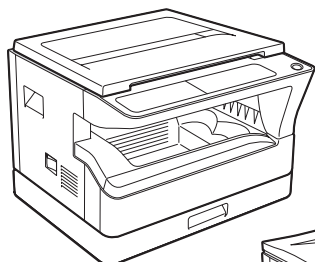
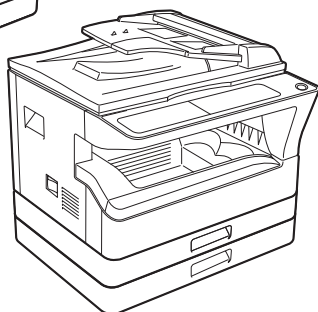


SHARP INSTALLATION MANUAL

CODE : 00ZAR5618/I1E



AR-5618S/5620S
AR-5618N



AR-5620N/5623N

DIGITAL MULTIFUNCTIONAL SYSTEM

AR-5618S/5620S
MODEL AR-5618N/5620N/5623N

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Parts marked with “” are important for maintaining the safety of the set.

Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

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

CAUTION

This product is a class 1 laser product that complies with 21CFR 1040.10 and 1040.11 of the CDRH standard and IEC825. This means that this machine does not produce hazardous laser radiation. The use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This laser radiation is not a danger to the skin, but when an exact focusing of the laser beam is achieved on the eye's retina, there is the danger of spot damage to the retina.

The following cautions must be observed to avoid exposure of the laser beam to your eyes at the time of servicing.

- 1) When a problem in the laser optical unit has occurred, the whole optical unit must be exchanged as a unit, not as individual parts.
- 2) Do not look into the machine with the main switch turned on after removing the developer unit, toner cartridge, and drum cartridge.
- 3) Do not look into the laser beam exposure slit of the laser optical unit with the connector connected when removing and installing the optical system.
- 4) The middle frame contains the safety interlock switch.
Do not defeat the safety interlock by inserting wedges or other items into the switch slot.

Warning!

This product is a class A product.

If it is operated in households, offices or similar surroundings, it can produce radio interferences at other appliances, so that the user has to take adequate countermeasures.

VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING

OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

CAUTION

INVISIBLE LASER RADIATION,
WHEN OPEN AND INTERLOCKS DEFEATED. AVOID
EXPOSURE TO BEAM.

VORSICHT

UNSICHTBARE LASERSTRAHLUNG,
WENN ABDECKUNG GEÖFFNET UND
SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT. NICHT
DEM STRAHL AUSSETZEN.

VARO !

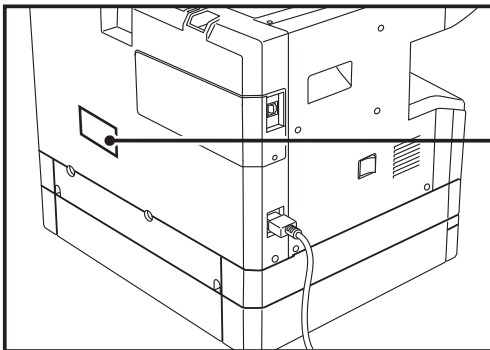
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET
ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ
KATSO SÄTEESEEN.

ADVARSEL

USYNLIG LASERSTRÅLNING VED ÅBNING, NÅR
SIKKERHEDSBRYDERE ER UDE AF
FUNKTION. UNDGÅ UDSÆTTELSE FOR
STRÅLNING.

VARNING !

OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR
ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRakta EJ
STRÅLEN. – STRÅLEN ÄR FARLIG.



Disconnect the AC cord before servicing the unit.

CLASS 1
LASER PRODUCT
LASER KLASSE 1
LASER KLASY 1

LASER WAVE - LENGTH : 795 ± 15mm
Pulse times : 0.481ms/6mm
Out put power : 5mW

[1] GENERAL

1. Note for servicing

Pictogram

The label (⚠ ⚠) in the fusing area of the machine indicates the following:

- ⚠ : Caution, risk of danger
- ⚠ : Caution, hot surface

A. Warning for servicing

- The fusing area is hot. Exercise care in this area when removing misfed paper.
- Do not disassemble the laser unit. Do not insert a reflective material such as a screwdriver in the laser beam path. It may damage eyes by reflection of laser beams.

B. Cautions for servicing

- Do not switch the machine rapidly on and off. After turning the machine off, wait 10 to 15 seconds before turning it back on.
- Machine power must be turned off before installing any supplies.
- Place the machine on a firm, level surface.
- Do not install the machine in a humid or dusty location.
- When the machine is not used for a long time, for example, during prolonged holidays, turn the power switch off and remove the power cord from the outlet.
- When moving the machine, be sure to turn the power switch off and remove the power cord from the outlet.
- Do not cover the machine with a dust cover, cloth or plastic film while the power is on. Doing so may prevent heat dissipation, damaging the machine.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser radiation exposure.
- The socket-outlet shall be installed near the machine and shall be easily accessible.

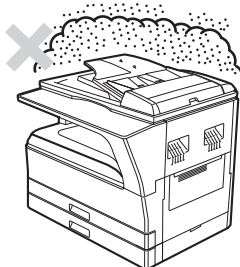
C. Note for installation place

Improper installation may damage the machine. Please note the following during initial installation and whenever the machine is moved.

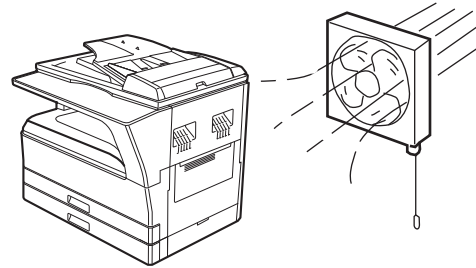
Caution : If the machine is moved from a cool place to a warm place, condensation may form inside the machine. Operation in this condition will cause poor copy quality and malfunctions. Leave the machine at room temperature for at least 2 hours before use.

Do not install your machine in areas that are:

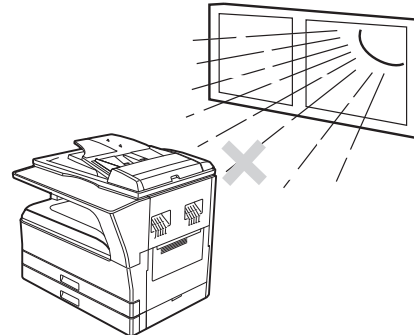
- damp, humid, or very dusty



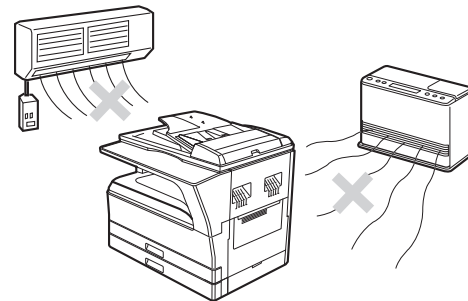
- poorly ventilated



- exposed to direct sunlight



- subject to extreme temperature or humidity changes, e.g., near an air conditioner or heater.

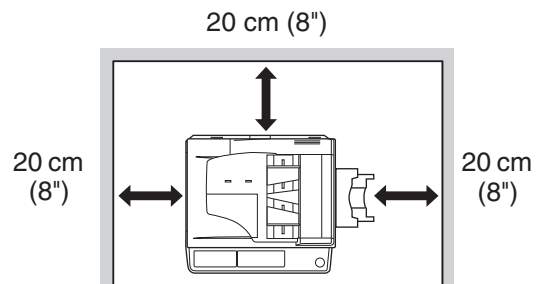


The machine should be installed near an accessible power outlet for easy connection and disconnection.

Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements. Also make certain the outlet is properly grounded.

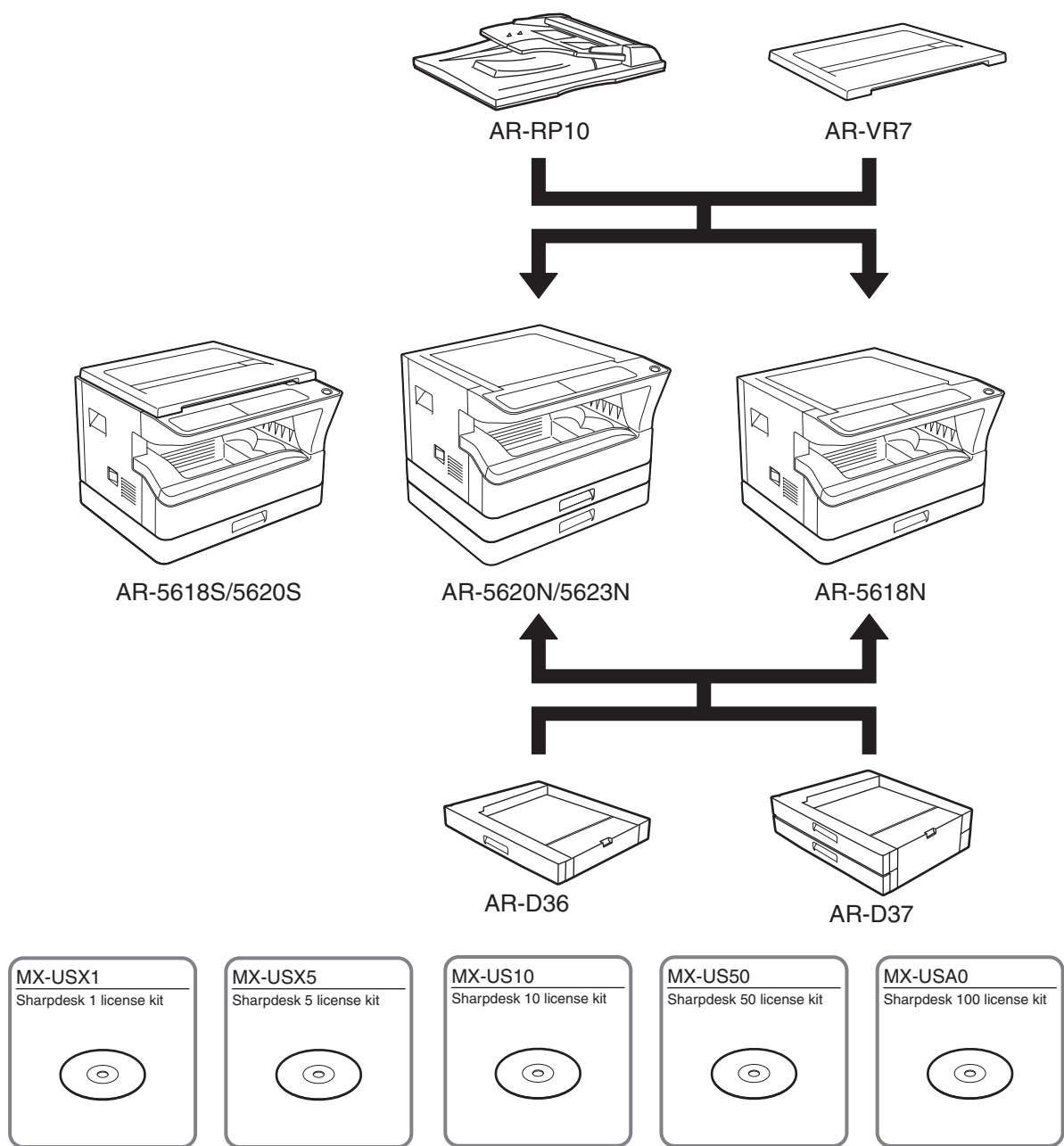
Note : Connect the machine to a power outlet which is not used for other electric appliances. If a lighting fixture is connected to the same outlet, the light may flicker.

