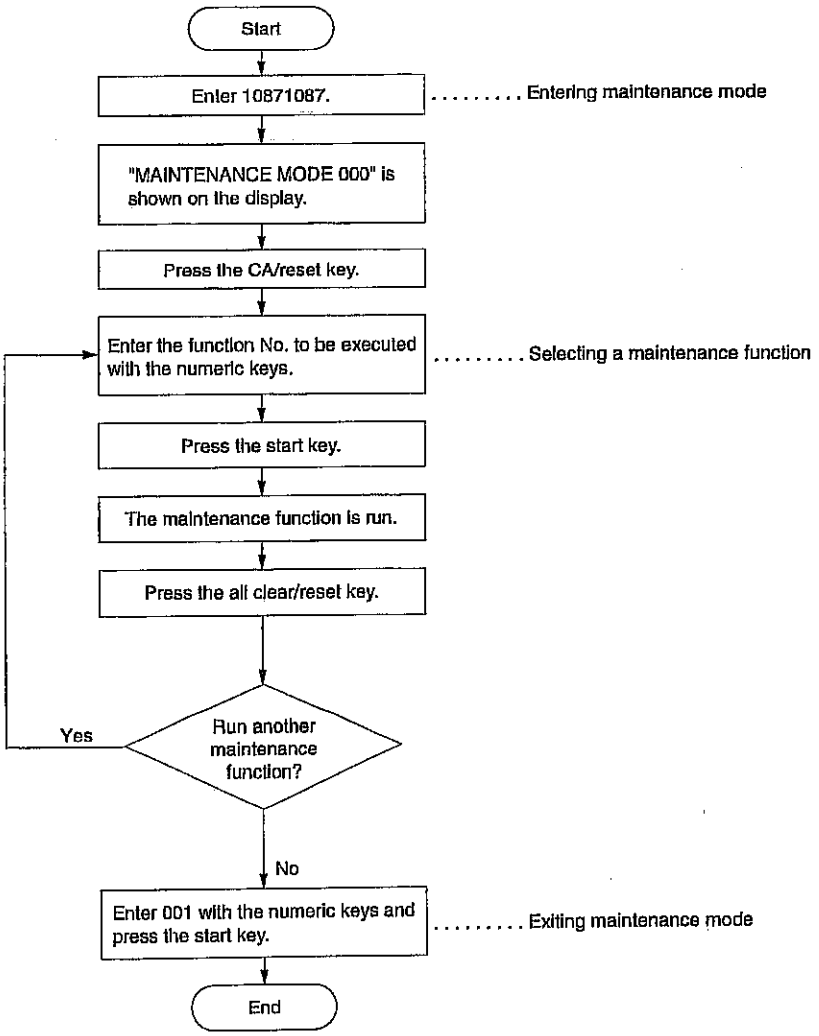
3-2-1 Maintenance mode

The copier is equipped with maintenance mode for service and repair of the machine.

(1) Executing a maintenance function



(2) Maintenance function list

Section	Function No.	Function name	Initial value
List output	000	Outputting the own-status report	—
Completion	001	Exiting maintenance mode	—
Drive, paper feed and conveying	002	Moving the scanner to the DF scanning position	—
	010	Checking the drive motor operation	—
	011	Checking the switches in the copier	—
	013	Checking clutch operation 1	—
	014	Checking clutch operation 2	—
	016	Setting the folio width	210
	017	Setting the folio length	330
	021	Adjusting the amount of slack in the paper of cassette 2	30
	022	Adjusting the amount of slack in the paper of special cassette 1	30
	023	Adjusting the amount of slack in the paper of special cassette 2	30
	026	Checking the switches on cassette 2	—
	027	Checking the switches on special cassette 1	—
	028	Checking the switches on special cassette 2	—
	030	Checking the cassette drive motor operation	—
	031	Checking the eject motor operation	—
	032	Checking the duplex drive motor operation	—
	033	Checking the switchback section solenoid operation	—
	034	Checking the switches in the switchback section	—
High voltage	040	Setting the grid control voltage	233
	041	Setting the developing bias control voltage	205
	042	Adjusting the surface potential when copying postcards (for 100 V specifications only)	222
Developing	051	Adjusting the toner control voltage	—
	053	Displaying toner data	—
	065	Resetting the waste toner tank overflow detection	—
	066	Checking and clearing the total drive time of the drive motor	—
Fixing	074	Adjusting the fixing control temperature	163
	078	Resetting the fixing problem detection	—

Section	Function No.	Function name	Initial value
Optical	081	Adjusting the ISU gain	—
	082	Adjusting the LSU printing start position in the main scanning direction	6
	083	Adjusting the LSU printing end position in the main scanning direction	6
	088	Adjusting the LSU printing start position in the main scanning direction for the second face	6
	089	Adjusting the LSU printing end position in the main scanning direction for the second face	6
	091	Adjusting the shading position	5
	092	Adjusting optical axis	—
	099	Adjusting home position with the DF	4
	101	Adjusting the shading position	5
	104	Adjusting the magnification in the main scanning direction with the original on the contact glass	30
	105	Adjusting the magnification in the main scanning direction with the original fed from the DF	30
	106	Adjusting the magnification in the auxiliary scanning direction with the original on the contact glass	30
	107	Adjusting the magnification in the auxiliary scanning direction with the original fed from the DF	30
	108	Adjusting detection of the original width	7
Timing adjustment	110	Adjusting the printing start position in the auxiliary scanning direction	10
	111	Adjusting the scanning start position of the original on the contact glass	10
	112	Adjusting the scanning start position of the original fed from the DF	50
	113	Adjusting the printing start position in the auxiliary scanning direction for copying the second face	10
	115	Adjusting the printing end position in the auxiliary scanning direction	10
	116	Adjusting the scanning end position of the original on the contact glass	10
	117	Adjusting the scanning end position of the original fed from the DF	20
	118	Adjusting the printing end position in the auxiliary scanning direction for copying the second face	10
	120	Adjusting the center line of cassette 1	10

Section	Function No.	Function name	Initial value
Timing adjustment (cont.)	121	Adjusting the center line of cassette 2	10
	122	Adjusting the center line of special cassette 1	10
	123	Adjusting the center line of special cassette 2	10
	124	Adjusting the bypass center line	10
	125	Adjusting the center line for duplex copying	6
	126	Adjusting the center line of the original on the contact glass	10
	127	Adjusting the DF center line	10
Operation and options	331	Testing the keys	—
	332	Lighting all the indicators and display on the operation panel	—
	335	Checking the original feed motor operation	—
	337	Checking the original conveying motor operation	—
	338	Checking the switches on the DF	—
	339	Checking the operation of the DF clutches and solenoids	—
Test pattern print	340	Outputting test patterns	—
	344	Outputting VTC patterns	—
	345	Outputting test patterns as duplex copy	—
	346	Outputting VTC patterns via the switchback	—
	347	Outputting VTC patterns face-up	—
	348	Outputting VTC patterns as duplex copy	—
Counts	350	Setting the copy count for waste toner tank replacement	60
	353	Setting the copy limit after the waste toner tank overflow detection	60
	354	Checking and clearing the DF original count	—
	355	Checking and clearing the scan count	—
	356	Checking and clearing the total count	—
	357	Checking and clearing the maintenance call count	—
	358	Checking and clearing the count for cassette 1	—
	359	Checking and clearing the count for cassette 2	—
	360	Checking and clearing the count for special cassette 1	—
	361	Checking and clearing the count for special cassette 2	—
	362	Checking and clearing the copy count	—
	363	Checking and clearing the IU developing count	—

Section	Function No.	Function name	Initial value
Counts (cont.)	364	Checking and clearing the waste toner tank count	—
	365	Entering the service telephone No.	—
	367	Displaying the ROM version	—
	368	Displaying the engine ROM version	—
	369	Checking and clearing the printer count	—
Modes	370	Switching between double and single counts	1
	371	Setting auto start	1
	372	Setting auto clear time	2
	373	Setting auto preheat time	3
	374	Setting auto shutoff time	6
	378	Setting operation under the toner empty condition	1
	379	Setting the number of ejected sheets to be detected by the ejected paper overflow sensor	10
Backup	390	Initializing memory 1	—
	391	Initializing memory 2	—
Copying	400	Test copy mode	—
	401	Copying without paper feed	—
	405	DF simulation	—
	406	DF simulation without paper feed	—
	415	Setting the copy density level	184
	416	Adjusting halftone density (400 dpi)	9
	417	Adjusting halftone density (600 dpi)	9
Initialization	601	Initializing all data	—
	602	Initializing permanent data	—
	603	Setting factory defaults	—
	604	Initializing the main PCB (MFP)	—
User data	625	Selecting the language group	1 (North America) 2 (Europe)
List output	760	Outputting the setting list	—
	761	Outputting the action list	—
	762	Outputting the monitor list	—
	763	Outputting the own-status report	—
Board test	770	Performing memory tests	—
	771	Performing optional memory tests	—

(3) Contents of maintenance functions

Function No.	Description
000	**Outputting the own-status report** [Description] Outputs the list of settings in maintenance mode. [Purpose] Used before and after replacing the main PCB. [Method] Press the start key. A sheet of the own-status report as in the figure below is output and the current function is exited. Data in the figure are reference values.

