



## **ADJUSTMENT**



## HOW TO USE THIS SECTION

### [1] Scope and Precautions

This section provides detailed information about the 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 machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that produce electrical noise).
4. Check whether the installation environment is good.
  - a. The machine must be installed in a properly ventilated area not exposed to high temperature, high humidity, and direct sunlight.
  - b. The machine must be installed on the horizontal floor.
5. Check whether original has a problem to cause the defective image.
6. Check whether the selected density value is correct.
7. Check whether the surface of the platen glass and the slit glass are clean.
8. Check whether correct paper is used for copying.
9. Check whether copying materials and parts (e.g., developer, drum, and cleaning blade) are replenished and replaced when they reach the end of the useful life.
10. Check whether toner remains.

When servicing the machine, observe the following precautions:

1. Only either side of the AC line is shut off when the SW1 (main) of this machine is turned off. Always unplug the power cord before starting the service work. If it is necessary to service the machine with the power on, take care not to be caught in the scanning gear of the exposure unit.
2. Special care should be taken when handling the fixing unit because it operates at extremely high temperatures.
3. The developing unit has a strong magnetic field. Keep watches and measuring equipment away from it.
4. Take care not to damage the drum with tools and so on.
5. 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.

### [1] How to Read Tables

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

#### 1. Mode

Adjustment mode to be selected.

[P]: Utility mode

[25]: 25 mode

[36]: 36 mode

[47]: 47 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

Item No.	Classification by Adjustment	Adjustment Item	Mode	Page	Drum	Developer	High Voltage unit	Write unit	Dust-proof glass	Each tray unit	Bypass paper feed unit	Paper up/down plate hoist wires	Tray pick-up solenoid	Registration roller	Registration unit	Registration Clutch	Mis-centering detection sensor	ADU unit	Read unit	Fixing unit	Memory board	EDH unit	Finisher
1	Process Adjustment	High voltage adjustment	High Voltage Auto Adjustment	2-50			O														O		
2		Drum Peculiarity Adjustment	Blade setting mode	2-51	①																O		
3			Auto drum potential adjustment	2-52	②	②		②	②												O		
4			Auto maximum density adjustment (Dmax adjustment)	2-52	③	③		①	①												O		
5			Auto dot diameter adjustment	2-53	④	④															O		
6			LD1 offset adjustment	2-53	⑤	⑤															O		
7			LD2 offset adjustment	2-54	⑥	⑥		③	③												O		
8			Auto Gamma Adjustment	2-56	⑦	⑦															O		
9			Cartridge set mode	2-56	⑧	①															O		
10	Image Adjustment	Tray Adjustment		2-58						O	O										O		
11		Magnification Adjustment	Printer vertical magnification adjustment	2-59										O	O						O		
12			Printer horizontal magnification adjustment	2-60				O													O		
13			Scanner (platen) vertical adjustment	2-60															O		O		
14			Scanner (EDH) vertical magnification adjustment	2-61															O		O	O	
15		Timing Adjustment	Printer restart timing adjustment	2-62			O							O	O	O					O		
16			Printer resist loop adjustment	2-63																	O		
17			Printer pre-resist adjustment	2-63																	O		
18			Printer lead edge timing adjustment	2-64																	O		
19		EDH Adjustment	Scanner restart timing adjustment	2-64																O		O	
20			EDH restart timing adjustment	2-65																O		O	O
21			EDH resist loop adjustment	2-65																O		O	
22			EDH density adjustment	2-66																O		O	O
23			EDH original size adjustment	2-67																	O		
24			EDH sensor sensitivity adjustment	2-67																	O	O	
25			EDH skew offset adjustment	2-68																			
26		Centering Adjustment	Printer centering adjustment	2-69													O				O		
27			Scanner centering adjustment	2-69																	O	O	
28			EDH centering adjustment	2-70															O		O	O	
29		Warp adjustment (Copier)	Scanner (platen) warp (main scan)	2-70																	O		
30			Scanner (platen) warp (sub-scan)	2-70																	O		
31			Scanner (EDH) warp (main scan)	2-70																	O		
32			Scanner (EDH) warp (sub-scan)	2-70																	O		
33	Finisher Adjustment	Stapling and folding stopper adjustment (FN-7 only)		2-81																	O		O
34		Folding stopper adjustment (FN-7 only)		2-81																	O		O
35		Cover sheet tray size adjustment (Cover Inserter C only)		2-82																	O		O
36		Trimmer stopper adjustment (TMG-2 only)		2-82																	O		O
37		Punch vertical position adjustment (PK-3 / ZK-2 only)		2-83																	O		O
38		Punch horizontal position adjustment (PK-3 / ZK-2 only)		2-83																	O		O
39		Punch registration loop adjustment (PK-3 / ZK-2 only)		2-84																	O		O
40		1st folding position adjustment (ZK-2 only)		2-84																	O		O
41		2nd folding position adjustment (ZK-2 only)		2-84																	O		O


Item No.	Classification by Adjustment	Adjustment Item	Mode	Page	Drum	Developer	High Voltage unit	Write unit	Dust-proof glass	Each tray unit	Bypass paper feed unit	Paper up/down plate hoist wires	Tray pick-up solenoid	Registration roller	Registration unit	Registration Clutch	Mis-centering detection sensor	ADU unit	Read unit	Fixing unit	Memory board	EDH unit	Finisher
42	Centering Adjustment			2-101																			
43	Paper up/down plate horizontal adjustment			2-105																			
44	Skew Adjustment			2-107																			
45	Tray Spring Pressure Adjustment			2-109																			
46	Paper Feed Height (Upper Limit) Adjustment			2-111																			
47	Pick-up Release Amount Adjustment			2-113																			
48	Alignment with drive unit			-																			
49	AC and DC drawer positioning			-																			
50	ADU gate gap adjustment			-																			
51	EDH Mounting Position Adjustment			2-115																			
52	EDH Hinge Spring Pressure Adjustment			2-118																			
53	EDH Skew Adjustment			2-116																			
54	Drum count reset			2-40		O																	
55	Fixing cleaning web count reset		25	2-40																			
56	Developer count reset			2-40		O																	


**Caution:** Replacing the image control board

- When a damaged image control board is replaced, the memory board on this board must be used on the new image control board.  
Only when the memory board is damaged, use a new memory board. Since the new memory board does not have adjustment data, the above adjustments are required. Before making the above adjustments, make the "47-92(output)" setting to make the new memory board effective.
- After making any adjustment, make the "47mode-96(output) setting". After made the "47mode-96(output)" setting, the adjustment data is saved.
- However, the "47mode -92" and "-96" settings are protected to prevent them from careless operation. In order to make "47mode -92" and "-96" settings using the saved adjustment data, the protection must be disabled. For the unprotection method, contact the service section of the authorized distributor.


## LCD ADJUSTMENT

### [1] Control Panel Adjustment

Enter the key operator mode and select "  Touch panel adjustment" to adjust the LCD touch panel.

\*If you cannot select the touch panel adjustment mode after entering the key operator mode because the touch panel is displaced absolutely, press numeric keys to select "  Touch panel adjustment".


### [2] LCD Panel Contrast/Key Sound Adjustment

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



## SETTINGS AND ADJUSTMENTS MADE WITH THE UTILITY FUNCTION

The Utility function allows you to perform following numerical value checks using the Utility key:




1. Total counter
2. Copier counter
3. Printer counter
4. \* PM counter
5. Density Shift (Auto <Text/Photo>)
6. Density Shift (Increase Contrast)
7. Density Shift (Photo)
8. Density Shift (Text)

\* PM counter is only displayed when  Check key is pressed on the counter list view screen.

### [1] Checking and Printing the Utility function

1. Turn ON the main switch.
2. Press the Utility key.
3. Counter list is displayed.
4. Press the  key.
5. Press the START button to print out the counter list. The Utility function is cancelled automatically.
6. If the counter list need not be displayed, press the  key.

### [2] Setting up the Utility function

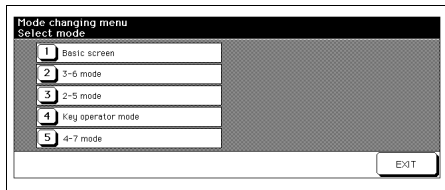
1. Turn ON the main switch.
2. Press the  key.
3. Press the Text/Photo ENHANCE key to set the density shift, then press the Utility key.
4. Enter a value (0-5) with a numeric key, then press the  key. The smaller the value, the darker the density.
5. Press the  key to return to the Basic screen.

# MODE CHANGING MENU

## [1] Mode Selection

You can select a mode from the following [Mode changing menu]: [Select mode] without turning OFF and ON the power switch.

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



Step	Operation
1	Turn on the main switch.
2	Press Utility key and wait until <b>[Enter password for mode selection]</b> 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 <b>[Mode changing menu]</b> , press Utility key and wait until the menu appears again.
6	Upon completion of the adjustment, press <b>[EXIT]</b> key to return to the Basic screen.

## [2] Display transition of 36 modes

x : Factory exclusive use. Service is not used.

## 3-6 Modus / Adjustment mode

- 1 Process adjustment
- 2 Image adjustment
- 3 Running test mode
- 4 Test pattern output mode
- 5 Test pattern density setting
- 6 Finisher adjustment
- 7 List output mode

## Process adjustment mode menu

- 1 High voltage adjustment
- 2 Drum peculiarity adjustment
- 3 Drum peculiarity adjustment (hand op) x
- 4 User paper setting
- 5 Recall standard data

## Image adjustment mode menu

- 1 Tray adjustment
- 2 Magnification adjustment
- 3 Timing adjustment
- 4 EDH adjustment
- 5 Centering adjustment
- 6 Warp adjustment (Copier)
- 7 Non-image area erase check
- 8 Recall standard data

## Running test mode menu

- 1 Intermittent copy mode
- 2 Paperless running mode
- 3 Paperless mode
- 4 Paperless endless mode
- 5 Running mode

## Finisher adjustment mode menu

- 1 Stapling&Folding stopper adjustm.
- 2 Folding stopper adjustment
- 3 Cover sheet tray size adjustment
- 4 Trimmer stopper adjustment
- 5 Punch adjustment
- 6 Z-Folding position adjustment

## List output mode menu

- 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

## High voltage adjustment mode menu

- 1 High voltage auto adjustment
- 2 HV adjustment (Transfer) x
- 3 HV adjustment (Transfer) x
- 4 HV adjustment (Separation-AC) x
- 5 HV adjustment (Separation-DC) x
- 6 HV adjustment (Charging grid voltage) x
- 7 HV adjustment (Bias of development) x
- 8 Transfer guide confirm x

## Drum peculiarity adjustment mode menu

- 1 Blade setting mode
- 2 Auto drum potential adjustment
- 3 Auto maximum density adjustment
- 4 Auto dot diameter adjustment
- 5 LD 1 offset adjustment
- 6 LD 2 offset adjustment
- 7 LD 1 bias adjustment x
- 8 LD 2 bias adjustment x
- 9 LD sub-pitch offset adjustment x
- 10 Auto gamma adjustment(1dot)
- 11 Cartridge set mode

## Magnification adjustment mode menu

- 1 Printer drum clock adjustment
- 2 Printer horizontal adjustment
- 3 Scanner drum clock adjustment
- 4 EDH drum clock adjustment

## Timing adjustment mode menu

- 1 Printer restart timing adjustment
- 2 Printer resist loop adjustment
- 3 Printer pre-resist adjustment
- 4 Printer lead edge timing adjustment
- 5 Scanner restart timing adjustment
- 6 EDH restart timing adjustment
- 7 EDH resist loop adjustment

## EDH adjustment mode menu

- 1 EDH density adjustment
- 2 EDH original size adjustment
- 3 EDH sensor sensitivity adjustment

## Centering adjustment mode menu

- 1 Printer centring adjustment
- 2 Scanner centring adjustment
- 3 EDH centring adjustment

## Punch adjustment mode menu

- 1 Punch vertical position adjustment
- 2 Punch horizontal position adjustment
- 3 Punch resist loop adjustment

## Z-folding position adjustment mode menu

- 1 1st Z-holding position adjustment
- 2 2nd Z-holding position adjustment



### [3] Display transition of 25 modes

#### 2-5 Modus /Memory setting mode

- 1 Software SW setting
- 2 Paper size setting
- 3 PM count
- 4 Data collection
- 5 Parts counter
- 6 Password setting
- 7 Telephone number setting
- 8 M/C serial number setting
- 9 Indication of ROM version
- 10 RD mode setting
- 11 ISW
- 12 Setting date input

#### Collecting data menu

- |                                  |                              |
|----------------------------------|------------------------------|
| 1 Total count of each paper size | 7 JAM data of time series    |
| 2 Copy count of each paper size  | 8 JAM count                  |
| 3 Print count of each paper size | 9 Count of each copy mode    |
| 4 EDH count                      | 10 SC count                  |
| 5 Black ratio of each section    | 11 JAM count of each section |
| 6 Black ratio ranking list       | 12 SC count of each section  |

#### Copy count of part menu

- 1 Count of special parts
- 2 Count of each parts

### [4] Display transition of Key Operation modes

#### Key operator mode menu

- 1 System initial setting
- 2 Copier initial setting
- 3 User setting mode
- 4 E.K.C function setting
- 5 Lock / delete program memory
- 6 Paper type / Special size set
- 7 Panel contrast / Key sound adj.
- 8 Key operator data setting
- 9 Weekly timer
- 10 Control panel adjustment
- 11 Tray auto select setting
- 12 Energy saver setting
- 13 Memory switch setting
- 14 Machine management list print
- 15 \* Not use Minolta!
- 16 Side 2 lens adjustment
- 17 Finisher adjustment
- 18 HDD management setting
- 19 Scanner transmission setting
- 20 Non-image area erase setting

#### System initial setting menu

- 1 Date & Time setting
- 2 Language select setting
- 3 IP address setting / Tandem
- 4 E-mail transmission setting

#### User setting mode menu

- 1 User density level 1 setting
- 2 User density level 2 setting
- 3 User lens mode ratio setting

#### Enter E.K.C Master code: \*1

- 1 E.K.C data edit
- 2 E.K.C all count reset
- 3 E.K.C function setting

#### Weekly timer setting menu

- 1 Weekly timer ON/OFF setting
- 2 Timer setting
- 3 Timer action ON/OFF setting
- 4 Lunch hour off setting
- 5 Timer interrupt password set

#### Management list print mode menu

- 1 Program memory list
- 2 User management list
- 3 E.K.C. management list
- 4 Font pattern list

#### Finisher adjustment mode menu

- 1 Stapling & Folding stopper adjust.
- 2 Folding stopper adjustment
- 3 Trimmer stopper adjustment
- 4 Punch adjustment
- 5 Z-Folding position adjustment
- 6 Three-Folding position adjustment
- 7 2-Positions staole pitch adjustment

#### Memory switch menu

- 1 Panel reset timer
- 2 Panel reset key function
- 3 EDH-Original effect
- 4 Program memory auto recall -30-
- 5 Finisher mode by Full-Auto
- 6 Initial by Key Counter insert
- 7 Erasure outside area of original
- 8 EDH frame erasure selection
- 9 Automatic tray switching
- 10 Platen APS
- 11 EDH APS
- 12 Platen AMS
- 13 EDH AMS
- 14 Select tray when APS cancel
- 15 Platen original size detect
- 16 EDH original size detect
- 17 Platen original size detect (SMALL)
- 18 Rotation
- 19 Staple mode reset function
- 20 Job offset operating
- 21 Continuation print
- 22 SDF auto start
- 23 Key click sound
- 24 1 Shot indication time
- 25 Power save screen
- 26 Start Key latch function
- 27 Stop Key function
- 28 Auto select of booklet copy
- 29 E.K.C. Password
- 30 Arrow key change [Image shift]
- 31 Exit direction of 1 sheet
- 32 An interruption suspended way
- 33 E.K.C. password input timing
- 34 Key click sound (No paper/ Jam)
- 35 Reserve copy function
- 36 Scan stop by pull out tray
- 37 Change page no. Pos. (booklet)
- 38 Trimmer (Std./ Non Std size)
- 39 Timer which prohibits print
- 40 Bookmark function
- 41 Delete of overlay image
- 42 Orig. direction/binding mode
- 43 Image stored conti. (SRV)
- 44 Image recalled conti. (SRV)
- 45 Exit direction

\*1 Name of system  
E.K.C : Except USA area  
E.C.M : USA area only

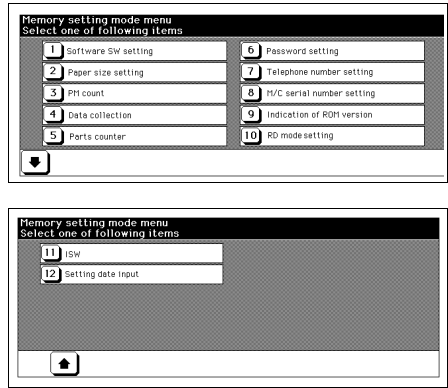
# 25 MODE

## [1] Setting the 25 Mode

This machine has an adjustment mode called the "25 Mode". Select this mode to rewrite data in the non-volatile memory or make various settings.

- 1. Turn OFF the main switch.
- 2. While pressing the copy quantity setting buttons 2 and 5, turn ON the main switch.  
The 25 Mode Menu screen will appear.  
Now the machine is in the 25 mode, disabling normal copy operations.

### [25 Mode Menu. Screen]



- 3. Press 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 main switch cancels the 25 mode.
- 6. New data will take effect after restart.

## [2] Setting Software DIP Switches

### 1. Procedure

Bring up the Software DIP SW Setting screen and set software DIP switches.

Step	Operation
1	Enter the 25 mode.
2	<b>[Memory setting mode menu]</b> Select " <b>1</b> Software DIP SW setting".
3	<b>Software switch setting mode 05</b> Select a DIP switch number.  Use the <b>▲</b> or <b>▼</b> key at the left. To use numeric keys, invert the DIP switch number at the left before entering a DIP switch number.
4	Select a bit number of the selected DIP switch.  Use the <b>▲</b> or <b>▼</b> key at the right. To use numeric keys, invert the bit number at the upper center before entering a DIP switch number.
5	Select ON (=1), or OFF (=0) of the switch.  Use the <b>ON</b> or <b>OFF</b> key.  <b>ON</b> : Sets 1. <b>OFF</b> : Sets 0.
6	Press the <b>PREVIOUS SCREEN</b> key to return to the 25 Mode Menu. Screen.

## &lt; List of Software Switches &gt;

DIPSW No.	Bit	Function	0	1	Initial Value		
					Japan	Inch	Metric
DIPSW 1	0	Condition for stopping copying after indication of toner supply	* 1	* 1	1	1	1
	1				0	0	0
	2	Method for stopping copying after indication of toner supply	* 2	* 2	1	1	1
	3				0	0	0
	4	Inhibition of copying when PM count is reached	Not Inhibited	Inhibited	0	0	0
	5	Number of copies made before inhibition of copying when PM count is reached	* 3	* 3	0	0	0
	6				0	0	0
DIPSW2	7				0	0	0
	0	Hard disk connection	Disconnected	Connected	0	0	0
	1	Electrode cleaning cycle (when power is turned ON)	* 4	* 4	0	0	0
	2				0	0	0
	3				0	0	0
	4	Electrode cleaning cycle (after power is turned ON)	* 5	* 5	0	0	0
	5				0	0	0
DIPSW3	6	Blade automatic switching cycle	* 6	* 6	0	0	0
	7				0	0	0
	0	Regular toner supply amount	* 7	* 7	0	0	0
	1	SC latch	Unlatched	Latched	0	0	0
	2	25, 36, 47 mode password request (password: 9272)	Not requested	Requested	0	0	0
	3	Charging corona unit cleaning function	ON	OFF	0	0	0
	4	Transfer /separation corona unit cleaning function	ON	OFF	0	0	0
DIPSW4	5	Movement of blade to transportation	Disabled	Enabled	0	0	0
	6	47 mode 15-01 data collection clearing	Disabled	Enabled	0	0	0
	7	-	-	-	0	0	0
	0	ADF automatic skew adjustment	Enabled	Disabled	0	0	0
	1	Inhibition of thick paper / double sided copy paper mode	Disabled	Enabled	0	0	0
	2				0	1	0
	3	Destination selection	* 8	* 8	0	0	1
DIPSW5	4	Key counter removal recovery	Disabled	Enabled	0	0	0
	5	Inhibition of magnified APS	Enabled	Disabled	0	1	0
	6	Fixed magnification rate setting change in key operator mode	Enabled	Disabled	1	0	0
	7	A3 (11x17) counting method	Increments of 1	Increments of 2	0	0	0
	0	Toner concentration threshold	* 9	* 9	0	0	0
	1				0	0	0
	2	-	-	-	0	0	0
DIPSW5	3				0	0	0
	4	-	-	-	0	0	0
	5				0	0	0
	6				0	0	0
	7	2 dot PWM density in photo mode	* 10	* 10	0	0	0
					0	0	0

## Note1:

This bit is used to keep the cleaning blade off the drum to protect the drum and cleaning blade during transportation of the main body.

To keep the blade off the drum, set this DIP switch to 1, open the front door to turn OFF the interlock, and start up the 47 mode. The blade switching operation is performed at this time. If blade 1 is used, do not forget blade charge and 36 mode blade set mode at reinstallation. This DIPSW will be reset to 0 automatically.

DIPSW No.	Bit	Function	0	1	Initial Value		
					Japan	Inch	Metric
DIPSW 6	0	-	-	-	0	0	0
	1	-	-	-	0	0	0
	2	-	-	-	0	0	0
	3	Transfer/separation output for thick paper	* 11	* 11	0	0	0
	4	-	-	-	0	0	0
	5	Transfer/separation output for thin paper	* 12	* 12	0	0	0
	6	-	-	-	0	0	0
DIPSW 7	7	Auto drum potential adjustment (Note 2)	Enabled	Disabled	0	0	0
	0	Developing potential control for image area	* 13	* 13	0	0	0
	1	-	-	-	0	0	0
	2	-	-	-	0	0	0
	3	-	-	-	0	0	0
	4	-	-	-	0	0	0
	5	-	-	-	0	0	0
DIPSW8	6	-	-	-	0	0	0
	7	-	-	-	0	0	0
	0	-	-	-	0	0	0
	1	-	-	-	0	0	0
	2	Fixing roller initial rotation	* 14	* 14	0	0	0
	3	-	-	-	1	1	1
	4	Fixing roller initial rotation time setting	* 15	* 15	0	1	1
DIPSW 9	5	-	-	-	0	0	0
	6	A3(11 × 17) PM counter switch	1 count	2 count	0	0	0
	7	Store on hard disk	Enable	Disable	0	0	0
	0	Operation at key counter removal (copy)	Same as stop key	Immediate stop (JAM)	0	0	0
	1	Operation at key counter removal (Print)	Ignored	Same as DIPSW9-0	0	0	0
	2	Message switching	* 16	* 16	0	0	0
	3	-	-	-	0	0	0
DIPSW10	4	Copy count limit	* 17	* 17	0	0	0
	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
	7	-	-	-	0	0	0
	0	Page memory allocation at power on Ditto.	* 18	* 18	0	0	0
	1	-	-	-	0	0	0
	2	Page memory allocation at job starts	* 19	* 19	0	0	0
DIPSW11	3	-	-	-	0	0	0
	4	-	-	-	0	0	0
	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
	7	-	-	-	0	0	0
	0	-	-	-	0	0	0
	1	-	-	-	0	0	0
DIPSW11	2	-	-	-	0	0	0
	3	SC/E code screen switchover	Switched	Not switched (All are F codes)	0	0	0
	4	Selection of filter for jagged edges on slanting lines	Not selected	Selected	0	0	0
	5	Gradation switchover in Photo mode	2bitED-2dot PWM	1bitED-2dot PWM	0	0	0
	6	-	-	-	0	0	0
	7	JAM indication screen type	Without Jam code	With Jam code	0	0	0

Note 2: This bit determines whether drum potential adjustment is to be made using a drum potential sensor.

This setting is used to check whether an image problem has been caused by a faulty drum potential sensor.

DIPSW No.	Bit	Function	0	1	Initial Value		
					Japan	Inch	Metric
DIPSW 12	0	Black stripe creation interval	Not performed	Every 5 copies	0	0	0
	1	-	-	-	0	0	0
	2	-	-	-	0	0	0
	3	Printer automatic centering correction	Enable	Disable	0	0	0
	4	High voltage output in 36/47 mode	Not output	Output	1	1	1
	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
DIPSW 13	7	-	-	-	0	0	0
	0	Size detection 1	A5	5.5 x 8.5	0	1	0
	1	Size detection 2	A4R	8.5 x 11R	0	1	0
	2	Size detection 3	8.5 x 14	F4	0	0	1
	3	Size detection 4	* 20	* 20	0	0	0
	4	-			0	1	0
	5	F4 size detection	* 21	* 21	0	0	0
DIPSW14	6	-			0	0	0
	7	-	-	-	0	0	0
	0	Size detection 5 (main body)	B4 : 11 x 17/ B5 : 8.5 x 11	8K/16K	0	0	0
	1	-	-	-	0	0	0
	2	-	-	-	0	0	0
	3	Size detection 5 (by-pass feed)	B4 : 11 x 17/ B5 : 8.5 x 11	8K/16K	0	0	0
	4	Size detection 5 (platen)	B4 : 11 x 17/ B5 : 8.5 x 11	8K/16K	0	0	0
DIPSW15	5	Size detection 5 (ADF)	B4 : 11 x 17/ B5 : 8.5 x 11	8K/16K	0	0	0
	6	Size detection selection (PI)	B4 : 11 x 17/ B5 : 8.5 x 11	8K/16K	0	0	0
	7	-	-	-	0	0	0
	0	-	-	-	0	0	0
	1	Maximum number of sheets that can be stapled	* 22	* 22	0	0	0
	2	-			0	0	0
	3	FNS alarm stop SW	* 23	* 23	0	0	0
DIPSW16	4	-			0	0	0
	5	RD mode connection recognition	Disconnect	Connect	0	0	0
	6	Dmax. value in printer mode	1.43	1.35	0	0	0
	7	-	-	-	0	0	0
	0	-	-	-	0	0	0
	1	Multi-job	Reservation enabled	Reservation disabled	0	0	0
	2	-	-	-	0	0	0
DIPSW17	3	C(K) counting in printer mode	Not counted	Counted	0	0	0
	4	TC start date indication (Utility mode)	Indicated	Not indicated	0	0	0
	5	Non-original area erasure mode judgement level	* 24	* 24	0	0	0
	6	-			0	0	0
	7	-	-	-	0	0	0
	0	WT summer time setting	* 25	* 25	0	0	0
	1	-			1	1	1
DIPSW17	2	-			1	1	1
	3	-	* 26	* 26	0	0	0
	4	Density selection for scanning tab paper			0	0	0
	5	-			0	0	0
	6	-			0	0	0
	7	-	-	-	0	0	0

DIPSW No.	Bit	Function	0	1	Initial Value		
					Japan	Inch	Metric
DIPSW18	0	Tray 1's faulty part isolation	Normal	Unavailable	0	0	0
	1	Tray 2's faulty part isolation	Normal	Unavailable	0	0	0
	2	Tray 3's faulty part isolation	Normal	Unavailable	0	0	0
	3	Tray 4's (LCT's) faulty part isolation	Normal	Unavailable	0	0	0
	4	ADF faulty part isolation	Normal	Unavailable	0	0	0
	5	Folding, stapling and folding, trimmer faulty part isolation	Normal	Unavailable	0	0	0
	6	PI faulty part isolation	Normal	Unavailable	0	0	0
	7	Hard disk faulty part isolation	Normal	Unavailable	0	0	0
DIPSW 19	0	-	-	-	0	0	0
	1	Fixing temperature setting switching	* 27	* 27	0	0	0
	2				0	0	0
	3				0	0	0
	4	PZ faulty part isolation	Normal	Unavailable	0	0	0
	5	PK faulty part isolation	Normal	Unavailable	0	0	0
	6	Selection of a default resolution for IP scanner	* 28	* 28	0	0	0
	7				0	0	0
DIPSW20	0	Group stapling	Disabled	Enabled	0	0	0
	1	Original size scanning with shift function (Note1)	Normal	Original priority	0	0	0
	2	Stamp page number switching	Based on original	Based on transfer paper	0	0	0
	3	Keyboard layout	ABC layout	QWERTY layout	0	0	0
	4	-	-	-	0	0	0
	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
	7	-	-	-	0	0	0
DIPSW21	0	Mixed sized print stapling inhibition (Print)	Enabled (real-time output)	Disabled (batch processing)	0	0	0
	1	LCT size setting in key operator mode	Disabled	Enabled	0	0	0
	2	Original count display	Displayed	Not displayed	0	0	0
	3	-	-	-	0	0	0
	4	Output on Tandem	Realtime	Batch	0	0	0
	5	Allocation recovery on Tandem	Enabled	Disabled	0	0	0
	6	Special paper APS response	Disabled	Enabled (All except Thick 2 papers and Thick 3 papers)	0	0	0
	7	-	-	-	0	0	0

**Note1:**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.

DIPSW No.	Bit	Function	0	1	Initial Value		
					Japan	Inch	Metric
DIPSW22	0	IP address setting	Disabled	Enabled	0(1)	0(1)	0(1)
	1	Number of punched holes	* 29	* 29	0	1	0
	2				0	0	1
	3	Standard position of image on Nonstand-size original	User selected	APS of ADF	0	0	0
	4	Function of Power save button	Enabled	Disabled	0	0	0
	5	-	-	-	0	0	0
	6	Operation on staple empty of FNS	Requesting staple supply	Selectable staple supply or without stapling	0	0	0
	7	-	-	-	0	0	0
DIPSW23	0	-	-	-	0	0	0
	1	Output operation when EKC user ID unmatching	Enabled (counted by other user account)	Disabled (registered non-output list)	0	0	0
	2	Image density selection (toner density selection of developer)	* 30	* 30	0	0	0
	3				0	0	0
	4	-	-	-	0	0	0
	5	-	-	-	0	0	0
	6	Job memory registration of the special paper setting on the bypass tray	Disabled	Enabled	0	0	0
DIPSW24	7	Face-up ejection of the thick paper 2 to sub-tray (Print)	Disabled	Enabled	0	0	0
	0	HDD JOB recall operation	Password	Password + file name	0	0	0
	1	-	-	-	0	0	0
	2	-	-	-	0	0	0
	3	-	-	-	0	0	0
	4	Maximum number of sheets with z-folding (main tray)	* 31	* 31	0	0	0
	5				1	1	1
DIPSW25	6	Maximum number of sheets with z-folding + stapling (main tray)	* 32	* 32	0	0	0
	7				0	0	0
	0	-	-	-	0	0	0
	1	Maximum number of sheets with Booklet Mode	20 sheet	16 sheet	0	0	0
	2	-	-	-	0	0	0
	3	-	-	-	0	0	0
	4	-	-	-	0	0	0
DIPSW28	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
	7	-	-	-	0	0	0
	0	-	-	-	0	0	0
	1	-	-	-	0	0	0
	2	-	-	-	0	0	0
	3	-	-	-	0	0	0
DIPSW28	4	-	-	-	0	0	0
	5	Timing and centring adjustment in key operator mode	Disabled	Enabled	0	0	0
	6	-	-	-	0	0	0
	7	-	-	-	0	0	0

DIPSW No.	Bit	Function	0	1	Initial Value		
					Japan	Inch	Metric
DIPSW29	0	-	-	-	0	0	0
	1	-	-	-	0	0	0
	2	-	-	-	0	0	0
	3	-	-	-	0	0	0
	4	-	-	-	0	0	0
	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
	7	-	-	-	0	0	0
DIPSW30	0	-	-	-	0	0	0
	1	25 mode collection data 5-11 for checking	Display restriction	No display restriction	1	1	1
	2	-	-	-	0	0	0
	3	-	-	-	0	0	0
	4	-	-	-	0	0	0
	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
	7	Passwords to save/access hard disk JOB	Not displayed	Displayed	0	0	0
DIPSW31	0	-	-	-	0	0	0
	1	-	-	-	0	0	0
	2	-	-	-	0	0	0
	3	-	-	-	0	0	0
	4	-	-	-	0	0	0
	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
	7	-	-	-	0	0	0
DIPSW33	0	Normal paper process control switchover			0	0	0
	1		* 33	* 33	0	0	0
	2				0	0	0
	3				0	0	0
	4	Recycled paper process control switchover			0	0	0
	5		* 33	* 33	0	0	0
	6				0	0	0
	7				0	0	0
DIPSW34	0	Colored paper process control switchover			0	0	0
	1		* 33	* 33	0	0	0
	2				0	0	0
	3				0	0	0
	4	Special paper process control switchover			0	0	0
	5		* 33	* 33	0	0	0
	6				0	0	0
	7				0	0	0
DIPSW35	0	High-quality paper process control switchover			0	0	0
	1		* 33	* 33	0	0	0
	2				0	0	0
	3				0	0	0
	4	Exclusive paper A paper process control switchover			0	0	0
	5		* 33	* 33	0	0	0
	6				0	0	0
	7				0	0	0



DIPSW No.	Bit	Function	0	1	Initial Value		
					Japan	Inch	Metric
DIPSW36	0	Exclusive paper B paper process control switchover	* 33	* 33	0	0	0
	1				0	0	0
	2				0	0	0
	3				0	0	0
	4	Exclusive paper C paper process control switchover	* 33	* 33	0	0	0
	5				0	0	0
	6				0	0	0
	7				0	0	0
DIPSW37	0	Exclusive paper D paper process control switchover	* 33	* 33	0	0	0
	1				0	0	0
	2				0	0	0
	3				0	0	0
	4	-	-	-	0	0	0
	5	-	-	-	0	0	0
	6	-	-	-	0	0	0
	7	-	-	-	0	0	0

- \*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 machine	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 (fixing temperature 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
30,000 copies	0	1
40,000 copies	1	0
50,000 copies	1	1

- \*6 Blade automatic switching cycle

Mode	2-7	2-6
250,000 copies	0	0
300,000 copies	0	1
400,000 copies	1	0
500,000 copies	1	1

- \*7 Regular toner supply amount

When copying the original which black ratio is low (less than 1 %), gray background image is caused because the toner density of developer increases. In this case, changing this bit to 1, decreases the amount of toner supplied regularly, thus preventing gray background image.