Be sure to allow the required space around the machine for servicing and proper ventilation.



[2] CONFIGURATION

1. System Configurations



Option \ Model		AR-5618S/5620S	AR-5618N/5620N/5623N
AR-RP10	Reversing single pass feeder (RSPF)	X	O
AR-D36	250-sheet paper feed unit	X	O
AR-D37	2x250-sheet paper feed unit	X	O
AR-VR7	DOCUMENT COVER	STD	O
MX-USX1	SHARPDESK 1 LICENSE KIT	X	O
MX-USX5	SHARPDESK 5 LICENSE KIT	X	O
MX-US10	SHARPDESK 10 LICENSE KIT	X	O
MX-US50	SHARPDESK 50 LICENSE KIT	X	O
MX-USA0	SHARPDESK 100 LICENSE KIT	X	O

STD: Standard O: Option installation enable X: Option installation disable

[3]AR-5618S/5620S/5618N/5620N/5623N

1. Installing conditions

A.The machine installation

Do not install your the machine in areas that are:

- damp, humid, or very dusty
- exposed to direct sunlight
- poorly ventilated
- subject to extreme temperature or humidity changes, e.g., near an air conditioner or heater.
- Be sure to allow the required space around the machine for servicing and proper ventilation.

B.Power source

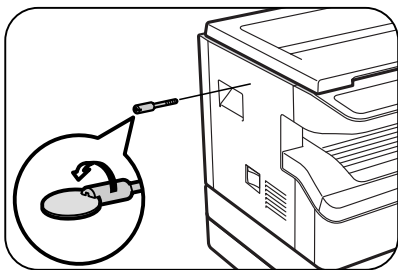
- Use an exclusive to dedicated power outlet. If the power plug of this machine is inserted into a power outlet commonly used with other illumination units, flickers of the lamp may be result. Use a power outlet which is not used commonly with any illumination units.
- Avoid complex wiring.

C.Grounding wire connection.

- To avoid danger, the power outlet must be grounded. If no grounding wire is connected and a leakage occurs, a fire or an electric shock may be result.

2. Removal of protective material and fixing screw

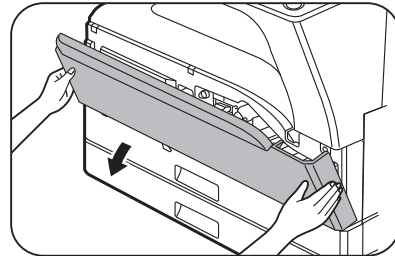
- 1) Remove all tapes and protective material.
 - Remove all tapes, then open the document cover and remove the protective material of sheet shape
- 2) Remove the fixing screw.
 - Use a coin to remove the fixing screw.
 - The fixing screw is required when transporting the machine. Keep it in the tray. (Refer to the later description.)



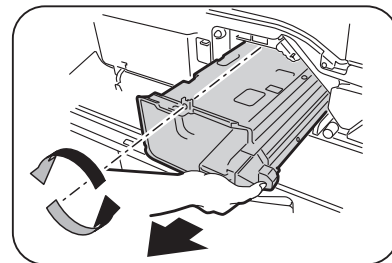
3.Installing procedure

A.Developer cartridge installation

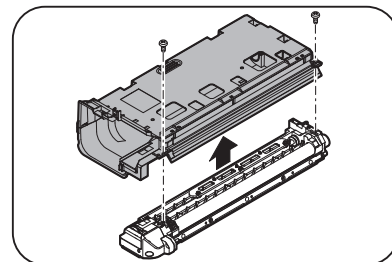
- 1) Open the bypass tray, and open the side cover.
 - 2) Open the front cover.
- Hold the both sides and pull down to open.



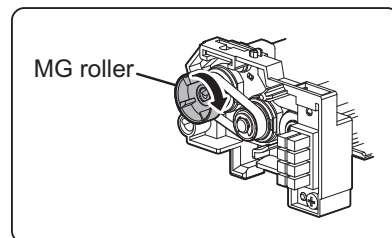
- 3) Loosen the screw and remove the developer cartridge.



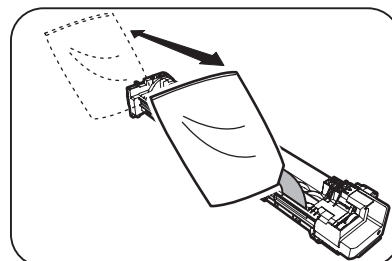
- 4) Remove the developer tank from the developer cartridge.



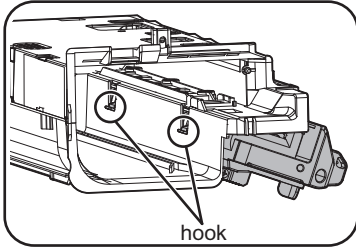
- 5) While rotating the MG roller in the arrow direction, supply the developer into the developer tank evenly so as not to overflow.



- * Shake the developer bag enough before opening it.



- 6) Check that two hooks of the developer unit is hooked on the toner cartridge guide, and secure the toner cartridge guide to the developing unit.

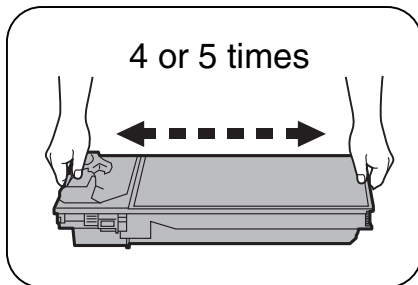


- * Check that the DV seal is free from the developer. If developer is attached to the DV seal, clean it.
 - * After supplying developer, do not tilt or shake the developer cartridge.
- 7) Attach the developer cartridge to the main unit, and secure it with the screw.

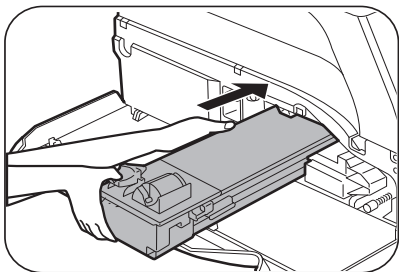
Note: I close a blue screw after the insertion in the main body by all means, and fix a DV unit in the main body.

B. Toner cartridge installation

- 1) Remove the new toner cartridge from the bag. Grasp the cartridge on both sides and shake it horizontally four or five times.



- 2) Insert the toner cartridge along the guides until it locks in place while pushing the lock release lever
- If there is any dirt or dust on the toner cartridge, remove it before installing the cartridge..



C. Set the toner density reference control level

- 1) With the front cover open, turn ON the machine power and enter SIM25-02.

Note: When the machine is not in the simulation mode, if the front cover is closed and the machine power is turned ON, toner may be supplied from the toner cartridge to the developer cartridge.

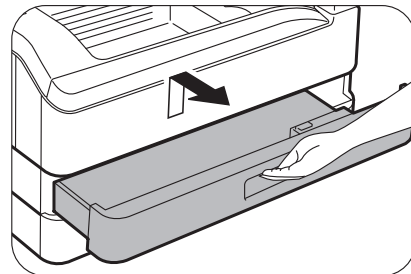
Under this state, the toner density reference control level adjustment cannot be made properly.

Therefore, if the front cover is closed and the machine power is turned ON with the machine not in the simulation mode, dispose developer and supply new developer and adjust the toner density reference level.

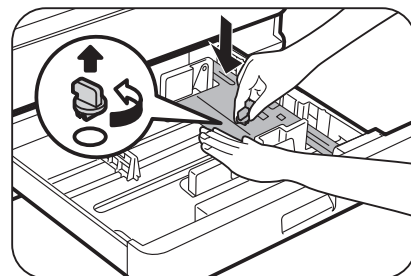
- 2) Close the front cabinet.
 - 3) Press [START] key, and execute SIM25-02.
- Note: It takes about 3 minutes to execute SIM25-02 completely.
During execution of this simulation, the front cover must not be opened and the machine power must not be turned OFF.

4. Removal and storage of fixing screw

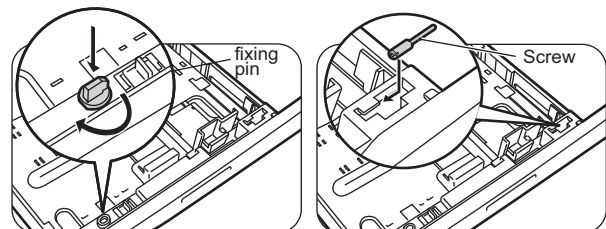
- 1) Lift the knob and gently pull out the tray.



- 2) Hold the paper pressure plate and turn the fixing screw in the arrow direction.



- 3) Store the fixing pin and the fixing screw in the tray.
- Store the fixing screw which was removed in the above procedure 2 and the fixing screw which was removed in procedure 2 of 2.
 - Removal of protective material and fixing screw in the storage place in the tray.

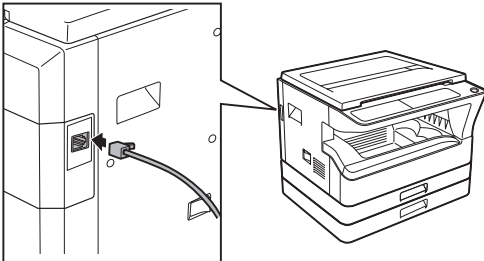


5. Set the IP address

Note:

- The screen images in this manual are mainly for Windows Vista. With other versions of Windows, some screen images may be different from those in this manual.
- If an error message appears, follow the instructions on the screen to solve the problem. After the problem is solved, the installation procedure will continue. Depending on the problem, you may have to click the "Cancel" button to exit the installer. In this case, reinstall the software from the beginning after solving the problem.

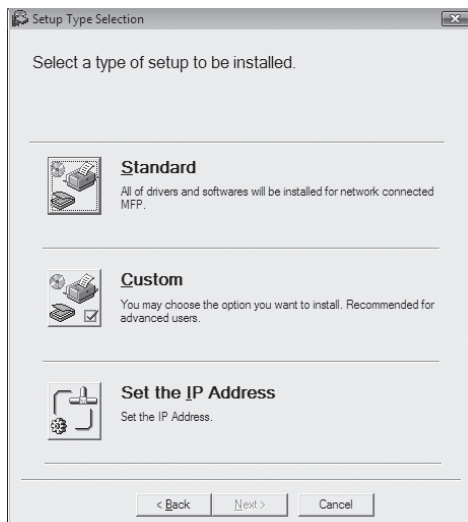
- 1) Insert the LAN cable into the LAN connector on the machine.
Use a network cable that is shielded.



- 2) Insert the CD-ROM into your CD-ROM drive.
- 3) Click the "Start" button, click "Computer", and then double-click the CD-ROM icon ().
- In Windows XP, click the "start" button, click "My Computer", and then double-click the CD-ROM icon.
- In Windows 2000, double-click "My Computer", and then double-click the CD-ROM icon.
- 4) Double-click the "Setup" icon ().
- In Windows 7, if a message screen appears asking you for confirmation, click "Yes".
- In Windows Vista, if a message screen appears asking you for confirmation, click "Allow".
- 5) The "SOFTWARE LICENSE" window will appear. Make sure that you understand the contents of the software license, and then click the "Yes" button.

