheet feed SD /U	
		M203	87	PI conveyance motor	

Classification	Code	Symbol	Multi-mode	Name	Cannot be set or changed in field
Finisher	075	M712	88	Gate drive motor (home position search: paper exit tray direction)	
			89	Gate drive motor (switches the stacker direction)	
			90	Gate drive motor (switches the paper exit face down tray direction)	
		M721	91	Sub-tray paper exit motor	
		M704	92	Clincher rotation motor (home position search)	
			93	Clincher rotation motor (skew shift)	
		M706	94	Stapler rotation motor (home position search)	
			95	Stapler rotation motor (skew shift)	
		SD706	96	Three folding SD	
Finisher			99	Finisher paper-less running mode	
ADU	080		1	Reverse gate SD	
			2	ADU lock SD	
	081	CL13		ADU conveyance CL	
	082	CL2		ADU conveyance CL	
	083	M5		Second paper feed motor	
	084	M9		ADU reverse motor	
			1	Forward (320 mm/s)	
			2	Forward (280 mm/s)	
			3	Forward (185 mm/s)	
			4	Forward (600 mm/s)	
			5	Forward (700 mm/s)	
			6	Backward (660 mm/s)	
			7	Backward (577 mm/s)	
			8	Backward (382 mm/s)	
	085	-	-	-	
	086	M8		Reversed paper exit motor	
			1	Forward (320 mm/s)	
			2	Forward (280 mm/s)	
			3	Forward (185 mm/s)	
			4	Forward (600 mm/s)	
			5	Forward (700 mm/s)	
			6	Backward (660 mm/s)	
Adjustment process	092			Process initial set (prohibited in the field)	X
	093			-	
	094			Adjustment mode display mode	
	096			Finished process and shipment setting (prohibited in the field)	X
	097			DIMM capacity check for electronics RDH	
	098			DIMM check for electronics RDH	
	099	Hard disk	1	Hard disk total capacity check	
			2	Hard disk remaining capacity check	
			3	Hard disk bad sectors check and recovery	

Other adjustments

Tray centering adjustment

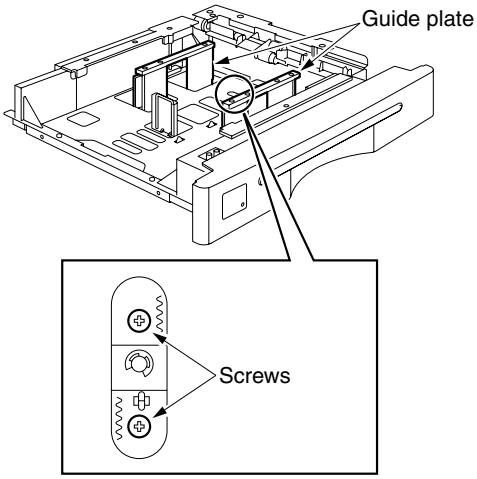
Note

Image placement is normally centered by the ICB using data from the paper mis-centering sensor, PS70. Tray centering adjustments are only required when the amount of mis-centering exceeds the automatic correction range (± 3 mm).

Tool

- Screwdriver (Phillips)

Tray 2/3/4 centering adjustment



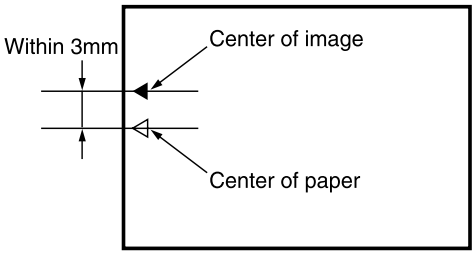
Adjustment method

Step	Operation
1	Draw out the tray.
2	Loosen the two screws at the centre of the tray.
3	Slide the guide plate to adjust the centre position.
4	Tighten the two screws securely.
5	Insert the tray and make a copy to check the result.
6	Perform steps 1-5 repeatedly until mis-centering is included in the automatic adjustment range (±3 mm).
7	Perform the tray adjustment in 3-6 mode.

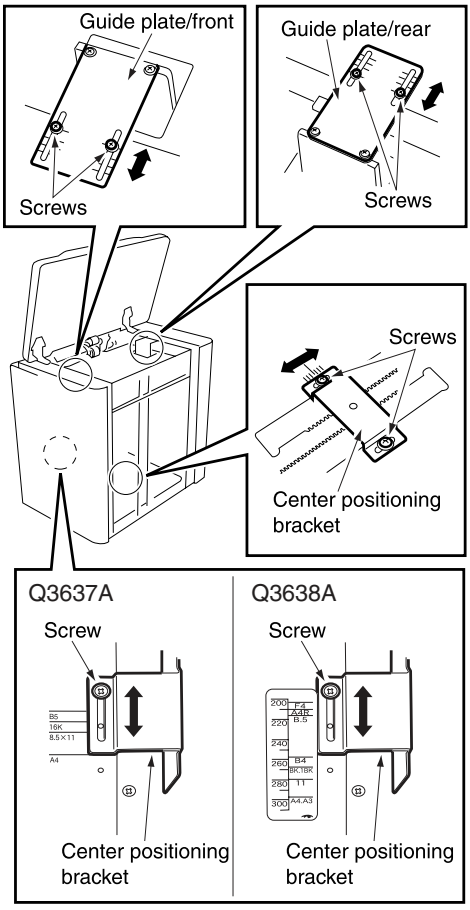
Note

Disable the mis-centering correction function by setting the dip switch 12-3 and confirm it. (Enter 1 to set to on.) Confirm it using the internal pattern No.16

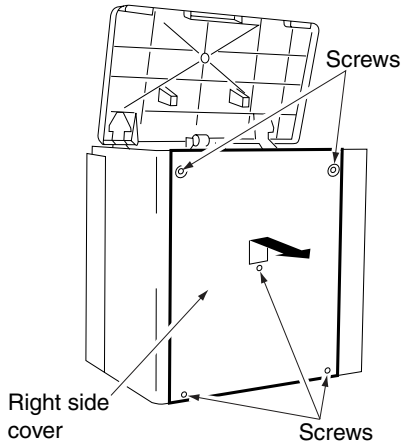
Standard value of mis-centering: within 3mm



HCI centering



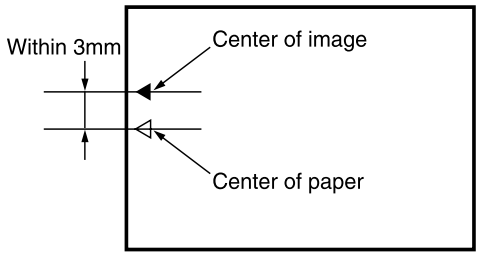
Adjustment method

Step	Operation
1	Raise the lift plate.
2	Open the top cover.
3	Remove five screws to detach the side cover (right). 
4	Loosen two screws on the upper part of the HCI to slide the guide plates (front/rear) the same amount in the same direction.
5	Secure the guide plates by tightening two screws firmly.
6	Loosen three screws to slide the centre positioning brackets the same amount in the same direction as you did for the guide plates (front/rear) in the step 4.
7	Secure the centre positioning brackets by tightening three screws firmly.
8	Put the HCI back into the original position and make a copy to check the result.
9	Perform steps 1-8 repeatedly until mis-centering is included in the automatic adjustment range (±3 mm).

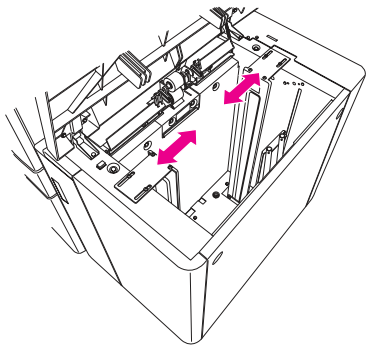
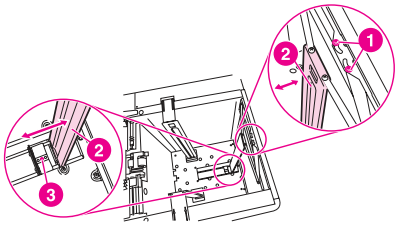
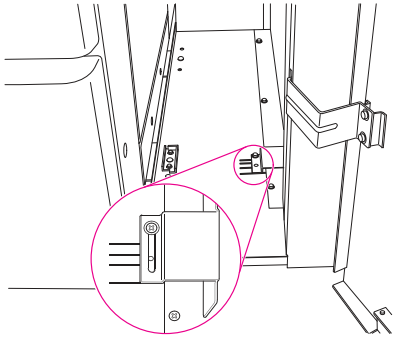
Note

Disable the mis-centering correction function by setting the dip switch 12-3 (Enter 1 to set on) and confirm it. Confirm it using the test pattern No.16.

Standard value of mis-centering: within 3mm



HCI: Paper size adjustment

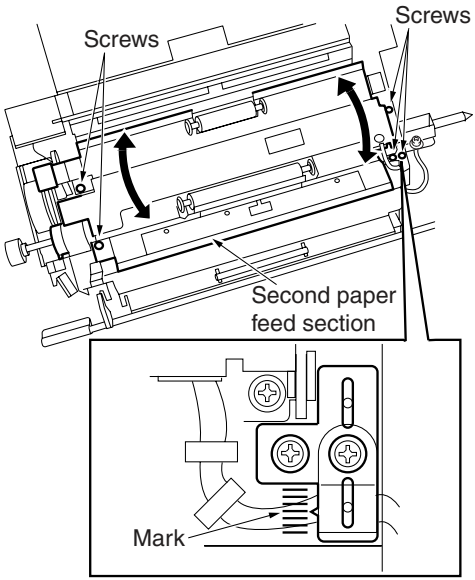
Step	Operation
1	Open the HCI top cover.
2	Loosen the screws on the paper guide side plates, move the plates to the appropriate size, and then tighten the screws. 
3	To set the rear paper guide plate: ● For the A4/Letter HCI, the rear paper guide plate is adjusted by moving it against the paper stack. ● For the A3/Ledger HCI, complete the following steps: **a** Open the HCI top cover. **b** Press the switch to lower the tray to the bottom. **c** Loosen the 2 screws (**1**) at the top of the rear paper guide plate (**2**) and 1 screw (**3**) at the bottom the rear paper guide plate.  **d** Set the appropriate paper size in the tray and align the bottom of the rear paper guide plate to the edge of the paper, then remove the paper. **e** Slightly tighten the two screws at the top of the rear paper guide plate. **f** Close the HCI top cover, then open it. **g** Set the paper in the tray and align the top of the rear paper guide plate to the edge of the paper. **h** Tighten the two screws at the top of the rear paper guide plate the rest of the way.
4	Loosen the screw of the bottom plate, move the plate to the appropriate size, and then tighten the screw again. 
5	Load paper into the tray.
6	While holding both the **2** and the **5** key on the numeric keypad, turn on the secondary MFP power switch. Continue holding the keys until the HP logo appears.
7	Select the `Paper size setting` menu on the control panel, and change the paper size to the size the tray has been set to.

MFP skew adjustment

Tool

- Screwdriver (Phillips)

Adjustment method



Step	Operation
1	Make a copy to measure for skew.
2	Loosen the five screws securing the second paper feed unit.
3	Rock the second paper feed unit to adjust using the mark as a guide.
4	Retighten the five screws.
5	Make adjustments by repeating steps 2 to 4 until the skew becomes within the specified range.

Specified range: Paper skew ±5 percent or less
(Paper skew in the paper feed direction)

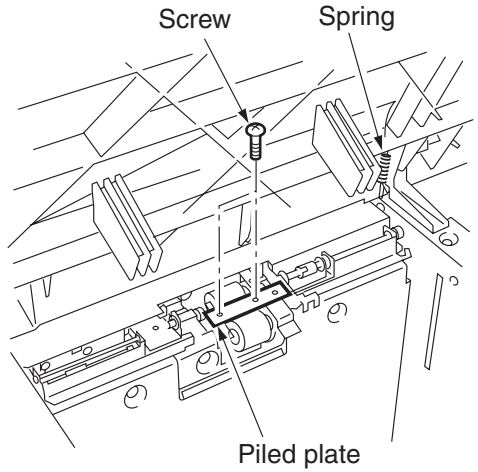
HCI pick roller pressure adjustment (ledger/A3 only)

Note This adjustment may be required if paper will not feed from the HCI. Contact HP support for information on how to obtain weight plates.

Tool

- Screwdriver (Phillips)

Adjustment method



Step	Operation
1	Open the top cover.
2	Remove the spring.
3	Install a weight plate above the paper pick rollers using the two screws.
4	Make a copy to check whether paper is fed properly.
5	If paper is not fed properly, add another weight plate and repeat steps 5 and 6.
6	Install the spring.

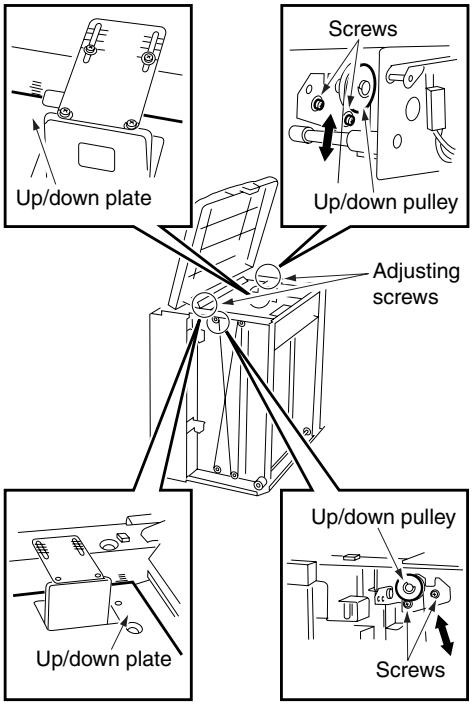
HCI lift plate horizontal adjustment

CAUTION Lift plate horizontal adjustment must be carried out when a paper feed jam occurs frequently or after replacement of the up/down wires of a tray.

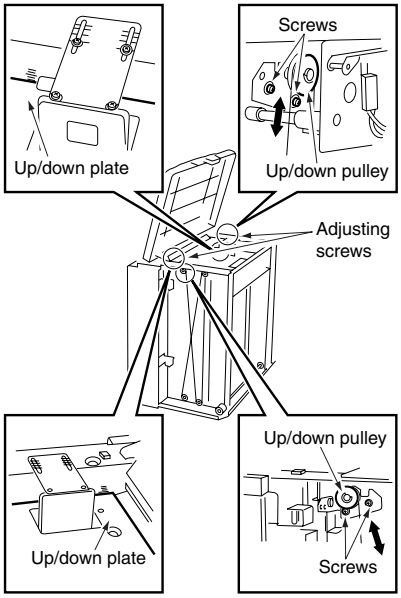
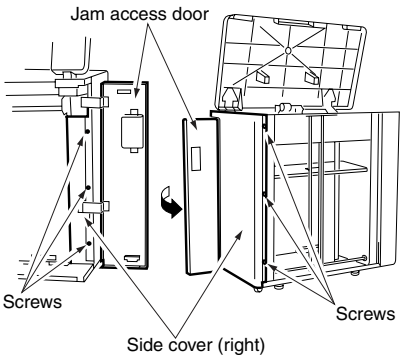
Tool

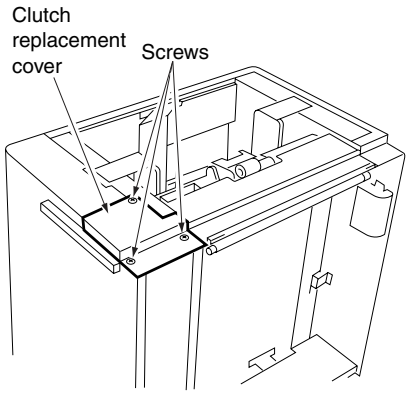
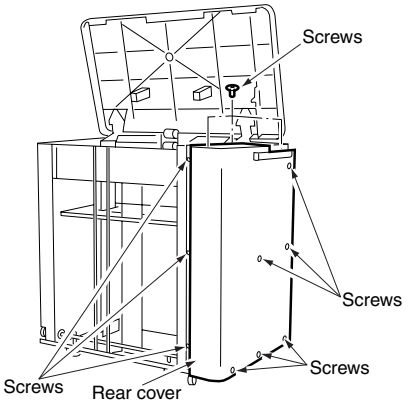
- Screwdriver (Phillips)

HCI lift plate horizontal adjustment (Letter/A4)

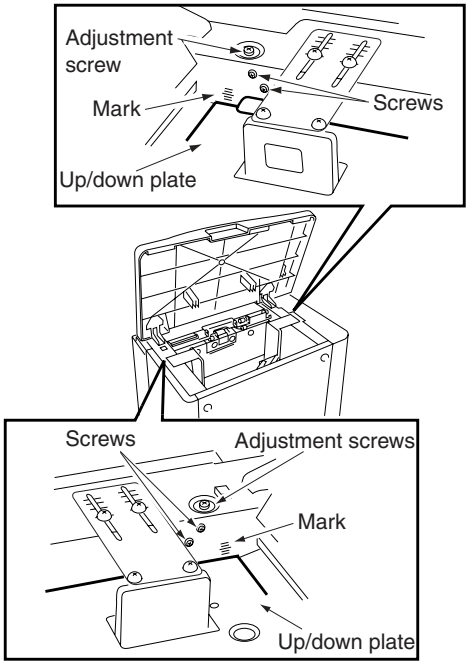


Adjustment method

Step	Operation
1	Raise the lift plate.
2	Open the top cover.
3	Remove five screws to detach the side cover (right). 
4	Open the jam access door, then remove six screws to detach the front cover. 

Step	Operation
5	Remove three screws to detach the clutch replacement cover. 
6	Remove twelve screws to detach the rear cover. 
7	Loosen two screws and adjust the position for each up/down pulley using an adjustment screw so that the front and rear of the lift plate are at the same height.
8	Fasten two screws securely for each up/down pulley to fix its position.
9	Install the rear cover, clutch replacement cover, front cover, and side cover (right).

HCI lift plate horizontal adjustment (Ledger/A3)



Adjustment method

Step	Operation
1	Lift the lift plate up.
2	Open the top cover.
3	Loosen the two screws and adjust the position using an adjustment screw and the mark so that the front and rear of the lift plate are at same height.
4	Fasten the two screws securely.

HCI skew adjustment

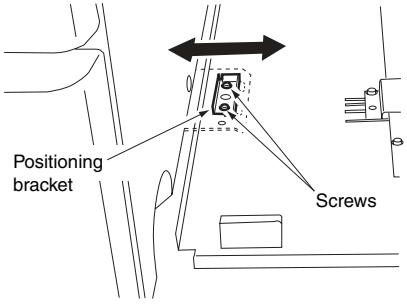
CAUTION Skew adjustment is required when the paper supplied from the current tray is different from the paper supplied from other trays in the way it is skewed. However, this adjustment has little effect because skew of paper supplied from all trays is corrected in the second paper feed unit.

Tool

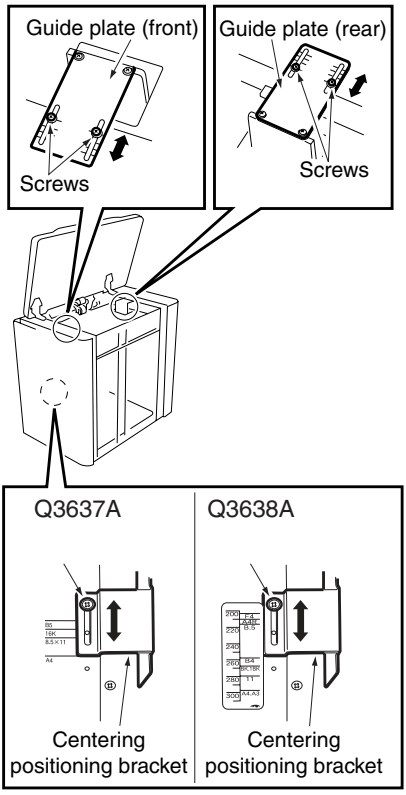
- Screwdriver (Phillips)

HCI skew adjustment

Adjustment method (when all printed sheets are skewed)

Step	Operation
1	Print a test pattern (No. 16) in the continuous copy mode to check for skew.
2	Open the jam access door of the HCI and adjust the installation position of the positioning bracket on the bottom plate. 

Adjustment method (when some printed sheets are skewed irregularly)

Step	Operation
1	Print a test pattern (No. 16) in the continuous copy mode to check for skew.
2	Remove the side cover (right).
3	Loosen the five screws securing the guide plates (front and rear) and the centering positioning bracket temporarily. Press the guide plates (front and rear) against paper, then tighten the five screws. 

Reference: The indicated size of each guide plate is about 2 mm wider than the size of regular paper. The 2 mm gap may cause paper skew depending on the paper type. To reduce this skew, press the guide plates (front and rear) against paper tightly.

Trays 1-4, HCI, and PI spring pressure adjustment

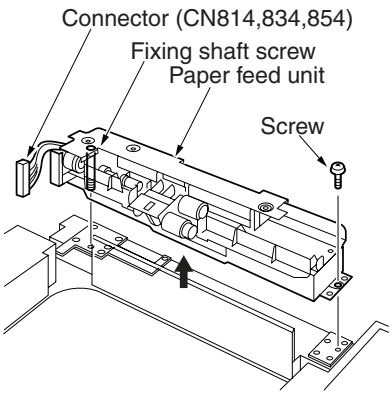
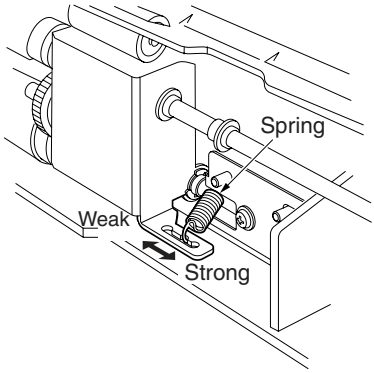
CAUTION Tray spring pressure adjustment must be performed when no feed or double feed of paper occurs. Tray spring pressure may be affected by the type of paper used or the operating environment (under low temperature conditions, no feed of paper tends to occur. Under high temperature conditions, double feed of paper tends to occur). Excessive adjustment of tray spring pressure may exacerbate the problem. Take care.

Tool

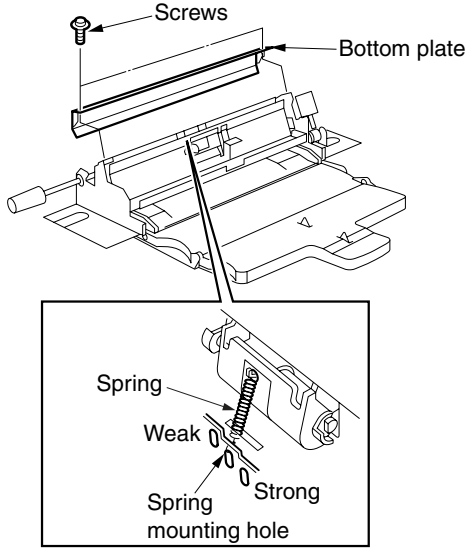
- Screwdriver (Phillips)
- Flat-nose pliers

Tray 2/3/4 Spring pressure adjustment

Adjustment method

Step	Operation
1	Remove the tray.
2	Remove one screw, loosen one hold-down shaft screw, and detach the paper feed unit. 
3	Change the spring hooking position at the bottom of paper feed unit. Double feed is prevented. No feed is prevented. **Reference:** The spring load changes about 10 percent each time the spring is hooked in the next slot. 
4	Set the tray.

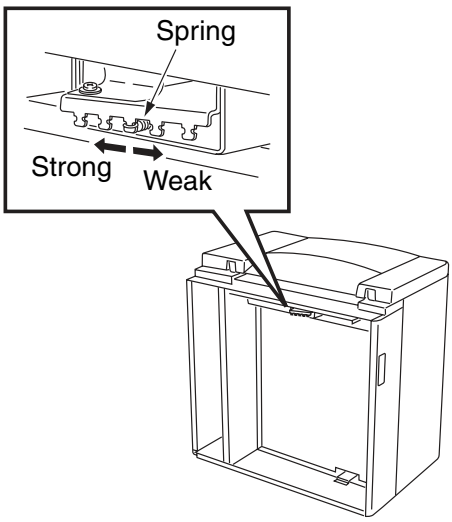
Tray 1 Paper feed spring pressure adjustment



Adjustment method

Step	Operation
1	Remove the Tray 1.
2	Remove two screws and detach the bottom plate assembly.
3	Change the spring hooking position. **Weak:** Double feed is prevented. **Strong:** No feed is prevented. **Reference:** The spring load changes about 15 percent each time the spring is hooked in the next slot.
4	Install Tray 1.

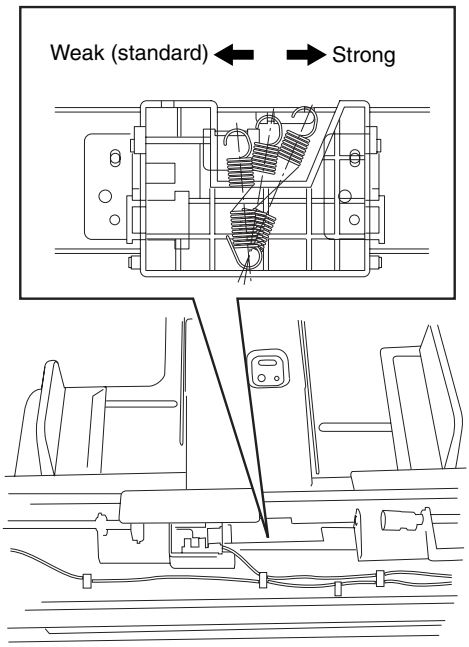
HCI Spring pressure adjustment



Adjustment method

Step	Operation
1	Remove the HCI from the MFP.
2	Change the spring hooking position. **Weak:** Double feed is prevented. **Strong:** No feed is prevented. **Reference:** The spring load changes about 10 percent each time the spring is hooked in the next slot.
3	Re-install the HCI.

PI Spring pressure adjustment



Adjustment method

Step	Operation
1	Remove the following parts. ● Top cover ● Paper pick roller unit ● Separation roller
2	When adjusting the spring pressure for the lower tray, open the upper unit and detach the following parts. Paper pick roller unit Separation roller
3	Using flat-nose pliers, change the spring hooking position through the hole at separation roller. **Weak:** Double feed is prevented. **Strong:** No feed is prevented. **Reference:** Normally the spring hooking position should be changed when no feed occurs. However, if the setting for this position is too strong, double feed may occur for normal paper.
4	Install the parts, following the removal steps in reverse.

HCI paper feed height upper limit adjustment

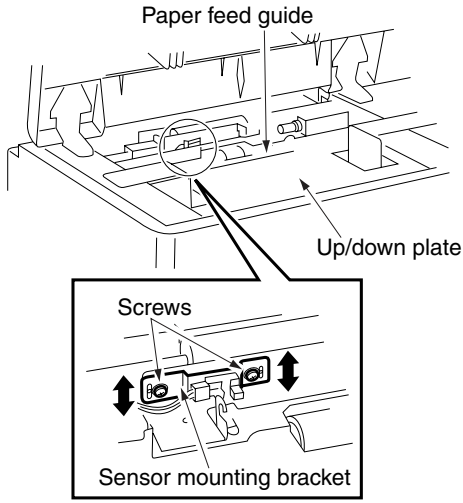
CAUTION Paper feed height (upper limit) adjustment must be performed when no paper feed occurs, when the leading edge of the fed paper is folded, or when a convexly curled paper is fed. To perform this adjustment, move the upper limit sensor mounting bracket vertically.

CAUTION This adjustment may affect the release amount of the pick-up so that the **pick-up roller release amount adjustments** must be performed after this adjustment.

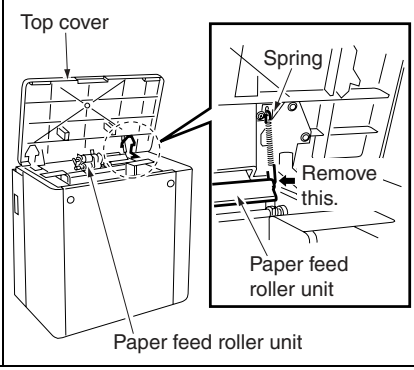
Tool

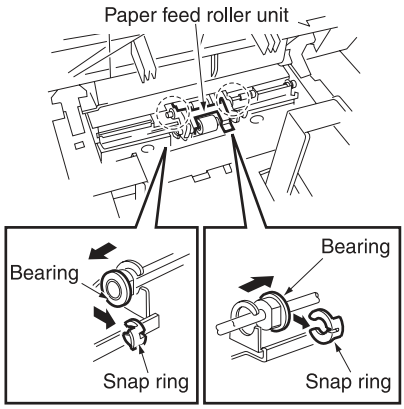
- Screwdriver (Phillips)
- Scale

HCI adjustment of paper feed height (upper limit)



Adjustment method

Step	Operation
1	Move the lift plate up.
2	Open the top cover.
3	Measure the distance between the top surfaces of the paper feed guide and paper lift plate and check whether it is within specifications. Standard value: 2 to 5 mm If the leading edge of the paper is folded irrespective of whether the above distance is within specifications, perform steps 4 to 9.
4	Remove the spring from the paper pick-up roller unit. 

Step	Operation
5	Remove two snap rings to slide the two bearings outward, then remove the paper pick roller unit. 
6	Remove two screws securing the sensor mounting bracket and install them in the outside mounting holes (oblong holes) temporarily.
7	When the heights are not within specifications Adjust the position of the sensor mounting bracket vertically so that the distance between the top surfaces of the paper feed guide and paper lift plate is within the specifications. When raising the height of the paper lift plate, lower the sensor mounting bracket. When lowering the height of the paper lift plate, raise the sensor mounting bracket. When any fault has occurred. When the paper has folded leading edge. When the paper has dented curl, raise the sensor mounting bracket. When the paper has convex curl, lower the sensor mounting bracket.
8	Install the paper pick roller unit and spring.
9	Close the top cover.

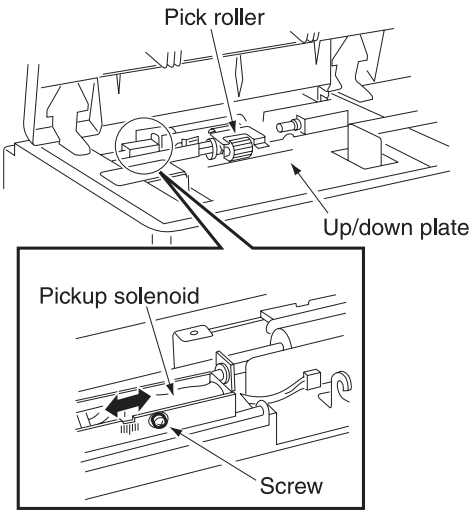
HCI pick-up release amount adjustment

CAUTION Pick-up release amount adjustment must be performed when a no-feed jam occurs frequently. To perform this adjustment, adjust the mounting position of the pick-up solenoid.

Tool

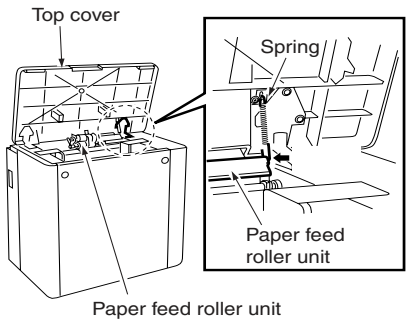
- Screwdriver (Phillips)
- Scale

HCI pick-up release amount adjustment



Adjustment method

Step	Operation
1	Move the paper lift plate up.
2	Open the top cover.
3	Remove the paper feed pick-up cover/B.

Step	Operation
4	Remove the spring from the paper pick roller unit. 
5	Pull the moving parts of the pick-up solenoid and check whether the distance between the bottom surface of the paper pick roller and the top surface of the lift plate is within specification. **Specification:** 0.5 to 2.5 mm If the distance is out of spec, perform steps 5 to 10.
6	Loosen one screw and adjust the mounting position for the pick-up solenoid. Make a note to remember the initial mounting position.
7	Secure the pick-up solenoid by tightening the screw.
8	Install the spring.
9	Install the paper feed pick-up cover/B.
10	Close the top cover.

ADF: aligning on top of scanner

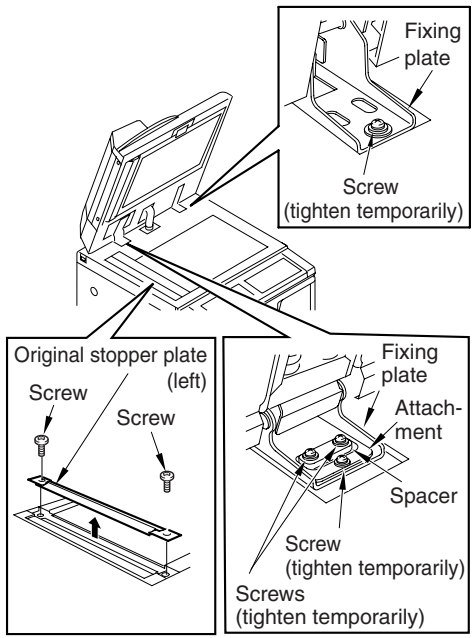
CAUTION Make sure the power cord of the main unit has been unplugged from the wall outlet.

Procedure

1 Place the ADF on the top of the main unit and loosely secure each of the two fixing plates with two screws.

2 Secure the attachment and spacer to the left fixing plate, and loosely secure it with two screws.

3 Remove two screws to detach the original stopper plate (left).



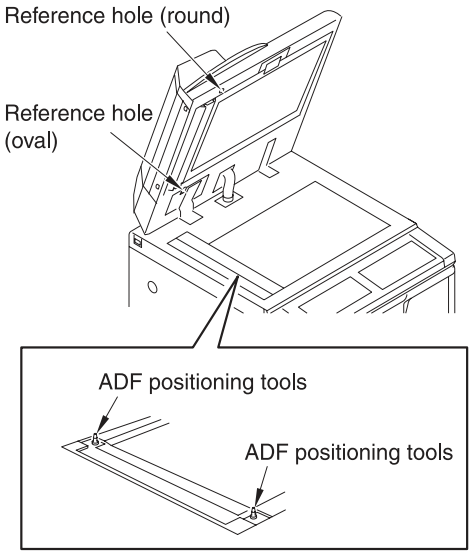
4 Follow the removal procedure in reverse and install the cable conduit and four relay connectors (CN612 to CN615).

5 Install two ADF positioning tools in the mounting holes of the original stopper plates (left).

6 Close the ADF to connect the reference holes and ADF positioning tools.

7 Install three screws to secure each of the two fixing plates with three screws following the removal procedure in reverse.

8 Open the ADF and tighten all of the four screws to secure the two fixing plates.



9 Remove the ADF positioning tools and install the original stopper plate (left) with two screws.

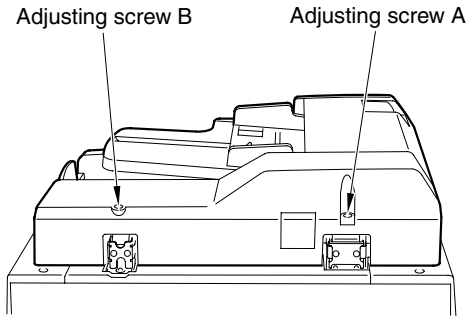
10 Perform the alignment to ADF glass.

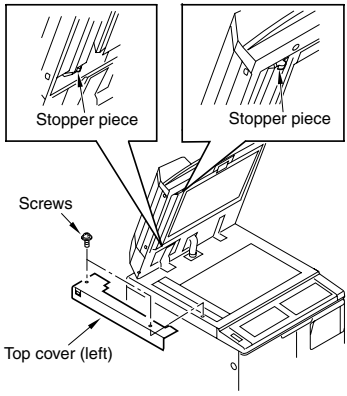
ADF: alignment to ADF glass

Tool

- Screwdriver (Phillips)
- Open-end wrench or flat-nose pliers

Adjustment method

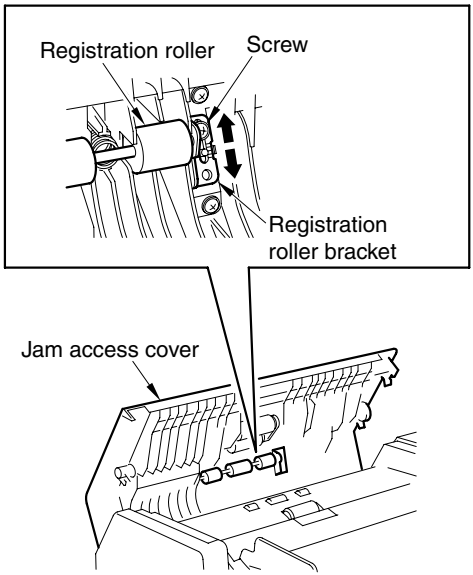


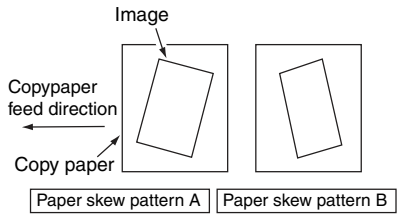
Step	Operation
1	Open the ADF, remove two screws, and detach the top cover (left). Place a piece of paper on both sides of the ADF glass below each stopper piece. 
2	Close the ADF.
3	Both pieces of paper should be held in place by the weight of the ADF, but can be pulled out with very little force.The amount of force required should be about the same for both pieces.
4	If the ADF pressure on the pieces of paper is too little or too great, make adjustments using adjusting screws A and B alternately.
5	Repeat steps 3 and 4 until the pieces of paper are held in place by the ADF, but can be removed with very little force.
6	Replace the top cover (left).

ADF: paper skew adjustment

Face side of original paper skew adjustment

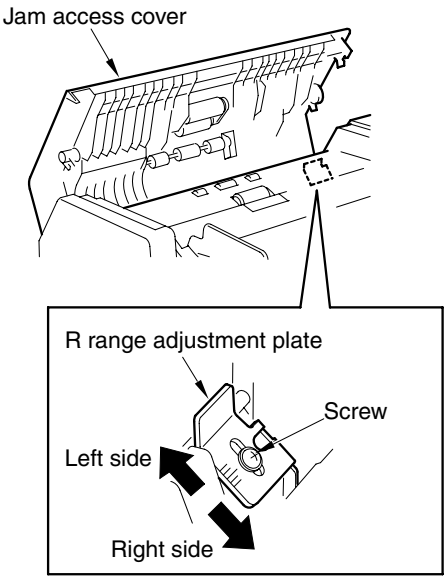
Note Perform this adjustment after completing the ADF skew adjustment described in the previous page.

