

# Portable Manual

## **CLC5100 Series**

**Canon**



## Application

This manual has been issued by Canon Inc. for qualified persons to learn technical theory, installation, maintenance, and repair of products. This manual covers all localities where the products are sold. For this reason, there may be information in this manual that does not apply to your locality.

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*Printed in Japan*

## Caution

Use of this manual should be strictly supervised to avoid disclosure of confidential information.



# Symbols Used

This documentation uses the following symbols to indicate special information:

Symbol	Description
	Indicates an item of a non-specific nature, possibly classified as Note, Caution, or Warning.
	Indicates an item requiring care to avoid electric shocks.
	Indicates an item requiring care to avoid combustion (fire).
	Indicates an item prohibiting disassembly to avoid electric shocks or problems.
	Indicates an item requiring disconnection of the power plug from the electric outlet.
 Memo	Indicates an item intended to provide notes assisting the understanding of the topic in question.
 REF.	Indicates an item of reference assisting the understanding of the topic in question.
	Provides a description of a service mode.
	Provides a description of the nature of an error indication.

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

In the diagrams,  represents the path of mechanical drive; where a signal name accompanies the symbol, the arrow  indicates the direction of the electric signal.

The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1' is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low". (The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (\*) as in "DRMD\*" indicates that the DRMD signal goes on when '0'.

In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.

All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine."



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# Chapter 1 Maintenance and Inspection

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## 1.1 Periodically Replaced Parts

### 1.1.1 Periodically Replaced Parts

0002-1292

CLC5100

As of Jul 2003

T-1-1

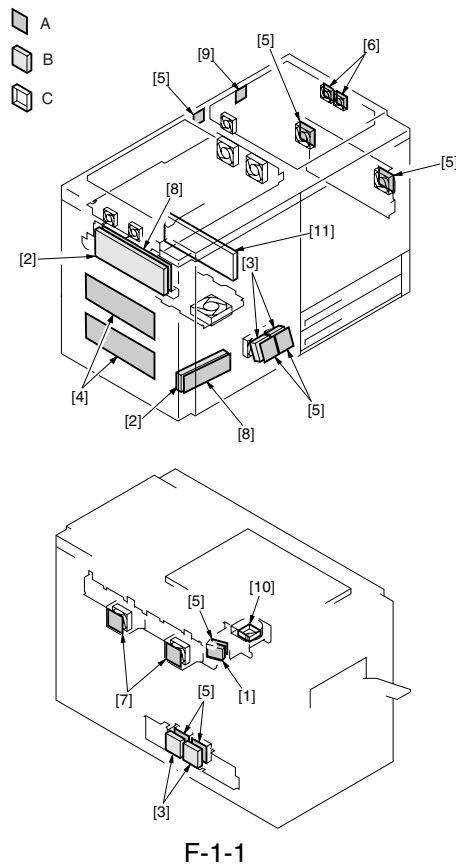
No	Parts name	Parts number	Q'ty	Life	Remarks
1	Ozone filter 1 (primary charging assembly)	FB2-3702	1	100,000	Or 1 yr. (FM6: primary charging assembly fan)
2	Ozone filter 2 (delivery assembly, general exhaust)	FB5-8775	2	100,000	Or 1 yr. (FM1/2/3: delivery assembly exhaust fan FM21/22/23: general exhaust)
3	Ozone filter 3 (power supply assembly, prefixing, exhaust)	FB2-3704	4	100,000	Or 1 yr. (FM17/18: power supply assembly exhaust fan; FM35/36: prefixing exhaust fan)
4	Ozone filter 4 (reversing assembly exhaust)	FB5-8428	2	100,000	Or 1 yr. (FM28/29/30/33:reversing assembly exhaust fan,FM9002,9003:Reversing twin fan)
5	Dust-proofing filter 1 (laser unit,power supply assembly suction filter)	FA6-4538	8	100,000	Or 1 yr. (FM14/15/16:digital unit cooling fan)
6	Dust-proofing filter 3 (digital unit suction filter)	FB2-3955	2	100,000	Or 1 yr. (FM14/15/16:digital unit cooling fan)
7	Dust-proofing filter 4 (primary suction filter)	FB3-5608	2	100,000	Or 1 yr. (FM8/9: primary charging assembly suction fan)
8	Dust-proofing filter 6 (delivery assembly, general exhaust)	FB3-6320	2	100,000	Or 1 yr. (FM1/2/3: delivery assembly exhaust fan; FM21/22/23: general exhaust)

No	Parts name	Parts number	Q'ty	Life	Remarks
9	Dust-proofing filter 7 (Laser scanner cooling)	FB5-6264	1	100,000	Or 1 yr. (FM24: laser scanner motor cooling fan)
10	Toner filter	FB2-4383	1	100,000	Or 1 yr. (FM6: primary exhaust fan)
11	Prefixing duct filter (Prefixing duct)	FF6-1117	1	50,000	Or 1 yr. (FM35/36: prefixing exhaust fan)

## Memo

The above values are estimates only and are subject to change based on future data.

The parts numbers are subject to change according to engineering revisions.



A: Dust-proofing filter

B: Ozone filter

C: Toner filter



As of Jul 2003

T-1-2

No	Parts name	Parts number	Q'ty	Life	Remarks
12	Transfer blade	FF6-0542	4	100,000	
13	Primary grid	FB2-2958	4	50,000	
14	Primary/pre-transfer charging wire	FY3-0030	AR	50,000	200V
		FY3-0040	AR	50,000	230/240V
15	Primary charging wire cleaning pad (lower)	FF2-3551	4	50,000	
	Primary charging wire cleaning pad (upper)	FF2-3552	4	50,000	
16	Separation/prefixing charging wire	FY3-0030	AR	100,000	200V
		FY3-0040	AR	100,000	230/240V
17	Separation/prefixing charging wire cleaning pad	FF5-5517	2	100,000	
18	Separation/prefixing charging assembly gut wire	RY1-1502	AR	100,000	
19	Cleaning blade (photosensitive drum cleaner)	FB6-5717	4	80,000	
20	Scoop up sheet (photosensitive drum cleaner)	FF6-1601	4	80,000	When replacing the clean-ing blade
21	No. 2 scoopup sheet (SALT sensor)	FB2-2924	4	80,000	When replacing the clean-ing blade
22	Cleaner side seal (front; photosensitive drum cleaner)	FF5-4166	4	80,000	When replacing the clean-ing blade

No	Parts name	Parts number	Q'ty	Life	Remarks
23	Cleaner side seal (rear; photo-sensitive drum cleaner)	FF6-1585	4	80,000	When replacing the clean-ing blade
24	Cleaner end seal(front; photo-sensitive drum cleaner)	FF6-1600	4	80,000	When replacing the clean-ing blade
25	Cleaner end seal (rear; photo-sensitive drum cleaner)	FF6-2630	4	80,000	When replacing the clean-ing blade
26	Transfer web plate	FF6-2629	1	100,000	
27	Polishing roller backup	FF6-1348	1	100,000	
28	54T gear	FU3-0551	1	500,000	

## Memo

The above values are estimates only and subject to change based on future data. Likewise, the parts numbers are subject to change to accommodate engineering revisions.