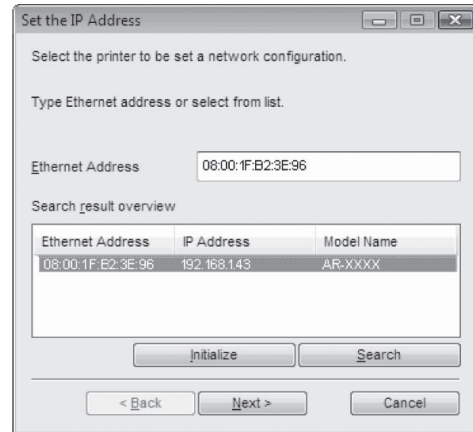
Note: You can show the "SOFTWARE LICENSE" in a different language by selecting the desired language from the language menu.
To install the software in the selected language, continue the installation with that language selected.

- 6) Read the message in the "Welcome" window and then click the "Next" button.
- 7) Click the "Set the IP Address" button.



- 8) When the software selection screen appears, click the "Set the IP Address" button.

- 9) The printer or printers connected to the network will be detected. Click the printer to be configured (the machine) and click the "Next" button.



If a message appears regarding the Windows firewall, click the "Yes" button.

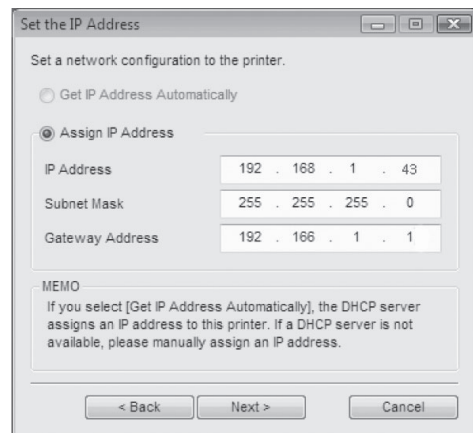
Note:

- The "Ethernet Address" is indicated on the left side of the machine near the LAN connector.
- If the machine can not be recognised, enter the Ethernet Address and click the "Initialize" button to initialise the IP address. Follow the on-screen instructions to click the "OK" button and then the "Search" button. If the machine is still not recognised, disable your computer's firewall and then repeat the installation from the beginning.

- 10) Enter the IP address, subnet mask, and default gateway.

The settings in the window below are examples.

Be sure to ask your network administrator for the correct IP address, subnet mask, and default gateway to be entered.



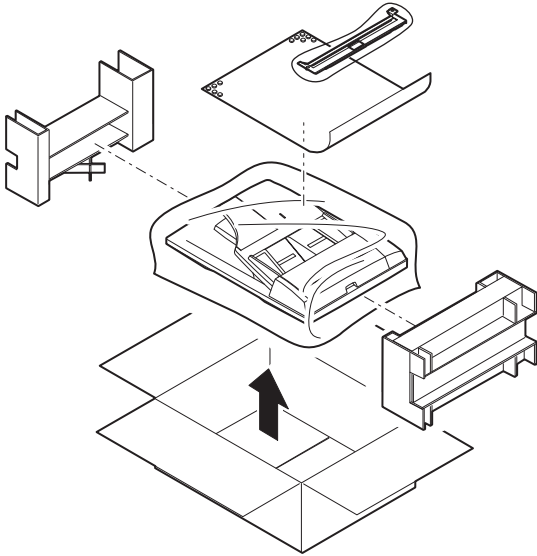
Note: When "Get IP Address Automatically" is selected, the IP address may at times change automatically. This will prevent printing. In this event, select "Assign IP Address" and enter the IP address.

- 11) Click the "Next" button.
- 12) When the "Finish" screen appears, click the "Close" button.
This completes setting the IP Address.
- To install all of the software, go to "Install all of the software".
- To install particular packages, go to "Choose the option you want to install".

[4]AR-RP10

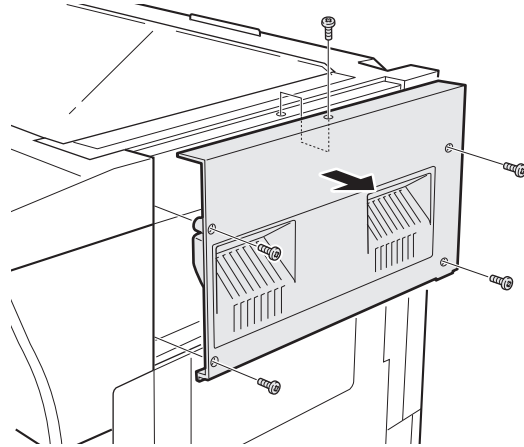
1. Unpacking

For unpacking, refer to the figure below.



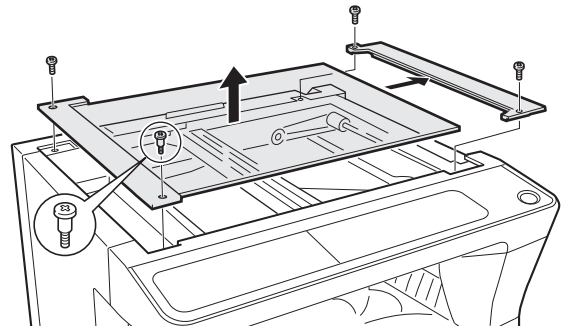
2) Remove the right cabinet.

Remove the screws and remove the right cabinet.



3) Remove the document glass and the right document glass holder.

Remove the screws, remove the document glass from the machine, and then remove the right document glass holder.

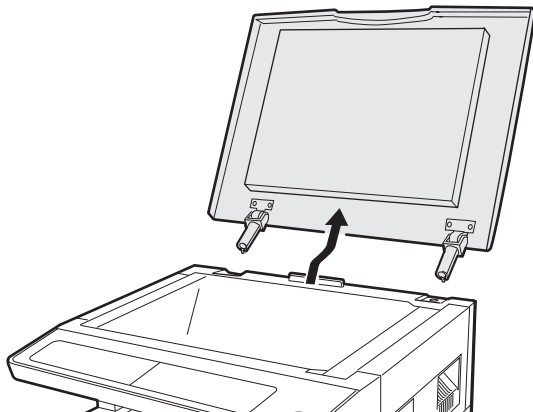


2. Installation

Turn the main switch of the machine to the "OFF" position and then remove the power plug of the machine from the outlet.

1) Remove the document cover.

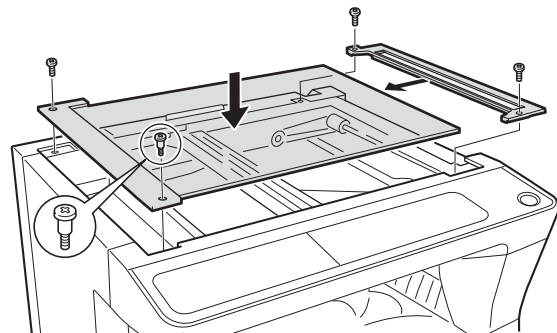
Lift the document cover from the machine and tilt it to the rear side to remove it.



4) Attach the SPF glass holder.

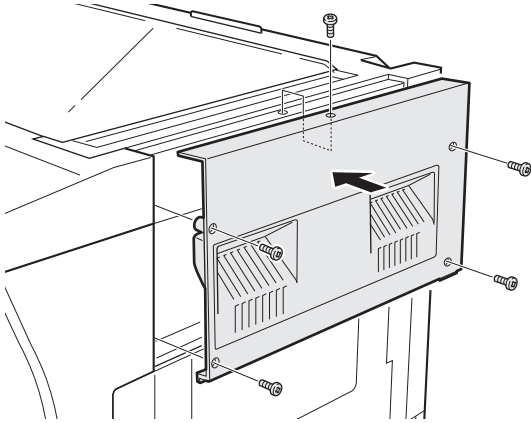
Fit the SPF glass holder to the document glass.

Attach the document glass to the machine and fix it with the screws.



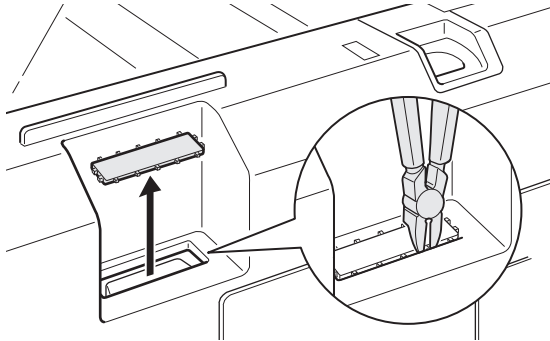
5) Attach the right cabinet.

Reattach the right cabinet to its original position and fix it with the screws.



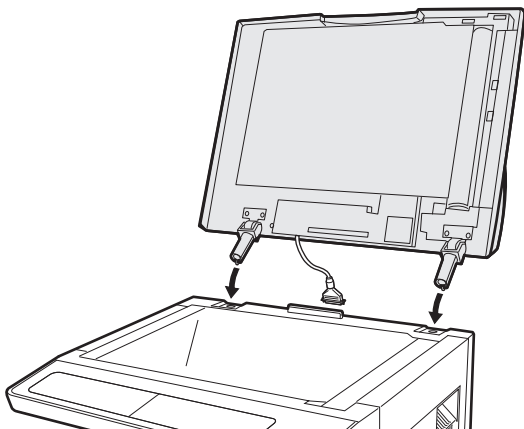
6) Cut out the cut-out portion.

Cut out the cut-out portion of the rear cabinet with nippers or the like. At this time, be careful about the orientation of the nippers so that the cut plane of the rear cabinet is flat.



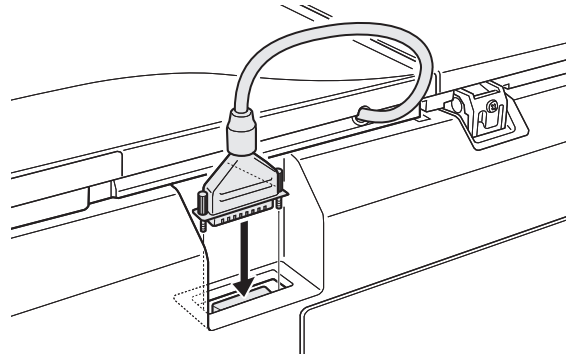
7) Attach the automatic document feeder.

Insert the hinge portions of the document feeder into the mounting portions of the machine by holding the feeder at an angle toward the rear side.



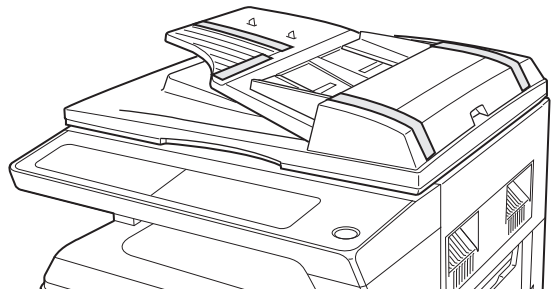
8) Connect the relay connector.

Connect the harness of the automatic document feeder to the connector of the machine and tighten the screws on the connector.



9) Remove the filament tape.

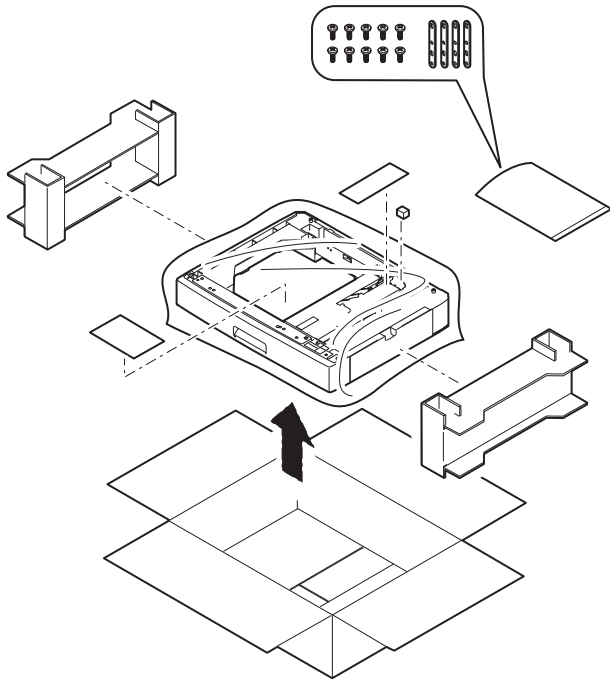
Remove the filament tape located in the positions shown in the illustration.