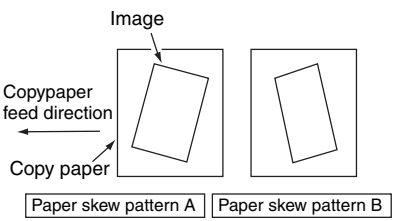


Step	Operation
1	Make a copy in the single-sided to single-sided copy mode, then check the skew of the original. (Either pattern A or B) 
2	Open the jam access cover.
3	Loosen the retaining screw to release the registration roller bracket.
4	Move the registration roller bracket one calibration in the direction below according to the paper skew pattern. For skew in pattern A: Move the registration roller bracket downwards (direction down with original feed flow). For skew in pattern B: Move the registration roller bracket upwards (direction up towards original feed flow).
5	Repeat steps 2 to 4 until the original skew is within specified range (0.5 percent or less).

Specified range: Paper skew ±0.5 percent or less (Paper skew in the paper feed direction)

Back side of original paper skew adjustment



Step	Operation
1	Make a copy in the double-sided/single-sided copy mode, then check the skew of the original. (Either pattern A or B) 
2	Open the jam access cover.

Step	Operation
3	Loosen the set screw and release the R range adjustment plate.
4	Move the R range adjustment plate one calibration in the direction below according to the paper skew pattern. For skew in pattern A: Move the R range adjustment plate to left side. For skew in pattern B: Move the R range adjustment plate to right side.
5	Repeat steps 2 to 4 until the original skew is within specified range (0.5 percent or less).

Specified range: Paper skew ±0.5 percent or less (Paper skew in the paper feed direction)

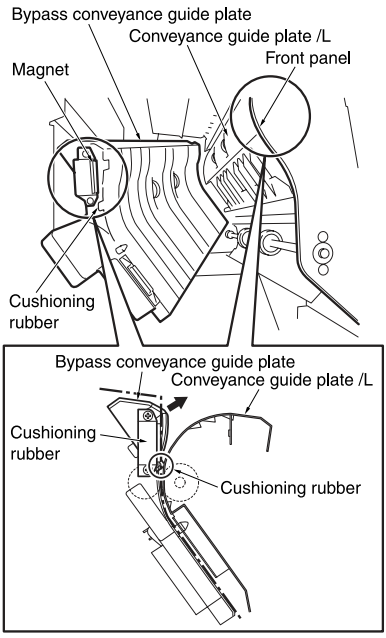
Finisher: adjusting the magnets on the bypass conveyance guide plate

Tool

- Screwdriver (Phillips)

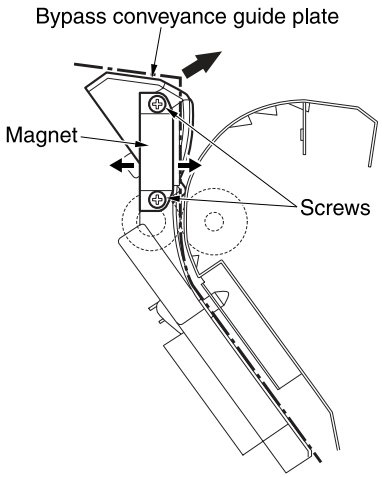
Adjustment method

1 Preparation

Step	Operation
1	Open the front door.
2	When the magnet on the tray 1 conveyance guide plate is stuck to the front panel, check whether the stopping piece of the plate makes contact with the conveyance guide plate /L. 
3	If the stopping piece of the bypass conveyance guide plate does not make contact with the conveyance guide plate /L, perform the following adjustment:

2 Adjustment

Step	Operation
1	Loosen the two screws securing the magnet.
2	Adjust the bypass conveyance guide plate to the direction indicated by the arrow, and press it against the conveyance guide plate /L.

Step	Operation
3	Adhere the magnets to the front panel and retighten the magnet securing screws. 
4	Close the front door.

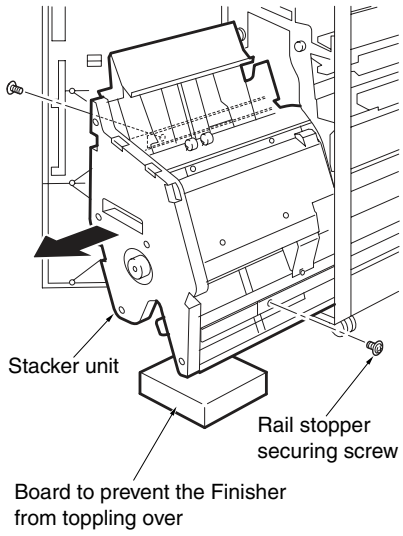
Finisher: adjusting the bypass gate

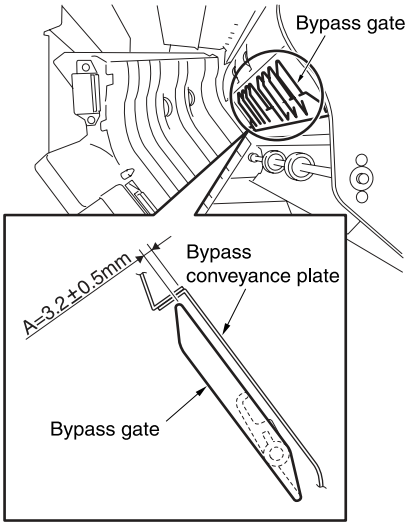
Tool

- Screwdriver (Phillips)
- Scale

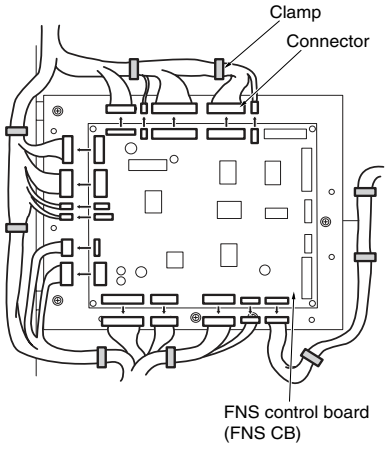
Adjustment method

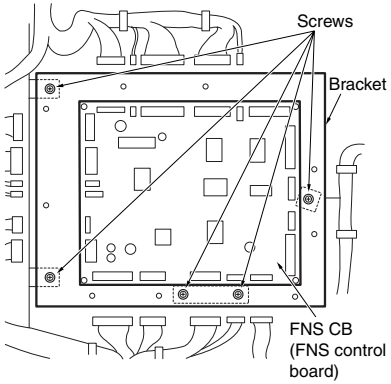
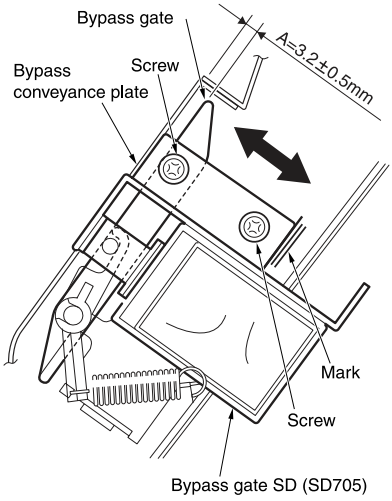
1 Preparation

Step	Operation
1	Open the front door.
2	Draw out the stacker unit.
3	Remove the 2 screws securing the rail stopper, and pull out the stacker unit even further. To prevent the finisher from toppling over, place a board or the like to support the pulled-out unit. 
4	Open the bypass conveyance guide plate.

Step	Operation
5	When the bypass gate (SD705) is Off, check the gap between the bypass gate and the bypass conveyance plate is within the standard value. **Specifications:** A=3.2±0.5 mm 
6	If the gap is not within the standard value, perform the following adjustment.

2 Adjustment

Step	Operation
1	Take off the rear cover.
2	Remove all cable assembly from the connectors and clamps connecting to finisher control board (finisher CB). 

Step	Operation
3	Remove five screws and detach the finisher control board (finisher CB) together with its bracket. 
4	Loosen two screws securing the Tray 1 gate SD (SD705) and adjust the position of SD705 so that the gap between the Tray 1 gate and Tray 1 conveyance plate becomes within the standard value. 
5	Reinstall the parts in the opposite sequence to removal.

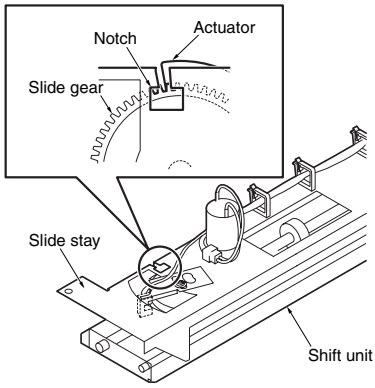
Finisher: adjusting the shift position

Tool

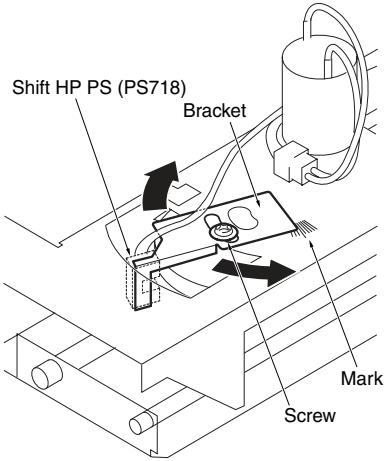
- Screwdriver (Phillips)

Adjustment method

1 Preparation

Step	Operation
1	Remove the following parts. ● Top cover or option PI (if installed) ● Top cover /2
2	Power on the MFP and drive the roller shift (M702) using the 4-7 mode (code 75-2/75-3).
3	At both the home position and shift position, check whether the edge of the actuator for the slide gear fits into the notched hole of the slide stay. 
4	If the edge of the actuator for the slide gear does not fit into the notched hole of the slide stay, perform the following adjustment:

2 Adjustment

Step	Operation
1	Loosen the screw fastening the bracket for the roller shift home position PS (PS718), and shift the bracket to adjust the amount of discrepancy using the mark as a guide. 
2	When the position is confirmed, fasten the screw securing the bracket.
3	Reassemble in the opposite sequence to removal.

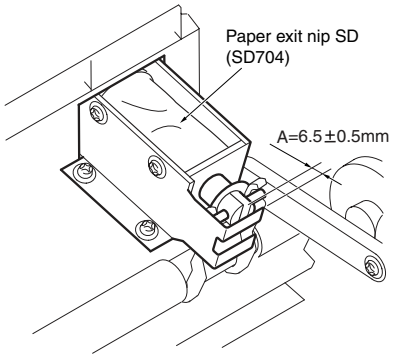
Finisher: adjusting the paper exit solenoid

Tool

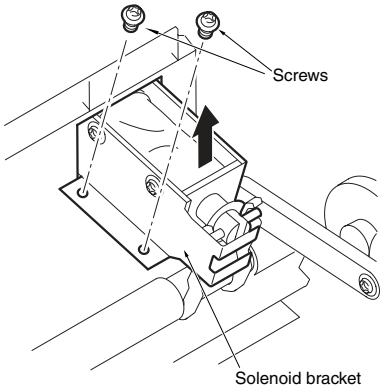
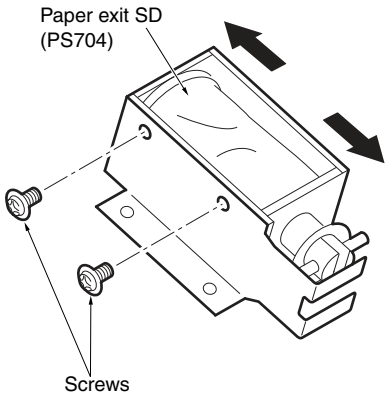
- Screwdriver (Phillips)
- Scale

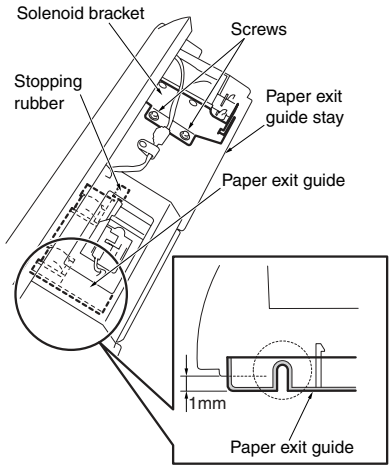
Adjustment method

1 Preparation

Step	Operation
1	Remove the following parts. ● Top cover /1 or option PI (if installed) ● Top cover /2 ● Rear cover
2	Power on the MFP, and turn on the paper exit solenoid (SD704) using the 4-7 mode (code 75-31).
3	With the paper exit solenoid (SD704) on, check whether the gap between the plunger of solenoid and the stopper of the bracket is within the spec value. Spec value: A=6.5±0.5 mm 
4	If the gap is out of spec, perform the following adjustment.

2 Adjustment

Step	Operation
1	Remove two screws securing the solenoid bracket and remove the solenoid together with the bracket. 
2	Loosen the 2 screws holding the solenoid, move the solenoid to adjust its position, and retighten the screws. Spec value: A=6.5±0.5 mm 

Step	Operation
3	Place the solenoid to its original position, and tighten the screw securing the solenoid bracket at the position where the paper exit guide makes contact with the cushioning rubber of the paper exit guide stay. **CAUTION** Make sure that the difference in height between the paper exit guide and the paper exit guide stay is 1 mm and greater. 
4	Reassemble in the opposite sequence to the removal.

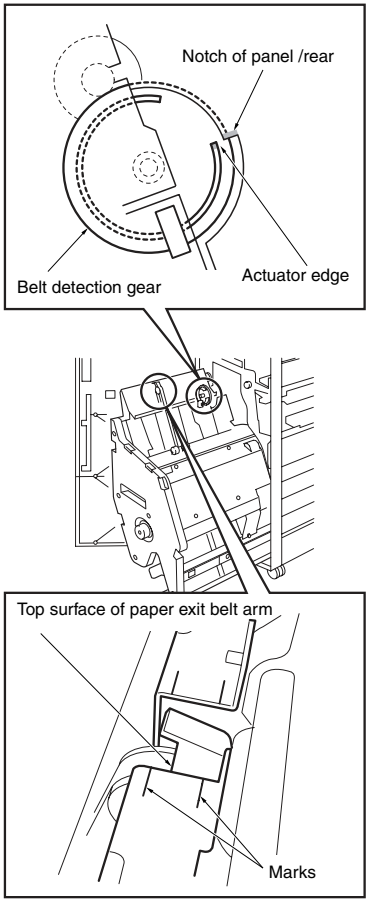
Finisher: adjusting the mount location of the paper exit arm

Tool

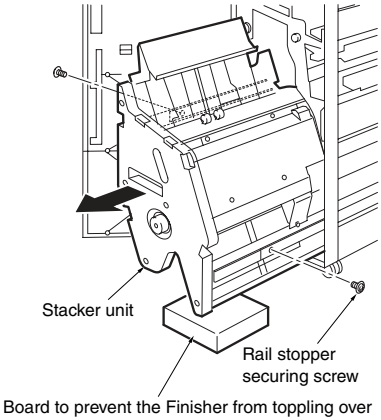
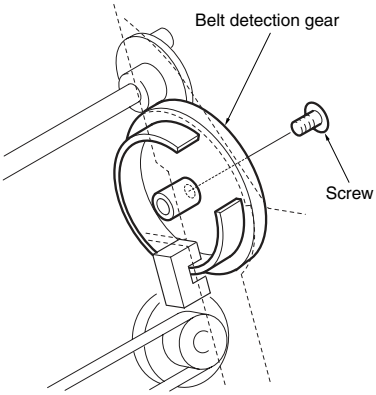
- Screwdriver (Phillips)

Adjustment method

1 Preparation

Step	Operation
1	Open the front door and pull out the stacker unit.
2	When aligning the actuator edge of the belt detection gear with the notch of panel /rear, check whether the top surface of paper exit belt arm is positioned in the middle of the two marks. 
3	Perform the adjustment if it is out of spec.

2 Adjustment

Step	Operation
1	Remove the two screws securing the rail stopper and pull out the stacker unit even further. To prevent the finisher from toppling over, place a board underneath the finisher to support the pulled-out unit. 
2	Remove the screw of the belt detection gear, align the paper exit belt arm with the specified position, and align the detection gear with the specified position to secure it. 
3	Reassemble in the opposite sequence to the removal.

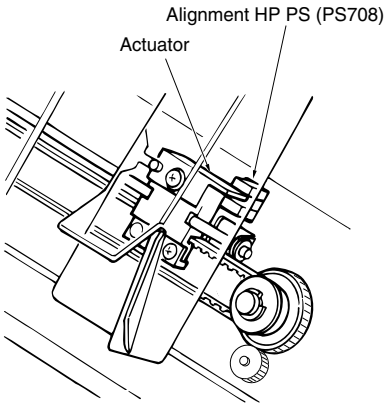
Finisher: adjusting the mount location of the alignment plates/U

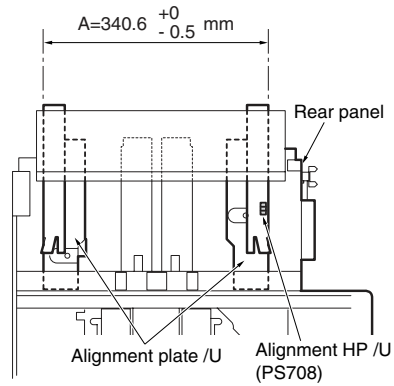
Tool

- Screwdriver (Phillips)
- Scale

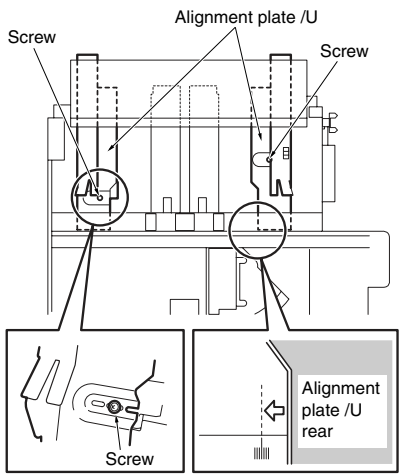
Adjustment method

1 Preparation

Step	Operation
1	Power on the MFP, then power it off after the finisher initial operation is finished.
2	Open the front door and pull out the stacker unit.
3	Check whether the actuator of the alignment HP/U (PS708) is aligned with the home position. 

Step	Operation
4	Check whether the distances A for the alignment plate /U are within specification. Spec values: A=340.6 $^{+0}_{-0.5}$ mm (within) 
5	If they are out of spec, perform the following adjustment:

2 Adjustment

Step	Operation
1	After loosening two screws to position the rear side of the alignment plate /U to the center of marking lines, adjust the location of its front side so that the mounting location is within specification. 

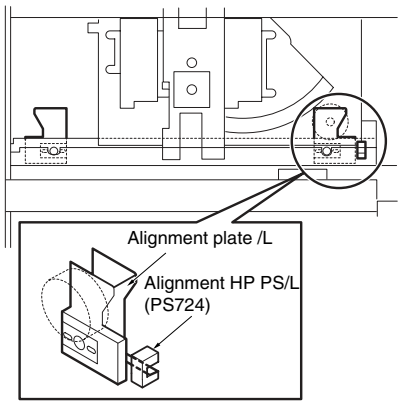
Finisher: adjusting the mount location of the alignment plates/L (Multifunction Finisher only)

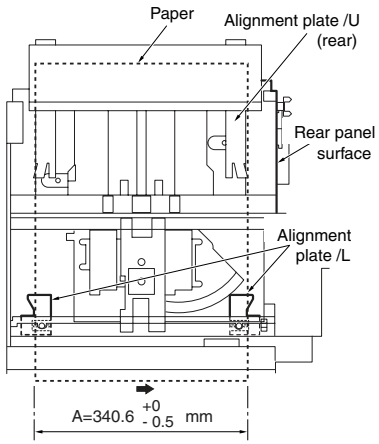
Tool

- Screwdriver (Phillips)
- Scale

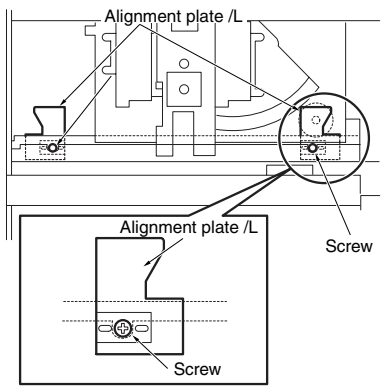
Adjustment method

1 Preparation

Step	Operation
1	Make sure that “Adjusting the mount location of the alignment plates/U” is finished.
2	Power on the MFP, drive the motor(s) using the following codes in the 4-7 mode, and then power the MFP off. Code 75-8: Alignment /U (M705) home position search Code 75-21: Alignment /L (M716) home position search Code 75-40: Stopper (M718) positioning shift (larger than A4R or Letter-R)
3	Open the front door and pull out the stacker unit.
4	Remove the stapler unit cover.
5	Check whether the actuators for the alignment HP/ U (PS705) and the alignment HP/ L (PS724) are aligned with the home position. 

Step	Operation
6	Load paper sized A4R/Letter-R or larger, put the paper against the alignment plate /U (rear) and the alignment plate /L (rear) and check whether the paper is plumb. In addition, check whether the distances A for the alignment plate /L are within specification. Spec values: A=340.6 $^{+0}_{-0.5}$ mm (within) 
7	If they are out of spec, perform the following adjustment:

2 Adjustment

Step	Operation
1	Loosen the two screws and perform the adjustment so that the mount location of the alignment plate /L are within specification. 

Finisher: adjusting the stapling position (flat stapling)

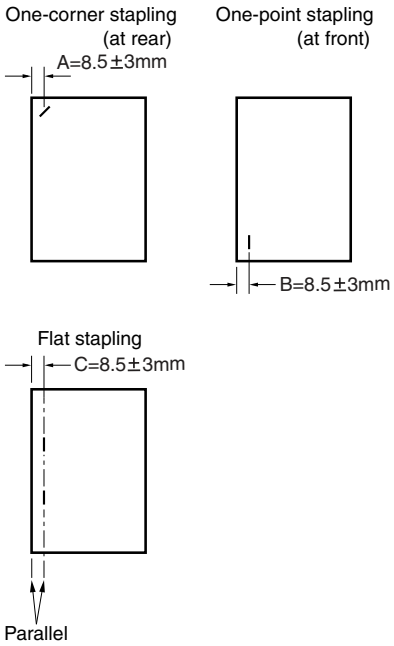
CAUTION Before moving the stapler unit, remove M711, stapler movement motor, to prevent the drive belt from slipping on the pulley.

Tool

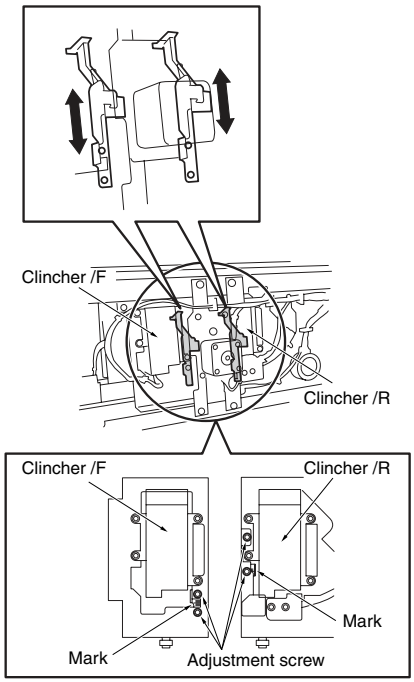
- Screwdriver (Phillips)
- Scale

Adjustment method

1 Preparation

Step	Operation
1	Perform the following stapling actually and check whether they are within specification. In the case of flat stapling, check whether the paper edge is parallel to the virtual line running between the staplers. 
2	If they are out of spec or not parallel, perform the following adjustment:

2 Adjustment

Step	Operation
1	Open the front door and pull out the stacker unit.
2	Remove the stapler unit cover.
3	Loosen the adjustment screws for the clincher /F and clincher /R and perform adjustment using marks as a guide. 
4	Execute stapling to confirm that the stapling is within the specification range.

Finisher: adjusting the stapler vertical positioning

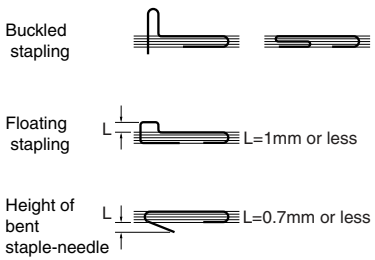
CAUTION Before moving the stapler unit, remove M711, stapler movement motor, to prevent the drive belt from slipping on the pulley.

Tool

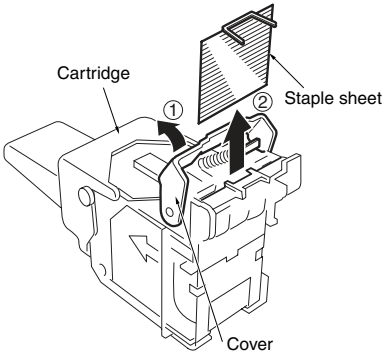
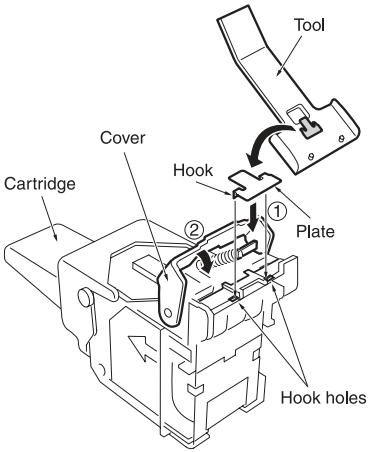
- Screwdriver (Phillips)
- Tool

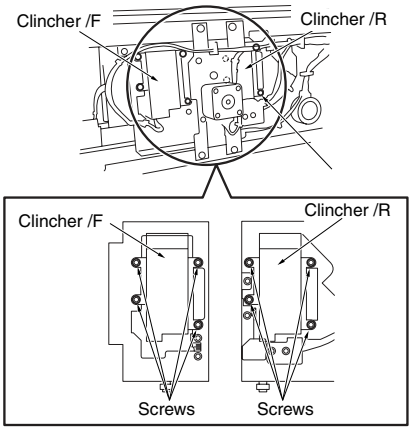
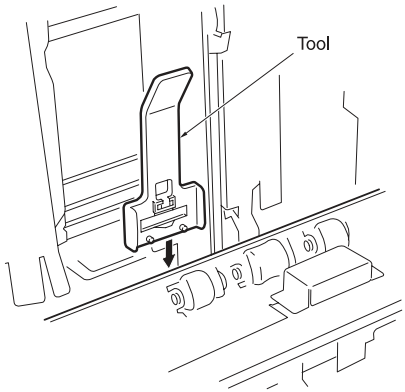
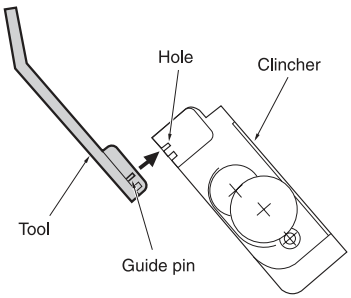
Adjustment method

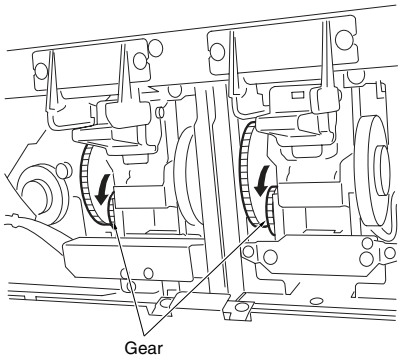
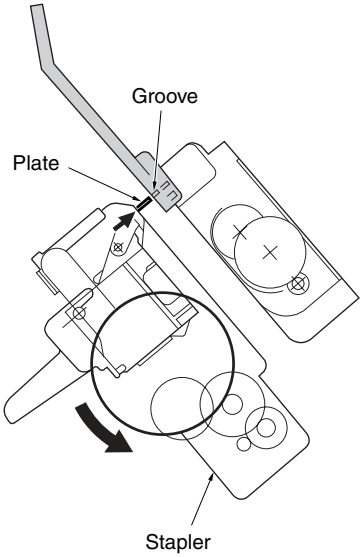
1 Preparation

Step	Operation
1	Execute stapling and check for buckled staple-needles or clinching failure. When replacing or removing a clincher or stapler, perform adjustment after reinstalling. 
2	When any defect described above can be seen, perform the following adjustment:

2 Adjustment

Step	Operation
1	Open the front door and pull out the stacker unit.
2	Take off the stapler unit cover.
3	Remove the cartridge, open the cover, and then slide the staple sheet out. 
4	Remove the plate from the tool, install it so that its hooks fit the hook holes, and then close the cover. 

Step	Operation
5	Loosen the four screws for each clincher. 
6	Insert the two guide pins of the tool in the hole of the clincher. **CAUTION** The positioning portion of the tool need not be engaged with the clincher completely.  

Step	Operation
7	Rotate the stapler gears downward. Adjust the clincher position so that the plate on the cartridge fits smoothly into the groove on the tool. Rotate the stapler gear further to fit the plate in the groove in the tool and the tool in the clincher unit completely.  
8	Tighten the four screws for each clincher.
9	Rotate the stapler gears upwards to remove the tool. **CAUTION** When removing the tool, be careful not to break the myler of the clincher.
10	Remove the cartridge, detach the plate, insert the staple plate slide out on step 3, and place the cartridge to its original position.
11	Check that the stapler operates properly.

Finisher: adjusting the stapling position (staple-and-fold) (Multifunction Finisher only)

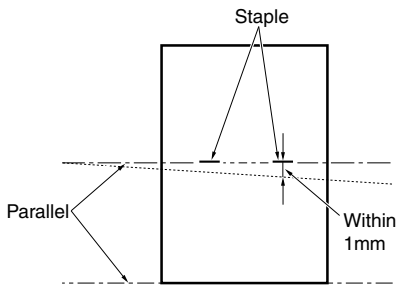
CAUTION Before moving the stapler unit, remove M711, stapler movement motor, to prevent the drive belt from slipping on the pulley.

Tool

- Screwdriver (Phillips)

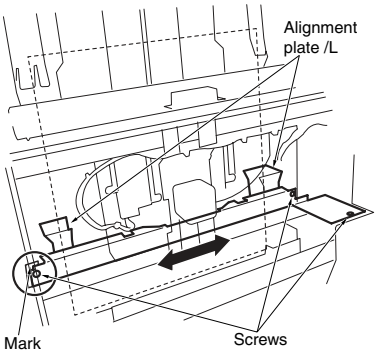
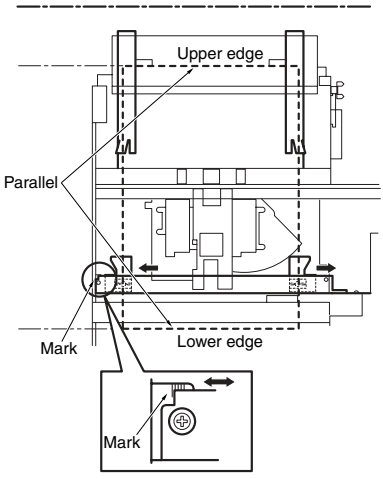
Adjustment method

1 Preparation

Step	Operation
1	Execute stapling and check whether the paper edge is parallel to the virtual line connecting the two staples or whether the amount of discrepancy is within specification. Spec value: within 1 mm for the amount of discrepancy 
2	If the amount of discrepancy for the booklet is out of spec, perform the following adjustment:

2 Adjustment

Step	Operation
1	Make sure that the “Adjusting the mount location of the alignment plates/U” and “Adjusting the mount location of the alignment plates/L” are finished.
2	Open the front door and pull out the stacker unit.
3	Remove the stapler unit cover.

Step	Operation
4	Loosen the three screws securing the alignment plate and adjust it using the mark as a guide.  
5	After the adjustment, retighten the three screws, execute stapling, and then check that the aligned position is within the specification range.

Finisher: adjusting the angle of the folding stopper (Multifunction Finisher only)

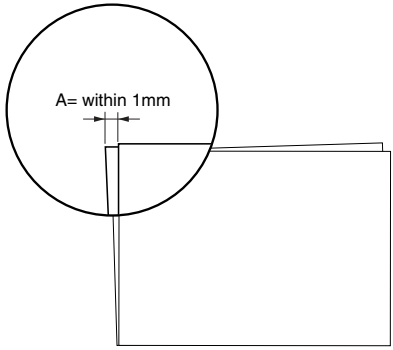
CAUTION Do not use hands to move stapler unit to horizontal direction. (Otherwise belt and gear teeth skipping may occur.)

Tool

- Screwdriver (Phillips)

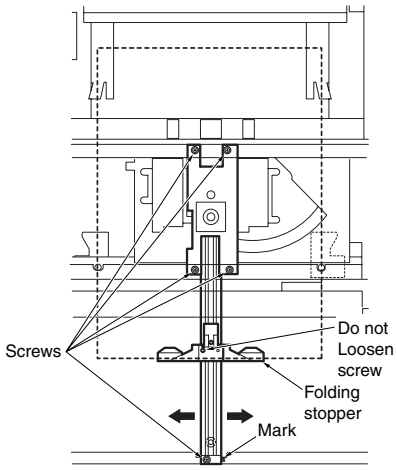
Adjustment method

1 Preparation

Step	Operation
1	Execute stapling using ledger/A3 paper and check whether the folding side discrepancy for ledger/A3 paper is within the limit. Limit: A= within 1 mm 
2	If the amount of discrepancy is out of specification, perform the following adjustment:

2 Adjustment

Step	Operation
1	Open the front door and pull out the stacker unit.
2	Remove the stapler unit cover.

Step	Operation
3	Loosen the five screws securing the folding stopper and adjust it using the mark as a guide. 
4	After the adjustment, retighten the five screws and execute stapling to check that the amount of discrepancy is within the specified limit.

Finisher: adjusting the folding force (Multifunction Finisher only)

Tool

- Flat-nose pliers

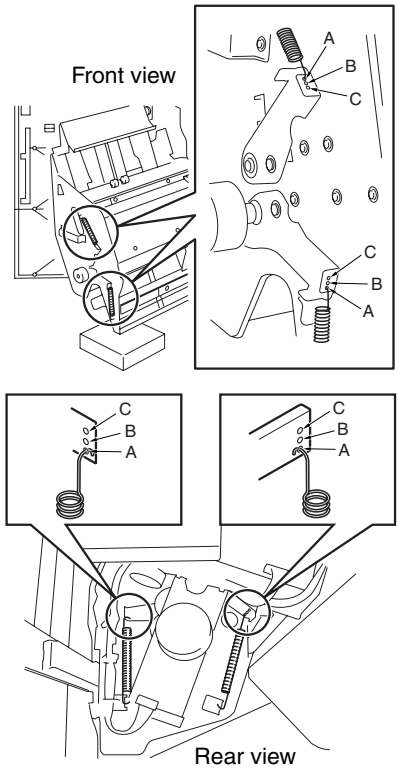
Adjustment method

1 Preparation

Step	Operation
1	If necessary, change the force and pressure of the folding rollers.

2 Adjustment

Step	Operation
1	Remove the rear cover.
2	Open the front cover and pull out the stacker unit.
3	Remove the stacker unit cover.

Step	Operation
4	Change the mounting places of the two pressure springs for each of the front and rear. **CAUTION** The four pressure springs should be hooked on the hole with the same character. 
5	Install the rear cover and stacker unit cover, put the stacker unit away, and close the front cover.

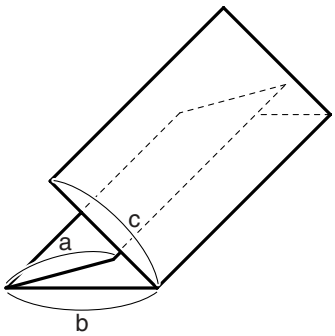
Finisher: adjusting the tri-fold positions (Multifunction Finisher only)

Tool

- Screwdriver (Phillips)

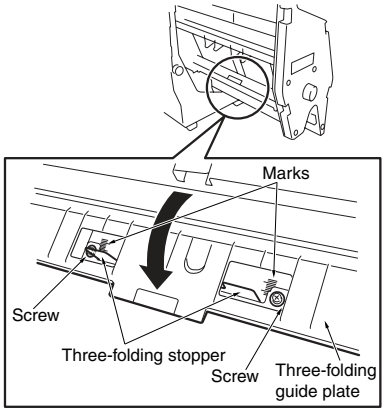
Adjustment method

1 Preparation

Step	Operation
1	Make sure that the “Adjusting the angle of the folding stopper” is finished.
2	Execute tri-folding and check whether the tri-folding positions are within specification.  **Folding positions** / **Reference value** (A4R, Letter) / **Specification** a: 93, 86.4, ±2 b: 102, 97, ±2 c: 102, 97, ±2 Unit: mm
3	If the tri-folding positions are out of spec, perform the following adjustment:

2 Adjustment

Step	Operation
1	Power on the MFP. Use “7: Tri-fold positions adjustment” from “6: Finisher adjustment” on the 3-6 mode, adjust the first folded line (reference value a), and perform tri-folding.
2	When the first folded line becomes within the spec value, open the front door and pull out the stacker unit.

Step	Operation
3	Open the tri-folding guide plate, loosen the two screws securing the tri-folding stoppers, and adjust the stopper positions using the mark as a guide. 
4	After the adjustment, retighten the two screws and execute tri-folding to check that the tri-folding positions are within the specification.

Adjusting the vertical skew of the punch kit

Tool

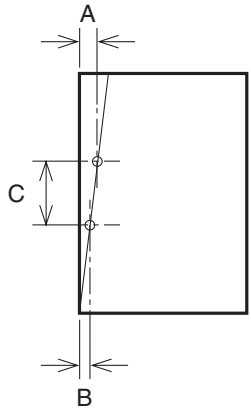
- Screwdriver (Phillips)
- Scale

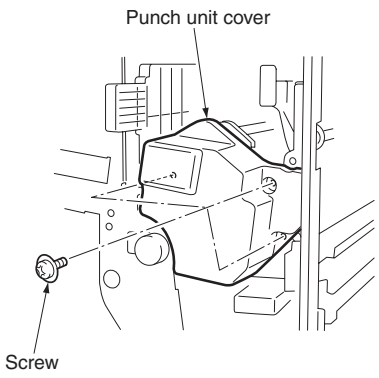
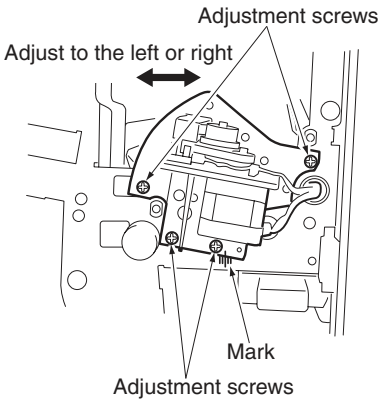
Adjustment method

1 Preparation

Step	Operation
1	Check the following items: ● The finisher is connected to the MFP. ● The MFP is loaded with the paper based on the punch specifications.
2	Check the skew of output paper in advance. ● Slide the side guide plate and the rear guide plate for the MFP's feed tray, and align the paper loaded on the MFP's tray. ● Check the skew by using the platen copy or adjustment mode.
3	To check the tilt of the punch hole position, make a sample copy in the punch mode.
4	Make three copies each in single-side copy mode and double-side copy mode with the punch mode to check the skew.