P001

Self Status Report

```
000  SELF STATUS RPT
001  EXIT
002  SCANNER SET
010  MAIN MOTOR DRIVE
011  MAIN SW TEST
013  CLUTCH TEST
014  SOLENOID TEST
016  FOLIO SIZE (WIDTH)      : 210 mm
017  FOLIO SIZE (LENGTH)     : 330 mm
021  BENDING AMOUNT (2)      : 30
022  BENDING AMOUNT (3)      : 30
023  BENDING AMOUNT (4)      : 30
026  CASSETTE 2 SW TEST
027  CASSETTE 3 SW TEST
028  CASSETTE 4 SW TEST
030  OP CAS. MOTOR DRIVE
031  REV MOTOR 1 DRIVE
032  REV MOTOR 2 DRIVE
033  REV CLUTCH TEST
034  REV SWITCH TEST
040  GRID BIAS               : 233
041  DB BIAS                 : 205
042  GRID BIAS (CARD)        : 222
051  TONER DATA              : 54
053  TONER CONTROL
065  CLEAR TANK OVF.
074  HEATER TMP SET          : 183
078  CLEAR C60
081  ISU GAIN
082  LSU START 1
                  ALL        : 6
                  A5R        : 6
                  B5R        : 6
                  A4R        : 6
                  STATE      : 6
                  LETTER     : 6
                  LEDGER     : 6
                  CARD       : 6
                  A6R        : 6
                  B6R        : 6
083  LSU END1
                  ALL        : 6
                  A5R        : 6
                  B5R        : 6
                  A4R        : 6
                  STATE      : 6
                  LETTER     : 6
                  LEDGER     : 6
                  CARD       : 6
                  A6R        : 6
                  B6R        : 6
120  PAPER CENTER (1)        : 10
121  PAPER CENTER (2)        : 10
122  PAPER CENTER (3)        : 10
123  PAPER CENTER (4)        : 10
124  BYPASS CENTER           : 10
125  R.UNIT CN.
                  ALL        : 6
                  A5R        : 6
                  B5R        : 6
                  A4R        : 6
                  STATE      : 6
                  LETTER     : 6
                  LEDGER     : 6
                  CARD       : 6
                  A6R        : 6
                  B6R        : 6
126  TBL DOC CENTER          : 10
127  ADF DOC CENTER          : 10
331  KEY TEST
332  LED&LCD TEST
335  DF FEED MOTOR DRIVE
337  ADF MOTOR DRIVE
338  ADF SW TEST
339  DF SOLENOID TEST
340  PRINT TEST 1
344  PRINT VTC
345  REV PRT TEST 1
346  SWITCHBACK OUTPUT
347  RIGHT SIDE OUTPUT
348  REV PRINT VTC
350  TANK REPLACEMENT        : 60
353  RECOVERY TANK OVF       : 60
354  ADF COUNTER             : 000000
355  SCANNER COUNTER         : 000000
356  TOTALCOUNTER            : 000000
357  MAINTENANCE CALL CNT    : 000001
362  COPY COUNTER            : 000001
363  IU COUNTER SET          : 000187
364  RECOVERY TANK CNT.      : 000000
365  REG. SERVICE TEL No.
367  ROM VERSION             : 1.08
368  ENGINE ROM VERSION      : 1.02
369  PRINTER COUNTER         : 000001
370  DOUBLE/SINGLE CNT       : SINGLE
371  COPY AUTO START         : ON
372  AUTO CLEAR TIMER        : 2
373  AUTO PREHEAT            : 3
374  AUTO SHUT OFF           : 6
378  T. E ACTION             : STOP
390  INITIALIZE M => E
391  INITIALIZE E => M
400  COPY
401  PAPERLESS COPY
```

Figure 3-2-1 Own-status report

Function No.	Description
001	**Exiting maintenance mode** [Description] Exits maintenance mode and returns to normal mode. [Purpose] Used when ending maintenance mode. [Method] Press the start key. The copier returns to normal mode. *[Caution]* *If the printer board (optional) is installed, turn the copier power off and on after the copier returns to normal mode. If this action is not taken, the copier operation panel does not show the printer menu (Set Printer). Consequently the copier cannot be used as a printer.*
002	**Moving the scanner to the DF scanning position** [Description] Moves the scanner and the mirror frame to the DF scanning positions. [Purpose] Used when the scanner and mirror frames are to be fastened with pins before moving the machine. [Method] ① Press the start key. The scanner and mirror frame move to the DF scanning positions and the display shows the message requesting the power to be turned off. ② Turn the main switch off.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>010</td><td>Checking the drive motor operation
[Description]
Operates the drive motor.
[Purpose]
To check the operation of the drive system and paper conveying system.
[Method]
Press the start key. The drive motor is turned on.
[Completion]
Press the CA/reset key. The drive motor stops and the current function is exited.</td></tr>
<tr><td>011</td><td>Checking the switches in the copier
[Description]
Displays the statuses of individual switches in the copier.
[Purpose]
To check the operation of the switches in the copier.
[Method]
① Press the start key.
② Select the switch to be checked with the cursor up or down keys. The status of the selected switch is displayed.
<table>
<tr><th>Display (switch name)</th><th>Status</th></tr>
<tr><td>FRONT (safety switch 1)</td><td>On, off</td></tr>
<tr><td>SIDE (safety switch 2)</td><td>On, off</td></tr>
<tr><td>EJ.OP (safety switch 3)</td><td>On, off</td></tr>
</table>
</td></tr>
</table>

Function No.	Description

011 (cont.)

Display (switch name)	Status
B.SIZE (bypass paper size switch)	5: A3/11" 1: B4 3: A4/8$^1/_2$" 7: B5 6: A5/5$^1/_2$" 2: B6 0: A6 (all widthwise)
P.E (cassette 1 paper switch)	On, off
SIZE (cassette 1 paper size switch 1/2/3/4)	B: A3/11" × 17" 5: B4/8$^1/_2$" × 14" 2: folio 1: A4R/8$^1/_2$" × 11"R 4: B5R E: A4/8$^1/_2$" × 11" 6: A5R/5$^1/_2$" × 8$^1/_2$" 7: B5
BYPASS P.E (bypass paper switch)	On, off
RESIST (registration switch)	On, off
EJECT (eject switch)	On, off
TBL.V (original size switch)	On, off
H.P (scanner home position switch)	On, off
IU TYPE [imaging unit specification check (DEV A, DEV B, DEV C)]	0: none 1: type A 2: type B 3: type D 4: type C 5: type E 6: type F 7: type G
IU (developing unit fuse)	On, off
OVF (overflow switch)	On, off
R.SIDE (safety switch 4)	On, off
EJOVF (ejected paper overflow sensor*)	On, off

* Optional.

[Completion]
Press the CA/reset key. The current function is exited.

Function No.	Description
013	**Checking clutch operation 1** [Description] Turns individual clutches on and off. [Purpose] To check clutch operation. [Method] ① Press the start key. ② Enter the number specified for the clutch to be checked with the numeric keys. The bit on the display corresponding to the clutch being turned on changes from 0 to 1.

Clutch	Key	Bit display
Registration clutch	0	0000 0001
Cassette feed clutch 2 (special cassette 2)*	1	0000 0010
Cassette feed clutch 1 (special cassette 1)*	2	0000 0100
Cassette feed clutch	3	0000 1000

* Optional.

[Completion]
Press the CA/reset key. The current function is exited.

Function No.	Description
014	**Checking clutch operation 2** [Description] Turns individual clutches on and off. [Purpose] To check clutch operation. [Method] ① Press the start key. ② Enter the number specified for the clutch to be checked with the numeric keys. The bit on the display corresponding to the clutch being turned on changes from 0 to 1.

Clutch	Key	Bit display
Cassette 1 paper feed clutch	0	0000 0001
Cassette paper feed clutch 2 (special cassette 2)*	1	0000 0010
Cassette paper feed clutch 1 (special cassette 1)*	2	0000 0100
Cassette 2 paper feed clutch	3	0000 1000
Bypass paper feed clutch	4	0001 0000

* Optional.

[Completion]
Press the CA/reset key. The current function is exited.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>016</td><td>
Setting the folio width

[Description]
Changes the image area by setting the width of the folio paper used.

[Purpose]
To be set according to the width of the paper; when the setting is shorter than the actual paper used, the right and left sides of the image are not printed.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th></tr>
<tr><td>Folio width</td><td>200 – 220 mm</td><td>210 mm</td></tr>
</table>
② Press the start key. The new value is set.
</td></tr>
<tr><td>017</td><td>
Setting the folio length

[Description]
Changes the image area by setting the length of the folio paper used.

[Purpose]
To be set according to the length of the paper; when the setting is shorter than the actual paper used, the trailing edge of the image is not printed.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th></tr>
<tr><td>Folio length</td><td>330 – 356 mm</td><td>330 mm</td></tr>
</table>
② Press the start key. The new value is set.
</td></tr>
</table>

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>021</td><td>
Adjusting the amount of slack in the paper of cassette 2

[Description]
Adjusts the amount of slack in the paper when cassette 2 is used.

[Purpose]
Used when paper from cassette 2 is missing part of the image or has an irregular image at the leading edge, or when paper is Z-folded.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr>
<tr><td>Amount of slack in paper of the cassette 2</td><td>0 – 60</td><td>30</td><td>0.5 mm</td></tr>
</table>
② Press the start key. The new value is set.
</td></tr>
<tr><td>022</td><td>
Adjusting the amount of slack in the paper of special cassette 1

[Description]
Adjusts the amount of slack in paper when special cassette 1 (optional) is used.

[Purpose]
Used when paper from the special cassette 1 is missing part of the image or has an irregular image at the leading edge, or when paper is Z-folded.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr>
<tr><td>Amount of slack in paper of special cassette 1</td><td>0 – 60</td><td>30</td><td>0.5 mm</td></tr>
</table>
② Press the start key. The new value is set.
</td></tr>
</table>

Function No.	Description
023	**Adjusting the amount of slack in the paper of special cassette 2** [Description] Adjusts the amount of slack in the paper when special cassette 2 (optional) is used. [Purpose] Used when paper from the special cassette 2 is missing part of the image or has an irregular image at the leading edge, or when paper is Z-folded. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys.

Description	Setting range	Initial value	Change in value per step
Amount of slack in paper of special cassette 2	0 – 60	30	0.5 mm

② Press the start key. The new value is set.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>026</td><td>
Checking the switches on cassette 2

[Description]
Displays the status of the switches on cassette 2.

[Purpose]
To check the operation of the switches on cassette 2.

[Method]
① Press the start key.
② Select the switch to be checked with the cursor up or down keys. The status of the selected switch is displayed.
<table>
<tr><th>Display (switch name)</th><th>Status</th></tr>
<tr><td>SIZE (cassette 2 paper size switch 1/2/3/4)</td><td>B: A3/11" × 17"
5: B4/8 1/2" × 14"
2: folio
1: A4R/8 1/2" × 11"R
4: B5R
E: A4/8 1/2" × 11"
6: A5R/5 1/2" × 8 1/2"
7: B5</td></tr>
<tr><td>P.E (cassette 2 paper switch)</td><td>On, off</td></tr>
<tr><td>TRANSFER (cassette feed switch)</td><td>On, off</td></tr>
<tr><td>COVER (safety switch 5)</td><td>On, off</td></tr>
<tr><td>DESK (cassette 2 presence/absence detection signal)</td><td>On, off</td></tr>
</table>
[Completion]
Press the CA/reset key. The current function is exited.
</td></tr>
</table>

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>027</td><td>
Checking the switches on special cassette 1

[Description]
Displays the status of the switches on special cassette 1 (optional).

[Purpose]
To check the operation of the switches in special cassette 1 (optional).

[Method]
① Press the start key.
② Select the switch to be checked with the cursor up or down keys. The status of the selected switch is displayed.
<table>
<tr><th>Display (switch name)</th><th>Status</th></tr>
<tr><td>SIZE (paper size switch 1/2/3/4)</td><td>B: A3/11" × 17"
5: B4/8 1/2" × 14"
2: folio
1: A4R/8 1/2" × 11"R
4: B5R
E: A4/8 1/2" × 11"
6: A5R/5 1/2" × 8 1/2"
7: B5</td></tr>
<tr><td>P.E (paper switch)</td><td>On, off</td></tr>
<tr><td>TRANSFER (cassette feed switch)</td><td>On, off</td></tr>
<tr><td>COVER (cassette safety switch)</td><td>On, off</td></tr>
<tr><td>DESK (special cassette presence/absence detection signal)</td><td>On, off</td></tr>
</table>
[Completion]
Press the CA/reset key. The current function is exited.
</td></tr>
</table>

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>028</td><td>
Checking the switches on special cassette 2

[Description]
Displays the status of the switches on special cassette 2 (optional).