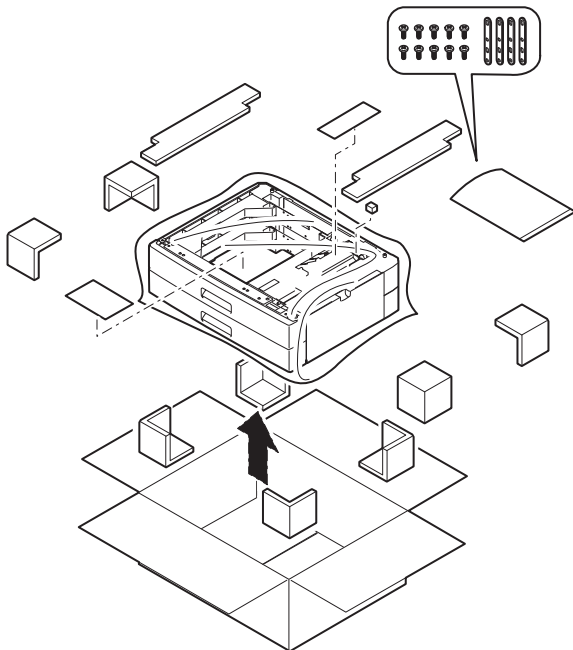
[5]AR-D36/D37

1. Unpacking

(AR-D36)



(AR-D37)



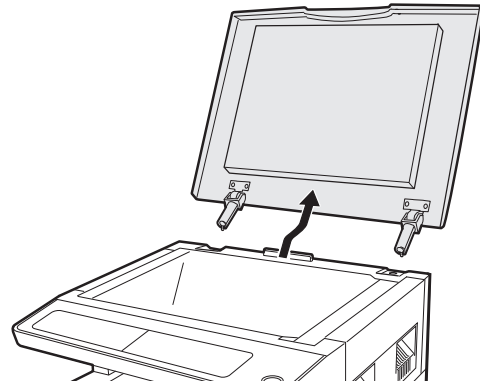
2. Installation

Included parts

Part name	Quantity
Screw M4 x 12 (Fixing plate)	10
Fixing plate	4
Paper size label	1

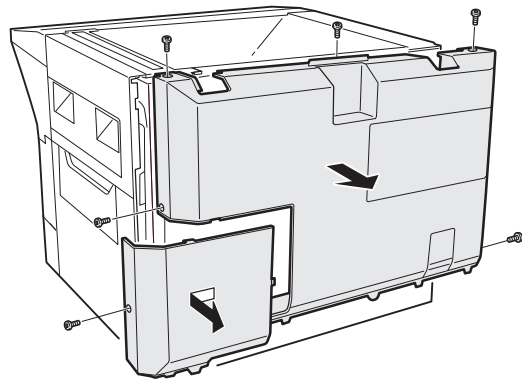
1) Remove the document cover.

Lift the document cover from the machine and tilt it to the rear side to remove it.



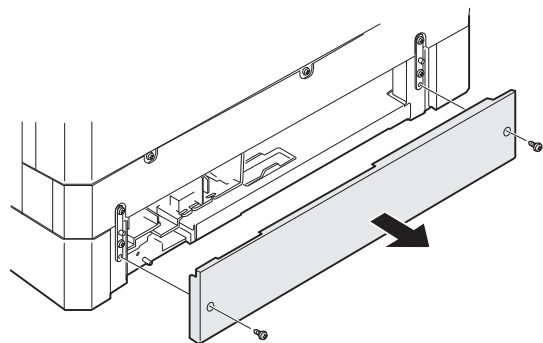
2) Remove the rear cabinet.

Remove the screw and remove the cover. Then, remove the five screws and remove the rear cabinet.



3) Remove the rear cover.

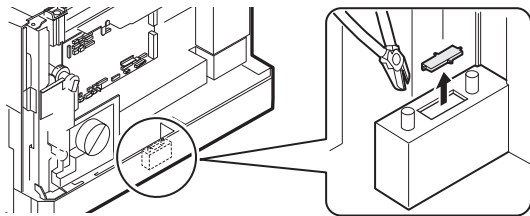
Remove the two screws and remove the rear cover.



4) Make a hole for connector.

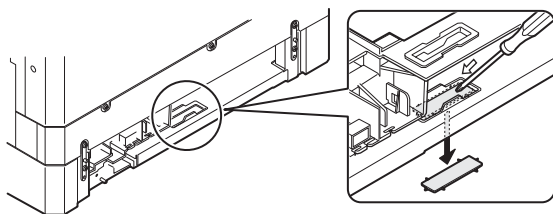
- The machine (1-tray model)

Cut out the portion shown in the illustration with nippers or the like.



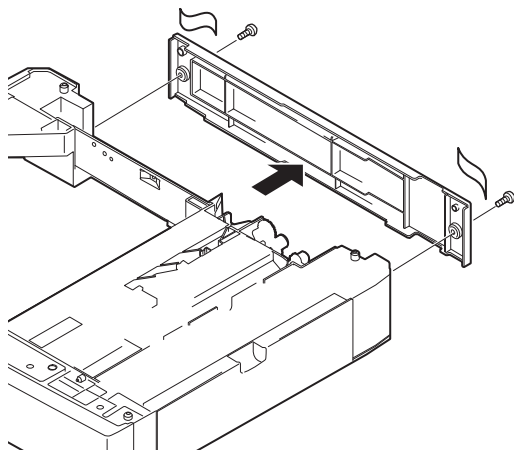
- The machine (2-tray model)

Press the portion shown in the illustration with a screwdriver or the like to remove it.

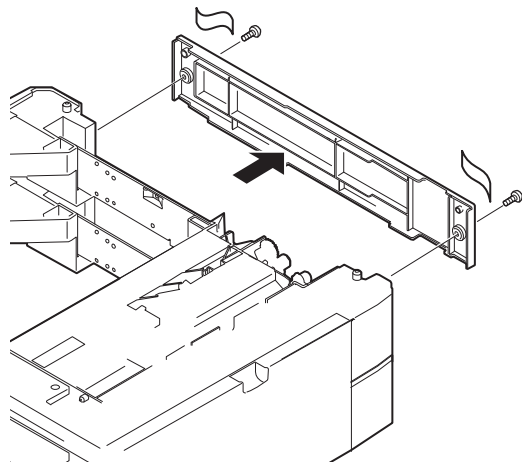


5) Remove the second cassette rear cover.

Remove the rear cover which is attached to the 250-sheet paper feed unit.



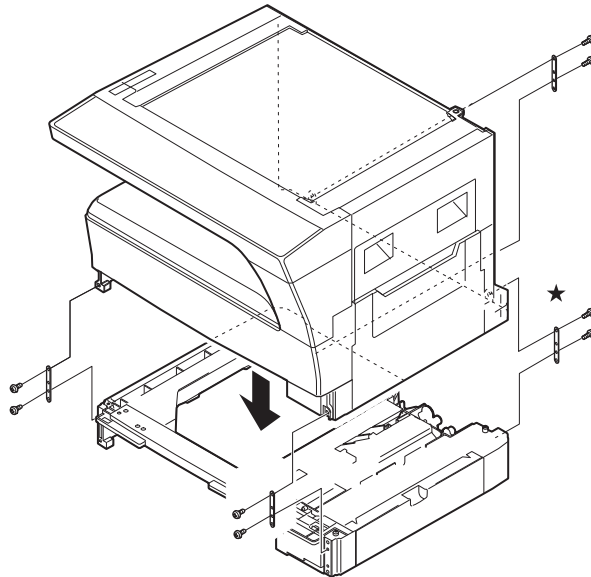
Remove the rear cover (upper stage) from the 2x250-sheet paper feed unit.



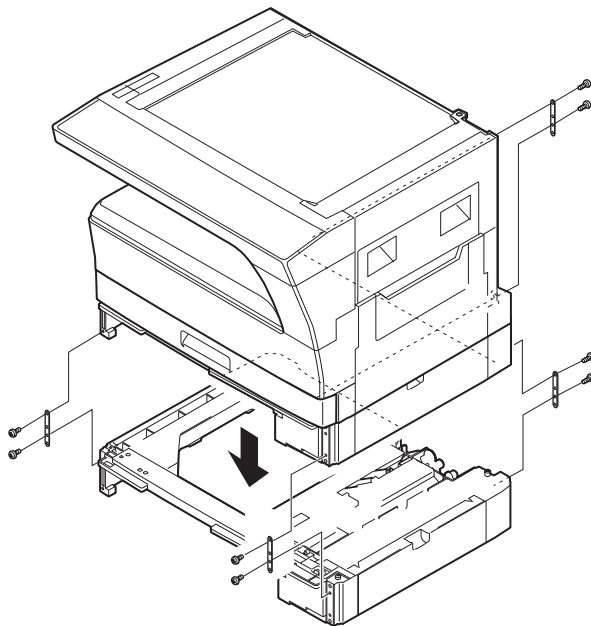
6) Install the machine onto the 250-sheet paper feed unit.

Put the machine on the 250-sheet paper feed unit, and fix with the fixing plates and the screws.

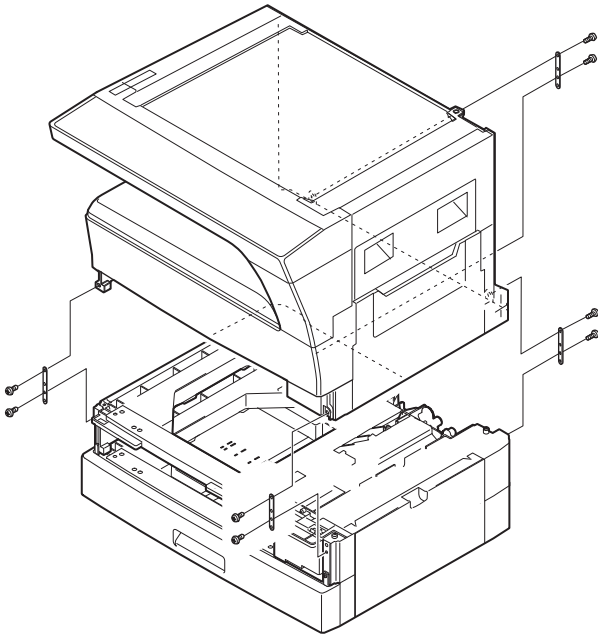
- The machine (1-tray model) + 250-sheet paper feed unit



- The machine (2-tray model) + 250-sheet paper feed unit

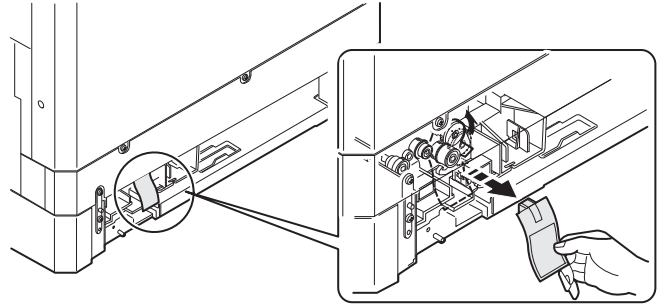


- The machine (1-tray model) + 2x250-sheet paper feed unit



7) Remove the connection gear lock.