2 Adjustment

Step	Operation
1	Measure the position of the sampled punch holes to check the tilt of the position.  Tilt of the punch hole position: A-B (difference in position of the two punch holes)/C (distance of hole pitch)
2	Open the front cover.

Step	Operation
3	Remove the punch unit cover by removing three screws. 
4	Loosen the four adjustment screws of PK.
5	Using the mark scale as a guide, move the punch unit horizontally by the amount of tilt for the punch hole position. 1 scale: 0.5 percent 
6	Retighten the screws.
7	Reinstall the punch unit cover.
8	Make a sample copy of punch mode and recheck the tilt of the punch hole position.

Sensor threshold adjustment for the punch kit paper edge sensor

Tool

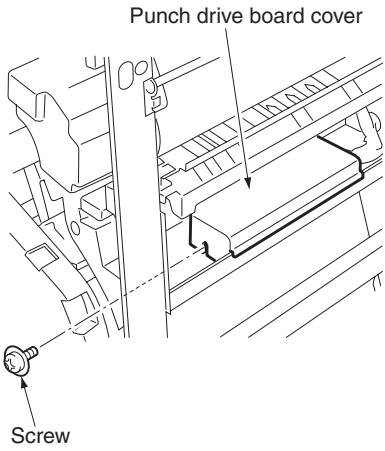
- Screwdriver (Phillips)
- Clock driver (Phillips)

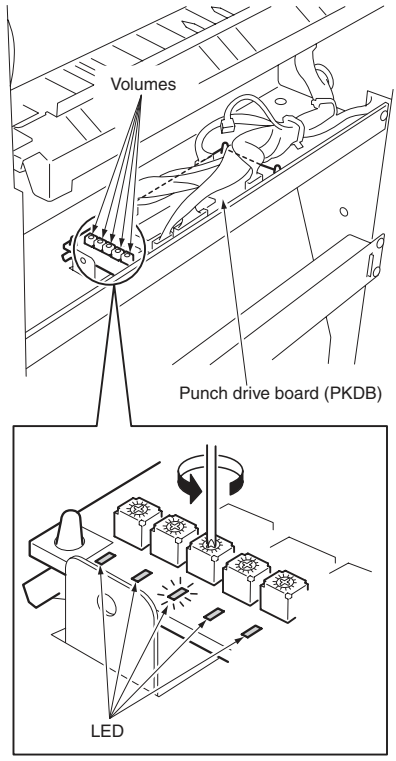
Adjustment method

1 Preparation

Step	Operation
1	Check that the finisher is connected to the MFP.

2 Adjustment

Step	Operation
1	Open the front door of the finisher.
2	Remove the punch drive board cover by removing one screw. 
3	Power on the MFP.

Step	Operation
4	Turn the potentiometer(s) fully clockwise and then turn it back counterclockwise until the LED corresponding to each potentiometer lights up. 
5	Perform the procedure of step 4 for all five potentiometers.
6	Power off the MFP after completing the adjustment.
7	Reinstall the punch drive board cover.
8	Close the front door of the finisher.

PI centering adjustment

CAUTION PI centering adjustment must be performed on the upper tray first, then on the lower tray. When it is necessary to slide the side guide plate (rear) a lot, perform step 11 before step 3 and subsequent procedures.

CAUTION When tightening two screws of the side guide plate (rear), be careful not to tighten them too much. (Tightening torque: less than 5 kg/cm)

Tool

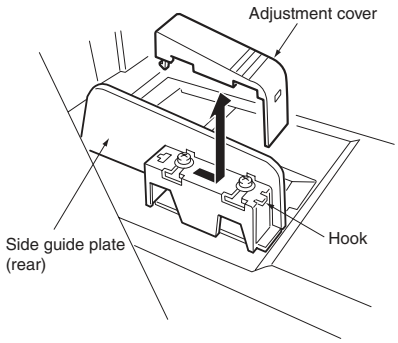
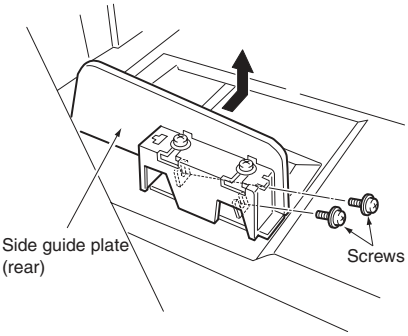
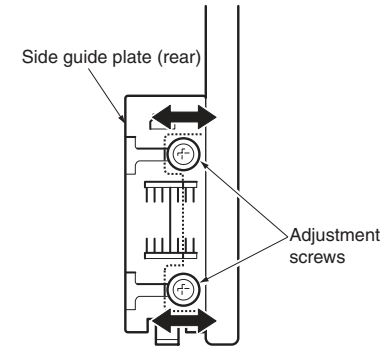
- Screwdriver (Phillips)
- Scale

Adjustment method

1 Preparation

Step	Operation
1	Check that PK adjusting the punch hole vertical position has been completed.
2	Perform Tray 2/3/4 centering adjustment.
3	Feed the three sheets from PI with the punch mode.
4	Check the position of each punch hole on the three sheets.

2 Adjustment

Step	Operation
1	Release the hook and remove the adjustment cover of the side guide plate (rear). 
2	When adjusting for the lower tray, remove two screws and slide rightward to remove the side guide plate (rear). 
3	Loosen the two adjustment screws securing the side guide plate (rear), and slide it by the twice the difference. (i.e.: If there is 1.5 mm difference in direction of rear side, slide by 3 mm to rear side.) 1 scale: 2 mm 

Step	Operation
4	Fasten the two adjustment screws securely to fix the side guide plate (rear).
5	In case of the lower tray, install the side guide plate (rear).
6	Set a sheet on the tray and fit the side guide plate (rear) to the sheet to check that the side guide plate (rear) is parallel to the sheet.
7	Feed the three sheets from PI with the punch mode.
8	Check the position of each punch hole.
9	Repeat step 2 to 8 until the difference of the holes is improved.
10	Install the adjustment cover to the side guide plate (rear).
11	Set A4R/Letter-R size paper to the tray and perform the cover sheet tray size adjustment in 3-6 mode.

Adjusting the vertical skew when using the post inserter

Tool

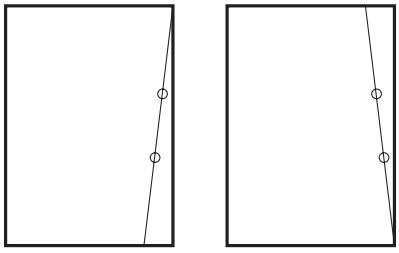
- Screwdriver (Phillips)
- Scale

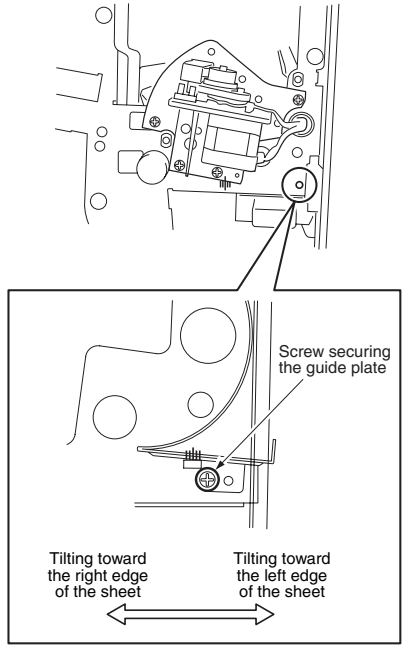
Adjustment method

1 Preparation

Step	Operation
1	Check the following items: PI is connected to finisher. The tray of PI is loaded with paper.
2	Check the tilt of output paper in advance. Feed 3 sheets from PI with the punch mode selected to check the tilt of punch holes.
3	Loosen one screw securing the guide plate.

2 Adjustment

Step	Operation
1	Fold each of the fed 3 sheets into two as illustrated below and find out which direction the punch holes tilt. Tilting toward the right edge of the sheet Tilting toward the left edge of the sheet 
2	Open the finisher front cover.
3	Loosen one screw securing the guide plate.

Step	Operation
4	Using the mark as a guide, move the guide plate laterally by the amount of tilt in the position of punch holes. 
5	Retighten the screw securing the guide plate.
6	Repeat steps 1 to 5 until the amount of tilt in the position of punch holes is improved.

Finisher: stapler driver belt position adjustment

CAUTION Stapler drive belt position adjustment is only performed when the positions of the drive belt and gear are misaligned after performing other adjustment procedures.

Tool

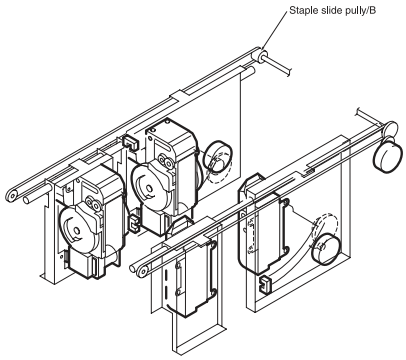
- Screwdriver (Phillips)
- Stapler PS tool
- Hexagonal wrench

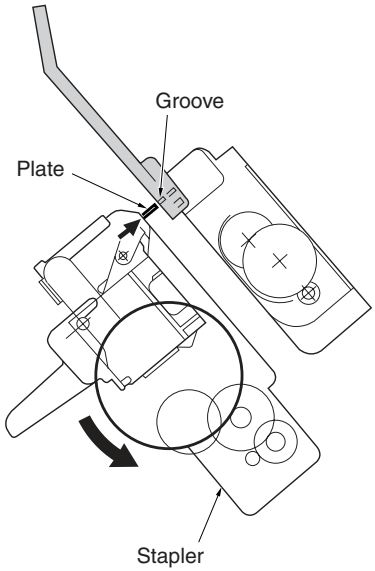
Adjustment method

1 Preparation

Step	Operation
1	Remove the following parts: ● Rear cover ● Stapler unit cover
2	Insert the stacker unit.

2 Adjustment

Step	Operation
1	Loosen two M3 screws of the staple slide pulley/B from the backside. 
2	Move the stapler/clincher to the center at the same time until it stops at the bearing. **CAUTION** Make sure to move them at the same time, otherwise, the flat-stapling stopper may fracture at the stapler plate.

Step	Operation
3	Install the stapler PS tool to the stapler and clincher/R, and adjust the horizontal position of the stapler and the clincher.  **CAUTION** Do not loosen the screws on the clincher. In order to adjust the position, move the stapler /R or the clincher/R slightly toward the horizontal direction.
4	Insert the stacker while the tool is installed (that is, when the plate and the tool are completely locked with each other.
5	Tighten two screws of the staple slide pulley/B from the backside.
6	Pull out the stacker unit and remove the tool. Then, check the staple for the following movements: ● Stapling at one position/rear ● Stapling at one position/front ● Stapling at two positions
7	Install the rear cover and the stapler cover when the adjustment is completed.

Other adjustments

MFP: Optics unit alignment

See the disassembly/assembly chapter in the *HP LaserJet 9055mfp/9065mfp Service Manual* for more information.

MFP: Scanner motor belt adjustment

See the disassembly/assembly chapter in the *HP LaserJet 9055mfp/9065mfp Service Manual* for more information.

MFP: Fuser temp sensor alignment

See the disassembly/assembly chapter in the *HP LaserJet 9055mfp/9065mfp Service Manual* for more information.

MFP: Fuser thermostat alignment

See the disassembly/assembly chapter in the *HP LaserJet 9055mfp/9065mfp Service Manual* for more information.

Finisher: Up/down wire tension adjustment

See the disassembly/assembly chapter in the *HP LaserJet 9055mfp/9065mfp Stapler/Stacker and Multifunction Finisher Service Manual* for more information.

3 Software tools

Upgrading ICB, PRCB, and Finisher firmware

ISW

ISWTrans, or ISW, is a software utility that runs in Windows 2000 and Windows XP to rewrite the firmware on the ICB, PRCB, and Finishers. This is done when simply upgrading firmware or when installing a new language.

Using ISW

To use ISW, perform the following procedure:

1 Load the ISW tool on your PC. The ISW tool is available for download on your standard support website.

2 Connect your PC to the MFP using a Type B parallel cable. Be sure to connect it to the parallel port on the MFP engine, not the print controller.

3 Load the appropriate firmware files on your PC in order to perform the upgrade. The firmware files are available for download on your standard support website.

Firmware files required

Naming convention

A firmware file name looks like this: 9065mfp_I_ENDEC70104.zip.

File name element	Description
9065mfp	The MFP model you are upgrading.
I	Indicates you are upgrading the ICB. Other values are C for the PRCB and F for a Finisher. **Note:** The ICB is the board that must be upgraded when installing a new language.
ENDE	The language component, which in this example includes English (EN) and German (DE). **Note:** There are always two languages loaded into each firmware file.
C70104	The firmware version number. **Note:** The ICB version number is displayed on the Configuration page. The PRCB version number is not displayed on the Configuration page, but the individual PRCB components of the PRCB are listed.
.zip	The file type. Unzipping the zip file yields .bin and .sum files, such as the following: 9065mfp_I_ENDEC70104.bin 9065mfp_I_ENDEC70104.sum **Note:** Both files must be on your PC. The .bin file is sent to the MFP. The .sum file performs a checksum on the .bin file. **Hint:** Be sure that no additional file type extensions were added (for example, .txt) during the download or save process. If additional file types were added, delete them.

Firmware packages

ICB and PRCB firmware packages contain a collection of upgrade components.

I1/I5 collection	C1/C5 collection	Finisher
I1	C1	N
I2	C2	
I3	C3	
I4	C4	
I5	C5	

Note All you will ever load is I1/I5 or C1/C5. Individual firmware components, such as I3, will not be available for upload.

Preparing the MFP

Before you can download the firmware with the ISW tool, you must prepare the MFP to accept the download.

1 Enter 25 mode.

2 Select `10 Firmware Update`.

3 If you are upgrading the ICB, select `Collective` under `Image Process`.

If you are upgrading the PRCB, select `Collective` under `Printer`.

If you are upgrading the Finisher, select `N` under `Finisher`.

4 Press **Start**.

When `Conditioning` displays in the upper-left corner of the control panel, the MFP is ready for you to download the appropriate firmware.

Troubleshooting

The following table lists errors that you might see on the MFP control panel if the download is unsuccessful. See the actions listed below the table for directions.

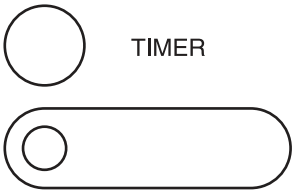
Error codes

Error code	Description	Action number
01	There is an error in the command to the ISW processing unit.	a
1F	A program error is detected.	a
41	Input data format error.	b
42	Invalid MFP name input data.	b
43	Invalid board name input data.	b
81	Input device error, such as input timeout.	c
C1	Failed to erase flash ROM (during ISW to image control board).	d
C2	Failed to write to flash ROM (during ISW to image control board).	d
C3	ROM checksum error (during ISW to image control board).	e
C4	Output device error, such as output timeout.	f
E1	Failed to erase flash ROM (during ISW to PRCB and finisher control board).	g
E2	Failed to write to flash ROM (during ISW to PRCB and finisher control board).	g
E3	Communication error between image control board, PRCB, and finisher control board (during ISW to PRCB and finisher control board).	h

Error code actions

Action number	Action
a	Program is not executing normally. Restart from power ON and re-execute the ISW.
b	Check the ISW transfer data file.
c	Check that the communication cable between input devices (PC or ISW tool) is properly connected.
d	There is an error in the flash ROM on the image control board. Restart from ISW. If the error persists, the life of the image control board flash ROM may have expired. Replace the image control board.
e	The checksum result after program writing does not match the ROM checksum data of the ISW transfer data file. Restart from ISW. If the error persists, the ISW transfer data file may not be created correctly.
f	An error was detected in the ISW board targeted at that time. Check the ISW board.
g	There is an error in the flash ROM on the printer control board or FNS control board. Restart from ISW. If the error persists, the life of the targeted flash ROM may have expired. Replace the targeted control board.
h	Check the I/F between the image control board and printer control board, or IF between printer control board and FNS control board.

Relationships between processing states and operational LEDs



No.	Processing	TIMER LED (orange)	POWER SAVE LED (green)
1	Initializing CPU now	OFF	OFF
2	Checking memory	OFF	OFF
3	Memory check error (waiting for data from PC)	Flashing	OFF
4	ISW processing (receiving data)	OFF	Flashing
5	ISW processing (writing to flash ROM)	OFF	Flashing
6	Transfer data error	Flashing	Flashing
7	Flash ROM write error	Flashing	ON
8	Memory check successful and reboot	OFF	OFF

Note For more information about the ISW tool and the firmware components, see the Help file in the ISW tool.

Rewriting procedure after an error interruption

If an error occurs while writing to the ICB, the timer LED (orange) flashes. Nothing appears on the control panel because the ICB controls the entire unit. Turn the secondary switch off, turn the secondary switch on, and retry ISW.

If an error occurs while writing to the PRCB or Finisher, relaunch the 25 mode, and retry ISW. It is assumed that the ICB firmware has been successfully installed in the MFP.

Upgrading print controller firmware

Downloading firmware from http://www.hp.com to a PC and, ultimately, to an MFP requires an understanding of what the downloaded file contains.

The file downloaded from the website is compressed. The file is named, for example, lj9065mfp.exe. The .exe file contains the following files:

- The firmware file is an .rfu (remote firmware upgrade) file (for example, lj9065mfpfw.rfu).
- The other file is a README.txt file. This file provides information about what is included in the upgrade and who should use the upgrade. There are also instructions on how to perform the upgrade on one or more MFPs and a reference to what previous revisions of the firmware changed.

Upgrading firmware to the print controller

When upgrading firmware to the print controller, the following occurs:

- The firmware is downloaded through the network or parallel port on the workstation to the network or parallel port on the print controller.
- The firmware is written to the print controller hard disk.

Upgrade process

1 The firmware DIMM contains a full backup firmware image.

Note In most cases, the firmware DIMM contains an older version than the firmware image on the hard disk.

2 If a valid image exists on the disk, the MFP uses the image on the hard disk.

3 The MFP uses the image on the firmware DIMM only if one of the following occurs:

- The hard disk does not contain a firmware image yet.
- The hard disk has a corrupted firmware image.
- The hard disk is malfunctioning.
- There is no hard disk.

4 When an upgrade is sent to the MFP, the print controller firmware successfully upgrades if the hard disk is installed and working.

5 During the download and upgrade process, the control panel displays the following messages:

```
Receiving Upgrade
Performing Upgrade
Processing Job
```

6 The MFP reboots.

Troubleshooting measures

- If no disk is installed and the upgrade is performed, the job is performed as normal (as if a hard disk was installed).

  An upgrade appears to be processing, but when the firmware file tries to write to the hard disk, the upgrade cannot be accomplished because the file sees that there is no hard disk. The MFP reboots and no actual upgrade occurs.

  There is no control panel message that warns the user that the upgrade was not successful. The user can determine that the upgrade was not performed by checking the firmware version on the Configuration page.
- If an upgrade begins and the MFP is turned off during the `Receiving Upgrade` message, the MFP can be booted from the disk. There is no control panel message that indicates that the upgrade did not occur.
- If an upgrade begins and the MFP is turned off during the `Performing Upgrade` message, the MFP boots from the DIMM. This means that the image on the disk is now bad. The control panel displays `Resend Upgrade`. Once the user successfully performs a remote firmware upgrade, the message disappears.
- If the ICB firmware is upgraded and requires a change in print controller firmware to remain compatible, the print controller firmware DIMM should be replaced at the same time. If the hard disk or remote firmware upgrade fails, the backup image would then be compatible.

Firmware upgrade methods

This section describes the following firmware upgrade methods:

- FTP browser copy
- FTP put
- Parallel connection
- Network connection
- HP Web Jetadmin

FTP browser copy

This firmware upgrade method requires a setting in the Internet Options dialog box. To check this setting, perform the following procedure:

1 Access the Internet Options dialog box in one of the following ways:

- Open a Web browser. On the **Tools** menu, click **Internet Options**, and select the **Advanced** tab.
- On the Windows **Start** menu, point to **Settings**, and click **Control Panel**. Double-click **Internet Options**, and select the **Advanced** tab.

2 On the **Advanced** tab, make sure that the **Enable folder view for FTP sites** option is selected.

To perform an FTP browser copy, perform the following procedure:

1 Print a Configuration page, and note the firmware revision number.

2 Download the firmware from the Web, and copy it to a folder on the PC.

3 Unzip the downloaded file.

4 Open the folder containing the .rfu file.

5 Open a browser window.

6 In the Address field, type FTP:// followed by the IP address of the MFP (for example, FTP://192.168.0.1).

7 Click **Go** or press **Enter**.

A folder named `Port 1` displays in the browser window.

8 Drag the .rfu file from the open folder to the browser window.

The control panel displays the messages `Receiving Upgrade`, `Performing Upgrade`, and `Processing Job`.

9 The MFP reboots, which means that the upgrade is complete.

FTP put

1 Print a Configuration page, and note the firmware revision number.

2 Download the firmware from the Web, and copy it to a folder on the PC.

3 Unzip the downloaded file.

4 Open the folder containing the .rfu file.

5 Open a DOS Command Prompt window, and find the firmware file.

6 At the C:\> prompt, type **ftp** followed by a space and the IP address (for example, ftp 16.32.55.21).

7 Press **Enter**.

8 When prompted for the user name and password, press **Enter** for each of them.

9 At the ftp> prompt, type **bin**.

10 Press **Enter**.

11 At the ftp> prompt, type **put drive:\folder\filename** (for example, put c:\lj9065\lj9065mfpfw.rfu).

Alternatively, perform the following procedure:

a Instead of typing the full path, open the folder where the upgrade file resides.

b Type **put c:**, and drag the upgrade file from the folder into the DOS Command Prompt window.

12 Press **Enter**.

13 After the MFP reboots, close the FTP session by typing **BYE**, and pressing **Enter**. The upgrade is complete.

Parallel connection

1 Print a Configuration page, and note the firmware revision number.

2 Download the firmware from the Web, and copy it to a folder on the PC.

3 Unzip the downloaded file.

4 Open a DOS Command Prompt window, and find the firmware file.

5 If connected to a parallel port, type **copy /b filename portname** (for example, copy /b lj9065mfpfw.rfu LPT1).

6 Press **Enter**.

The control panel displays the messages `Receiving Upgrade`, `Performing Upgrade`, and `Processing Job`.

7 The MFP reboots, which means that the upgrade is complete.

Network connection

1 Print a Configuration page, and note the firmware revision number.

2 Download the firmware from the Web, and copy it to a folder on the PC.

3 Unzip the downloaded file.

4 Open a DOS Command Prompt window, and find the firmware file.

5 Type **copy /b filename \\computername\sharename**.

6 Press **Enter**.

The control panel displays the messages `Receiving Upgrade`, `Performing Upgrade`, and `Processing Job`.

7 The MFP reboots, which means that the upgrade is complete.

HP Web Jetadmin

Note These instructions were written for HP Web Jetadmin version 6.5.

1 Print a Configuration page, and note the firmware revision number.

2 Go to the main page for HP Web Jetadmin, and perform one of the following.

- For a single MFP, type the MFP's IP hostname or IP address in the **Quick Device Find** field in the top right corner, and click **Go**.
- For multiple MFP updates, see the HP Web Jetadmin user documentation.

3 Click the right arrow below the **Go** button to display the **Update** option.

4 Click **Update**, select **Update Printer** (rather than Update Jetdirect), and click **Next**.

5 Click **Browse**, and find the firmware image file downloaded from the Web.

6 Click **Upload** to move the firmware image file from the C: drive to the HP Web Jetadmin server.

7 Click the Refresh icon in the top right corner (it looks like a page with two arrows in a circle).

8 Select the date code that you want to send to the MFP. The date code format is YYYYMMDD, where YYYY is the year, MM the month, and DD the date.

9 Click **Update Firmware**. HP Web Jetadmin sends the selected firmware image file to the MFP.

Embedded Web Server (EWS)

The embedded Web server (EWS) allows users to view product and network status, create alerts for remote troubleshooting, and manage printing functions from a PC rather than at the MFP control panel. The EWS resides in the firmware. The EWS is accessed using a TCP/IP-based network connection.

No special software is required to access the EWS. All users who have access to a standard Web browser can use the EWS. Using the EWS allows users to perform the following tasks:

- view control panel messages and status information
- check supplies status
- review a list of MFP events
- view the Configuration, Event log, or other information pages
- set up e-mail status and alerts
- view reports for job accounting
- review and change the MFP configuration

System requirements

- For best Web browser results, use one of the following:
  - Microsoft Internet Explorer 5.0.1 or later
  - Netscape Navigator 6.2 or later
- TCP/IP-based network connection

Opening the EWS

Note Users cannot access EWS pages from outside a firewall.

To open the EWS, perform the following procedure:

1 Open a Web browser.

2 In the **Address** field, type the IP address of the MFP. The IP address can be found on the Configuration page.

3 Click **Go** or press **Enter**.

Security

When accessing the EWS, the following levels of security are available:

- General user – If an administrative password is set, general users can access only the Information tab.
- IT administrator – The IT administrator defines the password. The service provider can change the administrative password.
- Service provider – The default password is **9272**. The service provider can change the service password.

Note If you log off as one type of user, you must close the browser before logging on as another type of user.

Key components of EWS for Service

The following components of EWS are useful for a service technician:

- Alerts – Allows you to configure the MFP to send you e-mails if particular events occur. Maintenance alerts are only available to someone who is logged on as Service.
- Supplies Status – Allows you to view the status of the supplies (toner and staples). Maintenance information is only available to someone who is logged on as Service.
- AutoSend – Allows you to configure the MFP to automatically send XML data at a specified interval, either time based or page count based.

Useful hints

- The following are the possible logins and associated passwords:

Login	Password
Admin	Established by the administrator; no default password.
Service	Default is 9272; can be changed.

- If you change the default service password to something other than 9272, make sure you choose something that is easy for you to remember, but not obvious to a customer. If you forget the password you have set, a Cold Reset or NVRAM init is required to reset the password to 9272.
- If you try to access the Networking tab when logged on as Service and an Admin password has been set, you will be asked to enter your login and password. The Admin password is required.
- When choosing the desired attachments for your alerts, remember that the pages will be in HTML format. If you would like to have the service data available, including some of the internal pages (for example, Count of Special Parts), you must choose XML data.
- For more information about EWS (for example, what it is and descriptions of the tabs), see the *HP LaserJet 9055/9065mfp EWS Guide*.

HP90x5mfp Config Utility

The configuration utility can be used to reset the 25 Mode Software Switches (DIPSW) and the Key Operator Memory Switches back to a regional default value (or profile). The HP 9055/9065mfp Config Utility is installed via the Package Loader in the EWS. The URL is hostname/hp/device/this.loader.

When accessing the Package Loader, a prompt to configure a password prior to any further access displays. The password that needs to be entered is the Admin password in the EWS. If an Admin password has not ben previously set, you are prompted to create one. Once the Admin password has been set, change the URL in the browser back to hostname/hp/device/this.loader.

If the HP90x5Cfg.jar file does not appear in the **Reloadable Packages** list, you must download it from your standard support site and save it to your PC. Use the **Install New Package** section to browse to the file.

Features of the Config Utility

The initial screen of the utility allows you to perform the following tasks:

- view the current SW settings and firmware versions on the MFP
- select a regional default profile to download
- set the appropriate switches needed when a Copy Controller HDD is installed
- create a deviation report
- save an uploaded profile from an MFP
- download a saved profile to an MFP

Viewing the current SW settings

The current settings and firmware versions automatically display once you have accessed the utility on an MFP. You can choose a printable page for easier viewing.

Downloading a regional default profile

To configure an MFP in its original default state (for switches only), select the regional profile to load, and click **APPLY SELECTION**. The new profile is loaded and the new configuration displays.

Setting the Copy Controller HDD switches

To configure the appropriate SW switches needed when a Copy Controller HDD has been installed, choose the appropriate regional profile, select the hard disk option in the **Profile Modifiers** section, and click **Apply Selection**.

Creating a deviation report

To create a deviation report that shows the differences in SW switch settings between the current configuration and the regional profile selected, select **Create Deviation Report**.

Note This option does not download any profiles.

Saving an uploaded profile

To save an MFP's configuration for future downloads, perform the following procedure:

1 Select **Save Current Config**.

2 Choose **Download the file**.

3 Select **Save this file to disk**.

4 Choose the folder where you want to save the file.

5 Make sure that the file saves as a .bin document.

6 Once the file is saved, choose **Return to Main Page**.

Downloading a saved profile

To download a saved profile to an MFP, perform the following procedure:

1 Click **Browse**.

2 Select the file that you want to download. The file displays in the **Select file for Restore** box.

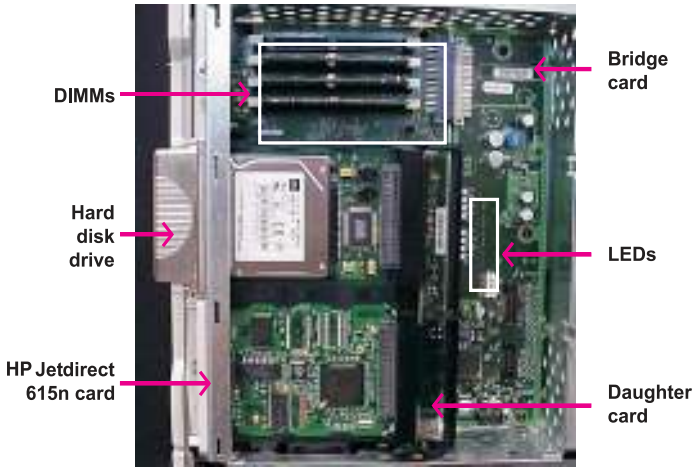
3 Click **Restore Saved Config**.

Useful hints

- To access the loader page, type the IP address in the browser just as you would to access the EWS. Once you access the EWS, delete **LCDispatcher** from the end of the URL in the Address box, and replace it with **Loader**.
- If you are troubleshooting an MFP and want to test it in a known state, it is useful to upload and save the existing settings, download a default profile, and download the saved profile once troubleshooting is complete.
- If you have multiple MFPs that you want to configure identically, it is useful to upload and save a profile, and download it to other MFPs.

4 Print controller

Print controller components



The following are the components of the print controller:

- DIMMs

  There are four DIMM slots. One slot (the bottom slot in the figure) is strictly for firmware. Of the three remaining slots, two are preloaded with 128 MB DIMMs. This leaves one remaining slot for additional memory or a third-party DIMM.

  The 128 MB memory DIMM and the firmware DIMM are service parts.

Service part	Part number
128 MB memory DIMM	C9121-67901
Firmware DIMM	C9147-67908

- Hard disk drive

  The print controller hard disk comes standard with a print kit. The hard disk is 20 GB or greater. It is most commonly loaded in the top EIO slot, but can be loaded in the lower EIO slot.

  The 20 GB hard disk is a service part.

Service part	Part number
20 GB hard disk	J6073-61001

- HP Jetdirect 615n card

  The HP Jetdirect 615n EIO card is the networking card that comes standard with the print kit. It is a 10/100 card. This card is most commonly loaded in the lower EIO slot, but can be loaded in the upper EIO slot.

  The HP Jetdirect 615n card is a service part.

Service part	Part number
Jetdirect 615n card	J6057-61001

- Daughter card

  The daughter card is standard in the print controller assembly. This card acts as an interface between the EIO cards and the formatter PCA.

  The daughter card is not a separate service part. It is part of the print controller assembly.

Service part	Part number
Print controller assembly	Q3639-67901

- LEDs

  The LEDs are located on the bridge card. There are eight LEDs that can be used to troubleshoot errors in the print controller or communication between the print controller and the ICB. See "Troubleshooting" on page 164 for more information about using the LEDs.

  The LEDs are not separate service parts. They are mounted on the bridge card, which is part of the print controller assembly.

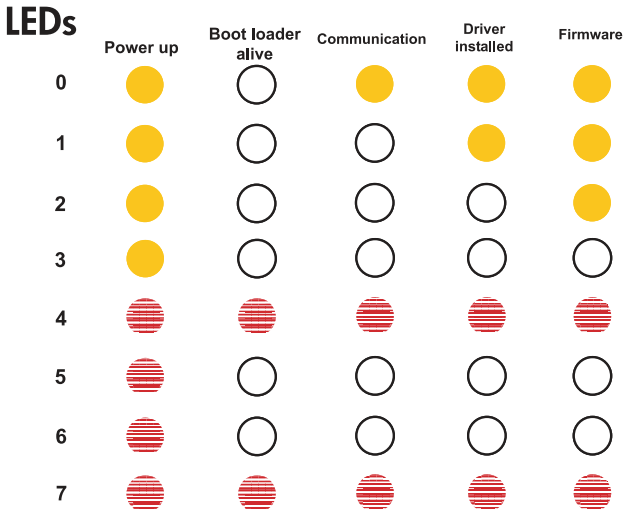
Service part	Part number
Print controller assembly	Q3639-67901

- Bridge card

  The bridge card is simply an interface card that is required to allow the print controller to attach to the MFP. The bridge card contains the LEDs used in troubleshooting.

  The bridge card is not a separate service part. It is part of the print controller assembly.

Service part	Part number
Print controller assembly	Q3639-67901



Icon	Description
	LED is on.
	LED is flashing.
	LED is off.

Power-on time sequence

There are eight LEDs, which are numbered from 0 to 7, on the formatter. When the secondary power switch is turned on, the LEDs follow the pattern described in the following table until the MFP status is Ready. The times listed are approximate times.

Elapsed time (minutes:seconds)	LED activity
00:01	All LEDs turn on; 4 and 7 begin flashing and the other LEDs remain solid.
00:19	All LEDs turn off; 4 and 7 return to flashing.
00:21	0 turns on; 4 and 7 remain flashing.
00:46	1 turns on; 0 remains solid; 4 and 7 remain flashing.
01:31	2 turns on; 0 and 1 remain solid; 4 and 7 remain flashing.
01:42	5 and 6 begin flashing; 0, 1, and 2 remain solid; 4 and 7 remain flashing.

LED indications

Power On	**Top LEDs turn on** At power up, the hardware turns on LEDs 0 through 3, indicating that there is power and a good connection.
Boot loader alive	**Top LEDs turn off** The LEDs in the MFP are on the interface board between the formatter and the engine controller. The interface between the interface board and the formatter is Peripheral Component Interconnect (PCI). The PCI interface communication must be established before the LEDs can be modified. This happens after the RAM test and takes several seconds. As soon as the PCI communication is started, LEDs 0 through 3 turn off.
	LEDs 0, 1, 2, and 3 remain on If LEDs 0 through 3 stay on, the boot loader cannot run. ● There might be no RAM. One or both of the 128 MB DIMMs could be missing, not seated correctly, or damaged. ● There might be no firmware DIMM. The firmware DIMM could be missing, not seated correctly, or damaged. ● There might be no firmware image on the DIMM. The firmware image could be missing, incomplete, or corrupt. ● The HP controller might be dead.
Communication	**LEDs 0, 1, 2, and 3 are off** When LEDs 0 through 3 turn off, the following has occurred: ● The HP formatter CPU can execute. ● The unit has a boot loader image. ● It has passed the RAM test. ● The PCI bus is functional. If the LEDs remain off, there has been no ICB communication.
	LED 0 The firmware waits for the ICB to indicate that it is functional. The ICB indicates that it is functioning by sending an Initialize command to the HP formatter. When the HP formatter successfully receives and responds to the Initialize command, LED 0 turns on. If LED 0 does not turn on, there are problems establishing communication.
Driver installed	**LED 1** The operating system is loaded into memory. When the engine driver is successfully loaded and initialized, LED 1 turns on. LED 0 remains solid (on). If there was no DIMM, the MFP would not reach this point.
Firmware	**LED 2** After LED 1, the firmware loads into memory. The firmware code begins communication with the engine by requesting its status. When the engine driver sees that the firmware code has received status from the ICB, LED 2 turns on.
	LED 3 This LED is off during normal operation.

All sequences	**LED 4** This is the PCI clock for the HP formatter. ● LEDs 4 and 7 flash steadily. ● If this LED is not flashing, the HP formatter cannot communicate with the bridge board.
	LED 5 and 6 These indicate that blocks of data are being transferred to or from the ICB. ● These LEDs always flash during printing. The LEDs flash about once per page. ● These LEDs are not useful for troubleshooting.
	LED 7 This is the PCI clock for the engine controller. ● LEDs 4 and 7 flash steadily. ● If this LED is not flashing, the engine controller cannot communicate with the bridge board.
Problem indications	**LED 0 is on alone** There might not be a valid firmware image available to load.
	LEDs 0 and 1 are the only LEDs on The firmware code died early in its initialization sequence.

These LEDs are intended to assist you when troubleshooting a suspected print controller error. If the LEDs reach their final state, it is an indication that the print controller assembly is functioning and is not the cause of the error. Be sure to consider any internal or external components, such as DIMMs, additional third-party DIMMs, hard disk, HP Jetdirect card, other networking cards, or other job accounting devices.

Internal pages

The following internal pages can be accessed from the `Print Menu`:

Menu	Internal page
`Information`	`Menu map` Displays the configurations of the MFP for printing, such as the default paper size and paper destination. **Note:** This page displays the default settings for printing only.
	`Configuration` Displays device information, such as the firmware versions of the various components, and what is installed in the MFP. The second page provides networking information, such as the IP address of the HP Jetdirect card.
	`Supplies status page` Displays the level of supplies, such as toner and staples.
	`Usage page` Displays the totals for page output, both copy and print.
	`File directory` Displays the contents of the print controller hard disk.
	`Font lists` Displays the fonts that are internally available on the print controller.
`Diagnostics`	`Print event log` Displays the last 50 events that occurred on the print controller. **Note:** These events include only print controller errors.

Print controller error codes

Note Print controller errors are displayed only on the Print Screen. To view a print controller error, press the Mode button twice to enter the Print Screen.

Note When performing a power cycle to clear a print controller error, you must power cycle the secondary and primary power switches. If you only power cycle the secondary switch, the error state remains on the print controller.