## 1.1.2 Periodically Replaced Parts

0003-2601

CLC4000

As of Jul 2003

## T-1-3

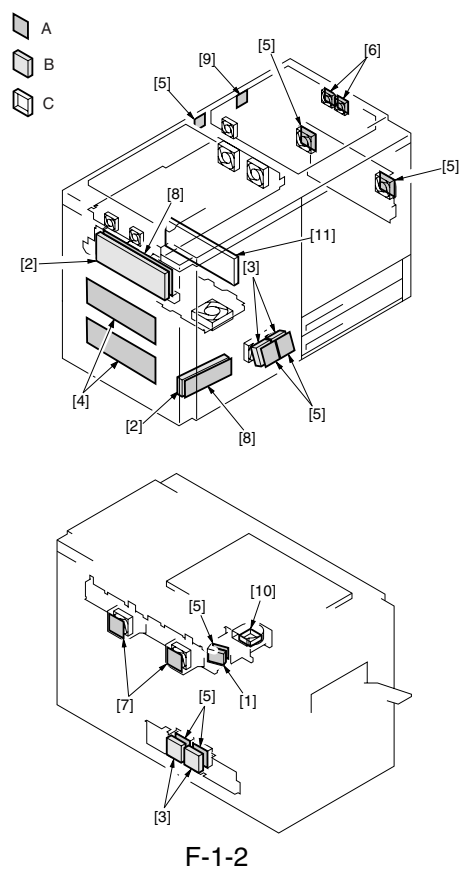
No	Parts name	Parts number	Q'ty	Life	Remarks
1	Ozone filter 1 (primary charging assembly)	FB2-3702	1	100,000	Or 1 yr. (FM6: primary charging assembly fan)
2	Ozone filter 2 (delivery assembly, general exhaust)	FB5-8775	2	100,000	Or 1 yr. (FM1/2/3: delivery assembly exhaust fan FM21/22/23: general exhaust)
3	Ozone filter 3 (power supply assembly, prefixing, exhaust)	FB2-3704	4	100,000	Or 1 yr. (FM17/18: power supply assembly exhaust fan; FM35/36: prefixing exhaust fan)

No	Parts name	Parts number	Q'ty	Life	Remarks
4	Ozone filter 4 (reversing assembly exhaust)	FB5-8428	2	100,000	Or 1 yr. (FM28/29/30/33:reversing assembly exhaust fan,FM9002,9003:Reversing twin fan)
5	Dust-proofing filter 1 (laser unit,power supply assembly suction filter)	FA6-4538	8	100,000	Or 1 yr. (FM14/15/16:digital unit cooling fan)
6	Dust-proofing filter 3 (digital unit suction filter)	FB2-3955	2	100,000	Or 1 yr. (FM14/15/16:digital unit cooling fan)
7	Dust-proofing filter 4 (primary suction filter)	FB3-5608	2	100,000	Or 1 yr. (FM8/9: primary charging assembly suction fan)
8	Dust-proofing filter 6 (delivery assembly, general exhaust)	FB3-6320	2	100,000	Or 1 yr. (FM1/2/3: delivery assembly exhaust fan; FM21/22/23: general exhaust)
9	Dust-proofing filter 7 (Laser scanner cooling)	FB5-6264	1	100,000	Or 1 yr. (FM24: laser scanner motor cooling fan)
10	Toner filter	FB2-4383	1	100,000	Or 1 yr. (FM6: primary exhaust fan)
11	Prefixing duct filter (Prefixing duct)	FF6-1117	1	50,000	Or 1 yr. (FM35/36: prefixing exhaust fan)

#### Memo

The above values are estimates only and are subject to change based on future data.

The parts numbers are subject to change according to engineering revisions.



F-1-2

- A: Dust-proofing filter
- B: Ozone filter
- C: Toner filter

As of Jul 2003

T-1-4

No	Parts name	Parts number	Q'ty	Life	Remarks
12	Transfer blade	FF6-0542	4	100,000	
13	Primary grid	FB2-2958	4	50,000	
14	Primary/pre-transfer charging wire	FY3-0030	AR	50,000	200V
		FY3-0040	AR	50,000	230/240V

No	Parts name	Parts number	Q'ty	Life	Remarks
15	Primary charging wire cleaning pad (lower)	FF2-3551	4	50,000	
	Primary charging wire cleaning pad (upper)	FF2-3552	4	50,000	
16	Separation/prefixing charging wire	FY3-0030	AR	100,000	200V
		FY3-0040	AR	100,000	230/240V
17	Separation/prefixing charging wire cleaning pad	FF5-5517	2	100,000	
18	Separation/prefixing charging assembly gut wire	RY1-1502	AR	100,000	
19	Cleaning blade (photosensitive drum cleaner)	FB6-5717	4	76,000	
20	Scoop up sheet (photosensitive drum cleaner)	FF6-1601	4	76,000	When replacing the clean-ing blade
21	No. 2 scoopup sheet (SALT sensor)	FB2-2924	4	76,000	When replacing the clean-ing blade
22	Cleaner side seal (front; photosensitive drum cleaner)	FF5-4166	4	76,000	When replacing the clean-ing blade
23	Cleaner side seal (rear; photo-sensitive drum cleaner)	FF6-1585	4	76,000	When replacing the clean-ing blade
24	Cleaner end seal(front; photo-sensitive drum cleaner)	FF6-1600	4	76,000	When replacing the clean-ing blade
25	Cleaner end seal (rear; photo-sensitive drum cleaner)	FF6-2630	4	76,000	When replacing the clean-ing blade
26	Transfer web plate	FF6-2629	1	100,000	
27	Polishing roller backup	FF6-1348	1	100,000	
28	54T gear	FU3-0551	1	500,000	

## Memo

The above values are estimates only and subject to change based on future data. Likewise, the parts numbers are subject to change to accommodate engineering revisions.

## 1.1.3 Periodically Replaced Parts(Ref for heavy paper)

0003-2405

CLC5100 / CLC4000

As of Jul 2003

## T-1-5

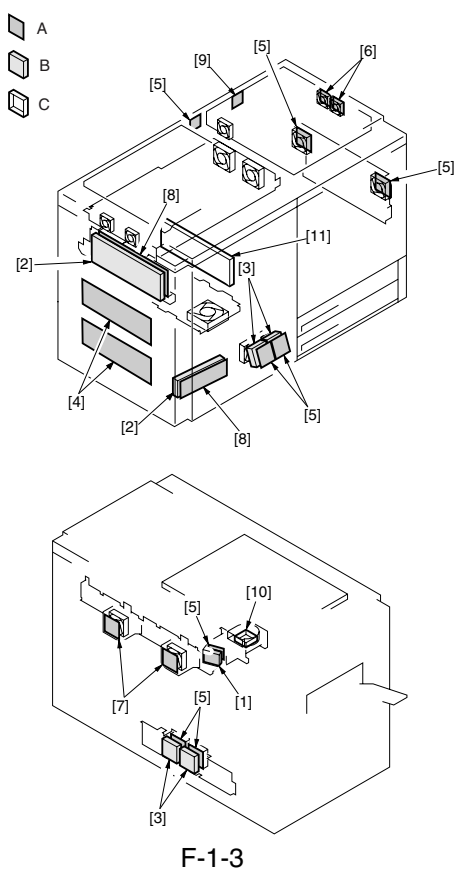
No	Parts name	Parts number	Q'ty	Life	Remarks
1	Ozone filter 1 (primary charging assembly)	FB2-3702	1	88,000	Or 1 yr. (FM6: primary charging assembly fan)
2	Ozone filter 2 (delivery assembly, general exhaust)	FB5-8775	2	88,000	Or 1 yr. (FM1/2/3: delivery assembly exhaust fan FM21/22/23: general exhaust)
3	Ozone filter 3 (power supply assembly, prefixing, exhaust)	FB2-3704	4	88,000	Or 1 yr. (FM17/18: power supply assembly exhaust fan; FM35/36: prefixing exhaust fan)
4	Ozone filter 4 (reversing assembly exhaust)	FB5-8428	2	88,000	Or 1 yr. (FM28/29/30/33:reversing assembly exhaust fan,FM9002,9003:Reversing twin fan)
5	Dust-proofing filter 1 (laser unit,power supply assembly suction filter)	FA6-4538	8	100,000	Or 1 yr. (FM14/15/16:digital unit cooling fan)
6	Dust-proofing filter 3 (digital unit suction filter)	FB2-3955	2	100,000	Or 1 yr. (FM14/15/16:digital unit cooling fan)
7	Dust-proofing filter 4 (primary suction filter)	FB3-5608	2	100,000	Or 1 yr. (FM8/9: primary charging assembly suction fan)
8	Dust-proofing filter 6 (delivery assembly, general exhaust)	FB3-6320	2	100,000	Or 1 yr. (FM1/2/3: delivery assembly exhaust fan; FM21/22/23: general exhaust)