[Purpose]
To check the operation of the switches in special cassette 2 (optional).

[Method]
① Press the start key.
② Select the switch to be checked with the cursor up or down keys. The status of the selected switch is displayed.
<table>
<tr><th>Display (switch name)</th><th>Status</th></tr>
<tr><td>SIZE (paper size switch 1/2/3/4)</td><td>B: A3/11" × 17"
5: B4/8 1/2" × 14"
2: folio
1: A4R/8 1/2" × 11"R
4: B5R
E: A4/8 1/2" × 11"
6: A5R/5 1/2" × 8 1/2"
7: B5</td></tr>
<tr><td>P.E (paper switch)</td><td>On, off</td></tr>
<tr><td>TRANSFER (cassette feed switch)</td><td>On, off</td></tr>
<tr><td>COVER (cassette safety switch)</td><td>On, off</td></tr>
<tr><td>DESK (special cassette presence/absence detection signal)</td><td>On, off</td></tr>
</table>
[Completion]
Press the CA/reset key. The current function is exited.
</td></tr>
<tr><td>030</td><td>
Checking the cassette drive motor operation

[Description]
Turns the copier cassette drive motor on. When the special cassette (optional) is attached, turns the special cassette drive motor on at the same time.

[Purpose]
To check the drive system of cassette 2 and the special cassette.

[Method]
Press the start key. The cassette drive motor is turned on.

[Completion]
Press the CA/reset key. The cassette drive motor turns off and the current function is exited.
</td></tr>
</table>

Function No.	Description
031	**Checking the eject motor operation** [Description] Switches the eject motor on and off. [Purpose] To check the operation of the switchback section. [Method] Press the start key. The eject motor is turned on. [Completion] Press the CA/reset key. The eject motor stops and the current function is exited.
032	**Checking the duplex drive motor operation** [Description] Switches the duplex drive motor of the duplex unit (optional) on and off. [Purpose] To check the operation of the switchback section when the duplex unit is attached. [Method] Press the start key. The duplex drive motor is turned on. [Completion] Press the CA/reset key. The duplex drive motor stops and the current function is exited.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>033</td><td>
Checking the switchback section solenoid operation

[Description]
Turns the switchback section solenoid on and off.

[Purpose]
To check the switchback section solenoid operation.

[Method]
① Press the start key.
② Enter the number specified for the solenoid to be checked using the numeric keys. The bit on the display corresponding to the solenoid being turned on changes from 0 to 1.

<table>
<tr><th>Solenoid</th><th>Key</th><th>Bit display</th></tr>
<tr><td>Feedshift solenoid*</td><td>0</td><td>0000 0001</td></tr>
<tr><td>Switchback solenoid</td><td>1</td><td>0000 0010</td></tr>
</table>
* When the duplex unit (optional) is attached.

[Completion]
Press the CA/reset key. The current function is exited.
</td></tr>
<tr><td>034</td><td>
Checking the switches in the switchback section

[Description]
Displays the status of the switches in the switchback section of the duplex unit (optional).

[Purpose]
To check if the switches in the switchback section operate correctly.

[Method]
① Press the start key.
② Select the switch to be checked using the cursor up/down keys. The status of the selected switch is displayed.

<table>
<tr><th>Display (switch name)</th><th>Status</th></tr>
<tr><td>OP (Duplex safety switch)</td><td>On, off</td></tr>
<tr><td>SW1 (Duplex paper conveying switch 1)</td><td>On, off</td></tr>
<tr><td>SW2 (Duplex paper conveying switch 2)</td><td>On, off</td></tr>
<tr><td>SHORTH (Duplex unit presence detection signal)</td><td>On, off</td></tr>
<tr><td>BOP (Bypass open/close switch)</td><td>On, off</td></tr>
</table>
[Completion]
Press the CA/reset key. The current function is exited.
</td></tr>
</table>

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>040</td><td>
Setting the grid control voltage

[Description]
Sets the grid control voltage.

[Purpose]
Used when the drum has been replaced.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
Be sure to keep the setting within the range of 233 ± 10. Making the setting to too low causes fog in the background.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th></tr>
<tr><td>Grid control voltage</td><td>0 – 255</td><td>233</td></tr>
</table>
② Press the start key. The new value is set.
</td></tr>
<tr><td>041</td><td>
Setting the developing bias control voltage

[Description]
Sets the developing bias control voltage.

[Purpose]
Used when the image is too dark or too light.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th></tr>
<tr><td>Developing bias control voltage</td><td>0 – 255</td><td>205</td></tr>
</table>
Be sure to keep the setting within the range of 205 ± 20. Decreasing the setting makes the image lighter.
② Press the start key. The new value is set.
</td></tr>
</table>

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>042</td><td>Adjusting the surface potential when copying postcards (for 100 V specifications only)

[Description]
Sets the drum surface potential when postcards are fed from the bypass table. The grid control voltage does not change when this setting is changed.

[Purpose]
This adjustment is for 100 V specification machines only.</td></tr>
<tr><td>051</td><td>Adjusting the toner control voltage

[Description]
Changes the toner control voltage which has been set automatically after replacement (initialization) of the imaging unit.

[Purpose]
Used to reset data after the engine PCB is replaced. Change the data when a background appears on the copy image.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.

Set to the value for 051 in the own-status report output by running function No. 000.

If fog occurs in the background, decrease the setting by approximately 10. Be sure to check the image after making several copies since the image is not affected immediately after the change in setting.

<table><tr><th>Description</th><th>Setting range</th></tr><tr><td>Toner control voltage</td><td>0 – 255</td></tr></table>
② Press the start key. The new value is set.</td></tr>
</table>

Function No.	Description
053	**Displaying toner data** [Description] Displays the toner data in real time. [Purpose] Check the displayed data when a background appears on the copy Image. [Method] Press the start key. The following items are shown. CTRL:XXX SENS:XXX TMP:XXX CTRL: toner control voltage (70 to 80) SENS: toner sensor output voltage (120 to 140) TMP: ambient temperature (182 to 117 for 10 to 32°C) The value in the parentheses above is within correct setting range. [Completion] Press the CA/reset key. The current function is exited.
065	**Resetting the waste toner tank overflow detection** [Description] Resets the waste toner tank overflow detection which is stored by the main PCB. [Purpose] Used after the waste toner tank is replaced. [Method] Press the start key. After resetting, "COMPLETED" is displayed. [Completion] Press the CA/reset key. The current function is exited.

Function No.	Description
066	**Checking and clearing the total drive time of the drive motor** [Description] Checks, changes or clears the total drive time of the drive motor. When replacing (initializing) the imaging unit, the total drive time is automatically cleared. [Purpose] Used to check the status of the imaging unit. The guaranteed number of copies for the imaging unit is set based on continuous copying. If single copying is made frequently, the imaging unit should be replaced earlier than when it reaches the guaranteed number of copies. In such case, the total drive time of the drive motor can be used to check the frequency of single copying. Also used to return the initialized data to that recorded before replacing the main PCB. [Method] Press the start key. The total drive time of the drive motor is displayed in minutes by rounding off the seconds. [Setting] ① Enter the total drive time using the numeric keys. Enter a 4-digit number (minutes) to change the total drive time. Enter 0000 or press the stop/clear key to reset the total drive time. ② Press the start key. The new total drive time is set, and the current function is exited. To cancel the total drive time change, press the CA/reset key.

Function No.	Description
074	**Adjusting the fixing control temperature** [Description] Sets the fixing control temperature. [Purpose] Used when a fixing problem occurs. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys. ② Press the start key. The new value is set.

Description	Setting range	Initial value
Fixing control temperature	124 – 203 (140 – 200°C)	163

Function No.	Description
078	**Resetting the fixing problem detection** [Description] Resets service call code C60 (fixing problem). [Purpose] Used after the cause of the fixing problem is eliminated. [Method] Press the start key. After resetting, "COMPLETED" is displayed. [Completion] Press the CA/reset key. The current function is exited.
081	**Adjusting the ISU gain** [Description] Displays the ISU gain data in real time. [Purpose] Perform after replacing the engine PCB. [Method] ① Press the start key. The scanner moves to the shading position, the exposure lamp lights, and AGC processing starts. During AGC processing, ISU gain data is displayed at intervals of 200 ms. ODD: odd resister data (VR1) EVEN: even register data (VR2) ② Turn VR1 and VR2 on the engine PCB to adjust the gain data within 240 and 250. Turning VR1 and VR2 clockwise makes the entire gain data larger (the image darker); tuning them counterclockwise makes it smaller (the image lighter). Ensure that the gain data is adjusted within 240 and 250; otherwise, image processing cannot be performed correctly. [Completion] Press the CA/reset key. The AGC processing stops and the current function is exited.
082	**Adjusting the LSU printing start position in the main scanning direction** [Adjustment] Refer to page 3-3-34.
083	**Adjusting the LSU printing end position in the main scanning direction** [Adjustment] Refer to page 3-3-34.

Function No.	Description
088	**Adjusting the LSU printing start position in the main scanning direction for the second face** [Description] Adjusts the image printing start position in the main scanning direction for the second face when the duplex unit (optional) is used. [Purpose] To be used when the left margin of the second face of the duplex copy is not within the specified range. [Method] Press the start key. [Setting] ① Change the display to the paper size to be adjusted using the cursor down key.

Display	Paper to be set
ALL	All sizes are set.
A5R	A5 (longitudinal)
B4R	B4 (longitudinal)
A4R	A4 (longitudinal), folio
B5	B5 (lateral), B4
A4	A4 (lateral), A3
STATE	$5^1/_2$" × $8^1/_2$"
LETTER	$8^1/_2$" × 11", $8^1/_2$" × 14"
LEDGER	11" × 17", 11" × $8^1/_2$"
CARD*	Postcard, envelope
A6R*	A6 (longitudinal)
B6R*	B6 (longitudinal)

* The setting is invalid.

② Press the start key. The current setting is displayed.

③ Change the setting using the numeric keys.

Description	Setting range	Initial value	Change in value per step
Printing start position	0 – 12	6	0.5 mm

Increasing the setting makes the margin larger, and decreasing it makes the margin smaller.

④ Press the start key. The new value is set.

Function No.	Description
089	**Adjusting the LSU printing end position in the main scanning direction for the second face** [Description] Adjusts the image printing end position in the main scanning direction for the second face when the duplex unit (optional) is used. [Purpose] To be used when the right margin of the second face of the duplex copy is not within the specified range. [Method] Press the start key. [Setting] ① Change the display to the paper size to be adjusted using the cursor down key.