**Note:** When copying the original which black ratio is normal, changing this bit to 1 causes the image to be lighter.

Mode	3-0
Standard	0
Decrease regular toner supply amount	1

- \*8 Destination selection

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

## \*9 Toner concentration threshold

This bit sets the read level of the toner concentration patch formed on the drum to determine the toner concentration. The setting can be made by shifting the threshold of black color to the positive or negative side.

- Standard -3: The image becomes darker.
- Standard +3: The image becomes lighter.
- Standard +5: The image becomes far lighter.

Mode	5-1	5-0
Standard	0	0
Standard -3	0	1
Standard +3	1	0
Standard +5	1	1

## \*10 2 dot PWM table in photo mode

Mode	5-7	5-6
Standard	0	0
Light	0	1
Dark	1	0
Not use	1	1

## \*11 Transfer/separation corona unit output for thick paper

This bit is used when "Thick 1", "Thick 2" or "Tab paper" is selected for "Paper type/special size setting" in the key operator mode.

When "No specification" is selected, data for "Thick 1: 170 g/m<sup>2</sup>" or "Thick 2: 200 g/m<sup>2</sup>" is used (the data for "Thick 2" is also used for tab paper). When other than "No specification" is selected, the selected output data is used for both "Thick 1" and "Thick 2."

When this bit cannot be used with "Thick 2" selected, "Thick 3" can be selected in the key operator mode.

(Changing DIP SW is not required.)

Mode	6-4	6-3
No specification	0	0
200 g/m <sup>2</sup> paper	0	1
170 g/m <sup>2</sup> paper	1	0
Postcard	1	1

## \*12 Transfer/separation corona unit 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**: 50 g/m<sup>2</sup> paper, **Inch area**: 16lb, paper, **Metric area**: 60 g/m<sup>2</sup> paper) is used.

Mode	6-6	6-5
No specification	0	0
50 g/m <sup>2</sup> paper	0	1
60 g/m <sup>2</sup> paper	1	0
16 lb paper	1	1

## \*13 Developing potential control of image area

Change the charging potential and developing bias to decrease the developing potential of image area.

This bit is used to gain a lighter image for such use as printing books..

Mode	7-1	7-0
Standard	0	0
-100 V	0	1
-150 V	1	0
-200 V (light)	1	1

## \*14 Fixing roller initial rotation

Fixing may be insufficient in the morning if the temperature of the place where the machine is installed is low. To prevent this, increase the warm-up time (fixing roller initial rotation time) to allow the fixing lower roller to be warmed up to the normal temperature. This bit specifies the condition(s) under which initial rotation of the fixing roller is required.

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

	Mode	8-3	8-2
Japan, Inch area	Low temperature	0	0
Metric area	Low and normal temperature	0	1
For all destination	Low, normal, and high temperatures	1	0
	No rotation	1	1

## \*15 Fixing roller initial rotation time setting

This bit sets the maximum time of initial rotation of the fixing roller. When 0 second is specified, initial rotation of the fixing roller is not carried out.

Mode	8-5	8-4
60 seconds	0	0
30 seconds	0	1
15 seconds	1	0
0 seconds	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
No limit	1	0	1	0
No limit	1	0	1	1
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 power on

Mode	10-1	10-0
No allocation	0	0
32 MB	0	1
64 MB	1	0

## \*19 Page memory allocation at job start

When this mode is selected and the copy mode use the page memory, the page memory is allocated at the start of a job so that the data that has been read is output normally at occurrence of a memory overflow.

The page memory size is determined by the resolution and the number of gradations as shown in the table given below.

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

Mode	10-2
No allocation	0
Allocated	1

If DIP switches 10-0 and 10-1 are set to allocate the page memory, they take priority over this mode.

## \*20 Size detection 4

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

## \*21 F4 size detection

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

\*22 Maximum number of sheets that can be stapled  
Except for FN-115

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

FN-115 (When the length in the paper feed direction is 400mm or more, the maximum number of sheets to be stapled is the same when machines other than FN-115 are used.)

## \*23 FNS 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

\*24 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

## \*25 WT 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
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

## \*26 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

## \*27 Fixing temperature setting switch over

This bit is used to change the fixing temperature when fixing is insufficient or paper curl is curled largely.

This setting is effective only for plain paper. It is not reflected in thick paper, thin paper and low power mode.

- Standard: Standard setting.

- Standard+5°C to +15°C:

Set when fixing is insufficient.

- Standard-5°C to -20°C:

Set when paper is curled largely.

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

## \*28 Selection of a default resolution for IP scanner

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

## \*29 Number of punched holes

Mode	22-2	22-1
2 holes (Japan)	0	0
3 holes (Inch area)	0	1
4 holes (Metric area)	1	0

## \*30 Toner density selection of developer

If gray background image is caused by an excessive amount of toner density in the developer, the toner threshold can be changed with this switch to reduce and eliminate the background. The rotation speed of the developing sleeve increases in proportion to the decrease in the toner density of developer, keeping the image density constant.

Mode	23-3	23-2
Toner standard density	0	0
Reducing appx. 0.5 %	0	1
Reducing appx. 1.0 %	1	0
Reducing appx. 1.5 %	1	1

## \*31 Maximum number of sheets with Z-folding (main 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

## \*32 Maximum number of sheets with Z-folding + staple

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

### \*33 Paper type process control switchover

#### 1. Setting method

This bit is used when "----," "Normal," "Recycled," "Color," "Special," "HIGH Q," "Exclusive paper A," "Exclusive paper B," "Exclusive paper C," or "Exclusive paper D" is selected for "Paper type/special size setting" in the key operator mode.

When "User paper" is selected with this bit, the transfer/separation corona unit output for the "user paper setting" made in the 36 mode is applied. When "No specification (----)" is selected, the output data by destination and paper size (Japan:64 g/m<sup>2</sup> plain paper, Inch area:20 lb plain paper, Metric area:80 g/m<sup>2</sup> plain paper) is used.

Key/ operator selecting key	Plain paper	33-3	33-2	33-1	33-0
	Recycled paper	33-7	33-6	33-5	33-4
	Colored paper	34-3	34-2	34-1	34-0
	Special paper	34-7	34-6	34-5	34-4
	High-quality paper	35-3	35-2	35-1	35-0
	Exclusive paper A	35-7	35-6	35-5	35-4
	Exclusive paper B	36-3	36-2	36-1	36-0
	Exclusive paper C	36-7	36-6	36-5	36-4
Transfer/ separation table	Exclusive paper D	37-3	37-2	37-1	37-0
	No specification (default)	0	0	0	0
	Standard paper 64 g/m <sup>2</sup>	0	0	0	1
	Standard paper 20 lb	0	0	1	0
	Standard paper 80 g/m <sup>2</sup>	0	0	1	1
	Thick paper	0	1	0	0
	Thin paper	0	1	0	1
	High-quality paper for printing press 64 g/m <sup>2</sup>	0	1	1	0
	High-quality paper for printing press 81.4 g/m <sup>2</sup>	0	1	1	1
	High-quality paper for printing press 127 g/m <sup>2</sup>	1	0	0	0
	High-quality paper for printing books 64 g/m <sup>2</sup> and Coated paper 64 g/m <sup>2</sup>	1	0	0	1
	High-quality paper for printing books 81.4 g/m <sup>2</sup> and Coated paper 81.4 g/m <sup>2</sup>	1	0	1	0
	Reserve 1	1	0	1	1
	Reserve 2	1	1	0	0
	PPC paper 2	1	1	0	1
	Low-strength paper	1	1	1	0
	User paper	1	1	1	1

#### 2. Paper type

##### (1) High-quality paper for printing press

This paper has only little difference in paper quality between the front and the back side, and has much strength.

##### (2) Paper for printing books

This paper has lower paper density than high-quality paper. Cream color is often used as a suitable color for books.

##### (3) Coated paper

This paper is high and standard-quality paper, to one side of which 10 grams/m<sup>2</sup> of clay is applied.

##### (4) Low-strength paper

In spite of being 20 lb plain paper (inch area), the paper strength is lower than normal plain paper, and winds itself around the drum easily.

[3] Setting the Paper Size

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

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

1. Setting the standard size

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select "  Paper size setting".
3	<b>[Paper size setting mode Screen]</b> Press the  key.
4	Press the  or  button to select a paper size.
5	Press the  key to finish setting. To cancel the new setting, press the  key, Pressing either key will display the 25 Mode Menu screen again.

2. Setting the non-standard size

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select "  Tray Size Setting."
3	<b>[Paper size setting mode Screen]</b> Press the  key.
4	Press the key for specifying the main (vertical) scanning direction to display it in reverse video.
5	Press the  or  key or numeric keys to enter the size in the main (vertical) scanning direction. Max. 314 mm
6	Press the key for specifying the sub (horizontal) scanning direction to display it in reverse.
7	Press the  or  key or numeric keys to enter the size in the sub (horizontal) scanning direction. Max. 223 mm (A4LCT), 459 mm (A3LCT)
8	Press the  key to finish setting. To cancel the new setting, press the  key. Pressing either key will display the 25 Mode Menu. Screen again.



### 3. Setting the wide paper

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select " <b>[2]</b> Paper size setting."
3	<b>[Paper size setting mode Screen]</b> Press the <b>[Wide size paper]</b> key.
4	<b>[Paper size selecting Screen]</b> Press the <b>[▲]</b> or <b>[▼]</b> key to select a wide paper size.
5	Press the <b>[Input size]</b> key.
6	<b>[Paper size input Screen]</b> Press the key for specifying the main (vertical) scanning direction to display it in reverse.
7	Press the <b>[▲]</b> or <b>[▼]</b> key or numeric keys to enter the size in the main (vertical) scanning direction. Max. 314 mm
8	Press the button for specifying the sub (horizontal) scanning direction to highlight it.
9	Press the <b>[▲]</b> or <b>[▼]</b> key or numeric keys to enter the size in the sub (horizontal) scanning direction. Max. 223 mm (A4LCT), 459 mm (A3LCT)
10	Press the <b>[OK]</b> key to finish setting. To cancel the new setting, press the <b>[CANCEL]</b> key. Pressing either key will display the 25 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.

### [4] PM Count Resetting

Care should be taken not to reset the PM count by mistake.

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select " <b>[3]</b> PM count".
3	<b>[PM count/cycle Screen]</b> Press the <b>[COUNT RESET]</b> key.
4	<b>[Reset Confirmation Screen]</b> Press the <b>[YES]</b> key. The PM count is reset and the start date is input automatically. Pressing the <b>[NO]</b> key closes the Reset Confirmation screen at once.
5	Press the <b>[OK]</b> key to finish setting. To cancel the new setting, press the <b>[CANCEL]</b> key. Pressing either key will display the 25 Mode Menu. Screen again.

[5] Setting the PM Cycle

This function allows you to change the PM cycle.

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

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select " <b>[3]</b> PM count".
3	<b>[PM count/cycle Screen]</b> Press the <b>[PM Cycle Setting]</b> 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	Press the <b>[OK]</b> key to finish setting. To cancel the new setting, press the <b>[CANCEL]</b> key. Pressing either key will display the 25 Mode Menu. Screen again.

[6] Collecting Data

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



**Reference:** The above data can also be viewed using the data collection function of the.

1. 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	EDH count	
5	Black ratio of each section	
6	Black ratio ranking list	
7	JAM data of time series	Enter the 25 mode, select " <b>[1]</b> 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	SC count	
11	JAM count of each section	
12	SC count of each section	

**Note:** When bit 1 of DIP switch 30 is set to 0, only collected data 1 to collected data 6 can be viewed.

## 2. Viewing Collecting Data No.1 to No.6

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select " <b>4</b> " Data collection".
3	<b>[Collecting data menu Screen]</b> Select the collecting data you want to view by pressing one of numeric keys <b>1</b> to <b>6</b> .
4	<b>[Individual data view Screen]</b> View the selected data by scrolling the screen using the  and  keys.
5	Press the <b>PREVIOUS SCREEN</b> key to return to the 25 Mode Menu. Screen.

## 3. Viewing Collecting Data No.7 to No.12

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select " <b>1</b> " Software DIP SW setting".
3	<b>[Software DIP SW Setting Screen]</b> Set bit 1 of DIP switch 30-1 to 1.
4	Press the <b>PREVIOUS</b> key to return to the 25 Mode Menu. Screen.
5	<b>[25 Mode Menu. Screen]</b> Select " <b>4</b> " Data Collection".
6	<b>[Collecting data menu Screen]</b> Select the collected data you want to view by pressing one of numeric keys <b>7</b> to <b>12</b> . To select the key <b>11</b> or later press the  key. If the  key is pressed with key <b>11</b> displayed, the Collected Data Selection screen containing keys <b>1</b> to <b>12</b> appears again.
7	<b>[Individual data view Screen]</b> View the selected data by scrolling the screen using the  and  keys. (Note)
8	Press the <b>PREVIOUS SCREEN</b> key to return to the 25 Mode Menu. Screen.

**Note:** On the Individual Data View screen showing the JAM count of each section (collected data **11** ) or SC count of each section (collected data **12** ), the **COUNT RESET** key appears. Pressing the **COUNT RESET** key resets the selected data count.

4. Details on Display Data

(1) Collecting data No.1 to No.3: Total / copy / print counts of each paper size

NO	Destination			Maximum count	Remarks
	Japan	Inch area	Metric area		
1	A2	17 x 22	A2	99999999	All counters are 8-digit counters.
2	A3	11 x 17	A3		
3	B4	8.5 x 14	B4 (8K)		
4	A4	8.5 x 11	A4		
5	B5	5.5 x 8.5	B5 (16K)		
6	A5	-	A5		
7	B6	-	F4		
8	8.5x14	-	-		
9	8.5x11	A4	-		
10	Special	Special	Special		

1. Each time a printed copy is ejected, the counter is increments of 1 regardless of the paper size.
2. If the size of the paper used is none of the paper sizes 1-9 listed above, the counter is incremented in a special manner (short edge feed and long edge feed are counted assuming that they are of the same size.)

(2) Collecting data No.4: EDH mode

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

1. The counter is incremented each time one original side has been scanned in each mode.
2. Counters 1 and 2 count original sides independently of counters 3-8.

(3) Collecting data No.5: Black ratio of each section \*1

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

(4) Collecting data No.6: Black ratio ranking list \*1

This allows checking black ratio data, number of prints, transfer paper size, mode, and date for the top 15 job data ranked from highest rates of black ratio.

(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 black 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 operation panel	Maximum count	Counting condition
	Location of jam	Code displayed when display of jam code is selected by 25DIPSW			
1	By-pass paper feed	10-1	5	999999	All counts are 6-digit counters.
2		10-2	5		
3	Tray 1 paper feed	11-1	1		
4		11-2	1		
5	Tray 2 paper feed	12-1	2		
6		12-2	2		
7	Tray 3 paper feed	13-1	3		
8		13-2	3		
9	Tray 4 (LCT)	14-1	4		
10		14-2	4		
11	Paper feed conveyance (common to all trays)	17-1	8		
12	Paper feed conveyance (tray 1)	17-2	6		
13	Paper feed conveyance (tray 2/3)	17-3	6		
14	Paper feed conveyance (tray 2)	17-4	6		
15	Paper feed conveyance (tray 3)	17-5	6		
16	Paper feed conveyance (LCT)	17-6	7		
17	Drum	21-1	9		
18	Second paper feed conveyance	31-1	8		
19		31-2	9		
20	Fixing unit /exit (straight ejection)	32-1	10		
21	Fixing unit /exit (reverse and eject/ADU)	32-2	10		
22	Fixing unit /exit (reverse and eject)	32-3	10		
23		32-4	10		
24	Fixing unit /exit	32-5	10		
25	ADU inlet paper conveyance	92-1	12		
26		92-2	11		
27	ADU paper reversal and conveyance	93-1	12		
28	ADU exit paper conveyance	94-1	12		
29		94-2	12		
30	Vertical paper conveyance jam access door	19-1	6		
31	LCT side door	19-2	13		
32	Front door	51-1	13		
33	Finisher door	71-1	13		
34	ADF	62-1	14		
35		62-2	14		
36		62-3	14		
37		62-4	14		
38		62-5	14		
39		62-6	14		
40		62-7	14		
41		62-8	14		
42		62-9	14		
43		62-10	14		
44		63-1	15		
45		63-2	15		

NO	Description of JAM		Jam position display on operation panel	Maximum count	Counting condition
	Location of jam	Code displayed when display of jam code is selected by 25DIPSW			
46	ADF	63-3	15	999999	All counts are 6-digit counters.
47		63-4	15		
48		63-5	15		
49		63-6	15		
50		63-7	15		
51		63-8	15		
52		63-9	15		
53		63-10	15		
54		63-11	15		
55		61-1	-		
56		61-2	-		
57	FNS	72-16	13		
58		72-17	13		
59		72-18	13		
60		72-19	13		
61		72-20	13		
62		72-21	13		
63		72-22	17		
64		72-23	17		
65		72-24	18		
66		72-25	18		
67		72-26	18		
68		72-27	13		
69		72-28	13		
70		72-29	13		
71		72-30	13		
72		72-32	18		
73		72-33	18		
74		72-34	18		
75	PI	72-35	17		
76		72-36	17		
77		72-37	17		
78	FNS	72-81	13		
79		72-82	13		
80		72-83	13		
81	TU	71-2	-		
82	FNS	72-38	20		
83		72-39	20		
84		72-40	20		
85		72-41	20		
86		72-42	20		
87		72-43	20		
88		72-44	20		
89		72-45	20		
90		72-46	20		
91		72-47	20		
92		72-48	20		
93		71-03	-		

(7) Collecting Data No.9: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	EDH1-1 mode		
6	EDH1-2 mode		
7	Mixed original mode		
8	SDF mode		
9	Z-folded original mode		
10	LEF/Lengthwise, SEF/Crosswise normal set		
11	LEF/Crosswise, SEF/Lengthwise normal set		
12	LEF/Lengthwise, SEF/Crosswise reverse set		
13	LEF/Crosswise, SEF/Lengthwise reverse set		
14	Auto (text/photo)		
15	Text		
16	Photo		
17	Increase Contrast		
18	Non STD size		
19	1 oblique staple (Upper Left)		
20	1 staple (upper-right)		
21	2 parallel staples (Left binding)		
22	2 parallel staples (Upper binding)		
23	Left-binding		
24	Right-binding		
25	Top-binding		
26	Tab original		
27	Stapling and Folding		
28	Folding		
29	Main tray: Group		
30	Main tray: Sort		
31	Main tray: Non sort		
32	Subtray: Group (FACE DOWN)		
33	Subtray: Group (FACE UP)		
34	Subtray: Sort (FACE DOWN)		
35	Subtray: Sort (FACE UP)		
36	Subtray: Non sort (FACE DOWN)		
37	Subtray: 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		



NO	Item	Maximum count	Counting condition
46	Preset magnification R3	99999999	All counters are 8-digit counters.
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	APS		
57	AMS		
58	AE		
59	User density level 1		
60	User density level 2		
61	Interrupted copy		
62	Automatic image rotation cancellation		
63	Sheet/cover interleave		
64	Chapter control		
65	Combination		
66	Booklet copy		
67	OHP interleave (copy)		
68	OHP 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	Fold erasure		
79	Auto layout		
80	Full-image Area		
81	Image Shift		
82	Reduction shift		
83	Overlay		
84	Water mark		
85	Stamp		
86	Date / Time		
87	Page		
88	Numbering		
89	Set quantity 1		
90	Set quantity 2-5		
91	Set quantity 6-10		

NO	Item	Maximum count	Counting condition
92	Set quantity 11 or more	99999999	All counters are 8-digit counters.
93	Time while power remote 1 is on		Total period of time during which image control board is energized (remote power supply 1 is ON). 1 is counted per minute. This value is written into non-volatile
94	Time while power remote 2 is on		atile Total period of time during which remote power supply 2 is ON. 1 is counted per minute. This value is written into non-volatile memory when image control is turned OFF.
95	Time while power remote3 is on		Total period of time during which remote power supply 2 is ON and 24 V relay is ON. The count is incremented by 1 per minute. This value is written into non-volatile memory when image control is turned OFF.
96	Time while power remote 4 is on		Total period of time during which remote power supply 3 is ON. The count is incremented by 1 per minute. This value is written into non-volatile memory when image control is turned OFF.
97	Time during low power mode		Total period of time during which low power mode is selected. The count is incremented by 1 per minute.
98	Time during warm up time		Total period of time during which fixing unit heater is ON when machine is not ready for fusing. The count is incremented by 1 per second.
99	Time during front door open		Total period of time during which front door is open. The count is incremented by 1 per second.
100	Ope. time in 1side straight exit		Total time from start to end of printing. The count is incremented by 1 per second. Data is output per minute. (Halt time (machine is not operational due to jam, etc.) is excluded.)
101	Ope. time in 1 side reverse exit		
102	Ope. time in 2 side print		
103	Operation time in EDH mode		Total operation time of ADF. The count is incremented by 1 per second.
104	Morning Correction count		The count is incremented by 1 each time correction is made before starting work in the morning.
105	Time during APS sensor on		Total period of time during which APS sensor is ON. The count is incremented by 1 per second. Data is output per minute.
106	N of main tray used jobs		Number of jobs
107	N of sub tray used jobs		
108	N of stapling folding used jobs		
109	N of folding used jobs		
110	N of EDH NF occurred		
111	N of EDH special error1 occurred		Original size detection error occurrence count
112	N of EDH special error2 occurred		Next original information error occurrence count
113	N of EDH special error3 occurred		Mixed loading prohibited original size error occurrence count

NO	Item	Maximum count	Counting condition
114	N of Scanner scanned	99999999	The count is incremented by 1 each time Platen Mode Copy button is pressed.
115	N of electrode cleaned		
116	N of memory overflow		
117	N of fixing alarm occurred		
118	N of no toner stop occurred		
119	N of AGC retry		
120	N of sub scan beam correct error		
121	N of mis-centering correct error		
122	N of EDH distortion adjust error		
123	N of EDH distortion data error		
124	Compression memory overflow		
125	Page memory overflow (scan)		
126	Page memory overflow (print)		
127	FNS alarm (tray/trimming)		
128	FNS alarm (staple)		
129	Scanner count		
130	N of EDH special error 4 occurred		Ready-time out error
131	Storing for HDD (Sync. with Copying)		
132	Storing for HDD (SRV mode scan-> HDD)		
133	Storing for PC (SRV mode scan-> PC)		
134	Storing for PC (SRV mode HDD-> PC)		
135	Recalling from HDD (SRV mode HDD)		
136	Recalling from PC (SRV mode PC)		
137	Image edit count by SRV		
138	Wide paper count (A3W)		
139	Wide paper count (A4W)		
140	Wide paper count (A4RW)		
141	Wide paper count (A5W)		
142	Wide paper count (Others)		
143	Punch		
144	Z-fold		
145	Shift amount abnormality in repeat mode		

(8) Collecting data No.10: SC count / Collecting data No.12: SC count of each section

NO	Trouble code	Description	Maximum count	Remarks
1	13 1	Paper feed MT EM	9999	All counters are 4-digit counters.
2	13 2	LCT conveyance MT EM		
3	13 3	Loop roller motor fuse blowing detection		
4	18 11	Tray 1 up error 1		
5	18 12	Tray 1 up error 2		
6	18 13	Tray 1 up error 3		
7	18 10	Tray 1 up MT EM error		
8	18 21	Tray 2 up error 1		
9	18 22	Tray 2 up error 2		
10	18 23	Tray 2 up error 3		
11	18 20	Tray 2 up MT EM error		
12	18 31	Tray 3 up error 1		
13	18 32	Tray 3 up error 2		
14	18 33	Tray 3 up error 3		
15	18 30	Tray 3 up MT EM error		
16	18 41	LCT up/down error 1		
17	18 42	LCT up/down error 2		
18	18 43	LCT up/down error 3		
19	18 40	LCT up/down MT EM		
20	18 51	By-pass tray up error 1		
21	18 52	By-pass tray up error 2		
22	18 53	By-pass tray up error 3		
23	21 1	Charging corona unit cleaning MT error 1		
24	21 2	Charging corona unit cleaning MT error 2		
25	21 3	Charging corona unit cleaning MT error 3		
26	21 4	Transfer/separation corona unit cleaning MT error 1		
27	21 5	Transfer/separation corona unit cleaning MT error 2		
28	21 6	Transfer/separation corona unit cleaning MT error 3		
29	23 1	Toner bottle MT EM		
30	23 2	Developing MT EM		
31	23 3	Blade motor excessive current detection		
32	23 4	Drum ready1 1		
33	23 5	Drum ready1 2		
34	23 6	Drum ready1 3		
35	23 7	Blade ready 1		
36	23 8	Blade ready 2		
37	23 9	Blade ready 3		
38	23 10	Drum ready2		
39	23 11	Toner screw motor fuse blowing		
40	24 1	Drum temperature sensor break detection		
41	24 2	Drum temperature sensor grounding error detection		
42	24 3	* Not use this count		
43	24 4	* Not use this count		
44	28 1	Charging EM		
45	28 2	Transfer EM		

NO	Trouble code		Description	Maximum count	Remarks
46	28	3	Separation EM	9999	All counters are 4-digit counters.
47	28	4	High-voltage 24 V fuse blowing		
48	29	1	Maximum density correction error 1		
49	29	2	Maximum density correction error 2		
50	29	3	Maximum density correction error 3		
51	29	4	$\gamma$ correction error 1		
52	29	5	$\gamma$ correction error 2		
53	29	6	$\gamma$ correction error 3		
54	29	7	Dot diameter correction error 1		
55	29	8	Dot diameter correction error 2		
56	29	9	Potential correction error 1		
57	29	10	Potential correction error 2		
58	29	11	Potential correction error 3		
59	29	12	Transfer adjustment error		
60	29	13	Separation AC adjustment error		
61	29	14	Separation DC adjustment error		
62	29	15	Developing bias adjustment error		
63	32	1	Suction fan MT EM 1		
64	32	2	Suction fan MT EM 2		
65	32	3	Suction fan MT EM 3		
66	32	4	Fixing unit cooling fan MT EM 1		
67	32	5	Fixing unit cooling fan MT EM 2		
68	32	6	Fixing unit cooling fan MT EM 3		
69	32	7	Fixing unit cooling fan MT EM 4		
70	33	1	Second paper feed MT EM		
71	33	2	Paper reverse and eject motor fuse blowing		
72	33	3	Pre-transfer R-motor fuse blowing		
73	33	4	Ejection motor fuse blowing		
74	33	5	Web motor fuse blowing detection 1		
75	33	6	Web motor fuse blowing detection 2		
76	34	1	Fixing upper roller high temperature error detection		
77	34	2	Fixing heat roller high temperature error detection		
78	34	3	Fixing upper roller high temperature error detection		
79	34	4	Fixing heat roller high temperature error detection		
80	35	1	Fixing upper roller low temperature error detection		
81	35	2	Fixing heat roller low temperature error detection		
82	36	1	Fixing upper roller sensor error detection		
83	36	2	Fixing heat roller sensor error detection		
84	36	3	Fixing upper roller sensor error		
85	36	4	Fixing heat roller sensor error		
86	36	5	Fixing upper roller S2 error detection		
87	36	6	Fixing heat roller S4 error detection		
88	41	1	Optics unit HP return error 1		
89	41	2	Optics unit HP return error 2		
90	41	3	Optics unit HP return error 3		
91	41	4	Optics unit HP return error 4		

NO	Trouble code		Description	Maximum count	Remarks
92	41	5	Optics unit HP return error 5	9999	All counters are 4-digit counters.
93	41	6	Optics unit HP return error 6		
94	41	7	* Not use this count		
95	41	8	* Not use this count		
96	41	9	Left overrun error		
97	41	10	Polygon mirror MT error 1		
98	41	11	Polygon mirror MT error 2		
99	42	1	Optics unit cooling fan MT EM1		
100	42	2	Optics unit cooling fan MT EM2		
101	42	3	Optics unit cooling fan MT EM3		
102	42	4	Write unit cooling fan MT EM1		
103	42	5	Write unit cooling fan MT EM2		
104	42	6	Write unit cooling fan MT EM3		
105	42	7	Write unit cooling fan MT EM4		
242	42	8	Write unit cooling fan /2MT EM1		
243	42	9	Write unit cooling fan /2MT EM2		
244	42	10	Write unit cooling fan /2MT EM3		
245	42	11	Write unit cooling fan /2MT EM4		
246	42	12	Write unit cooling fan /4MT EM1		
247	42	13	Write unit cooling fan /4MT EM2		
248	42	14	Write unit cooling fan /4MT EM3		
249	42	15	* Not use this count		
250	42	16	Polygon cooling fan /4MT EM1		
251	42	17	Polygon cooling fan /4MT EM2		
252	42	18	Polygon cooling fan /4MT EM3		
253	42	19	Polygon cooling fan /4MT EM4		
106	46	1	APC error		
107	46	2	Scanner FIFO error		
108	46	3	Printer FIFO error		
109	46	5	Compressed input/output FIFO error		
110	46	6	Expansion error		
111	46	8	Index sensor error		
112	46	10	* Not use this count		
113	46	11	* Not use this count		
114	46	12	SVV (Scanner Vertical Valid) length error		
115	46	13	Scanner time-out		
116	46	14	Printer time-out		
117	46	15	Expansion device access error		
118	46	16	Compression device access error		
119	46	17	Filter factory error		
120	46	19	Memory in data flow		
121	46	21	Data flow memory mode		
122	46	23	SVV (Scanner Vertical Valid) off error		
123	46	24	Black/white collection error		
124	46	25	Level adjustment error		
125	46	26	Invalid correction data by resolution		