No	Parts name	Parts number	Q'ty	Life	Remarks
9	Dust-proofing filter 7 (Laser scanner cooling)	FB5-6264	1	100,000	Or 1 yr. (FM24: laser scanner motor cooling fan)
10	Toner filter	FB2-4383	1	100,000	Or 1 yr. (FM6: primary exhaust fan)
11	Prefixing duct filter (Prefixing duct)	FF6-1117	1	50,000	Or 1 yr. (FM35/36: prefixing exhaust fan)

### Memo

The above values are estimates only and are subject to change based on future data.

The parts numbers are subject to change according to engineering revisions.



A: Dust-proofing filter

B: Ozone filter

C: Toner filter

As of Jul 2003

## T-1-6

No	Parts name	Parts number	Q'ty	Life	Remarks
12	Transfer blade	FF6-0542	4	80,000	
13	Primary grid	FB2-2958	4	44,000	
14	Primary/pre-transfer charging wire	FY3-0030	AR	44,000	200V
		FY3-0040	AR	44,000	230/240V
15	Primary charging wire cleaning pad (lower)	FF2-3551	4	44,000	
	Primary charging wire cleaning pad (upper)	FF2-3552	4	44,000	
16	Separation/prefixing charging wire	FY3-0030	AR	88,000	200V
		FY3-0040	AR	88,000	230/240V
17	Separation/prefixing charging wire cleaning pad	FF5-5517	2	88,000	
18	Separation/prefixing charging assembly gut wire	RY1-1502	AR	88,000	
19	Cleaning blade (photosensitive drum cleaner)	FB6-5717	4	71,000	
20	Scoop up sheet (photosensitive drum cleaner)	FF6-1601	4	71,000	When replacing the clean-ing blade
21	No. 2 scoopup sheet (SALT sensor)	FB2-2924	4	71,000	When replacing the clean-ing blade
22	Cleaner side seal (front; photosensitive drum cleaner)	FF5-4166	4	71,000	When replacing the clean-ing blade
23	Cleaner side seal (rear; photo-sensitive drum cleaner)	FF6-1585	4	71,000	When replacing the clean-ing blade
24	Cleaner end seal(front; photo-sensitive drum cleaner)	FF6-1600	4	71,000	When replacing the clean-ing blade



No	Parts name	Parts number	Q'ty	Life	Remarks
25	Cleaner end seal (rear; photo-sensitive drum cleaner)	FF6-2630	4	71,000	When replacing the clean-ing blade
26	Transfer web plate	FF6-2629	1	80,000	
27	Polishing roller backup	FF6-1348	1	80,000	
28	54T gear	FU3-0551	1	500,000	

**Memo**

The above values are estimates only and subject to change based on future data. Likewise, the parts numbers are subject to change to accommodate engineering revisions.

## 1.2 Durables and Consumables

### 1.2.1 Consumables and Durables

0002-1290

CLC5100 / CLC4000

#### A. By the Copier's Hard Counter

As of Jul 2003

T-1-7

No.	Parts name	Parts number	Q'ty	Life	Remarks
1	Fixing oil	FG5-3918	2	40,000	2 LT (1 L/bottle); as a rule, by the user.
2	Starter developer (Y)	F42-5032	1	50,000	To be purchased by the user.
3	Starter developer (M)	F42-5022	1	50,000	To be purchased by the user.
4	Starter developer (C)	F42-5012	1	50,000	To be purchased by the user.
5	Starter developer (Bk)	F42-5002	1	50,000	To be purchased by the user.
6	Upper fixing roller	FB5-6459	1	50,000	
7	Lower fixing roller	FB5-6461	1	50,000	
8	Oil removing roller (transfer belt assembly)	FB3-3228	1	50,000	
9	Transfer belt cleaning belt	FB5-8704	1	50,000	
10	Transfer belt	FB5-6369	1	300,000	
11	Transfer belt cleaning blade	FF6-1597	1	100,000	
12	Upper fixing cleaning belt	FB3-9463	1	100,000	
13	Lower fixing cleaning belt	FB6-5812	1	100,000	Oil-impregnated type/ UL areas
		FB3-7088			non-UL areas

No.	Parts name	Parts number	Q'ty	Life	Remarks
14	Oil applying blade (Fixing assembly)	FB5-6467	1	100,000	
15	Oil applying roller (fixing assembly)	FG6-6427	1	100,000	
16	Oil filter (fixing assembly)	FB2-4114	1	100,000	
17	Oil applying cleaning blade (fixing assembly)	FB6-6360	1	100,000	
18	Curl removing roller (lower)	FG5-8277	1	150,000	
19	Belt guide	FB5-8705	4	300,000	
20	Pape dust removing plastic sheet	FF6-1589	1	500,000	
21	Fixing heater (upper)	FH7-4678	1	200,000	200V
22		FH7-4680	1	200,000	230V
23	Fixing heater (lower)	FH7-4679	1	200,000	200V
24		FH7-4681	1	200,000	230v
25	Oil removing blade (fixing assembly)	FB3-2047	1	200,000	
		FG6-6439			for UL areas
26	Delivery separation claw	FB3-3215	4	200,000	
27	Polishing roller (transfer belt assembly)	FB6-0699	1	300,000	50,000 in case of only two-sided copy.
28	Primary charging assembly	FG6-6269	4	250,000	
29	Developing assembly (C, M,Y)	FG6-6276	3	400,000	
30	Developing assembly (Bk)	FG6-6277	1	400,000	
31	Externally Heated Roller	FB6-6036	1	100,000	

No.	Parts name	Parts number	Q'ty	Life	Remarks
32	Externally Heated Cleaning Roller	FB6-6037	1	100,000	
33	Externally Heated Heater	FH7-4777	1	200,000	200V
		FH7-4778	1	200,000	230V
34	TL idler gear	FU3-0534	1	500,000	
35	Externally Heated Roller Thermistor	FM1-0273	2	200,000	
36	Externally Heated Thermal Switch	FM1-0228	1	200,000	

## Memo

The above values are estimates only and are subject to change based on future data.

The parts numbers are subject to change according to engineering revisions.