Message	Description	Action
20 INSUFFICIENT MEMORY	The print controller received more data from the computer than fits in the available memory.	**1** Press the OK button to resume printing. **Note:** A loss of data will occur. **2** Reduce the complexity of the print job to avoid this error. **3** You may be able to print pages that are more complex if you add additional memory to the print controller.
22 EIO X BUFFER OVERFLOW	The EIO card in slot X (in most cases, the HP Jetdirect 615n card) overflowed its I/O buffer during a busy state.	**1** Press the OK button to resume printing. **Note:** A loss of data will occur. **2** Check the configuration of the EIO card and the host computer. **3** If this error message persists, replace the EIO card.
22 PARALLEL I/O BUFFER OVERFLOW	The print controller's parallel buffer overflowed during a busy state.	**1** Press the OK button to resume printing. **Note:** A loss of data will occur. **2** Check the parallel I/O configuration. Set HIGH SPEED to NO and ADVANCED FUNCTIONS to OFF. **3** Replace the print controller assembly.
40 EIO X BAD TRANSMISSION	A connection with the card in EIO slot X (in most cases, the HP Jetdirect 615n card) has been broken abnormally.	**1** Press the OK button to resume printing. **Note:** A loss of data will occur. **2** Check that the cable is connected to the EIO port and that the EIO card is seated properly. **3** If possible, print to another network device to verify that the network is working properly. **4** Check the configuration of the EIO card. **5** If this error message persists, replace the EIO card.

Message	Description	Action
49.XXXX PRINTER ERROR To continue turn off then on	A critical firmware error occurred that caused the processor on the formatter to abort the operation. This type of error can be caused by invalid print commands, corrupt data, or invalid operations. In some instances, electrical noise in the cable can corrupt data during transmission to the printer. Other causes include poor-quality parallel cables, poor connections, or specific applications.Sometimes, the formatter itself is at fault, which is usually indicated by a 79 SERVICE ERROR.	**1** Press OK to clear the print job from the print controller memory. **2** Turn the MFP secondary and primary power off and then on. **3** If there is a newer version of the print controller firmware available, upgrade the firmware. **4** Try printing a job from a different software program. If the job prints, go back to the first program and try printing a different file. If the message appears only with a certain software program or print job, contact the software vendor for assistance. **5** If the message persists when using different software programs and attempting specific print jobs, disconnect all of the cables that connect the MFP to the network or computer. **6** Turn the MFP secondary and primary power off. **7** Remove all memory DIMMs or third-party DIMMs from the print controller. (Do not remove the firmware DIMM in slot J1.) **8** Remove all of the EIO devices from the printer. **9** Turn the printer on. **10** If the error message disappears, reinstall each DIMM and EIO device individually, turning the secondary and primary power off and then on again as you install each device.
68.X PERMANENT STORAGE ERROR	One or more print settings that were saved in a nonvolatile storage device are invalid and have been reset to the factory default. Pressing the OK button should clear the message. Printing can continue, but may behave unexpectedly in response to the changed settings. **X Description** 0 onboard NVRAM 1 flash DIMM or hard disk	**1** Press the OK button to continue. **2** Turn the MFP secondary and primary power off and then on. **3** Check the print settings to determine which settings have been changed. **4** Perform an NVRAM initialization. **5** Replace the print controller assembly.
68.X PERMANENT STORAGE FULL	A nonvolatile storage device is full. Pressing the OK button should clear the message. Printing can continue, but may behave unexpectedly in response to the changed settings. **X Description** 0 onboard NVRAM 1 flash DIMM or hard disk	**1** Press the OK button to continue. **2** For 68.0 errors, turn the MFP secondary and primary power off and then on. **3** If a 68.0 error persists, initialize the NVRAM. **4** For 68.1 errors, use the HP Web Jetadmin software to delete files from the disk drive. **5** If the 68.1 error persists, reinitialize the hard disk. **6** If the 68.1 error persists, replace the hard disk. **7** If this error message persists, replace the print controller assembly.

Message	Description	Action
68.X PERMANENT STORAGE WRITE FAIL	A nonvolatile storage device failed to write. Pressing the OK button should clear the message. Printing can continue, but may behave unexpectedly in response to the changed settings. **X Description** 0 onboard NVRAM 1 flash DIMM or hard disk	**1** Press the OK button to continue. **2** Turn the MFP secondary and primary power off and then on. **3** If the 68.0 error persists, initialize the NVRAM. **4** If the 68.1 error persists, reinitialize the hard disk. **5** If the 68.1 error persists, replace the hard disk. **6** If this error message persists, replace the print controller assembly.
79.XXXX PRINTER ERROR To continue turn off then on	A critical hardware error occurred.	**1** Turn the MFP secondary and primary power off and then on. **2** If the problem persists, reseat the firmware DIMM. **3** Reseat the print controller. **4** If there is a newer version of the print controller firmware available, upgrade the firmware. **5** Replace the firmware DIMM. **6** Replace the print controller assembly.
8X.YYYY EIO ERROR	The EIO device in slot X encountered a critical error.	**1** Turn the MFP secondary and primary power off and then on. **2** If the problem persists, reseat the EIO device. **3** Replace the EIO device. **4** Replace print controller assembly.
OPERATOR CALL ERROR: XX - X	The MFP requires some kind of action from the user (for example, the ADF cover is open).	**1** Go to the Main Screen, the Copy UI, for specific action required.

Print controller service modes

The following service modes are available on the print controller:

- Service Menu
- 9-0 Mode

Service Menu (PIN code 11905503 or 11906503)

The `Service Menu` is the last item under `Menus`. You must use one of the following passwords to access the `Service Menu`:

MFP	Password
HP LaserJet 9055mfp	11905503
HP LaserJet 9065mfp	11906503

The following items are available in the `Service Menu`:

- **Clear event log**

  Allows you to clear all of the events that are currently in the print controller event log.

- **Cold Reset Paper**

  Allows you to set the Cold Reset paper size (either Letter or A4) for printing. This is the paper size that will be the default for printing if and when a Cold Reset is performed.

9-0 mode

Note Accessing the 9-0 mode requires the 4-7 mode. You must hold down the **4** and **7** keys while you turn on the primary power and then turn on the secondary power. The shortcut using the **P** key does not work for 9-0 mode.

1. Turn off the secondary power.
2. Turn off the primary power.
3. To access the 4-7 mode, press the **4** and **7** keys on the control panel keypad and hold them down.
4. While continuing to hold down the **4** and **7** keys, turn on the primary power switch, and then turn on the secondary power switch. Hold the keys down until the HP logo appears on the control panel.
5. Type 90 on the control panel keypad. The following displays on the control panel:

```
I/O check mode
<90-00> IN:    OUT:----
```

6. Press **START** to enable the 9-0 mode.

The following items are available in 9-0 mode:

- **Cold reset**

  Use this option to perform the following tasks:

  - Reset the EWS password.
  - Restore the factory defaults, such as the default paper size for print jobs.

Note Cold reset on the print controller does not reset the control panel language.

Note To clear ECM page counts or reset the language to the default, the service technician must access the 2-5 mode menus on the engine.

  - Reset all of the *menu reset* user variables to the factory defaults.
  - Clear the HP Jetdirect settings.

Note This option does not clear `Service Menu` values, such as the serial number.

- **Skip disk load**

  Use this option to perform the following tasks:

  - Troubleshoot hard disk drive problems without removing the drive.
  - Eliminate firmware code that might be loading from the hard disk drive on boot up.

- **Initialize disk**

  Use this option to perform the following tasks:

  - Format the print controller hard disk drive, if it is installed. All of the data on the hard disk will be lost.
  - Quickly erase the contents of the hard disk, excluding firmware, or for the initial setup of a new or replacement hard disk.
  - Return the directory structure with a reboot.

- **Initialize NVRAM**

  Use this option to perform the following tasks:

  - Reformat NVRAM and delete regular PERMSTORE (permanent storage) disk files. This preserves the special backup files on the disk that are used to restore the PERMSTORE values for a NVRAM INIT.
  - Reset the EWS password.
  - Clear the HP Jetdirect settings.
  - Restore the factory defaults, such as the default paper size for print jobs.
  - Restore the following PERMSTORE values from the special backup files:
    - Model Number
    - Model Name
    - Device Name (assigned by user)
    - Print Controller Serial Number
    - Service ID
    - Default paper size for print jobs (assigned by user)
    - Consumables reorder URL
    - Error log
    - Counters

Note In most cases, you should try a Cold Reset before performing an NVRAM initialization.

5 Service

Main precautions for maintenance

Points to be confirmed before maintenance

Before starting maintenance, ask a user and collect information about problems that occurred on the MFP before the maintenance and the conditions of the MFP to grasp key points for the maintenance.

Copy sample

Be sure to make copy samples at the start and the end of maintenance for checking images.

Drum

Never expose the drum to the sunlight. Be also careful not to expose a drum to indoor light as far as possible.

When a drum unit or a drum is out of the MFP, never fail to cover it with a drum cover.

When replacing a drum, toner guide roller or cleaning blade, refer to “Removing and installing a cleaning blade.”

When replacing the drum and developer, you must perform necessary adjustments by referring to the list of adjustment Items.

After having completed maintenance work, you must reset the PM counter (using the 2-5 mode).

When replacing the fuser cleaning web, developer, and drum be sure to reset the part counters.

When replacing a toner bottle, wait until the toner supply LED on the control panel flashes before replacing the toner.

CAUTION Turn the primary power switch (SW1) off and remove the power plug before starting maintenance.

CAUTION Failure to reset the fuser web, developer, or drum count will cause print quality issues and premature failure of these units.

Note An asterisk (*) at the end of a part number indicates a revision level. Each part number ends in KC, except for part numbers in the format nnnnn-nnnnn.

Service schedule

	Service item	No. of copies	Estimated life (5 years or 5,000,000 copies) × 10,000 copies																				Service count
			0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	
MFP	Maintenance	Every 250,000 copies		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		19 times
	Periodic check (I)	Every 500,000 copies			●		●		●		●		●		●		●	●	●		●			9 times
	Periodic check (II)	Every 1,000,000 copies					●				●				●				●					4 times
	Periodic check (III)	Every 2,000,0000 copies									●								●					2 times
	Periodic check (IV)	Every 2,500,000 copies											●											1 time
	Periodic check (V)	Every 4,000,000 copies																	●					1 time
ADF	Maintenance	Every 250,000 copies		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		19 times
	Periodic check (I)	Every 500,000 copies			●		●		●		●		●		●		●		●		●			9 times
	Periodic check (II)	Every 1,500,000 copies							●						●						●			3 times
Finisher (S/S or MFF)	Maintenance	Every 250,000 copies		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		19 times
	Periodic check (I)	Every 1,000,000 copies					●				●				●				●					4 times
	Periodic check (II)	Every 2,500,000 copies											●											1 time
HCI	Maintenance	Every 250,000 copies		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		19 times
	Periodic check (I)	Every 1,000,000 copies					●				●				●				●					4 times
	Periodic check (II)	Every 4,000,000 copies																	●					1 time
PI	Maintenance	Every 250,000 copies		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		19 times
	Periodic check (I)	Every 500,000 copies			●		●		●		●		●		●		●		●		●			9 times
	Periodic check (II)	Every 1,000,000 copies					●				●				●				●					4 times
	Periodic check (III)	Every 3,000,000 copies													●									1 time
PK	Maintenance	Every 250,000 copies		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		19 times

Maintenance items

MFP (every 250,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Preparation	(1) Image check			●			
2	Drum unit	(1) Charge control grid 56AA2503*	1				●	
		(2) Charging wire 56AA2509*	1				●	
		(3) Charging corona unit (back plate and peripheral section, PCL)		●				Drum cleaner/waste/blower brush
		(4) Charger cleaning base 56AA2540*	1				●	
		(5) Charger slide block 56AA2538*	1				●	
		(6) Charger cleaning block /U 56AA-253*	1				●	
		(7) Snap ring 45AA2040*	1				●	
		(8) Charger cleaning block /L 56AA-254*	1				●	
		(9) Drum cartridge, bottom plate of the developing unit, toner control sensor, separation claw		●				Blower brush/cleaning pad/A drum cleaner is used only when cleaning a toner control sensor.
		(10) Toner collection screw A		●				Blower brush/cleaning pad
		(11) Toner guide roller *1 56AA-213*	1			●	●	Electricity lubricant
		(12) Cleaning blade (3-6 mode blade setting mode) 56AA2010*	1				●	
3	Developing unit	(1) Developing bias shaft		●				Blower brush/cleaning pad
		(2) Developer (2-5 mode counter resetting) E4Q0KC	1				●	
		(3) Developing unit		●				Blower brush/cleaning pad
4	Transfer / separation corona	(1) Transfer separation corona unit (front and rear block), guide rail, separation bridge, entrance guide plate, lightning protection sheet, and back plate		●				Blower brush/cleaning pad/cotton swab/drum cleaner
		(2) Discharge wire 56AA2609*	3				●	
		(3) Transfer cleaning assembly 56AA-264*	1				●	
		(4) Separation cleaning assembly 56AA-267*	1				●	
		(5) Snap ring 45AA2040*	2				●	
		(6) Corona wire support 55VA2615*	3				●	
5	Toner supply	(1) Cartridge holder member		●				Cleaning pad
6	Conveyance unit	(1) Conveyance section upper surface		●				Drum cleaner/cleaning pad
		(2) Conveyance belt		●				Drum cleaner/cleaning pad
		(3) TSL		●				Drum cleaner/cleaning pad
7	Registration	(1) Paper dust removing brush		●				Cleaning pad/blower brush
		(2) 2nd paper pick roller		●				Drum cleaner/cleaning pad
8	Drive section and filter	(1) Ozone filter K 55FA7301*	1				●	
		(2) Developing suction filter 56AA-735*	1				●	
9	Paper exit unit	(1) Sensor (one section)		●				Blower brush
		(2) Roller (two sections)		●				Drum cleaner/cleaning pad

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
10	ADU	(1) Roller cleaning		●				Drum cleaner/cleaning pad
		(2) Reverse/exit roller		●				Drum cleaner/cleaning pad
		(3) ADU reverse roller		●				Drum cleaner/cleaning pad
		(4) ADU conveyance roller /1-4		●				Drum cleaner/cleaning pad
		(5) ADU registration roller		●				Drum cleaner/cleaning pad
		(6) Sensors		●				Blower brush
		(7) Gate sensor (two points)		●				Blower brush
		(8) ADU horizontal conveyance sections (four points)		●				Blower brush
		(9) ADU reverse section (one point)		●				Blower brush
		(10) Gears				●		Plas guard No. 2
11	Trays 2, 3, 4	(1) Sensor (three points/tray)		●				Blower brush
		(2) Gears (separation roller)				●		Plas guard No. 2
		(3) Conveyance/driven roller (paper feed)		●				Drum cleaner/cleaning pad
		(4) pick/feed rollers		●				Drum cleaner/cleaning pad
		(5) Separation roller		●				Drum cleaner/cleaning pad
12	Tray 1	(1) Sensor (four points)		●				Blower brush
		(2) Gears				●		Plas guard No. 2
		(3) Conveyance rollers		●				Drum cleaner/cleaning pad
		(4) Pick/feed rollers		●				Drum cleaner/cleaning pad
		(5) Separation roller		●				Drum cleaner/cleaning pad
13	Scanner section	(1) Original glass (including ADF glass)		●				Drum cleaner/cleaning pad
		(2) Exposure lamp		●				Blower brush
		(3) Reflector		●				Cleaning pad
		(4) Lens		●				Blower brush/cleaning pad
		(5) First to third mirrors		●				Blower brush/cleaning pad
		(6) Document size detection sensor		●				Blower brush
		(7) Photo interrupter		●				Blower brush
		(8) Optical guide rail		●				Cleaning pad
14	Laser/scanner	(1) Dust-proof glass (external)			●			Blower brush/cleaning pad
15	Fuser	(1) Fuser upper roller		●				Roller cleaner/cleaning pad
		(2) Fuser lower roller		●				Roller cleaner/cleaning pad
		(3) Fuser claw (L)		●				Drum cleaner/cleaning pad
		(4) Paper exit roller		●				Drum cleaner/cleaning pad
		(5) Paper exit conveyance roller (right) and guide rib		●				Drum cleaner/cleaning pad
		(6) Fuser entrance and exit guide plate		●				Drum cleaner/cleaning pad
		(7) Fuser temperature sensor /2		●				Blower brush/paper
		(8) Decurler		●				Cleaning pad
		(9) Fuser gear				●		Moly therm grease
		(10) Fuser web unit (2-5 mode counter resetting) 56AA-543*	1				●	
		(11) Fuser claw (U) 56AA5427*	6				●	
		(12) Heat insulating sleeve				●		Tri-flow

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
16	Vertical conveyance	(1) Horizontal conveyance roller		●				Drum cleaner/cleaning pad
		(2) Sensor		●				Blower brush
17	Final check	(1) W.U.T. check			●			
		(2) Peripheral and exterior cleaning		●				Drum cleaner/cleaning pad
		(3) Image and paper through check			●			
		(4) PM counter resetting (2-5 mode)			●			

***1** After replacing the toner guide roller, be sure to apply an electricity lubricant on the edge of the guide roller shaft (on power supply pin side).

ADF (every 250,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Preparation	(1) Paper through check			●			
2	Paper feed section	(1) Size detection sensor/1		●				Blower brush
		(2) Size detection sensor/2		●				Blower brush
		(3) Registration sensor		●				Blower brush
		(4) Pick roller		●				Drum cleaner/cleaning pad
		(5) Feed roller		●				Drum cleaner/cleaning pad
		(6) Separation roller		●				Drum cleaner/cleaning pad
		(7) Cleaning pad		●				Blower brush
		(8) Registration roller		●				Drum cleaner/cleaning pad
3	Conveyance section	(1) Read sensor		●				Blower brush
		(2) Skew sensor (F)		●				Blower brush
		(3) Skew sensor (R)		●				Blower brush
		(4) Double side registration sensor		●				Blower brush
		(5) Read roller (F)		●				Drum cleaner/cleaning pad
		(6) Read roller (R)		●				Drum cleaner/cleaning pad
		(7) White board		●				Drum cleaner/cleaning pad
		(8) Reverse conveyance roller/1		●				Drum cleaner/cleaning pad
		(9) Reverse conveyance roller/2		●				Drum cleaner/cleaning pad
4	Paper exit section	(1) Paper exit roller		●				Drum cleaner/cleaning pad
5	Final check	(1) Paper through check			●			
		(2) Exterior cleaning		●				Drum cleaner/cleaning pad

Stapler/stacker (S/S) (every 250,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Preparation	(1) Paper through check			●			
2	Conveyance section	(1) Conveyance roller		●				Drum cleaner/cleaning pad
		(2) Paper exit roller/A (sponge roller) 122H4825*	10				●	
		(3) Conveyance roller/4 (sponge roller) 13QE4531*	4				●	
3	Drive section	(1) Main drive unit			●	(●)		Plas guard No. 2 *1
		(2) Tray up/down unit			●	(●)		Plas guard No. 2 *1
		(3) Shift drive unit			●	(●)		Plas guard No. 2 *1
		(4) Paper exit drive unit			●	(●)		Plas guard No. 2 *1
		(5) Staple unit			●	(●)		Plas guard No. 2 *1

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
4	Exterior	(1) Exterior cleaning		●				Drum cleaner/cleaning pad *2
5	Final check	(1) Paper through check			●			Stapler positioning tool *3

***1** Lubricate if gears are noisy.

***2** Clean the area around the paper exit sponge rollers.

***3** Check to see that the staple positions are correct.

Multifunction finisher (MFF) (every 250,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Preparation	(1) Paper through check			●			
2	Conveyance section	(1) Conveyance roller		●				Drum cleaner/cleaning pad
		(2) Paper exit roller/A (sponge) 122H4825*	10				●	
		(3) Conveyance roller/4 (sponge) 13QE4531*	4				●	
3	Drive section	(1) Main drive unit			●	(●)		Plas guard No. 2 *1
		(2) Tray up/down unit			●	(●)		Plas guard No. 2 *1
		(3) Shift drive unit			●	(●)		Plas guard No. 2 *1
		(4) Paper exit drive unit			●	(●)		Plas guard No. 2 *1
		(5) Staple unit			●	(●)		Plas guard No. 2 *1
		(6) Folding unit			●	(●)		Plas guard No. 2 *1
4	Folding unit	(1) Folding roller		●				
5	Exterior	(1) Exterior cleaning		●				Drum cleaner/cleaning pad *2
6	Final check	(1) Paper through check			●			Stapler positioning tool *3

***1** Lubricate if gears are noisy.

***2** Clean the area around the paper exit sponge rollers.

***3** Check to see that the staple positions are correct.

HCI (ledger/A3 and letter/A4) (every 250,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Preparation	(1) Paper through check			●			
2	Inside HCI	(1) Sensors		●				Blower brush
		(2) Gears				●		Plas guard No. 2
		(3) Conveyance roller/driven roller		●				Drum cleaner/cleaning pad
		(4) Pick roller		●				Drum cleaner/cleaning pad
		(5) Feed roller		●				Drum cleaner/cleaning pad
		(6) Separation roller		●				Drum cleaner/cleaning pad
3	Final check	(1) Paper through check			●			
		(2) Exterior cleaning		●				Drum cleaner/cleaning pad

Post inserter (PI) (every 250,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Conveyance section	(1) Conveyance roller		●				Drum cleaner/cleaning pad

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
2	Paper feed section	(1) Pick roller		●		(●)		Drum cleaner/cleaning pad *1
		(2) Feed roller		●		(●)		Drum cleaner/cleaning pad *1
		(3) Separation roller		●		(●)		Drum cleaner/cleaning pad *1
3	Final check	(1) Paper through check			●			
		(2) Exterior cleaning		●				Drum cleaner/cleaning pad

***1** Lubricate if gears are noisy.

Punch kit (PK) (every 250,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Punch unit MFP	(1) Punch die		●				Blower brush
2	Punch dust collection section	(1) Punch dust box (for punch dust dump)		●				Drum cleaner/cleaning pad
		(2) Punch dust detection sensor		●				Drum cleaner/cleaning pad
3	Final check	(1) Paper through check			●			
		(2) Internal cleaning		●				Drum cleaner/cleaning pad

Periodic inspection items

MFP

Periodic check (I) (every 500,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Fuser	(1) Fuser roller (U) 56AA5305*	1				●	
		(2) Heat insulating sleeve (U) 45405339*	2			●	●	Apply Tri flow oil when replacing the sleeve
		(3) Upper roller bearing 45407504*	2				●	
		(4) Fuser roller (L) 56AA5306*	1				●	
		(5) Fuser claw (L) 25BA5333*	3				●	
		(6) Fuser rolling bearing 25SA7603*	2				●	
		(7) Decurler roller 56AA5307*	1				●	
2	Drum unit	(1) Drum separation claw 56AA2070*	3				●	
		(2) Drum replacement E4SKKC (2-5 mode counter resetting)	1				●	
3	Trays 2, 3, 4	(1) Feed rollers 56AA-457*	3				●	Actual replacement count: 125 K feeds
		(2) Separation rollers 56AA-408*	3				●	
4	Tray 1	(1) Feed roller 56AA-469*	1				●	Actual replacement count: 70 K feeds
		(2) Separation roller 56AA-475*	1				●	

Periodic check (II) (every 1,000,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Trays 2, 3, 4	(1) Pick roller 56AA-458*	3				●	Actual replacement count: 800 K feeds
2	Tray 1	(1) Pick roller 56AA-468*	1				●	Actual replacement count: 140 K feeds
3	Fuser	(1) Fuser lamp/1, 56A*8703*	1				●	
		(2) Fuser lamp/2, 56A*8304*	1				●	
		(3) Fuser lamp/3, 56A*8305*	1				●	
		(4) Regulator shaft bearing, 07AA7509*	2				●	
		(5) Decurler roller bearing, 07AA7509*	2				●	
4	Drive unit	(1) Fuser drive gear, 25BA7726*	1				●	

Periodic check (III) (every 2,000,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Drum unit	(1) Drum separation claw solenoid 26NA8251*	1				●	
2	Paper feed drive unit	(1) Vertical conveyance clutch/1,2 56AA8201*	2				●	Actual replacement count: 2 million feeds
3	Second paper feed unit	(1) Second paper feed clutch 56AA8201*	1				●	
4	Transfer/ separation corona unit	(1) Transfer/separation corona unit 56AA-260*	1				●	

Periodic check (IV) (every 2,500,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Drum unit	(1) Toner control sensor board (TCSB) 56AA-910*	1				●	
2	Charging corona unit	(1) Charging corona unit (including PCL) 56AA-250*	1				●	
3	Second paper feed unit	(1) TSL 56AA-387*	1				●	
		(2) Registration roller bushing 26NA4082*	2				●	
		(3) Registration roller (U) 56AA4603*	1				●	
4	Developing unit	(1) Developing unit 56AA-300*	1				●	
5	Fuser	(1) Upper roller temp sensor (rear) 56AA8804*	1				●	
6	ADU	(1) Registration roller bushing (L) 55GA7551*	2				●	
		(2) Registration roller bushing (U) 55GA7552*	2				●	
		(3) ADU registration roller (U) 56AA5111*	1				●	
		(4) ADU registration roller (L) 56AA5112*	1				●	

Periodic check (V) (every 4,000,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Trays 2, 3, 4	(1) Paper feed clutch 56AA8201*	3				●	Actual replacement count: 2 million feeds
		(2) Conveyance clutch 56AA8201*	3				●	

ADF

Periodic check (I) (every 500,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Paper feed section	(1) Pick roller U6181-60007	1				●	Actual replacement count: 200 K feeds
		(2) Feed roller U6181-60008	1				●	
		(3) Separation roller 13QA-408*	1				●	

Stacker/stapler (S/S)

Periodic check (I) (every 1,000,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Stapler unit	(1) Stapler unit 20AK4241*	2				●	Actual replacement count: 200 K feeds each

Periodic check (II) (every 2,500,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Drive unit	(1) Finisher up/down motor 13QE-115*	1				●	Actual replacement count: 2.5 million feeds

Multifunction finisher (MFF)

Periodic check (I) (every 1,000,000 copies))

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Stapler unit	(1) Stapler unit 20AK4241*	2				●	Actual replacement count: 200 K staples each

Periodic check (II) (every 2,500,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Drive unit	(1) Finisher up/down motor 13QE-115*	1				●	Actual replacement count: 2.5 million feeds

HCI (Q3637A/Q3638A)

Periodic check (I) (every 1,000,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Inside HCI	(1) pick roller 55VA-484*	1				●	Actual replacement count: 500 K feeds each
		(2) Feed roller 55VA-483*	1				●	
		(3) Separation roller 55VA-483*	1				●	

Periodic check (II) (every 4,000,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Inside HCI	(1) Feed clutch 56AA8201*	1				●	Actual replacement count: 2 million feeds
		(2) Conveyance clutch 56AA8201*	1				●	

Post inserter (PI)

Periodic check (I) (every 500,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Paper feed section	(1) Feed roller 13QN-446*	2				●	Actual replacement count: 100 K feeds
		(2) Separation roller 13QN-443*	2				●	

Periodic check (II) (every 1,000,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Paper feed section	(1) Pick roller 50BA-574*	2				●	Actual replacement count: 200 K feeds each

Periodic check (III) (every 3,000,000 copies)

No.	Classification	Service item	Number of parts replaced	Implementation classification				Materials/tools used
				Cleaning	Inspection	Lubrication	Replacement	
1	Paper feed section	(1) Torque limiter 13QN4073*	2				●	Actual replacement count: 600 K feeds

Replacement parts list

MFP

No.	Classification	Parts name	Parts no.	Qty.	Total count	Actual count	Parts count no.
1	Maintenance	Charge control grid	56AA2503*	1	250,000		6
	(Every 250,000 copies)	Charging wire	56AA2509*	1	250,000		22
		Charger cleaning base	56AA2540*	1	250,000		
		Charger slide block	56AA2538*	1	250,000		
		Charger cleaning block /U	56AA-253*	1	250,000		7
		Snap ring (ϕ2) (charging corona)	45AA2040*	1	250,000		
		Charger cleaning block /L	56AA-254*	1	250,000		8
		Toner guide roller	56AA-213*	1	250,000		5
		Cleaning blade	56AA2010*	1	250,000		4
		Developer	E4Q0KC	1	250,000		2
		Discharge wire	56AA2609*	3	250,000		10
		Transfer cleaning assembly	56AA-264*	1	250,000		11
		Separation cleaning assembly	56AA-267*	1	250,000		21
		Snap ring (ϕ2) (transfer/separation corona unit)	45AA2040*	2	250,000		
		Ozone filter K	55FA7301*	1	250,000		24
		Developing suction filter	56AA-735*	1	250,000		
		Fuser web unit	56AA-543*	1	250,000		1
		Fuser claw /U	56AA5427*	6	250,000		14
		Corona wire support	55VA2615*	3	250,000		
2	Periodic check (I)	Fuser roller /U	56AA5305*	1	500,000		12
	(Every 500,000 copies)	Insulating sleeve /U	45405339*	2	500,000		16
		Upper roller bearing	45407504*	2	500,000		17
		Fuser roller /L	56AA5306*	1	500,000		13
		Fuser claw /L	25BA5333*	3	500,000		15
		Fuser rolling bearing	25SA7603*	2	500,000		
		Decurler roller	56AA5307*	1	500,000		
		Drum separation claw	56AA2070*	3	500,000		9
		Drum	E4SKKC	1	500,000		3
		Feed rollers (Trays 2, 3, 4)	56AA-457*	3		125,000	30, 35, 40
		Separation rollers (Trays 2, 3, 4)	56AA-408*	3		125,000	30, 35, 40
		Feed roller (Tray 1)	56AA-469*	1		70,000	50
		Separation roller (Tray 1)	56AA-475*	1		70,000	50
3	Periodic check (II)	Pick roller (Trays 2, 3, 4)	56AA-458*	3		800,000	29,34,39
	(Every 1,000,000 copies)	Pick roller (Tray 1)	56AA-468*	1		140,000	49
		Fuser lamp/1	56A*8703*	1	1,000,000		
		Fuser lamp/2	56A*8704*	1	1,000,000		
		Fuser lamp/3	56A*8705*	1	1,000,000		
		Regulator shaft bearing	07AA7509*	2	1,000,000		
		Decurler roller bearing	07AA7509*	2	1,000,000		
		Fuser drive gear	25BA7726*	1	1,000,000		
4	Periodic check (III)	Drum separation claw solenoid	26NA8251*	1	2,000,000		103
	(Every 2,000,000 copies)	Vertical conveyance clutch/1,2	56AA8201*	2		2,000,000	61, 62
		Second paper feed clutch	56AA8201*	1	2,000,000		64
		Transfer/separation corona unit	56AA-260*	1	2,000,000		20

No.	Classification	Parts name	Parts no.	Qty.	Total count	Actual count	Parts count no.
5	Periodic check (IV) (Every 2,500,000 copies)	Toner control sensor board (TCSB)	56AA-910*	1	2,500,000		19
		Charging unit (including PCL)	56AA-250*	1	2,500,000		25
		TSL	56AA-387*	1	2,500,000		
		Registration roller bushing	26NA4082*	2	2,500,000		
		Registration roller /U	56AA4603*	1	2,500,000		
		Developing unit	56AA-300*	1	2,500,000		27
		Upper roller temp sensor (rear)	56AA8804*	1	2,500,000		23
		Registration roller bushing (L)	55GA7551*	2	2,500,000		
		Registration roller bushing (U)	55GA7552*	2	2,500,000		
		ADU registration roller /U	56AA5111*	1	2,500,000		
		ADU registration roller /L	56AA5112*	1	2,500,000		
6	Periodic check (V) (Every 4,000,000 copies)	Paper feed clutch (Tray 2 to 4)	56AA8201*	3		2,000,000	31, 36, 41
		Conveyance clutch (Tray 2 to 4)	56AA8201*	3		2,000,000	32, 37, 42

ADF

No.	Classification	Parts name	Parts no.	Qty.	Total count	Actual count	Parts count no.
1	Periodic replacement (I) (Every 500,000 copies)	Pick roller	U6181-60007*	1		200,000	92
		Feed roller	U6181-60008*	1		200,000	93
		Separation roller	13QA-408*	1		200,000	94

Stapler/stacker and multifunction finisher

No.	Classification	Parts name	Parts no.	Qty.	Total count	Actual count	Parts count no.
1	Maintenance (Every 250,000 copies)	Paper exit roller A (sponge roller)	122H4825*	10	250,000		
		Conveyance roller 4 (sponge roller)	13QE4531*	4	250,000		
2	Periodic check (I) (Every 1,000,000 copies)	Stapler unit (front)	20AK4241*	1		200,000	70
		Stapler unit (rear)	20AK4241*	1		200,000	71
3	Periodic check (II) (Every 2,500,000 copies)	Finisher up/down motor	13QE-115*	1		2,500,000	69

High capacity input (ledger/A3, letter/A4)

No.	Classification	Parts name	Parts no.	Qty.	Total count	Actual count	Parts count no.
1	Periodic check (I) (Every 1,000,000 copies)	Pick roller	55VA-484*	1		500,000	52
		Feed roller	55VA-483*	1		500,000	53
		Separation roller	55VA-483*	1		500,000	53
2	Periodic check (II) (Every 4,000,000 copies)	Paper feed clutch	56AA8201*	1		2,000,000	54
		Conveyance clutch	56AA8201*	1		2,000,000	55

Post insertion kit

No.	Classification	Parts name	Parts no.	Qty.	Total count	Actual count	Parts count no.
1	Periodic check (I) (Every 500,000 copies)	Feed roller	13QN-446*	2		100,000	79
		Separation roller	13QN-443*	2		100,000	80
2	Periodic check (II) (Every 1,000,000 copies)	Pick roller	50BA-574*	2		200,000	78
3	Periodic check (II) (Every 3,000,000 copies)	Torque limiter (U and L)	13QN4073*	2		600,000	81, 86

Important maintenance parts

- In order to maintain safety of the MFP, some parts are set up as “essential safety parts.” The part numbers for these “essential safety parts” are indicated as “SP00####KC.” When replacing these parts, follow precautions for removal and replacement, which are listed in the HP LaserJet 9055mfp/9065mfp service manual. Important maintenance parts for this MFP are as described below:

No.	Unit classification	Parts name	Parts no.	Qty.
1	Fuser	Thermostat/U	SP00-0020	1
2		Thermostat/L	SP00-0010	1

Note The maintenance kit is only available for 250,000. Parts needed for other PM intervals must be ordered separately.

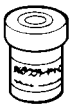
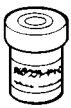
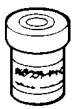
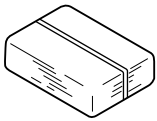
Support materials

PM kit (GA4GKC)

250,000 PM kit

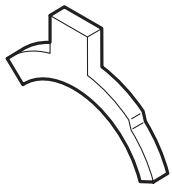
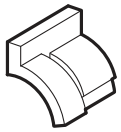
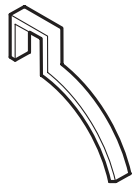
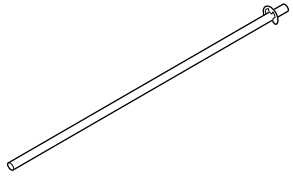
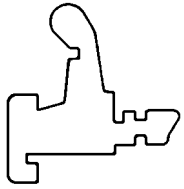
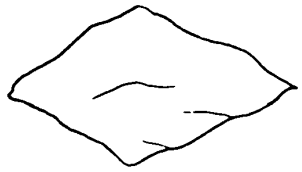
Name	Parts no.	Qty.
Charge control grid	56AA2503*	1
Charging wire	56AA2509*	1
Charging cleaning base	56AA2540*	1
Charging slide block	56AA2538*	1
Charging wire cleaning block/U	56AA-253*	1
Snap ring (ϕ2) (charging corona, transfer/separation corona)	45AA2040*	3
Charging wire cleaning block (L)	56AA-254*	1
Toner guide roller	56AA-213*	1
Cleaning blade	56AA2010*	1
Discharging wire	56AA2609*	3
Transfer cleaning assembly	56AA-264*	1
Separation cleaning assembly	56AA-267*	1
Corona wire support	55VA2615*	3
Ozone filter K	55FA7301*	1
Developing suction filter	56AA-735*	1
Fuser web unit	56AA-543*	1
Fuser claw /U	56AA5427*	6
Developer	E4Q0KC	
Cleaning pad (10 pcs)	-	5
Polyethylene gloves	-	1
Dust bag (rubber band)	-	1
Developer collection sheet (rubber band)	-	1
Hand case for collection	-	1
Cotton swabs (4 pcs)	-	2

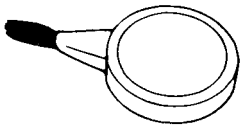
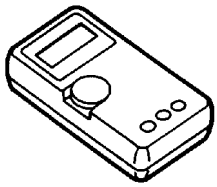
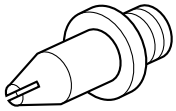
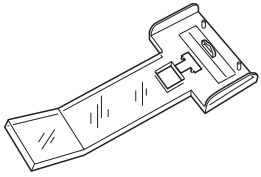
Service tools and supplies

Part number	Part description	Appearance	Remarks
	Drum cleaner	200 ml 	Drum cleaner is 98% Isopropyl Alcohol. Used for drum and roller cleaning. Obtain locally.
	Roller cleaner	200 ml 	Roller cleaner is 100% acetone. Used for fuser upper and lower roller cleaning ONLY. Obtain locally.
	Tri-Flow lubricant		Used to lubricate heat insulating sleeves on upper fuser roller ONLY. Obtain locally.
00GR00020KC	Plas guard No. 2	25 g 	
00GR00150KC	Molytherm grease	25 g 	Used to lubricate fuser gears ONLY.
00GR00200KC	Electricity lubricant	25 g 	For toner guide roller
000V-19-0KC	Setting powder	25 g 	Needed whenever the drum, cleaning blade, or toner guide roller are removed or replaced.
000V-18-0KC	Cleaning pad	10 pc 1 pack 	Lint free; used for general cleaning.