Display	Paper to be set
ALL	All sizes are set.
A5R	A5 (longitudinal)
B4R	B4 (longitudinal)
A4R	A4 (longitudinal), folio
B5	B5 (lateral), B4
A4	A4 (lateral), A3
STATE	5 1/2" × 8 1/2"
LETTER	8 1/2" × 11", 8 1/2" × 14"
LEDGER	11" × 17", 11" × 8 1/2"
CARD*	Postcard, envelope
A6R*	A6 (longitudinal)
B6R*	B6 (longitudinal)

* The setting is invalid.

② Press the start key. The current setting is displayed.

③ Change the setting using the numeric keys.

Description	Setting range	Initial value	Change in value per step
Printing end position	0 – 12	6	0.5 mm

Increasing the setting makes the margin smaller, and decreasing it makes the margin larger.

④ Press the start key. The new value is set.

Function No.	Description
091	**Adjusting the shading position** [Description] Adjusts the scanner stop position in shading while displaying the gain data of the ISU. [Purpose] Used when replacing any components or parts in the optical section. [Method] Press the start key. The scanner moves to the shading position, and the exposure lamp turns on. The shading position is displayed numerically on the upper line, and the gain data is displayed at 200 ms intervals on the lower line. SHADING POSITION:XX ODD:*** EVEN:*** XX: Shading position (1 – 10) ***(ODD): odd number register data ***(EVEN): even number register data [Setting] ① Change the shading position using the zoom (+) or (–) keys. Pressing the zoom (+) key decreases the shading position by one and moves the scanner approximately 1 mm to the right. Pressing the zoom (–) key increases the shading position by one and moves the scanner approximately 1 mm to the left. Ensure that the gain data is adjusted within 240 and 250; otherwise, image processing cannot be performed correctly. ② Press the CA/reset key. The shading position is set, and adjustment is complete.
092	**Adjusting optical axis** [Adjustment] Refer to page 3-3-26.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>099</td><td>
Adjusting home position with the DF

[Description]
Adjusts the scanner home position when the SRDF (optional) is used.

[Purpose]
No change is necessary in the field since changing the setting affects the original reading start position only, and there are no other effects on the image. Use if a problem occurs and changing the setting can solve it. It is safe to use the machine with the changed setting.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr>
<tr><td>Home position</td><td>0 – 8</td><td>4</td><td>0.5 mm</td></tr>
</table>
② Press the start key. The new value is set.
</td></tr>
<tr><td>101</td><td>
Adjusting the shading position

[Description]
Adjusts the scanner stop position in shading. The same value is set as in function No. 091.

[Purpose]
Adjusting the shading position can be made more easily and obtain the same effect by running function No. 091.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr>
<tr><td>Shading position</td><td>0 – 10</td><td>5</td><td>1 mm</td></tr>
</table>
② Press the start key. The new value is set.
</td></tr>
</table>

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>104</td><td>Adjusting the magnification in the main scanning direction with the original on the contact glass
[Adjustment]
Refer to page 3-3-33.</td></tr>
<tr><td>105</td><td>Adjusting the magnification in the main scanning direction with the original fed from the DF
[Description]
Adjusts the magnification in the main scanning direction when the SRDF (optional) is used.
[Purpose]
Used when the magnification in the main scanning direction is incorrect with the SRDF.
[Caution]
Before performing this adjustment, ensure that the respective adjustments for image printing have been made.
Run the following maintenance functions in the order as shown below to make adjustments for DF original reading.
No. 105 → No. 107 → No. 112 → No. 117 → No. 127
[Method]
Press the start key. The current setting is displayed.
[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr>
<tr><td>Magnification in the main scanning direction with the DF</td><td>0 – 60</td><td>30</td><td>0.1%</td></tr>
</table>
Increasing the setting makes the image longer, and decreasing the setting makes it shorter.
② Press the start key. The new value is set.</td></tr>
<tr><td>106</td><td>Adjusting the magnification in the auxiliary scanning direction with the original on the contact glass
[Adjustment]
Refer to page 3-3-33.</td></tr>
</table>

Function No.	Description
107	**Adjusting the magnification in the auxiliary scanning direction with the original fed from the DF** [Description] Adjusts the magnification in the auxiliary scanning direction when the SRDF (optional) is used. [Purpose] Used when the magnification in the auxiliary scanning direction is incorrect with the SRDF. [Caution] Before performing this adjustment, ensure that the respective adjustments for image printing have been made. Run the following maintenance functions in the order as shown below to make adjustments for DF original reading. No. 105 → No. 107 → No. 112 → No. 117 → No. 127 [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys.

Description	Setting range	Initial value	Change in value per step
Magnification in auxiliary scanning direction with the DF	0 – 60	30	0.1%

Increasing the setting makes the image longer, and decreasing the setting makes it shorter.

② Press the start key. The new value is set.

Function No.	Description
108	**Adjusting detection of the original width** [Description] Sets the criteria to be used in detecting each original width. [Purpose] Used when an original width is not detected correctly. [Method] Press the start key. [Setting] ① Select an original width using the cursor down key and press the start key. The current setting is displayed.

Display	Original width
A5R > B5R	A5 lengthwise, B5 lengthwise
B5R > A4R	B5 lengthwise, A4 lengthwise
A4R > B5	A4 lengthwise, B5 widthwise
B5 > A4	B5 widthwise, A4 widthwise
STATE > LETTER	$5^1/_2$" × $8^1/_2$", $8^1/_2$" × 11"
LETTER > LEDGER	$8^1/_2$" × 11", 11" × $8^1/_2$"

E.g.: In "A5R > B5R", the judging criterion of distinguishing the A5 lengthwise from the B5 lengthwise is set.

For the following original sizes, data for those with the same original width are applied.

Folio: same as A4 lengthwise

B4: same as B5 widthwise

A3: same as A4 widthwise

$8^1/_2$" × 14": same as $8^1/_2$" × 11"

11" × 17": same as 11" × $8^1/_2$"

② Change the setting using the numeric keys.

Description	Setting range	Initial value	Change in value per step
Width judging criteria	0 – 14	7	1 mm

Increase the setting if the original width is incorrectly detected wider than the actual size. Decrease the setting if it is detected narrower.

③ Press the start key. The new value is set.

Function No.	Description
110	**Adjusting the printing start position in the auxiliary scanning direction** [Adjustment] Refer to page 3-3-14.
111	**Adjusting the scanning start position of the original on the contact glass** [Adjustment] Refer to page 3-3-31.
112	**Adjusting the scanning start position of the original fed from the DF** [Description] Adjusts the start timing of original scanning when the SRDF (optional) is used. [Purpose] Used if the leading edge of the original does not agree with that of the copy image when the SRDF is used. [Caution] Before performing this adjustment, ensure that the respective adjustments for image printing have been made. Run the following maintenance functions in the order as shown below to make adjustments for DF original reading. No. 105 → No. 107 → No. 112 → No. 117 → No. 127 [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys.

Description	Setting range	Initial value	Change in value per step
DF original scanning start position	0 – 99	50	Approx. 0.2 mm

Increasing the setting moves the reading start timing later, and decreasing the setting moves it earlier.

② Press the start key. The new value is set.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>113</td><td>
Adjusting the printing start position in the auxiliary scanning direction for copying the second face

[Description]
Adjusts the image printing start timing in the auxiliary scanning direction for the second face when the duplex unit (optional) is used.

[Purpose]
To be used when the leading edges of the original and copy image on the second face do not align.

[Caution]
Before performing this adjustment, ensure the respective adjustments for image printing on the first face have been completed.

Run the following maintenance functions in the order as shown below to make adjustments for printing on the second face.

No. 113 → No. 118 → No. 125

[Method]
Press the start key. The current value is displayed.

[Setting]
① Change the setting using the numeric keys.

<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr>
<tr><td>Printing start position</td><td>0 – 20</td><td>10</td><td>0.46 mm</td></tr>
</table>
Increasing the setting makes the leading margin smaller, and decreasing the setting makes it larger.

Adjust so that the leading margin of the second face aligns with that of the first face.

② Press the start key. The new value is set.
</td></tr>
<tr><td>115</td><td>
Adjusting the printing end position in the auxiliary scanning direction

[Adjustment]
Refer to page 3-3-15.
</td></tr>
<tr><td>116</td><td>
Adjusting the scanning end position of the original on the contact glass

[Adjustment]
Refer to page 3-3-32.
</td></tr>
</table>

Function No.	Description
117	**Adjusting the scanning end position of the original fed from the DF** [Description] Adjusts the end position of original scanning when the SRDF (optional) is used. [Purpose] Used if the trailing edge of the original does not agree with that of the copy image when the SRDF is used. [Caution] Before performing this adjustment, ensure that the respective adjustments for image printing have been made. Run the following maintenance functions in the order as shown below to make adjustments for DF original reading. No. 105 → No. 107 → No. 112 → No. 117 → No. 127 [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys.

Description	Setting range	Initial value	Change in value per step
DF original scanning end position	0 – 40	20	0.5 mm

Increasing the setting moves the reading end timing later, decreasing the setting moves it earlier.

② Press the start key. The new value is set.

Function No.	Description
118	**Adjusting the printing end position in the auxiliary scanning direction for copying the second face** [Description] Adjusts the image printing end position in the auxiliary scanning direction for the second face when the duplex unit (optional) is used. This is to be set as an offset value for the setting in function No. 115. [Purpose] To be used when the trailing margin of the second face of the duplex copy is not within the specified range. [Caution] Before performing this adjustment, ensure the respective adjustments for image printing on the first face have been completed. Run the following maintenance functions in the order as shown below to make adjustments for printing on the second face. No. 113 → No. 118 → No. 125 [Method] Press the start key. The current value is displayed. [Setting] ① Change the setting using the numeric keys. Increasing the setting makes the trailing margin smaller, and decreasing the setting makes it larger. Adjust so that the trailing edge of the second face aligns with that on the first face. ② Press the start key. The new value is set.

Description	Setting range	Initial value	Change in value per step
Printing end position	0 – 20	10	0.46 mm

Function No.	Description
120	**Adjusting the center line of cassette 1** [Adjustment] Refer to page 3-3-13.
121	**Adjusting the center line of cassette 2** [Adjustment] Refer to page 3-3-13.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>122</td><td>
Adjusting the center line of special cassette 1

[Description]
Adjusts the image center line in printing when paper is fed from special cassette 1 (optional).
[Purpose]
Used if the center line of the original does not agree with that of the copy image when paper is fed from special cassette 1.

[Adjustment]
Refer to page 3-3-13.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr>
<tr><td>Center line of special cassette 1</td><td>0 – 20</td><td>10</td><td>0.5 mm</td></tr>
</table>
Increasing the setting moves the image toward the machine front, and decreasing the setting moves it toward the machine rear.
② Press the start key. The new value is set.
</td></tr>
<tr><td>123</td><td>
Adjusting the center line of special cassette 2

[Description]
Adjusts the image center line in printing when paper is fed from special cassette 2 (optional).
[Purpose]
Used if the centerline of the original does not agree with that of the copy image when paper is fed from special cassette 2.