Remove the connection gear lock (with the red tug) after setting.



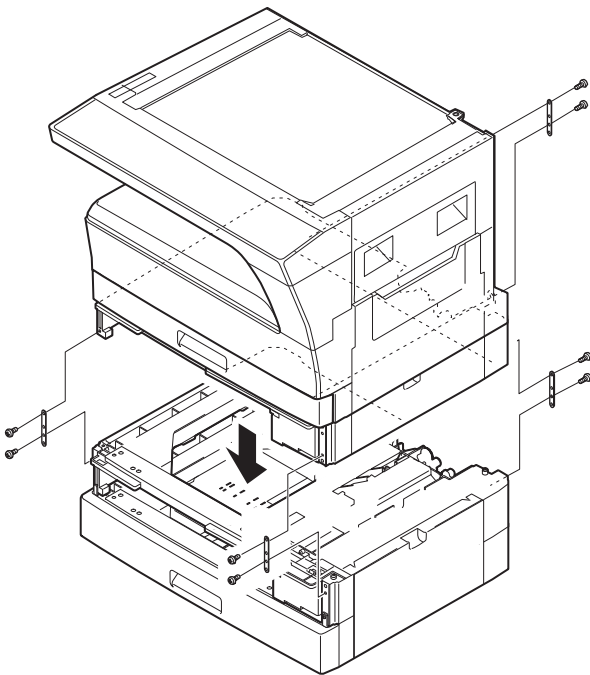
8) Connect the connector

Connect the optional relay harness contained in the 1-tray model (2-tray model) paper feed unit to the PWB of the machine.

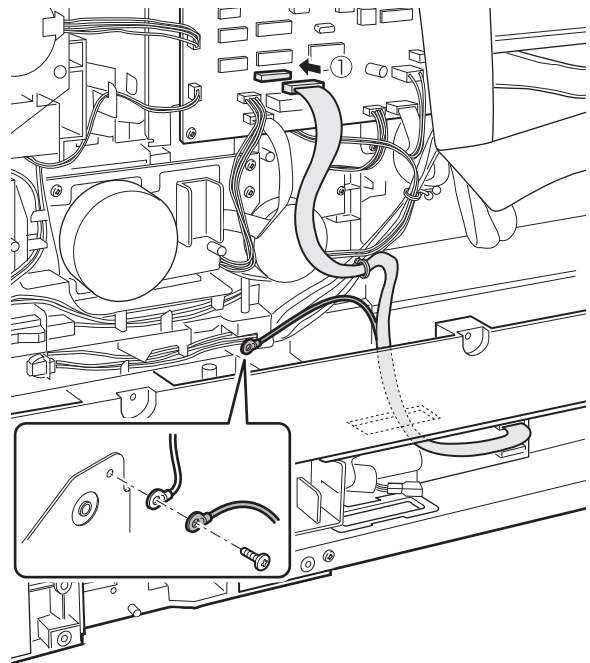
- Optional relay harness



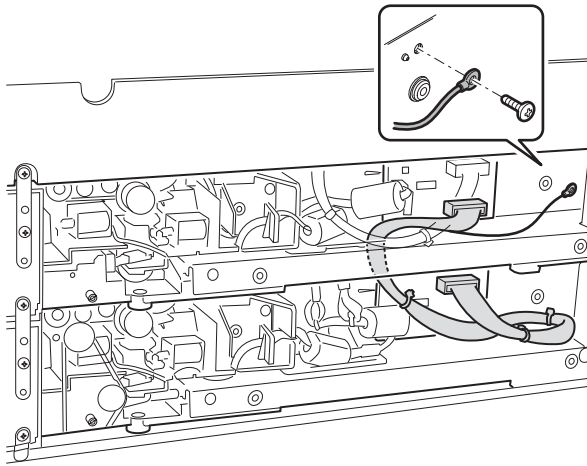
- The machine (2-tray model) + 2x250-sheet paper feed unit



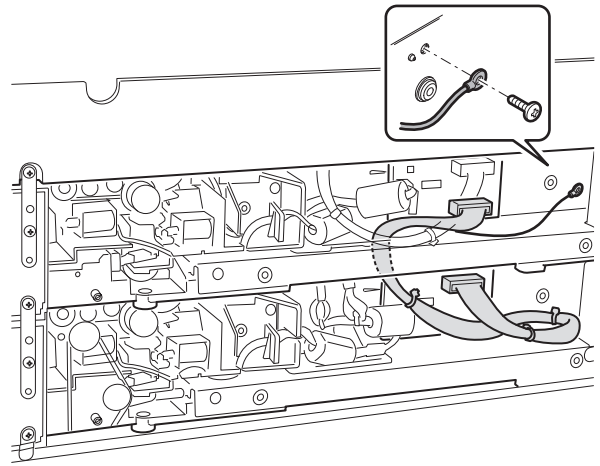
- The machine (1-tray model) + 250-sheet paper feed unit



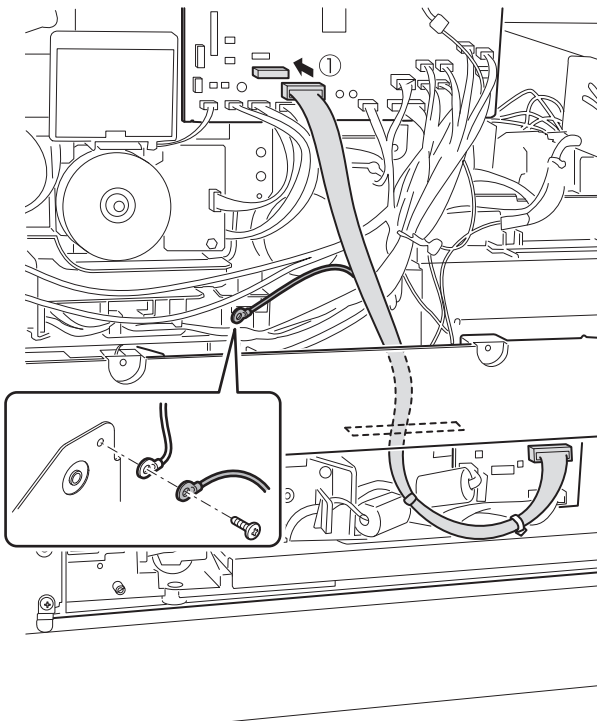
- The machiner (2-tray model) + 250-sheet paper feed unit



- The machine (2-tray model) + 2x250-sheet paper feed unit



- The machine (1-tray model) + 2x250-sheet paper feed unit

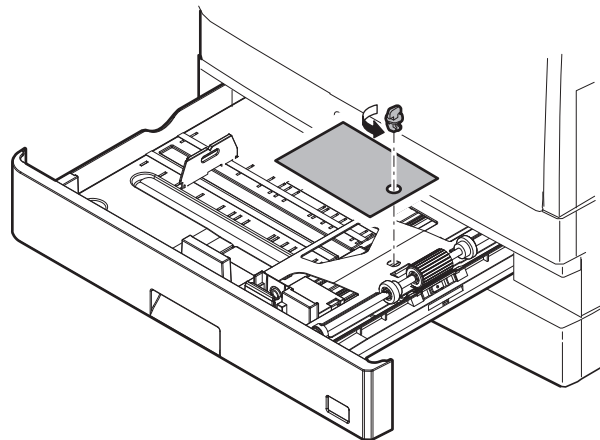


Note: When I have access to harness, I close it, and do a screw of the ground.

9) Remove the cassette packing fixtures.

Pull the cassette until it stops.

Turn and remove the packing lock fixture which is fixing the paper pressure plate inside the cassette in the direction of arrow.



[6]CHANGING THE COPY PAPER SIZE IN THE TRAY

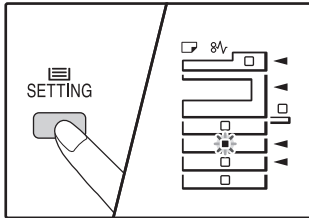
Note:

- The paper size setting cannot be changed when the machine has stopped temporarily due to running out of paper or a misfeed, or during interrupt copying.
- During printing (even in copy mode), the paper size setting cannot be changed.
- A5(5-1/2" x 8-1/2") size paper can only be selected in upper paper tray.
- Do not load paper that is a different size than the paper size setting. Copying will not be possible.

- 1) Hold down the [TRAY SETTING] key for more than 5 seconds to set the selected paper size.

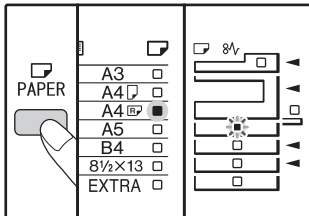
The tray location lamp that is selected currently will be blinking, and the paper size lamp corresponding to size of the paper set up will light up.

The indicator lamps except the paper size lamp and the start lamp will go out.



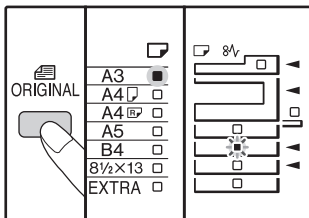
- 2) If the machine has two or more paper trays, use the [PAPER SELECT] key to select the paper tray for which you wish to change the paper size setting.

Each time the [PAPER SELECT] key is pressed, a paper tray will be indicated with a blinking paper feed location indicator.

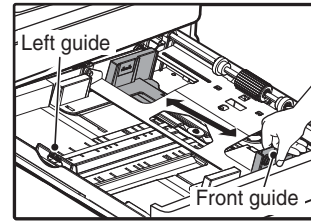


- 3) Use the [ORIGINAL] key to select the paper size.

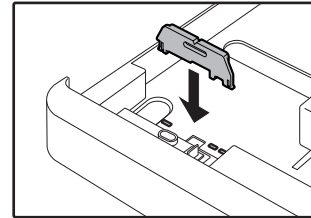
The indicator of the selected paper size lights up.



- 4) Squeeze the lock lever of the front guide and slide the front guide to match the width of the paper, and move the left guide to the appropriate slot as marked on the tray.

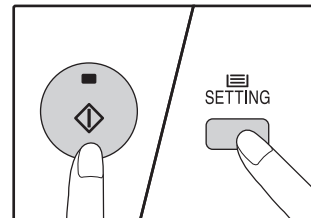


- The front guide is a slide-type guide. Grasp the locking knob on the guide and slide the guide to the indicator line of the paper to be loaded.
- The left guide is an insert-type guide. Remove it and then insert it at the indicator line of the paper to be loaded.
- When using 11" x 17" sized paper store the left guide in the slot at the left front of the paper tray.



- 5) Press the [START] key.

To change the paper size setting of another tray, repeat steps 2 to 5 after pressing the [START] key.



Note: Affix the paper size label for the paper size selected in step 3 to the label position on the right end of the tray.

[7]ADJUSTMENTS

1.Simulations

A. Entering the simulation mode

Simulation is hereinafter described as SIM.

Perform the following procedure to enter the SIM mode.

"#" key → Interrupt key → "C" key → Interrupt key → Main code →
Start key → Sub code → Start key

B. Canceling the SIM mode

When the clear all key is pressed, the SIM mode is cancelled.

When the interruption key is pressed, the process is interrupted and the screen returns to the sub code entering display.

* After canceling the SIM mode, be sure to turn OFF/ON the power and check the operation.