**B. By the Soft Counter in Service Mode**

As of Jul 2003

T-1-8

No.	Parts name	Parts number	Q'ty	Life	Remarks
1	Feeding roller (duplexing unit)	FF5-5743	2	100,000	Cassette Multifeeder Duplexing unit Paperdeck For each pick-up holder, the actual number of copies made(reading of software counter).
2	Pick-up roller (front; cassette 1, 2)	FB4-2033	2	250,000	
3	Pick-up roller (rear; cassette 1, 2)	FB4-2033	2	250,000	
4	Feeding roller (cassette 1,2)	FB4-2034	4	250,000	
5	Separation roller (cassette 1,2)	FB5-6586	2	250,000	
6	Pick-up roller (multifeeder)	FF5-4327	2	50,000	
7	Feeding roller (multifeeder)	FF5-4331	1	50,000	
8	Separation roller (multifeeder)	FF2-4710	1	50,000	
9	Scanning lamp	FH7-3350	1	100,000	Number of scans by original scanner

## Memo

The above values are estimates only and are subject to change based on future data.

The parts numbers are subject to change according to engineering revisions.

## 1.2.2 Consumables and Durables(Ref for heavy paper)

0003-2408

CLC5100 / CLC4000

## A. By the Copier's Hard Counter

As of Jul 2003

T-1-9

No.	Parts name	Parts number	Q'ty	Life	Remarks
1	Fixing oil	FG5-3918	2	38,000	2 LT (1 L/bottle); as a rule, by the user.
2	Starter developer (Y)	F42-5032	1	41,000	To be purchased by the user.
3	Starter developer (M)	F42-5022	1	41,000	To be purchased by the user.
4	Starter developer (C)	F42-5012	1	41,000	To be purchased by the user.
5	Starter developer (Bk)	F42-5002	1	41,000	To be purchased by the user.
6	Upper fixing roller	FB5-6459	1	47,000	
7	Lower fixing roller	FB5-6461	1	47,000	
8	Oil removing roller (transfer belt assembly)	FB3-3228	1	34,000	
9	Transfer belt cleaning belt	FB5-8704	1	34,000	
10	Transfer belt	FB5-6369	1	259,000	
11	Transfer belt cleaning blade	FF6-1597	1	68,000	
12	Upper fixing cleaning belt	FB3-9463	1	100,000	
13	Lower fixing cleaning belt	FB6-5812	1	100,000	Oil-impregnated type/ UL areas
		FB3-7088			non-UL areas
14	Oil applying blade (Fixing assembly)	FB5-6467	1	100,000	

No.	Parts name	Parts number	Q'ty	Life	Remarks
15	Oil applying roller (fixing assembly)	FG6-6427	1	100,000	
16	Oil filter (fixing assembly)	FB2-4114	1	100,000	
17	Oil applying cleaning blade (fixing assembly)	FB6-6360	1	100,000	
18	Curl removing roller (lower)	FG5-8277	1	150,000	
19	Belt guide	FB5-8705	4	259,000	
20	Pape dust removing plastic sheet	FF6-1589	1	500,000	
21	Fixing heater (upper)	FH7-4678	1	200,000	200V
22		FH7-4680	1	200,000	230V
23	Fixing heater (lower)	FH7-4679	1	200,000	200V
24		FH7-4681	1	200,000	230v
25	Oil removing blade (fixing assembly)	FB3-2047	1	200,000	
		FG6-6439			for UL areas
26	Delivery separation claw	FB3-3215	4	100,000	
27	Polishing roller (transfer belt assembly)	FB6-0699	1	259,000	50,000 in case of only two-sided copy.
28	Primary charging assembly	FG6-6269	4	218,000	
29	Developing assembly (C, M, Y)	FG6-6276	3	355,000	
30	Developing assembly (Bk)	FG6-6277	1	355,000	
31	Externally Heated Roller	FB6-6036	1	100,000	
32	Externally Heated Cleaning Roller	FB6-6037	1	100,000	

No.	Parts name	Parts number	Q'ty	Life	Remarks
33	Externally Heated Heater	FH7-4777	1	200,000	200V
		FH7-4778	1	200,000	230V
34	TL idler gear	FU3-0534	1	500,000	
35	Externally Heated Roller Thermistor	FM1-0273	2	200,000	
36	Externally Heated Thermal Switch	FM1-0228	1	200,000	

## Memo

The above values are estimates only and are subject to change based on future data.

The parts numbers are subject to change according to engineering revisions.

**B. By the Soft Counter in Service Mode**

As of Jul 2003

## T-1-10

No.	Parts name	Parts number	Q'ty	Life	Remarks
1	Feeding roller (duplexing unit)	FF5-5743	2	100,000	Cassette Multifeder Duplexing unit Paperdeck For each pick-up holder, the actual number of copies made(reading of software counter).
2	Pick-up roller (multifeeder)	FF5-4327	2	50,000	
3	Feeding roller (multifeeder)	FF5-4331	1	50,000	
4	Separation roller (multifeeder)	FF2-4710	1	50,000	
5	Scanning lamp	FH7-3350	1	100,000	Number of scans by original scanner

## Memo

The above values are estimates only and are subject to change based on future data.

The parts numbers are subject to change according to engineering revisions.



## 1.3 Scheduled Servicing Basic Procedure

### 1.3.1 Scheduled Servicing Procedure

0002-1294

CLC5100 / CLC4000



- 1.As a rule, provide scheduled servicing every 50,000 copies.
- 2.Before setting out for a visit, check the service record, and take parts expected for replacement.

T-1-11

Step.	Work	Checks	Remarks
1	Meet the person in charge.	Check the general condition.	
2	Record the counter reading.	Check the faulty copies.	
3	Make test copies in Direct, Reduce, and Enlarge.	a. Image density b. Soiling of white background c. Character clarity d. Leading edge margin e. Left/right margin f. Fixing/registration error; soiled back g. Abnormal noise h. Counter operation	Standard: $2.5 \pm 1.5$ mm (Direct) Standard: $2.0 \pm 1.0$ mm (Direct)
4	Provide scheduled servicing (Scheduled servicing chart) according to the number of copies made.		


Step.	Work	Checks	Remarks
5	Check the waste toner, transfer cleaner waste toner and fixing oil.		Exercise care when sliding out the waste toner box. Excess impact can cause the toner to fly astray inside the machine. If toner flew astray, check the holding tray, pre-holding tray feeding assembly, and pre-fix-ing assembly feeding assembly for soiling.
6	Clean soiled areas inside the machine.		
7	Make sample copies.		
8	Execute automatic gradation correction control in user mode.		
9	Make sample copies.		
10	Arrange the sample copies, and clean up the area around the machine.		
11	Record the latest counter reading.		
12	Fill out the Service Sheet, and report to the person in charge.		

The above values are estimates only and are subject to change based on future data.

## 1.3.2 Scheduled Maintenance Chart

0002-1295

CLC5100 / CLC4000

 Do not use solvents or oils other than those indicated.