Service

CE tool list

Tool no.	Tool name	Appearance	Quantity	Remarks
00M8-1-00	Thermostat PS tool (for upper roller)		1	
56AEJG011	Thermostat PS (tool for lower roller)		1	
7050K0010	Temperature detection tool		1	
7050K0020	Optics PS tool		2	
00M6-2-00	Door switch tool		2 set	2 pieces/set
00VD-5000	New pyramid chart		1	
00VC-2-00	Drum cover		1	

Tool no.	Tool name	Appearance	Quantity	Remarks
00VD-1000	Blower brush		1	
00VE-1003	Tester		1	
120A1052*	PS shaft		2pc/set	For ADF positioning
120A9711*	ADJ chart		1	For document feeder adjustment
120A9712*	White chart		1	For document feeder adjustment
129XJG011	Stapler PS tool		1	For Q3633A/ Q3634A adjustment

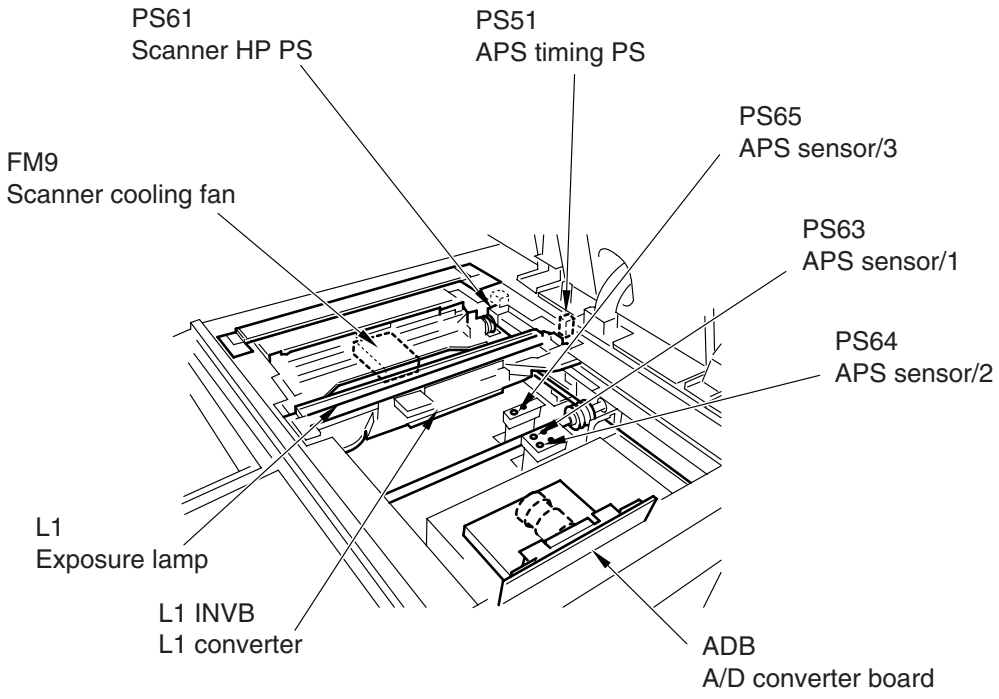
6 Troubleshooting

Electronic parts layout drawing

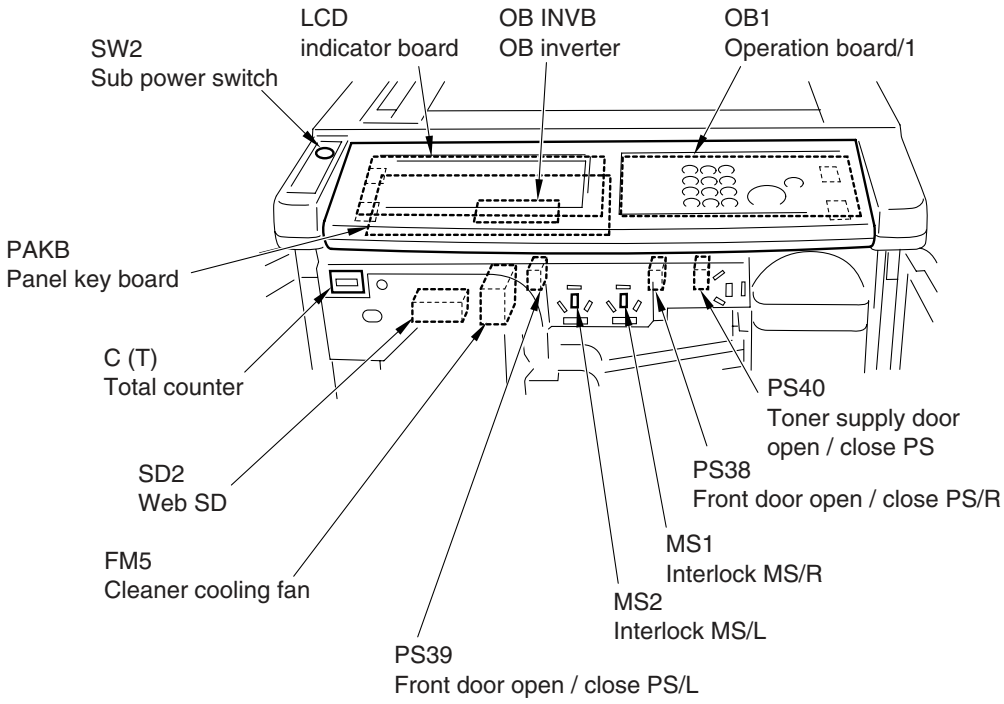
Note Disregard any references in this manual to the following: KDRS, PZ, PK-110
They are not used with the LaserJet 9055mfp and LaserJet 9065mfp.

9065 parts layout drawing

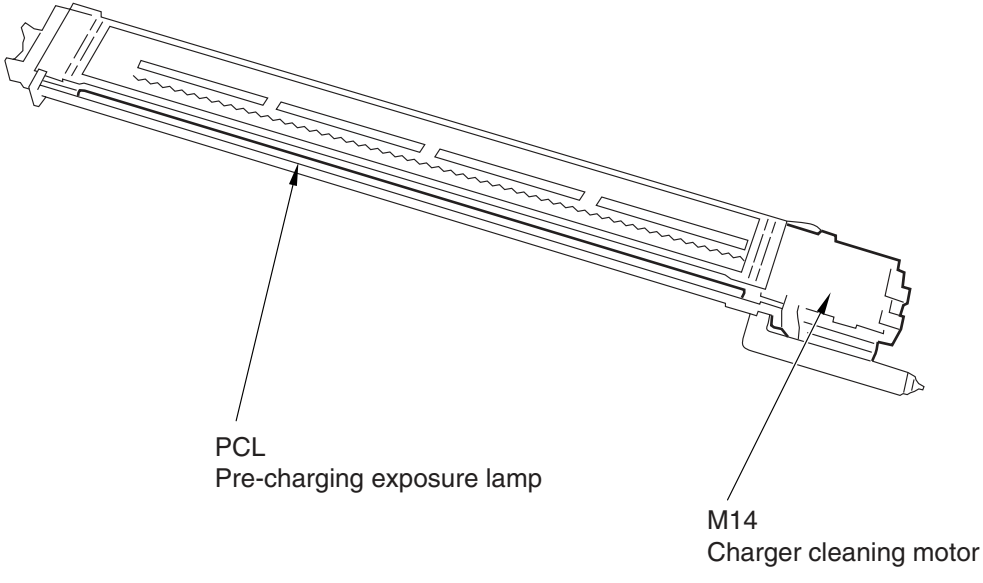
Read section



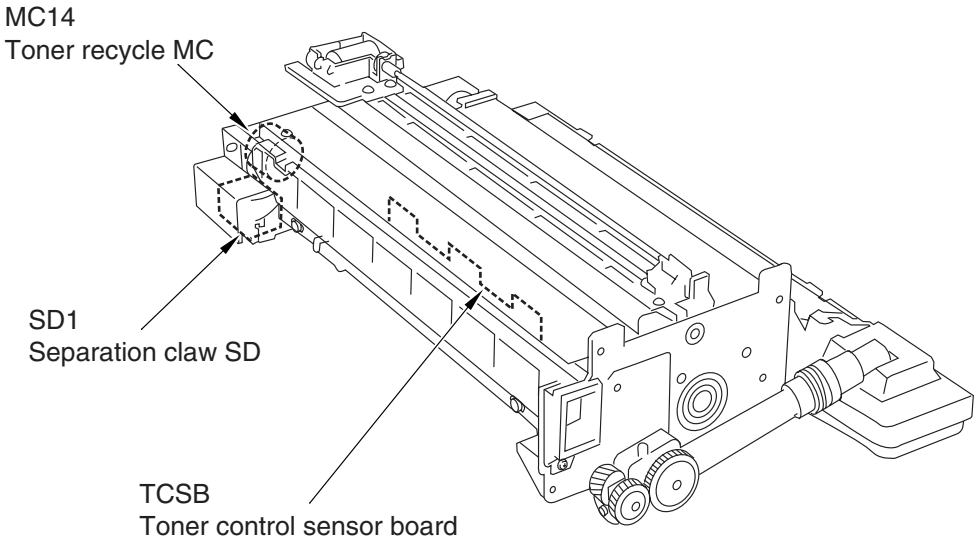
Operation section



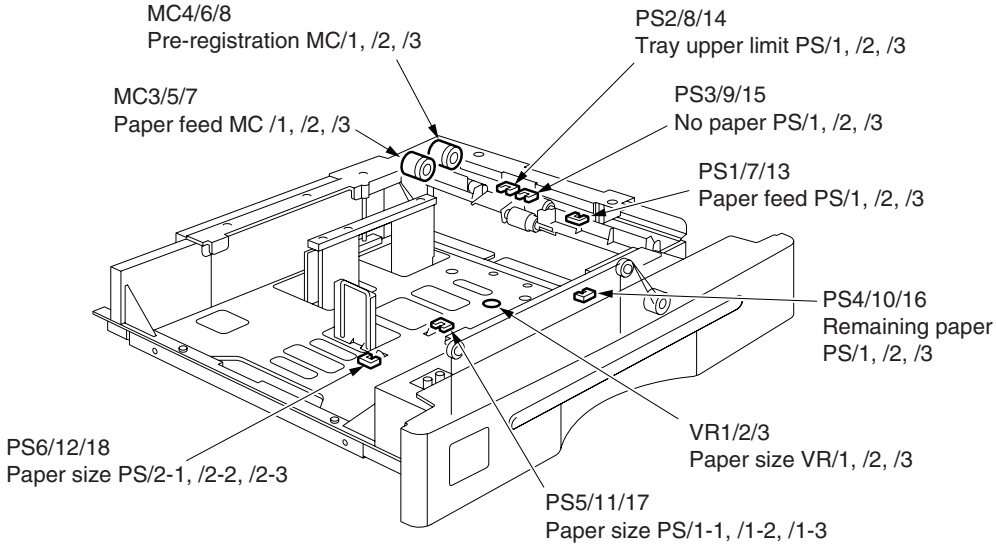
Charging corona section



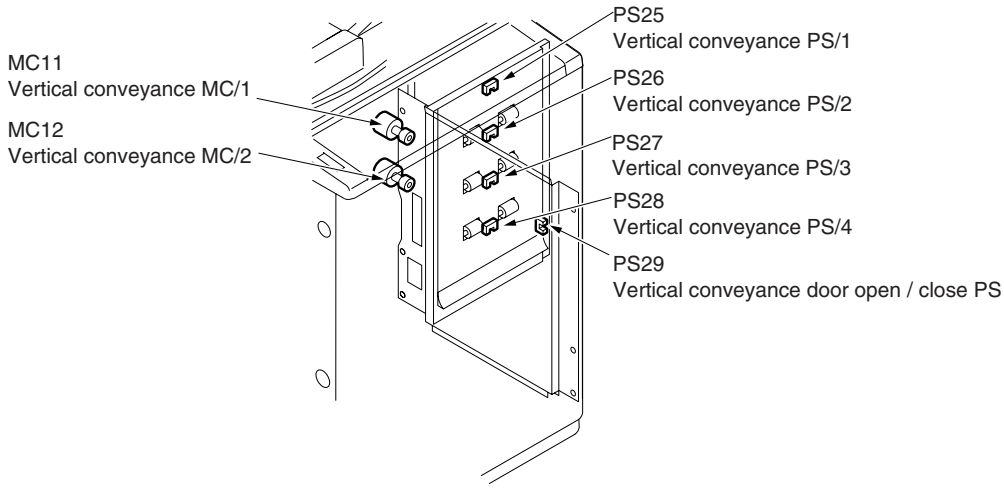
Drum unit section



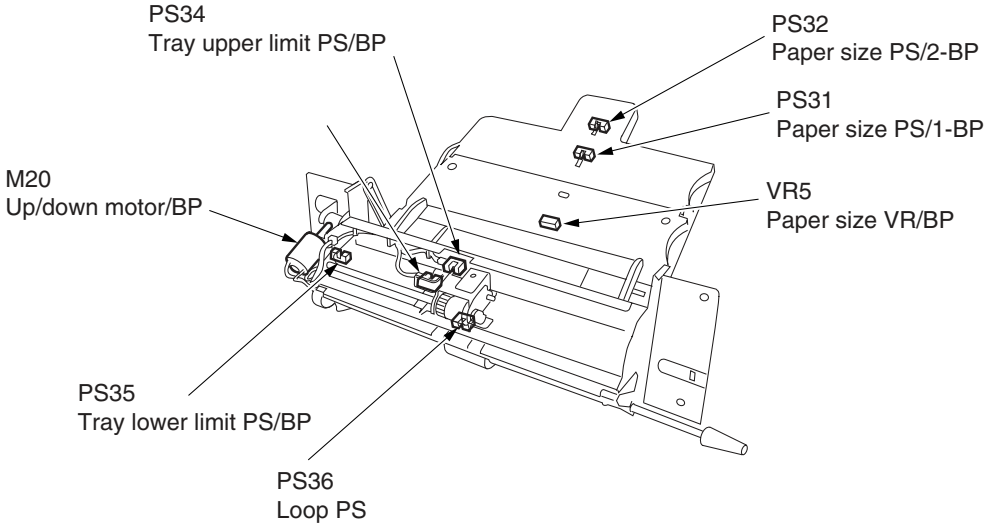
Trays 2, 3, 4



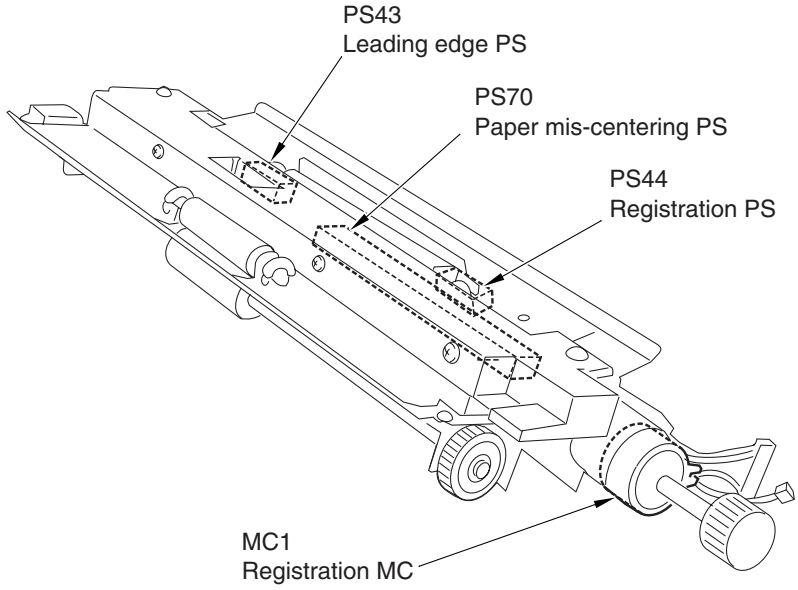
Vertical conveyance section



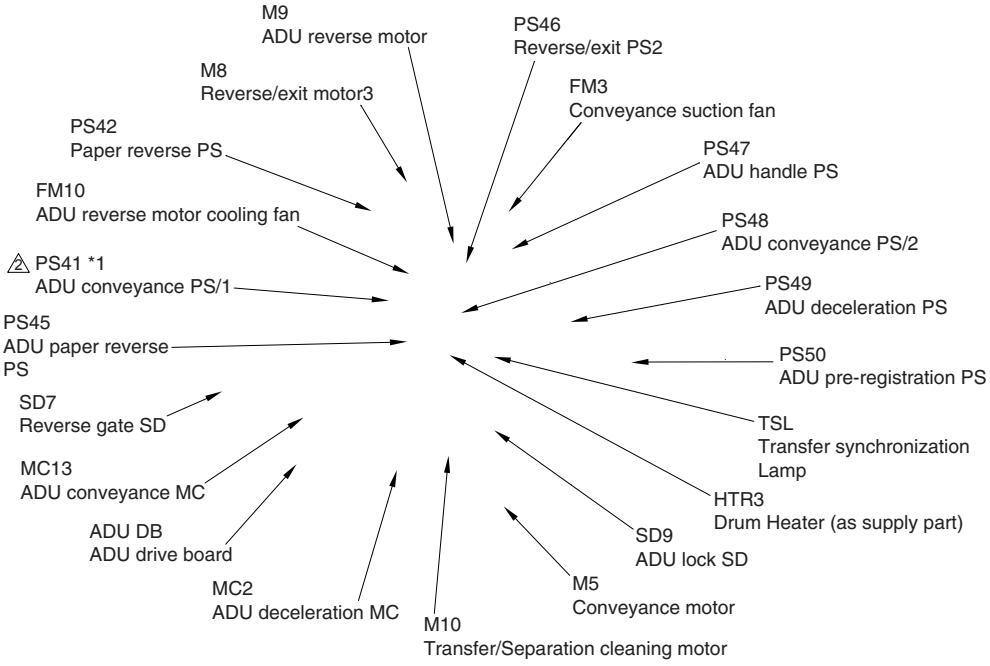
Tray 1 feed section

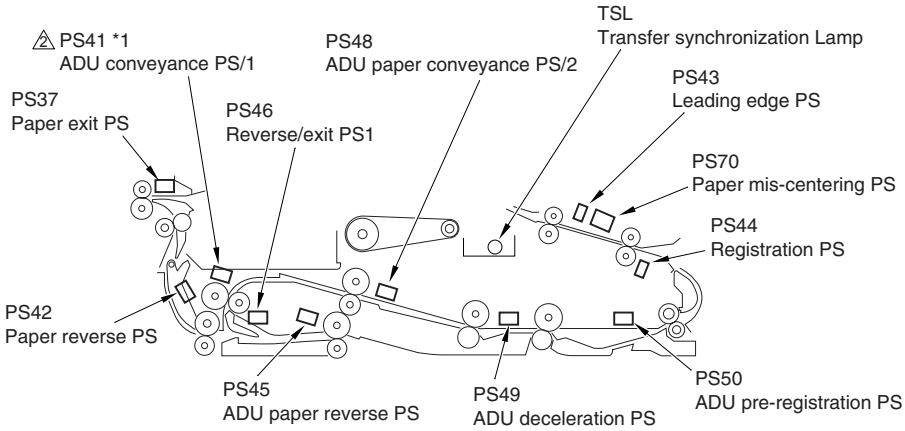


Second paper feed section (registration assembly)