[Adjustment]
Refer to page 3-3-13.

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr>
<tr><td>Center line of special cassette 2</td><td>0 – 20</td><td>10</td><td>0.5 mm</td></tr>
</table>
Increasing the setting moves the image toward the machine front, and decreasing the setting moves it toward the machine rear.
② Press the start key. The new value is set.
</td></tr>
</table>

Function No.	Description
124	**Adjusting the bypass center line** [Adjustment] Refer to page 3-3-13.
125	**Adjusting the center line for duplex copying** [Description] Adjusts the image center line in printing when the duplex unit (optional) is used. This is to be set as an offset value for the setting in function Nos. 120 to 124, adjustment of the center line for each paper feed location. [Purpose] Used if there is a regular error between the centerlines of the original and copy image. [Caution] Before performing this adjustment, ensure the respective adjustments for image printing on the first face have been completed. Run the following maintenance functions in the order as shown below to make adjustments for printing on the second face. No. 113 → No. 118 → No. 125

Function No.	Description
125 (cont.)	[Method] Press the start key. [Setting] ① Change the display to the paper size to be adjust using the cursor down key.

Display	Paper to be set
ALL	All sizes are set.
A5R	A5 (longitudinal)
B4R	B4 (longitudinal)
A4R	A4 (longitudinal), folio
B5	B5 (lateral), B4
A4	A4 (lateral), A3
STATE	$5^1/_2" \times 8^1/_2"$
LETTER	$8^1/_2" \times 11"$, $8^1/_2" \times 14"$
LEDGER	$11" \times 17"$, $11" \times 8^1/_2"$
CARD*	Postcard, envelope
A6R*	A6 (longitudinal)
B6R*	B6 (longitudinal)

* The setting is invalid.

② Press the start key. The current setting is displayed.

Description	Setting range	Initial value	Change in value per step
Duplex copy center line	0 – 12	6	0.5 mm

③ Change the setting using the numeric keys. Increasing the setting moves the image toward the machine front, and decreasing the setting moves it toward the machine rear.

④ Press the start key. The new value is set.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>126</td><td>Adjusting the center line of the original on the contact glass

[Adjustment]
Refer to page 3-3-30.</td></tr>
<tr><td>127</td><td>Adjusting the DF center line

[Description]
Adjusts the original scanning centerline when the SRDF (optional) is used.

[Purpose]
Used if the center of the original does not agree with that of the copy image when the SRDF is used.

[Caution]
Before performing this adjustment, ensure that the respective adjustments for image printing have been made.

Run the following maintenance functions in the order as shown below to make adjustments for DF original reading.

No. 105 → No. 107 → No. 112 → No. 117 → No. 127

[Method]
Press the start key. The current setting is displayed.

[Setting]
① Change the setting using the numeric keys.

<table><tr><th>Description</th><th>Setting range</th><th>Initial value</th><th>Change in value per step</th></tr><tr><td>DF center line</td><td>0 – 20</td><td>10</td><td>0.5 mm</td></tr></table>
Increasing the setting moves the image toward the machine front, and decreasing the setting moves it toward the machine rear.

② Press the start key. The new value is set.</td></tr>
<tr><td>331</td><td>Testing the keys

[Description]
Types out the keys on the operation panel in the specified order.

[Purpose]
To check the key function after replacing the operation unit, or if the entered key is functioning correctly.

[Method]
① Press the start key.</td></tr>
</table>

Function No.	Description
331 (cont.)	② Press the keys on the operation panel in the order shown below to check key function. If the keys are entered correctly, the cor responding indicators light up. If the keys are not entered correctly, "Error" and the correct key names are displayed. ③ After all the keys are entered, "OK" is displayed. [Completion] Press the CA/reset key. The current function is exited.

Order of pressing the keys

Order of pressing	Key	Display	Indicator
1	Function key	FUNCTION	
2	On-line key	ONLINE	On-line indicator
3	Preset R/E key	PRESET	
4	Zoom (–) key	50%	
5	Zoom (+) key	200%	
6	Manual key	AUTO	
7	Cursor up/original size select key	ORIGINAL	
8	Cursor down/paper size select key	PAPER	
9	Enter/sort copy key	SORT	
10	Numeric key 1	1	
11	Numeric key 2	2	
12	Numeric key 3	3	
13	Numeric key 4	4	
14	Numeric key 5	5	
15	Numeric key 6	6	
16	Numeric key 7	7	
17	Numeric key 8	8	
18	Numeric key 9	9	
19	Numeric key *	*	
20	Numeric key 0	0	
21	Numeric key #	#	
22	Half tone key	RESOLUTION	Half tone/photo mode indicator
23	Copy exposure adjustment key (darker)	DARK	Copy exposure adjustment indicators
24	Copy exposure adjustment key (lighter)	LIGHT	Copy exposure adjustment indicators
25	Stop/clear key	STOP	
26	Start key	START	
27	CA/reset key	RESET	
28	Staple key	STAPLE	Stapling indicator
29	Transparency key	OHP	Transparency indicator

Function No.	Description
332	**Lighting all the indicators and display on the operation panel** [Description] Lights the indicators and message display on the operation panel. [Purpose] Used to check the indicators and display on the operation panel. [Method] Press the start key. All the indicators on the operation panel light, and all the dots of the message display (LCD) light. [Completion] Press the CA/reset key. The current function is exited.
335	**Checking the original feed motor operation** [Description] Turns the original feed motor on and off when the SRDF (optional) is attached. [Purpose] To check the original feed motor operation of the SRDF. [Method] Press the start key. The original feed motor is turned on. [Completion] Press the CA/reset key. The original feed motor stops, and the current function is exited.
337	**Checking original conveying motor operation** [Description] Turns the original conveying motor on and off when the SRDF (optional) attached. [Purpose] To check the original conveying motor operation of the SRDF. [Method] Press the start key. The original conveying motor is turned on. [Completion] Press the CA/reset key. The original conveying motor stops and the current function is exited.

Function No.	Description
338	**Checking the switches on the DF** [Description] Displays the status of the switches on the SRDF (optional). [Purpose] To check the operation of the switches on the SRDF. [Method] ① Press the start key. ② Select the switch to be checked using the cursor up/down keys. The status of the selected switch is displayed.

Display (switch name)	Status
COVER (DF safety switch 2)	On, off
OPEN (Copier original detection switch)	On, off
TIMING (DF timing switch)	On, off
DOC (original set switch)	On, off
SIZE (original size length switch)	On, off
SAFE (DF safety switch 1*)	On, off
FEED (original feed switch)	On, off
REV (original switchback switch)	On, off

* The on-and-off status of DF safety switch 1 can be detected only when DF safety switch 2 is on.

[Completion]

Press the CA/reset key. The current function is exited.

Function No.	Description
339	**Checking the operation of the DF clutches and solenoids** [Description] Turns on and off individual clutches and solenoids on the SRDF (optional). [Purpose] To check the operation of clutches and solenoids when the SRDF is used. [Method] ① Press the start key. ② Enter the number specified for the clutch or solenoid to be checked using the numeric keys. The bit on the display corresponding to the clutch or solenoid being turned on changes from 0 and 1.

Clutch and solenoid	Key	Bit display
Switchback pressure solenoid	0	0000 0001
Original feed solenoid	1	0000 0010
Eject feedshift solenoid	2	0000 0100
Switchback feedshift solenoid	3	0000 1000
Original feed clutch	4	0001 0000

[Completion]
Press the CA/reset key. The current function is exited.

Function No.	Description
340	**Outputting test patterns** [Description] Outputs test patterns stored in the copier. [Purpose] Used to check performance after an image printing problem or the position of the laser scanner unit is corrected. [Method] ① Press the start key. ② Select the original size to A3/LED (11" x 17") or A4R/LET (8 1/2" x 11") using the cursor up key. ③ Select a paper source using the cursor down key. Select a paper source in which the size of paper selected in step 2 is placed.

Display	Paper feed position
1	Cassette 1
2	Cassette 2
3	Special cassette 1 (optional)
4	Special cassette 2 (optional)
5	Bypass table

④ Press the start key. A test pattern is output continuously in the set copy modes.

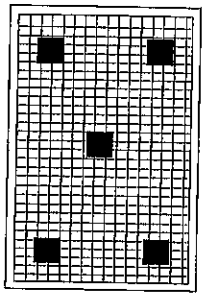
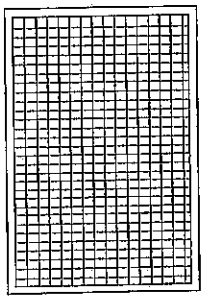


Figure 3-2-2 Test pattern

[Completion]
Press the CA/reset key. Test pattern output stops and the current function is exited.

Function No.	Description
344	**Outputting VTC patterns** [Description] Outputs VTC patterns stored in the copier. [Purpose] Used to check for performance after an image printing problem is rectified. [Method] ① Press the start key. ② Select a paper source using the cursor down key. Display / Paper feed position 1 — Cassette 1 2 — Cassette 2 3 — Special cassette 1 (optional) 4 — Special cassette 2 (optional) 5 — Bypass table ③ Press the start key. A VTC pattern is output continuously.  **Figure 3-2-3 VTC pattern** [Completion] Press the CA/reset key. VTC pattern output stops and the current function is exited.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>345</td><td>
Outputting test patterns as duplex copy

[Description]
Outputs test patterns stored in the copier as a duplex copy.

[Purpose]
Used to check performance after an image printing problem has been corrected.

[Method]
① Press the start key.

② Set the original size to A3/LED (11" × 17") or A4R/LET (8 1/2" × 11") using the cursor up key.

③ Select a paper source using the cursor down key.

Select a paper source in which the size of paper selected in step 2 is placed.
<table>
<tr><th>Display</th><th>Paper feed position</th></tr>
<tr><td>1</td><td>Cassette 1</td></tr>
<tr><td>2</td><td>Cassette 2</td></tr>
<tr><td>3</td><td>Special cassette 1 (optional)</td></tr>
<tr><td>4</td><td>Special cassette 2 (optional)</td></tr>
</table>
④ Press the start key. A test pattern as created in Function No.340 is output continuously in duplex copy mode.

[Completion]
Press the CA/reset key. Test pattern output stops and the current function is exited.
</td></tr>
</table>

Function No.	Description
346	**Outputting VTC patterns via the switchback** [Description] Outputs VTC patterns stored in the copier and ejects them from the right side of the copier via the switchback. [Purpose] Used to check the switchback operation when the duplex unit (optional) is attached. [Method] ① Press the start key. ② Select a paper source using the cursor down key. Display / Paper feed position 1 — Cassette 1 2 — Cassette 2 3 — Special cassette 1 (optional) 4 — Special cassette 2 (optional) ③ Press the start key. A VTC pattern as created in Function No. 344 is output continuously in duplex copy mode. [Completion] Press the CA/reset key. VTC pattern output stops and the current function is exited.