C:Clean R:Replace L:Lubricate A:Adjust

T-1-12

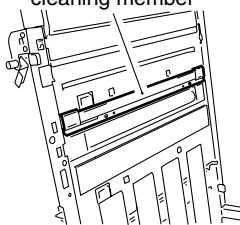
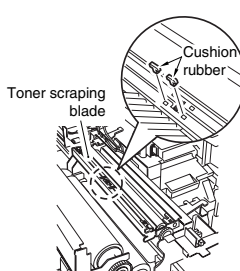
Part	Maintenance					Remarks
	every 50,000	every 80,000	every 100,000	every 150,000	others	
External control						
Copyboard glass	C					
Copyboard sheet	C					
Ozone filter			R			Or 1 yr.
Dust-proofing filter			R			Or 1 yr.
Toner filter			R			Or 1 yr.
Pre-fixing duct filter	R					Or 1 yr.
Scanner system						
Scanner rail					C/L	When replacing the lamp.
Original exposure system						
Dust-proofing glass					C	When replacing the drum.
Scanner mirror (Nos. 1 through 3)					C	When replacing the lamp.
Reflecting shade					C	When replacing the lamp.
Standard white plate					C	When replacing the lamp.
Charging system						
Primary/pre-primary charging wire, grid system	R					Ref for heavy paper: every 44,000

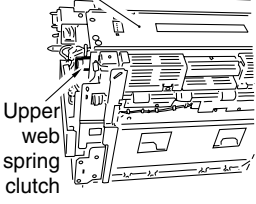
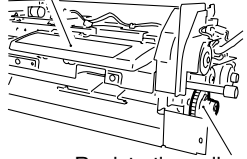
Part	Maintenance					Remarks
	every 50,000	every 80,000	every 100,000	every 150,000	others	
Primary charging wire cleaning pad (upper/lower)	R					Ref for heavy paper: every 44,000
Primary, pre-charging assembly	C				R	every 2,500,000 Ref for heavy paper: every 44,000
Separation, pre-fixing charging assembly			R			Ref for heavy paper: every 88,000
Separation/Pre-fixing charging wire cleaning pad			R			Ref for heavy paper: every 88,000
Separation/Pre-fixing charging gut wire			R			Ref for heavy paper: every 88,000
Separation/Pre-fixing charging assembly			C			
Photosensitive drum cleaner						
Scoop-up sheet		R				When replacing the clean-ing blade Ref for heavy paper: every 71,000 CLC4000:every 76,000
No. 2 scoop-up sheet (SALT sensor)		R				When replacing the clean-ing blade Ref for heavy paper: every 71,000 CLC4000:every 76,000
Cleaner side seal		R				When replacing the clean-ing blade Ref for heavy paper: every 71,000 CLC4000:every 76,000

Part	Maintenance					Remarks
	every 50,000	every 80,000	every 100,000	every 150,000	others	
Cleaner end seal		R				When replacing the clean-ing blade Ref for heavy paper: every 71,000 CLC4000:every 76,000
Cleaning blade		R				Ref for heavy paper: every 71,000 CLC4000:every 76,000

T-1-13

Part	Maintenance				Remarks
	every 50,000	every 100,000	every 150,000	others	
Developing system					
Developing assembly upper cover(*1)				C	When replacing the cleaner blade or the drum.
Developing assembly lower cover (*2)				C	
Transfer system					
Transfer blade	C	R			Ref for heavy paper: every 40,000 clean every 80,000 replace
Transfer belt drive roller			C		When replacing the transfer belt.
Transfer belt sub roller			C		
Transfer belt swing roller			C		
Internal stack removing roller			C		When replacing the transfer belt.

Part	Maintenance				Remarks
	every 50,000	every 100,000	every 150,000	others	
Transfer web board		R			Ref for heavy paper:every 80,000 Belt back surface cleaning member 
Polishing roller backup		R			
Fixing assembly					
Inlet guide plate	C				
Delivery separation claw	C				
Thermistor upper				C	When replacing the upper/ lower fixing roller.
Thermistor lower				C	When replacing the upper/ lower fixing roller.
Externally Heated Roller thermistor (main)				C	When replacing the Externally Heated Roller
Externally Heated Roller thermistor (sub)				C	When replacing the Externally Heated Roller
Oil applying blade	C	R			
Toner scraping blade	C	R			Caution: Remove the cushion rubber piece (*3) indicated in the drawing whenever you are removing the toner scraping blade. 

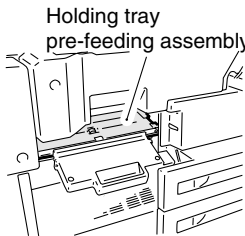
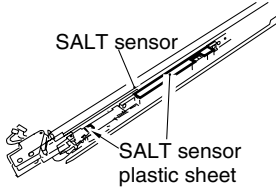
Part	Maintenance				Remarks
	every 50,000	every 100,000	every 150,000	others	
Oil removing blade				C	When replacing the lower fixing roller.
Upper cleaning belt spring clutch		L		Fixing assembly  Upper web spring clutch	
Fixing Ass'y coupling		L			
Pick-up/feeding system					
Pick-up roller	C				
Feeding roller	C				
Separation roller	C				
Pre-fixing feeding (top face/belt)	C				
Transfer separation guide	C				
Registration roller releasing spring clutch				L	Every 500,000 copies. Multifeder assembly  Registration roller replacing spring clutch

(\*1)For details on cleaning instructions, see "Cleaning the Developing Assembly Upper Cover".

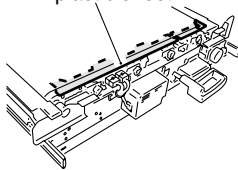
(\*2)For details on cleaning instructions, see "Cleaning the Developing Assembly Bottom Cover and the Bearing".

(\*3)Cushion rubber is used as the member which prevent the fixing roller from hurting when the copier is transported.

## T-1-14

Location	Maintenance				Remarks
	every 50,000	every 100,000	every 150,000	others	
Others					
Waste toner box	C				Collect waste toner
SALT sensor/shutter*				C	At time of replacing drum/ developer
SALT sensor lower plastic sheet*				C	At time of replacing drum/ developer
Auto gradation correction				A	At time of replacing drum/ developer
Image position correction CCD unit (shutter assembly/ LED assembly)*	C				
Developing assembly lower plastic sheet				C	At time of replacing drum
Pre-holding tray feeding assembly	C				Collect waste toner  
Duplexing unit (inside)	C				
SALT sensor plastic sheet*		C			



Location	Maintenance				Remarks
	every 50,000	every 100,000	every 150,000	others	
Transfer unit cover/ transfer belt plastic sheet (front)	C				Transfer belt plastic sheet 
Transfer cleaner waste toner box	C				Collect waste toner

(\*):For details on cleaning, instructions, see "How to Clean the SALT Sensor/How to Disassemble and Clean the SALT Sensor Unit".

## 1.4 Cleaning

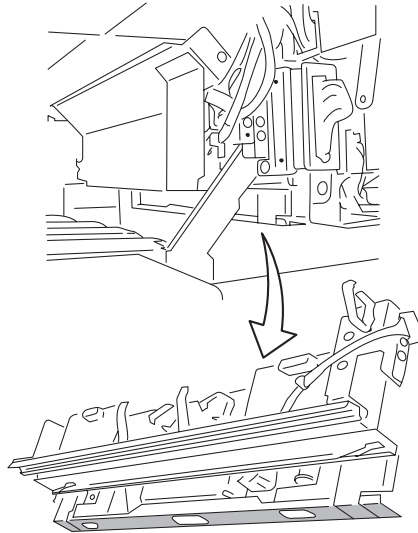
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### 1.4.1 Cleaning the Shutter

0001-9643

CLC5100 / CLC4000

- 1) Dry wipe the area shown using lint-free paper.



F-1-4

**⚠** Take care not to peel the end of the plastic sheet shown in the figure.

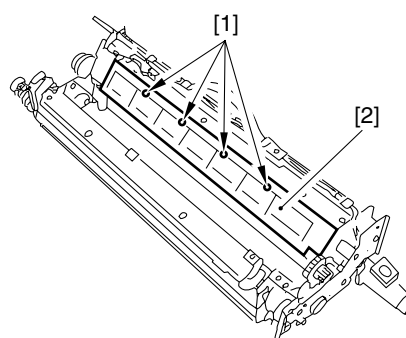
## 1.4.2 Cleaning the Developing Assembly Upper Cover

0001-9107

CLC5100 / CLC4000

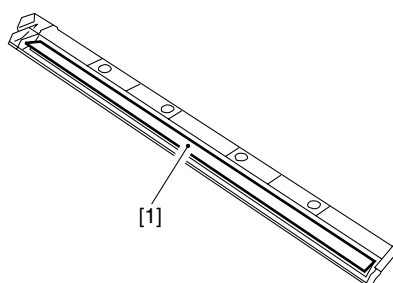
You may clean the developing assembly upper cover if the copies have blots of toner or when replacing the photosensitive drum.