Note: If the machine is terminated by a jam error or paper empty during copying in the adjustment by the SIM, recopying is required.

2.Copier adjustment

A.Mechanism section

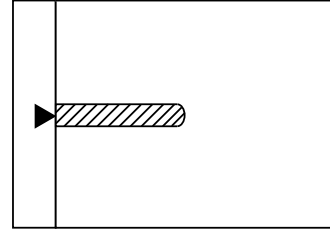
Note: If a jam error or paper empty occurs during copying in the adjustment by the simulation, the image data are not saved, and therefore recopying is required.

(1) Image position adjustment

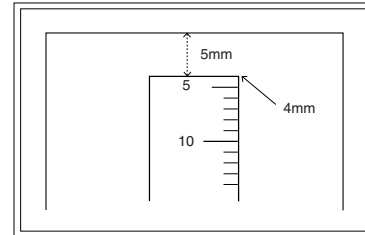
a.OC image lead edge position adjustment (SIM 50-1)

Note: In advance to this adjustment, the sub scanning magnification ratio adjustment must be performed.

- 1) Set a scale on the OC table as shown below.



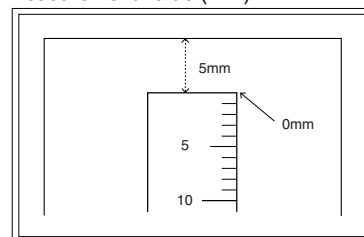
- 2) Make a copy.
- 3) Check the copy output. If necessary, perform the following adjustment procedures.
- 4) Execute SIM 50-1.
- 5) Set the OC lead edge position set value (PHOTO indicator ON) to [1]
The OC image scanning start position is shifted inside the document edge.
- 6) Set the 1st tray lead edge void adjustment value (TEXT indicator ON) * to [1]
The lead edge void becomes the minimum.
- 7) Set the 1st tray print start position value (AUTO, 1st tray indicator ON) to [1] and make a copy.
The print start position is shifted inside the document edge.



* The dimension varies depending on the model.

- 8) Measure the image loss R of the copied image. Enter the set value of the image scanning lead edge position (PHOTO indicator ON) again.
 - 1 step of the set value corresponds to about 0.1mm shift.
 - Calculate the set value from the formula below.
$$R/0.1(\text{mm}) = \text{Image loss set value}$$

<R: Image loss measurement value (mm)>



* The scanning edge is set.
(A line may be printed by scanning the document edge.)

Example: $4/0.1 = 40 = \text{about } 40$

Note: If the set value is not obtained from the above formula, perform the fine adjustment.

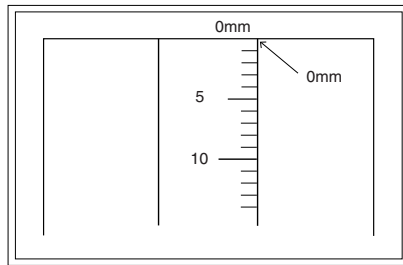
- 9) Measure the distance H between the paper lead edge and the image print start position. Set the image print start position set value (AUTO, 1st tray indicator ON) again.

•1 step of the set value corresponds to about 0.1mm shift.

•Calculate the set value from the formula below.

$H/0.1(\text{mm}) = \text{Image print start position set value}$

<H: Print start position measurement value (mm)>



*Fit the print edge with the paper edge, and perform the lead edge adjustment.

Example: $5/0.1 = 50 = \text{about } 50$

Note: If the set value is not obtained from the above formula, perform the fine adjustment.

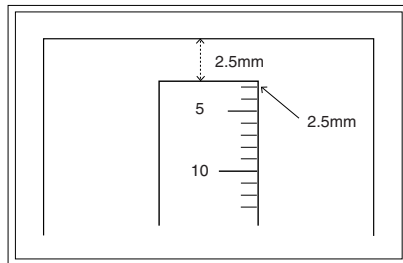
- 10) Set the lead edge void adjustment value (TEXT indicator ON)* again.

•1 step of the set value corresponds to about 0.1mm shift.

•Calculate the set value from the formula below.

$B/0.05(\text{mm}) = \text{Lead edge void adjustment value}$

<B: Lead edge void (mm)>



Example: When setting the lead edge void to 2.5mm

$2.5/0.05 = \text{about } 50$

Note: If the set value is not obtained from the above formula, perform the fine adjustment.

* 2nd tray lead edge void adjustment: Exposure display <<AUTO + TEXT + PHOTO>>

Bypass tray lead edge void adjustment: (TEXT indicator and PHOTO indicator ON)

<Duplex mode adjustment>

OC 2nd print surface (Auto duplex) lead edge position adjustment: SIM50-19 <<PHOTO>>

* For the adjustment procedure, set to S → D mode before execution.

Note: Before performing the 2nd print surface lead edge position adjustment and the lead edge void adjustment, be sure to perform the 1st print surface lead edge position adjustment in advance, and be sure to perform the 2nd print surface lead edge position adjustment and then the lead edge void adjustment in this sequence.

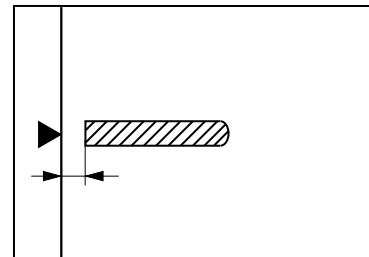
<Adjustment specification>

Adjustment mode	SIM	LED	Set value	Spec value	Set range
OC image lead edge position	SIM 50-1	PHOTO	R/0.1	Lead edge void: 1 - 4mm Image loss: 3mm or less	1 ~ 99
1st tray print start position		AUTO + 1st tray	B/0.1		
2nd tray print start position		AUTO + 2nd tray			
Bypass tray print start position		AUTO + Bypass tray			
Lead edge void		TEXT	B/0.05		
OC 2nd print surface lead edge position adjustment	SIM 50-19*	PHOTO	1 step: 0.1mm shift		

* (Set to S → D mode for before execution)

b.SPF image lead edge position adjustment (SIM50-6)

- 1) Set a scale on the OC table as shown below.



Note: Since the printed copy is used as a test chart, put the scale in parallel with the edge lines.

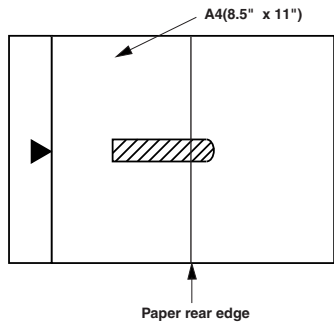
- 2) Make a copy. Then use the copy output as an original to make an SPF copy again.
- 3) Check the copy output. If necessary, perform the following adjustment procedures.
- 4) Execute SIM 50-6.
- 5) Set the SPF lead edge position set value (AUTO indicator ON) so that the same image is obtained as that obtained in the previous OC image lead edge position adjustment.

<Adjustment specification>

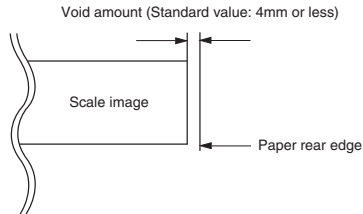
Adjustment mode	SIM	LED	Set value	Spec value	Set range
SPF image lead edge position (1st print surface)	SIM 50-6	AUTO	1 step: 0.1mm shift	Lead edge void: 1 - 4mm Image loss: 3mm or less	1 ~ 99
(2nd print surface)		TEXT			

c.Rear edge void adjustment (SIM50-1, SIM50-19)

- 1) Set a scale as shown in the figure below.



- 2) Set the document size to A4 (8.5" x 11"), and make a copy at 100%.
- 3) If necessary, perform the following adjustment procedure.



- 4) Execute SIM 50-1 and set the density mode to AUTO + TEXT + PHOTO (Rear edge void).The currently set adjustment value is displayed.
- 5) Enter the set value and press the [START] key. The correction value is stored and a copy is made.

<Duplex mode adjustment>

- * 1st print surface (auto duplex) rear edge void adjustment: SIM50-19 <<AUTO>>
- * 2nd print surface (auto duplex) rear edge void adjustment: SIM50-19<<TEXT>>
- * Set to S → D mode before execution.

Note: Before performing the 2nd print surface rear edge void adjustment, be sure to perform the 2nd print surface lead edge position adjustment. Never reverse the sequence.

<Adjustment specification>

Mode	SIM	LED	Set value	Speci- fication	Set range
Rear edge void	SIM 50-1	AUTO + TEXT + PHOTO	1 step: 0.1mm shift	4mm or less	1 ~ 99
1st print surface rear edge void	SIM 50-19*	AUTO			
2nd print surface rear edge void	SIM 50-19*	TEXT			

- * Set to S → D mode before execution

d. Paper off center adjustment (SIM50-10)

- 1) Set a test chart (UKOG-0089CSZZ) on the document table.
- 2) Select a paper feed port and make a copy. Compare the copy and the test chart. If necessary, perform the following adjustment procedure.
- 3) Execute SIM 50-10. After completion of warm-up, shading is performed and the currently set off center adjustment value of each paper feed port is displayed.
- 4) Enter the set value and press the [START] key. The correction value is stored and a copy is made.

<Duplex mode adjustment>

- * 2nd print surface (auto duplex) off-center adjustment: SIM50-10 (TEXT, 1st tray indicator)

<Adjustment specification>

Mode	SIM	LED	Set value	Specifi- cation	Set range
Paper off center	SIM 50-10	AUTO + Selected tray ON	Add 1: 0.1mm shift to R side.	Single: Center ±2.0mm	1 ~ 99
2nd print surface off- center	SIM 50-10	TEXT + 1st tray	Reduce 1: 0.1mm shift to L side.	Duplex: Center ±2.5mm	

e.Side edge void area adjustment (SIM26-43)

Note: Before performing this adjustment, be sure to check that the paper off center adjustment (SIM 50-10) is completed.

- 1) Set a test chart (UKOG-0089CSZZ) on the document table.
 - 2) Select a paper feed port and make two copies. Compare the 2nd copy and the test chart. If necessary, perform the following adjustment procedure.
- * The 1st copy does not show the void. Be sure to check the 2nd copy.
- 3) Execute SIM 26-43 and set the density mode to AUTO(right edge void) + TEXT (Left edge void). The currently set adjustment value is displayed.
 - 4) Enter the set value and press the [START] key. The correction value is stored.

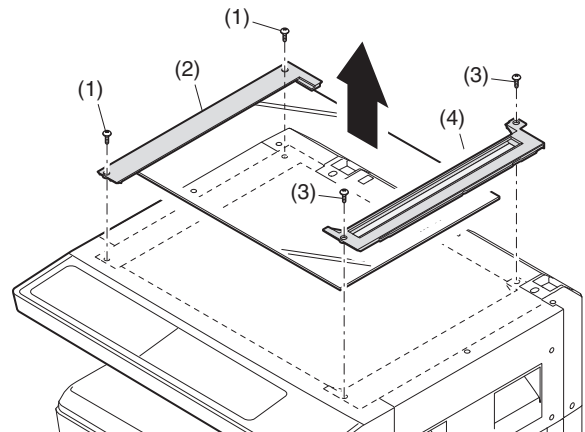
<Adjustment specification>

ode	SIM	LED	Set value	Specifi- cation	Set range
Left edge void	SIM 26-43	AUTO (right edge) + TEXT (left edge)	1 step: 0.5mm shift	0 ~ 10mm	0 ~ 10

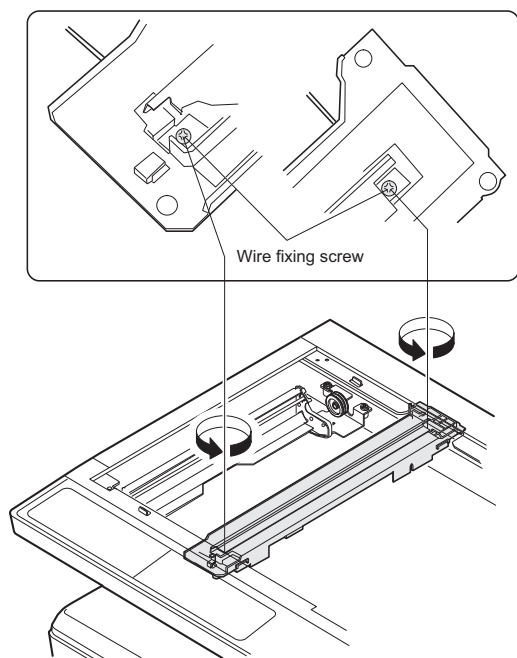
- * The void adjustment values on the right and the left must be the same.