NO	Trouble code		Description	Maximum count	Remarks
126	46	27	Density conversion ( $\gamma$ curve generation error)	9999	All counters are 4-digit counters.
222	46	29	Calibration start disabled		
223	46	30	Calibration end disabled		
224	46	31	APC initial sampling error		
225	46	32	MPC error		
226	46	33	Sub-scan beam correction error		
227	46	34	Initialization incomplete		
221	46	40	HDD initialization error		
228	46	41	Failure in job RAM data storage on HDD		
229	46	42	HDD periodic cleaning error		
230	46	43	No stamp/overlay image specified		
233	46	50	Tandem communication error		
234	46	51	Tandem image communication error		
127	46	64	PWM $\gamma$ curve generation failure		
128	46	80	Insufficient/broken message queue		
129	46	81	Invalid message or method parameter		
130	46	82	Invalid task		
131	46	83	Invalid event		
132	46	90	Memory access error		
133	46	91	Header access error		
254	49	0	Bad VIF board		
255	49	1	VIF communication error		
256	49	2	DMA error		
134	50	1	Main body drive serial input error 1		
135	50	2	Main body drive serial input error 2		
136	50	3	Main body drive serial input error 3		
137	50	4	Main body drive serial input error 4		
138	50	5	Drive board communication reception error detection		
139	50	10	Image control board communication connection error		
140	50	11	Image control board communication		
141	52	1	Internal cooling fan MT12 EM1		
142	52	2	Internal cooling fan MT12 EM2		
143	52	3	Internal cooling fan MT1 EM1		
144	52	4	Internal cooling fan MT1 EM2		
145	52	5	Internal cooling fan MT2 EM1		
146	52	6	Internal cooling fan MT2 EM2		
147	52	7	Internal cooling fan MT3 EM1		
148	52	8	Internal cooling fan MT3 EM2		
149	52	9	Internal cooling fan MT3 EM3		
150	52	10	Internal cooling fan MT1/2 EM		
151	52	11	Internal cooling fan MT3 EM		
152	53	1	Main MT EM		
153	53	2	TC fuse blowing detection 1		
154	53	3	TC fuse blowing detection 2		
155	53	4	Key counter fuse blowing detection 1		
156	53	5	Key counter fuse blowing detection 2		

NO	Trouble code		Description	Maximum count	Remarks
157	53	6	12 V fuse blowing detection	9999	All counters are 4-digit counters.
158	53	7	5 V fuse blowing detection		
159	53	8	Printer control 12 V detection		
160	53	9	* Not use this count		
161	53	10	* Not use this count		
162	53	11	SD/MC fuse blowing detection 1		
163	53	12	SD/MC fuse blowing detection		
165	56	1	Operation panel ISW not written		
164	56	2	Initial communication failure		
166	60	1	Communication (send) error		
167	60	2	Communication (reception) error		
217	60	3	ADF initial communication error		
168	60	11	DF ISW not written		
169	67	1	Registration sensor error		
170	67	2	Read sensor error		
171	67	3	LSB (PS309) sensor error		
172	67	4	Non-volatile memory error		
173	67	5	Fan motor driving error		
174	67	6	CBS (PS304) sensor error		
175	67	7	SSB (PS313) sensor error		
176	67	8	Paper feed tray up/down driving error		
177	70	1	* Not use this count		
178	70	2	* Not use this count		
179	77	1	Shift driving error		
180	77	2	Tray up/down driving error		
181	77	3	Matching plate drive error		
182	77	4	Ejection roller drive error		
183	77	5	Ejection slot driving error		
184	77	6	Stapler movement unit driving error		
185	77	7	Stapler rotation unit driving error		
186	77	8	Stapler rotation unit driving error		
187	77	11	Stapler F-unit error		
188	77	12	Stapler R-unit error		
189	77	15	Edge conveyance motor driving error		
190	77	21	Stapler rear end stopper motor		
191	77	22	Stapler side guide motor		
192	77	23	Stapler stopper release motor		
193	77	24	Center fold rear end stopper motor		
194	77	25	Center fold knife motor driving error		
195	77	26	Middle fold conveyance motor driving error		
196	77	31	Cutter transfer driving error		
197	77	32	Cutter driving error		
198	77	33	Cutter rear end stopper driving error		
199	77	34	Cutter rear end release motor driving error		
200	77	35	Cutter press motor driving error		
231	77	36	Trimmer pusher motor driving error		



NO	Trouble code		Description	Maximum count	Remarks
232	77	37	Trimmer holder motor driving error	9999	All counters are 4-digit counters.
201	77	41	Sheet feeder up motor driving error		
236	77	52	Z-folding 1st stopper motor driving failure		
237	77	53	Z-folding 2nd stopper motor driving failure		
238	77	54	Punch motor driving failure		
239	77	55	Punch shift motor driving failure		
240	77	56	Fan motor driving error		
241	77	61	Anti-taking fan motor error		
202	77	91	Sub-CPU reception error		
203	77	92	Main CPU reception error		
204	80	1*	Printer control ISW not written		
218	80	1	Printer control initial communication error		
219	80	2	Printer control communication error		
220	80	3	Operation panel communication error		
205	80	21	VIF control ISW not write		
206	80	30	ISW time-out error		
207	80	31	ISW data error		
208	80	32	ISW write error		
209	90	1	ADU drive serial input error 1		
210	90	2	ADU drive serial input error 2		
211	93	1	12 V fuse blowing detection		
212	93	2	-5 V fuse blowing detection		
213	93	3	ADU conveyance motor fuse blowing detection		
214	93	4	ADU reversal motor fuse blowing		
215	93	5	SD/MC fuse blowing detection 1		
216	93	6	SD/MC fuse blowing detection 2		

**Note:** When DIPSW3-1 is set to 1, SC34, 35, and 36 are not counted.

[7] 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 25 mode.
2	<b>[25 Mode Menu Screen]</b> Select “ <b>[5]</b> Parts counter.”
3	<b>[Parts Count Menu Screen]</b> Select “ <b>[1]</b> Count of special parts.”
4	<b>[Copy Count by Parts to be Replaced (Fixed) Screen]</b> Data numbers (No.), part names (Name), and count values are displayed in a list format.  Using <b>[▲]</b> and <b>[▼]</b> keys, select a part name.  To scroll the screen, use <b>[▲]</b> and <b>[▼]</b> keys.
5	Press the <b>[COUNT RESET]</b> key to reset the count value of the part displayed in reverse video.
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the 25 Mode Menu. Screen.

Copy count parts counter

NO	Part name	Maximum count	Counting condition
1	Fixing cleaning web	99999999	Count 1 per ejected paper for single sided, 2 for double sided
2	Developer		Always unaffected by 25DIPSW
3	OPC drum		For A3, 11x17, count 2 per ejected paper for single sided, 4 for double sided
4	Cleaning blade		25DIPSW8-6
5	Fur brush		=0: Count 1 per ejected paper for single sided, 2 for double sided
6	Charging grid		=1: For A3, 11x17, 8k, count 2 per ejected paper for single sided, 4 for double sided
7	Charging unit cleaning		
8	Suction filter		
9	Separation claws		
10	Trans./sep. wire		
11	Trans./sep. CL unit		
12	Fixing upper roller		
13	Fixing lower roller unit		
14	Fixing claws upper		
15	Fixing claws lower		
16	Heat insulate sleeve (upper)		

NO	Part name	Maximum count	Counting condition
17	Upper roller bearing	99999999	25DIPSW8-6 =0: Count 1 per ejected paper for single sided, 2 for double sided =1: For A3, 11x17, 8k, count 2 per ejected paper for single sided, 4 for double sided
18	Fixing Cleaning Sheet		
19	Temperature sensor		
20	Trans./sep. corona unit		
21	Heat insulate sleeve		
22	Heat roller holder		
23	Upper roller error detection sensor		
24	Heating roller error detection sensor		
25	Fixing heat rollers		
26	Ozone filter		
27	Charging corona		
28	PCL		
29	Developing unit		
30	TSL		
31	Tray 1 feed roller		1 is counted each time the paper from tray 1 is ejected.
32	Tray 1 conv/rev roller		
33	Tray 1 feed clutch		
34	Tray 1 convey clutch		
35	Tray 1 feed count		
36	Tray 2 feed roller		1 is counted each time the paper from tray 2 is ejected.
37	Tray 2 conv/rev roller		
38	Tray 2 feed clutch		
39	Tray 2 convey clutch		
40	Tray 2 feed count		
41	Tray 3 feed roller		1 is counted each time the paper from tray 3 is ejected.
42	Tray 3 conv/rev roller		
43	Tray 3 feed clutch		
44	Tray 3 convey clutch		
45	Tray 3 feed count		
46	Tray 4 feed roller		1 is counted each time the paper from LCT is ejected.
47	Tray 4 conv/rev roller		
48	Tray 4 feed clutch		
49	Tray 4 convey clutch		
50	Tray 4 feed count		
51	By-pass feed roller		1 is counted each time the paper from by-pass tray is ejected.
52	By-pass conveyance/reverse roller		
53	By-pass count		1 is counted each time the paper from tray 1/2/3 is ejected.
54	V-convey exit roller		
55	V-convey exit roller/M		1 is counted each time the paper from tray 2/3 is ejected.
56	V-convey exit roller/L		1 is counted each time the paper from tray is ejected
57	V-convey clutch		1 is counted each time the paper from tray 2/3 is ejected.
58	FNS Up/Down motor		1 is counted each time the paper from FNS main tray is ejected. 1 is counted each time a copy is ejected in stapling mode.

NO	Part name	Maximum count	Counting condition
59	FNS stapler/front	99999999	1 is counted each time a copy is ejected in stapling front 1-point stapling, stapling 2-point stapling, or middle binding mode.
60	FNS stapler/rear		1 is counted each time a copy is ejected in stapling rear 1-point stapling, stapling 2-point stapling, or middle binding mode.
61	FNS shift motor		1 is counted each time even-numbered paper is ejected.
62	FNS exit cont. motor		1 is counted each time large size stapling (A4R/8.5x 11R 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.
63	Saddle stitch stop M		1 is counted each time paper is ejected in stapling and folding or folding mode.
64	FNS folding motor		
65	FNS feed clutch (PI)		1 is counted each time PI cover sheet is ejected.
66	ADF pickup roller		Number of originals passes in all modes
67	ADF feed roller		
68	ADF retard roller		
69	ADF sub pick roller		
70	ADF torque limiter		
71	ADF SDF solenoid		All originals passed in SDF mode
72	ADF LSB (PS309) solenoid		1) 1 is counted each time original is set in large size 1-sided original mode. 2) 1 is counted each time original is set in large size 2-sided original mode.
73	ADF press/release SD		1 is counted each time original is set in large size 2-sided original mode.
74	ADF SSB solenoid		1 is counted each time all-size 2-sided original mode.
75	Toner seal board		1 is counted each time 1-sided original is ejected;
76	Guide plate assy		2 is counted each time 2-sided original is ejected.
77	Registration clutch		-
78	ADU pre-regis. CL		2 is counted each time 2-sided paper is ejected. (0 is counted when 1-sided paper is ejected.)
79	Regis. feed count		1 is counted each time 1-sided paper is ejected; 2 is counted each time 2-sided paper is ejected.
80	Reversal exit count		2 is counted each time 1-sided paper is ejected after being reversed. 0 is counted each time 1-sided paper is ejected straight. 1 is counted each time 2-sided paper is ejected.
81	Paper feed count ADU		2 is counted each time 2-sided paper is ejected. (0 is counted when 1-sided paper is ejected.)
82	Exposure ON time		Unit
83	Main switch		1 is counted each time the power is turned OFF with the main SW set at OFF.
84	Door switch		1 is counted each time front door is opened.
85	Web motor		1 is counted each time 1-sided paper is ejected; 2 is counted each time 2-sided paper is ejected.

NO	Part name	Maximum count	Counting condition
86	Paper adjuster (trimmer)	99999999	Incremented by 1 each time the cutter operates.
87	Punching unit (2 Hole)		Incremented by 1 each time the puncher operates.
88	Punching unit (3 Hole)		
89	Punching unit (4 Hole)		
90	Developing suction duct		25DIPSW8-6 =0: Count 1 per ejected paper for single sided, 2 for double sided =1: For A3, 11x17, 8k, count 2 per ejected paper for single sided, 4 for double sided
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			
101			
102			
103			
104			



126		
127	99999999	
128		

**Note:** Definition of large-size originals in terms of part counting.  
The following originals are defined as large size original.

- 1. Sizes of originals ejected to exit tray (for large size) of DF (A4/B4/A4R/B5R/F4/11x17/8.5x14/8.5x11R)
- 2. All originals in mixed original mode

[8] 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 incremented by 1 for each side irrespective of the paper size.

1. 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 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select the " <b>[5]</b> Parts counter".
3	<b>[Copy count of part menu Screen]</b> Select the " <b>[2]</b> Count of each parts".
4	<b>[Copy count of each part Screen]</b> Data numbers (No.), part names (Name), part numbers (P/N), and count/limit values are displayed in a list format. Using <b>[▲]</b> and <b>[▲]</b> keys, select a part name. To scroll the screen, use <b>[▼]</b> and <b>[▲]</b> keys.
5	Press the <b>[COUNT RESET]</b> key to reset the count value of the part displayed in reverse video.
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the 25 Mode Menu. Screen.

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

2. 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 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select the " <b>[5]</b> Parts counter".
3	<b>[Copy count of part menu Screen]</b> Select the " <b>[2]</b> Count of each parts".
4	<b>[Copy count of each part Screen]</b> Data numbers (No.), part names (Name), part numbers (P/N), and count/limit values are displayed in a list format. Using <b>[▲]</b> and <b>[▲]</b> keys, select a data number. To scroll the screen, use <b>[▼]</b> and <b>[▲]</b> keys.
5	Press the Part Name Set, P/N Set, or Limit Set key.
6	<b>[Data change screen by parts to be replaced]</b> Press the <b>[Parts name]</b> , <b>[P/N set]</b> or <b>[Limit set]</b> 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	Press the <b>[OK]</b> key to allow the new data to take effect. To cancel the new data, press the <b>[CANCEL]</b> key. Pressing either key will display the Copy count by parts to be replaced (optional parts) screen again.
10	Press the <b>[PREVIOUS SCREEN]</b> key to return to the 25 Mode Menu. Screen.

**Reference1:** The characters entered in the data field of each data item will be shifted to the left one after another.

**Reference2:** When the number of entered characters exceeds 10, the left-most character will disappear.

## [9] 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. EKC master key code (8 digits) \*1  
This code is necessary when entering various EKC setting modes.

**Note:** Name of system  
EKC : Except USA area  
ECM : USA area only

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 ON" is not specified for the weekly timer in the key operator mode.




4. HDD management password (4 digits)  
This password is necessary when entering various HDD management modes.

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select the "  Password setting".
3	<b>[Password setting mode Screen]</b> Select "key operator password (4 digits)", "EKC master key code (8 digits)", "Weekly timer password (4 digits)" or "HDD management password (4 digits)".
4	Enter a new password using numeric keys.
5	Perform step 3 and 4 repeatedly to set other passwords.
6	Press the  key to allow the passwords to take effect. To cancel the new passwords, press the  key. Pressing either key will display the 25 Mode Menu. Screen again.

- Reference1:** The digits entered in the data field of each data item will be shifted to the left one after another.
- Reference2:** When the number of entered digits exceeds 4 or 8, the leftmost character will disappear.
- Reference3:** Setting the key operator password, weekly timer password, and HDD 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.

**[10] Setting the Telephone Number and/or Fax Number of the Service Center**

This function allows you to set the telephone number and/or fax number 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. This function is not related to the RD mode; the telephone number and/or fax number are/is just displayed on the screen.

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select the "  Telephone Number setting".
3	<b>[Customer support TEL/FAX setting Screen]</b> Select "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	Press the  key to allow the telephone number and/or fax number to take effect. To cancel the telephone number and/or fax number, press the  key. Pressing either key will display the 25 Mode Menu. Screen again.

- Reference1:** 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.
- Reference2:** The entered digits will be shifted to the left one after another, starting at the right end.



### [11] Setting the Serial Number

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

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select the " <b>[8]</b> Serial number setting".
3	<b>[Serial number setting mode Screen]</b> Press the <b>[Main body]</b> , <b>[Option tray]</b> , <b>[EDH]</b> or <b>[Finisher]</b> key.
4	Enter the serial number using alphabetic and numeric keys.
5	Perform steps 3 and 4 repeatedly to set other serial numbers.
6	Press the <b>[OK]</b> key to allow the serial numbers to take effect. To cancel the serial numbers, press the <b>[CANCEL]</b> key. Pressing either key will display the 25 Mode Menu. Screen again.

**Reference1:** If the set serial number is invalid, a pop-up window appears to display a warning message. Press the **[OK]** key to close the pop-up window, then enter a valid serial number again.

**Reference2:** The entered characters will be shifted to the left one after another, starting at the right end.

### [12] Displaying the ROM Version

This function allows you to display the versions of the installed ROMs.

Step	Operation
1	Enter the 25 mode.
2	<b>[25 Mode Menu. Screen]</b> Select the " <b>[9]</b> Indication of ROM version".
3	<b>[Indication of ROM Version Screen]</b> The versions of the ROMs installed in the image control, printer control, finisher, EDH, and VIF board are displayed.
4	Press the <b>[PREVIOUS SCREEN]</b> key to return to the 25 Mode Menu. Screen.

[13] List of Adjustment Items for 25 Mode

Adjustment Item Menu			Remarks
①	Software SW setting		See "list of Software DIP Switches".
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 EDH count	
		⑤ Black ratio of each section	
		⑥ Black ratio ranking list	
		⑦ JAM data of time series	
		⑧ JAM count	
		⑨ Count of each copy mode	
		⑩ SC count	
		⑪ JAM count of each section	
		⑫ SC 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
		EKC master key code	8 digits
		Weekly timer password	4 digits
		HDD 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	Main body	
		Optional tray	
		EDH	
		Finisher	
⑨	Indication of ROM version		Indication of versions of ROMs installed in the image control, printer control, panel, finisher, and EDH, Z-fold.
⑩	RD-mode setting		
⑪	ISW		
⑫	Setting date input		

## 36 MODE

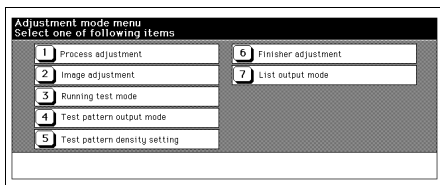
### [1] Setting Method

A special adjustment mode called the 36 Mode is provided. This mode is used to perform various adjustments.

1. Turn off the main switch.
2. Turn on the main switch while holding down both paper quantity buttons 3 and 6. The 36 Mode Menu Screen appears.

At this point, you are in 36 mode and normal copy operation is disabled.

#### [Adjustment mode menu Screen]



3. Press 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, press the **NEXT** or **PREVIOUS** key to select the desired item. If there are more screens below, press the key displayed on screen to change screen.
6. Enter data and press the **SET** key if it is available, to confirm your entry.
7. Press the **PREVIOUS SCREEN** key to end adjustment.
8. Turn off the main switch and exit the 36 mode.
9. The new adjustment values take effect after restarting the machine.

### [2] High Voltage Adjustment

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

1. Select " **1** Process adjustment" in the adjustment mode menu Screen to display the Process adjustment mode menu Screen.
2. Press " **1** High voltage adjustment" in the Process adjustment mode menu Screen to display the High voltage adjustment menu.
3. High voltage adjustment consists of the following:
  - 1** High Voltage Auto Adjustment
  - 2** High Voltage Adjustment (Charge)
  - 3** High Voltage Adjustment (Transfer)
  - 4** High Voltage Adjustment (Separation AC)
  - 5** High Voltage Adjustment (Separation DC)
  - 6** High Voltage Adjustment (Charging grid voltage)
  - 7** High Voltage Adjustment (Bias of development)
  - 8** Transfer Guide Confirm
4. Press the number button 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 Menu Screen.
6. Press the **PREVIOUS SCREEN** key in the High Voltage Adjustment Menu Screen to return to the Process Adjustment Menu Screen.

1. High Voltage Auto Adjustment

Charging, separation (AC), separation (DC), development bias current and voltage are adjusted in sequence.

**Preparation:** Be sure the drum unit is set.

Step	Operation
1	Enter the 36 mode.
2	[Adjustment mode menu Screen] Press " <b>1</b> " Process adjustment".
3	[Process Adjustment Menu Screen] Press " <b>1</b> " High Voltage Adjustment."
4	[High Voltage Adjustment Menu Screen] Press " <b>1</b> " high Voltage Auto Adjustment."
5	[High Voltage Auto Adjustment Screen] Press the <b>Start</b> key. Various high voltage adjustments are made automatically. Adjustment completes in about 30 seconds and an end message is displayed.
6	Press the <b>PREVIOUS SCREEN</b> key to return to the Process Adjustment Menu Screen.

**Reference1:**

If a transfer adjustment error, separation DC adjustment error, separation AC adjustment error or development bias adjustment error message is displayed during high voltage auto adjustment, clean the unit associated with the error, check its installation state and retry the high voltage auto adjustment.

2. High Voltage Adjustment (Charge)

High Voltage Adjustment (Charge) is inhibited in the field.

3. High Voltage Adjustment (Transfer)

Default setting value must be set under the guidance of Minolta Tech. Support.

4. High Voltage Adjustment (Separation AC)

Default setting value must be set under the guidance of Minolta Tech. Support.

5. High Voltage Adjustment (Separation DC)

Default setting value must be set under the guidance of Minolta Tech. Support.

6. High Voltage Adjustment (Charging Grid Voltage)

High Voltage Adjustment (Charging Grid Voltage) is inhibited in the field.

7. High Voltage Adjustment (Bias of Development)

Default setting value must be set under the guidance of Minolta Tech. Support.

8. Transfer Guide Confirm

Transfer Guide Confirm is inhibited in the field.

### [3] Drum Peculiarity Adjustment

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

1. Select **[1]** Process adjustment in the 36 Mode Menu Screen to display the Process Adjustment Menu Screen.
2. Press **[2]** Drum peculiarity adjustment in the Process Adjustment Menu Screen to display the Drum Peculiarity Adjustment Menu Screen.
3. Drum peculiarity adjustment consists of the following:
  - [1]** Blade setting mode
  - [2]** Auto drum potential adjustment
  - [3]** Auto maximum density adjustment (Dmax adjustment)
  - [4]** Auto dot diameter adjustment
  - [5]** LD1 offset adjustment
  - [6]** LD2 offset adjustment
  - [7]** LD1 bias adjustment
  - [8]** LD2 bias adjustment
  - [9]** LD sub-pitch offset adjustment
  - [10]** Auto gamma adjustment (1 dot)
  - [11]** Cartridge set mode
4. Press 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 Characteristic Adjustment Menu Screen.
6. Press the **[PREVIOUS SCREEN]** key in the Drum Characteristic Adjustment Menu Screen to return to the Process Adjustment Menu Screen.

### 1. 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 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[1]</b> Process adjustment".
3	<b>[Process adjustment Screen]</b> Press " <b>[2]</b> Drum peculiarity adjustment".
4	<b>[Drum peculiarity adjustment mode menu Screen]</b> Press " <b>[1]</b> Blade setting mode".
5	<b>[Blade setting mode Screen]</b> Press the <b>[Start]</b> key. Adjustment completes in about 5 second and an end message is displayed.
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Drum peculiarity adjustment mode menu Screen.

## 2. Auto drum potential adjustment

Automatically adjusting the development bias and drum applied voltage by measuring the drum potential.

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

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

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>1</b> " Process adjustment".
3	<b>[Process adjustment Screen]</b> Press " <b>2</b> " Drum peculiarity adjustment".
4	<b>[Drum peculiarity adjustment mode menu Screen]</b> Press " <b>2</b> " Auto drum potential adjustment".
5	<b>[Auto drum potential adjustment Screen]</b> Press the <b>[Start]</b> key. Development bias and applied voltage are adjusted automatically. Adjustment completes in about 10 seconds and an end message is displayed.
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Drum peculiarity adjustment mode menu Screen.

### Reference:

If any one of the following error messages appears during auto drum potential adjustment,  
clean the DPSB (drum potential sensor board),  
check its installation state, and retry the auto drum potential adjustment.

Error 1: During drum surface sensor 0 V check, a voltage over 100 V has been detected for 5 or more times.

Error 2: It has been judged that VI is 350 V or higher and no control patch is output.

Error 3: Drum potential has been corrected 10 or more times, but it does not converge.

## 3. Auto maximum density adjustment (Dmax adjustment)

Automatically adjusting maximum density (Dmax).

This adjustment should be performed when the drum, developer, write unit, or dust-proof glass is replaced.

**Preparation:** Be sure the drum unit is set, developer is in the developing unit.  
Auto drum potential adjustment must have been complete.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>1</b> " Process adjustment".
3	<b>[Process adjustment Screen]</b> Press " <b>2</b> " Drum peculiarity adjustment".
4	<b>[Drum peculiarity adjustment mode menu Screen]</b> Press " <b>3</b> " Auto maximum density adj."
5	<b>[Auto maximum density adjustment Screen]</b> Press the <b>[Start]</b> key. The maximum density (Dmax) is adjusted automatically. Adjustment completes in about 20 seconds and an end message is displayed.
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Drum peculiarity adjustment mode menu Screen.

### Reference:

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

Error 1: The Dmax sensor dirt correction has been corrected 10 or more times, but it does not converge.

Error 2: Maximum density adjustment is not complete when the developing sleeve rotation speed reaches the specified value.

Error 3: No signal is output from the Dmax sensor. No control patch is output.

#### 4. Auto dot diameter adjustment

Automatically adjusting the dot diameter.

This adjustment should be performed when the drum, developer, write unit, or dust-proof glass is replaced.

**Preparation:** Be sure the drum unit is set, developer is in the developing unit. Auto drum potential adjustment and auto maximum density adjustment must have been complete.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>1</b> " Process adjustment".
3	<b>[Process adjustment Screen]</b> Press " <b>2</b> " Drum peculiarity adjustment".
4	<b>[Drum peculiarity adjustment mode menu Screen]</b> Press " <b>4</b> " Auto dot diameter adjustment".
5	<b>[Auto Dot Diameter Adjustment Screen]</b> Press the <b>[Start]</b> key. The dot diameter is adjusted automatically. Adjustment completes in about 30 seconds and an end message is displayed.
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Drum peculiarity 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.

Error 1: The  $\gamma$  sensor dirt correction has been corrected 10 or more times, but it does not converge.

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

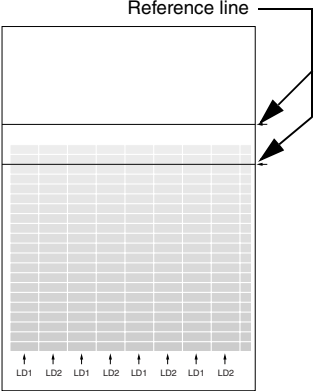
#### 5. LD1 offset adjustment

Adjusting the LD1 laser write position.

This adjustment should be performed when the drum or developer is replaced. (Adjusting 400 dpi and 600 dpi must be completed.)

**Preparation:** Be sure the drum unit is set. Auto drum potential adjustment, auto maximum density adjustment, and auto dot diameter adjustment must have been complete.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>1</b> " Process adjustment".
3	<b>[Process adjustment Screen]</b> Press " <b>2</b> " Drum peculiarity adjustment".
4	<b>[Drum peculiarity adjustment mode menu Screen]</b> Press " <b>5</b> " LD1 offset adjustment".
5	<b>[LD1 offset adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper and press the <b>[Start]</b> key to output the test pattern.

7	<p>Check the test pattern.</p> <p><b>Specification:</b></p> <p>The density of test pattern image resulting from two laser output (vertical and horizontal scanning) must be even vertically and horizontally between two image density reference lines, as shown in the following figure.</p> 
8	<p>If the specification is not satisfied, press the C button while pressing the Utility key.</p>
9	<p><b>[LD1 offset adjustment Screen]</b></p> <p>Enter an offset value using the numeric keys and press the <b>[SET]</b> key.</p> <p>Setting range: -128 to +127</p>
10	<p>Repeat steps 5 to 9 until the specification is satisfied.</p>
11	<p>Press the <b>[PREVIOUS SCREEN]</b> key to return to the Drum peculiarity adjustment mode menu Screen.</p>

6. LD2 offset adjustment

Adjusting the LD2 laser write position.

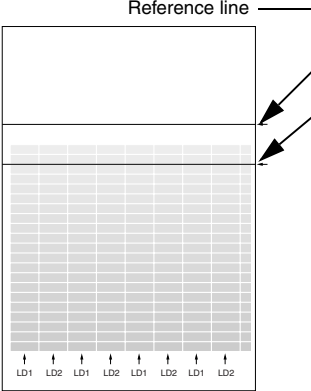
This adjustment should be performed when developer is replaced. (Adjusting 400 dpi and 600 dpi must be completed.)

**Preparation:** Be sure the drum unit is set.

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

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[1]</b> Process adjustment".
3	<b>[Process adjustment mode menu Screen]</b> Press " <b>[2]</b> Drum peculiarity adjustment".
4	<b>[Drum peculiarity adjustment mode menu Screen]</b> Press " <b>[6]</b> LD2 offset adjustment".
5	<b>[LD1 offset adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper and press the <b>[Start]</b> key to output the test pattern.



7	<p>Check the test pattern.</p> <p><b>Specification:</b> The density of test pattern image resulting from two laser output (vertical and horizontal scanning) must be even vertically and horizontally between two image density reference lines, as shown in the following figure.</p> 
8	<p>If the specification is not satisfied, press the C button while pressing the Utility key.</p>
9	<p><b>[LD2 offset adjustment Screen]</b> Enter an offset value using the numeric keys and press the <b>[SET]</b> key. Setting range: -128 to +127</p>
10	<p>Repeat steps 5 to 9 until the specification is satisfied.</p>
11	<p>Press the <b>[PREVIOUS SCREEN]</b> key to return to the Drum peculiarity adjustment mode menu Screen.</p>

**7. LD1 bias adjustment**

LD1 bias adjustment is not performed in the field.

**8. LD2 bias adjustment**

LD2 bias adjustment is not performed in the field.

**9. LD sub-pitch offset adjustment**

LD sub-pitch offset adjustment is not performed in the field.

## 10. Auto Gamma Adjustment (1 dot)

Performing gamma adjustment automatically.

This adjustment should be performed when the drum, developer, write unit, or dust-proof glass is replaced.

**Preparation:** Be sure the drum unit is set and auto drum potential adjustment, auto maximum density adjustment, auto dot diameter adjustment, LD1 offset adjustment, and LD2 offset adjustment must have been complete.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>1</b> " Process adjustment".
3	<b>[Process adjustment Screen]</b> Press " <b>2</b> " Drum peculiarity adjustment".
4	<b>[Drum peculiarity adjustment mode menu Screen]</b> Press " <b>10</b> " Auto gamma adjustment (1 dot)".
5	<b>[Auto gamma adjustment Screen]</b> Press the <b>[Start]</b> key. The drum and developer operate to automatically adjust Gamma. Adjustment completes in about 20 seconds and an end message is displayed.
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Drum peculiarity adjustment mode menu Screen.

### Reference:

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

- Error 1: The  $\gamma$  sensor dirt correction has been corrected 10 or more times, but it does not converge.
- Error 2: No signal is output from the  $\gamma$  sensor. No control patch is output.
- Error 3: A recurrence error occurred during  $\gamma$  curve calculation.

## 11. Cartridge set mode

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

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>1</b> " Process adjustment".
3	<b>[Process adjustment Screen]</b> Press " <b>2</b> " Drum peculiarity adjustment".
4	<b>[Drum peculiarity adjustment mode menu Screen]</b> Press " <b>11</b> " Cartridge set mode".
5	<b>[Cartridge set mode Screen]</b> Press the <b>[Start]</b> key.
6	The developing unit and the drum rotate for two minutes, and return to Cartridge set mode Screen.
7	Press the <b>[COPY SCREEN]</b> key.
8	Select the wide paper (A3, A4, 11x17, 8.5 x11) in the direction of the drum shaft, set 10 copies, and press START button.
9	If black dots still appear, press the C button while pressing the Utility key to return to the cartridge set mode, and repeat the step 5 to 8.
10	Press the C button while pressing Utility key when black dots disappear.
11	Press <b>[PREVIOUS SCREEN]</b> key to return to the Drum peculiarity adjustment mode menu Screen.