- 1) Slide out the process unit from the copier.
- 2) Remove the developing assembly.
- 3) Remove the four fixing screws [1], and remove the developing assembly upper cover [2].



F-1-5

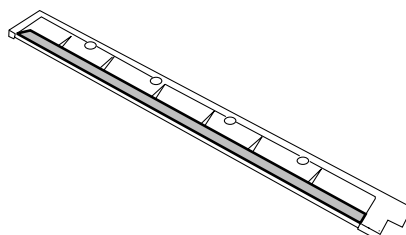
- 4) Turn over the developing assembly upper cover, and remove the toner collecting on the plastic film [1] with a blower brush or lint-free paper.



F-1-6

**⚠** Take care not to deform the plastic film.

- 5) Thereafter, clean the surface (shaded) of the developing assembly upper cover with alcohol.



F-1-7

⚠ Using alcohol will eliminate static charges. Be sure to perform this step to protect the potential sensor from adverse effects. Be sure not to touch the surface of the cover after cleaning.

6) Holding the developing assembly upper cover on its edges, install the developing assembly.

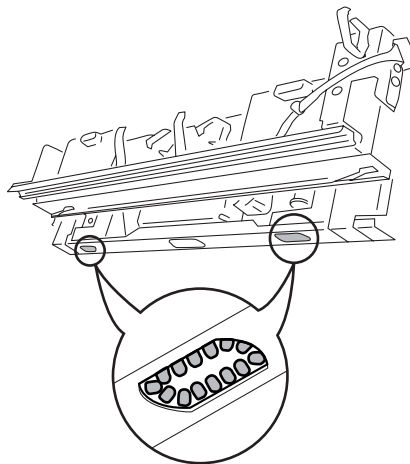
### 1.4.3 Cleaning the LED

0001-9645

CLC5100 / CLC4000

1) Move the shutter where the LED is visible.

2) Dry wipe the LED with lint-free paper.



F-1-8

3) Move the shutter to the rear.

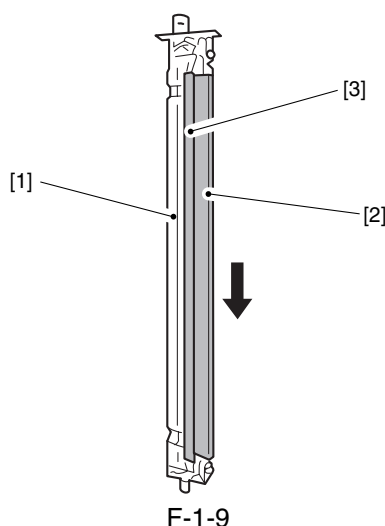
⚠ Try not to apply excessive force when dry wiping the LED.

## 1.4.4 Cleaning the Transfer Blade

0002-2905

CLC5100 / CLC4000

- 1) After removing the transfer blade as in step 5), stand the transfer blade assembly [1] on its end as shown in the following figure; then, wipe the blade [2] and the plastic film [3] with lintfree paper with bottom-to-top motions or clean it with a blower brush.



F-1-9

## 1.4.5 Cleaning the Grounding Roller

0002-2907

CLC5100 / CLC4000

- 1) Remove the three screws, and remove the grounding roller unit.
- 2) Clean the toner off the surface of the roller with lint-free paper.

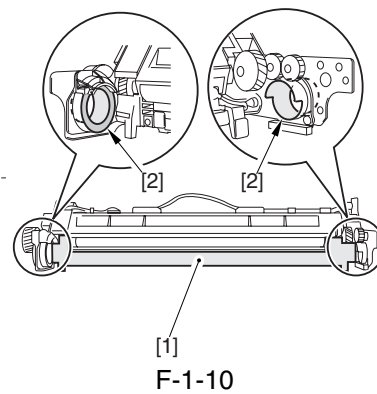
## 1.4.6 Cleaning the Developing Assembly Bottom Cover and the Bearing

0002-1929

CLC5100 / CLC4000

If you replaced the photosensitive drum or the cleaning blade, be sure to clean the developing assembly bottom cover and the bearing as follows:

- 1) Slide out the process unit from the copier.
- 2) Remove the developing assembly.
- 3) Remove the toner found in the area of the developing assembly bottom cover [1] indicated in the figure using a blower brush or lint-free paper.
- 4) If toner is found sticking to the developing assembly front side plate or the bearing [2] of the rear side plate, dry wipe it using lint-free paper.



### 1.4.7 How to Clean the SALT Sensor

0002-8832

CLC5100 / CLC4000

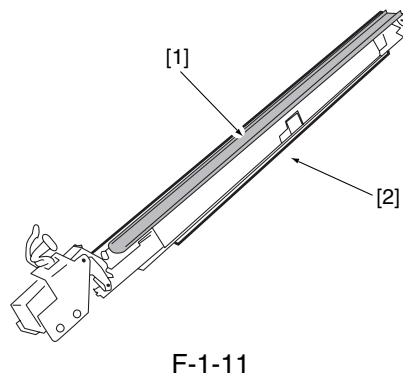
1) Take off toner accumulated on the second scoop-up sheet [1] to a piece of paper.

⚠ Exercise caution not to hit the positioning pin located at the rear of the SALT sensor unit because it might be deformed when being hit.

2) Clean the second scoop-up sheet with dry lint-free paper or a blower brush.

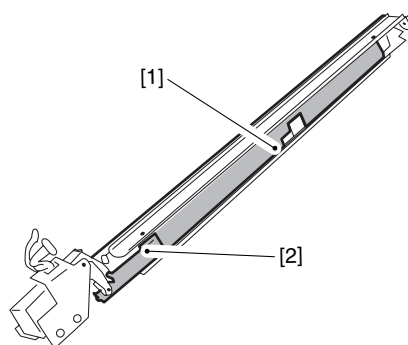
⚠ Exercise caution not to deform the second scoop-up sheet.

3) Wipe out toner adhered on the lower mylar [2] with dry lint-free paper.



4) Wipe out toner adhered on the surface of the sensor cover [3] and visible portion of the shutter [4] with a blower brush.

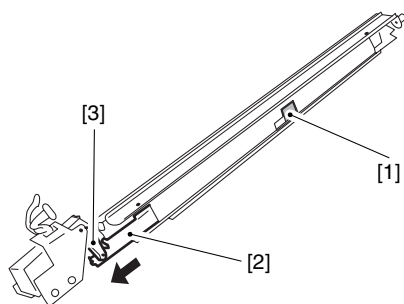
⚠ Exercise caution not to deform the shutter, which is fragile.



F-1-12

5) Pull out the solenoid arm [5] with your fingers, open the shutter, and clean the sensor surface [6] with a blower brush.

**⚠** Do not wipe the sensor surface too strong. Wipe out toner as raking it.



F-1-13

6) Restore the solenoid arm in place with your fingers, and close the shutter.