(2) Main scanning direction(FR direction) distortion balance adjustment

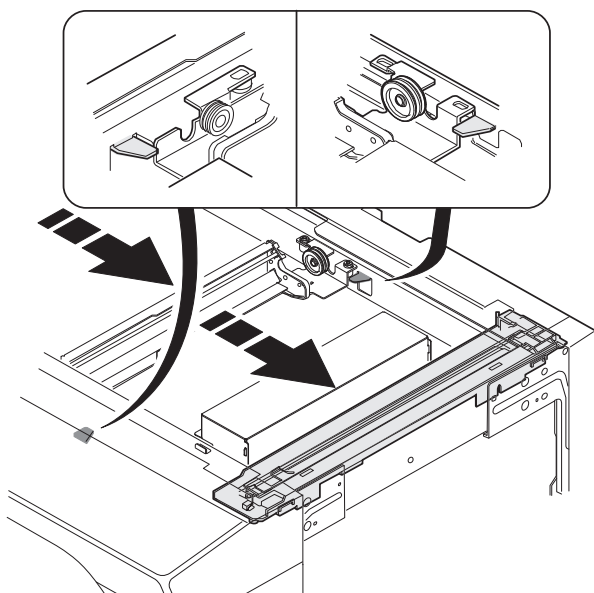
- 1) Remove the OC glass and the right cabinet.



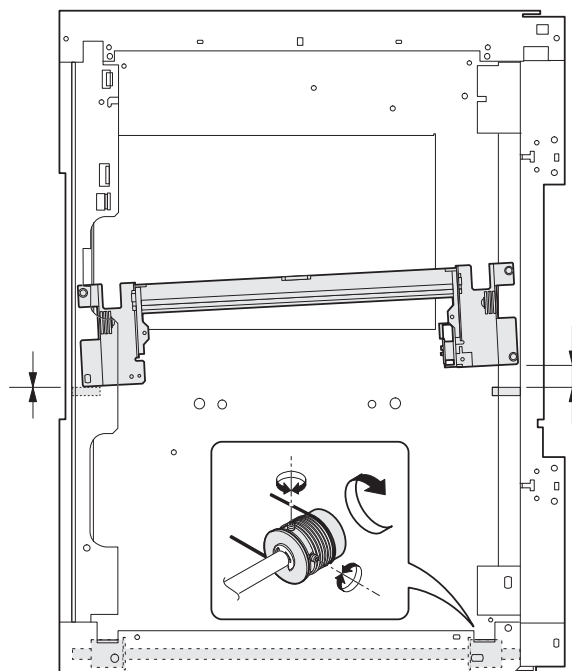
- 2) Loosen the copy lamp unit wire fixing screw.



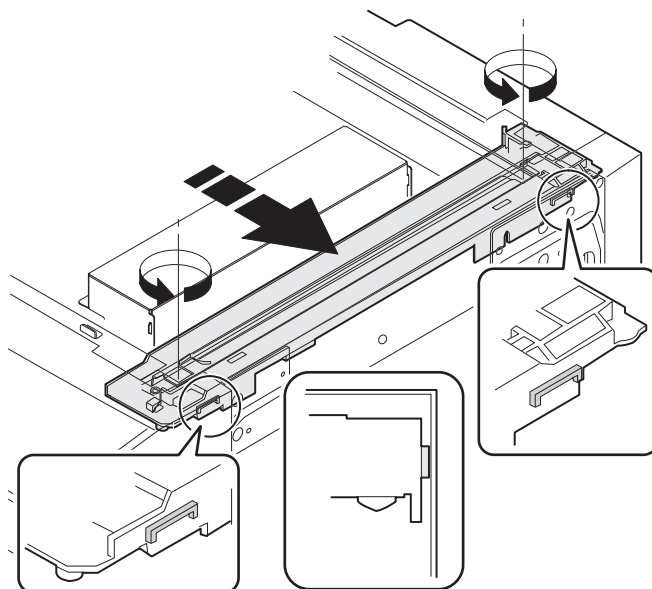
- 3) Manually turn the mirror base drive pulley and bring No. 2/3 mirror base unit into contact with the positioning plate. At that time, if the front frame side and the rear frame side of No. 2/3 mirror base unit are brought into contact with the positioning plate at the same time, the mirror base unit parallelism is proper. If one of them is in contact with the positioning plate, perform the adjustment of 4).



- 4) Loosen the set screw of the scanner drive pulley which is not in contact with No. 2/3 mirror base unit positioning plate.
- 5) Without moving the scanner drive pulley shaft, manually turn the scanner drive pulley until the positioning plate is brought into contact with No. 2/3 mirror base unit, then fix the scanner drive pulley.



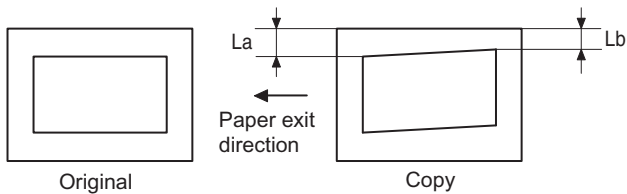
- 6) Put No. 2/3 mirror base unit on the positioning plate again, push the projections on the front frame side and the rear frame side of the copy lamp unit to the corner frame, and tighten the wire fixing screw.



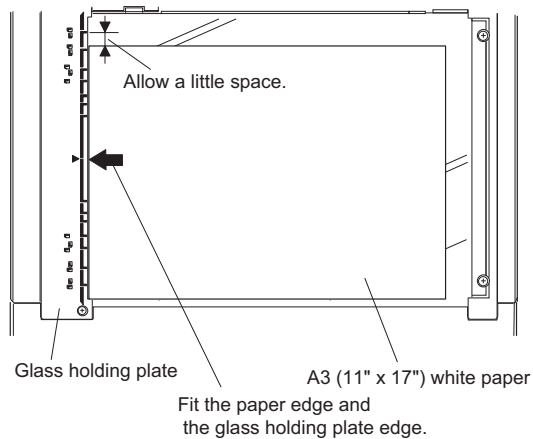
(3) Main scanning direction (FR direction) distortion adjustment

This adjustment must be performed in the following cases:

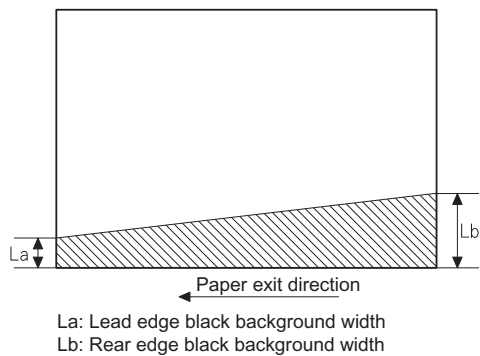
- When the mirror base drive wire is replaced.
- When the lamp unit, or No. 2/3 mirror holder is replaced.
- When a copy as shown is made.



- 1) Set A3 (11" x 17") white paper on the original table as shown below.

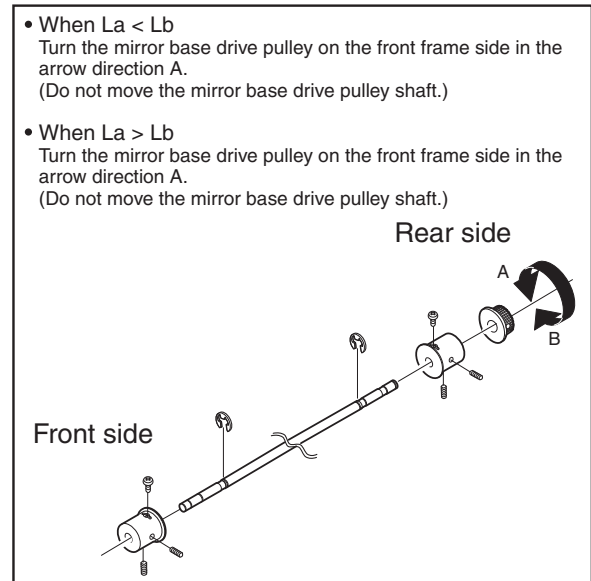


- 2) Open the original cover and make a normal (100%) copy.
- 3) Measure the width of the black background at the lead edge and at the rear edge.



If the width (La) of the black background at the lead edge is equal that (Lb) at the rear edge, there is no need to execute the following procedures of 4) ~ 7).

- 4) Loosen the mirror base drive pulley fixing screw on the front frame side or on the rear frame side.



- 5) Tighten the mirror base drive pulley fixing screw.

<Adjustment specification>

$La = Lb$

- 6) Execute the main scanning direction (FR) distortion balance adjustment previously described in 2) again.

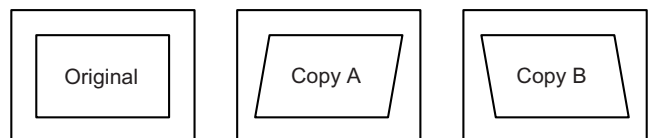
(4) Sub scanning direction (scanning direction) distortion adjustment

When there is no skew copy in the mirror base scanning direction and there is no horizontal error (right angle to the scanning direction), the adjustment can be made by adjusting the No. 2/3 mirror base unit rail height.

Before performing this adjustment, be sure to perform the horizontal image distortion adjustment in the laser scanner section.

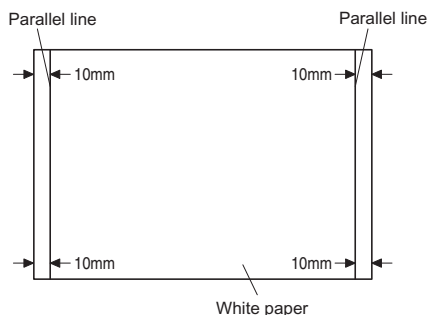
This adjustment must be performed in the following cases:

- When the mirror base wire is replaced.
- When the copy lamp unit or No. 2/3 mirror unit is replaced.
- When the mirror unit rail is replaced or moved.
- When a following copy is made.

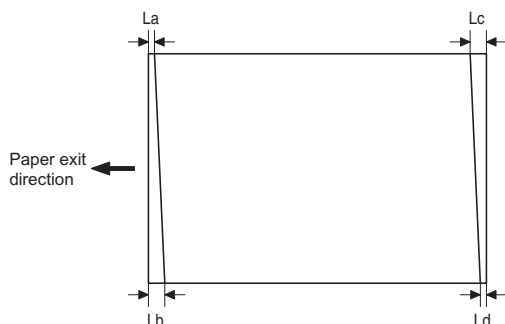


1) Making of a test sheet

Make test sheet by drawing parallel lines at 10mm from the both ends of A3 (11" x 17") white paper as shown below. (These lines must be correctly parallel to each other.)