Function No.	Description
347	**Outputting VTC patterns face-up** [Description] Outputs VTC patterns stored in the copier and ejects them face-up from the right side of the copier. [Purpose] Used to check the eject to finisher operation when the finisher (optional) is attached. [Method] ① Press the start key. ② Select a paper source using the cursor down key. ③ Press the start key. A VTC pattern as created in Function No. 344 is output continuously in duplex copy mode. [Completion] Press the CA/reset key. VTC pattern output stops and the current function is exited.

Display	Paper feed position
1	Cassette 1
2	Cassette 2
3	Special cassette 1 (optional)
4	Special cassette 2 (optional)

Function No.	Description
348	**Outputting VTC patterns as duplex copy** [Description] Outputs VTC patterns stored inthe copier as a duplex copy. [Purpose] Used to check performance after an image printing problem as a duplex copy has been corrected. [Method] ① Press the start key. ② Select a paper source using the cursor down key. Display / Paper feed position 1 — Cassette 1 2 — Cassette 2 3 — Special cassette 1 (optional) 4 — Special cassette 2 (optional) ③ Press the start key. A VTC pattern as created in Function No. 344 is output continuously in duplex copy mode. [Completion] Press the CA/reset key. VTC pattern output stops and the current function is exited.

Function No.	Description
350	**Setting the copy count for waste toner tank replacement** [Description] Sets the number of sheets of paper to be handled after a new waste toner tank is fitted until overflow is indicated. [Purpose] Used to change the time of replacing the waste toner tank. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys.

Description	Setting range	Initial value
Copy count	0 – 255	60

The set value is converted into the copy count for waste toner tank replacement as follows:

Set value × 1000 (copies).

E.g.: When the set value is 250, the copy count for waste toner replacement is 250000.

When the set value is 0, the copy count is 1000, the same as when the set value is 1.

② Press the start key. The new value is set.

Function No.	Description
353	**Setting the copy limit after the waste toner tank overflow detection** [Description] Sets the number of sheets of paper that can be copied after waste toner tank overflow is detected. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys. The set value is converted into the copy limit as follows: Set value × 5 (copies). E.g.: When the set value is 60, the copy limit is 300. When the set value is 0, copying is disabled as soon as the waste toner tank overflow is detected. ② Press the start key. The new value is set.

Description	Setting range	Initial value
Copy limit	0 – 60	60

Function No.	Description
354	**Checking and clearing the DF original count** [Description] Checks, changes or clears the original feed count of the SRDF (optional). [Purpose] Used to check the time for replacing maintenance parts. Also used to return the count to the number as was before replacement of the main PCB. [Method] ① Press the start key. ② Select either the single counter or the double counter using the cursor down key and press the start key. The selected count is displayed. A double count is used to record the count of A3/11" × 17" paper thereby counting it as two sheets of A4/8$^{1}/_{2}$" × 11". SGL: single counter (Single count for all) DBL: double counter (Double count for A3/11" × 17" only) [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
355	**Checking and clearing the scan count** [Description] Checks, changes or clears the scan count. [Purpose] Used to check the time for replacing maintenance parts. Also used to return the count to the number as was before replacement of the main PCB. [Method] ① Press the start key. ② Select either the single counter or the double counter using the cursor down key and press the start key. The selected counter count is displayed. A double count is used to record the count of A3/11" × 17" paper thereby counting it as two sheets of A4/8$^{1}/_{2}$" × 11". SGL: single counter (Single count for all) DBL: double counter (Double count for A3/11" × 17" only) [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
356	**Checking and clearing the tolal count** [Description] Checks or clears the tolal count of the printer. The count indicated in the total counter is the sum of copy count in function No. 362 and printer count in function No. 369. [Purpose] Used to check the time for replacing maintenance parts. [Method] ① Press the start key. ② Select either the single counter or the double counter using the cursor down key and press the start key. The selected count is displayed. A double count is used to record the count of A3/11" × 17" paper thereby counting it as two sheets of A4/8 1/2" × 11". SGL: single counter (Single count for all) DBL: double counter (Double count for A3/11" × 17" only) [Setting] Clearing the count ① Press the stop/clear key. ② Press the start key. The current function is exited. To cancel the count clearing, press the CA/reset key. When clearing the total count, the counts in function Nos. 362 and 369 are also cleared.

Function No.	Description
357	**Checking and clearing the maintenance call count** [Description] Checks, changes, or clears the count of the maintenance call counter. [Purpose] Used to check the time for maintenance. Also used to return the count to the number as was before replacement of the main PCB. [Method] Press the start key. The current count is displayed. [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
358	**Checking and clearing the count for cassette 1** [Description] Checks, changes, or clears the count of the cassette 1 counter. [Purpose] Used to check the time for replacing maintenance parts. Also used to return the count to the number as was before replacement of the main PCB. [Method] Press the start key. The current count is displayed. [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
359	**Checking and clearing the count for cassette 2** [Description] Checks, changes, or clears the count of the cassette 2 counter. [Purpose] Used to check the time for replacing maintenance parts. Also used to return the count to the number as was before replacement of the main PCB. [Method] Press the start key. The current count is displayed. [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
360	**Checking and clearing the count for special cassette 1** [Description] Checks, changes, or clears the count of the (optional) special cassette 1 counter. [Purpose] Used to check the time for replacing maintenance parts. Also used to return the count to the number as was before replacement of the main PCB. [Method] Press the start key. The current count is displayed. [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
361	**Checking and clearing the count for special cassette 2** [Description] Checks, changes, or clears the count of the (optional) special cassette 2 counter. [Purpose] Used to check the time for replacing maintenance parts. Also used to return the count to the number as was before replacement of the main PCB. [Method] Press the start key. The current count is displayed. [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
362	**Checking and clearing the copy count** [Description] Checks, changes or clears the copy count. [Purpose] Used to check the time for replacing maintenance parts. Also used to return the count to the number as was before replacement of the main PCB. [Method] ① Press the start key. The current setting is displayed. ② Select either single count or double count using the cursor down key and press the start key. The selected count is displayed. A double count is used to record the count of A3/11" × 17" paper thereby counting it as two sheets of A4/8½" × 11". SGL: single count (Single count for all) DBL: double count (Double count for A3/11" x 17" only) [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new value is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
363	**Checking and clearing the IU developing count** [Description] Checks, changes or clears the developing count of the imaging unit. When replacing the imaging unit with a new one, the developing count is automatically cleared. [Purpose] Used to check the status of the imaging unit or return the count to the number as was before replacement of the engine PCB. [Method] Press the start key. The current count is displayed. [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (5 digits). To clear the count, enter "00000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
364	**Checking and clearing the waste toner tank count** [Description] Checks, changes or clears the count of the waste toner tank. When running function No. 065, the waste toner tank count is automatically cleared. [Purpose] Used to check the status of the waste toner tank or return the count to the number as was before replacement of the main PCB. [Method] Press the start key. The current count is displayed. [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new count is set and the current function is exited. To cancel the count change, press the CA/reset key.

Function No.	Description
365	**Entering the service telephone No.** [Description] Registers or deletes the service telephone No. shown when a service call code is triggered. [Purpose] To set the telephone number for a service call when installing the machine. [Method] Press the start key. If the telephone No. has already been registered, the current number is displayed. [Setting] • To register the telephone number ① Enter the telephone number using the numeric keys. A maximum of 32 digits can be entered. To correct the entered number, press the stop/clear key to clear it. • To delete the telephone number ① Press the stop/clear key. To cancel deletion of the telephone number, press the stop/clear key again. ② Press the start key. The telephone number is registered or deleted and the current function is exited.
367	**Displaying the ROM version** [Description] Displays the ROM version of the main PCB. [Purpose] Used to check the ROM version of the main PCB. [Method] Press the start key. The ROM version is displayed. ROM VERSION Ver 1.00 [Completion] Press the CA/reset key. The current function is exited.

Function No.	Description
368	**Displaying the engine ROM version** [Description] Displays the ROM version of the engine PCB. [Purpose] Used to check the ROM version of the engine PCB. [Method] Press the start key. The ROM version is displayed. ENGINE ROM VERSION Ver 1.00 [Completion] Press the CA/reset key. The current function is exited.

Function No.	Description
369	**Checking and clearing the printer count** [Description] Checks, changes or clears the printer count if a printer board is attached. [Purpose] Used to check the status of the printer board or return the count to the number as was before replacement of the engine PCB. [Method] ① Press the start key. The current setting is displayed. ② Select either single count or double count using the cursor down key and press the start key. A double count is used to record the count of A3/11" × 17" paper thereby counting it as two sheets of A4/8 1/2" × 11". The selected count is displayed. SGL: single count (Single count for all) DBL: double count (Double count for A3/11" × 17" only) [Setting] ① Enter the count using the numeric keys. To change the count, enter the count required (6 digits). To clear the count, enter "000000" or press the stop/clear key. ② Press the start key. The new value is set and the current function is exited. To cancel the count change, press the CA/reset key.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>370</td><td>
Switching between double and single counts
[Description]
Switches the counting system for the total counter displayed in user mode and optional mechanical counter.
[Purpose]
To be set according to user (copy service provider) request.
[Method]
Press the start key. The current counting system is displayed.
DOUBLE/SINGLE CNT:1
1:DOUBLE 2:SINGLE
[Setting]
① Enter 1 or 2 using the numeric keys to switch the counting system.
<table>
<tr><th>Display</th><th>Counting system</th></tr>
<tr><td>1: DOUBLE
2: SINGLE</td><td>Double counts for A3/11" × 17" only
Single counts for all sizes</td></tr>
</table>
Initial value: 1
② Press the start key.
</td></tr>
<tr><td>371</td><td>
Setting auto start
[Description]
Turns the auto start function on or off.
[Purpose]
No change from the factory default of 1 is necessary. To prevent problems, change the setting to 2.
[Method]
Press the start key. The current setting is displayed.
COPY AUTO START:1
1:ON 2:OFF
[Setting]
① Enter 1 or 2 using the numeric keys to switch auto start on or off.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1: ON
2: OFF</td><td>Auto start on
Auto start off</td></tr>
</table>
② Press the start key.
</td></tr>
</table>

Function No.	Description
372	**Setting auto clear time** [Description] Sets the time to return to the initial setting after copying is completed. [Purpose] To be set to a comparatively long time for continuous copying at the same settings. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the settings using the numeric keys.

Description	Setting range	Initial value	Change in value per step
Auto clear time	0 – 9	2	30 s

The set value is converted to the auto clear time as follows:

Set value × 30 (s).

E.g.: When the set value is 3, the auto clear time is 90 s. If the value is set to 0, auto clear is canceled, and "Setting auto clear time" is deleted from the items for the user setting (Settings).

② Press the start key. The new value is set.