[4] **Drum Peculiarity Adjustment (Manual)**

1. **Maximum density adjustment**

This adjustment must be performed under the guidance of Minolta Tech. Support.  
Variable range: 0 to 255

2. **Dot diameter manual adjustment**

This adjustment must be performed under the guidance of Minolta Tech. Support.  
Variable range: 0 to 255

[5] **User Paper Setting**

This adjustment is only performed when the user uses special copy paper and can not 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 "User paper" is selected for "Transfer/separation corona unit output for plain paper" or "recycled paper" in 25 mode DIPSW.  
The data for 64 g/m<sup>2</sup> plain paper" is input as the default.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>1</b> " Process adjustment".
3	<b>[Process adjustment Screen]</b> Select " <b>4</b> " User paper setting".
4	Transfer/separation output screen appears. Enter data according to the user specified paper. Data should be input under the guidance of Minolta Tech. Support.

[6] Recall Standard Data (Process Adjustment)

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

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[1]</b> Process adjustment".
3	<b>[Process adjustment mode menu Screen]</b> Select " <b>[5]</b> Recall standard data".
4	<b>[Recall standard data Screen]</b> Press the <b>[YES]</b> key. Various data is restored to standard values.
5	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Process adjustment Screen.

[7] Tray Adjustment

This adjustment should be performed when the tray or by-pass unit is replaced.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[2]</b> Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Select " <b>[1]</b> Tray adjustment".
4	<b>[Tray adjustment Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select the tray to be adjusted. The screen changes from Tray 1 (1) to Tray 1 (2) to Tray 2 (1) to Tray 2 (2) to Tray 3 (1) to Tray 3 (2) to By-pass 1 to By-pass 2. Using a scale, set the distance between (the inner surface of) the paper side guide plates of each tray to 250 mm on Tray (1), and to 280 mm (8.5x11) on Tray (2). Set the distance between (the inner surfaces of) the paper side guide plates of by-pass tray 1 to 210 mm (A4R) and tray 2 to 280 mm (8.5 x 11) respectively.
5	Press the <b>[Start]</b> key. The selected tray is automatically adjusted. After adjustment completes, a message is displayed.
6	Press the <b>[PREVIOUS SCREEN]</b> key.

## [8] Magnification Adjustment

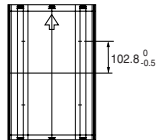
Adjusting the printer and copy vertical and horizontal magnifications.

1. Select " **2** Image adjustment" in the Adjustment mode menu Screen to display the Image adjustment mode menu Screen.
2. Press " **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** Printer drum clock adjustment
  - 2** Printer horizontal adjustment
  - 3** Scanner drum clock adjustment
  - 4** EDH drum clock adjustment
4. Press the number key corresponding to the item to be adjusted.  
The adjustment screen for the selected item is displayed.
5. After adjustment completes, the screen returns to the Magnification Adjustment Menu Screen.
6. Press the **PREVIOUS SCREEN** key on the Magnification adjustment menu Screen to return to the Image adjustment mode menu Screen.

**Caution:** Check and adjust the printer drum clock adjustment during maintenance. Also adjust the printer restart timing because it changes with the printer drum clock adjustment.

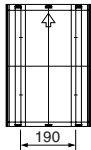
## 1. Printer vertical magnification adjustment

Adjusting the printer zoom FD.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press "Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Select " <b>2</b> Magnification adjustment".
4	<b>[Magnification adjustment mode menu Screen]</b> Press " <b>1</b> Printer drum clock adjustment".
5	<b>[Printer drum clock adjustment Screen]</b> Press the <b>COPY SCREEN</b> key.
6	Select 11 x 17" size paper and press the START button to output the test pattern (No.16).
7	<p>Measure the vertical magnification with a ruler. Specification: ±0.5% or less (100% magnification) Within 0 mm with respect to 102.8 mm. -0.5 mm</p> 
8	If the specification is not satisfied, press the C button while pressing the Utility key.
9	<b>[Printer drum clock adjustment Screen]</b> Enter a value using the numeric keys and press the <b>SET</b> key. Setting range: -27 to +100 1 step = 0.05%
10	Repeat steps 5 to 9 until the specification is satisfied.
11	Press the <b>PREVIOUS SCREEN</b> key to return to the Magnification adjustment mode menu Screen.

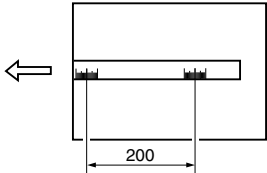
## 2. Printer horizontal magnification adjustment

Adjusting the printer zoom CD.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Select " <b>2</b> " Magnification adjustment".
4	<b>[Magnification adjustment mode menu Screen]</b> Press " <b>2</b> " Printer horizontal magnification adjustment".
5	<b>[Printer horizontal adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper and press the START button to output the test pattern (No.16).
7	Measure the horizontal magnification with a ruler. Specification: $\pm 0.5\%$ or less (100% magnification) Within $\pm 1$ mm with respect to 190 mm. 
8	If the specification is not satisfied, press the C button while pressing the Utility key.
9	<b>[Printer horizontal adjustment Screen]</b> Enter a value using the numeric keys and press the <b>[SET]</b> key. Setting range: -10 to +10 1 step = 0.1%
10	Repeat steps 5 to 9 until the specification is satisfied.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Magnification adjustment mode menu Screen.

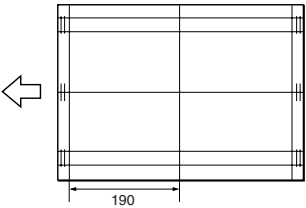
## 3. Scanner (platen) drum clock magnification adjustment

Adjusting the scanner zoom FD.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Select " <b>2</b> " Magnification adjustment".
4	<b>[Magnification adjustment mode menu Screen]</b> Press " <b>3</b> " Scanner drum clock adjustment".
5	<b>[Scanner (Platen) drum clock adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper, place a scale on the platen glass so that it runs parallel with the Original stopper plate rear, and press the START button.
7	Measure the vertical magnification with a ruler. Specification: $\pm 0.5\%$ or less (100% magnification) Within $\pm 1$ mm with respect to 200 mm. 
8	If the specification is not satisfied, press the C button while pressing the Utility key.
9	<b>[Scanner (Platen) drum clock adjustment Screen]</b> Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -40 to +40 1 step = 0.05%
10	Repeat steps 5 to 9 until the specification is satisfied.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Magnification adjustment mode menu Screen.

#### 4. Scanner (EDH) drum clock magnification adjustment

Adjusting the EDH zoom FD.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Select " <b>2</b> " Magnification adjustment".
4	<b>[Magnification adjustment mode menu Screen]</b> Press " <b>4</b> " EDH drum clock adjustment".
5	<b>[EDH drum clock adjustment Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select the magnification to be adjusted. The screen rotates from 100% to 65% to 200% to 400%.
6	Press the <b>[COPY SCREEN]</b> key.
7	Select 11 x 17" size paper, set an adjustment chart on EDH, and press the START button.
8	Measure the vertical magnification with a ruler.  Specification: ± 0.5% or less (100% magnification) Within ± 1 mm with respect to 190 mm.  
9	If the specification is not satisfied, press the C button while pressing the Utility key.
10	<b>[EDH drum clock adjustment Screen]</b> Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -40 to +40 1 step = 0.05%
11	Repeat steps 5 to 10 until the specification is satisfied.

12	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Magnification adjustment mode menu Screen.
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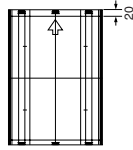
## [9] Timing Adjustment

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

1. Select **[2]** Image adjustment in the Adjustment mode menu Screen to display the Image adjustment mode menu Screen.
2. Press "**[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]** Printer restart timing adj.
  - [2]** Printer recast loop adjustment
  - [3]** Printer pre-regist adjustment
  - [4]** Printer lead edge timing adj.
  - [5]** Scanner restart timing adj.
  - [6]** EDH restart timing adjustment
  - [7]** EDH regist loop adjustment
4. Press the number key corresponding to the item to be adjusted.  
The adjustment screen of the selected item appears.
5. The Timing adjustment mode menu Screen reappears when adjustment completes.
6. Press the **[PREVIOUS SCREEN]** key in the Timing Adjustment Menu Screen to return to the Image Adjustment Menu Screen.

### 1. Printer restart timing adjustment

Adjusting the lead edge registration.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[2]</b> Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>[3]</b> Timing adjustment".
4	<b>[Timing adjustment mode menu Screen]</b> Press " <b>[1]</b> Printer restart timing adj".
5	<b>[EDH drum clock adjustment Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select the magnification to be adjusted. The screen changes as follows; Others → Post card → Tray 1 offset → Tray 2 offset → Tray 3 offset → Tray 4 offset → By-pass offset. Therefore, the specified tray can be offset.
6	Press the <b>[COPY SCREEN]</b> key.
7	Select 11 x 17" size paper and press the <b>START</b> button to output the test pattern (No.16).
8	Check the leading edge detection timing. Specification: 20 to 21 mm 
9	If the specification is not satisfied, press the C button while pressing the Utility key.
10	<b>[Printer restart timing adjustment Screen]</b> Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -30 to +60 1 step = 0.1 mm
11	Repeat steps 5 to 10 until the specification is satisfied.
12	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Timing adjustment mode menu Screen.



## 2. Printer regist loop adjustment

Adjusting the printer registration loop amount for trays (tray 1, 2 and 3), by-pass tray, and ADU.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>3</b> " Timing adjustment".
4	<b>[Timing adjustment mode menu Screen]</b> Press " <b>2</b> " Printer regist loop adjustment".
5	<b>[Printer regist loop adj Screen]</b> Press the <b>(NEXT)</b> or <b>(PREVIOUS)</b> key to select the item to be adjusted. The screen changes from Tray to By-pass tray to ADU.
6	Press the <b>(COPY SCREEN)</b> key.
7	Press the START button to make a copy.
8	Check the printer registration loop amount.
9	If the printer registration loop amount is not appropriate, press the C button while pressing the Utility key.
10	<b>[Printer regist loop adj. Screen]</b> Enter a value with the numeric keys and press the <b>(SET)</b> key. <ul style="list-style-type: none"> <li>• Tray (tray 1, 2, 3) Setting range: -5 to +5 1 step = 2 ms</li> <li>• By-pass tray Setting range: -10 to +10 1 step = 2 ms</li> <li>• ADU Setting range: -10 to +10 1 step = 2 ms</li> </ul>
11	Repeat steps 5 to 10 until the printer registration loop amount is appropriate.
12	Press the <b>(PREVIOUS SCREEN)</b> key to return to the Timing adjustment mode menu Screen.

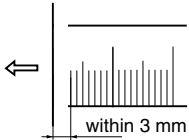
## 3. Printer pre-registration adjustment

Adjusting the pre-registration loop amount for trays 1, 2, 3, LCT and ADU.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>3</b> " Timing adjustment".
4	<b>[Timing adjustment mode menu Screen]</b> Press " <b>3</b> " Printer pre-registration adjustment".
5	<b>[Printer pre-regist adj. Screen]</b> Press the <b>(NEXT)</b> or <b>(PREVIOUS)</b> key to select the item to be adjusted. The screen changes from Tray 1 to Tray 2 to Tray 3 to Tray 4 (LCT) to ADU.
6	Press the <b>(COPY SCREEN)</b> key.
7	Press the START button to make a copy.
8	Check the printer pre-registration loop amount.
9	If the printer pre-registration loop amount is not appropriate, press the C button while pressing the Utility key.
10	<b>[Printer pre-regist adj. Screen]</b> Enter a value with the numeric keys and press the <b>(SET)</b> key. <ul style="list-style-type: none"> <li>• Tray (tray 1, 2, 3 and LCT) Setting range: -5 to +5 1 step = 2 ms</li> <li>• ADU Setting range: -10 to +10 1 step = 2 ms</li> </ul>
11	Repeat steps 5 to 10 until the printer pre-registration loop amount is appropriate.
12	Press the <b>(PREVIOUS SCREEN)</b> key to return to the Timing adjustment mode menu Screen.

#### 4. Printer leading edge timing adjustment

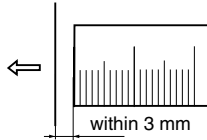
Adjusting the lead edge void (image erasure amount).

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>3</b> " Timing adjustment".
4	<b>[Timing adjustment mode menu Screen]</b> Press " <b>4</b> " Printer lead edge timing adjustment".
5	<b>[Printer lead edge timing adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper, place a scale on the platen glass so that its leading edge is aligned Original stopper plate left, and press the START button.
7	Check the printer leading edge erasure amount. Specification: Within 3mm 
8	If the printer leading edge erasure amount is not appropriate, press the C button while pressing the Utility key.
9	<b>[Printer lead edge timing adjustment Screen]</b> Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -20 to +40 1 step = 0.1mm
10	Repeat steps 5 to 9 until the printer leading edge erasure amount is within specification.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Timing adjustment mode menu Screen.

#### 5. Scanner restart timing adjustment

Adjusting the scanner (platen) leading edge void.

**Caution:** Printer restart timing adjustment must be completed before performing this adjustment.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>3</b> " Timing adjustment".
4	<b>[Timing adjustment mode menu Screen]</b> Press " <b>5</b> " Scanner restart timing adj. .
5	<b>[Scanner (platen) restart timing adj. Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper, place a scale on the platen glass so that its leading edge is aligned Original stopper plate left, 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 Utility key.
9	<b>[Scanner (platen) restart timing adj. Screen]</b> Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -60 to +20 1 step = 0.1 mm
10	Repeat steps 5 to 9 until the leading edge timing is within specification.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Timing adjustment mode menu Screen.

## 6. EDH restart timing adjustment

Adjusting the EDH leading edge void.

**Caution:** Printer restart timing adjustment must be completed before performing this adjustment.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>3</b> " Timing adjustment".
4	<b>[Timing adjustment mode menu Screen]</b> Press " <b>6</b> " EDH restart timing adjustment".
5	<b>[EDH restart timing adj. Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper, set an adjustment chart on EDH, 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 Utility key.
9	<b>[EDH restart timing adj. Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select the item to be adjusted. The screen changes from SIDE1 to SIDE2.
10	Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -50 to +50 1 step = 0.1 mm
11	Repeat steps 5 to 10 until the leading edge timing is within specification.
12	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Timing adjustment mode menu Screen.

## 7. EDH regist loop adjustment

Adjusting the registration loop amount during EDH copy.

**Caution:** Printer restart timing adjustment must be completed before performing this adjustment.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>3</b> " Timing adjustment".
4	<b>[Timing adjustment mode menu Screen]</b> Press " <b>7</b> " EDH regist loop adjustment".
5	<b>[EDH regist loop adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key and then switch to Both side - Single side copy mode.
6	Select 11 x 17" size paper, set an adjustment chart on EDH, 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 Utility key.
9	<b>[EDH regist loop adjustment Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select the item to be adjusted. The screen changes from SIDE1 to SIDE2.
10	Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -10 to +10 1 step = 0.5 mm
11	Repeat steps 5 to 10 until the registration loop amount is within specification.
12	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Timing adjustment mode menu screen.

[10] EDH Adjustment

Performing EDH density adjustment, EDH original size adjustment, EDH sensitivity adjustment, and EDH skew offset adjustment.

- 1. Select **[2]** Image adjustment in the 36 Mode Menu Screen and display the Image adjustment mode menu Screen.
- 2. Press **[4]** EDH adjustment in the Image Adjustment Menu Screen and display the EDH adjustment mode menu Screen.
- 3. EDH adjustment consists of the following items:
  - [1]** EDH density adjustment
  - [2]** EDH original size adjustment
  - [3]** EDH sensor sensitivity adjustment
  - [4]** EDH Incline offset adjustment
- 4. Press the number button corresponding to the item to adjust.  
The adjustment screen of the selected item appears.
- 5. The EDH adjustment mode menu Screen reappears when adjustment completes.
- 6. Press the **[PREVIOUS SCREEN]** key in the EDH adjustment mode menu Screen to return to the Image adjustment mode menu Screen.

1. EDH density adjustment

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

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

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[2]</b> Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>[4]</b> EDH adjustment".
4	<b>[EDH adjustment mode menu Screen]</b> Press " <b>[1]</b> EDH density adjustment".
5	<b>[EDH density adjustment Screen]</b> Set white chart on EDH (Caution 1).
6	Press the <b>[Start]</b> key. EDH 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	Press the <b>[PREVIOUS SCREEN]</b> key to return to the EDH adjustment mode menu Screen.

**Caution1:** Be sure to set the white chart in A4 crosswise vertical orientation.

**Caution2:** If the error message appears repeatedly, there is a possibility of scanner-system mechanical, optical, or electrical adjustment error or parts defect.

## 2. EDH original size adjustment

Perform this adjustment when the EDH original size detection does not operate properly or when replacing the EDH control board.

**Caution:** EDH original size adjustment consists of A4/8.5 x 11 and B6R/5.5 x 8.5R.

Use the **[NEXT]** or **[PREVIOUS]** key to select the desired adjustment item.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[2]</b> Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>[4]</b> EDH adjustment".
4	<b>[EDH adjustment mode menu Screen]</b> Press " <b>[2]</b> EDH original size adjustment".
5	<b>[EDH original size adj. Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select original size to adjust. The screen changes between A4/8.5 x 11 and B6R/5.5 x 8.5R.
6	Set the original of the selected size on EDH and press the <b>[Start]</b> key. EDH original size is adjusted automatically.
7	Repeat steps 5 and 6 and adjust both sizes.
8	Press the <b>[PREVIOUS SCREEN]</b> key to return to the EDH adjustment mode menu Screen.

## 3. EDH sensor sensitivity adjustment

Perform this adjustment when replacing the EDH control board.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[2]</b> Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>[4]</b> EDH adjustment".
4	<b>[EDH adjustment mode menu Screen]</b> Press " <b>[3]</b> EDH sensor sensitivity adjustment".
5	<b>[EDH sensor sensitivity adjustment Screen]</b> Press the <b>[Start]</b> key. EDH sensitivity is adjusted automatically.
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the EDH adjustment mode menu Screen.

4. EDH skew offset adjustment

Perform this adjustment when replacing the EDH control board.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>4</b> " EDH adjustment".
4	<b>[EDH adjustment mode menu Screen]</b> Press " <b>4</b> " EDH Incline offset adjustment".
5	<b>[EDH Incline offset adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper, set an adjustment chart on EDH, and press the START button.
7	Check the EDH skew offset amount. Specification: 0.5%
8	If the EDH incline offset amount is not appropriate, press the C button while pressing the Utility key.
9	<b>[EDH Incline offset adjustment Screen]</b> Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -60 to +60 1 step = 0.05%
10	If the EDH skew offset amount is not within specification, repeat steps 5 to 9.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the EDH adjustment mode menu Screen.

[11] Centring Adjustment

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

1. Select " **2** " Image adjustment in the Adjustment mode menu Screen to display the Image adjustment mode menu Screen.
2. Press " **5** " Centring adjustment" in the Image adjustment mode menu Screen to display the Centring adjustment menu screen.
3. Centring adjustment consists of the following:
  - 1 Printer centring adjustment
  - 2 Scanner centring adjustment
  - 3 EDH centring adjustment
4. Press the button corresponding to the item to adjust.  
The adjustment screen of the selected item appears.
5. The Centering adjustment mode menu Screen reappears when adjustment completes.
6. Press the **[PREVIOUS SCREEN]** key in the Centring adjustment menu screen to return to the Image adjustment mode menu Screen.

## 1. Printer Centring Adjustment

Adjusting the printer centring.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>5</b> " Centring adjustment".
4	<b>[Centring adjustment mode menu Screen]</b> Press " <b>1</b> " Printer centering adjustment".
5	<b>[Printer centring adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper and press the START button to output the test pattern (No.16).
7	Fold 11 x 17" size paper in half in the short edge (landscape) orientation and check whether the lines on the left and right overlap completely. Specification: $\pm 1$ mm or less
8	If the printed image is not appropriate, press the C button while pressing the Utility key.
9	<b>[Printer centring adjustment Screen]</b> Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -64 to +63 1 step = 0.1 mm
10	Repeat steps 5 to 9 until the offset is within specification.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Centring adjustment mode menu Screen.

## 2. Scanner centring adjustment

Adjusting the scanner (platen) centring.

**Preparation:** Printer centring adjustment must be completed before performing this adjustment.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>2</b> " Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>5</b> " Centring adjustment".
4	<b>[Centring adjustment mode menu Screen]</b> Press " <b>2</b> " Scanner centring adjustment".
5	<b>[Scanner (Platen) centring adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Select 11 x 17" size paper, set a test chart on the original glass, and press the START button.
7	Fold 11 x 17" size paper in half in the short edge (landscape) orientation and check whether the lines on the left and right overlap completely. Specification: $\pm 2$ mm
8	If the offset is not within specification, press the C button while pressing the Utility key.
9	<b>[Scanner (Platen) centring adjustment Screen]</b> Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -30 to +30 1 step = 0.1 mm
10	Repeat steps 5 to 9 until the offset is within specification.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Centring adjustment mode menu Screen.

### 3. EDH centring adjustment

Adjusting the EDH copy centering.

The adjustment items are as follows:

- Small size front side(5.5 x 8.5")
- Small size back side(5.5 x 8.5")
- Large size front side(11 x 17" )
- Large size back side(11 x 17" )

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[2]</b> Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>[5]</b> Centring adjustment".
4	<b>[Centring adjustment mode menu Screen]</b> Press " <b>[3]</b> EDH centring adjustment".
5	<b>[EDH centring adj. Screen]</b> Press the <b>[COPY SCREEN]</b> key and enter Both side - Single side copy mode.
6	Load 11 x 17" size paper in tray 1, place small size or large size original on EDH, and press the Start button.
7	Fold the paper in half at the center and check whether the lines on the left and right overlap completely. Specification: $\pm 1$ mm
8	If the offset is not within specification, press the C button while pressing the Utility key.
9	<b>[EDH centring adj. Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select the item to be adjusted. SIDE1(small) → SIDE2(small) → SIDE1(large) → SIDE2(large)
10	Enter a value with the numeric keys and press the <b>[SET]</b> key. Setting range: -30 to +30 1 step = 0.1 mm
11	Repeat steps 5 to 10 until the centering is within specification.
12	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Centring adjustment mode menu Screen.

### [12] Distortion adjustment (Copier)

This is to correct distortion during platen/EDH copying.

There are four adjustment items as follows:

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

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[2]</b> Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Press " <b>[6]</b> Warp adjustment (Copier)".
4	<b>[Scanner warp adj. Screen]</b> Press the <b>[COPY SCREEN]</b> key.
5	Select 11 x 17" size paper. To check the platen, set an adjustment chart on the original glass. To check EDH, set it on EDH.
6	Check for platen copy distortion or EDH copy distortion. Allowable warp range: 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 EDH copy distortion is not within specification, press the Utility key while pressing the Utility key.
8	<b>[Scanner warp Adj. Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select the desired adjustment item.
9	Enter a value with the numeric keys and press the <b>[SET]</b> key. Range of setting: -50 to +50 1 step = 0.05%
10	Repeat steps 6 to 9 until the distortion is within specification.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Image adjustment mode menu Screen.




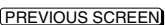


### [13] Non-image area erase check

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

**Preparation:** EDH must be opened.

Nothing should be put on the original glass. The original glass must be clean and transparent.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press "  Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Select "  Non-image area erase check".
4	<b>[Non-image area erase check Screen]</b> Open the EDH, and press the  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.
6	Press the  key to return to the Image adjustment mode menu Screen.

#### Reference 1:

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" - "36 mode" columns of the Service Hand book.

<Countermeasure1>

If you use the non-original erasure function, or copy originals that have a dark background using the non-original erasure method, relatively infrequently, use the machine in its present installation environment.

If, however you copy originals that have a dark background fairly frequently, re-install the machine in 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" - "36 mode" columns of the Service Hand book.

<Countermeasure2>

If you use the non-original erasure function relatively infrequently, you can use the machine in its present installation environment.

If, however you copy originals that have a dark background fairly frequently, re-install the machine in 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 machine, 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.

[14] Recall standard data (Image adjustment)

Restoring image adjustment settings to standard values (data after process adjustment).

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[2]</b> Image adjustment".
3	<b>[Image adjustment mode menu Screen]</b> Select " <b>[8]</b> Recall standard data".
4	<b>[Recall standard data Screen]</b> Press the <b>[YES]</b> key. Various data is restored to standard values.
5	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Image adjustment mode menu Screen.

[15] Running Test Mode

Testing continuous copy operation.

Select " **[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 machine goes into the copy ready state after completing a set number of copy operation, waits 0.5 sec., and then repeats the same operation.
- [2] Paperless running mode**  
In this mode, the machine makes copies at approximately the same timing as for normal copy without performing paper detection or jam detection. In addition, similar to intermittent copy mode, the machine goes into the copy ready state after completing a set number of copy operation, waits 0.5 sec., and then repeats the same operation.
- [3] Paperless mode**  
In this mode, the machine makes copies at approximately the same timing as for normal copy without performing paper detection or jam detection.
- [4] Paperless endless mode**  
In this mode, the copy quantity is set to infinity. In addition, similar to Paperless mode, the machine makes copies at approximately the same timing as for normal copy without performing paper detection or jam detection.
- [5] Running mode**  
This mode consists of Paperless endless mode with repetitive optical scan and auto paper feed tray change.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[3]</b> Running test mode".
3	<b>[Running test mode menu Screen]</b> Press mode keys <b>[1]</b> to <b>[5]</b> .
4	<b>[Copy Screen]</b> Press the START button.
5	Check the copy operation and then press the STOP button to stop.
6	Turn the main switch OFF.

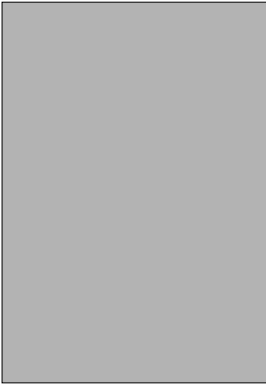
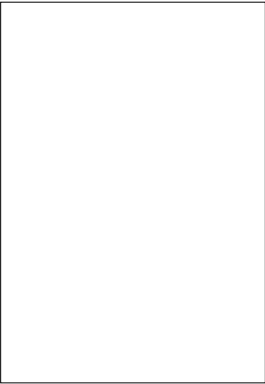
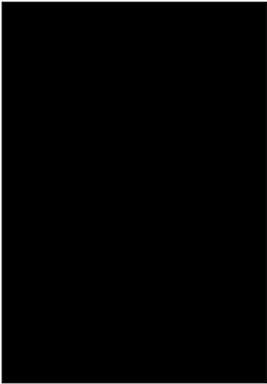
## [16] Test pattern output mode

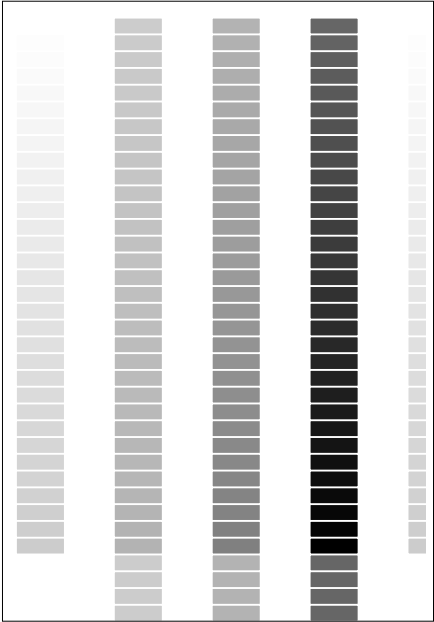
Output test pattern.

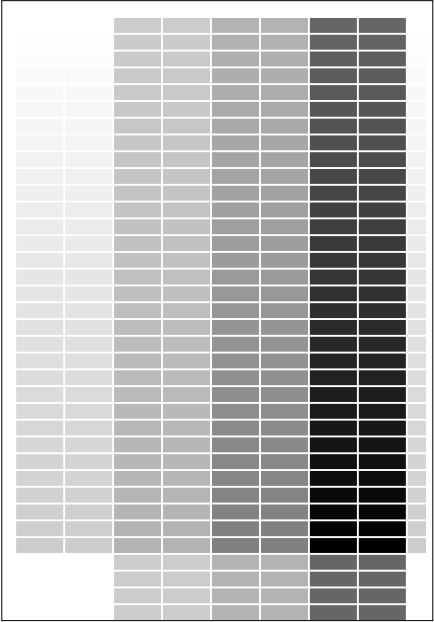
Select "[4] Test pattern output mode" in the Adjustment mode menu Screen to display the Test pattern output mode screen.

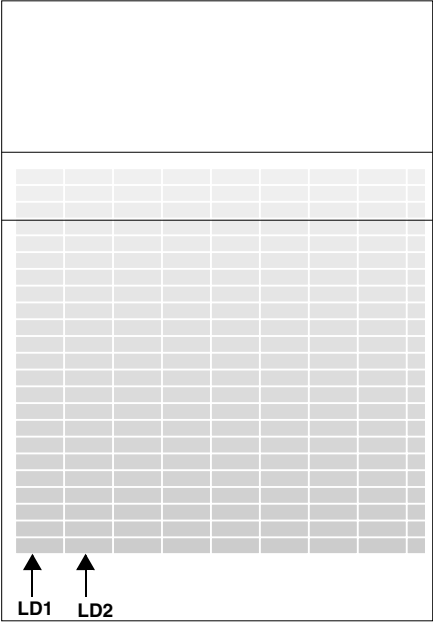
**Caution:** Do not touch any mode that is not specifically described.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press "[4] Test pattern output mode".
3	<b>[Test pattern output mode Screen]</b> Use the numeric keys to enter the number of the test pattern to output and press the <b>[SET]</b> key.
4	Press the <b>[COPY SCREEN]</b> key.
5	<b>[Copy Screen]</b> Select 11 x 17" 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 Utility key and repeat steps 3 to 5.
7	Press the <b>[PREVIOUS SCREEN]</b> key to end.

No.1	Overall halftone
<div><div>Check item</div><div><div><div>● When density is set to 70 (halftone)</div><div>If there are white stripes, black stripes, or uneven density, determine whether the fault is with the scanner or the printer.</div></div><div><div>● When density is set to 0 (white)</div><div>If the test pattern is blurred, determine whether the fault is with the scanner or the printer.</div></div><div><div>● When density is set to 255 (black)</div><div>If the density is light, determine whether the fault is with the scanner or the printer.</div></div></div><div><div>* The above density settings are typical values. See [16] Test Pattern Density Setting for more information on density setting.</div></div></div>	
<div><div>Test patterns</div><div><div>DENSITY SET TO 70</div><div>DENSITY SET TO 0</div><div>DENSITY SET TO 255</div></div><div><div></div><div></div><div></div></div></div>	

No.2	Gradation pattern
<div><div>Check item</div><div>If the test pattern is blurred or the density is light, determine whether the fault is with the processing system or with <math>\gamma</math> correction. If the copy image is abnormal despite this test pattern being normal, either the image processing system or the scanner system is abnormal.</div></div>	
<div><div>Test patterns</div><div></div></div>	

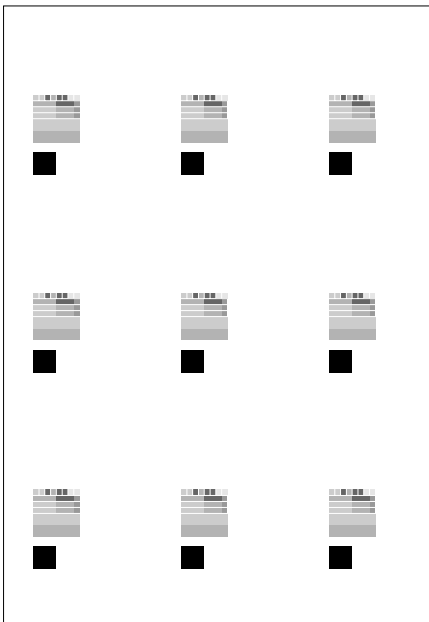
No.3	Gradation pattern
<div><div>Check item</div><div>If the test pattern is abnormal, check whether the two lasers are emitting light normally.</div></div>	
<div><div>Test patterns</div><div></div></div>	

No.5	Gradation pattern
<div><div>Check item</div><div>If the test pattern is abnormal, check whether the two laser outputs are uniform.</div></div>	
<div><div>Test patterns</div><div></div></div>	

### Check item

If the test pattern is abnormal, check to see if position correction of the two laser beams is normal.