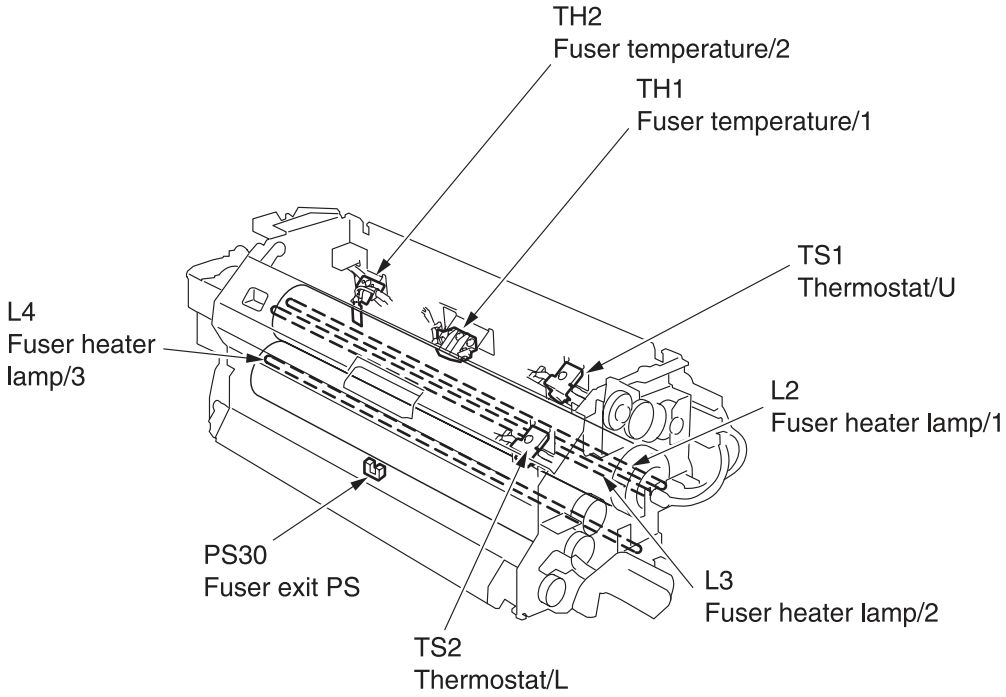
ADU



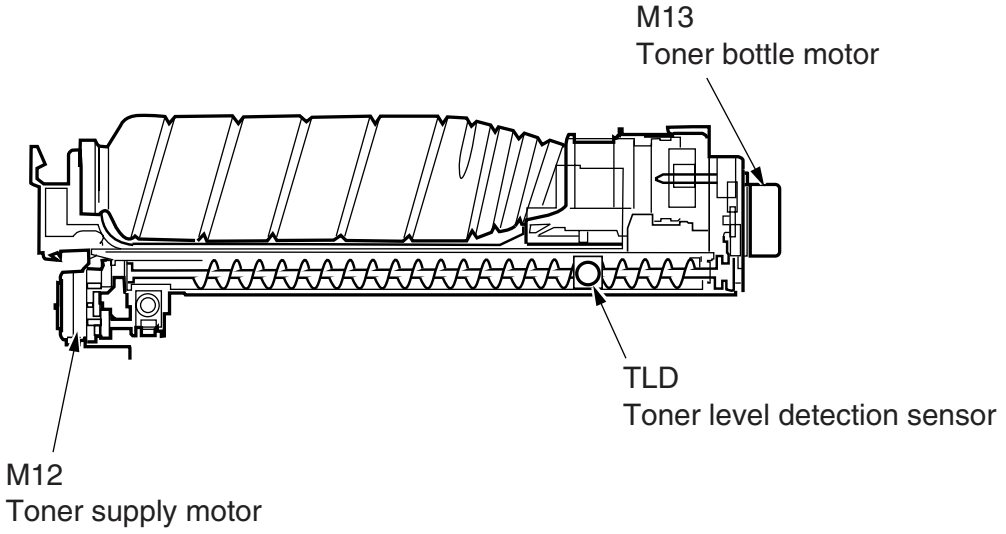


***1** Not installed on the HP LaserJet 9055/9065mfp.

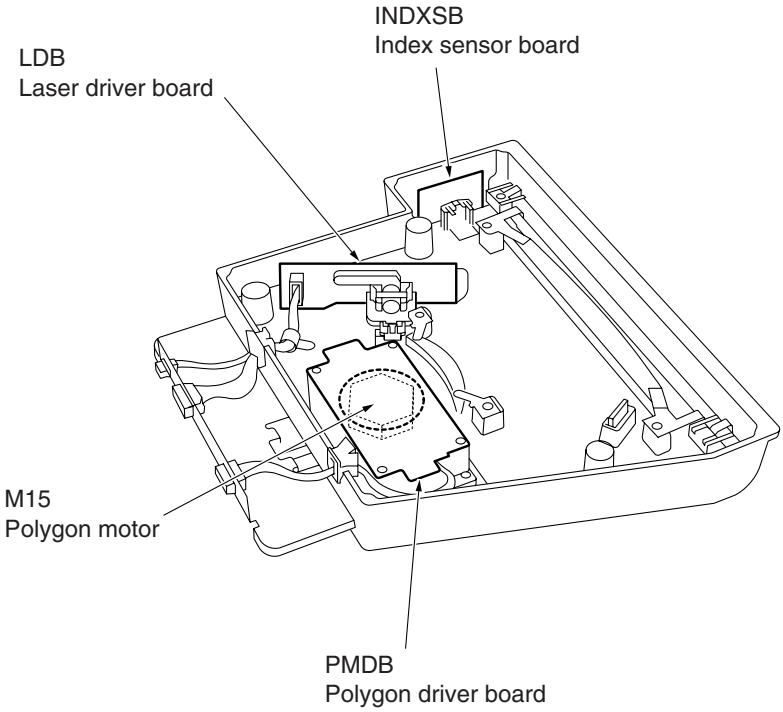
Fuser section



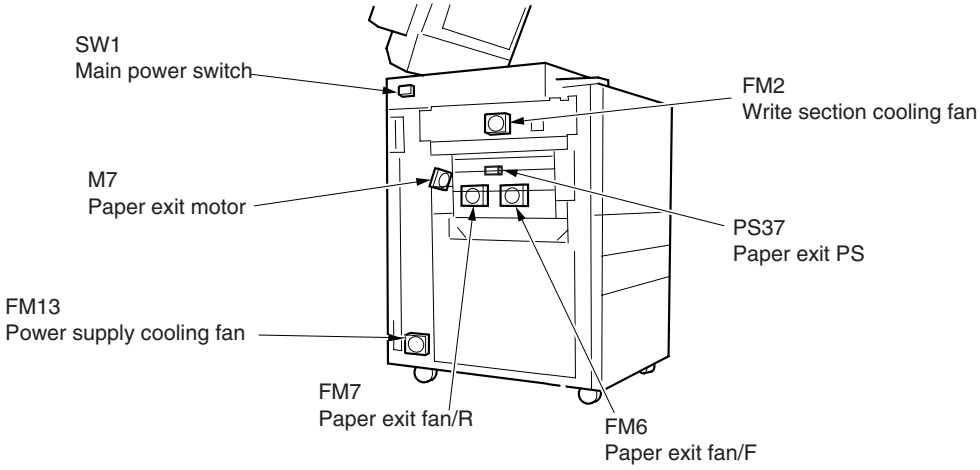
Toner supply section



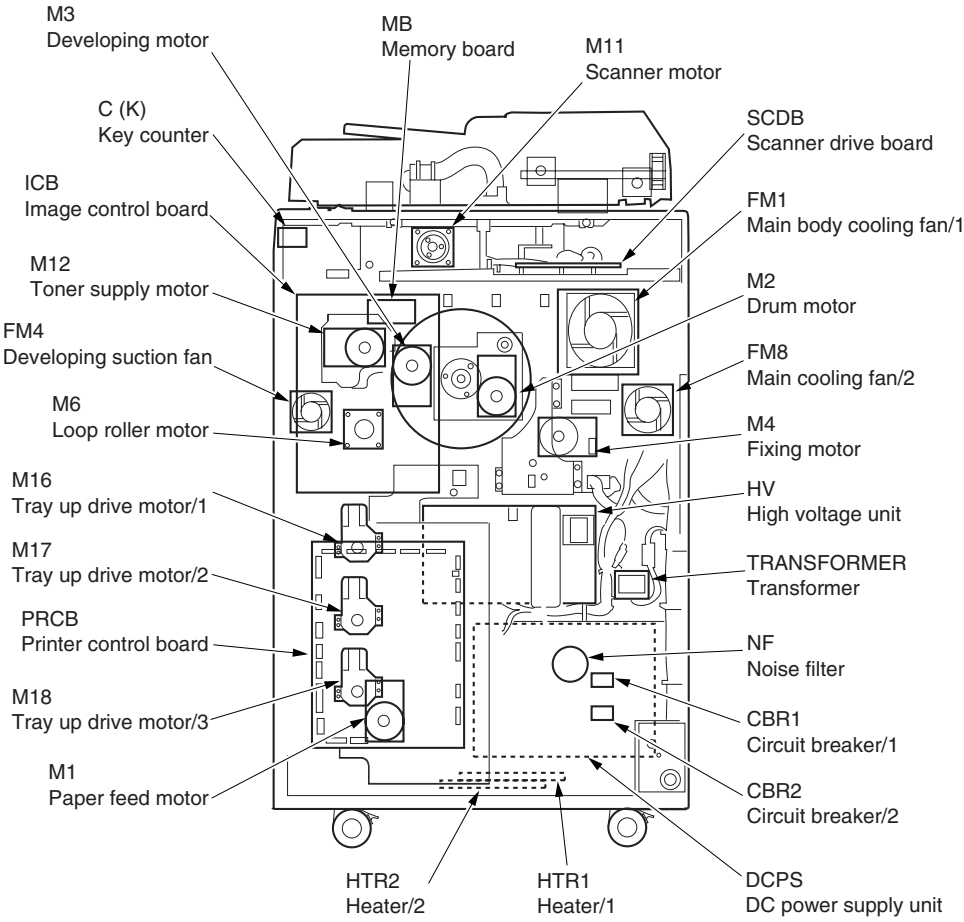
Laser/scanner section



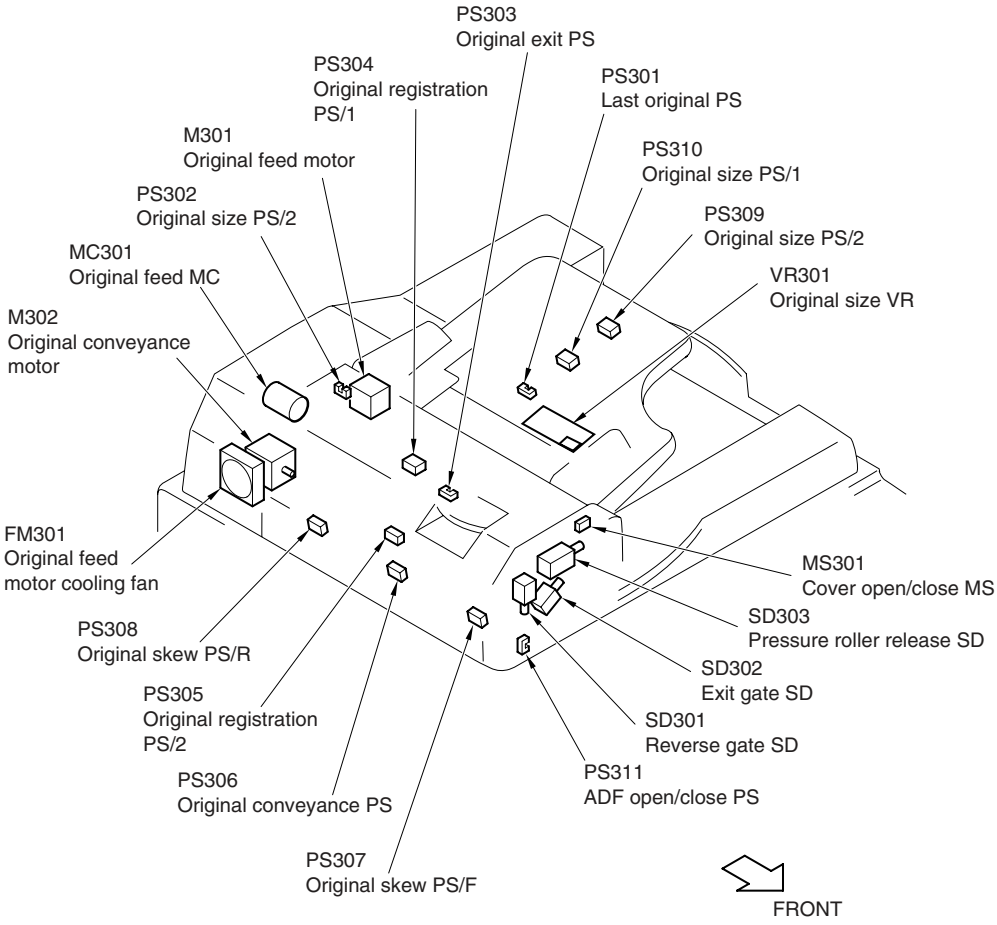
Left side of the MFP



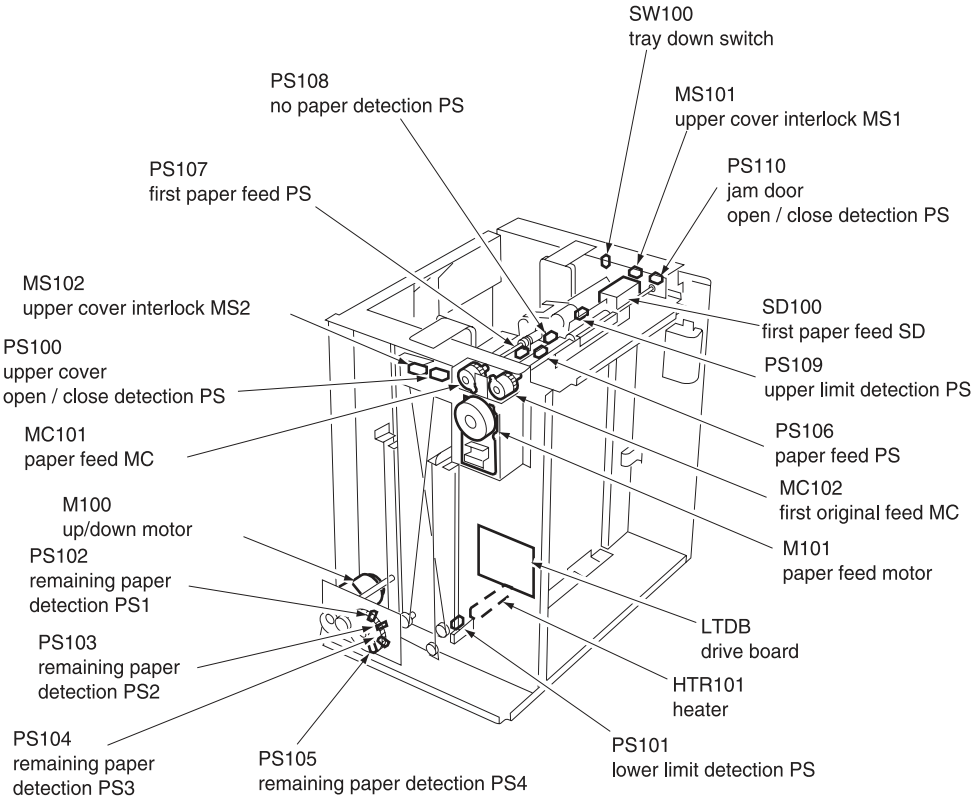
Rear side of the MFP



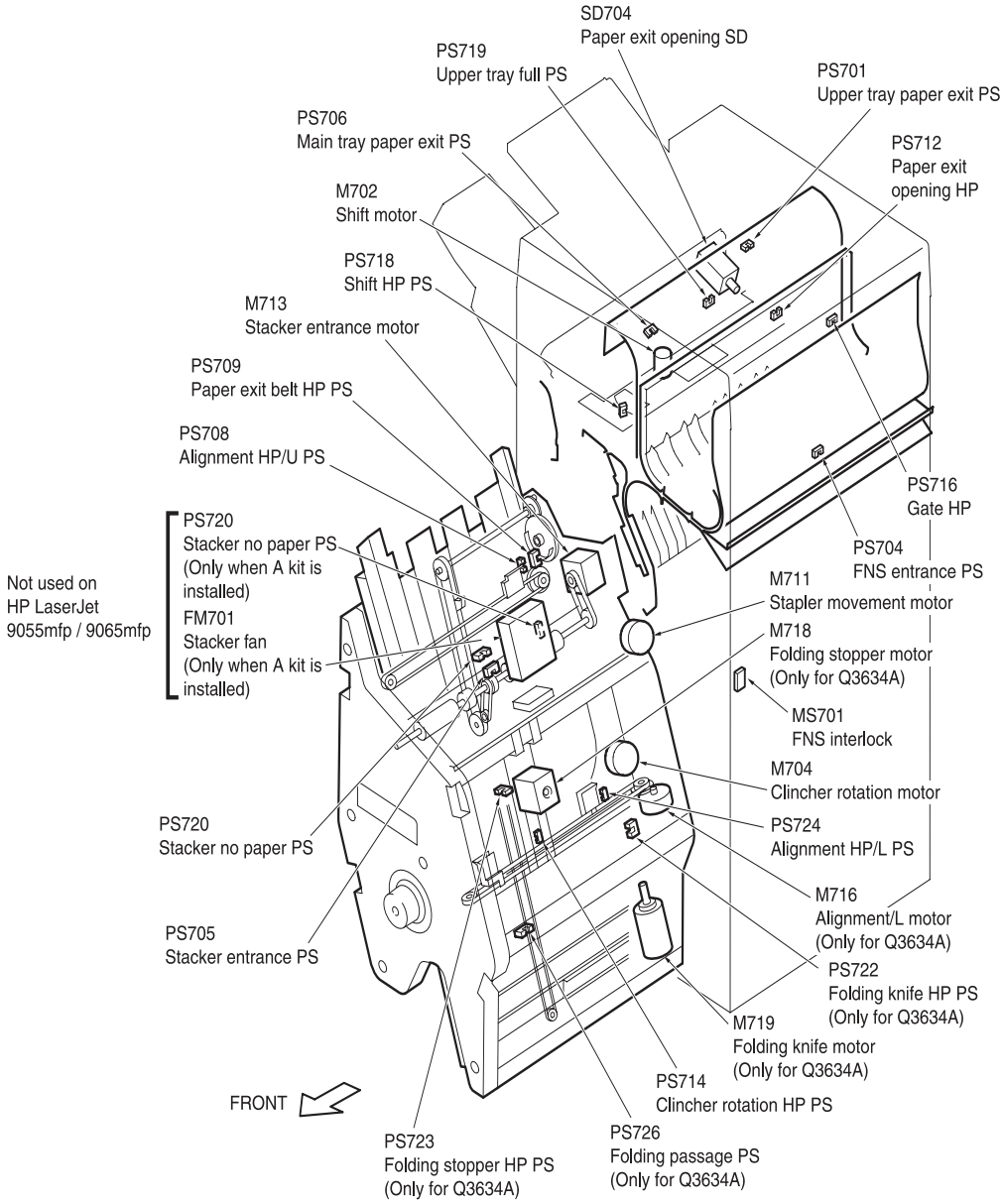
ADF parts layout drawing

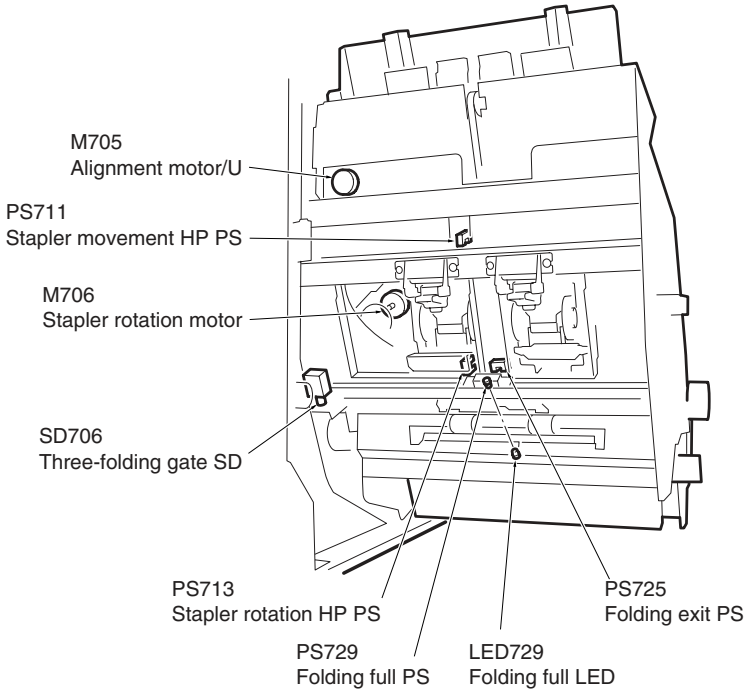


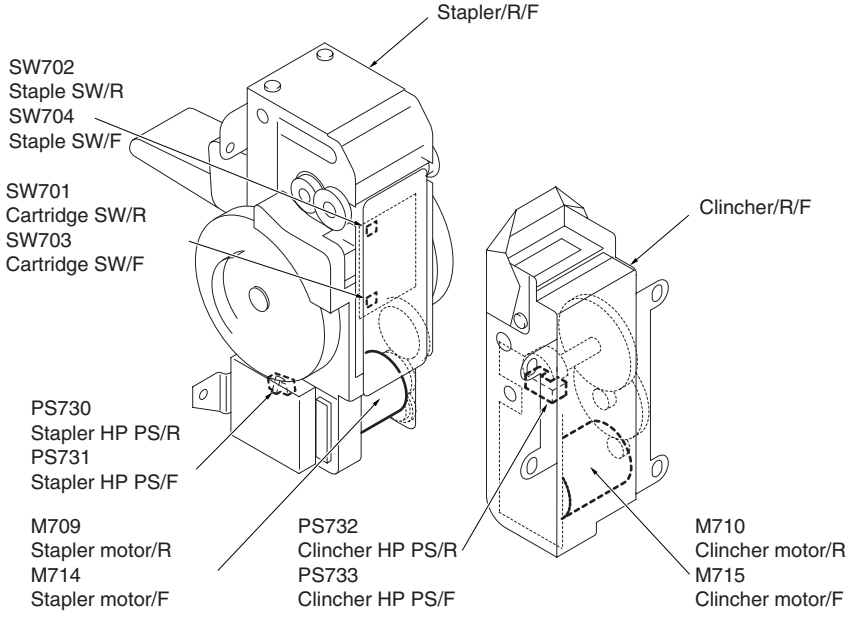
HCI parts layout drawing

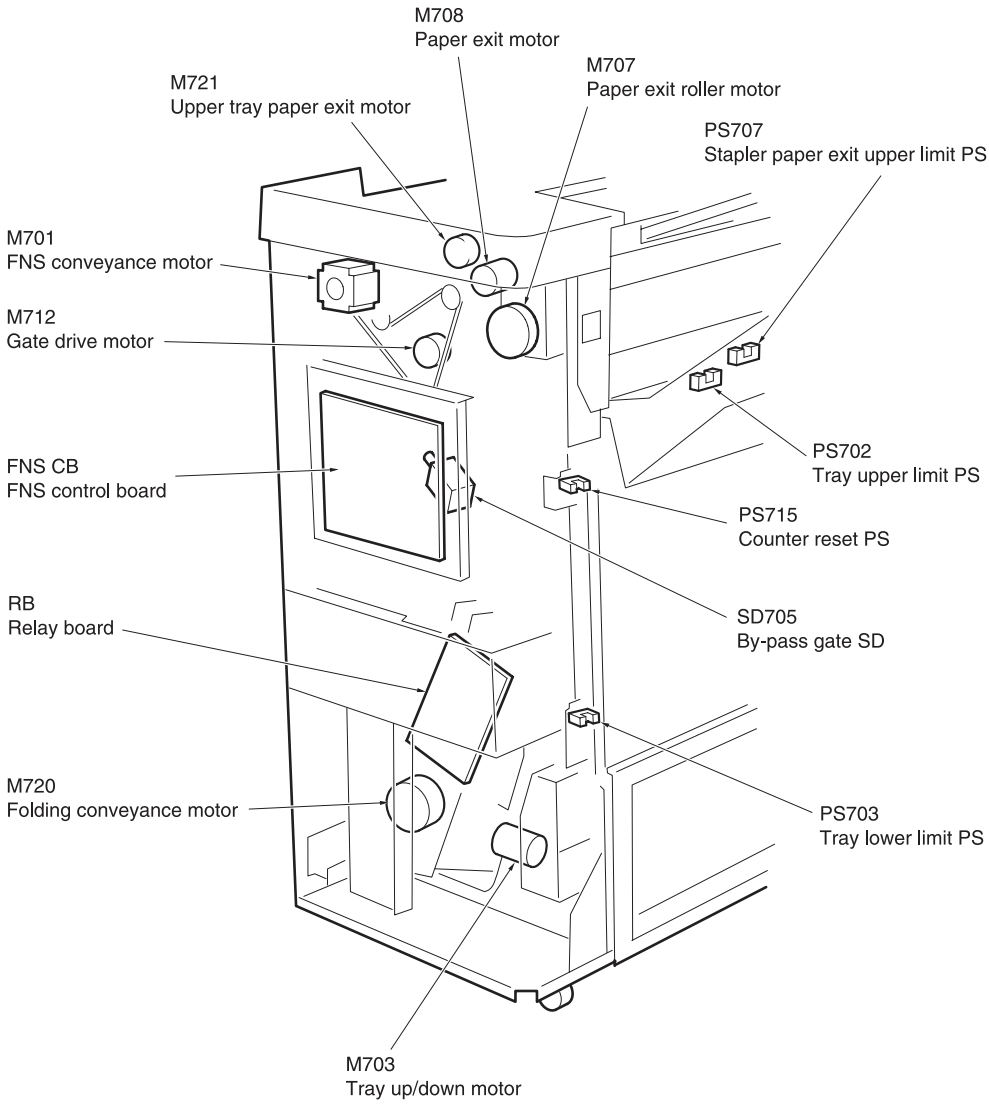


Stapler/stacker and multifunction finisher parts layout drawing

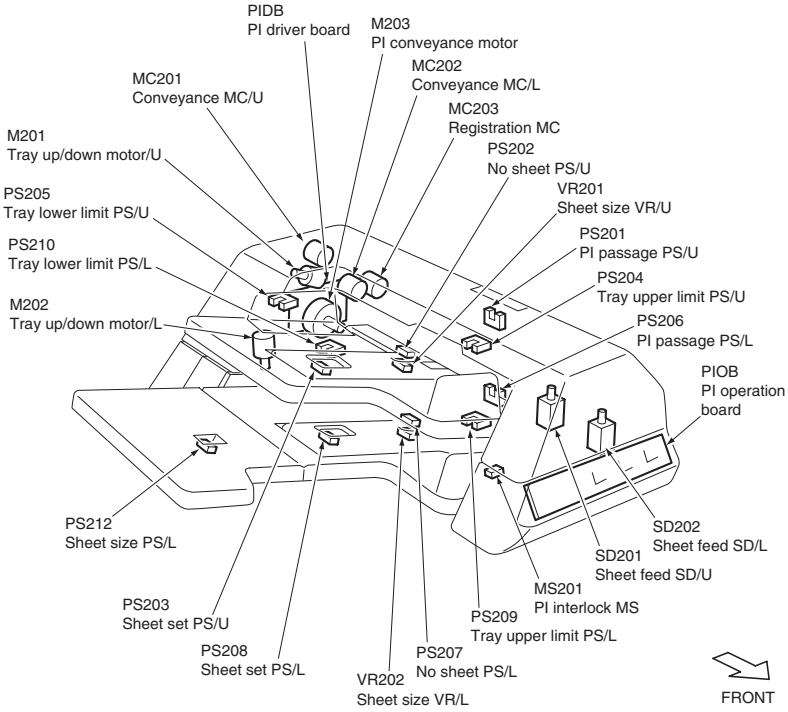



M705
Alignment motor/U
PS711
Stapler movement HP PS
M706
Stapler rotation motor
SD706
Three-folding gate SD
PS713
Stapler rotation HP PS
PS729
Folding full PS
LED729
Folding full LED
PS725
Folding exit PS


Stapler/R/F
SW702
Staple SW/R
SW704
Staple SW/F
SW701
Cartridge SW/R
SW703
Cartridge SW/F
Clincher/R/F
PS730
Stapler HP PS/R
PS731
Stapler HP PS/F
M709
Stapler motor/R
M714
Stapler motor/F
PS732
Clincher HP PS/R
PS733
Clincher HP PS/F
M710
Clincher motor/R
M715
Clincher motor/F

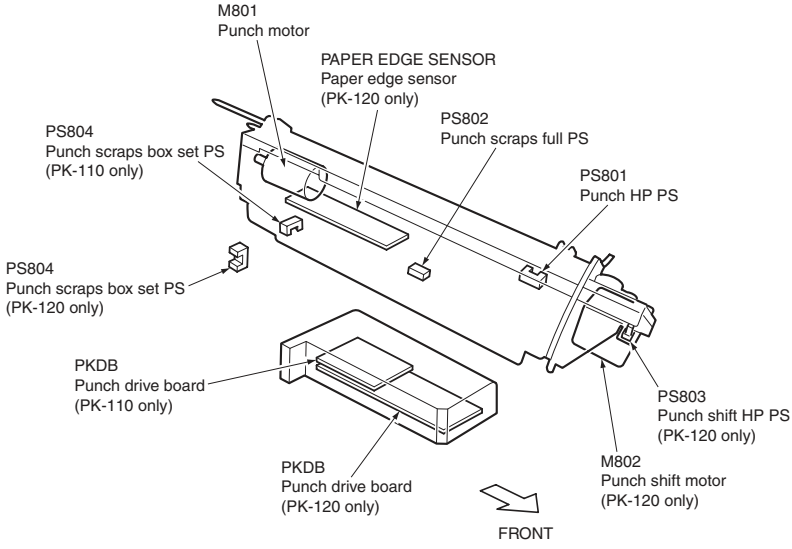

M708
Paper exit motor
M707
Paper exit roller motor
M721
Upper tray paper exit motor
PS707
Stapler paper exit upper limit PS
M701
FNS conveyance motor
M712
Gate drive motor
PS702
Tray upper limit PS
FNS CB
FNS control board
PS715
Counter reset PS
SD705
By-pass gate SD
RB
Relay board
M720
Folding conveyance motor
PS703
Tray lower limit PS
M703
Tray up/down motor

Post inserter parts layout drawing



Note The PK-110 is not supported on the 9055mfp/9065mfp.

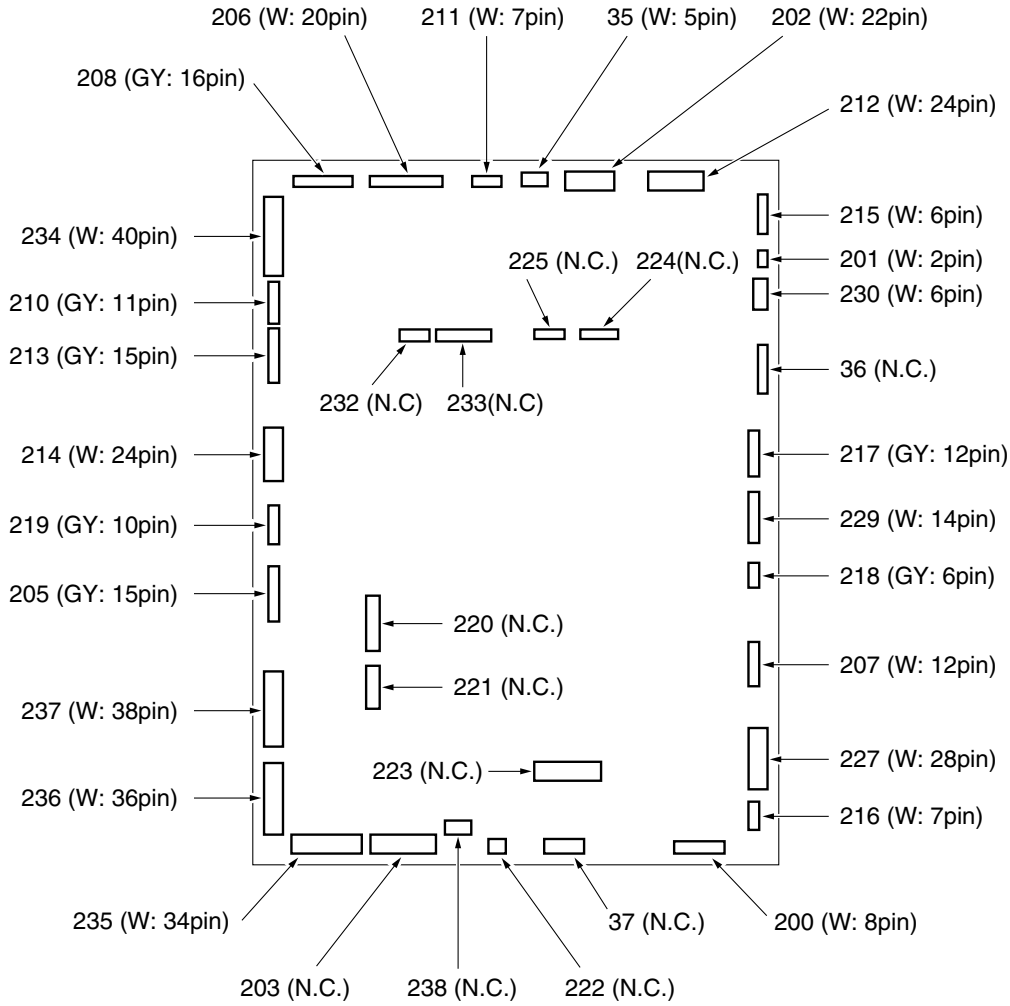
Punch kit parts layout drawing



Connector layout drawing

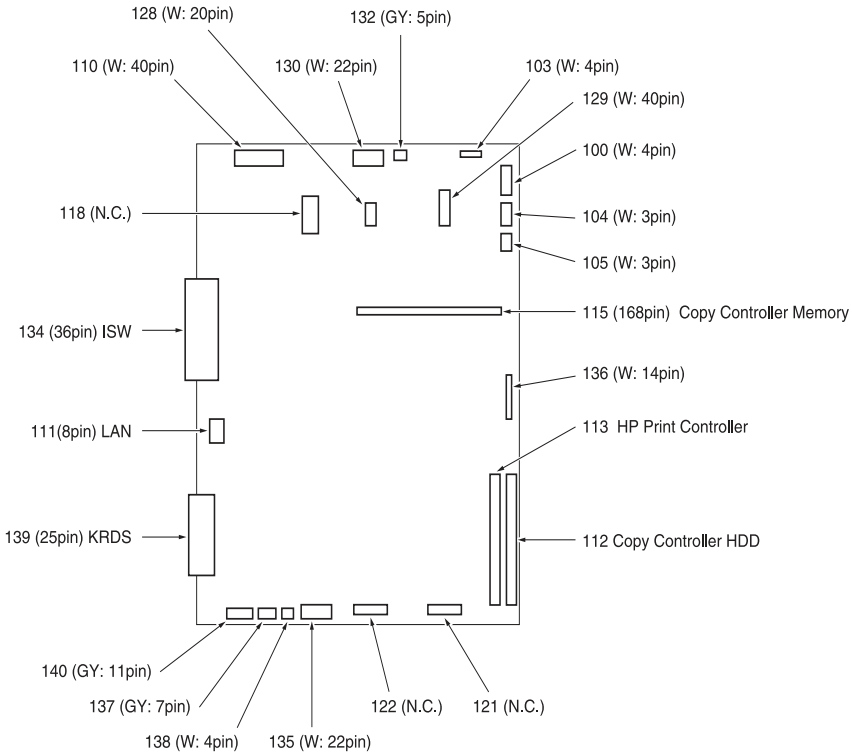
9065 connector layout drawing

Printer control board (PRCB)

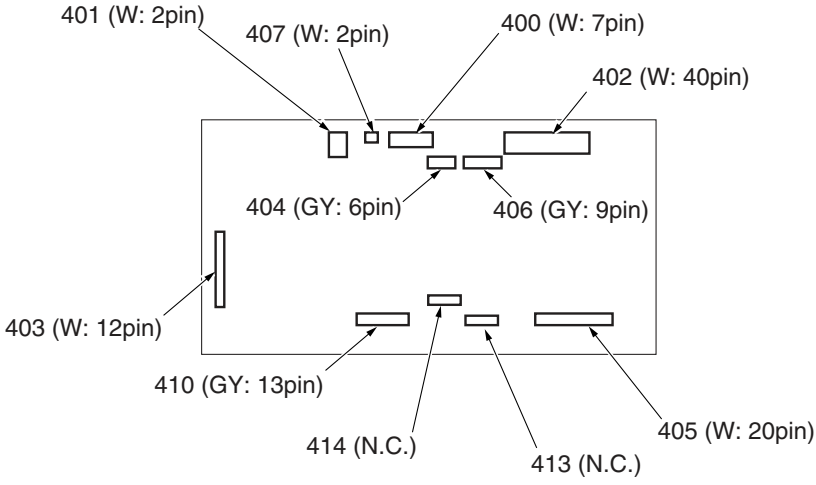


Note N.C. indicates no connection.

Image control board (ICB)

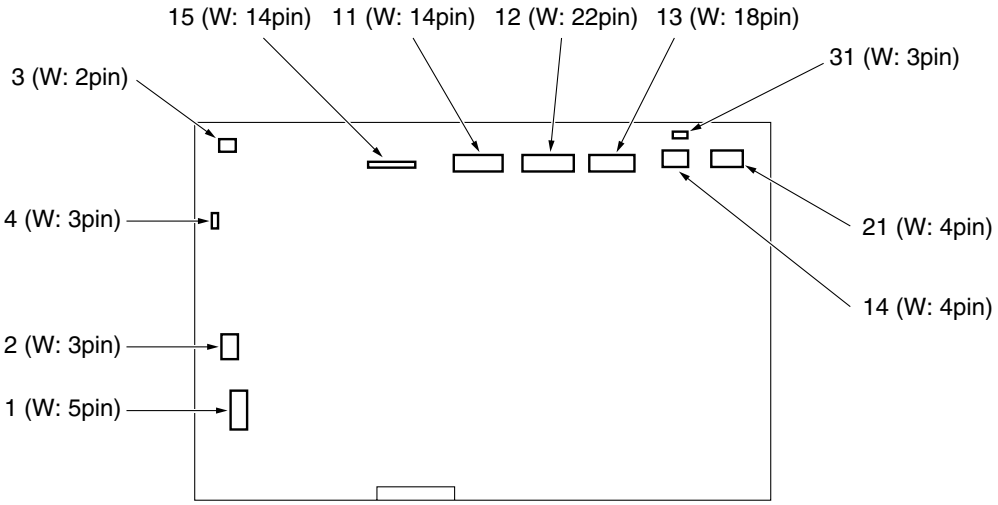


ADU drive board

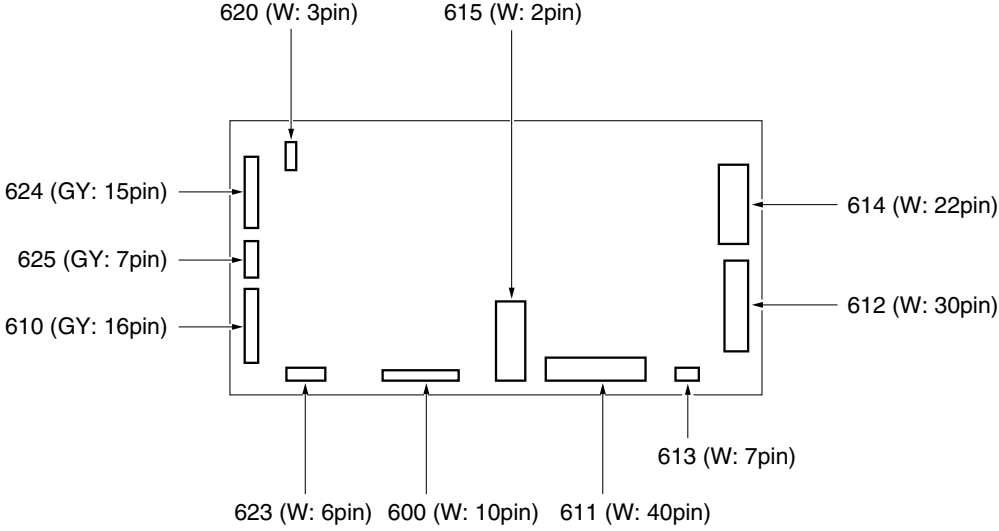


Note N.C. indicates no connection.

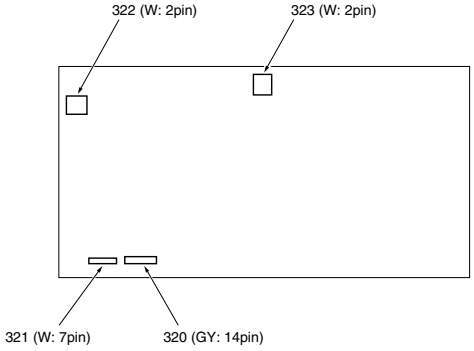
DC power supply unit



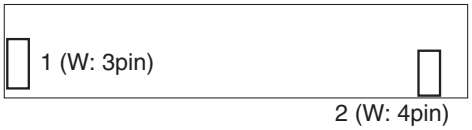
Scanner drive board



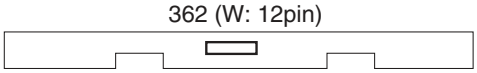
High voltage unit



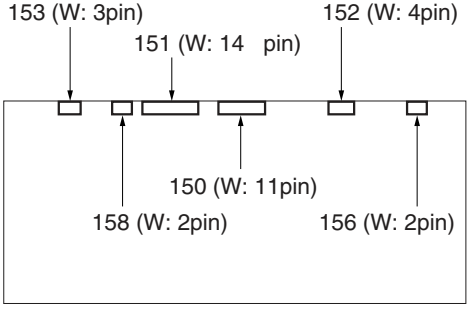
L1 Inverter



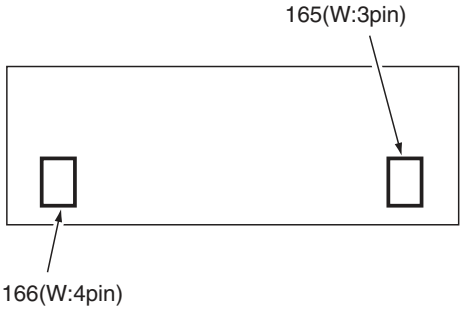
Toner control sensor board



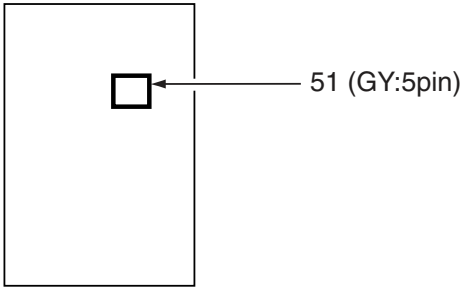
Operation board/1



OB Inverter



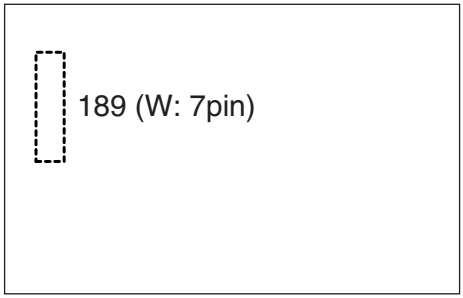
Index sensor board



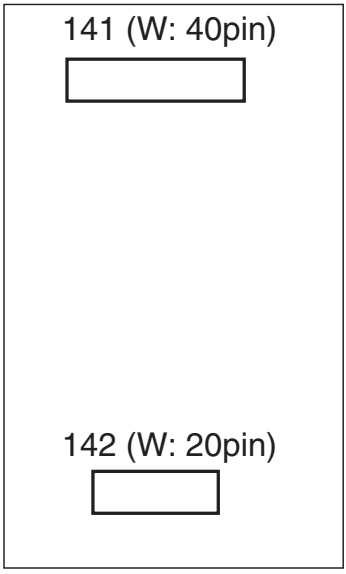
A/D converter board

Laser driver board

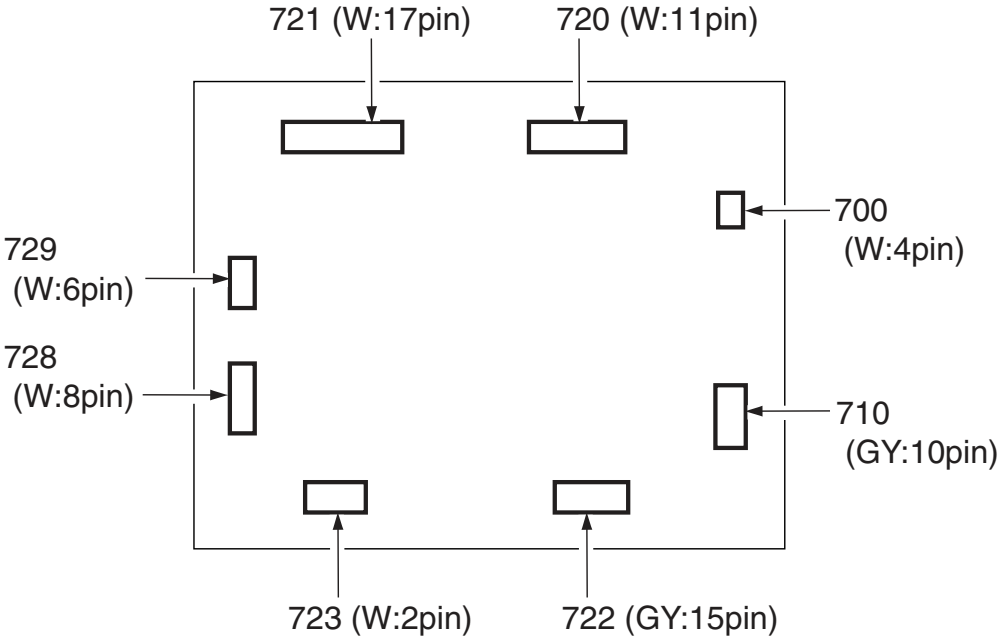
Polygon drive board



Memory board

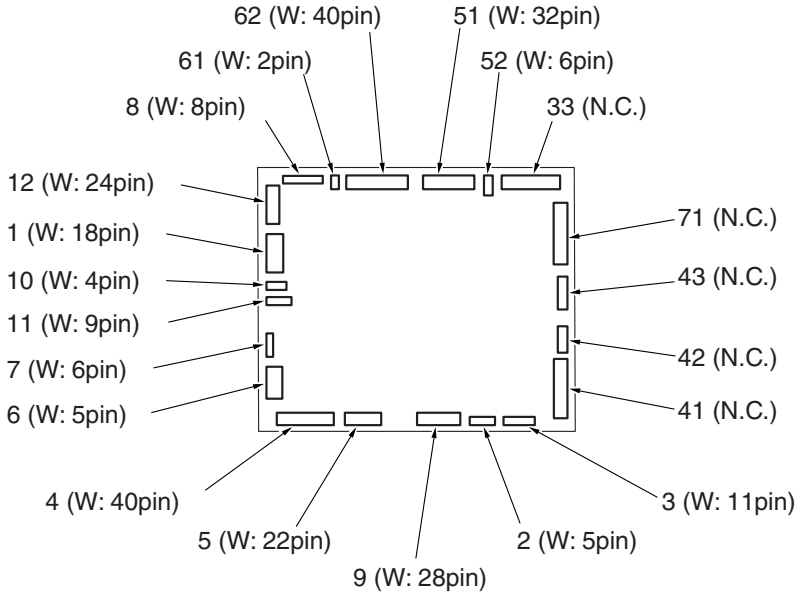


HCI drive board

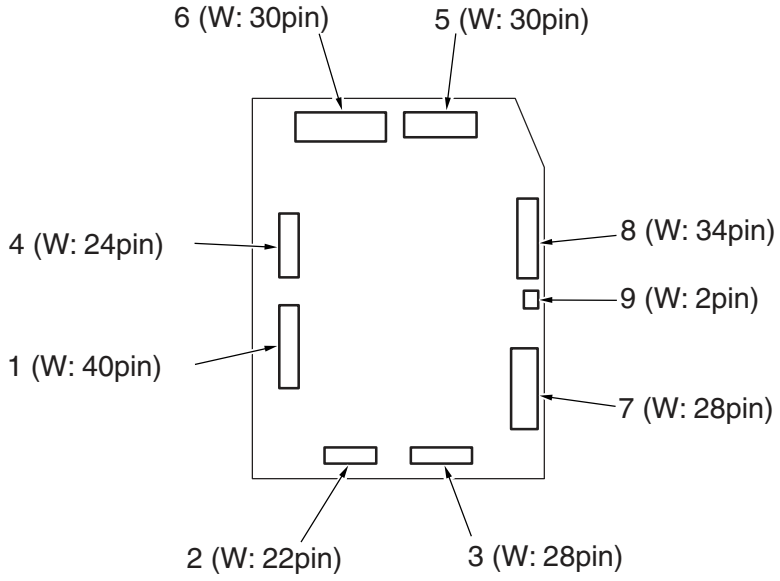


Q3633A/Q3634A connector layout drawing

Finisher control board



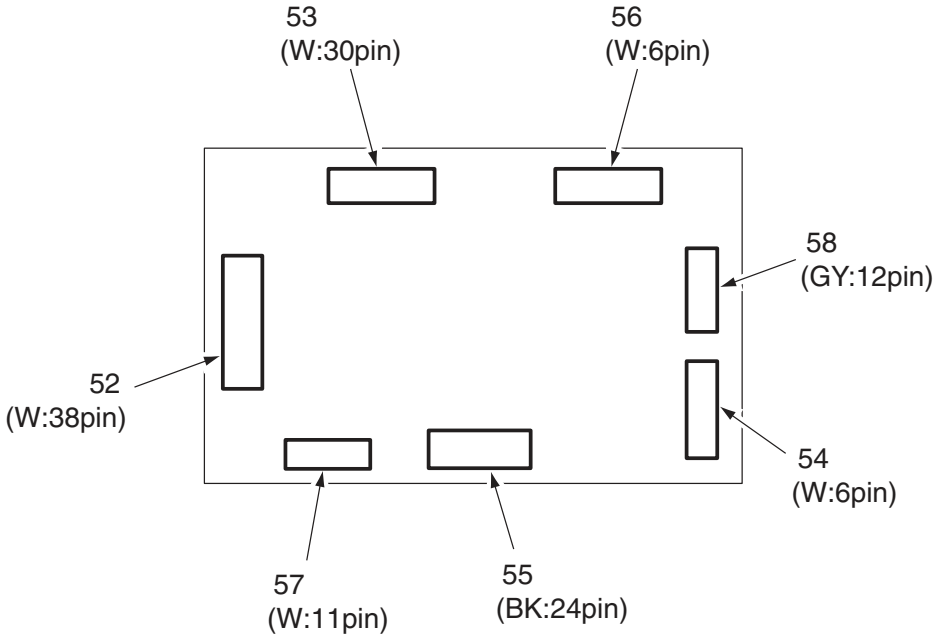
Finisher interconnect board



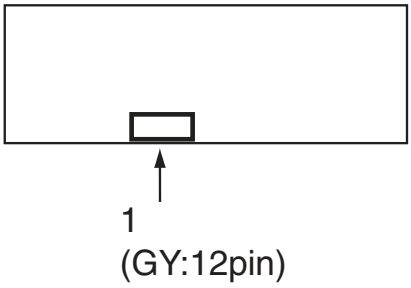
Note N.C. indicates no connection.

Q3636A connector layout drawing

PI drive board

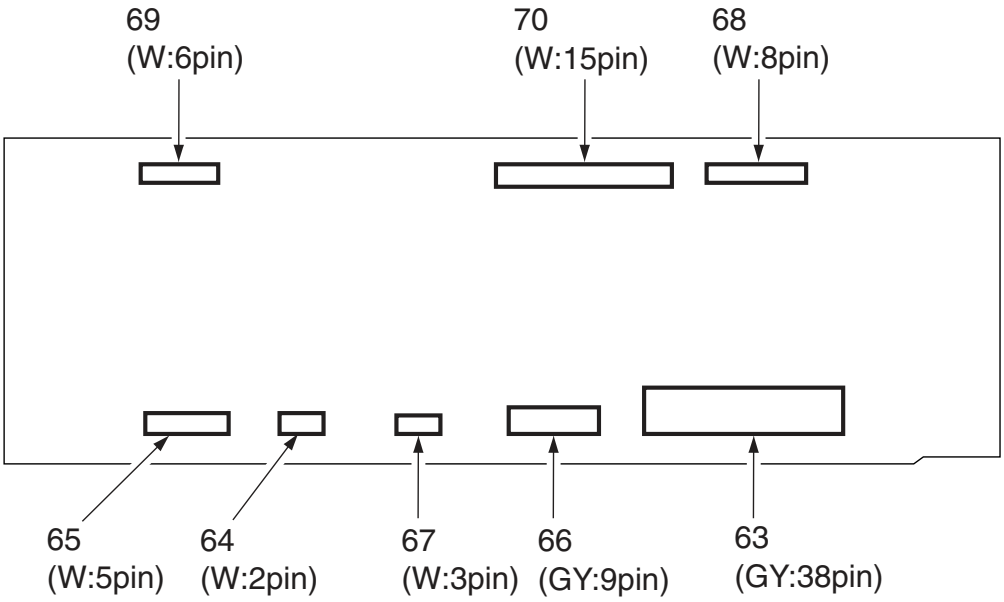


PI operation board



Punch kit connector layout drawing

Punch kit drive board



Paper edge sensor

Jam code list

	Classification	Jam code	Cause		MFP response	Countermeasure
MFP	Tray 1	J10-1	Operating	PS44 (registration) does not turn on within the predefined time after M6 (loop roller) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	Pull the paper out of the Tray 1 feed tray temporarily and remove the jammed paper.
		J10-2		PS44 (registration) has turned on when Tray 1 feed starts.		
	Tray 2	J11-1		PS1 (paper feed /1) does not turn on within the predefined time after CL3 (paper feed CL/1) has turned on.		Open the vertical conveyance door on the MFP and remove the jammed paper. Pull out the tray and remove the jammed paper.
		J11-2		PS1 (paper feed /1) is on and PS36 (loop) is off for the predefined time after CL4 (pre-registration CL/1) has turned on.		
		J11-3	Stationary	PS25 (vertical conveyance /1) is turned on while in the idling status.	-	Open the vertical conveyance door on the MFP and remove the jammed paper.
		J11-5		PS1 (paper feed /1) is turned on while in the idling status.		Pull out the tray and remove the jammed paper.
	Tray 3	J12-1	Operating	PS7 (paper feed /2) does not turn on within the predefined time after CL5 (paper feed CL/2) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	Open the vertical conveyance door on the MFP and remove the jammed paper.
		J12-2		PS7 (paper feed /2) is on and PS26 (vertical conveyance /2) is off for the predefined time after CL6 (pre-registration CL/2) has turned on.		Pull out the tray and remove the jammed paper.
		J12-3	Stationary	PS26 (vertical conveyance /2) is turned on while in the idling status.	-	Open the vertical conveyance door on the MFP and remove the jammed paper.
		J12-5		PS7 (paper feed /2) is turned on while in the idling status.		Pull out the tray and remove the jammed paper.
	Tray 4	J13-1	Operating	PS13 (paper feed 3) does not turn on within the predefined time after CL7 (paper feed CL/3) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	Open the vertical conveyance door on the main unit and remove the jammed paper.
		J13-2		PS13 (paper feed /3) does not turn off, within the predefined time after CL8 (pre-registration CL/3) has turned on.		Pull out the tray and remove the jammed paper.
		J13-3	Stationary	PS27 (vertical conveyance /3) is turned on while in the idling status.	-	Open the vertical conveyance door on the MFP and remove the jammed paper.
		J13-5		PS13 (paper feed PS/3) is turned on while in the idling status.		Pull out the tray and remove the jammed paper.
HCI	HCI	J15-1	Operating	PS107 (HCI first paper feed) does not turn on within the predefined time after CL102 (HCI first paper feed CL) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	Open the upper cover of the HCI and remove the jammed paper.
		J15-2		PS106 (HCI paper feed) does not turn on within the predefined time after CL101 (HCI paper feed CL) has turned on.		Open the HCI jam access door and remove the jammed paper.
		J15-3	Stationary	PS106 (HCI paper feed) is turned on while in the idling status.	-	
		J15-4		PS107 (HCI first paper feed) is turned on while in the idling status.		
MFP	Paper conveyance (all trays)	J17-1	Operating	PS44 (registration) does not turn on within the predefined time after PS36 (loop) or PS50 (ADU pre-registration) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	Open the front door and pull out the ADU stand. Then, open the registration loop jam processing section and ADU exit guide plate, and remove the jammed paper.
	Paper conveyance (Tray 2)	J17-2		PS36 (loop) does not turn on within the predefined time after PS1 (paper feed PS/1) has turned on.		

	Classification	Jam code	Cause		MFP response	Countermeasure
MFP	Paper conveyance (Tray 3/4)	J17-3	Operating	PS36 (loop) does not turn on within the predefined time after PS26 (vertical conveyance /2) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	Open the vertical conveyance door on the MFP and remove the jammed paper.
	Paper conveyance (Tray 3)	J17-4		PS26 (vertical conveyance /2) does not turn on within the predefined time after PS7 (paper feed /2) has turned on.		
	Paper conveyance (Tray 4)	J17-5		PS26 (vertical conveyance /2) does not turn on within the predefined time after CL8 (pre-registration CL/3) has turned on.		
HCI	HCI	J17-8		PS36 (loop) does not turn on within the predefined time after PS106 (HCI paper feed) has turned on.		Open the HCI jam door and remove the jammed paper.
MFP	Paper feed/ conveyance	J17-9	Stationary	PS43 (leading edge) is turned on while in the idling status.	-	Open the vertical conveyance door and/or the front door on the MFP and remove the jammed paper.
		J17-10		PS44 (registration) is turned on while in the idling status.		
		J17-12		PS36 (loop) is turned on while in the idling status.		
MFP	Vertical conveyance door	J19-1	Operating	The vertical conveyance door is opened while copying.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed	Open the vertical conveyance door on the MFP and remove the jammed paper.
HCI	HCI	J19-2		The jam access door or the top cover is opened while copying.		Open the HCI jam access door or the top cover and remove the jammed paper.
MFP	Drum	J21-1		Dmax (maximum contrast) has detected paper while the print sequence is in motion.		Open the front door, pull out the ADU stand, and remove the jammed paper.
		J21-2	Stationary	Dmax (maximum contrast) sensor has detected paper while in the idling status.	-	
	Second paper feed conveyance	J31-1	Operating	PS43 (leading edge) does not turn on within the predefined time after CL1 (registration CL) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed	Open the front door, pull out the ADU stand, and remove the jammed paper.
		J31-2		PS30 (fuser exit) does not turn on within the predefined time after PS43 (leading edge) has turned on.		
	Fuser/paper exit	J32-1		PS37 (paper exit) does not turn on within the predefined time after PS30 (fuser exit) has turned on.		
		J32-2		PS42 (paper reverse) does not turn on within the predefined time after PS30 (fuser exit) has turned on.		
		J32-3		PS42 (paper reverse) does not turn off within the predefined time after PS42 has turned on.		
	Fuser/paper exit	J32-4		PS37 (paper exit) does not turn on within the predefined time after PS42 (paper reverse) has turned off.		
		J32-5		PS37 (paper exit) does not turn off within the predefined time after PS37 has turned on.		
		J32-6	Stationary	PS37 (paper exit) is turned on while in the idling status.	-	
		J32-8		PS42 (paper reverse) is turned on while in the idling status.		
		J32-9		PS30 (fuser exit) is turned on while in the idling status.		
		J32-10		PS46 (reversal/exit) is turned on while in the idling status.		
MFP	Front door	J51-1	Operating	Front door on the right or on the left is opened while a job is being processed.	The MFP stops immediately.	