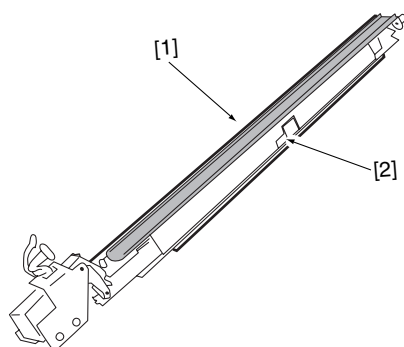
7) After mounting the SALT sensor, execute the Service Mode `FUNC>INSTALL>WINCLR-Y/M/C/K` (corresponding color).

### 1.4.8 How to Disassemble and Clean the SALT Sensor Unit

0002-8834

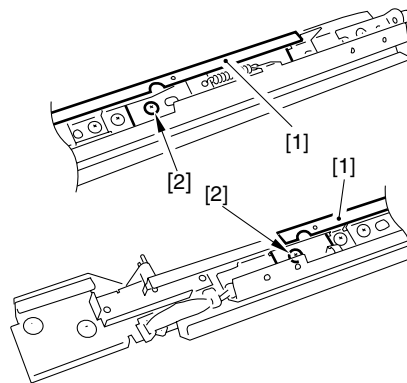
CLC5100 / CLC4000

1) Remove the second scoop-up sheet [1] (two mounting screws) and the lower mylar [2] (two mounting screws) respectively.



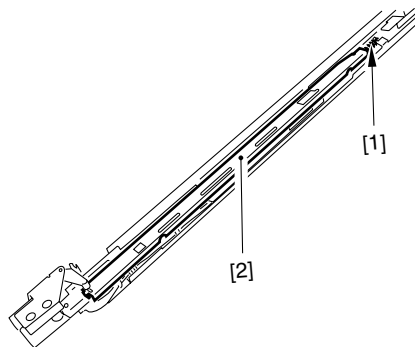
F-1-14

2) Remove the shutter cover [1] (two mounting screws [2]). Clean the shutter cover with lint-free paper.



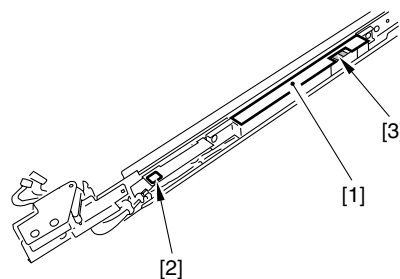
F-1-15

3) Remove the spring [1], and then remove the shutter [2]. Clean the shutter with lint-free paper.



F-1-16

4) Clean the mylar [1] inside the SALT sensor and the shutter contact material [2] with lint-free paper impregnated with alcohol. Clean the SALT sensor surface [3] with dry lint-free paper.



F-1-17

5) Assemble all the parts in the opposite order of disassembling. After assembling, verify that the shutter moves smoothly.



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# Chapter 2 Standards and Adjustments

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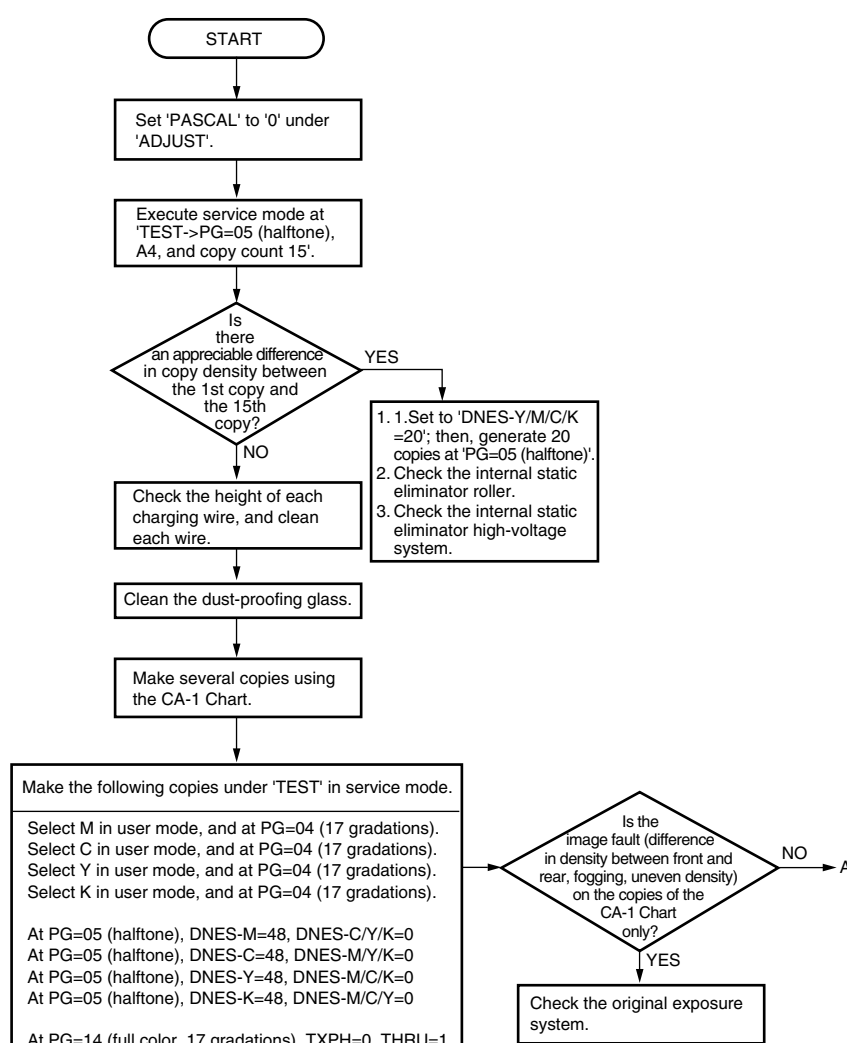
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## 2.1 Image Adjustment Basic Procedure