## Test patterns





No.16	Linearity evaluation pattern
<p><b>Check item</b></p> <p>Use this test pattern to determine whether the fault is with the scanner or the printer. The printer horizontal magnification, vertical magnification, tilt, and leading edge timing can be checked. If the copy image is defective despite no abnormality in the test pattern, the scanner is at fault.</p> <p><b>Note:</b></p> <p>Loss of the image occurs in test pattern when printing on paper other than 11 x 17" paper.</p>	
<p><b>Test patterns: Sample of 11 x 17" paper output</b></p>	

[17] Test pattern density setting

Setting the test pattern density.

Select “ [5] Test pattern density setting” in the Adjustment mode menu Screen to display the Test pattern density setting Screen.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press “ [5] Test pattern density setting”.
3	<b>[Test pattern density Screen]</b> Use the numeric keys to enter a number and press the [SET] key. Setting range: 0 to 255
4	Press 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 Utility key and repeat steps 3 to 5.
7	Press the [PREVIOUS SCREEN] key to end.

[18] Finisher adjustment

Adjusting the finisher, cover sheet tray, and trimmer.

1. Select “ [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 & Folding stopper adj.
  - ② Folding stopper adjustment
  - ③ Cover sheet size adjustment
  - ④ Trimmer stopper adjustment
  - ⑤ Punch adjustment
  - ⑥ Z-folding position adjustment
3. Press the number key corresponding to the adjusted.  
The adjustment screen for the selected adjustment item appears.
4. When the adjustment is complete, the Finisher adjustment mode menu Screen appears again.
5. Press the [PREVIOUS SCREEN] key of the Finisher adjustment menu to return to the Adjustment mode menu Screen.

## 1. Stapling and Folding stopper adjustment (FN-7 only)

Adjusting the stapling position when stapling and folding mode.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>6</b> " Finisher adjustment".
3	<b>[Finisher adjustment mode menu Screen]</b> Press " <b>1</b> " Stapling & Folding stopper adjustment".
4	<b>[Staple and Folding stopper adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
5	Set paper in the tray, set originals on EDH, and press the START button.
6	Check the paper center and stapling position. Specification: $\pm 1$ mm
7	If the stapling position is not within specification, press the C button while pressing the Utility key.
8	<b>[Staple and Folding stopper adjustment Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select a desired paper size.
9	Enter a value with numeric keys and press the <b>[SET]</b> key. Setting range: -128 to +127 1 step = 0.1 mm
10	Repeat steps 4-9 until the stapling position is within specification.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Finisher adjustment mode menu Screen.

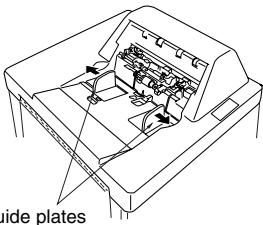
## 2. Folding stopper adjustment (FN-7 only)

Adjusting the folding position when stapling and folding or folding mode.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>6</b> " Finisher adjustment".
3	<b>[Finisher adjustment mode menu Screen]</b> Press " <b>2</b> " Folding stopper adjustment".
4	<b>[Folding stopper adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
5	Set paper in the tray, set originals on EDH, and press the START button.
6	Check the paper center and folding position. Specification: $\pm 1$ mm
7	If the folding position is not within specification, press the C button while pressing the Utility key.
8	<b>[Folding Stopper Adjustment Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select a desired paper size.
9	Enter a value with numeric keys and press the <b>[SET]</b> key. Setting range: -128 to +127 1 step = 0.1 mm
10	Repeat steps 4-9 until the folding position is within specification.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Finisher adjustment mode menu Screen.

3. Cover sheet tray size adjustment (Cover Inserter C only)

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

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>6</b> " Finisher adjustment".
3	<b>[Finisher adjustment mode menu Screen]</b> Press " <b>3</b> " Cover sheet tray size adjustment".
4	<b>[Cover sheet tray size adj. Screen]</b> Press <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select the tray to be adjusted.
5	Move the side guide plates of the cover sheet tray to the outmost positions respectively and press the <b>[Start]</b> key on the LCD. An end message appears on the screen.  side guide plates
6	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Finisher adjustment mode menu Screen.

4. Trimming stopper adjustment (TMG-2 only)

Adjusting the trimming amount.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>6</b> " Finisher adjustment".
3	<b>[Finisher adjustment mode menu Screen]</b> Press " <b>4</b> " Trimmer stopper adjustment".
4	<b>[Trimming stopper adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
5	Set paper in the tray, set originals on EDH, and press the Start button.
6	Check the trimming amount. Specification: 2-4 mm <b>Note:</b> Setting a trimming amount of 2 mm or less may cause a trimming error.
7	If the trimming amount is not within specs, press the C button while pressing the Utility key.
8	<b>[Trimming stopper adjustment Screen]</b> Press <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select a desired paper size.
9	Enter a value with numeric keys and press the <b>[SET]</b> key. Setting range: -99 to +99 1 step = 0.1 mm
10	Repeat steps 4-9 until the trimming amount is within specs.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Finisher adjustment mode menu Screen.

## 5. Punch vertical position adjustment (PK-3/ZK-2 only)

Adjusting the punching position (vertical).

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>6</b> " Finisher adjustment".
3	<b>[Finisher adjustment mode menu Screen]</b> Press " <b>5</b> " Punch adjustment".
4	<b>[Punch adjustment menu Screen]</b> Press " <b>1</b> " Punch vertical position adj. .
5	<b>[Punch Vertical position adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Set paper in the tray, set originals on EDH, 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 Utility key.
9	<b>[Punch Vertical position adj. Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select a desired paper size.
10	Enter a value with numeric keys and press the <b>[SET]</b> key. Setting range: -50 to +50 1 step = 0.1 mm
11	Repeat steps 5-10 until the punch vertical position is appropriate.
12	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Punch adjustment menu Screen.

## 6. Punch horizontal position adjustment (PK-3/ZK-2 only)

Adjusting the punching position (horizontal).

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>6</b> " Finisher adjustment".
3	<b>[Finisher adjustment mode menu Screen]</b> Press " <b>5</b> " Punch adjustment".
4	<b>[Punch adjustment menu Screen]</b> Press " <b>2</b> " Punch horizontal position adj. .
5	<b>[Punch Horizontal position adjustment Screen]</b> Press the <b>[COPY SCREEN]</b> key.
6	Set paper in the tray, set originals on EDH, and press the Start button.
7	Check the punch horizontal position. Specification: 10.5 mm From edge of paper
8	If the punch vertical position is not appropriate, press the C button while pressing down the Utility key.
9	Enter a value with numeric keys and press the <b>[SET]</b> key. Setting range: -50 to +50 1 step=0.1 mm
10	Repeat steps 5-9 until the punch horizontal position is appropriate.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Punch adjustment menu Screen.

## 7. Punch registration loop adjustment (PK-3/ZK-2 only)

Adjusting the registration loop amount.

Step	Operation
1	Enter the 36 mode.
2	<b>[Adjustment mode menu Screen]</b> Press " <b>[6]</b> Finisher adjustment".
3	<b>[Finisher adjustment mode menu Screen]</b> Press " <b>[5]</b> Punch adjustment".
4	<b>[Punch adjustment mode Screen]</b> Press " <b>[3]</b> Punch regist loop adjustment.".
5	<b>[Punch Regist Loop adj. Screen]</b> Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select "reverse" or "ADU".
6	Set paper in the tray, set originals on EDH, and press the START button.
7	Check the registration loop amount.
8	If the punch registration loop amount is not appropriate, press the C button while pressing the Utility key.
9	<b>[Punch Regist Loop Adj. Screen]</b> Enter a value with numeric keys and press the <b>[SET]</b> key. Setting range: -20 to +20 1 step = 0.8 mm
10	Repeat steps 5-9 until the registration loop amount is appropriate.
11	Press the <b>[PREVIOUS SCREEN]</b> key to return to the Punch adjustment menu Screen.

## 8. Z-folding position adjustment

Adjust the amount of Z-folding position.

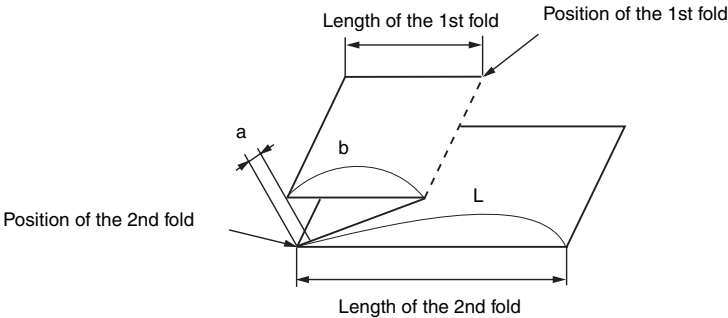
Step	Operation
1	Set to 36 mode.
2	[36 mode menu] Press <b>[6]</b> Finisher adjustment.
3	[Finisher adjustment mode menu] Press <b>[6]</b> Z-folding position adjustment.
4	[Z-folding position adjustment mode menu] Press <b>[1]</b> 1st Z-folding position adjustment menu.
5	[1st Z-folding position adjustment] Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select appropriate size.
6	Use the numeric keys to enter a numerical value, then press the <b>[SET]</b> key. Setting range: -128 to +127 1 step = 0.1 mm
7	Press the <b>[COPY SCREEN]</b> key to return to the Copy screen, and make a copy.
8	Confirm the position of the 1st fold.
9	If the 1st folding position is not properly set, press the C button while holding down the Utility key to return to the adjustment screen.
10	Repeat steps 6 to 9 until the 1st folding position is correctly set.
11	Press the <b>[PREVIOUS SCREEN]</b> key of the adjustment screen to return to the Z-folding position adjustment screen
12	[Z-folding position adjustment screen] Press <b>[2]</b> 2nd Z-folding position adjustment menu.
13	[2nd Z-folding position adjustment screen] Press the <b>[NEXT]</b> or <b>[PREVIOUS]</b> key to select appropriate size.
14	Use the numeric keys to enter a numerical value, then press the <b>[SET]</b> key. Setting range: -128 to +127 1 step = 0.1 mm

15	Press the <b>COPY SCREEN</b> key to return to the Copy screen, and make a copy.
16	Confirm the position of the 2nd fold.
17	If the 2nd folding position is not properly set, press the C button while holding down the Utility key to return to the adjustment screen.
18	Repeat steps 13 to 17 until the 2nd folding position is correctly set.

### 9. Z-folding adjustment value

Unit (mm)

	Deviance on edge (a)	Length of 1st fold (b)	Length of 2nd fold (L) adjustment value	Length of 2nd fold (L) standard value
11 x 17	$3.5 \pm 1.5$	(108)	212	Less than 215
11 x 17"	$3.5 \pm 1.5$	(105)	206	Less than 209
8K	$3.5 \pm 1.5$	(97)	191	Less than 194
B4	$3.5 \pm 1.5$	(91)	178	Less than 181
8.5 x 14	-	-	258.6	Less than 261.6



**Note:**

- Length of the 1st fold is for standard
- The length of the 2nd fold should be the adjustment value.

**[19] List Output Mode**

Outputting various data.

1. Select " **[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. Press the number key corresponding to the item to output.  
The output setting screen for the selected item appears.
4. The List Output Mode Menu Screen reappears after each list is output.
5. Press the **[PREVIOUS SCREEN]** key in the List output mode menu Screen to return to Adjustment mode menu Screen.

**Note:** List output screen is not displayed for **[3]** Machine management list 2 and subsequent items unless address 30-1 is set to 1 with **[1]** Software DIPSW setting in 25 mode.



# 47 MODE

## [1] 47 Mode / Multi Mode Setting Method

### 1. 47 Mode

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

### 2. 47 mode operation

#### (1) Starting 47 mode

- a. Turn off the main switch.
- b. Turn the main switch back on while holding down 4 and 7 of the copy quantity button.
- c. Check that the 47 mode is started when message "I/O check mode" appears in the first row of the message area.

#### (2) Input/output check

- a. Refer to the I/O check code list and use the copy quantity button to enter the code for the desired signal (such as sensor).
- b. The entered code appears enclosed in <> in the second row of the message area.
- c. The numbers are shifted left as they are displayed.
- d. Check the status of the signal displayed as H or L after "IN:" in the second row of the message display area.

**Caution:** 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.

#### (3) Output check

- a. Refer to the I/O check code list and use the copy quantity button to enter the code for the desired output load.
- b. 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

#### (4) Ending 47 mode

- a. Press the stop button to cancel the operation.
- b. Turn off the main switch to exit the 47 mode.

Step	Operation
1	Turn on the main switch while holding down 4 and 7 of the copy quantity button.
2	<b>[I/O check mode Screen]</b> 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 main switch to exit the 47 mode.

**Note1:** No data appears on the second row of the message area when 47 mode is entered. Message appears when a number is entered.

**Note2:** Simply enter a new code to switch to another code.

**Note3:** A newly entered number is written over the previously entered number.

3. Multi mode

This mode is entered from the 47 mode. It enables multiple I/O checks using a single I/O check code.

4. Multi mode operation method

Start the 47 mode and proceed as follows:

- (1) To check the input
  - a. Using the copy quantity button, enter the check code for the desired I/O.
  - b. The 47 mode code appears enclosed in <> in the second row of the message area.
  - c. Press the Utility key.
  - d. Enter the desired multi number using the copy quantity button. (Refer to the multi mode list.)
  - e. The multi number will be displayed enclosed in <>, following the 47 mode code and "-".

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

- f. Press the Utility key.
  - g. Check the status of the signal displayed as H or L after "IN:" in the second row of the message display area.
- (2) To check the output
    - a. Press the START button.
    - b. Press the STOP button after checking the output.
  - (3) Ending multi mode
    - a. Turn off the main switch to exit the 47 mode (multi mode)




Step	Operation
1	Enter the 47 mode.
2	<b>[I/O check mode Screen]</b> Use the copy quantity button and enter the code.
3	Press the Utility key.
4	Enter the multi number using the copy quantity button.
5	Press the Utility key.
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 main switch to exit the 47 mode.

- Note1:** To check another multi number in the same code, press the Utility key after completing step 8.  
And enter another multi number. A newly entered number is written over the previously entered number.
- Note2:** To return to the normal 47 mode, press the STOP button while holding down the Utility key after completing step 8. (The screen will return to the 47 mode initial state.)

## [2] Adjustment Data Display

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

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

Step	Operation
1	Enter the 47 mode.
2	<b>[I/O check Screen]</b> Enter 94 with numeric keys. Make sure 94 is displayed in the message display field.
3	Press the Start button.
4	<b>[Adjustment data display Screen]</b> Press the  or  button to display a desired adjustment item.
5	To return to the I/O Check Screen, press the  key to return to the I/O Check Mode Screen.

## [3] Hard Disk Check

Execute this adjustment to check the total capacity or the remaining capacity of the standard hard disk and when error codes related to the hard disk is detected.

Step	Operation
1	Enter the 47 mode.
2	Enter 99 with numeric keys.
3	<p>(1) Checking the total capacity of the hard disk: Press the Utility key and enter 1 with a numeric key. Make sure 99-01 is displayed in the message display field.</p> <p>(2) Checking the remaining capacity of the hard disk: Press the Utility key and enter 2 with a numeric key. Make sure 99-02 is displayed in the message display field.</p> <p>(3) Checking and recovering bad sectors on the hard disk: Press the Utility key and enter 3 with a numeric key. Make sure 99-03 is displayed in the message display field.</p>
4	Press the START button.

5	(1) 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.
	(2) 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.
	(3) 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.

**Note1:** Once the bad sector check and recovery procedure start, it can not be canceled. (The STOP button and mode change key are ineffective.)

**Note2:** The hard disk is weak against vibration and shock. When moving the copy machine, be sure to remove the hard disk in advance.

## [4] Input checklist

Classification	Code	Symbol	Multi mode	Name		Display and Signal Source		
						H	L	
Analog signal	001	TLD		Remaining toner detection signal		Empty	In	
	002	TH5		Drum (internal) temperature detection signal				
	003	TH1		Fixing upper roller temperature detection signal				
	004	TH3		Heat roller temperature detection signal				
	005			Humidity sensor signal				
	006			Dmax MONI signal				
	007			Dmax signal				
	008			γ signal				
	009			Drum potential signal				
	010			Drum jam signal				
Paper feed	011	PS26	1	Tray 1 no paper detection signal		ON	OFF	
		PS27	2	Tray 2 no paper detection signal				
		PS28	3	Tray 3 no paper detection signal				
		PS29	4	By-pass feed tray no paper detection signal				
		PS108	5	LCT no paper detection signal				
	012	PS34	1	Tray 1 remaining paper detection signal				
		PS37	2	Tray 2 remaining paper detection signal				
		PS40	3	Tray 3 remaining paper detection signal				
		PS102	4	LCT remaining paper detection signal 1				
		PS103	5	LCT remaining paper detection signal 2				
		PS104	6	LCT remaining paper detection signal 3				
		PS105	7	LCT remaining paper detection signal 4				
	013	PS32	1	Tray 1 paper size detection signal 1				
		PS33	2	Tray 1 paper size detection signal 2				
		PS35	3	Tray 2 paper size detection signal 1				
		PS36	4	Tray 2 paper size detection signal 2				
		PS38	5	Tray 3 paper size detection signal 1				
		PS39	6	Tray 3 paper size detection signal 2				
		PS55	7	By-pass feed tray paper size detection signal 1				
		PS56	8	By-pass feed tray paper size detection signal 2				
	014	VR1	1	Tray 1 paper size detection VR signal		0 to 255		
		VR2	2	Tray 2 paper size detection VR signal				
		VR3	3	Tray 3 paper size detection VR signal				
		VR4	4	By-pass feed tray paper size detection VR signal				
	015		1	Tray 1 paper size signal		0:11x17,1:A3, 2:B4, 3:8.5x14, 4:A4R, 5:8.5x11R, 6:B5R, 7:8.5x11, 8:5.5x8.5R, 9:A4, 10:A5R, 11:B5, 12:A5, 13:B6R, 14:5.5x8.5, 15:B6, 16:Special, 17:F4(8.125x13.25), 18:F4(8x13), 19:F4(8.25x13), 20:F4(8.5x13), 21:postcard		
			2	Tray 2 paper size signal				
			3	Tray 3 paper size signal				
			4	By-pass feed tray paper size signal				
	016	PS20	1	Tray 1 upper limit detection signal		ON	OFF	
		PS21	2	Tray 2 upper limit detection signal				
		PS22	3	Tray 3 upper limit detection signal				
		PS23	4	By-pass feed tray upper limit detection signal				
		PS43	5	By-pass feed tray lower limit detection signal				
		PS109	6	LCT upper limit detection signal				
		PS101	7	LCT lower limit detection signal				
	017		1	Tray 1 tray set detection signal				
			2	Tray 2 tray set detection signal				
			3	Tray 3 tray set detection signal				

Classification	Code	Symbol	Multi mode	Name	Display and Signal Source	
					H	L
Paper feed	018	PS14	1	Tray1 pre-registration detection signal	ON	OFF
		PS15	2	Tray2 pre-registration detection signal		
		PS16	3	Tray3 pre-registration detection signal		
Paper feed/Conveyance	020	PS48	1	Tray 1 paper pre-registration detection signal		
		PS50	2	Tray 2 paper pre-registration detection signal		
		PS52	3	Tray 3 paper pre-registration detection signal		
		PS107	4	LCT paper pre-registration detection signal		
	021	PS18	1	Tray 1 paper conveyance detection signal		
		PS53	2	Tray 2 paper conveyance detection signal		
		PS19	3	Tray 3 paper conveyance detection signal		
	022	PS47	1	Tray 1 paper feed detection signal		
		PS49	2	Tray 2 paper feed detection signal		
		PS51	3	Tray 3 paper feed detection signal		
		PS106	4	LCT paper feed detection signal		
	023	PS45	1	Copy paper leading edge detection signal		
		PS54	2	Paper loop detection signal		
		PS44	3	Second paper feed detection signal		
	024	PS2	1	Fixing unit paper ejection detection signal		
		PS61	2	Paper eject detection signal		
		PS57	3	Paper reversal detection signal		
		PS8	4	Paper reverse and conveyance detection signal		
		PS3	5	Fixing unit jam detection signal		
	025	PS17	1	Vertical conveyance jam access door open/close detection signal 2	Open	Close
		PS24	2	Front door open/close detection signal 1 (right front door)		
		PS25	3	Front door open/close detection signal 2 (left front door)		
		MS1,MS2	4	Front door open/close detection SW signal		
		PS100	5	LCT top cover open/close detection signal		
		PS110	6	LCT jam access cover open/close detection signal		
			7	Fixing unit set detection signal		
Optics unit	030		8	Drum unit set detection signal	ON	OFF
		PS5	1	Scanner home position detection signal		
		PS6	2	Exposure home position detection signal		
		PS7	3	—		
	031	PS4	4	Scanner reversal detection signal 2 (paper feed side)		
		PS62	1	APS sensor 1 detection signal		
		PS63	2	APS sensor 2 detection signal		
		PS64	3	APS sensor 3 detection signal		
		PS65	4	APS sensor 4 detection signal		
		PS66	5	APS sensor 5 detection signal		
		PS67	6	APS sensor 6 detection signal		
		PS68	7	APS sensor 7 detection signal		
		PS315	8	APS timing detection signal		
Proper functions	050			LCT identification signal	Enabled	Disabled
	051	SW100		LCT tray down SW detection signal	ON	OFF
	052	C(K)		Key counter detection signal	Yes	No
	053			Power supply identification signal	200 V	100 V
	054	PS41	1	Charging cleaning pad home position detection signal	ON	OFF
		PS42	2	Charging cleaning pad drive limit detection signal		
		PS11	3	Transfer/separation cleaning pad home position detection signal		
		PS12	4	Transfer/separation cleaning pad drive limit detection signal		

Classification	Code	Symbol	Multi mode	Name	Display and Signal Source	
					H	L
EDH	060	PS302	1	Original size detection signal 1	Detect	Not Detect
		PS303	2	Original size detection signal 2		
		PS306	3	Original registration detection signal	ON	OFF
		PS308	4	Original conveyance detection signal		
		PS309	5	Original reversal detection signal		
		PS307	6	Original ejection detection signal 1		
		PS313	7	Original ejection to reverse detection signal		
		PS314	8	Original ejection detection signal 2	Detect	Not Detect
		PS310	9	Last original detection signal		
		PS301	10	DF open/close detection signal		
		MS301	11	Cover open/close MS detection signal		
		—	12	Pressure plate open detection signal		
		PS304	13	Jam in original reversal section detection signal		
		PS311	14	Paper skew detection signal 1	OFF	ON
		VR301	15	Original size detection signal 3		
		PS312	16	Paper skew detection signal 2		
FNS	076	PS1	0	Sub tray paper exit detection signal	OFF	ON
		PS2	1	Tray upper limit detection signal		
		PS3	2	Tray lower limit detection signal		
		PS4	3	FNS entrance detection signal		
		PS5	4	Stacker conveyance passage		
		PS6	5	Paper exit 1		
		PS7	6	Stapler paper exit upper limit detection signal		
		PS8	7	Alignment plate/upper HP		
		PS9	8	Paper exit belt HP detection signal		
		PS10	9	Paper exit 2		
		PS11	10	Stapler movement HP detection signal		
		PS12	11	Paper exit opening		
		PS13	12	Entrance paper detection		
		PS14	13	Stapler rotation HP		
		PS15	14	Tray no paper detection		
		PS18	15	Roller shift HP		
		PS20	16	Stacker no paper detection		
		PS21	17	Stapling and folding stopper release motor HP		
		PS22	18	Folding knife HP		
		PS23	19	Stapling and folding stopper HP		
		PS24	20	Alignment plate/lower HP		
		PS25	21	Folding paper exit		
		PS26	22	Folding passage/2		
		PS27	23	Folding stopper HP		
		PS28	24	Folding passage/1		
TU		PS101	25	Entrance	ON With paper	OFF No paper
		PS102	26	Conveyance	ON	OFF
		PS103	27	Stopper HP		
		PS104	28	Stopper release HP	OFF	ON
		PS105	29	Press HP		
		PS106	30	Trimmer HP		
FNS		FM1,2,3	31	Fan lock detection (countermeasure against tacking) (FN-7 only)	Lock	Not lock
		M1	32	Motor lock signal		
		M7	33	Motor lock signal		
		M20	34	Motor lock signal		
TU		M101	35	Conveyance motor lock signal		

Classification	Code	Symbol	Multi mode	Name	Display and Signal Source	
					H	L
FNS	076	—	36	—		
		—	37	Folding unit	No unit	With unit
TU		PS112	38	Pusher	ON	OFF
FNS		—	39	PI connecting	No PI	With PI
		—	40	Stapler/R Cartridge (FN-115 only)	50 sheet	100 sheet
		PS31	41	Stapler/R HP Signal (FN-115 only)	OFF	ON
		PS40	42	Stapler/R staple absent signal (FN-115 only)		
		—	43	Stapler (R) Ready signal	Busy	Ready
		—	44	Stapler (R) Busy signal	Ready	Busy
		—	45	Stapler (R) Clear-request signal	Normal	Demand
		—	46	PI start key	OFF	ON
		—	47	PI mode key		
		—	48	Stapler/F Cartridge (FN-115 only)	50 sheet	100 sheet
		PS34	49	Stapler/F HP Signal (FN-115 only)	OFF	ON
		PS37	50	Stapler/F staple absent signal (FN-115 only)		
		—	51	Stapler (F) Ready signal	Busy	Ready
		—	52	Stapler (F) Busy signal	Ready	Busy
		—	53	Stapler (F) Clear-demand signal	Normal	Demand
PI		PS208	54	Sheet set	OFF No paper	ON With paper
		PS209	55	Pre no paper		
		PS201	56	Sheet passage		
		PS202	57	No sheet	OFF	ON
		PS203	58	Sheet tray lower limit		
		PS204	59	Sheet tray upper limit		
		PS205	60	Sheet size (small)	OFF	ON
		PS206	61	Sheet size (large)	No paper	With paper
PS207		62	Paper exit cover open/close detection	Open	Close	
FNS		PS50	63	Sub-tray full detection	OFF	ON
		PS29	64	Folding full	With paper	No paper
PU/PZ		—	65	Punch scraps box setting detection	OFF	ON
		—	66	Punch scraps box full detection		
FNS		MS1	67	Interlock detection signal	Open	Close
		MS2	68	Trimmer front door interlock detection signal		
TU		PS110	69	Upper limit	ON	OFF
		PS111	70	Lower limit		
		PS108	71	Exit		
		PS107	72	Paper scraps box detection	OFF	ON
		PS109	73	Paper scraps full		
		PS113	74	Stacker full		
		—	75	Trimmer connection detection	With TU	No TU
PU/PZ		M4	76	Punch motor error detection	Normal	Abnormal
		MS	77	Front door MS	Open	Close
		PS5	78	Punch HP	ON	OFF
PZ		PS3	79	1st folding stopper HP	OFF	ON
PU/PZ		—	80	Paper edge PS (leading/trailing/side edge sensor 1)	ON With paper	OFF No paper
		—	81	Paper edge PS (side edge sensor 2)		
		—	82	Paper edge PS (side edge sensor 3)		
		—	83	Paper edge PS (side edge sensor 4)		
		—	84	Paper edge PS (side edge sensor 5)		
		PS4	85	Punch shift HP	OFF	ON
		PS1	86	Passage	No paper	With paper

Classi- fication	Code	Symbol	Multi mode	Name	Display and Signal Source	
					H	L
PZ	076	PS2	87	2nd folding stopper HP	OFF	ON
TU		PS114	88	Stacker door	Open	Close
PU		PS8	89	Exit	With paper	No paper
PZ		PS8	89	Exit	No paper	With paper
PU/PZ		—	90	Fan motor locking detection	ON	OFF
		—	91	Z-folding conveyance motor locking detection	OFF	ON
ADU	080	PS9	1	ADU paper conveyance detection signal	ON	OFF
		PS46	2	Paper at ADU exit detection signal		
		PS58	3	ADU paper reversal detection signal		
		PS59	4	ADU paper conveyance slowdown timing detection signal		
		PS10	5	ADU handle release detection signal		
		PS13	6	ADU no paper detection signal		
		PS60	7	ADU paper feed detection signal		



## [5] Output checklist

Classification	Code	Symbol	Multi mode	Name	Cannot be set or changed in field
Analog signal	000	L1		*1 Exposure lamp	
	001	M15		Toner supply motor	
	002	HV1		Charging corona unit	×
	003	HV2		Transfer corona unit	×
	004	HV2		Separation corona unit (AC+DC)	
	005			D max LED	×
	006			γ LED	×
	007			Jam detection LED	
	008	HV1		Transfer corona unit installation guide plate	×
	009	HV1		Bias	
Paper feed	020		M	First paper feed SD 1: Tray 1    2: Tray 2    3: Tray 3 4: LCT    5: By-pass paper feed tray	
	021		M	Paper feed MC 1: Tray 1    2: Tray 2    3: Tray 3 4: LCT    5: Vertical conveyance	
	022		M	First paper feed MC 1: Tray 1    2: Tray 2    3: Tray 3    4: LCT	
	023		M	Tray up motor/LCT UP/DOWN motor 1: Tray 1    2: Tray 2    3: Tray 3 4: LCT UP drive    5: LCT DOWN drive    6: By-pass UP 7: By-pass DOWN	
	024		M	Lock SD    1: Tray 1    2: Tray 2    3: Tray 3	
	025	MC1		Second paper feed MC	
	026	M6	M	Loop roller drive motor 1: Fast forward    2: Slow forward 3: Fast backward    4: Slow backward	
	027	M10	M	Paper exit motor    1: Fast    2: Slow	
	028		1	1: Paper feed motor    2: LCT paper feed motor	
	029	SD4		Separation claw SD	
Optics unit	031	M13		*2 Scanner drive motor	
	032	M17		*3 Polygon motor    0: 400 dpi    1: 600dpi	
	034			*4 Shading correction    0: 400 dpi    1:600dpi	

**Caution:** 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 HP search and scanner to-and-fro operations.  
(NO) Moves the scanner 10mm to the right.
- \*3 (YES) Turns ON the polygon motor and write unit cooling fan.  
(NO) Turns ON the polygon motor for 30 seconds.
- \*4 (YES) Performs HP search and shading operations.  
(NO) Moves the scanner 10mm to the right.