	Classification	Jam code	Cause		MFP response	Countermeasure
ADF	ADF	J61-1	Operating	Open/close cover was opened while ADF was in motion.	ADF stops immediately. The MFP stops after paper ejection if copying/copied paper is present.	Open the open/close cover and the paper feed unit to remove the jammed paper.
		J61-2		ADF was opened while ADF was in motion.		
		J62-1		PS304 (original registration /1) does not turn off within the predefined time after feeding of the single-side original has started.		
		J62-2		PS304 (original registration /1) does not turn off within the predefined time after feeding of the double-side original has started.		
		J62-3		PS305 (original registration /2) does not turn on within the predefined time after feeding of the single-side original has started.		
		J62-4		PS305 (original registration /2) does not turn on within the predefined time since reverse paper feed of the back side of the double-side copy has started.		
		J62-5		PS305 (original registration /2) does not turn on within the predefined time since reverse paper feed of the front side of the double-side copy has started.		
		J62-6		PS305 (original registration /2) does not turn off within the predefined time since it has turned on when feeding the paper for the single-side copy.		
		J62-7		PS305 (original registration /2) does not turn off within the predefined time since it has turned on when processing the reverse paper feed for copying the back side of the double-side original.		
		J62-8		PS305 (original registration /2) does not turn off within the predefined time since it has turned on when processing the reverse paper feed for copying the front side of the double-side original.		
		J62-9		PS306 (original conveyance) does not turn on within the predefined time after re-feeding of the single-side original has started.		
		J62-10		PS306 (original conveyance) does not turn on within the predefined time since reverse paper feed of the double-side copy has started.		
		J63-1		PS306 (original conveyance) does not turn off within the predefined time since it has turned on when feeding the paper for the single-side copy.		
		J63-2		PS306 (original conveyance) does not turn off within the predefined time since it has turned on when processing the reverse paper feed for copying the back side of the double-side original.		
		J63-3		PS306 (original conveyance) does not turn off within the predefined time since it has turned on when processing the reverse paper feed for copying the front side of the double-side original.		
		J63-4		PS303 (original exit) does not turn on within the predefined time after PS306 (original conveyance PS) has turned on.		
		J63-5		PS303 (original exit PS) does not turn off within the predefined time since it has turned on.		

	Classification	Jam code	Cause		MFP response	Countermeasure
ADF	ADF	J65-1	Stationary	PS304 (original registration) is turned on while in the idling status.	ADF stops immediately. The MFP stops after paper ejection if copying/copied paper is present.	Open the open/close cover and the paper feed unit to remove the jammed paper.
		J65-2		PS306 (original conveyance) is turned on while in the idling status.		
		J65-4		PS303 (original exit) is turned on while in the idling status.		
		J65-8		PS305 (original registration /2) is turned on while in the idling status.		
		J65-10		PS307 (original skew /F) is turned on while in the idling status.		
		J65-20		PS308 (original skew /R) is turned on while in the idling status.		
Finisher	Stapler/stacker or multifunction finisher	J71-1	Operating	Front door of finisher or the top cover of PI has opened while a job is being processed.	MFP stops immediately.	Remove the jammed paper from the finisher or the MFP.
		J72-16		PS704 (finisher entrance) does not turn on within the predefined time after PS37 (paper exit) has turned on.		
		J72-17		PS706 (paper exit face down tray paper exit) does not turn on within the predefined time after PS704 (finisher entrance) has turned on.		
		J72-18		PS705 (stacker entrance) does not turn on within the predefined time after PS704 (finisher entrance) has turned on. (Staple mode)		
		J72-19		PS705 (stacker rotation) does not turn off within the predefined time after M713 (stacker entrance) has turned on.		
		J72-20		PS706 (paper exit face down tray paper exit) does not turn on within the predefined time after the paper ejection has started. (Staple mode)		
		J72-21		PS706 (paper exit face down tray paper exit) does not turn off within the predefined time since it has turned on. (Staple mode large-size paper)		
		J72-22		PS701 (sub-tray paper exit) does not turn on within the predefined time after PS704 (finisher entrance) has turned on. (Sub-tray paper exit mode)		
		J72-23		PS701 (sub-tray paper exit) does not turn off within the predefined time since it has turned on. (Sub-tray paper exit mode)		
		J72-24		PS726 (folding passage) does not turn on within the predefined time since stapling has completed.		
		J72-25		PS725 (folding exit) does not turn on within the predefined time since M719 (folding knife) has turned on.		
		J72-26		PS725 (folding exit) does not turn off within the predefined time since it has turned on.		
		J72-27		PS720 (stacker no paper) is turned off when stapling starts.		
		J72-28		PS705 (stacker entrance) does not turn off within the predefined time since it has turned on.		
		J72-29		PS706 (paper exit face down tray) does not turn off within the predefined time since it has turned on. (non-stapling mode)		
		J72-30		PS706 (paper exit face down tray) does not turn off within the predefined time since it has turned on. (Staple mode small-size paper)		

	Classification	Jam code	Cause		MFP response	Countermeasure
Finisher	PI	J72-35	Operating	PS206 (PI passage /L) does not turn on within the predefined time after CL202 (conveyance CL/L) has turned on.	MFP stops immediately.	Remove the jammed paper from the finisher or the MFP.
	Punch kit	J72-43		PS801 (punch home position) does not turn on within the predefined time after M801 (punch) has turned on. Or, leading/trailing/side edge PS on paper edge PS does not turn off within the predefined time since M802 (Punch shift) has turned on.		
	Stapler/stacker and multifunction finisher	J72-48		PS726 (folding passage) does not turn off within the predefined time since it has turned on.		
	HCI	J72-49		PS201 (PI passage /U) does not turn on within the predefined time after CL201 (conveyance CL/U) has turned on.	MFP stops immediately.	Open the top cover of PI and remove the jammed paper.
		J72-50		PS704 (finisher entrance) does not turn on within the predefined time after PS201 (PI passage /U) has turned on.		
		J72-51		PS704 (finisher entrance) does not turn on within the predefined time after PS206 (PI passage /L) has turned on.		
	Stapler/stacker and multifunction finisher	J72-81	Operating	PS730 (stapler home position /R) and PS732 (clincher HP /R) do not turn on within the predefined time after M709 (stapler /R) and M710 (clincher /R) have turned on.	MFP stops immediately.	Remove the jammed paper from the finisher or the MFP.
		J72-82		PS731 (stapler HP /F) and PS733 (clincher HP /F) do not turn on within the predefined time after M714 (stapler /F) and M715 (clincher /F) have turned on.		
		J72-83		PS730/731 (stapler HP /R, /F) and PS732/733 (clincher HP /R, /F) do not turn on within the predefined time after M709/714 (stapler/R, /F) and M710/715 (clincher /R, /F) have turned on.		
		J72-90		Finisher does not stop within the predefined time since the stop signal has been transmitted to finisher from the main unit.		Remove the jammed paper from the finisher or the MFP.
		J73-1	Stationary	PS706 (paper exit face down tray) is turned on while in the idling status.	-	
		J73-2		PS705 (stacker entrance) is turned on while in the idling status.		
		J73-5		PS704 (finisher entrance) is turned on while in the idling status.		
		J73-7		PS701 (sub-tray paper exit) is turned on while in the idling status.		
		J73-8		PS720 (stacker no paper) is turned on when paper jam has occurred during paper ejection.		
		J73-9		PS726 (folding passage) is turned on while in the idling status.		
		J73-10		PS725 (folding exit) is turned on while in the idling status.		
	PI	J73-14		PS206 (PI passage /L) is turned on while in the idling status.		
		J73-17		PS201 (PI passage /U) is turned on while in the idling status.		

	Classification	Jam code	Cause		MFP response	Countermeasure
MFP	ADU	J92-1	Operating	PS46 (reverse/exit) does not turn on within the predefined time after PS42 (paper reverse) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	Open the front door and pull out the ADU unit and remove the jammed paper.
		J92-3	Stationary	PS45 (ADU paper reverse) is turned on while in the idling status.	-	
		J93-1	Operating	PS48 (ADU conveyance /2) does not turn on within the predefined time after PS46 (reverse /exit) has turned off.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	
		J93-2	Stationary	PS48 (ADU conveyance /2) is turned on while in the idling status.	-	
		J93-3		PS50 (ADU pre-registration) is turned on while in the idling status.		
		J94-1	Operating	PS49 (ADU deceleration) does not turn on within the predefined time after PS48 (ADU conveyance /2) has turned on.	The MFP stops immediately after paper ejection has completed when jamming occurs while a job is being processed.	
		J94-2		PS50 (ADU pre-registration) does not turn on within the predefined time after PS49 (ADU deceleration) has turned on again.		
		J94-3	Stationary	PS49 (ADU deceleration) is turned on while in the idling status.	-	

Error code list

As for the error codes, `Please call service` will be displayed for the F code, and `Please switch off/on` on E code. On the actual LCD screen, everything is displayed with service call codes.

Note E-RDH and MU-401/402 refer to the copy controller memory on the ICB.

Note The trays on the vendor product have been renumbered to reflect HP LaserJet tray numbering (for example, MP tray = Tray 1). The *Service Manual* has been edited to indicate these changes.

Old name	HP LaserJet name
Bypass	Tray 1, Bypass, MP
1	2
2	3
3	4
4	Not used
LCT	Tray 5, HCI

	Classification	Error code	Cause	MFP response	Countermeasure
MFP	Drive	F13-01	Error detection signal is detected continuously for one second when two seconds have passed since M1 (paper feed) has turned on.	The MFP stops immediately and turns off RL1 (main).	M1 (paper feed) PRCB (printer control board)
		F13-02	Error detection signal is detected continuously for one second when two seconds have passed since M101 (HCI paper feed) has turned on.		M101 (HCI paper feed) LTDB (HCI drive board)
	Tray 2	F18-10	Error detection signal for M16 (tray up drive /1) is detected while M16 is turned on.		M16 (tray up drive /1) PRCB (printer control board)
		F18-11	PS2 (tray upper limit/1) does not turn on within 20 seconds since the lifting motion triggered by activating M16 (tray up drive /1) has started while PS2 is turned off.	Error code is not displayed on the control panel. It is displayed only in data collection, and list output.	PS2 (tray upper limit/1)
	Tray 3	F18-20	Error detection signal for M17 (tray up drive /2) is detected while M17 is turned on.	The MFP stops immediately and turns off RL1 (main).	M17 (tray up drive /2) PRCB (printer control board)
		F18-21	PS8 (tray upper limit/2) does not turn on within 20 seconds since the lifting motion triggered by activating M17 (tray up drive /2) has started while PS8 is turned off.	Error code is not displayed on the control panel. It is displayed only in data collection, and list output.	PS8 (tray upper limit/2)
	Tray 4	F18-30	Error detection signal for M18 (tray up drive /3) is detected while M18 is turned on.	The MFP stops immediately and turns off RL1 (main).	M18 (tray up drive /3) PRCB (printer control board)
		F18-31	PS14 (tray upper limit/3) does not turn on within 20 seconds since the lifting motion triggered by activating M18 (tray up drive /3) has started while PS14 is turned off.	Error code is not displayed on the control panel. It is displayed only in data collection, and list output.	PS14 (tray upper limit/3)
HCI	HCI	F18-50	Error detection signal for M100 (HCI up/down) is detected continuously for one second while M100 is turned on.	The MFP stops immediately and turns off RL1 (Main).	M100 (HCI up/down) LTDB (HCI drive board)
		F18-51	PS109 (HCI upper limit detection) or PS101 (HCI lower limit detection) does not turn on within 35 seconds since the lifting or descent motion triggered by activating M100 (HCI up/down) has started while PS109 or PS101 is turned off.	Error code is not displayed on the control panel. It is displayed only in data collection, and list output.	PS101 (HCI lower limit detection) PS109 (HCI upper limit detection)

	Classification	Error code	Cause	MFP response	Countermeasure
MFP	Tray 1 feed	F18-60	PS34 (tray upper limit/BP) or PS35 (tray lower limit/BP) does not turn on within 10 seconds since the upward or downward motion triggered by activating M20 (up/down/BP) has started while PS34 or PS35 is turned off.	On the control panel, jam code J10-1 is displayed but no error code is displayed. For the data collection, and list output, the error and jam codes are displayed.	M20 (up/down/BP) PRCB (printer control board) PS34 (tray upper limit/BP) PS35 (tray lower limit/BP)
	Wire cleaning abnormality	F21-01	The lock signal for M14 (charger cleaning) is not detected when more than 25 seconds have passed since the return motion (back to front) of M14 has started.	The MFP stops immediately and turns off RL1 (main).	M14 (charger cleaning) PRCB (printer control board)
		F21-02	The lock signal for M14 (charger cleaning) is detected within 2 seconds since the return motion (back to front) of M14 has started.		M14 (charger cleaning) PRCB (printer control board)
		F21-03	The lock signal for M14 (charger cleaning) is not detected when more than 25 seconds have passed since the return motion (back to front) of M14 has started while re-try process is in motion after lock detection.		
		F21-05	The lock signal for M10(transfer/separation cleaning) is not detected when more than 25 seconds have passed since the return motion (back to front) of M10 has started.		M10 (transfer/separation cleaning) ADUDB (ADU drive board) PRCB (printer control board)
		F21-06	The lock signal for M10 (transfer/separation cleaning) is detected within 2 seconds since the return motion (back to front) of M10 has started.		
		F21-07	The lock signal for M10 (transfer/separation cleaning) is not detected when more than 25 seconds have passed since the return motion (back to front) of M10 has started while re-try process is in motion after lock detection.		
	Fan abnormality	F22-01	An error for SFAN_EM signal is detected when 2 seconds have passed since FM4 (developing suction) has turned on. The error does not clear after 2 seconds from the off/on operation.		FM4 (developing suction) PRCB (printer control board)
		F22-02	An error for CLEAN_EM signal is detected when 2 seconds have passed since FM5 (cleaner cooling) has turned on. The error does not clear after 2 seconds from the off/on operation.		FM5 (cleaner cooling) ADUDB (ADU drive board) PRCB (printer control board)
	Motor abnormality	F23-01	An error for TONERM_EM signal is detected when 7 seconds have passed since M13 (toner bottle) has turned on.		M13 (toner bottle) PRCB (printer control board)
		F23-02	An error for DEVM_EM signal is detected when more than 1 second has passed since M3 (developing) has turned on.		M3 (developing) PRCB (printer control board)
		F23-03	An error for DRUM_EM signal is detected when more than 3 seconds have passed since M2 (drum) has turned on.		M2 (drum) PRCB (printer control board)
	High-voltage power error	F28-01	Five consecutive charging on/off operations have been executed since the charging error detection signal has been detected while charging is turned on.		HV (high-voltage unit)
		F28-02	FIve consecutive transfer on/off operations have been executed since the transfer error detection signal has been detected while transfer is turned on.		
		F28-03	Five consecutive separation on/off operations have been executed since the separation error detection signal has been detected while separation is turned on.		

	Classification	Error code	Cause	MFP response	Countermeasure
Main Unit	Process abnormality	F29-01	Dirt correction failure of the Dmax (maximum contrast) sensor during maximum density adjustment. If this error is detected 10 successive times, the error code is displayed.	The MFP stops immediately and turns off RL1 (main).	TSCB (toner control sensor board) PRCB (printer control board)
		F29-03	Control patches are not output while Dmax (maximum contrast) correction is in process. (No output from the Dmax (maximum contrast) sensor)		TSCB (toner control sensor board) PRCB (printer control board)
		F29-04	Dirt correction failure of the γ sensor during γ adjustment. If this error is detected 10 successive times, the error code is displayed.		
		F29-05	Control patches are not output while γ correction is in process. (No output from the γ sensor)	No error code is displayed on the control panel. The code is registered in data collection, and list output. MFP control is performed using previous data.	
		F29-06	A recurrence error occurred when carry out γ curve for γ correction.		
		F29-07	Dirt correction failure of the γ sensor during dot diameter adjustment. If this error is detected 10 successive times, the corresponding error code is displayed.	The MFP stops immediately and turns off RL1 (main).	
		F29-08	The dot diameter correction ended with error value.	No error code is displayed on the control panel. The code is registered in data collection, and list output. MFP control is performed using previous data.	TCSB (toner control sensor board) PRCB (printer control board)
	Fan abnormality	F32-01	An error for SUC_EM signal is detected when 2 seconds have passed since FM3 (conveyance suction) has turned on. The error does not clear after 2 seconds from the off/on operation.	The MFP stops immediately and turns off RL1 (main).	FM3 (conveyance suction) ADUDB (ADU drive board) PRCB (printer control board)
MFP	Fan abnormality	F32-02	An error for FIXFAN1_EM signal is detected when 2 seconds have passed since FM8 (main unit cooling /2) has turned on. The error does not clear after 2 seconds from the off/on operation.	The MFP body stops immediately and turns off RL1 (main).	FM8 (main cooling /2) PRCB (printer control board)
		F32-03	An error for FIXFAN2_EM signal is detected when 2 seconds have passed since FM7 (paper exit /R) has turned on. The error does not clear after 2 seconds from the off/on operation.		FM7 (paper exit /R) PRCB (printer control board)
		F32-04	An error for FIXFAN3_EM signal is detected when 2 seconds have passed since FM6 (paper exit /F) has turned on. The error does not clear after 2 seconds from the off/on operation.		FM6 (paper exit /F) PRCB (printer control board)
	Motor abnormality	F33-01	Error detection signal is detected continuously for 1 second when 2 seconds have passed since M5 (conveyance) has turned on.		M5 (conveyance) PRCB (printer control board)
	High fuser temperature abnormality	F34-01*	TH1 (fuser temperature /1) detects more than 220° C for five consecutive times in a 1 second cycle.		PRCB (printer control board) DCPS (DC power supply unit) L2 (fuser heater lamp/1) L3 (fuser heater lamp/2) TH1 (fuser temperature /1) TH2 (fuser temperature /2) When F-34-**, F35-** or F-36**(Fuser temperature related abnormality) occurs, be sure to repair a defective part before setting the 25 DIPSW 3-1 to 0. If the 25 DIPSW 3-1 is set to 0 without repairing a defective part, this may cause a fire. * DIPSW 3-1 must be reset to 0 (unlatched) to clear the error code.
		F34-02*	The output voltage of TH1 (fuser temperature/1) and TH2 (fuser temperature /2) is detected as abnormally high at the comparator circuit (more than 228° C).		
	Low fuser temperature abnormality	F35-01*	TH1 (fuser temperature /1) has not reached the predefined temperature when the specified time has passed since the fuser on control has been processed after secondary power switch (SW2) is turned on.		
		F35-02*	TH1 (fuser temperature /1) detects less than 120° C for 5 consecutive times in 1 second cycle while the fuser on control is processed after warm-up operation is complete.		
		F35-03*	The output voltage of TH1 (fuser temperature/1) is detected as abnormally low at the comparator circuit (less than -6° C).		

	Classification	Error code	Cause	MFP response	Countermeasure
MFP	Fuser sensor abnormality	F36-01*	TH1 (fuser temperature /1) has not reached 50° C when the specified time has passed since the fuser on control has been processed after secondary power switch (SW2) is turned on.	The MFP body stops immediately and turns off RL1 (main).	PRCB (printer control board) DCPS (DC power supply unit) L2 (fuser heater lamp/1) L3 (fuser heater lamp/2) TH1 (fuser temperature /1) TH2 (fuser temperature /2) When F-34-**, F35-** or F-36**(fuser temperature related abnormality) occurs, be sure to repair a defective part before setting the 25 DIPSW 3-1 to 0. If the 25 DIPSW 3-1 is set to 0 without repairing a defective part, this may cause a fire. * DIPSW 3-1 must be reset to 0 (unlatched) to clear the error code.
		F36-02*	The output voltage of TH2 (fuser temperature /2) is detected as abnormality low (less than -6° C) or abnormally high (more than 240.5° C) at the comparator circuit.		
	Scanner abnormality	F41-01	PS61 (scanner home position) does not turn on within 5 seconds since M11 (scanner) has turned on.		M11 (scanner) PS61 (scanner home position) SCDB (scanner drive board) PRCB (printer control board)
	Motor abnormality	F41-02	The lock signal for M15 (polygon) is not detected within 25 seconds from the switch drive when M15 starts or when switching the rotation speed.		M15 (polygon) PMDB (polygon drive board) PRCB (printer control board)
	Fan abnormality	F42-01	An error for EM signal is detected when 2 seconds have passed since FM9 (scanner cooling) has turned on. The error does not clear after 2 seconds from the off/on operation.		FM9 (scanner cooling) SCDB (scanner drive board) PRCB (printer control board)
		F42-02	An error for WRFAN1_EM signal is detected when 2 seconds have passed since FM2 (laser scanner unit cooling) has turned on. The error does not clear after 2 seconds from the off/on operation.		FM2 (laser scanner unit cooling) PRCB (printer control board)
	Image control abnormality	E46-01	During image write, APC cannot be performed for sub-scanning beam correction. The 12 VDC power for driving the laser is not supplied. The laser does not turn on due to defective laser, or MPC value is different. The index sensor cannot detect the laser because the polygon mirror does not rotate, the index sensor is displaced, or the index sensor is defective.	If copy operation is being performed, the MFP stops after paper ejection. RL1 (main) is turned off.	Laser scanner unit ICB (image control board) power connector
		E46-02	Illegal address of FIFO for scanner. During image read, image data compression is not completed normally.		ICB (image control board) MU-401/402
		E46-03	Illegal address of FIFO for MFP. During image read, image data decompression is not completed normally.		
		E46-05	The FIFO of the compression/expansion chip caused an error interrupt.		
		E46-06	Decompression error of image data.		
		E46-08	When APC is performed, the index sensor output does not change.		Laser scanner unit ICB (image control board) power connector
		E46-12	Compression of the read image and decompression in the page memory are not completed within the specified time after negation of SVV.		ICB (image control board)
		E46-13	During image read, image data compression from the scanner to the memory is not completed within the specified time. Image data decompression from the scanner to the page memory is not completed within the specified time. SVV is not detected within the specified time.		PRCB (printer control board) ICB (image control board)

	Classification	Error code	Cause	MFP response	Countermeasure
MFP	Image control abnormality	E46-14	During image read, image data decompression from the memory to the MFP is not completed within the specified time. Image data output from the page memory to the MFP is not completed within the specified time. PVV is not detected within the specified time.	If copy operation is being performed, the MFP stops after paper ejection. RL1 (main) is turned off.	PRCB (printer control board) ICB (image control board)
		E46-15	During image write, improper processing was performed. For example, the decompression device was accessed although there was no resource.		ICB (image control board) ICB program
		E46-16	During image read, improper processing was performed. For example, the compression device was accessed although there was no resource.		
		E46-17	During image processing, a filter coefficient could not be generated properly.		
		E46-19	During access to the memory device, a software error was detected.		
		E46-21	Decompression from the memory to the page memory is not completed within the specified time. Compression from the page memory to the memory is not completed within the specified time. Decompression from the memory to the page memory is not completed within the specified time. Compressed data transfer between memories is not completed within the specified time.		PRCB (printer control board) ICB (image control board) ICB program
		E46-23	During image read, SVV is not turned off within the specified time and therefore preparation for next page scanning cannot be started.		ICB (image control board)
		E46-24	Shading correction error (GA error)		ICB (image control board) ICB program
		E46-25	AOC/AGC error The light blocking cover and lens cover are removed from the scanner section. The A/D converter board connector is disconnected. The power cable of A/D converter board is disconnected. The IC protector on the A/D converter board is blown out. The exposure lamp intensity is excessive. The exposure lamp does not light.		ADB (A/D conversion board) L1 (exposure lamp)
		E46-26	Correction data saved on a resolution basis is not found.	Error code is not displayed on the control panel. It is displayed only in data collection, and list output.	ICB (image control board)
		E46-27	The density correction γ curve cannot be generated properly.		
		E46-29	Calibration start error	If copy operation is being performed, the MFP stops after paper ejection. RL1 (main) is turned off.	ICB (image control board) ICB program
		E46-30	Calibration end error		
		E46-31	An attempt was made to perform APC initial sampling before completion of MPC.		
		E46-32	An attempt was made to perform MPC during APC.		
		E46-33	An attempt was made to perform sub-scan beam correction before completion of APC or MPC.		
		E46-34	An attempt was made to perform sub-scan beam interval correction although the image write clock was abnormal.		
		E46-35	Dual page memory area error Due to the image area abnormality on the memory, image is not decompressed on the memory.		

	Classification	Error code	Cause	MFP response	Countermeasure
MFP	Image control abnormality	F46-40	Hard disk initialization abnormality Hard disk failure, or poor connection of connectors	The MFP stops immediately and RL1 (main) turns off.	ICB (image control board) ICB program Hard disk
		F46-41	Job information could not be stored on the hard disk.		
		F46-42	A route could not be opened during hard disk job automatic deletion.		
		F46-43	Hard disk access failure Hard disk failure or poor connection of connectors		ICB (image control board) ICB program Hard disk
		F46-50	Communication error is detected during the tandem operation.		ICB (image control board) ICB program Around the tandem cable
		F46-51	An error is detected during the data transfer of tandem image.		
		F46-60	Adjustment of the sub-scan beam interval is not completed within the specified number of time for the following reason: Defective index sensor Abnormal 12 VDC power supply M15 (polygon) driving failure	Error code is not displayed on the control panel. It is displayed only in data collection, and list output.	Laser scanner unit
		F46-61	Scanning started before completion of original auto skew correction. (Skew correction was not in time.)		PRCB (printer control board) PS311 (original mis-centering /F) PS311 (original mis-centering /R)
		F46-62	Printing started before correction of auto paper mis-centering. (Mis-centering correction was not in time.)		PS1 (paper mis-centering detection PS)
		F46-63	AGC was retried because of reduction in exposure lamp intensity, but no error occurred.		L1 (exposure lamp)
		F46-64	The PWM γ curve could not be generated properly.		TCSB (toner control sensor board)
		E46-80	The message queue was insufficient or destroyed.	If copy operation is being performed, the MFP stops after paper ejection. RL1 (main) is turned off.	ICB (image control board)
		E46-81	The parameter value is too large.		
		E46-82	The ID of message queue source task is undefined.		ICB (image control board) MU-401/402 contact failure
		E46-83	The message reception event is undefined.		
		E46-90	The access to the memory is illegal.		ICB (image control board) MU-401/402
		E46-91	The header read address is illegal.		ICB (image control board) MU-401/402
		E46-99	E-RDH memory initialization error E-RDH memory may not be connected properly.		

	Classification	Error code	Cause	MFP response	Countermeasure
MFP	Communication abnormality	E49-01	Print kit connection was confirmed, but it does not operate normally.	If copy operation is being performed, the MFP stops after paper ejection. RL1 (main) is turned off	Print kit system board
		E49-02	Transmission from print kit to ICB (image control board) failed.		
		E49-03	Direct memory access error		
		E49-04	Print kit built-in hard disk error.		Print kit hard disk
		E49-05	Print kit cooling fan lock error.		Print kit cooling fan motor
		E50-01	MFP drive serial input error 1 Serial data is not received from the MFP drive section within 0.5 second after reception of power-on ACK.	The MFP stops immediately. RL1 (main) is turned off.	PRCB (printer control board)
		E50-02	MFP drive serial input error 2 Serial data is not received from the MFP drive section within 0.5 second after reception of power-on ACK.		
		E50-03	MFP drive serial input error 3 Serial data is not received from the MFP drive section within 0.5 second after reception of power-on ACK.		
		E50-04	MFP drive serial input error 4 Serial data is not received from the MFP drive section within 0.5 second after reception of power-on ACK.		
		E50-05	Drive board communication reception error detection fault A reception error occurred during reception of drive board serial data, or a data checksum error or ID information error occurred four consecutive times although a resent request had been issued three times.		PRCB (printer control board) Drive boards
	Communication abnormality	E50-10	Image control board communication error Initial data is not received from ICB (image control board) within 10 seconds after power-on.	The MFP stops immediately. RL1 (main) is turned off.	PRCB (printer control board) ICB (image control board)
		E50-11	Image control board communication serial reception error detection fault.		ICB (image control board)
	Fan abnormality	F52-01	FM13 (power supply cooling) EM signal was abnormal 2 seconds after turning on FM13. Two seconds after turning FM13 off and on again, the signal is still abnormal.		FM13 (power supply cooling) DCPS (DC power supply unit)
		F52-02	The MAINFAN_EM signal was abnormal 2 seconds after turning on FM1 (MFP cooling /1). Two seconds after turning off and on again, the signal is still abnormal.		FM1 (MFP cooling /1) PRCB (printer control board)
	Motor abnormality	F53-01	Five seconds or later after turning on M4 (fuser), an abnormal MAINM_EM signal has been detected for 1 consecutive second.		M4 (fuser) PRCB (printer control board)
	Control panel abnormality	E56-02	Communication between the ICB (image control board) and OB1 (operation board 1) does not start within 30 seconds after secondary power switch (SW2) turns on.	Control panel does not display normally.	ICB (image control board) OB1 (operation board 1)
ADF	Fan Abnormality	F62-01	FM301 (original conveyance motor cooling) EM signal was abnormal 2 seconds after turning on FM301. Two seconds after turning FM301 off and on again, an abnormal detection signal is detected.	The MFP stops immediately and RL1 (main) is turned off.	SCDB (scanner drive board) FM301 (original conveyance motor cooling)
Finisher	Stapler/stacker and multifunction finisher abnormality	E70-1	Communication error	The MFP and the finisher stop immediately and RL1 (main) is turned off.	Finisher CB (finisher control board) Connector
		E70-2	Start response error		
		F77-1	The shift unit does not reach the shift position or the home position within the specified time.		Finisher CB (finisher control board) M702 (shift) PS718 (shift HP)
		F77-2	After M703 (tray up/down) starts operation, PS702 (tray upper limit) or PS707 (stapler paper exit upper limit) does not turn on within the specified time.		Finisher CB (finisher control board) M703 (tray up/down) PS702 (tray upper limit) PS707 (stapler paper exit upper limit)

	Classification	Error code	Cause	MFP response	Countermeasure
Finisher	Stapler/stacker and multifunction finisher abnormality	F77-3	After M705 (alignment /U) starts operation, PS708 (alignment HP/U) does not turn off within the specified time, or does not turns on after off.	The MFP and the finisher stop immediately and RL1 (main) is turned off.	Finisher CB (finisher control board) RB (relay board) M705 (alignment /U) PS708 (alignment HP/U)
		F77-4	After M707 (paper pick roller) starts operation, it does not reach the prescribed speed within the specified time.		Finisher CB (finisher control board) M707 (paper exit roller)
		F77-5	After M708 (paper exit opening) starts operation, its open/close operation does not finish within the specified time. PS712 (paper exit opening home position) does not turn on or off.		Finisher CB (finisher control board) M708 (paper exit opening) PS712 (paper exit opening home position)
		F77-6	After M711 (stapler movement) starts operation, PS711 (stapler movement home position) does not turn off, or does not turn on after off.		Finisher CB (finisher control board) RB (relay board) M711 (stapler movement) PS711 (stapler movement home position)
		F77-7	After M704 (clincher rotation) starts operation, PS714 (clincher rotation home position) does not turn off, or does not turn on after off.		Finisher CB (finisher control board) RB (relay board) M704 (clincher rotation) PS714 (clincher rotation home position)
		F77-8	After M706 (stapler rotation /R) starts operation, PS713 (stapler rotation home position) does not turn off, or does not turn on after off.		Finisher CB (finisher control board) RB (relay board) M706 (stapler rotation /R) PS713 (stapler rotation home position)
		F77-11	After M714 (stapler /F) starts operation, PS731 (stapler HP/F) does not turn on within the specified time.		Finisher CB (finisher control board) RB (relay board) M714 (stapler /F) PS731 (stapler HP/F)
		F77-12	After M709 (stapler /R) starts operation, PS730 (stapler HP/R) does not turn on within the specified time.		Finisher CB (finisher control board) RB (relay board) M709 (stapler /R) PS730 (stapler HP/R)
		F77-13	After M715 (clincher /F) starts operation, PS733 (clincher HP/F) does not turn on within the specified time.		Finisher CB (finisher control board) RB (relay board) M715 (clincher /F) PS733 (clincher HP/F)
		F77-14	After M710 (clincher /R) starts operation, PS732 (clincher HP/R) does not turn on within the specified time.		Finisher CB (finisher control board) M710 (clincher /R) PS732 (clincher HP/R)

	Classification	Error code	Cause	MFP response	Countermeasure
Finisher	Stapler/stacker and multifunction finisher abnormality	F77-21	After M718 (folding stopper) starts operation, PS723 (folding stopper home position) does not turn on within the specified time.	The MFP and the finisher stop immediately and RL1 (main) is turned off.	Finisher CB (finisher control board) RB (relay board) M718 (folding stopper) PS723 (folding stopper home position)
		F77-22	After M716 (alignment /L) starts operation, PS724 (alignment HP/L) does not turn on within the specified time.		Finisher CB (finisher control board) RB (relay board) M716 (alignment /L) PS724 (alignment /L)
		F77-25	After M719 (folding knife) starts the home position detecting operation, PS722 (folding knife home position) does not turn on within the specified time.		Finisher CB (finisher control board) M719 (folding knife) PS722 (folding knife home position)
		F77-26	After M720 (folding conveyance) starts operation, it does not reach the prescribed speed within the specified time.		Finisher CB (finisher control board) M720 (folding conveyance)
	PI abnormality	F77-41	After M202 (tray up/down /L) starts operation, PS209 (tray upper limit /L) or PS210 (tray lower limit /L) do not turn on within the specified time.		Finisher CB (finisher control board) PIDB (PI drive board) M202 (tray up/down /L) M209 (tray upper limit /L) PS210 (tray lower limit /L)
		F77-42	After M201 (tray up/down/ U) starts operation, PS204 (tray upper limit /U) or PS205 (tray lower limit /U) do not turn on within the specified time.		Finisher CB (finisher control board) PIDB (PI drive board) M201 (tray up/down /U) PS204 (tray upper limit /U) PS205 (tray lower limit /U)
		F77-43	After M203 (PI conveyance) starts operation, it does not reach the prescribed speed within the specified time.		Finisher CB (finisher control board) M203 (PI conveyance)
	Punch kit abnormality	F77-44	PS803 (punch shift home position) does not turn on within the specified time after M802 (punch shift) operation has been started.		Finisher CB (finisher control board) PKDB (PK drive board) M801 (punch) PS803 (punch home position)
	Finisher/punch kit abnormality	F77-47	Communication abnormality occurred between the finisher and punch kit. Abnormality remains even when retry operation is executed four times.		RB (relay board) Finisher CB (finisher control board) PKDB (PK drive board)
	Punch kit abnormality	F77-54	After CL801 (punch) starts operation, PS801 (punch home position) does not turn on within the specified time.		Finisher CB (finisher control board) PKDB (PK drive board) M801 (punch) PS801 (punch home position)
	Stapler/stacker and multifunction finisher abnormality	F77-81	After CL712 (gate drive) starts operation, PS716 (gate home position) does not turn on within the specified time or does not turn off after on.		Finisher CB (finisher control board) RB (relay board) M712 (gate drive) PS716 (gate home position)
		F77-91	Communication abnormality in finisher CB (finisher control board) when sub-CPU receives data.		Finisher CB (finisher control board)
		F77-92	Communication abnormality in finisher CB (finisher control board) when main CPU receives data.		

	Classification	Error code	Cause	MFP response	Countermeasure
MFP	Communication abnormality	E80-01	No response from PRCB (printer control board) for 5 seconds after secondary power switch (SW2) is turned on.	The MFP stops immediately and RL1 (main) is turned off.	PRCB (printer control board)
		E80-02	Communication abnormality in PRCB (printer control board).		PRCB (printer control board)
		E80-03	Communication abnormality in operation unit.		OB1 (operation board /1)
	ISW abnormality	F80-11	When secondary power switch (SW2) was turned on, an area which had not been written by ISW was detected in the MFP control program.		PRCB program
		F80-30	When data is transferred by ISW, normal header information cannot be received within the specified time.		MFP cable PC parallel port
		F80-31	When data is transferred by ISW, a checksum error or header error was detected in the downloaded data.		MFP cable Program file error
		F80-32	When data is transferred by ISW, data cannot be written to the flash ROM properly.		MFP cable Program transfer destination board
		F80-40	When secondary power switch (SW2) was turned on, an area which had not been written by ISW was detected in the finisher program.		Finisher program
	ADU stand abnormality	E90-01	ADU drive serial input error 1. Serial data from ADUDB (ADU drive board) (ID=0) cannot be received from ACK within 0.5 second when secondary power switch (SW2) turns on.		ADUDB (ADU drive board)
		E90-02	ADU drive serial input error 2. Serial data from ADUDB (ADU drive board) (ID=7) cannot be received from ACK within 0.5 second when secondary power switch (SW2) turns on.		
	Fan abnormality	F92-01	The FM10 (ADU reverse motor cooling) EM signal was abnormal 2 seconds after turning on of FM10. 2 seconds after turning FM10 off and on again, the signal is still abnormal.		FM10 (ADU reverse motor cooling) ADUDB (ADU drive board) PRCB (printer control board)

For the following abnormalities, the user can disconnect the faulty unit temporarily to continue using the MFP.