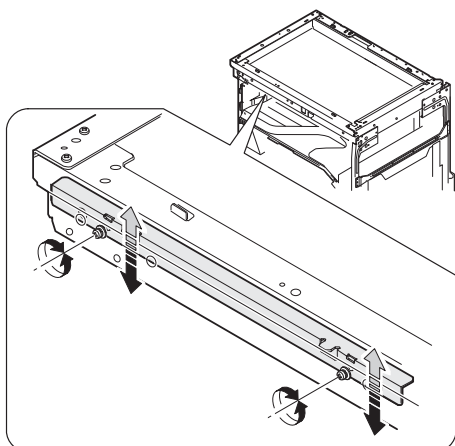


- 2) Make a normal (100%) copy of the test sheet on A3 (11" x 17") paper. (Fit the paper edge with the glass holding plate edge.)
- 3) Measure the distances (L_a , L_b , L_c , L_d) at the four corners as shown below.



When $L_a = L_b$ and $L_c = L_d$, no need to perform the procedures 4) and 5).

- 4) Move the mirror base F rail position up and down (in the arrow direction) to adjust.



Note: Do not adjust the rail on the rear side.

If the rail on the rear side is adjusted, a trouble may be caused.

Only the rail on the front side can be adjusted.

- When $L_a > L_b$
Shift the mirror base B rail upward by the half of the difference of $L_a - L_b$.
 - When $L_a < L_b$
Shift the mirror base B rail downward by the half of the difference of $L_b - L_a$.
Example: When $L_a = 12\text{mm}$ and $L_b = 9\text{mm}$, shift the mirror base B rail upward by 1.5mm.
 - When $L_c > L_d$
Shift the mirror base B rail downward by the half of the difference of $L_c - L_d$.
 - When $L_c < L_d$
Shift the mirror base B rail downward by the half of the difference of $L_d - L_c$.
- * When moving the mirror base rail, hold the mirror base rail with your hand.

<Adjustment specification>

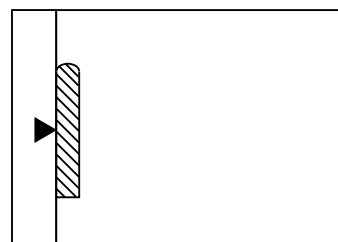
$$L_a = L_b, L_c = L_d$$

- 5) After completion of adjustment, manually turn the mirror base drive pulley, scan the mirror base A and mirror base B fully, and check that the mirror bases are not in contact with each other.
- * If the mirror base rail is moved extremely, the mirror base may be in contact with the frame or the original glass. Be careful to avoid this.

(5) Main scanning direction (FR direction) magnification ratio adjustment (SIM 48-1)

Note: Before performing this adjustment, be sure to check that the CCD unit is properly installed.

- 1) Put a scale on the original table as shown below.



- 2) Execute SIM 48-1.
- 3) After warm-up, shading is performed and the current set value of the main scanning direction magnification ratio is displayed on the display section in 2 digits.
- 4) Select the mode and press the [START] key again.
- 5) Manual correction mode (TEXT indicator ON)
Enter the set value and press the [START] key.
The set value is stored and a copy is made.

<Adjustment specification>

Note: A judgment must be made with 200mm width, and must not be made with 100mm width.

Mode	Specification	SIM	Set value	Set range
Main scanning direction magnification ratio	At normal: $\pm 1.0\%$	SIM 48-1	Add 1:0.1% increase Reduce 1: 0.1% decrease	1 ~ 99

(6) Sub scanning direction (scanning direction) magnification ratio adjustment (SIM 48-1, SIM 48-5)

a. OC mode in copying (SIM48-1)

Note: Before performing this adjustment, be sure to check that the CCD unit is properly installed.

- Put a scale on the original table as shown below, and make a normal (100%) copy.
- Compare the scale image and the actual image. If necessary, perform the following adjustment procedures.
- Execute SIM 48-1.<<PHOTO>>
- After warm-up, shading is performed and the current set value of the main scanning direction magnification ratio is displayed on the display section in 2 digits.
- When the photo indicator is lighted by pressing the AUTO/TEXT/PHOTO key, the current magnification ratio correction value in the sub scanning direction is displayed in lower 2 digits of the display section.
- Enter the set value and press the [START] key.
The set value is stored and a copy is made.

<Adjustment specification>

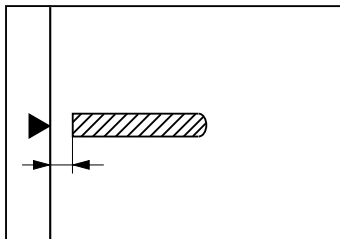
Mode	Specification	SIM	Set value	Set range
Sub scanning direction magnification ratio (OC mode)	Normal $\pm 1.0\%$	SIM 48-1 (PHOTO)	Add 1:0.1% increase Reduce 1: 0.1% decrease	1 ~ 99

b. RSPF sub scanning direction magnification ratio (SIM48-5)

Note:

- Before performing this adjustment, be sure to check that the CCD unit is properly installed.
- Before performing this adjustment, the OC mode adjustment in copying must be completed.

- Put a scale on the original table as shown below, and make a normal (100%) copy to make a test chart.



Note: Since the printed copy is used as a test chart, put the scale in parallel with the edge lines.

- Set the test chart on the SPF and make a normal (100%) copy.
- Compare the scale image and the actual image. If necessary, perform the following adjustment procedures.
- Execute SIM 48-5.
- After warm-up, shading is performed.
The AUTO indicator lights up and the current front surface sub scanning direction magnification ratio correction value is displayed in two digits on the display section.

- Enter the set value and press the [START] key.
The set value is stored and a copy is made.
- Change the mode from the duplex original mode to the simplex original mode.
TEXT indicator lights up and the current back surface sub scanning direction magnification ratio is displayed in two digits on the display section.
- Enter the set value and press the [START] key.
The set value is stored and a copy is made.

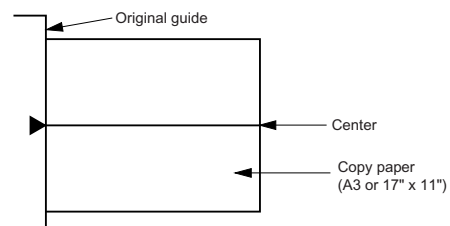
<Adjustment specification>

Mode	Specification	SIM	Set value	Set range
Sub scanning direction magnification ratio (SPF mode)	Normal $\pm 1.0\%$	SIM 48-5	Add 1:0.1% increase Reduce 1: 0.1% decrease	1 ~ 99

(7) Off center adjustment (SIM 50-12)

a. OC mode (SIM50-12)

- Make a test chart as shown below and set it so that its center line is fit with the original guide center mark.
 - To make a test chart, draw a line on A3 or 17" x 17" paper at the center in the paper transport direction.



- Make a normal copy from the bypass tray, and compare the copy and the test chart.
If necessary, perform the following adjustment procedures.
- Execute SIM 50-12.
- After warm-up, shading is performed and the current set value of the off center adjustment is displayed on the display section in 2 digits.
- Enter the set value and press the [START] key.
The set value is stored and a copy is made.

<Adjustment specification>

Mode	Specification	SIM	Set value	Set range
Original off center mode (OC mode)	Single: Center $\pm 2.0\text{mm}$	SIM 50-12 (AUTO indicator ON)	Add 1: 0.1mm shift to R side Reduce 1: 0.1mm shift to L side	1 ~ 99

b. SPF original off-center adjustment (SIM50-12)

Note: Before performing this adjustment, be sure to check that the paper off center is properly adjusted.

- 1) Make a test chart for the center position adjustment and set it on the SPF.

<Adjustment specification>

Draw a line on a paper in the scanning direction.

- 2) Make a normal copy from the bypass tray, and compare the copy and the original test chart.
If necessary, perform the following adjustment procedures.
- 3) Execute SIM 50-12.
- 4) After warm-up, shading is performed and the current set value of the off center adjustment at each paper feed port is displayed on the display section in 2 digits.
- 5) Enter the set value and press the [START] key.
The set value is stored and a copy is made.

<Adjustment specification>

Mode	Specification	SIM	Set value	Set range
Original off center mode (SPF mode)	Single: Center $\pm 3.0\text{mm}$ (TEXT indicator)	SIM 50-12	Add 1: 0.1mm shift to R side	1 ~ 99
	Duplex: Center $\pm 3.5\text{mm}$ (PHOTO indicator)		Reduce 1: 0.1mm shift to L side	

(8) SPF white correction pixel position adjustment(SIM63-7) (required in an SPF model when replacing the lens unit)

- 1) Fully open the SPF.
- 2) Execute SIM 63-7.
If the value is 93 - 229, it is displayed on the display and written into the EEPROM.
If the value is 0 - 92 or 230 - 999, it is displayed on the display but not written into the EEPROM.
If the value is 1000 or above, "--" is displayed on the display and it is not written into the EEPROM.

•When the display is 0:

Check that the SPF is open.

Check that the lamp is ON.(If the lamp is OFF,check the MCU connector.)

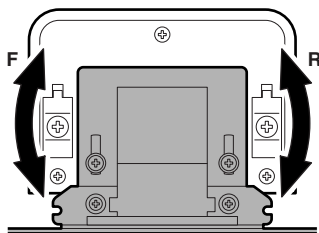
Check that the CCD harness is properly inserted into the MCU connector.

•When the display is 281 or above:

- 1) Remove the table glass.
- 2) Remove the dark box.
- 3) Slide the lens unit toward the front side and attach it,then execute SIM.

•When the display is 143 or below:

- 1) Remove the table glass.
- 2) Remove the dark box.
- 3) Slide the lens unit toward the rear side and attach it,then execute SIM.



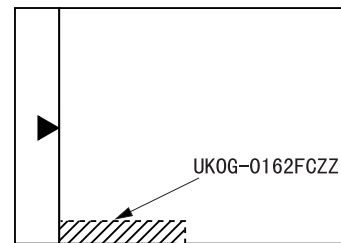
* When the lens unit is moved,execute the OC main scanning magnification ratio auto adjustment,SIM 48-1-1,SIM48-3 and the PF original off-center adjustment.

* This adjustment is basically O.K.with SIM 63-7.

B.Image density adjustment

(1)Copy mode (SIM 46-2)

- 1)Set a test chart (UKOG-0162FCZZ) on the OC table as shown below.



- 2) Put several sheets of A3 or 11" x 17" white paper on the test chart.
- 3) Execute SIM 46-2.
- 4) After warm-up, shading is performed and the current set value of the density level is displayed on the display section in 2 digits.
For mode selection, use the AUTO/TEXT/PHOTO key.
- 5) Change the set value with the Numeric keys to adjust the copy image density.
- 6) Make a copy and check that the specification below is satisfied.

<Adjustment specification>

Density mode	LED	Exposure level	Sharp Gray Chart output	Set value	Set range
Auto	Auto	-	"2" is slightly copied.	The greater the set value is the greater the density is The smaller the set value is the smaller the density is.	1 ~ 99
Text	Text	3	"3" is slightly copied.		
Photo (Error diffusion)	Photo	3	"2" is slightly copied.		
Toner save	Auto/ Photo	-	"2" is slightly copied		
Toner save	Text/ Photo	3	"3" is slightly copied		
Photo (Dither)	Auto/ Text/ Photo	3	"2" is slightly copied		



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