Classification	Code	Symbol	Multi mode	Name	Cannot be set or changed in field
Main body	040	M1		Main motor	
	041	M2		Drum drive motor	
	042		M	Fan motor 1: Scanner cooling fan 2: Write section cooling fan 1 (high) 3: Write section cooling fan 1 (low) 4: Developing suction 5: — 6: Main unit cooling fan 1 (high) 7: Main unit cooling fan 1 (low) 8: Main unit cooling fan 2 (high) 9: Main unit cooling fan 2 (low) 10: Main unit cooling fan 3 (high) 11: Main unit cooling fan 3 (low) 12: Fixing unit cooling fan 13: Write section cooling fan 2 (high) 14: Write section cooling fan 2 (low) 15: Polygon cooling fan	
	043		M	Counter 1: Total counter 2: Key counter	
	045	M16	M	6: Cleaning web drive motor	
	046	M23	M	Charger cleaning motor 0: To-and-fro operation 1: Move to rear 2: Move to front	
	047	M18	M	Transfer/separation cleaning motor 0: To-and-fro operation 1: Move to rear 2: Move to front	
	048			Control panel LED test (turn on all lights)	
	049	M18/M23		Charger cleaning or transfer/separation cleaning motor to-and-fro operation	
	050	M2/M3/M14		Drum/developing/blade motor	
	051	PCL		PCL	
	052	TSL		TSL	
	054	M11		Toner supply motor/1	
	055	—		Message test	
	056	JAMIB		Jam indicator board LED test (turn on all lights)	
	060	M302	1	Original feed motor (forward)	
			2	Original feed motor (backward)	
		M301	3	Original conveyance motor (forward)	
			4	Original conveyance motor (backward)	
		M304	5	Original exit motor 1 (forward)	
			6	Original exit motor 1 (backward)	
		M305	7	Original exit motor 2 (forward)	
			8	Original exit motor 2 (backward)	
		M303	9	Tray up motor (forward)	
			10	Tray up motor (backward)	
		SD302	11	Pressure roller release SD	
		SD301	12	Flapper drive SD	
		SD303	13	Original exit gate SD	
		SD304	14	SDF switching SD	
		FM301	15	ADF fan	

Classification	Code	Symbol	Multi mode	Name	Cannot be set or changed in field
FNS	075	M1	1	FNS conveyance motor	
			2	Roller shift motor (HP search)	
		M2	3	Roller shift motor (shift position transfer)	
			4	Roller shift motor (1 rotation)	
		M3	5	Tray up-down motor (HP search)	
			6	Tray up-down motor (Move to lower limit)	
			7	Tray up-down motor (Up-down operation with only few sheets at staple mode)	
		M5	8	Alignment plate motor/ upper (HP search)	
		M7	9	Paper exit roller motor (staple mode HP search)	
			10	Paper exit roller motor (reverse rotation)	
		M8	11	Paper exit opening motor HP search	
			12	Paper exit opening motor open slot transfer	
		M21/M22	13	Stapler unit (R) (initial)	
			14	Stapler unit (R) (staple operation)	
		M23/M24	15	Stapler unit (F) (initial)	
			16	Stapler unit (F) (staple operation)	
		M11	17	Stapler movement motor HP search (Move to double staple position)	
			18	Stapler movement motor (Move to single staple position for A4)	
		M13	19	Stacker entrance motor	
		M14	20	Stapling and folding stopper motor (HP search)	
		M15	21	Alignment plate motor/lower (HP search)	
		M18	22	Folding stopper motor (HP search)	
		M19	23	Folding knife motor (HP search)	
		M20	24	Folding conveyance motor	
		M17	25	Stapling and folding stopper release motor (HP search)	
			26	Stapling and folding stopper release motor (set)	
			27	Stapling and folding stopper release motor (release)	
		SD1	28	Gate solenoid	
		SD2	29	Sub-tray paper exit solenoid	
		SD6	30	Sub-tray deceleration solenoid	
		SD4	31	Paper exit opening solenoid	
		SD5	32	By-pass solenoid	
		M5	33	Alignment plate motor /upper Open (A4 position) enable only from HP position	
			34	Alignment plate motor /upper Close (A4 position) enable only from HP position	
			35	Alignment plate motor/upper rocking (enable only from Open position)	
		M15	36	Alignment plate motor/lower Open (A4 position) enable only from HP position	
			37	Alignment plate motor/lower Close (A4 position) enable only from HP position	
			38	Alignment plate motor/lower rocking (enable only from Open position)	
		M14	39	Stapling and folding stopper motor (Move to A4R position transfer)	
		M18	40	Folding stopper motor (A4R position transfer)	
		—	50	—	
		—	51	—	
		—	52	—	
		—	53	—	
		—	54	—	

Classification	Code	Symbol	Multi mode	Name	Cannot be set or changed in field
TU	075	M101	55	Conveyance motor	
		M102	56	Trimmer motor (forward)	
			57	Trimmer motor (backward)	
		M103	57	Stopper motor (HP search)	
			59	Stopper release motor (HP search)	
		M104	60	Stopper release motor (release)	
			61	Stopper release motor (setting)	
			62	Press motor (HP search)	
M105		63	Press motor (press)		
		PI	MC201/ SD201	64	Paper feed clutch
M201			65	Sheet tray motor HP search (Move to lower limit)	
			66	Sheet tray motor (Move to upper limit) SD	
SD201		67	Paper feed solenoid		
		M107	68	Pusher motor (HP search)	
			69	Pusher motor (pusher release)	
TU		M106	70	Holder motor (HP search)	
	71		Holder motor (Move to lower limit)		
	PU	M1	72	Main motor	
PU/PZ	M1/M6	72	Registration motor and conveyance motor		
	M2	73	1st stopper motor (HP search)		
	M	74	2nd stopper motor (HP search)		
	SD2	75	Gate Solenoid/U		
	SD1	76	Gate Solenoid (PU)/Gate solenoid/L (PZ)		
	MC1	77	Punch clutch		
	M4	78	Punch motor (Punching operation)		
	M5	79	Punch shift motor (HP search)		
	—	80	—		
	M7	81	Punch scraps conveyance motor		
	M10	82	Main motor cooling fan (PU)/ Conveyance motor cooling fan (PZ)		
		—	83	—	
FNS	—	84	—		
	—	85	—		
	—	86	—		
	—	87	—		
	—	88	—		
	—	89	—		
	—	90	—		
	—	91	—		
	—	92	—		
	—	93	—		
	—	94	—		
	—	95	—		
	—	96	—		
	—	97	—		
	—	98	—		
	—	99	FNS Paper less running mode		

Classification	Code	Symbol	Multi mode	Name	Cannot be set or changed in field
ADU	080		M	1: Paper gate solenoid 2: ADU lock solenoid 3: Fixing guide solenoid	
	081	MC2		ADU paper feed MC	
	082	M9		Pre-transfer roller drive motor	
	083	M12		Second paper feed motor	
	084	M7	M	ADU reversal motor 1: Fast forward 2: Slow forward 3: Fast backward	
	085	M8	M	ADU conveyance motor 1: Fast 2: Slow	
	086	M5	M	Reverse and eject motor 1: Fast forward 2: Slow forward 3: Fast backward	
OTHERS	087	FM10/ FM11		ADU Fan	
	092			Factory initial set (field use prohibited)	
	093			—	
	094			Adjustment mode display mode	
	096			Factory shipment completion set (field use prohibited)	
	097			DIMM capacity check for Electronics RDH	
	098			DIMM check for Electronics RDH	
	099			1: HDD total capacity check	
				2: HDD remaining capacity check	
				3: HDD bad sectors check and recovery	



# OTHER ADJUSTMENT

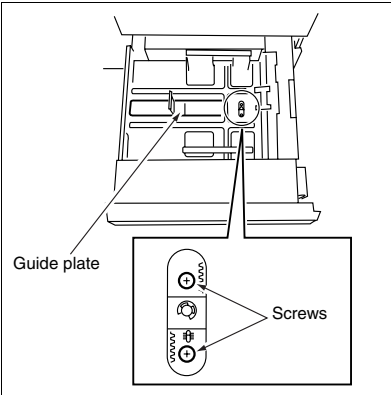
## [1] Centering Adjustment

**Caution:** Centering adjustment need not be performed normally because paper inclination is detected in the second paper feed section and original image is corrected in the image processing unit to fit an inclined paper. Centering adjustment is required only when the detected paper inclination is not within the automatic image correction range.

### 1. Tool

- Screwdriver (Phillips)

### 2. Tray 1/2/3 Centering adjustment

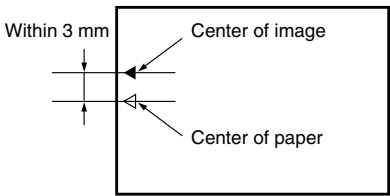


### a. Adjustment method

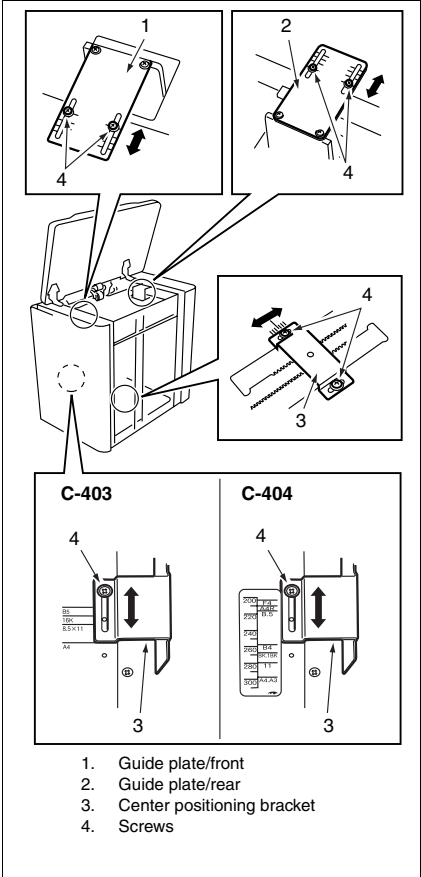
Step	Operation
1	Draw out the tray.
2	Loosen the two screws at the center of the tray.
3	Slide the guide plate to adjust the center position.
4	Tighten the two screws securely.
5	Insert the tray and make a copy to check the result.
6	Perform steps 1-5 repeatedly until mis-centering is included in the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

**Caution:** 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.

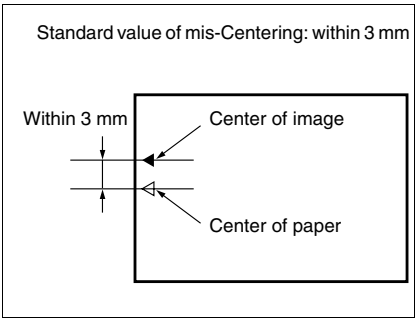
Standard value of mis-Centering: within 3 mm



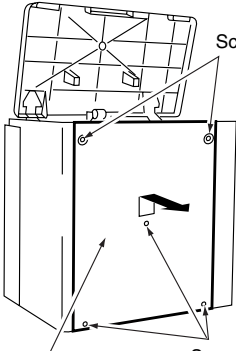
3. LCT tray Centering adjustment



Standard value of mis-Centering: within 3 mm



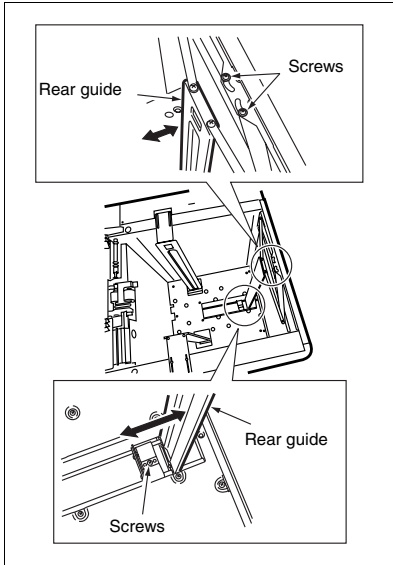
a. Adjustment method

Step	Operation
1	Raise the up/down plate.
2	Open the top cover.
3	Remove five screws to detach the side cover (right). 
4	Loosen the two screws on the upper part of LCT 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 the three screws to slide the center positioning brackets same amount in the same direction as did for the guide plates (front/rear) in the step 4.
7	Secure the center positioning brackets by tightening three screws firmly.
8	Put the LCT 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 ( $\pm 3$ mm).

**Caution:** 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.



#### 4. Setting the LCT Rear Guide (C-404 only)



##### a. Adjustment method

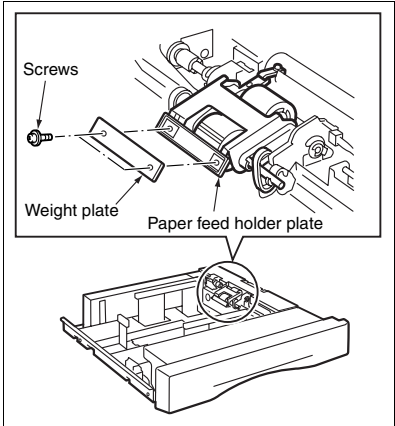
Step	Operation
1	Open the top cover.
2	Press SW100 (LT tray down switch) to lower the up/down plate to the bottom.
3	Loosen the two screws at the top of the rear guide and one screw at the bottom.
4	Set paper on the up/down plate, align the trailing edge of paper with the lower end of the rear guide, then fasten the lower screw.
5	Fasten the two upper screws temporarily and move the up/down plate to the highest position.
6	Set paper on the up/down plate, align the trailing edge of paper with the upper end of the rear guide, then tighten the two upper screws finally.

**Reference:** LCT tray size setting can be performed in the key operator mode by setting the DIPSW21-1 to 1 in the 25 mode.

[2] Paper Feed Roller Load Adjustment

**Caution:** This adjustment is required when no paper feed occurs.

- 1. **Tool**
  - Screwdriver (Phillips)
- 2. **Paper feed roller load adjustment on trays 1, 2, 3**

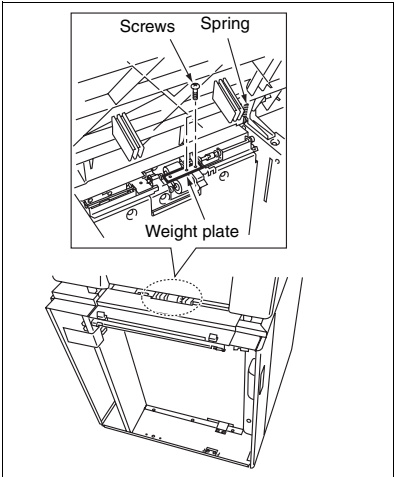


a. Adjustment method

Step	Operation
1	Pull out the tray.
2	Use two screws to install the weight plate on top of the paper feed holder plate.
3	Check the pick-up release amount. See [7] Pick-up Release Amount Adjustment.
4	Make a copy to check whether paper is fed properly.
5	Set the tray and run a test copy to check the paper feed status.
6	When "no feed" is not solved, add more weight plates and repeat steps 1 to 4.

**Caution:** Up to 6 weight plates can be installed. The M3 x 6 mm screws must be used to install up to three weight plates, and the M3 x 8 mm screws must be used when four to six plates are installed.

3. LCT paper feed roller load adjustments (C-404 only)



a. Adjustment method

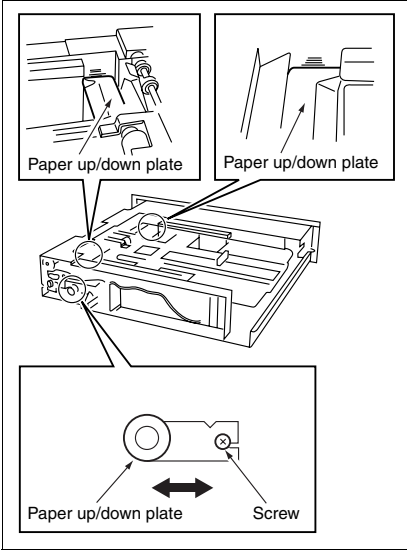
Step	Operation
1	Open the top cover.
2	Remove the spring.
3	Use two screws to install the weight plate on top of the paper feed roller.
4	Check the pick-up release amount. See [7] Pick-up Release Amount Adjustment.
5	After installing the spring and closing the top cover, run a test copy to check the paper feed status.
6	When "no feed" is not solved, add more weight plates and repeat steps 1 to 5.

**Caution:** Up to 6 weight plates can be installed. The M3 x 6 mm screws must be used to install up to three weight plates, and the M3 x 8 mm screws must be used when four to six plates are installed.

### [3] Paper up/down plate horizontal adjustment

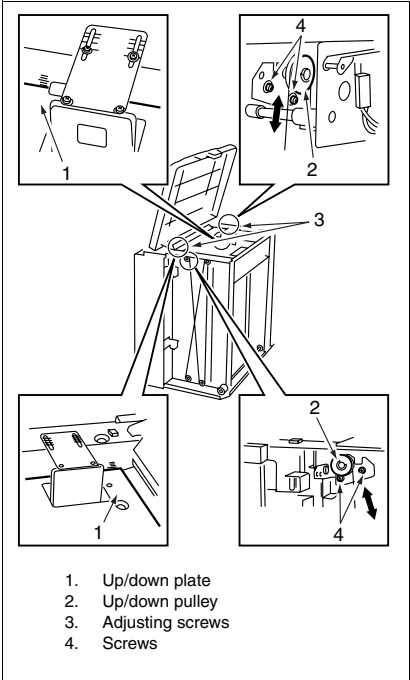
**Caution:** Paper up/down plate horizontal adjustment must be carried out when a paper feed jam occurs frequently or after replacement of the up/down wires of a tray.

1. **Tool**
  - Screwdriver (Phillips)
2. **Tray 1/2/3 paper up/down plate horizontally adjustment.**

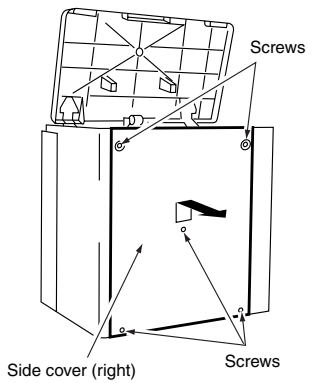
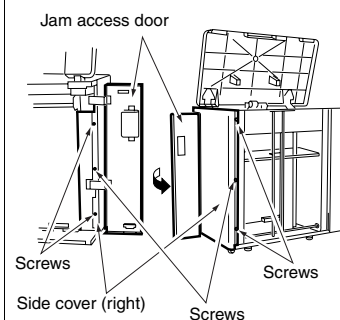


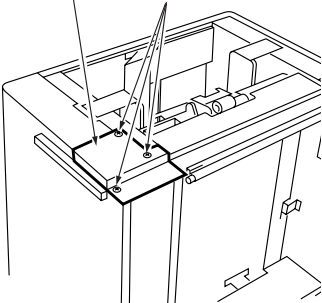
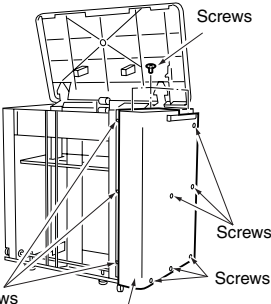
Step	Operation
1	To remove the tray with the up/down plate up, set the tray with a small thing (eraser, etc.) inserted under the up/down drive linkage lever. <div data-bbox="694 359 1030 614" data-label="Image"> </div>
2	Make sure that the up/down plate has moved up by hearing the motor sound, then draw out the tray.
3	Remove the two screws to remove the tray from the left and right guide rails.
4	Loosen a screw and adjust the position of the up/down pulley so that the front and rear ends of the up/down plate are at the same height.
5	Secure the up/down pulley by tightening the screw firmly.
6	Secure the tray on the guide rails.
7	Set the tray.

3. LCT Up/Down Plate Horizontally Adjustment



a. Adjustment method

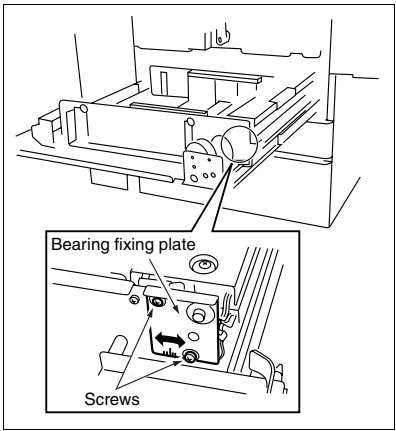
Step	Operation
1	Raise the up/down plate.
2	Open the top cover.
3	Remove five screws to detach the side cover (right). 
4	Open the jam access door, then remove six screws to detach the front cover. 

Step	Operation
5	<p>Remove three screws to detach the clutch replacement cover.</p> <p>Clutch replacement cover</p> <p>Screws</p> 
6	<p>Remove twelve screws to detach the rear cover.</p> <p>Screws</p> <p>Screws</p> <p>Screws</p> <p>Screws</p> <p>Rear cover</p> 
7	<p>Loosen the two screws and adjust the position of each paper up/down plate drive pulley using an adjustment screw so that the front and rear of the paper up/down plate are at the same height.</p>
8	<p>Secure the paper up/down plate drive pulleys by tightening the two screws (per up/down pulley).</p>
9	<p>Install the rear cover, clutch replacement cover, front cover, and side cover (right).</p>

[4] 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.

1. **Tool**
  - Screwdriver (Phillips)
2. **Adjustment of skew of conveyance roller of tray 1/2/3**

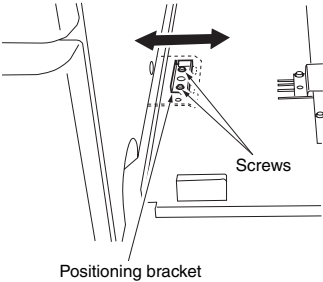


a. Adjustment method

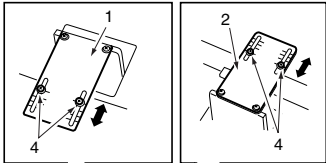
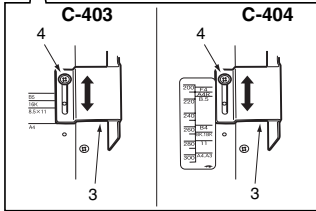
Step	Operation
1	Draw out the tray and detach the front cover.
2	Loosen the two screws to slide the bearing fixing plate.
3	Secure the bearing fixing plate by tightening the two screws firmly.
4	Install the front cover and set the tray.

3. LCT skew adjustment

a. 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 LCT and adjust the installation position of the positioning bracket on the bottom plate. 

b. 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).  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. 
3	  1. Guide plate/front 2. Guide plate/rear 3. Center positioning bracket 4. 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.

#### 4. ADU (Rear side) Skew Adjustment

##### a. Adjustment method

Step	Operation
1	Draw out the ADU stand and detach the ADU cover.
2	Loosen the two screws to slide the pre-registration roller unit installation position.
3	Secure the fixing plate by tightening the two screws firmly.
4	Install the ADU cover and set the ADU stand.

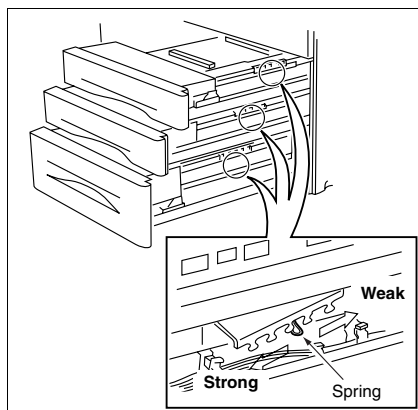
#### [5] Tray spring pressure adjustment

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

##### 1. Tool

- Screwdriver (Phillips)
- Flat-nose pliers

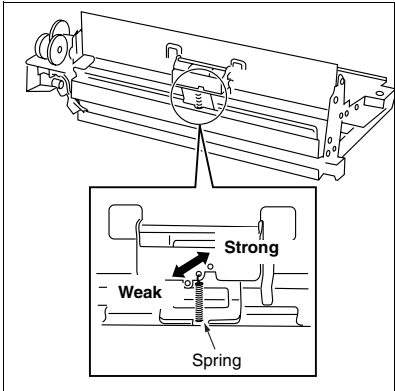
##### 2. Tray 1/2/3 spring pressure adjustment



##### a. Adjustment method

Step	Operation
1	Draw out the tray.
2	Change the spring hooking position. <b>Weak:</b> Double feed is prevented. <b>Strong:</b> No feed is prevented. <b>Reference:</b> The spring load changes about 10% each time the spring is hooked in the next slit.
3	Set the tray.

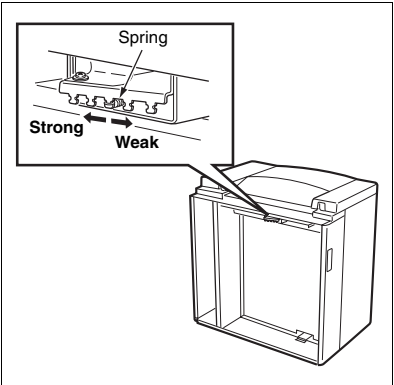
3. By-pass paper feed spring pressure adjustment



a. Adjustment method

Step	Operation
1	Remove the bypass tray from the main body.
2	Change the spring hooking position. <b>Weak:</b> Double feed is prevented. <b>Strong:</b> No feed is prevented. <b>Reference:</b> The spring load changes about 15% each time the spring is hooked in the next slit.
3	Install the bypass tray to the main body.

4. LCT spring pressure adjustment



a. Adjustment method

Step	Operation
1	Remove the LCT from the main body.
2	Change the spring hooking position. <b>Weak:</b> Double feed is prevented. <b>Strong:</b> No feed is prevented. <b>Reference:</b> The spring load changes about 10% each time the spring is hooked in the next slit.
3	Install the LCT.



# [6] Paper feed height (upper limit) adjustment

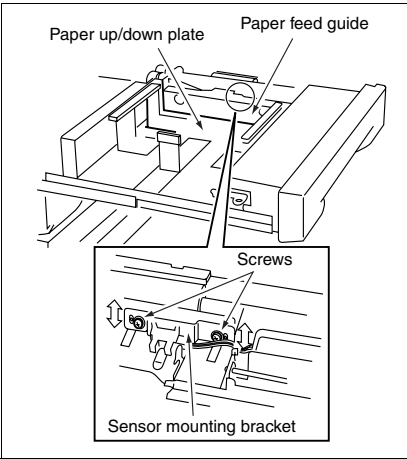
**Caution1:** Paper feed height (upper limit) adjustment must be performed when no paper feed occurs, when the leading edge of the fed paper is folded or when a convexly curled paper is fed. To perform this adjustment, move the upper limit sensor mounting bracket vertically.

**Caution2:** This adjustment may affect the release amount of the pick-up so that [7] pick-up roller release amount adjustment must be performed after this adjustment.

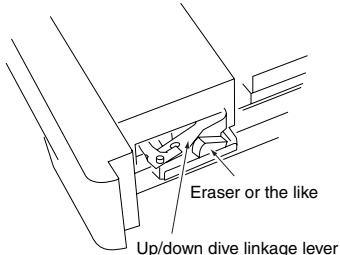
## 1. Tool

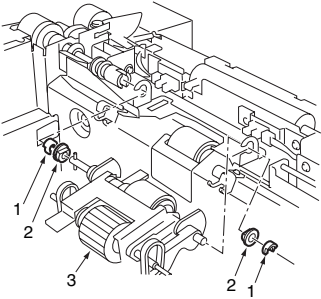
- Screwdriver (Phillips)
- Scale

## 2. Adjustment of paper feed height (upper limit) of tray 1/2/3

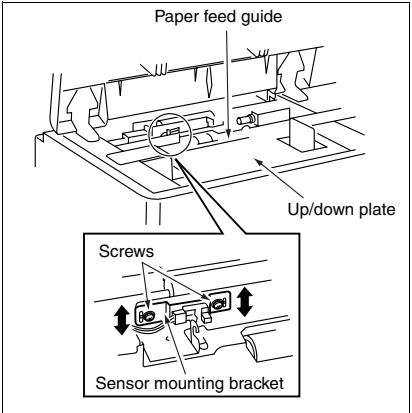


## a. Adjustment method

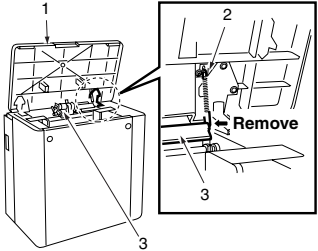
Step	Operation
1	To draw out the tray with the paper up/down plate held up, set the tray with a eraser or the like inserted under the paper up/down plate drive linkage lever.  Eraser or the like Up/down dive linkage lever
2	Make sure the paper up/down plate has moved up by hearing the motor sound, then draw out the tray.
3	Place the paper feed roller unit upright.
4	Measure the distance between the top surfaces of the paper feed guide and paper up/down plate and check whether it is within specifications. Standard value: 2-5 mm If the leading edge of the paper is folded irrespective of whether the above distance is within specifications, perform steps 5 and later.
5	Remove the two retaining rings to slide the two bearings outward, then remove the paper feed roller unit.

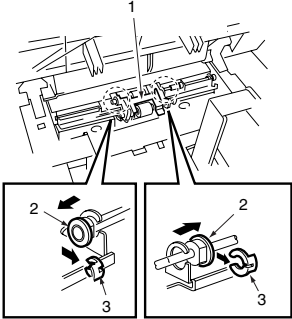
6	<p>To draw out the tray with the paper up/down plate held up, set the tray with a eraser or the like inserted under the paper up/down plate drive linkage lever.</p>  <ul style="list-style-type: none"><li>1. Retaining ring</li><li>2. Bearing</li><li>3. Paper feed roller unit</li></ul>
7	<p>Remove the two screws securing the sensor mounting bracket and install them in the outside mounting holes (oblong holes) temporarily.</p>
8	<p>&lt;When the heights are not within specifications&gt; Adjust the position of the sensor mounting bracket vertically so that the distance between the top surfaces of the paper feed guide and paper up/down plate is within the specifications.</p> <p>Larger than the standard value: Lower the sensor mounting bracket (Raise the paper up/down plate). Less than the standard value: Raise the sensor mounting bracket (Lower the paper up/down plate).</p> <p>&lt;When any fault has occurred&gt; Folded leading edge of paper: Raise the sensor mounting bracket. Convexly curled paper: Lower the sensor mounting bracket</p>
9	<p>Install the paper feed roller unit and paper conveyance unit cover.</p>
10	<p>Set the tray.</p>

3. Adjustment of paper feed height (upper limit) of LCT



a. Adjustment method

Step	Operation
1	Move the up/down plate up.
2	Open the top cover.
3	<p>Measure the distance between the top surfaces of the paper feed guide and paper up/down plate and check whether it is within specifications.</p> <p>Standard value: 2 to 5 mm</p> <p>If the leading edge of the paper is folded irrespective of whether the above distance is within specifications, perform steps 4 and later.</p>
4	<p>Remove the spring from the paper pick-up roller unit.</p>  <ul style="list-style-type: none"><li>1. Top cover</li><li>2. Spring</li><li>3. Paper feed roller unit</li></ul>

5	<p>Remove the two retaining rings to slide the two bearings outward, then remove the paper feed roller unit.</p>  <p>1. Paper feed roller unit 2. Bearing 3. Retaining ring</p>
6	<p>Remove the two screws securing the sensor mounting bracket and install them in the outside mounting holes (oblong holes) temporarily.</p>
7	<p>&lt;When the heights are not within specifications&gt; Adjust the position of the sensor mounting bracket vertically so that the distance between the top surfaces of the paper feed guide and paper up/down plate is within the specifications.</p> <p>When raising the height of the paper up/down plate: Lower the sensor mounting bracket. When lowering the height of the paper up/down plate: Raise the sensor mounting bracket.</p> <p>&lt;When any fault has occurred&gt; Folded leading edge of paper: Raise the sensor mounting bracket. Convexly curled paper: Lower the sensor mounting bracket.</p>
8	<p>Install the paper feed roller unit and spring.</p>
9	<p>Close the top cover.</p>

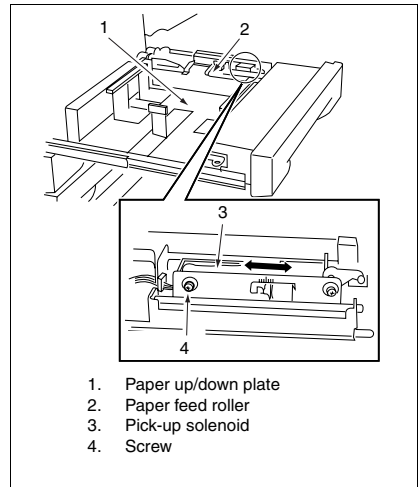
## [7] Pick-up Release Amount Adjustment

**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.

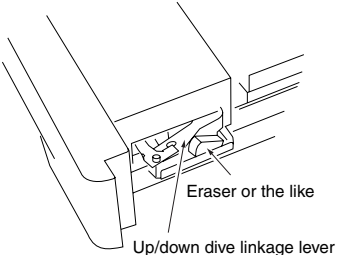
### 1. Tool

- Screwdriver (Phillips)
- Scale

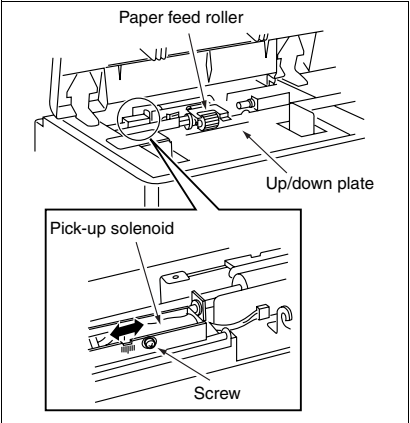
### 2. Adjustment of pick-up release amount of tray 1/2/3



a. Adjustment method

Step	Operation
1	<p>To draw out the tray with the paper up/down plate held up, set the tray with an eraser or the like inserted under the paper up/down plate drive linkage lever.</p>  <p>Eraser or the like</p> <p>Up/down dive linkage lever</p>
2	<p>Make sure the paper up/down plate has moved up by hearing the motor sound, then draw out the tray.</p>
3	<p>Pull the movable portion of the pick-up solenoid and check whether the distance between the bottom of the paper feed roller and the top surface of the paper up/down plate is within specifications.</p> <p>Standard value: 0.5 to 2.5 mm</p> <p>If the distance is not within specifications, perform steps 4 and later.</p>
4	<p>Loosen one screw and adjust the mounting position of the pick-up solenoid.</p> <p><b>Caution:</b> Take a note to remember the initial mounting position.</p>
5	<p>Secure the pick-up solenoid by tightening the screw.</p>
6	<p>Set the tray.</p>

3. Adjustment of pick-up release amount of LCT

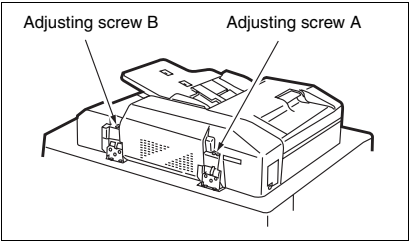


a. Adjustment method

Step	Operation
1	Move the up/down plate up.
2	Open the top cover.
3	<p>Remove the spring from the paper feed roller unit.</p> <p>1. Top cover 2. Spring 3. Paper feed roller unit</p>
4	<p>Pull the movable portion of the pick-up solenoid and check whether the distance between the bottom of the paper feed roller and the top surface of the up/down plate is within specifications.</p> <p>Standard value: 0.5 to 2.5 mm</p> <p>If the distance is not within specifications, perform steps 5 and later.</p>
5	<p>Loosen one screw to adjust the mounting position of the pick-up solenoid.</p> <p><b>Caution:</b> Take a note to remember the initial mounting position.</p>
6	Secure the pick-up solenoid by tightening the screw.
7	Install the spring.
8	Close the top cover.