Function No.	Description
373	**Setting auto preheat time** [Description] Sets the time to enter preheat/energy saver mode after copying is completed. [Purpose] When the copier is in frequent use, increase the value to enable copying promptly without the recovery time from preheating; when the copier is not in frequent use, decrease the value to save energy. When the printer board (optional) is attached, auto preheat is automatically cancelled, regardless of the setting in this maintenance function. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys. Description: Auto preheat time; Setting range: 0 – 9; Initial value: 3; Change in value per step: 5 min. The set value is converted to the auto preheat/energy saver time as follows: Set value × 5 (min.). · E.g.: When the set value is 3, the auto preheat time is 15 min. If the value is set to 0, auto preheat is canceled, and "Setting auto preheat time" is deleted from the items for user settings (Settings). ② Press the start key. The new value is set.

Function No.	Description
374	**Setting auto shutoff time** [Description] Sets the time to enter shutoff (power is off: when the printer board is attached, only the fixing heater is off) mode after copying is completed. [Purpose] Used to save energy when the copier is not in frequent use, by decreasing the value. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys.

Description	Setting range	Initial value	Change in value per step
Auto shutoff time	0 – 48	6	5 min.

The set value is converted to the auto shutoff time as follows:

Set value	*Time*
3 to 5	*15 min.*
6 to 8	*30 min.*
9 to 11	*45 min.*
⋮	⋮
39 to 41	*195 min.*
42 to 44	*210 min.*
45 to 47	*225 min.*
48	*240 min.*

If the value is set to 0, 1 or 2, auto shutoff is canceled, and "Setting auto shutoff time" is deleted from the items for user settings (Settings).

② Press the start key. The new value is set.

Function No.	Description
378	**Setting operation under the toner empty condition** [Description] Switches between single and continuous copies under the toner empty condition. [Method] Press the start key. The current setting is displayed. T.E ACTION:1 1:STOP 2:CONT [Setting] ① Enter 1 or 2 using the numeric keys to switch between single and continuous copies. Display: 1: STOP / 2: CONT — Operation: Single copies / Continuous copies ② Press the start key.

Function No.	Description
379	**Setting the number of ejected sheets to be detected by the ejected paper overflow sensor** [Description] Changes the number of sheets that can be stacked on the paper ejection area by setting the number to be detected by the eject overflow sensor (optional). This function is available when the machine is used as a printer by attaching the printer board (optional). [Purpose] Used to limit the number of sheets to be stacked on the paper ejection area when the machine is used as a printer. Change the setting according to user request or depending on how frequently the machine is used as a printer. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys.

Description	Setting range	Initial value
Number of sheets on the paper ejection area	10 – 50 (sheets)	10

② Press the start key. The value is set.

Function No.	Description
390	**Initializing memory 1** [Description] Copies the backup data, which was stored on both the main PCB and engine PCB, from the main PCB to the new engine PCB (refer to page 3-2-93 for the backup data). [Purpose] Used to rewrite the backup data to the new engine PCB after replacing the engine PCB. [Method] ① Press the start key. The memory is initialized. ② After initialization, "COMPLETED" is displayed. [Completion] Press the CA/reset key. The current function is exited.
391	**Initializing memory 2** [Description] Copies the backup data, which was stored on both the main PCB and engine PCB, from the engine PCB to the new main PCB (refer to page 3-2-93 for the backup data). [Purpose] Used to rewrite the backup data to the new main PCB after replacing the main PCB. [Method] ① Press the start key. The memory is initialized. ② After initialization, "COMPLETED" is displayed. [Completion] Press the CA/reset key. The current function is exited.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>400</td><td>Test copy mode

[Description]
Executes normal copying in maintenance mode.

[Purpose]
Used to make test copies during adjustment in maintenance mode.

[Method]
① Press the start key. Test copy mode is set.
② Set an original on the contact glass and make test copies. The preset number of copies, original and paper sizes, and magnification ratio are displayed.

[Completion]
Press the CA/reset key. Test copy mode is exited and the screen to set the function No. 000 appears.</td></tr>
<tr><td>401</td><td>Copying without paper feed

[Description]
Performs copying without paper feed.

[Purpose]
To check overall performance of the copier.

[Caution]
Be sure to perform this function with the original holder closed. If the original holder has to be open to check optical section operation, place a sheet of blank paper of the same size as selected for this function on the contact glass.

[Method]
① Remove all cassettes.
② Press the start key.
③ Select the paper size using the numeric keys.

<table><tr><th>Display</th><th>Size</th></tr><tr><td>1: S
2: M
3: L</td><td>Minimum size
A4/11" × 8 1/2"
A3/11" × 17"</td></tr></table>
Copying is started in the selected paper size. Note that when 1 (minimum size) is selected, copying is performed in the same manner as when 2 (A4/11" × 8 1/2") is selected.
④ To stop operation, press the stop/clear key.

[Completion]
Press the CA/reset key. The screen to set the function No. 000 appears.</td></tr>
</table>

Function No.	Description
405	**DF simulation** [Description] Performs scanning of an original from the SRDF (optional). [Purpose] To check the operation of scanning an original from the SRDF. [Method] ① Press the start key. ② Place an original on the DF. ③ Select single-side or duplex copying using the cursor down key. (No display): Scanning a single-side original DUPLEX: Scanning a double-sided original ④ Enter a magnification rate (50 – 200%) using the numeric keys. ⑤ Press the start key. Scanning of the original from DF is performed. When operation is completed, the current function is exited. To stop operation, press the CA/reset key.

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>406</td><td>
DF simulation without paper feed

[Description]
Performs scanning of an original from the SRDF (optional) without paper feed.

[Purpose]
To check the operation of scanning an original from the SRDF.

[Method]
① Press the start key.
② Select the paper size using the numeric keys.
When 1 (minimum size) is selected, copying is performed in the same manner as when 2 (A4/11" × 8 1/2") is selected.
<table>
<tr><th>Display</th><th>Size</th></tr>
<tr><td>1: S
2: M
3: L</td><td>Minimum size
A4/11" × 8 1/2"
A3/11" × 17"</td></tr>
</table>
③ Select single-side or duplex copying using the cursor down key.
(No display): Scanning a single-side original
DUPLEX: Scanning a double-sided original
④ Enter a magnification rate (50 – 200%) using the numeric keys.
⑤ Press the start key. Scanning of the original from the DF is performed, not using the paper feed.

[Completion]
Press the CA/reset key. The operation stops and the current function is exited.
</td></tr>
</table>

Function No.	Description
415	**Setting the copy density level** [Description] Adjusts the copy density. [Purpose] Used when the entire image is too dark or too light. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys. Increasing the value lightens the copy image; decreasing the value darkens the image. ② Press the start key. The new value is set.

Description	Setting range	Initial value
Copy density level	0 – 255	184

Function No.	Description
416	**Adjusting halftone density (400 dpi)** [Description] Sets the halftone density when 400 dpi is selected for scanning resolution. There are 17 density levels represented by numbers ranging from 1 to 17: the larger the number is, the darker the image density becomes. Note that the scanning resolution is 400 dpi when "Half Tone" is selected for image quality in sort copy mode. [Purpose] To be performed when the 400 dpi halftone density is incorrect. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys.

Value	Copy exposure Nos. to be selected
5	1, 3, 5, 7, 9
6	2, 4, 6, 8, 10
7	3, 5, 7, 9, 11
8	4, 6, 8, 10, 12
9	5, 7, 9, 11, 13
10	6, 8, 10, 12, 14
11	7, 9, 11, 13, 15
12	8, 10, 12, 14, 16
13	9, 11, 13, 15, 17

Initial value: 9

Increasing the setting makes the density darker, and decreasing it makes the density lighter.

The value indicates the density when the mid-value is selected for copy exposure. Five levels of density can be selected from each copy exposure adjustment step.

② Press the start key. The new value is set.

Function No.	Description
417	**Adjusting halftone density (600 dpi)** [Description] Sets the halftone density when 600 dpi is selected for scanning resolution. There are 17 levels represented by numbers ranging from 1 to 17: the larger the number is , the darker the image density becomes. Note that the scanning resolution is 600 dpi when copying is performed under the conditions other than indicated below: • When "Half Tone" is selected for image quality in sort copy mode. • When "Fine" is selected for image quality in sort copy mode. [Purpose] To be performed when scanning resolution is 600 dpi and halftone density is incorrect. [Method] Press the start key. The current setting is displayed. [Setting] ① Change the setting using the numeric keys. Value / Copy exposure Nos. to be selected 5: 1, 3, 5, 7, 9 6: 2, 4, 6, 8, 10 7: 3, 5, 7, 9, 11 8: 4, 6, 8, 10, 12 9: 5, 7, 9, 11, 13 10: 6, 8, 10, 12, 14 11: 7, 9, 11, 13, 15 12: 8, 10, 12, 14, 16 13: 9, 11, 13, 15, 17 Initial value: 9 Increasing the setting makes the density darker, and decreasing it makes the density lighter. The value indicates the density when the mid-value is selected for copy exposure. Five levels of density can be selected from each copy exposure adjustment step. ② Press the start key. The new value is set.

Function No.	Description
601	**Initializing all data** [Description] Initializes the following data on the main PCB (refer to page 3-2-93 for the classification of the data on the main PCB): • Software switch data in the flash ROM • Data in SRAM It is not necessary to carry out this function in the field. [Purpose] Used to initialize the all data. [Method] ① Press the start key. The destination code input display is shown. Enter a destination code using the numeric keys after replacing the main PCB (refer to the destination code list on page 3-2-82 for the destination code). INI. ALL DATA COUNTRY CODE:000 ② Press the start key. The OEM code input display is shown. If there is no destination data corresponding to the entered code, "NO SUCH A CODE" is displayed. Enter the specified code using the numeric keys after replacing the main PCB. INI. ALL DATA OEM CODE:000 ③ Press the start key. Data initialization starts. If there is no OEM data corresponding to the entered code, "NO SUCH A CODE" is displayed, and initialization is not performed. To cancel data initialization, press the CA/reset key. ④ After data initialization, the entered destination and OEM codes are displayed, and the ROM version is displayed after two seconds. INI. ALL DATA COMPLETED 000 000 INI. ALL DATA COMPLETED V1.00

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>601</td><td>[Caution]
If an incorrect OEM code is entered, the following problems may occur.
• "Replace IU" is displayed, and the machine does not operate.
• The count rate of the optional mechanical counter and the total counter displayed in user mode may change from single count to double count or vice versa.
Destination code list
<table><tr><th>Code</th><th>Destination</th></tr><tr><td>004</td><td>Germany</td></tr><tr><td>009</td><td>Australia</td></tr><tr><td>136</td><td>Peru</td></tr><tr><td>137</td><td>The Philippines</td></tr><tr><td>181</td><td>North America</td></tr></table></td></tr>
</table>