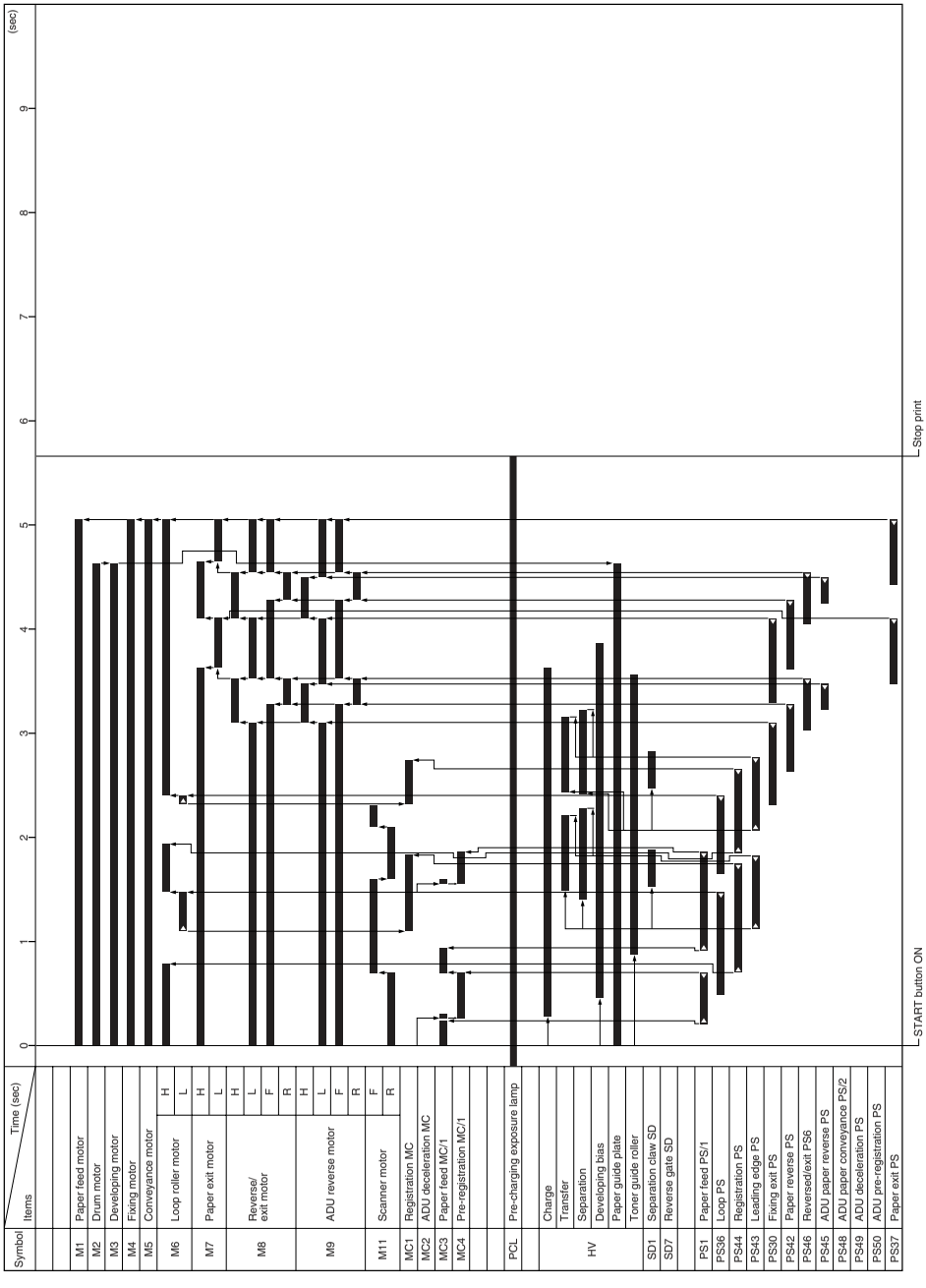
When an abnormality occurs, press the reset button following the LCD message, and turn the secondary power switch (SW2) off/on. This allows temporary use of MFP until the secondary power switch (SW2) is turned off/on next time.

Warning code	Cause	Unit to be disconnected
F18-10	Tray 2 up drive motor abnormality	Tray 2
F18-11	Tray 2 up abnormality	
F18-20	Tray 3 up drive motor abnormality	Tray 3
F18-21	Tray 3 up abnormality	
F18-30	Tray 4 up drive motor abnormality	Tray 4
F18-31	Tray 4 up abnormality	
F13-02	HCI paper feed motor abnormality	HCI
F18-50	HCI UP/DOWN motor abnormality	
F46-40 to 43	Hard disk abnormality	Hard disk
F62-01	ADF motor cooling fan abnormality	ADF
F77-22,25,26	Folding, stapling and folding, three-folding abnormality	Folding, stapling and folding, three-folding
F71-41 to 43	PI abnormality	PI
F77-44,47,55	PK, PZ punch shift motor abnormality	PK, PZ

Timing chart

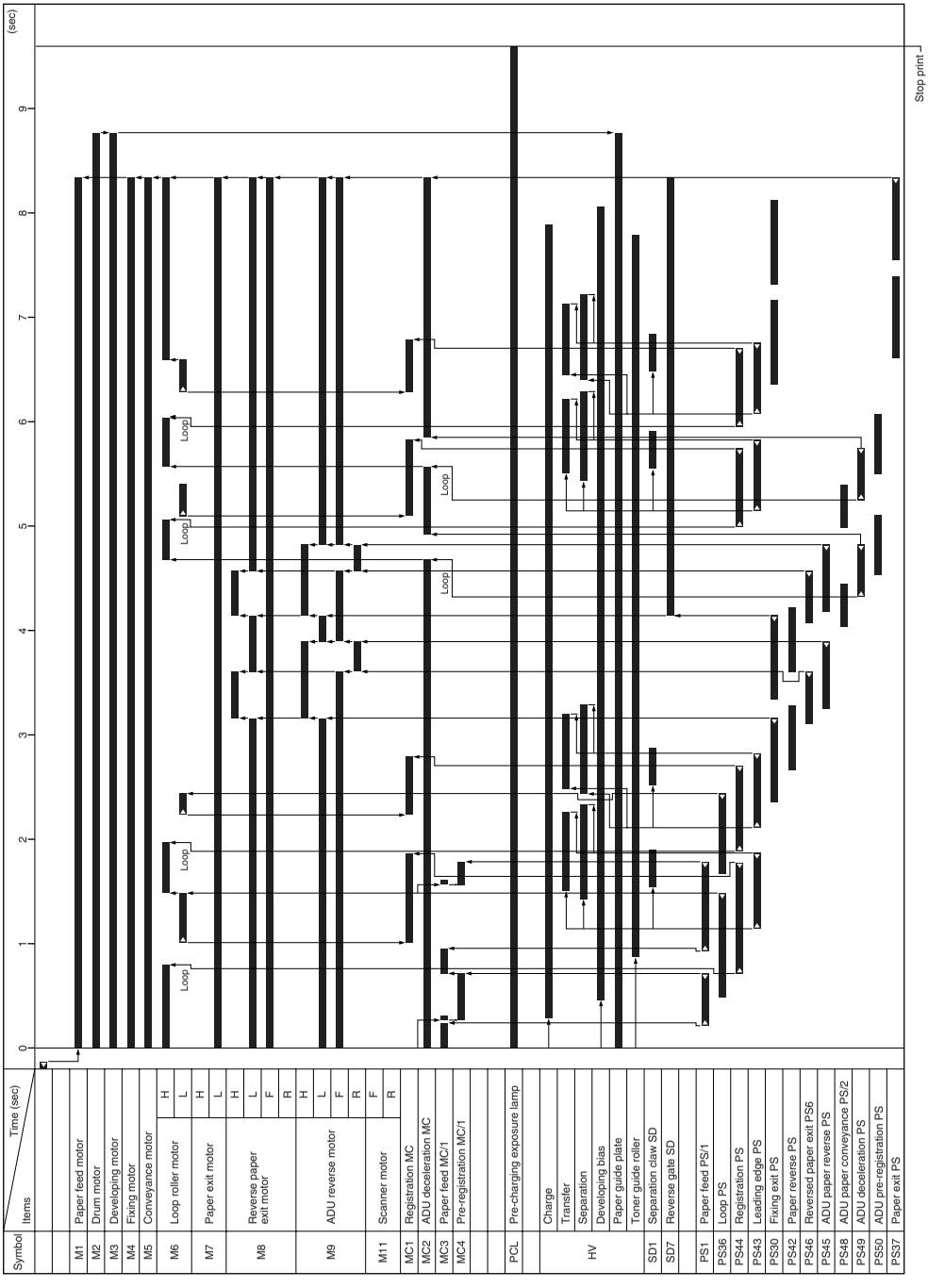
9065 timing chart (1)

Letter/A4, life size, 1-1 mode, Tray 2, reversed paper exit, non AE, 2 sets



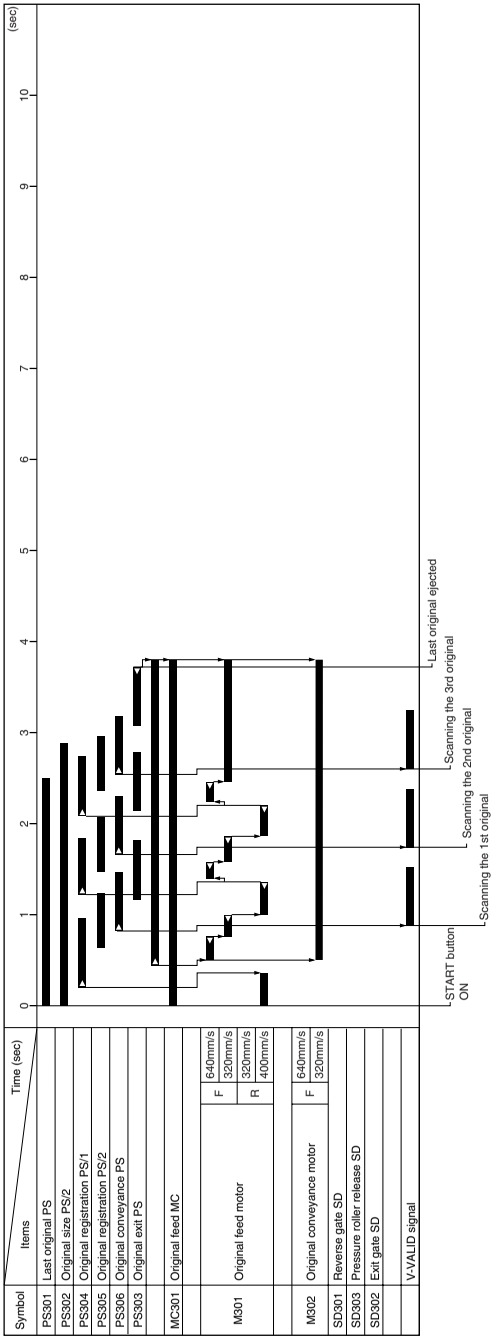
9065 timing chart (2)

Letter/A4, life size, 1-2 mode, Tray 2, 2 sets



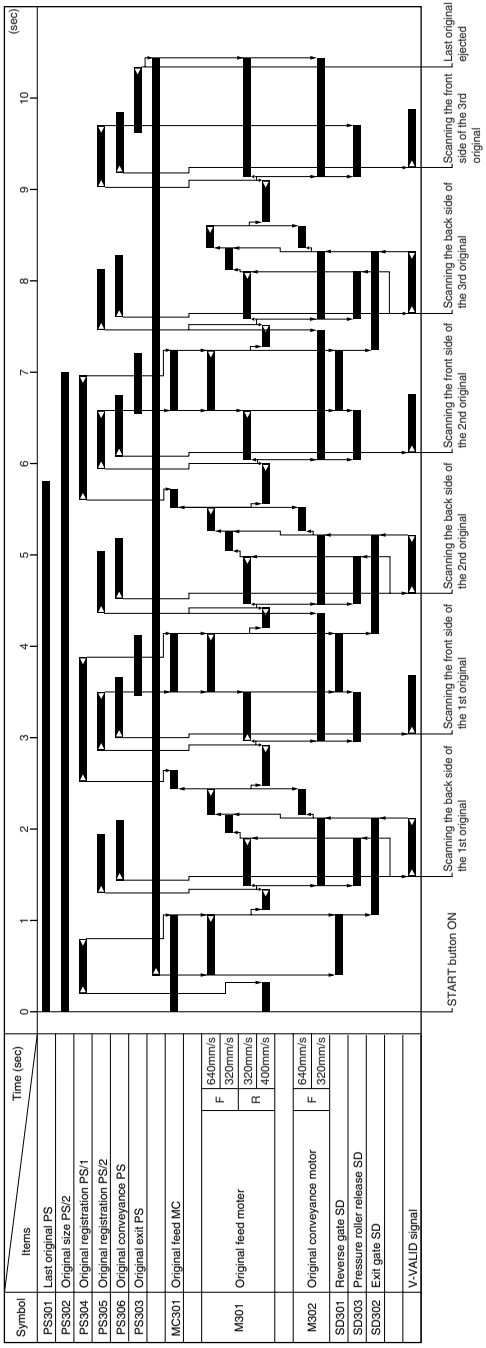
ADF timing chart (1)

Letter/A4, 3 originals (single side)



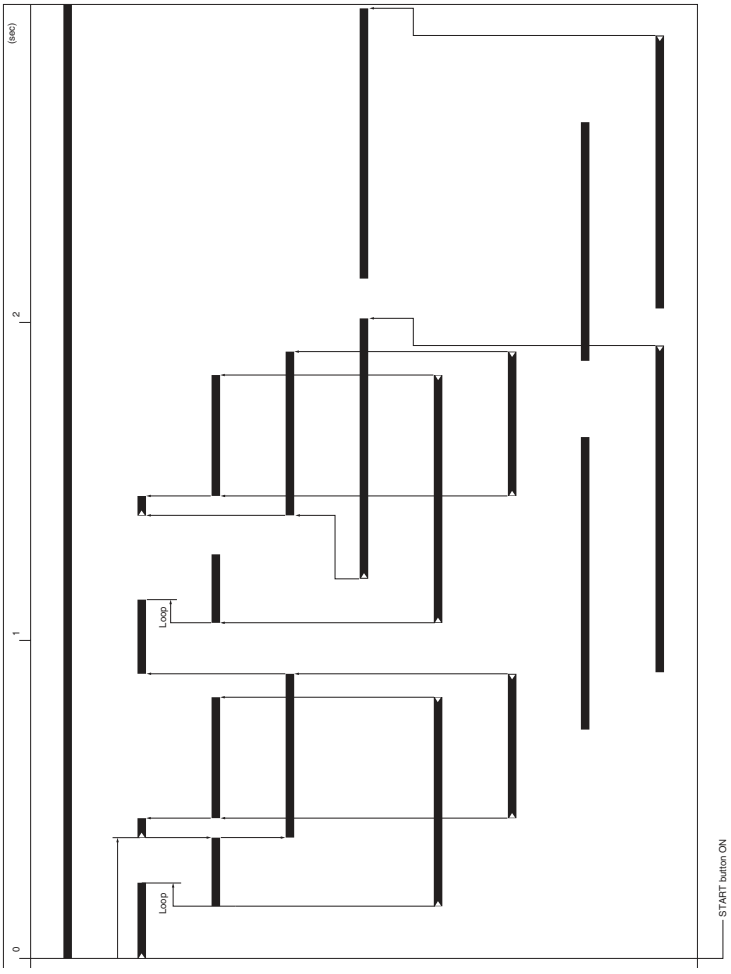
ADF timing chart (2)

Letter/A4, 3 originals (double side)



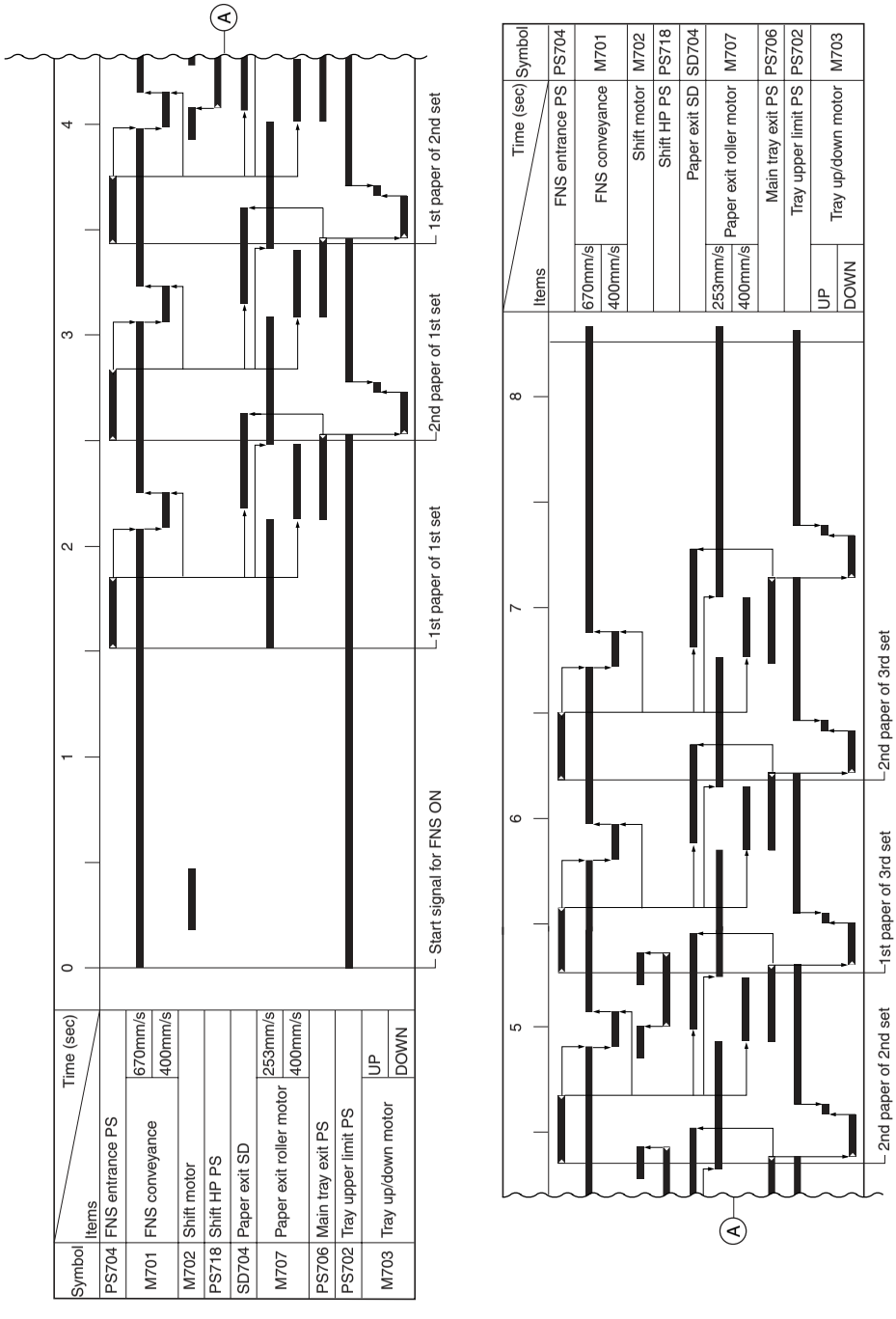
Q3637A/Q3638A timing chart

Letter/A4, life size, 1-1 mode, non AE, 2 sets



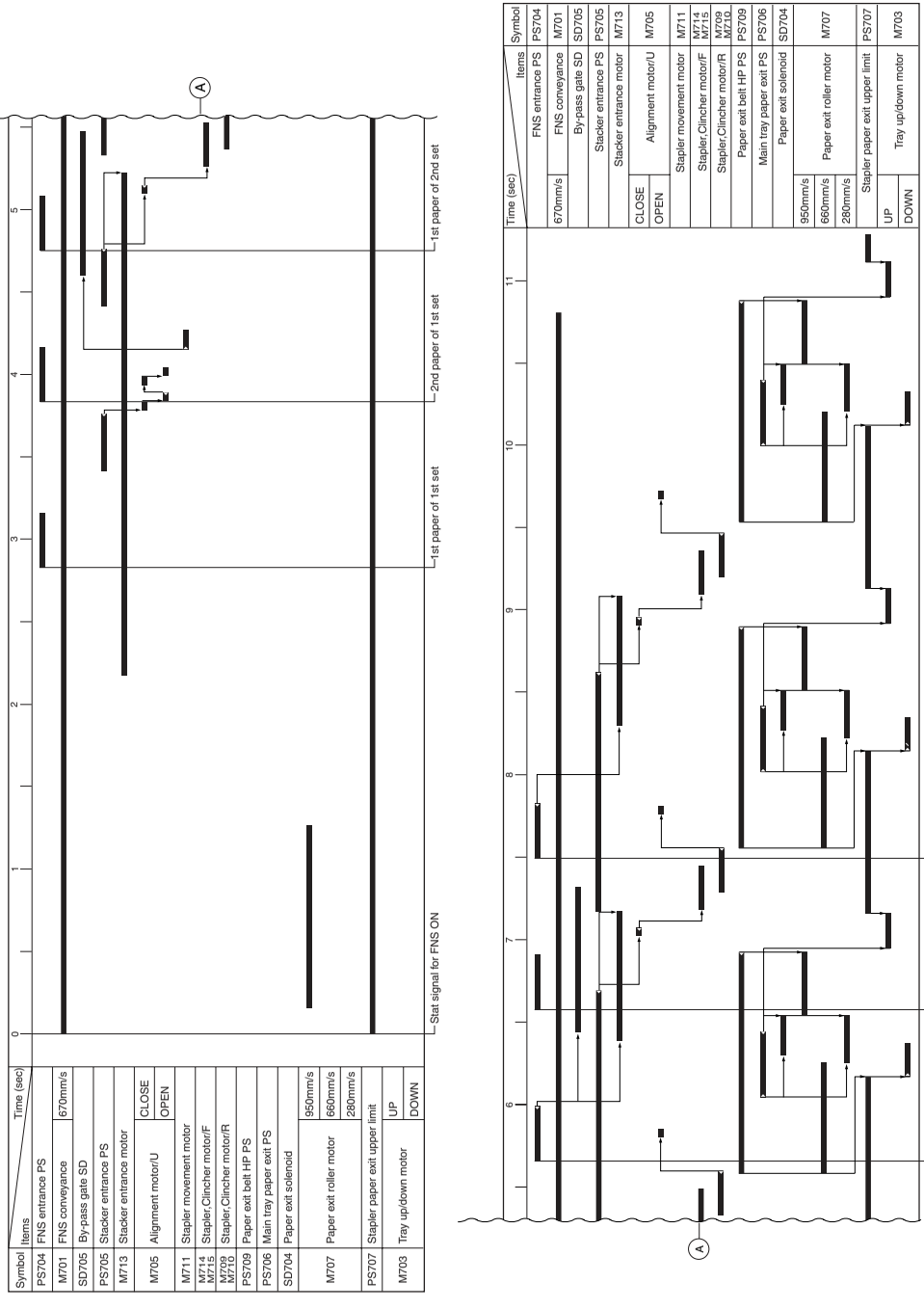
Q3633A/Q3634A timing chart (1)

Sort, letter/A4, 2 originals (single side), 3 sets



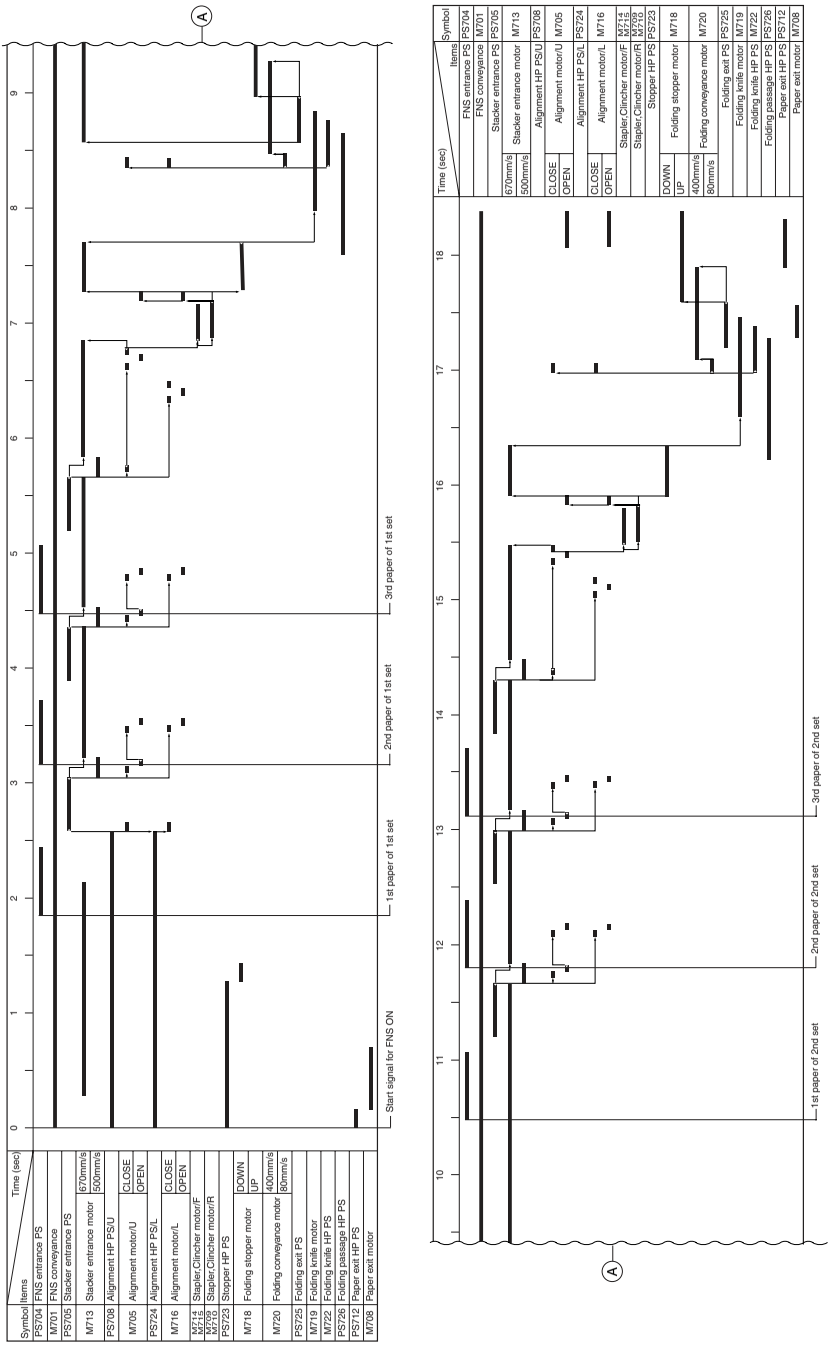
Q3633A/Q3634A timing chart (2)

2 staples (flat), letter/A4, 2 originals (single side), 6 sheets (single side)



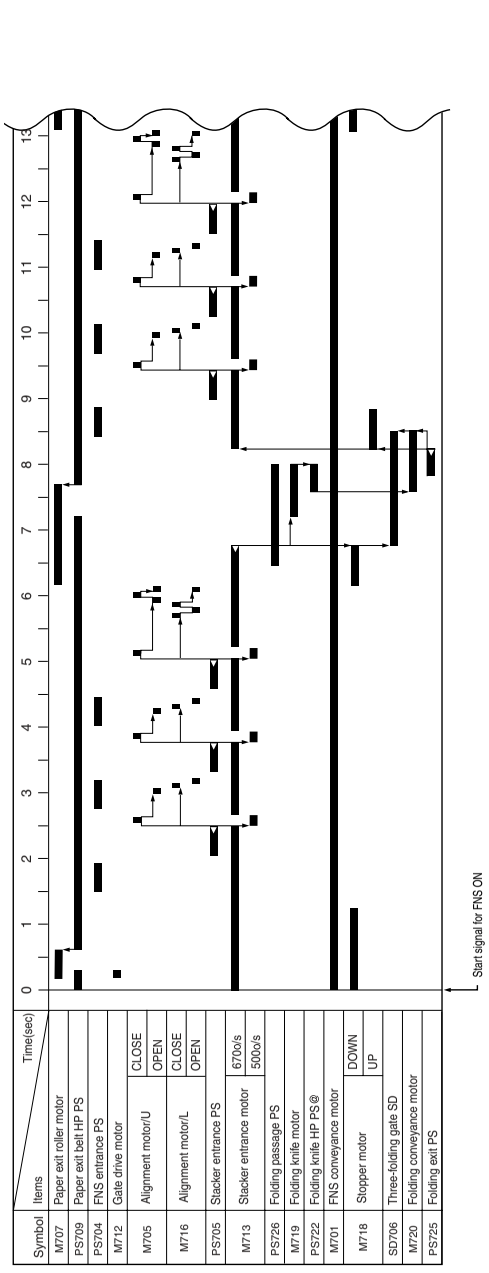
Q3633A/Q3634A timing chart (3)

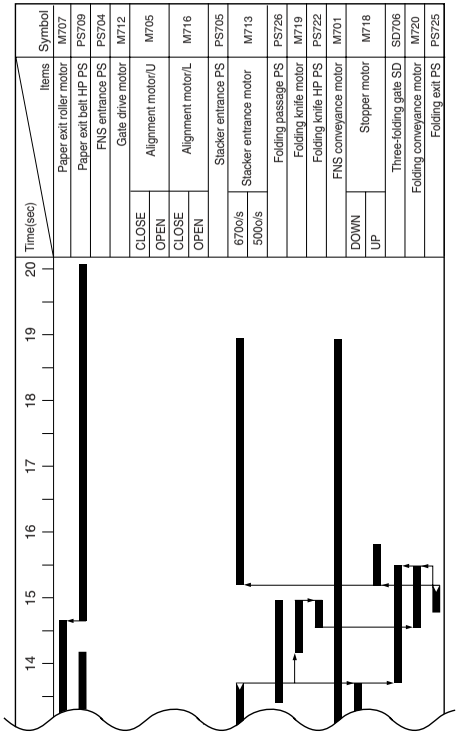
Staple and fold, letter/A4, 2 originals (single side), 6 sheets (single side)



Q3633A/Q3634A timing chart (4)

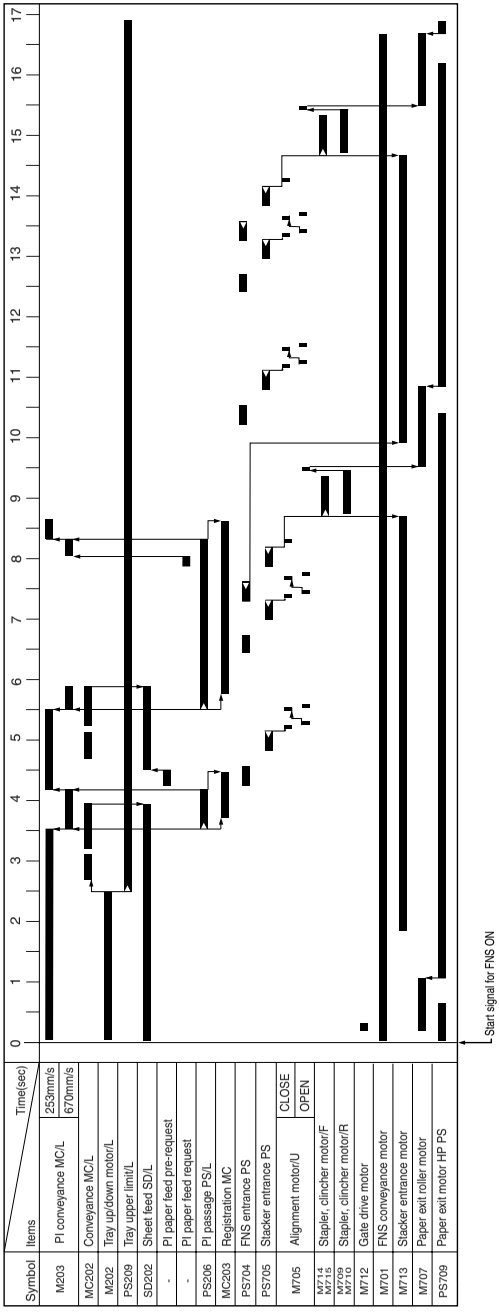
Three-folding/A4R or Letter-R/3 sheets of originals/2 sets setting/single side





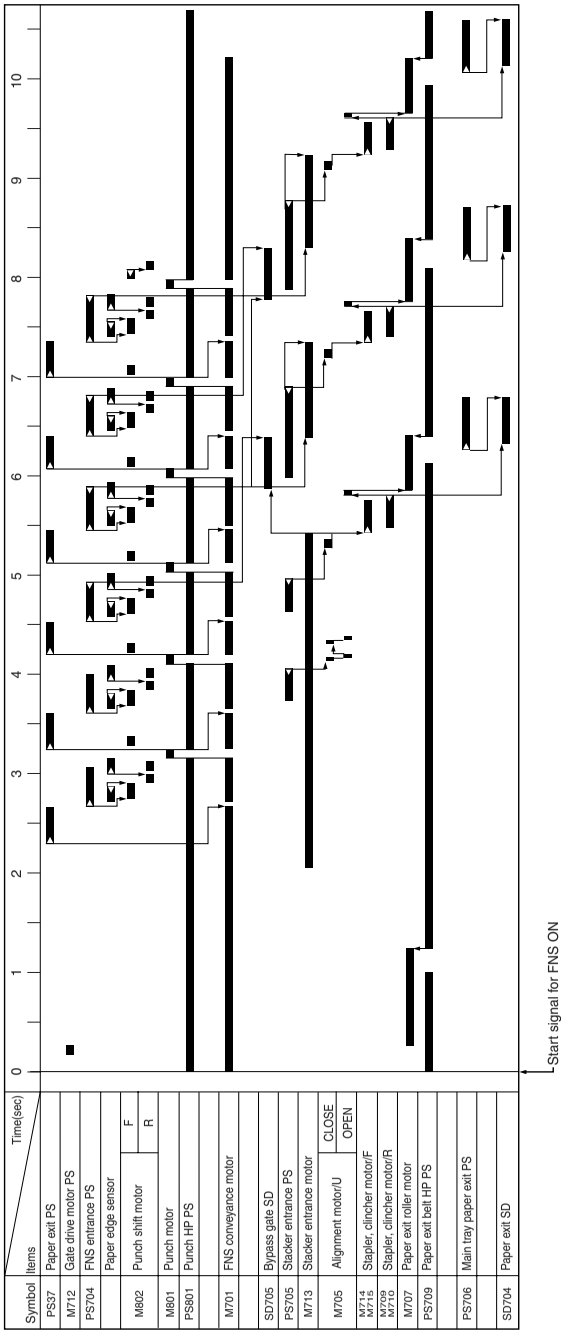
Q3636A timing chart

PI automatic paper feed (bottom) /2 staples (flat) /letter or A4/2 sheets of original/2 sets setting/single side



Punch kit timing chart

Punch/2 staples (flat) /letter or A4/2 sheets of original/3 sets setting/single side



A Terminology cross-reference

Terminology cross-reference for the MFP

Copy industry terminology	HP terminology
1 oblique staple	1 corner staple
11 by 17	Ledger or 11 by 17; but ledger when referring to the HCI's name
25 mode	2-5 mode
36 mode	3-6 mode
47 mode	4-7 mode
5.5" X 8.5"	5.5 by 8.5 (half-letter)
5.5" X 8.5" R	5.5 by .8.5 R (half-letter rotated)
8.5" X 11"	Letter
8.5" X 14"	Legal
80 g/m^2	75 g/m^2 (20 lb)
Agitator screws	Developer supply screws
AMS (Automatic Magnification Selection)	Auto scale
APS (Automatic Paper Selection)	Auto paper
APS sensors	Document size detection sensors (in text) APS sensors (in tables or drawings)
Armature	Shaft
Basic screen	Main screen
Bypass tray	Tray 1
Cartridge set mode	Cartridge set mode (drum)
Centring Adjustment	Centering Adjustment
Charging control plate	Charge control grid
Charger cleaning block/U	Corona cleaning block
Charger cleaning block/L	Charge control grid cleaner
Copier	Copy controller
Copy quantity setting keys	Keypad
Cover sheet feeder	Post Insertion Kit
Cylindrical lens 2	Focusing lens 2
Dmax	Maximum contrast
Double feed prevention roller	Separation roller

Copy industry terminology	HP terminology
F0 lens	Focusing lens 1 (F0)
Faults	Issues
Feed roller	Pick roller
Feeder cover	Jam access cover
Fixing	Fusing
Fixing unit	Fuser
Flatbed unit	Scanning glass
FNS	Finisher
Fold	Folding
HCI left side door	HCI door
HCI lever	HCI jam access lever
HCI top door	HCI top cover
HP sensor	Home position sensor
Jig	Adjustment tool
Large Capacity Tray (LCT)	Tray 5/HCI
Left-partition glass	ADF glass
LT driver board	HCI control board
Magnetic clutch	Clutch
Main switch SW1	Primary power switch
Main tray or main bin	Paper exit face down tray
MC (magnetic clutch)	CL (clutch)
Measuring guides (glass)	Alignment guides
MS	SW (switch)
MT/MTEM	Motor/motor error message
OHP interleave	Transparency interleave
Oil-less metal	Bushing
Operation panel	Control panel
Original feed tray (ADF)	ADF input tray
Original stopper plates	Alignment guides (scanner glass)
Output tray (ADF)	Original exit tray

Copy industry terminology	HP terminology
Paper up/down plate	Paper lift plate
Platen glass	Scanner glass
Platen guide cover	White board
Power saver on/off	Sleep on/off
Print controller	Formatter assembly (when referring to contents of print kit)
Printer, copier, machine, or main body	MFP
Proof output	Proof and hold
RADF	ADF
Relay connector	Inline connector
Resin ring	Snap ring
Resis or Resist	Registration
Saddle stitch	2-position flat
Scan/server	Send/store
SD (solenoid)	SL (solenoid)
Semiconductor laser	Laser diode
Shaft holder	Bushing
Slit glass	ADF glass
Start (copy/print)	Start
Stitch and fold	Staple and fold
Stop ring	Snap ring
Stop/Scan	Stop
Sub switch (SW2)	Secondary power switch (SW2)
Sub tray	Paper exit tray
Three-fold	Tri-fold
To and fro	Back and forth
Toner cartridge	Toner bottle
Total counter, odometer, mechanical counter, or paper exit counter	
Touch screen	Touch display
Transparent film	Transparency (OHT)

Copy industry terminology	HP terminology
Upper bin	Paper exit tray
Upper unit release lever (post insertion kit)	Release lever
Worktable	Shelf
Write unit	Laser/scanner assembly
/F or /R	Front or Rear
/U or /L	Upper or Lower

Index

Numerics

A

B

C

D

E

F

G

H

N

O

P

R

S

T

U

V

W

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