[8] EDH Mounting Position Adjustment

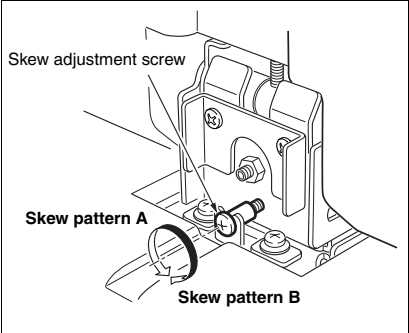
1. Tool
  - Screwdriver (Phillips)
2. Adjustment method




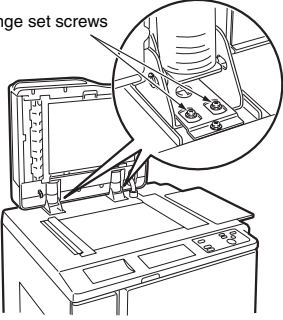
Step	Operation
1	<p>Close the EDH.</p> <p>Check if both stopper pieces on the EDH side touch the slit glass.</p>
2	
3	<p>If both stopper pieces do not touch the slit glass, make adjustments using adjusting screws A and B alternately.</p>
4	<p>Perform steps 2 and 3 repeatedly until the two stopper pieces touch the slit glass at the same time.</p>

[9] EDH Skew adjustment

- 1. Tool
  - Screwdriver (Phillips)
- 2. Adjustment method



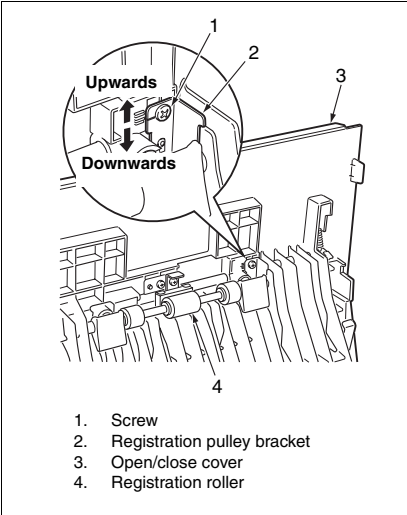
	Close the EDH, turn the skew adjustment screws and adjust the skew. For skew pattern A: Turn the skew adjustment screw counter-clockwise. For skew pattern B: Turn the skew adjustment screw clockwise.
4	
5	Make a test copy and check the skew.
6	Tighten the four hinge securing screws (two on both the left and right.)
7	Make adjustment by repeating steps 3 to 6.

Step	Operation
1	Set 11 x 17" paper into the tray1.
2	<p>Set the adjustment chart on the EDH, make a copy, and check the skew. Standard value: within <math>\pm 0.3\%</math></p> <p>Feed direction </p> <p>Skew pattern A      Skew pattern B</p> <p>Perform the following adjustment if the skew is beyond the standard value.</p>
3	<p>Open the EDH and loosen the four hinge set screws (two on both the left and right).</p> <p>Hinge set screws </p>

[10] EDH Paper Skew Adjustment

1. Face side (side 1) of original paper skew

**Note:** Always perform this adjustment after completing the EDH skew adjustment.  
(Refer to the previous page.)

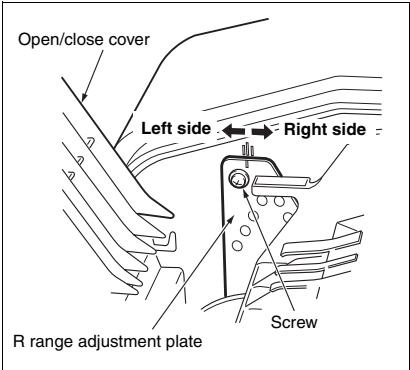


4	Move the registration pulley bracket one calibration in the direction below according to the paper skew pattern.
	For skew in pattern A: Move the registration pulley bracket downwards (direction down with original feed flow). For skew in pattern B: Move the registration pulley bracket upwards (direction up towards original feed flow). <b>Note:</b> Make sure that the registration pulley shaft does not touch the open/close cover spring holder unit.
5	Repeat steps 2 to 4 until the original skew is within specified range (0.5% or less)

Specified range: Paper skew  $\pm 0.5\%$  or less  
(Paper skew in the paper feed direction)

Step	Operation
1	<p>Make a copy in the single sided to single sided copy mode, then check the skew of the original. (Either pattern A or B)</p> <div><p>Image</p><p>Copy paper feed direction</p><p>Copy paper</p><p>Paper Skew pattern A</p><p>Paper Skew pattern B</p></div>
2	Open the open/close cover.
3	Loosen the retaining screw to release the registration pulley bracket

2. Back side (side 2) of original paper skew adjustment

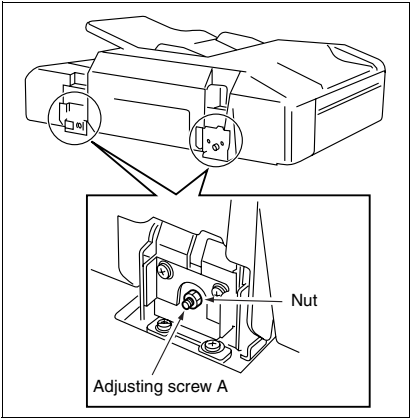


Step	Operation
1	<p>Make a copy in the double sided to single sided copy mode, then check the skew of the original. (Either pattern A or B)</p> <div><p>Image</p><p>Copy paper feed direction</p><p>Copy paper</p><p>Paper Skew pattern A</p><p>Paper Skew pattern B</p></div>
2	Open the open/close cover.
3	Loosen the set screw and release the R range adjustment plate.
4	<p>Move the R range adjustment plate one calibration in the direction below according to the paper skew pattern.</p> <p>For skew in pattern A: Move the R range adjustment plate to left side.</p> <p>For skew in pattern B: Move the R range adjustment plate to right side.</p>
5	Repeat steps 2 to 4 until the original skew is within specified range (0.5% or less)

Specified range: Paper skew  $\pm 0.5\%$  or less  
(Paper skew in the paper feed direction)

[11] EDH Hinge Spring Pressure Adjustment

1. Tool
- Screwdriver (slotted)
  - Wrench or flat-nose pliers
2. Adjustment method



Step	Operation
1	Close the EDH.
2	Loosen the nut on the left side and the nut on the right side.
3	Open the EDH.
4	<p>Turn the adjusting screws to adjust the pressure of hinge springs.</p> <p>Tightening (turning clockwise): Spring pressure reduces.</p> <p>Loosening (turning counterclockwise): Spring pressure increases.</p>
5	Close the EDH.
6	Tighten the nut on the left side and the nut on the right side.



# [12] FNS Adjusting the Magnets on Conveyance Guide Plate B

## 1. Tool

- Screwdriver (Phillips)

## 2. Adjustment method

### a. Preparation

Step	Operation
1	Open the front cover.
2	Check whether conveyance guide plate B makes contact with the cushioning rubber when the magnets are stuck to conveyance guide plate A.
3	If conveyance guide plate B does not make contact with the cushioning rubber, remove the rear cover and carry out adjustment as described below.

### b. Adjustment

Step	Operation
1	Detach all FNS CB (FNS control board) connectors.
2	Remove the 2 set screws holding the FNS CB in place. Remove the FNS CB together with its bracket. <div data-bbox="212 917 537 1268"> </div>
3	Loosen the 4 magnet-holding set screws (two at the front and two at the back), and move conveyance guide plate B all the way in the direction indicated by the arrow.
4	Remove the E-ring and the gear.

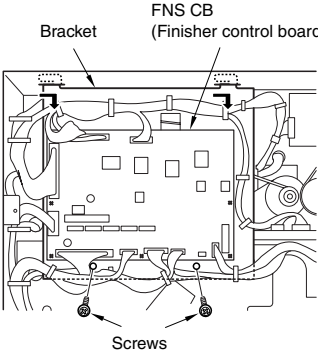
Step	Operation
5	Adhere the magnets to conveyance guide plate A and retighten the set screws. <div data-bbox="694 295 1019 694"> </div> <div data-bbox="722 702 968 837"> <ol style="list-style-type: none"> <li>1. Magnet (rear)</li> <li>2. Gear</li> <li>3. E-ring</li> <li>4. Magnet (front)</li> <li>5. Conveyance guide plate A</li> <li>6. Conveyance guide plate B</li> </ol> </div>
6	Reassemble in opposite sequence to removal.

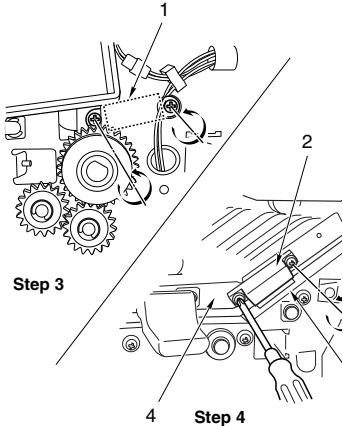
[13] FNS Adjusting the Magnets on Conveyance Guide Plate C

1. Tool
- Screwdriver (Phillips)
2. Adjustment method
- a. Preparation

Step	Operation
1	Open the front cover.
2	Check whether conveyance guide plate C makes contact with the cushioning rubber when the magnets are stuck to conveyance guide plate D.
3	If conveyance guide plate C does not make contact with the cushioning rubber, remove the rear cover and carry out adjustment as described below.

- b. Adjustment

Step	Operation
1	Detach all FNS CB (FNS control board) connectors.
2	Remove the 2 set screws holding the FNS CB in place. Remove the FNS CB together with its bracket. <div></div>
3	Loosen the 4 magnet-holding set screws (two at the front and two at the back), and move conveyance guide plate C all the way in the direction indicated by the arrow.

Step	Operation
4	Adhere the magnets to conveyance guide plate A and retighten the screws. <div></div> <div><div>1. Magnet (rear)</div><div>2. Magnet (front)</div><div>3. Conveyance guide plate A</div><div>4. Conveyance guide plate B</div></div>
5	Reassemble in opposite sequence to removal.

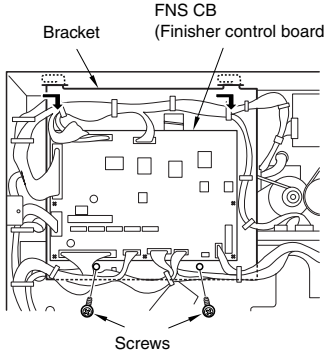
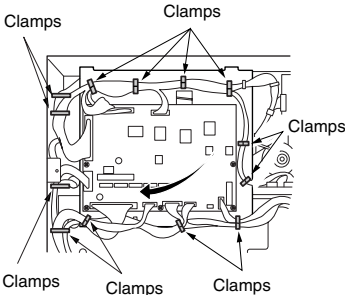
# [14] FNS Adjusting the Sub-tray Paper Exit Gate

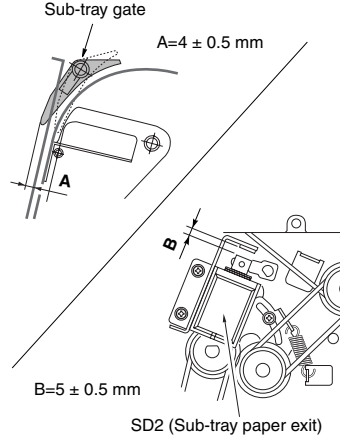
## 1. Tool

- Screwdriver (Phillips)
- Scale

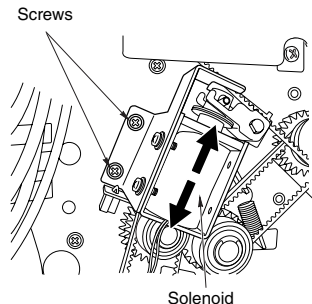
## 2. Adjustment method

### a. Preparation

Step	Operation
1	<p>Remove the 2 set screws holding the FNS CB (FNS control board) in place. Remove the FNS CB together with its bracket.</p> 
2	<p>Remove the wirings from the clamps, and move the FNS CB together with its bracket.</p> 
3	<p>With SD2 (sub-tray paper exit) OFF, measure the gap between the sub-tray gate and the guide plate (indicated by A in the illustration). Spec value for gap: <math>A = 4 \pm 0.5 \text{ mm}</math>.</p>

Step	Operation
4	<p>With SD2 ON, measure the gap between the solenoid plunger and the bracket stopper (indicated by B in the illustration). Spec value for gap: <math>B = 5 \pm 0.5 \text{ mm}</math>.</p> 
5	<p>If either gap is out of spec, carry out adjustment as described below.</p>

### b. Adjustment

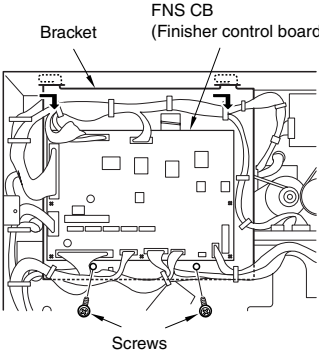
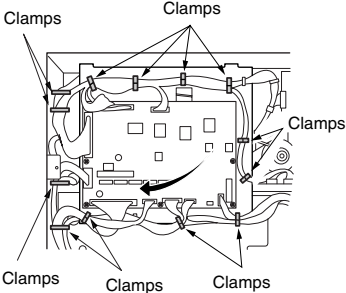
Step	Operation
1	<p>Loosen the 2 set screws holding the solenoid in place, and move the solenoid as necessary to adjust.</p> 
2	<p>Retighten the screws.</p>
3	<p>Reinstall in opposite sequence to removal.</p>

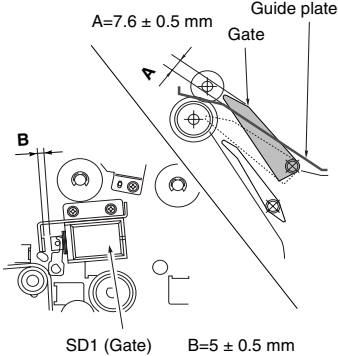
[15] FNS Adjusting the Paper-Path Switching Gate

1. Tool
- Screwdriver (Phillips)
  - Scale

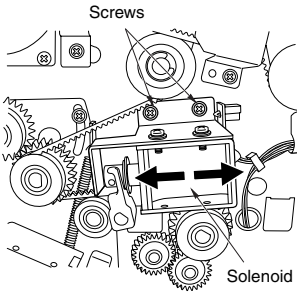
2. Adjustment method

a. Preparation

Step	Operation
1	2. Preparation (1) Remove the following parts. <ul style="list-style-type: none"><li>• Rear cover and Top cover</li><li>• Cover Inserter C (if installed)</li></ul>
2	Remove the 2 set screws holding the FNS CB (FNS control board) in place. Remove the FNS CB together with its bracket. 
3	Remove the wirings from the clamps, and move the FNS CB together with its bracket. 

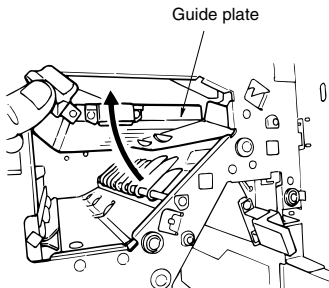
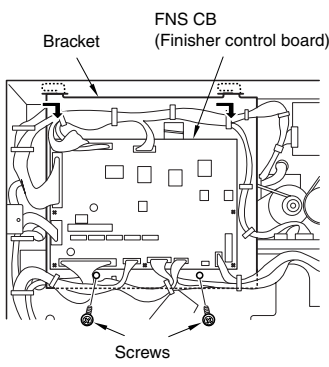
Step	Operation
4	With SD1 (gate) ON, measure the distance between the long gate and the guide plate, indicated by A in the illustration. Spec value for distance: $A = 7.6 \pm 0.5 \text{ mm}$ .
5	Again with SD1 ON, measure the gap between the solenoid plunger and the bracket stopper (indicated by B in the illustration). Spec value for gap: $B = 5 \pm 0.5 \text{ mm}$ 
6	If either measurement is out of spec, carry out adjustment as described below.

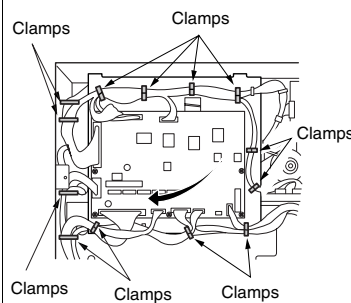
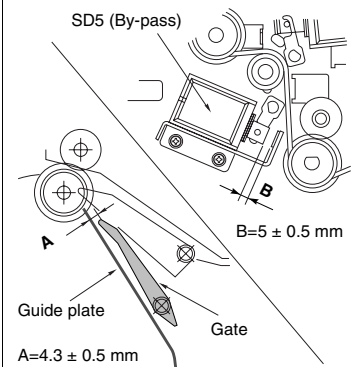
b. Adjustment

Step	Operation
1	Loosen the 2 set screws holding the solenoid in place, and move the solenoid as necessary to adjust. 
2	Retighten the screws.
3	Reassemble in the opposite sequence to removal.

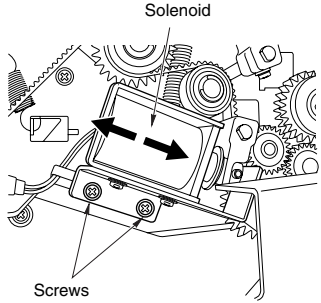
# [16] FNS Adjusting the By-pass Gate

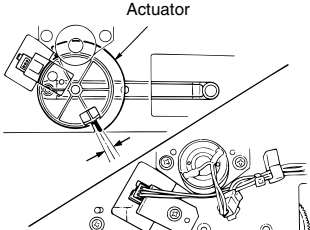
1. **Tool**
  - Screwdriver (Phillips)
  - Scale
2. **Adjustment method**
  - a. Preparation

Step	Operation
1	Remove the following parts.
2	<p>Open the front cover and the guide plate.</p> 
3	<p>Remove the 2 set screws holding the FNS CB (FNS control board) in place. Remove the FNS CB together with its bracket.</p> 

Step	Operation
4	<p>Remove the wirings from the clamps, and move the FNS CB together with its bracket.</p> 
5	<p>With SD5 (by-pass) OFF, measure the distance between the by-pass gate and the guide plate, indicated by A in the illustration.</p> <p>Spec value for distance: <math>A = 4.3 \pm 0.5 \text{ mm}</math></p>
6	<p>With SD5 ON, measure the gap between the solenoid plunger and the bracket stopper (indicated by B in the illustration).</p> <p>Spec value for gap: <math>B = 5 \pm 0.5 \text{ mm}</math></p> 
7	<p>If either measurement is out of spec, carry out adjustment as described below.</p>

b. Adjustment

Step	Operation
1	<p>Loosen the 2 set screws holding the solenoid in place, and move the solenoid as necessary to adjust.</p> 
2	Retighten the screws.
3	Reassemble in the opposite sequence to removal.

Step	Operation
3	<p>With the M2 (roller shift) OFF (home position), check that the actuator on PS18 (roller shift HP) is correctly aligned with the cutout on the shift-unit mounting plate.</p> 
4	<p>If the actuator is not correctly aligned with the cutout, carry out adjustment as described below.</p>

[17] FNS Adjusting the Shift Position

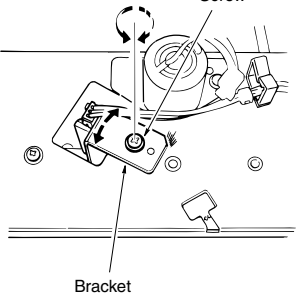
1. Tool
- Screwdriver (Phillips)

2. Adjustment method

a. Preparation

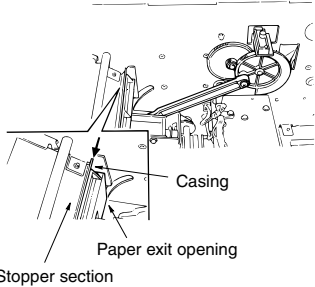
Step	Operation
1	<p>Remove the following parts.</p> <ul style="list-style-type: none"><li>• Top cover and Rear cover</li><li>• Cover inserter C (if installed)</li></ul>
2	Switch the power OFF to ON to OFF.

b. Adjustment

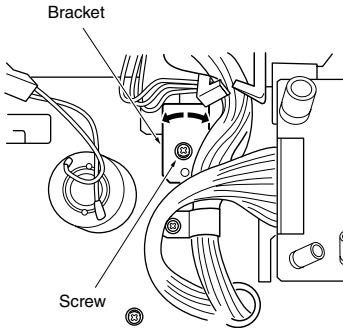
Step	Operation
1	<p>Loosen the screw holding the PS18 (roller shift HP) bracket in place, and adjust the bracket position as necessary.</p> 
2	Retighten the screw.
3	Reassemble in the opposite sequence to removal.

[18] FNS Adjusting Opening/Closing at the Paper Exit

- 1. **Tool**
  - Screwdriver (Phillips)
- 2. **Adjustment method**
  - a. Preparation

Step	Operation
1	Remove the following parts. <ul style="list-style-type: none"><li>• Top cover and Rear cover</li><li>• Cover inserter C (if installed)</li></ul>
2	Switch the power OFF to ON to OFF.
3	<p>Then, with the paper exit closed, confirm that the paper exit casing is firmly against the stopper section.</p>  <p>The diagram shows a side view of the paper exit mechanism. A casing is shown being moved towards a stopper section. Labels include 'Casing', 'Paper exit opening', and 'Stopper section'.</p>
4	If the casing is not in firm contact with the stopper, carry out adjustment described as follows.

- b. Adjustment

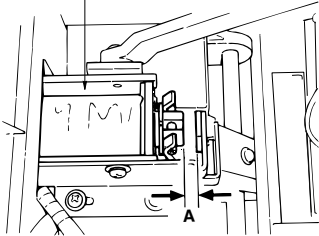
Step	Operation
1	<p>Loosen the set screw holding the PS12 (paper exit-opening detector) bracket in place, and adjust the bracket position as necessary.</p>  <p>The diagram shows a bracket with a screw. Labels include 'Bracket' and 'Screw'.</p>
2	Retighten the bracket set screw.
3	Reassemble in the opposite sequence to removal.

[19] FNS Adjusting the Paper Exit-Opening Solenoid

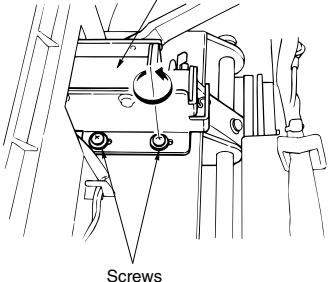
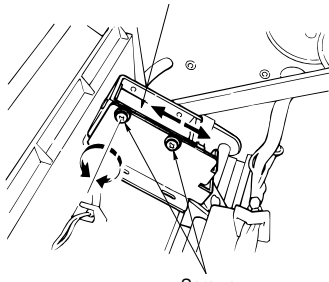
1. Tool
- Screwdriver (Phillips)
  - Scale

2. Adjustment method

a. Preparation

Step	Operation
1	Remove the following parts. <ul style="list-style-type: none"><li>• Top cover and Rear cover</li><li>• Cover inserter C (if installed)</li></ul>
2	With SD4 (paper exit-opening solenoid) ON, measure the gap between the solenoid plunger and the bracket stopper. Spec value for gap: $A = 6.0 \pm 0.5 \text{ mm}$   $A = 6 \pm 0.5 \text{ mm}$
3	If the gap is out of spec, carry out adjustment describe as follows.

b. Adjustment

Step	Operation
1	Remove the 2 set screws holding the solenoid bracket in place, and remove the solenoid together with the bracket.    Solenoid bracket  Screws
2	Loosen the 2 screws holding the solenoid to the bracket, and adjust the position of solenoid.    Solenoid bracket  Screws
3	Retighten the 2 solenoid screws, then replace the solenoid and bracket into their original position and screw in the 2 bracket screws.
4	Reassemble in the opposite sequence to removal.



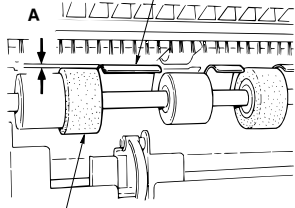
**[20] FNS Adjusting the Paper Exit Opening Lower Guide Plate**

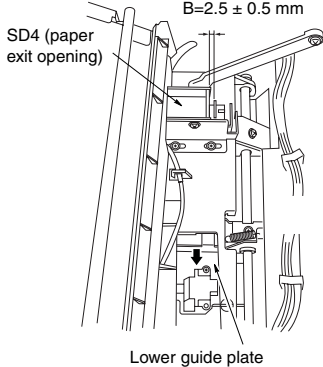
**1. Tool**

- Screwdriver (Phillips)
- Scale

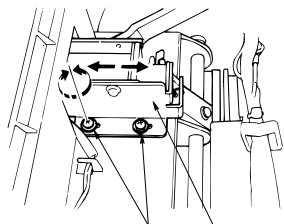
**2. Adjustment method**

**a. Preparation**

Step	Operation
1	Remove the following parts. <ul style="list-style-type: none"> <li>• Top cover and Rear cover</li> <li>• Cover inserter C (if installed)</li> </ul>
2	<p>With SD4 (paper exit-opening solenoid) OFF, confirm that the paper exit-opening lower guide plate is a sufficient distance (distance A) higher than the sponge rollers.</p> <p>Spec value: A = 1.5mm and greater</p> <p><math>A = 1.5 \pm 0.5 \text{ mm}</math> Lower guide plate</p>  <p>Sponge roller</p>

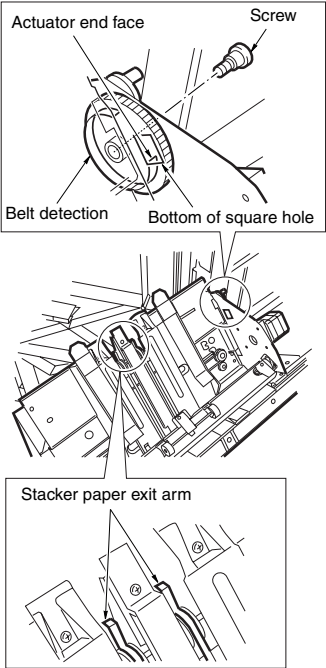
Step	Operation
3	<p>Hold down the paper exit-opening lower guide plate with your hand so that the paper exit roller makes contact, and check that the remaining stroke for solenoid SD4 (distance B) is within spec.</p> <p>Spec value: B = <math>2.5 \pm 0.5 \text{ mm}</math></p>  <p>SD4 (paper exit opening)</p> <p>Lower guide plate</p>
4	If the gap is out of spec, carry out adjustment describe as follows.

**b. Adjustment**

Step	Operation
1	<p>Remove the 2 set screws holding the solenoid bracket in place, and remove the solenoid together with the bracket.</p>  <p>Screws</p> <p>Solenoid bracket</p>
2	Retighten the 2 bracket set screws.
3	Reassemble in the reverse sequence to removal.

[21] FNS Adjusting the Mount Location of the Paper Exit Arm

- 1. **Tool**
  - Screwdriver (Phillips)
- 2. **Adjustment method**
  - a. Adjustment

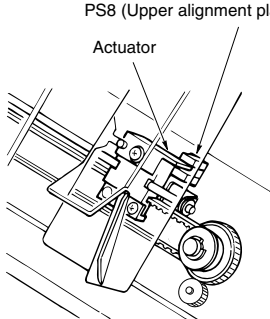
Step	Operation
1	Remove the screw to remove the belt detection gear.
2	When the stacker paper exit arm is at the position shown below, secure the belt detection gear with a screw with the actuator end face of the belt detection gear aligned with the bottom of the square hole.
	

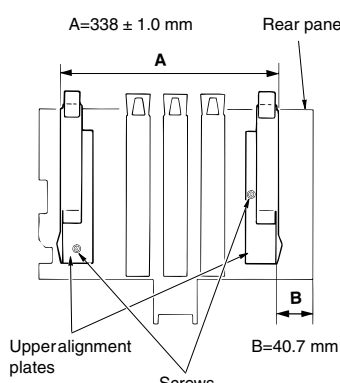
[22] FNS Adjusting the Mount Location of the Upper Alignment Plates

- 1. **Tool**
  - Screwdriver (Phillips)
  - Scale
- 2. **Adjustment method**
  - a. Preparation
  - b. Adjustment

Step	Operation
1	Open the front cover and pull out the stacker/stapler unit.

- b. Adjustment

Step	Operation
1	Move the upper alignment plates into home position. (Move so that the actuator on the upper-alignment-plate drive belt is at PS8 (upper-alignment-plate HP).) 

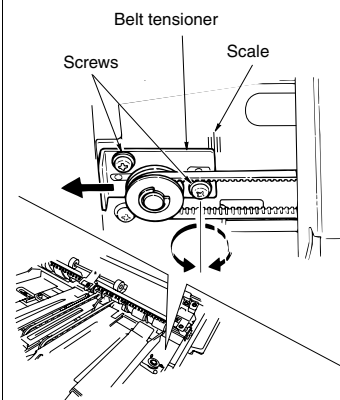
Step	Operation
2	<p>Loosen the 2 set screws fixing the upper alignment plates in place (one screw on each plate), and adjust the plates so that distances A and B are within specification. Spec values: A = <math>338 \pm 1.0</math> mm B = 40.7 mm</p> 
3	Retighten the screws.