Function No.	Description
602	**Initializing permanent data** [Description] Initializes the following data on the main PCB for each destination and OEM (refer to page 3-2-93 for the classification of the data on the main PCB): • Non-machine data in the flash ROM It is not necessary to carry out this function in the field. [Purpose] Used to initialize the above data. [Method] ① Press the start key. The destination code input display is shown. Enter a destination code using the numeric keys after replacing the main PCB (refer to the destination code list on page 3-2-82 for the destination code). INI. KEEP DATA COUNTRY CODE:000 ② Press the start key. The OEM code input display is shown. If there is no destination data corresponding to the entered code, "NO SUCH A CODE" is displayed. Enter the specified code using the numeric keys after replacing the main PCB. INI. KEEP DATA OEM CODE:000 ③ Press the start key. Data initialization starts. If there is no OEM data corresponding to the entered code, "NO SUCH A CODE" is displayed, and initialization is not performed. To cancel data initialization, press the CA/reset key. ④ After data initialization, the entered destination and OEM codes are displayed, and the ROM version is displayed after two seconds. INI. KEEP DATA COMPLETED 000 000 INI. KEEP DATA COMPLETED V1.00

Function No.	Description
602 (cont.)	[Caution] If an incorrect OEM code is entered, the following problems may occur. • "Replace IU" is displayed, and the machine does not operate. • The count rate of the optional mechanical counter and the total counter displayed in user mode may change from single count to double count or vice versa.
603	**Setting factory defaults** [Description] Initializes the following data on the main PCB to the factory defaults (refer to page 3-2-93 for classification of the data on the main PCB). • Non-machine data in the flash ROM • Data in SRAM [Purpose] Used to initialize the above data to the factory defaults. [Method] ① Press the start key. Data initialization starts. To cancel data initialization, press the CA/reset key. ② After data initialization, the entered destination and OEM codes are displayed, and the ROM version is displayed after two seconds. INI. SHIP DATA COMPLETED 000 000 INI. SHIP DATA COMPLETED V1.00

Function No.	Description
604	**Initializing the main PCB (MFP)** [Description] Writes backup data of the engine PCB in the main PCB after initializing the main PCB for each destination and OEM. Initializes the image memory at the same time. [Purpose] Used after replacing the main PCB. [Method] ① Press the start key. The destination code input display is shown. Enter a destination code using the numeric keys after replacing the main PCB (refer to the destination code list on page 3-2-82 for the destination code). INI. MFP DATA COUNTRY CODE:000 ② Press the start key. The OEM code input display is shown. If there is no destination data corresponding to the entered code, "NO SUCH A CODE" is displayed. Enter the specified code using the numeric keys after replacing the main PCB. INI. MFP DATA OEM CODE:000 ③ Press the start key. Data initialization starts. If there is no OEM data corresponding to the entered code, "NO SUCH A CODE" is displayed, and initialization is not performed. To cancel data initialization, press the CA/reset key. ④ After data initialization, the entered destination and OEM codes are displayed, and the ROM version is displayed after two seconds. INI. MFP DATA COMPLETED 000 000 INI. MFP DATA COMPLETED V1.00

<table>
<tr><th>Function No.</th><th>Description</th></tr>
<tr><td>604 (cont.)</td><td>[Caution]
If an incorrect OEM code is entered, the following problems may occur.
• "Replace IU" is displayed, and the machine does not operate.
• The count rate of the optional mechanical counter and the total counter displayed in user mode may change from single count to double count or vice versa.</td></tr>
<tr><td>625</td><td>Selecting the language group
[Description]
Selects the language group to be used on the operation panel.
[Purpose]
Used when the operational ROM has been changed to one for a different destination.
[Method]
Press the start key. The current setting is displayed.
[Setting]
① Change the setting with the numeric keys.
The setting depends on the destination programmed into the fitted operational ROM.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1:A1</td><td>Standard languages for North American specifications (English, French and Spanish)</td></tr>
<tr><td>2:E1</td><td>Standard languages for European specifications (English, French, Spanish, German. Italian, Dutch, Turkish, Polish, Russian, Norwegian, Swedish and Danish)</td></tr>
<tr><td>3:E2</td><td>Optional languages for European specifications (English, French, Spanish, German. Italian, Dutch, Finnish, Portuguese and Czech)</td></tr>
</table>
② Press the start key. The new setting is stored.</td></tr>
</table>

Function No.	Description
760	**Outputting the setting list** [Description] Outputs the list of software switches and ROM versions. [Purpose] Used when checking the above items to trace the cause. [Method] Press the start key. A sheet of the setting list as in the figure below is output and the current function is exited. Data in the figure are reference values.

P001

System Configuration Report

Soft Switch

	0	1	2	3	4	5	6	7	8	9
SW000 - 009 :	04	00	60	00	00	70	08	00	00	00
SW010 - 019 :	A0	00	00	04	00	10	00	68	40	00
SW020 - 029 :	00	00	00	00	00	00	00	00	00	00
SW030 - 039 :	00	00	00	00	00	00	00	00	00	00
SW040 - 049 :	00	00	00	00	00	00	00	48	00	40
SW050 - 059 :	06	00	00	00	00	00	00	00	00	00
SW060 - 069 :	00	02	03	01	00	00	40	00	00	00
SW070 - 079 :	00	00	00	00	00	00	00	00	00	C0
SW080 - 089 :	80	00	00	00	00	00	16	00	00	00
SW090 - 099 :	00	00	00	00	00	00	00	00	00	00
SW100 - 109 :	00	00	00	00	00	00	00	00	00	00
SW110 - 119 :	00	00	00	00	00	00	00	00	00	00
SW120 - 129 :	00	00	00	00	00	00	00	00	00	00
SW130 - 139 :	00	00	00	00	00	00	00	00	00	00
SW140 - 149 :	00	00	00	00	00	00	00	00	00	00
SW150 - 159 :	00	00	00	00	00	00	00	00	00	00
SW160 - 169 :	00	00	00	00	00	00	00	00	00	00
SW170 - 179 :	00	00	00	00	00	00	00	00	00	00
SW180 - 189 :	00	00	00	00	00	00	00	00	00	00
SW190 - 199 :	00	00	00	00	00	00	00	00	00	00
SW200 - 209 :	00	00	14	14	0A	1E	1E	0A	0A	0A
SW210 - 219 :	1E	1E	04	06	1E	0A	10	00	00	00
SW220 - 229 :	00	00	0A	0A	0A	0A	0A	0A	0A	1E
SW230 - 239 :	1E	1E	00	00	00	00	00	00	00	00
SW240 - 249 :	00	7A	8F	80	7A	A9	3C	32	01	80
SW250 - 259 :	00	00	00	00	00	00	00	00	00	00
SW260 - 269 :	02	A3	E9	CD	03	BB	59	8C	DE	00
SW270 - 279 :	1E	3B	78	3C	00	00	00	00	00	10
SW280 - 289 :	06	06	06	06	06	06	06	06	06	06
SW290 - 299 :	06	06	06	06	06	06	06	06	00	00
SW300 - 309 :	22	62	12	62	26	07	22	22	22	22
SW310 - 319 :	22	22	22	22	22	22	22	22	22	22
SW320 - 329 :	22	22	22	06	06	06	06	00	00	00
SW330 - 339 :	00	00	00	00	00	00	00	00	00	00
SW340 - 349 :	14	14	14	14	14	14	14	14	14	00
SW350 - 359 :	14	14	14	14	14	14	14	14	14	00
SW360 - 369 :	07	07	07	07	07	07	03	07	07	00
SW370 - 379 :	B4	14	14	14	14	14	14	00	00	00

ROM Version 1. 08
ROM Date 1998-02-16

Figure 3-2-4 Setting list

Function No.	Description
761	**Outputting the action list** [Description] Outputs the list of service call code detection history, version and other information. [Purpose] Used when checking the above items to trace the cause. [Method] Press the start key. A sheet of the action list as in the figure below is output and the current function is exited. Data in the figure are reference values.

P001

Action List

Service Call History	C00	C00	C00	C00	C00
ROM Version	1. 08				
ROM Date	1998-02-16				
Country Code	004				
OEM Code	000				
ADF Document	20	20	10		
Table Document	10	10	10		
Paper	10	10			
Cassette Center	10	10	10	10	
Bypass Center	10				
ADF Main Scanning Adjust	=	30			
ADF Sub Scanning Adjust	=	30			
Table Main Scanning Adjust	=	30			
Table Sub Scanning Adjust	=	30			

Figure 3-2-5 Action list

Function No.	Description
762	**Outputting the monitor list** [Description] Outputs the list of destination codes, OEM codes, counts and ROM versions. [Purpose] Used when checking the above items to trace the cause. [Method] Press the start key. A sheet of the monitor list as in the figure below is output and the current function is exited. Data in the figure are reference values.

P001

Monitor List

Country Code		04H
OEM Code		00H
ADF Counter	(S)	000000
	(D)	000000
Scanner Counter	(S)	000000
	(D)	000000
Image Unit		000186
Total Counter	(S)	000000
	(D)	000000
Copy Counter	(S)	000000
	(D)	000000
Printer Counter	(S)	000000
	(D)	000000
ROM Version		1. 08
ROM Date		1998-02-16

Figure 3-2-6 Monitor list

Function No.	Description
763	**Outputting the own-status report** [Description] Outputs the list of settings in maintenance mode. [Purpose] Used before and after replacing the main PCB. [Method] Press the start key. A sheet of the own-status report as shown in function No. 000 is output and the current function is exited.

Function No.	Description
770	**Performing memory tests** [Description] Performs tests for SRAM and DRAM (image memory and bitmap memory). [Purpose] Used to check if reading and writing are performed correctly in respective installed memories. [Method] Press the start key. The test is performed and the result is displayed as follows. • When the test result is OK: TEST OPTION MEMORY OK • When the test result is NG: TEST MEMORY NG DRAM IMG 0x****** ******: adress DRAM IMG: DRAM (image memory) error DRAM B.M: DRAM (bitmap memory) error SRAM: SRAM error [Completion] Press the CA/reset key if the test result is OK. The current setting is exited. If the test result is NG, turn the main switch off and on.

Function No.	Description
771	**Performing optional memory tests** [Description] Performs tests for optional memories (one image memory and one bitmap memory*). *Bitmap memory is installed before shipping. [Purpose] Used to check if reading and writing are performed correctly in respective optional memories installed. [Method] Press the start key. The test is performed and the result is displayed as follows. • When the test result is OK: TEST OPTION MEMORY OK • When the test result is NG: TEST OPTION MEMORY NG DRAM IMG 0x****** ******: adress IMG: Image memory error B.M: Bitmap memory error • When the test result is NG (memory is not installed): TEST OPTION MEMORY NG DRAM IMG IMG: Image memory is not installed. B.M 0: Bitmap memory is not installed. [Completion] Press the CA/reset key if the test result is OK. The current setting is exited. If the test result is NG, turn the main switch off and on.