**[23] FNS Adjusting the Tension of the Upper Alignment Plate Drive Timing Belt**

- 1. **Tool**
  - Screwdriver (Phillips)
- 2. **Adjustment method**
  - a. Preparation

Step	Operation
1	If the upper alignment plate drive belt tensioner has been loosened as a result of belt replacement or for some other reason, adjust as described below.

- b. Adjustment

Step	Operation
1	Loosen the 2 set screws (see illustration).
2	<p>Move the belt tensioner so that the end is aligned with the center mark on the scale, and retighten the screws.</p> 

[24] FNS Adjusting the Mount Location of the Lower Alignment Plates (FN-7 only)

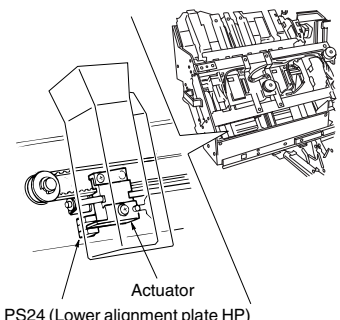
1. Tool
- Screwdriver (Phillips)
  - Scale

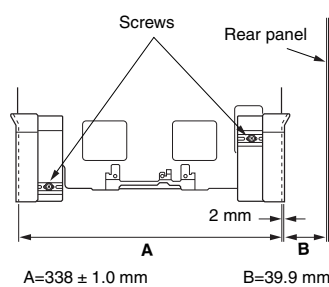
2. Adjustment method

a. Preparation

Step	Operation
1	Open the front cover and pull out the stacker/stapler unit.

b. Adjustment

Step	Operation
1	<p>Move the lower alignment plates into home position. (Move so that the actuator on the lower-alignment plate drive belt is at PS24 (lower-alignment plate HP).</p>  <p>Actuator PS24 (Lower alignment plate HP)</p>

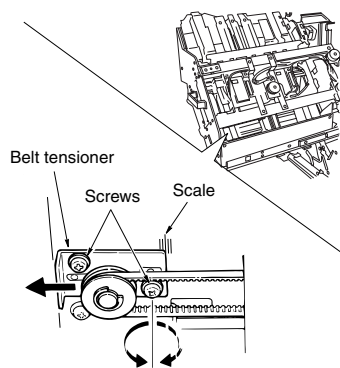
Step	Operation
2	<p>Loosen the 2 set screws fixing the lower alignment plates in place (one screw on each plate), and adjust the plates so that distances A and B are within specification. Spec values: A = 338 ± 1.0 mm B = 39.9 mm</p>  <p>Screws Rear panel 2 mm A B A=338 ± 1.0 mm B=39.9 mm</p>
3	Retighten the screws.

[25] FNS Adjusting the Tension of the Lower Alignment Plate Drive Timing Belt (FN-7 only)

- 1. **Tool**
  - Screwdriver (Phillips)
- 2. **Adjustment method**
  - a. Preparation

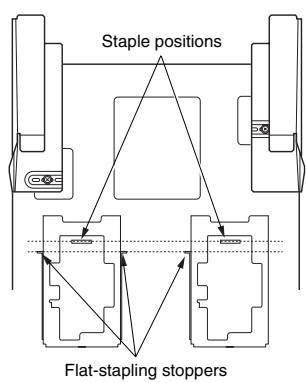
Step	Operation
1	If the lower alignment plate drive belt tensioner has been loosened as a result of belt replacement or for some other reason, adjust as described below.

- b. Adjustment

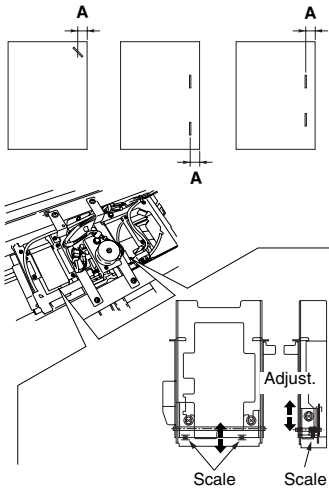
Step	Operation
1	Loosen the 2 set screws (see illustration).
2	Move the belt tensioner so that the end is aligned with the center mark on the scale, and retighten the screws. 

[26] FNS Adjusting the Stapling Position (Flat Stapling)

- 1. **Tool**
  - Screwdriver (Phillips)
  - Scale
- 2. **Adjustment method**
  - a. Preparation

Step	Operation
1	Check whether the virtual line running between the stoppers is parallel to the virtual line between the staplers. 
2	If the lines are not parallel or if you need to change the stapling position, carry out adjustment as described below.

b. Adjustment

Step	Operation
1	<p>Loosen the 3 set screws holding the flat-stapling stopper bracket in place, and position the bracket so that distance A is within the specification range.</p> <p>Spec range: A = 5.5 to 11.5mm (initial value = 8.5mm)</p> 
2	<p>Hold paper against the stoppers and confirm that all three stoppers are in alignment.</p>
3	<p>Execute stapling to confirm that the stopper line and stapler line are parallel.</p>

[27] FNS Adjusting the Stapler Vertical Positioning (FN-7 only)

1. Tool

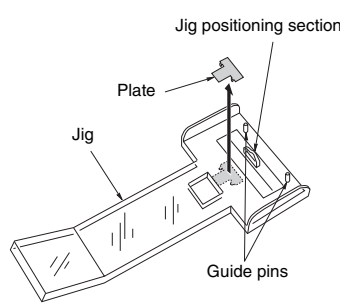
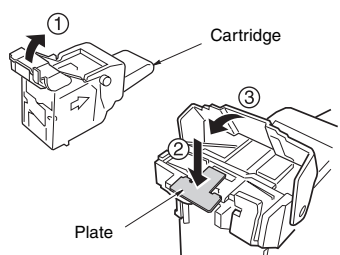
- Screwdriver (Phillips)
- Jig (special tool)

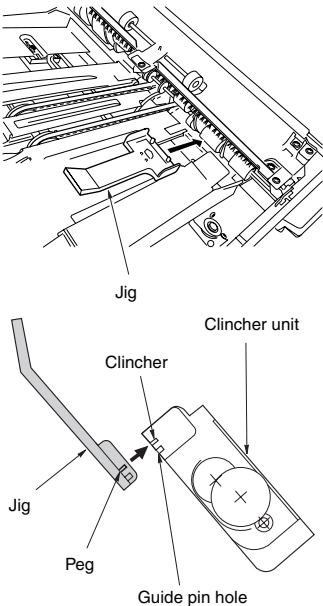
2. Adjustment method

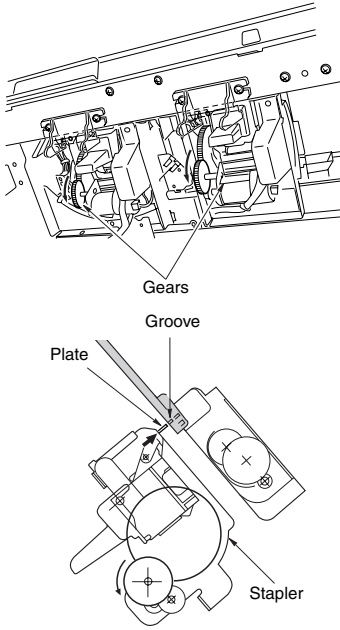
a. Preparation

Step	Operation
1	<p>When replacing or reinstalling a stapler or clincher, adjust the vertical alignment as described below.</p>

b. Adjustment

Step	Operation
1	<p>If installing a stapler, mount the stapler into place.</p>
2	<p>Loosely fasten the clincher in place with 4 screws. (If the clincher is already fastened in place, loosen the 4 screws so that you can adjust it.)</p>
3	<p>Remove the plate from the jig.</p> 
4	<p>Remove the cartridge, and install the plate that you took from the jig.</p> 

Step	Operation
5	<p>Install the cartridge.</p> <p><b>Caution:</b> Remove the remaining staples on the upper surface. Remove the staple sheet if it is bent.</p>
6	<p>Insert the two guide pins of the jig in the guide pin holes, and engage the end of the positioning portion of the jig with the clincher.</p> <p><b>Caution:</b> The positioning portion of the jig need not be engaged with the clincher completely. Only part of the end of the positioning portion must be engaged so long as it is not disengaged.</p> 

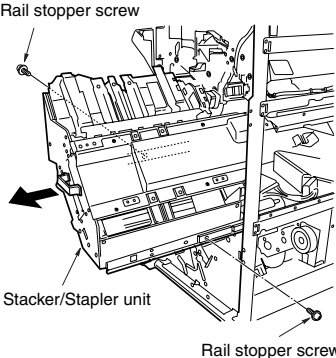
Step	Operation
7	<p>Rotate the stapler gears downward. Adjust the clincher position so that the plate on the cartridge fits smoothly into the groove on the jig. Rotate the stapler gear further to fit the plate in the groove in the jig and the jig in the clincher unit completely.</p> 
8	<p>Tighten the 4 clincher screws to fasten the clincher into place.</p>
9	<p>Rotate the stapler gears back upwards, and remove the jig.</p> <p><b>Caution:</b> When removing the jig, be careful not to break the mylar of the clincher unit.</p>
10	<p>Remove the plate from the cartridge and set it back into the jig.</p>
11	<p>Reinstall the cartridge and check that stapler operates correctly.</p>

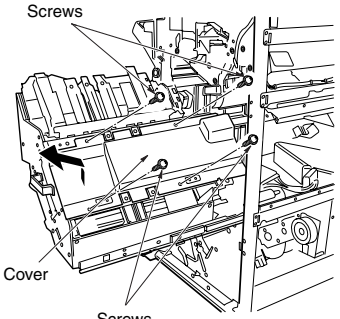
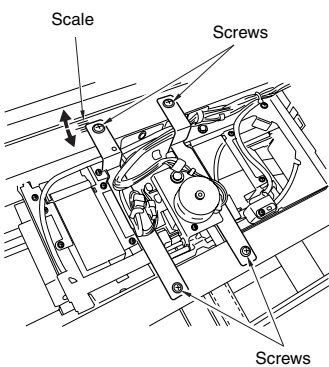
[28] FNS Adjusting the Angle of the Sta-  
pling Stopper (FN-7 only)

1. **Tool**
- Screwdriver (Phillips)
2. **Adjustment method**
- a. Preparation

Step	Operation
1	If the staple orientation is not parallel with the paper edge, adjust as described below.

- b. Adjustment

Step	Operation
1	Open the front cover and pull the stacker/ stapler unit part of the way out.
2	Remove the 2 rail stopper screws. Then pull the stacker/stapler unit all of the way out. 

Step	Operation
3	Remove the 4 set screws holding the cover in place, and remove the cover. 
4	Loosen 4 more set screws.
5	Rotate the stapling and folding stopper assembly as necessary to adjust the align- ment. 
6	Retighten the screws.



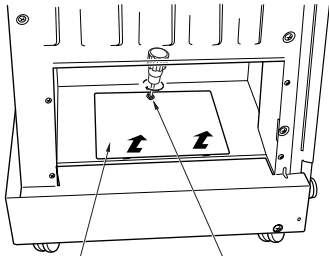
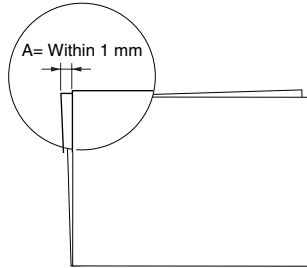
**[29] FNS Adjusting the Angle of the Folding Stopper (FN-7 only)**

**1. Tool**

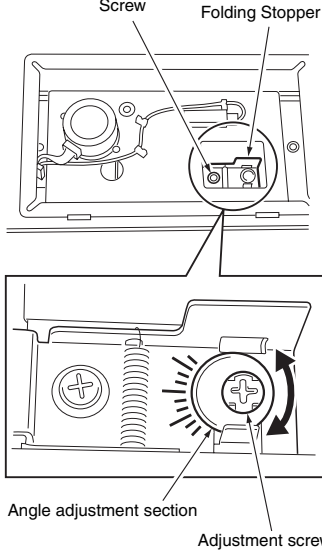
- Screwdriver (Phillips)
- Screwdriver (Phillips, stubby)

**2. Adjustment method**

**a. Preparation**

Step	Operation
1	Connect the finisher to the main body.
2	Load 11 x 17" paper into the main body.
3	<p>Remove the screw, and remove the paper exit guide plate adjustment cover.</p>  <p>Adjustment cover      Screw</p>
4	<p>Check whether the following conditions hold.</p> <ul style="list-style-type: none"> <li>• Check that the fold line (the folding stopper) is perpendicular to the conveyance direction.</li> <li>• Check that the fold side discrepancy (for 11 x 17" paper) is within the limit. Limit: A = within 1 mm</li> </ul>  <p>A = Within 1 mm</p>
5	If either or both of the above conditions does not hold, adjust as described below.

**b. Adjustment**

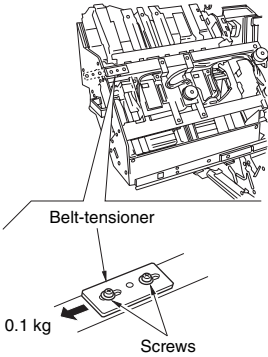
Step	Operation
1	Take a fold sample using 11 x 17" paper.
2	Check the discrepancy along the folded set's trailing edge, and use this information to judge the direction and amount by which the stopper angle must be corrected.
3	Loosen one folding stopper screw.
4	<p>Using the marking as a guide, adjust the folding stopper angle with adjustment screw to the extent of discrepancy.</p>  <p>Screw      Folding Stopper</p> <p>Angle adjustment section      Adjustment screw</p>
5	When the position of the folding stopper is decided, secure the set screws holding the stopper in place.
6	Take another sample and check the discrepancy.
7	Repeat steps (3) and (5) until the discrepancy is within the specified limit.
8	Install the adjustment cover after this adjustment is completed.

[30] FNS Adjusting the Tension of the Stapler Movement Timing Belt (FN-7 only)

1. Tool
- Flat-nose pliers
  - Tension gauge or spring balance
2. Adjustment method
- a. Preparation

Step	Operation
1	If the belt tensioner has become loose as a result of belt replacement or for some other reason, adjust as described below.

b. Adjustment

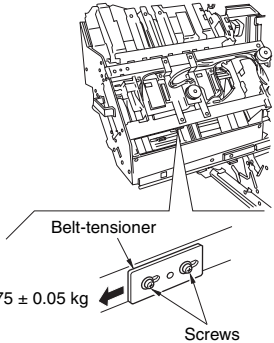
Step	Operation
1	Loosen the 2 screws holding the belt-tensioner in place.
2	<div>Using a tension gauge or spring balance, pull the belt-tensioner so that tension A is at the value indicated below. Maintain this tension while retightening the screws. Spec value for tension: <math>A = 1.5 \pm 0.5</math> kg</div> <div></div>

[31] FNS Adjusting the Tension of the Stapler Rotation Timing Belt (FN-7 only)

1. Tool
- Flat-nose pliers
  - Tension gauge or spring balance
2. Adjustment method
- a. Preparation

Step	Operation
1	If the belt tensioner has been loosened as a result of belt replacement or for some other reason, adjust as described below.

b. Adjustment

Step	Operation
1	Loosen the 2 screws holding the belt-tensioner in place.
2	<div>Using a tension gauge or spring balance, pull the belt-tensioner so that tension A is at the value indicated below. Maintain this tension while retightening the screws. Spec value for tension: <math>A = 0.75 \pm 0.05</math> kg</div> <div></div>

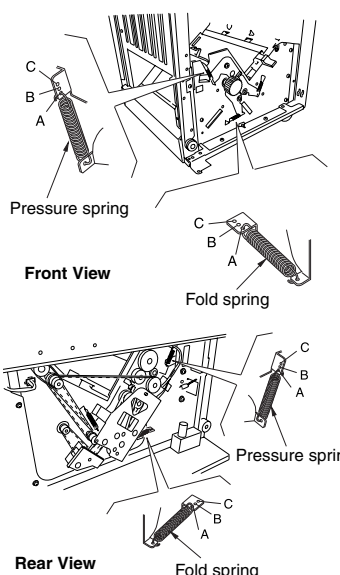
### [32] FNS Adjusting the Folding Force (FN-7 only)

#### 1. Adjustment method

##### a. Preparation

Step	Operation
1	If necessary, you can change the force of the folding and pressure rollers as described below. <b>Caution:</b> If changing the forces, be sure to make the same change for all rollers at the same time.

##### b. Adjustment

Step	Operation
1	Set the springs as illustrated below; a pressure spring on the folding roller, and a fold spring on the pressure roller. Force: A = 7.8 kgf B = 8.9 kgf C = 10.0 kgf <b>Caution:</b> Be sure to attach the springs into like-labeled holes (either A, or B, or C).  Pressure spring Front View Fold spring Rear View Pressure spring Fold spring

### [33] FNS Adjusting the Mount Location of the Folding Knife Motor (FN-7 only)

#### 1. Tool

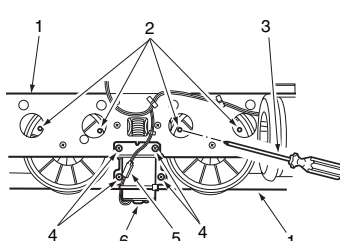
- Screwdriver (Phillips)

#### 2. Adjustment method

##### a. Preparation

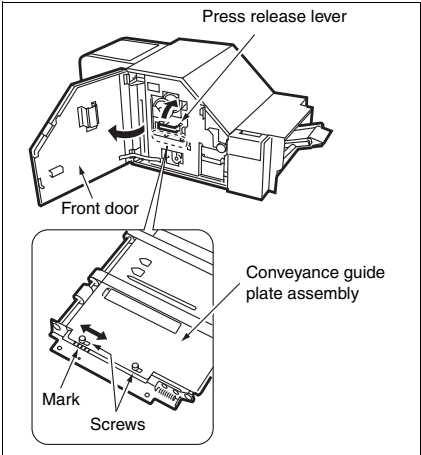
Step	Operation
1	Remove the finisher from the main body.

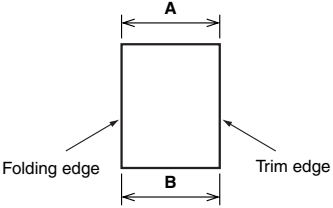
##### b. Adjustment

Step	Operation
1	Disconnect the connector and remove the folding knife motor from the mounting plate. (4 screws)
2	Align the round holes (four) in the left and right knife drive cams to the holes in the mounting plate, then insert the screwdriver or shaft.
3	Install the folding knife motor on the mounting plate (with four screws) and connect the connector.
4	Remove the screwdriver or shaft used to secure the left and right knife drive cams.  1. Mounting plate 2. Round holes 3. Screwdriver (Phillips) 4. Screws 5. Connector 6. Folding knife motor

[34] TU Trimming Parallelism Adjustment

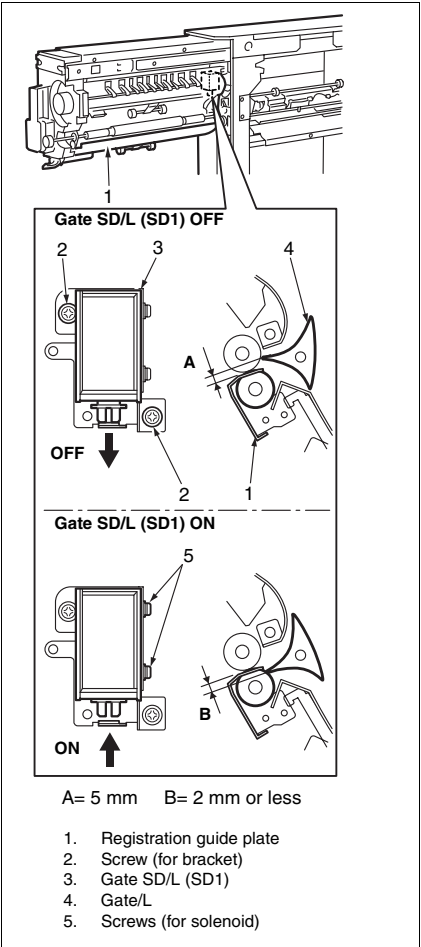
- 1. Tool
  - Screwdriver (Phillips)
- 2. Adjustment method

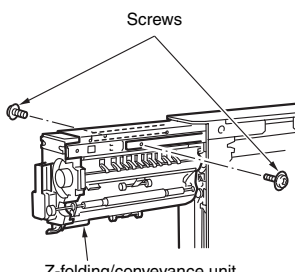


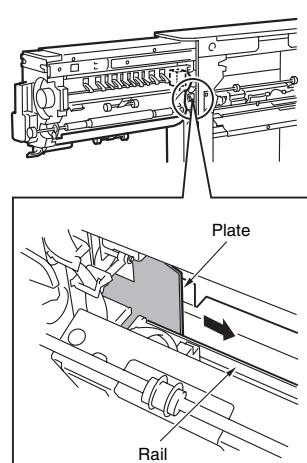
Step	Operation
1	<p>Measure the lengths of the upper edge (A) and lower edge (B) of the trimmed booklet to obtain the parallelism.</p> <p>Parallelism = A - B</p> <div></div>
2	Open the front door.
3	Raise the press release lever.
4	Loosen the two screws.
5	<p>Adjust the conveyance guide plate assembly according to the mark so that the parallelism is within the spec.</p> <p>Standard: less than ±1 mm</p>
6	Tighten the two screws securely.

[35] Adjusting the PZ Paper-Path Switching Solenoid

- 1. Tool
  - Screwdriver (Phillips)
- 2. Adjustment method

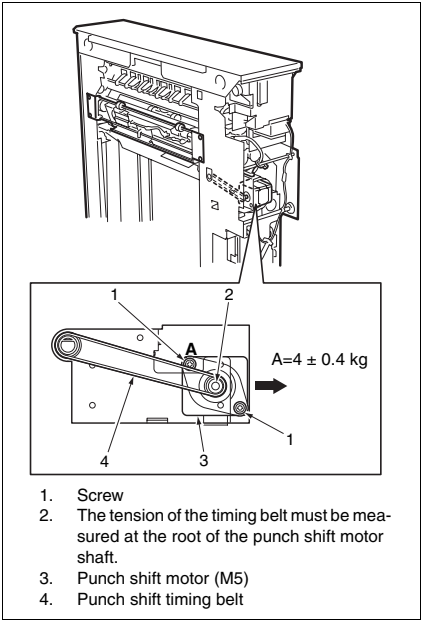


Step	Operation
1	Open the front door of FNS, remove the front cover of ZK-2 (three screws), and remove ZK-2 from the main body.
2	Remove the AC cord and the rear cover (four screws).
3	<p>Pull out the z-folding/conveyance unit. Remove the two screws from the rail and further draw out the unit.</p>  <p>Screws</p> <p>Z-folding/conveyance unit</p>
4	Loosen two screws securing the solenoid bracket.
5	<p>Make sure that the gate solenoid/L (SD1) is OFF, and adjust the position of the solenoid bracket so that the gap between the gate tip and the registration guide plate is within the specification range. Fasten the two screws.</p> <p>Spec range: 5 mm (viewing)</p>
6	Loosen two screws securing the solenoid.
7	<p>Make sure that the gate solenoid/L (SD1) is ON, and adjust the position of the solenoid bracket so that the gap between the gate tip and the registration guide plate is within the specification range. Fasten the two screws.</p> <p>Spec range: 2 mm or less</p> <p>* The plunger must operate smoothly when the solenoid is turned ON or OFF.</p>

Step	Operation
8	<p>Reassemble in the opposite sequence to removal.</p> <p><b>Caution:</b> The conveyance unit must be inserted so that the plate on the conveyance unit (see the figure below) is positioned inside the rail on the enclosure.</p>  <p>Plate</p> <p>Rail</p>

[36] Adjusting the Tension of the PZ Punch Shift Timing Belt

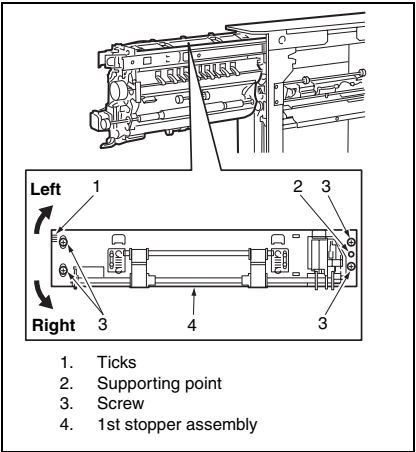
1. Tool
- Screwdriver (Phillips)
  - Tension gauge or spring balance
2. Adjustment method



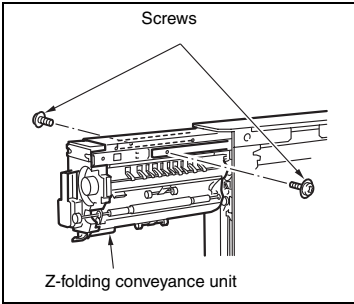
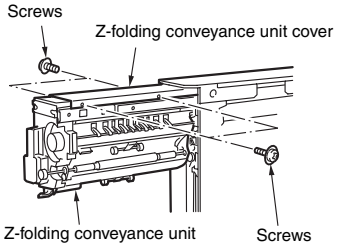
Step	Operation
1	Remove the PZ from the main body.
2	Remove the four screws to remove the rear cover.
3	Loosen the two screws holding the punch shift motor (M5).
4	Use a tension gauge or a spring balance to measure the tension at the A point. When a specification value is observed, tighten the screws. Spec value: $A = 4 \pm 0.4 \text{ kg}$ <b>Note:</b> The tension must be measured at the root of the motor shaft. Otherwise, the measuring operation may cause the shaft to bend.
5	Reinstall the rear cover using four screws.

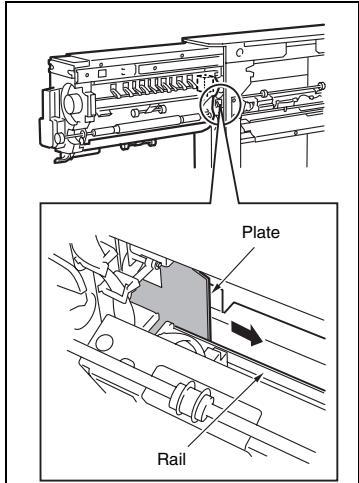
[37] Adjusting the 1st Folding Skew

1. Tools
- Screwdriver (Phillips)
2. Adjustment Method



Step	Operation
1	Set 11 x 17" paper into the tray.  Set the original chart and make a copy of it. Check the copy for a possible folding skew. Spec range: within 0.5 mm
2	<div><p>1st folding</p><p>0.5 mm or less</p><p>0.5 mm or less</p><p><b>Skew pattern A</b>      <b>Skew pattern B</b></p></div> <p>If the folding skew is outside the spec range, adjust according to the instructions described in the following steps.</p>
3	Open the front door of the FNS.

4	<p>Pull out the z-folding/conveyance unit. Remove two screws from the rail and further draw out the conveyance unit.</p> 
5	<p>Remove four screws to remove the z-folding/conveyance unit cover.</p> 
6	<p>Loosen four screws securing the 1st folding stopper assembly.</p>
7	<p>Make adjustments by moving the 1st stopper assembly right or left using the ticks for reference.</p> <p>Skew pattern A: Move the 1st stopper assembly to the left.</p> <p>Skew pattern B: Move the 1st stopper assembly to the right.</p>
8	<p>Temporarily tighten four screws holding the 1st stopper assembly, and put the conveyance unit into the basis position. Make a copy of the adjustment chart to check for 1st folding skew.</p>
9	<p>Repeat Steps 6 to 8 until the 1st folding skew falls within the spec range (0.5 mm or less).</p>
10	<p>Tighten firmly four screws on the 1st stopper assembly.</p>

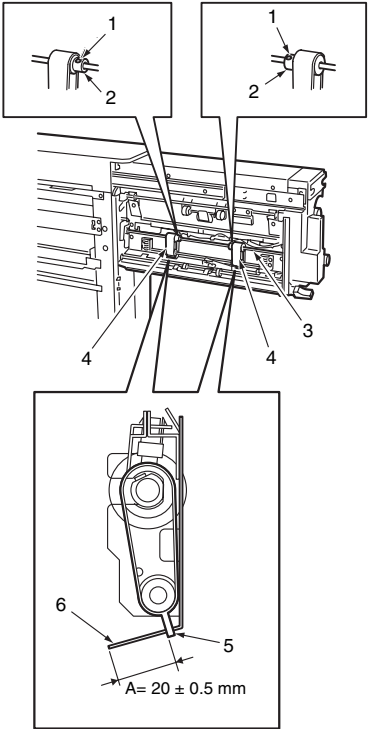
	<p>Reassemble in the opposite sequence to removal.</p> <p><b>Note:</b> The conveyance unit must be inserted so that the plate on the conveyance unit (see the figure below) is positioned in side the rail on the enclosure.</p> 
11	

[38] Adjusting the Position of the 2nd Folding Stopper

**Note:** This adjustment affects the 2nd folding skew. Therefore, first complete this adjustment and then proceed to the [15] Adjusting the 2nd Folding Skew section.

1. **Tools**
- Screwdriver (Phillips)
  - Hex wrench

2. **Adjustment Method**



1. Hex screw  
2. Pulley  
3. Shaft  
4. 2nd folding stopper  
5. Paper stopper  
6. Guide plate

$A = 20 \pm 0.5 \text{ mm}$

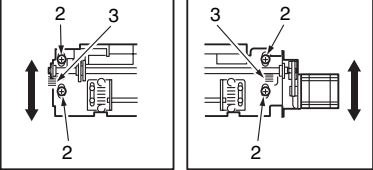
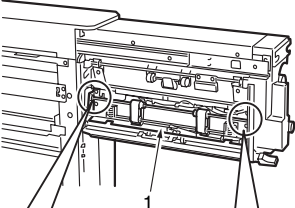
Step	Operation
1	Set paper into the tray and make a copy (required to place the paper stopper at its HP position).
2	Open the front door of the FNS and draw out the conveyance unit.
3	Make sure that the distance between the edge of the guide plate and the paper stopper is within the specification range. Spec range: $A = 20 \pm 0.5 \text{ mm}$ If the distance is outside the spec range, adjust according to the instructions described in the following step.
4	Loosen the screws holding the pulleys and adjust the distance by rotating the pulleys. Tighten the screws. <b>Note:</b> Do not rotate the shaft on which the pulleys are attached. If it is rotated for some reason, the stopper is placed out of its HP position. Then perform the procedure again from Step 1.



[39] Adjusting the 2nd Folding Skew 2nd Stopper Assembly

**Note:** Before beginning this operation, complete the adjustment described in the [14] Adjusting the Position of the 2nd folding Stopper section.

- 1. **Tools**
  - Screwdriver (Phillips)
- 2. **Adjustment Method**

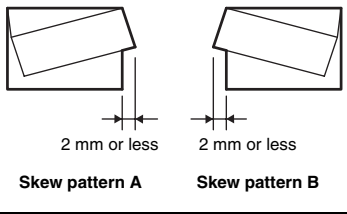


1. 2nd folding stopper assembly

2. Screw

3. Ticks

3	Open the front door of the FNS and draw out the conveyance unit.
4	Loosen the four screws holding the 2nd stopper assembly.
5	Make adjustments by moving the front or rear side of the 2nd stopper assembly upward using the ticks for reference. Skew pattern A: Move the rear side of the 2nd stopper assembly upward. Skew pattern B: Move the front side of the 2nd stopper assembly upward.
6	Temporarily tighten the four screws holding the 2nd stopper assembly, and put the conveyance unit into the basis position. Make a copy of the adjustment chart to check for 2nd folding skew.
7	Repeat Steps 4 to 6 above until the 2nd folding skew falls within the spec range (2 mm or less).
8	Tighten firmly the four screws on the 2nd stopper assembly.

Step	Operation
1	Set 11 x 17" paper into the tray.
2	<div>Set the original chart and make a copy of it. Check the copy for a possible folding skew. Spec range: within 2 mm</div> <div><p>2 mm or less      2 mm or less</p><p><b>Skew pattern A</b>      <b>Skew pattern B</b></p><div>If the folding skew is outside the spec range, adjust according to the instructions described in the following steps.</div></div>