### 2.1.1 Image Adjustment Basic Procedure

0005-6444

CLC5100 / CLC4000

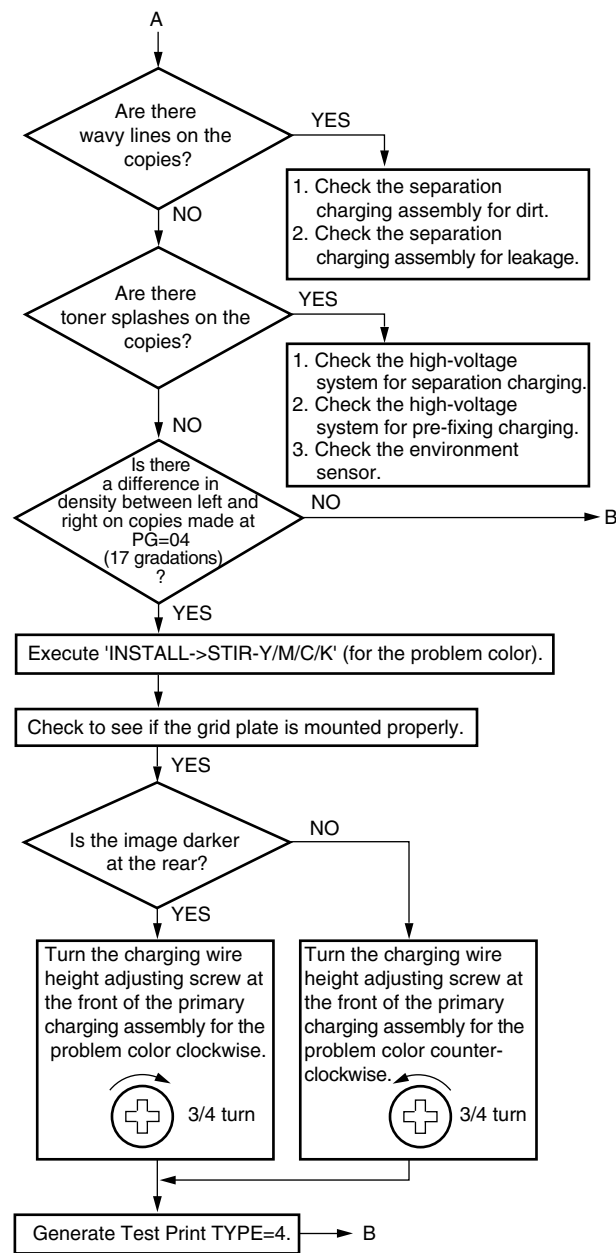


F-2-1

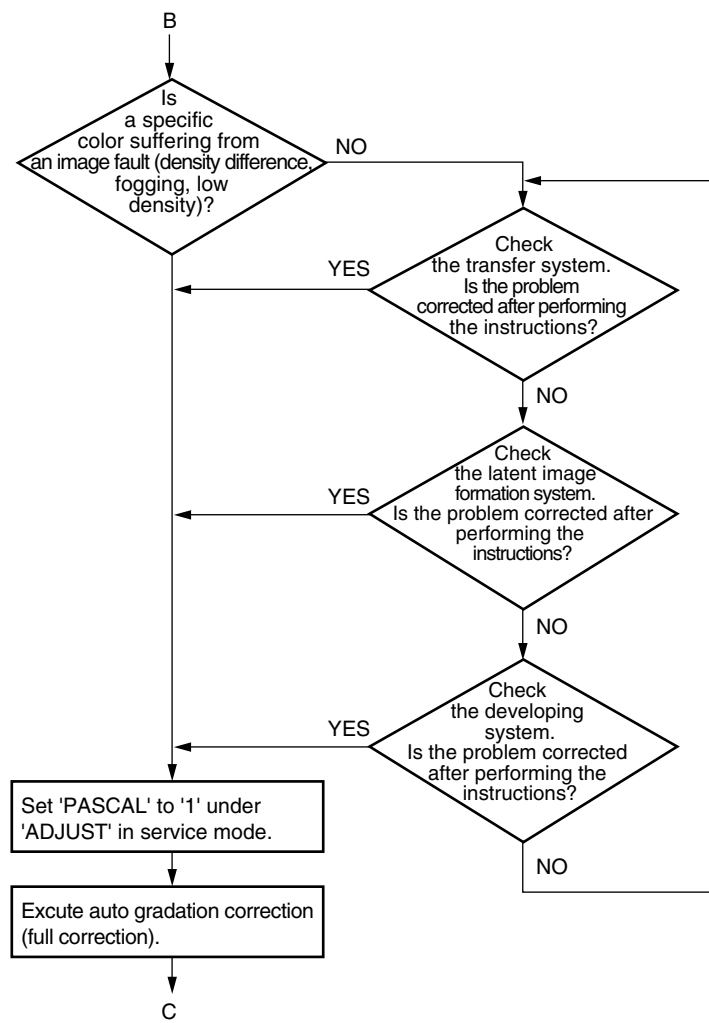
#### Checking the Original Exposure System

- 1) Check the mounting position of the copyboard glass, standard white plate, scanning lamp reflecting shade, and No. 1/2/3 mirror. If dirt is found, clean the part.
- 2) Check to see if the No. 1 mirror mount or the No. 2 mirror mount should have ridden over the rail.
- 3) Check to see if the values in service mode are as indicated on the service label.

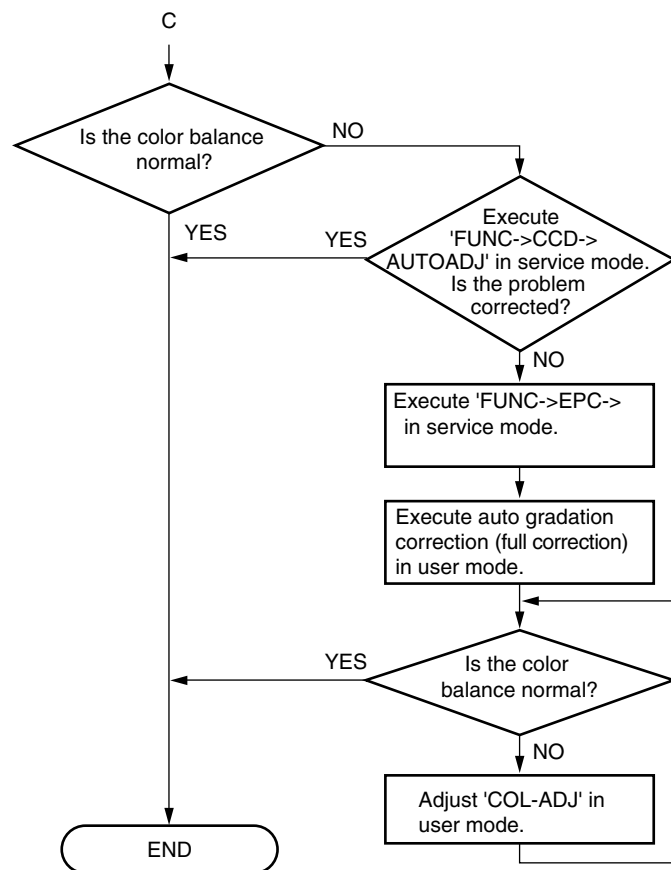
If there is no problem after the above checks and cleaning, execute 'FUNC->CCD->AUTOADJ' in service mode.



F-2-2



F-2-3



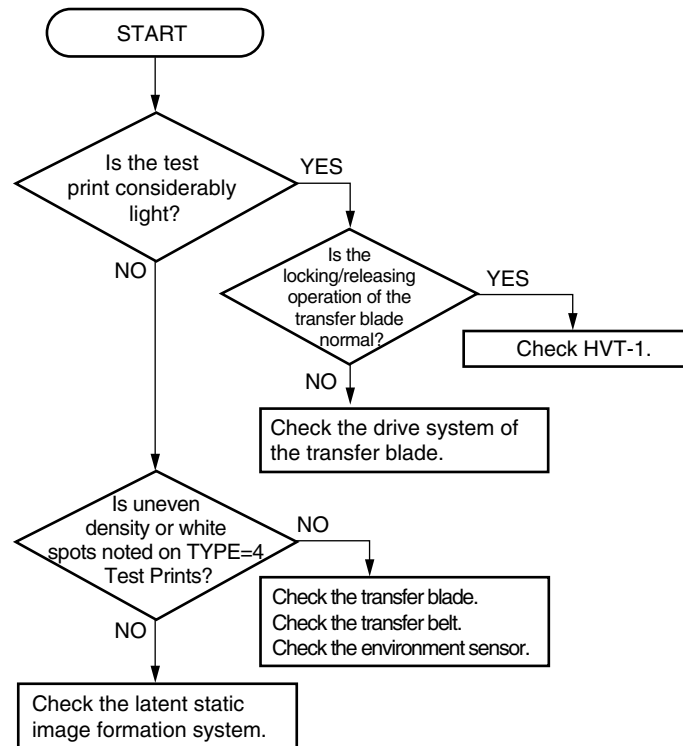
F-2-4



## 2.1.2 Checking the Transfer System

0005-6453

CLC5100 / CLC4000

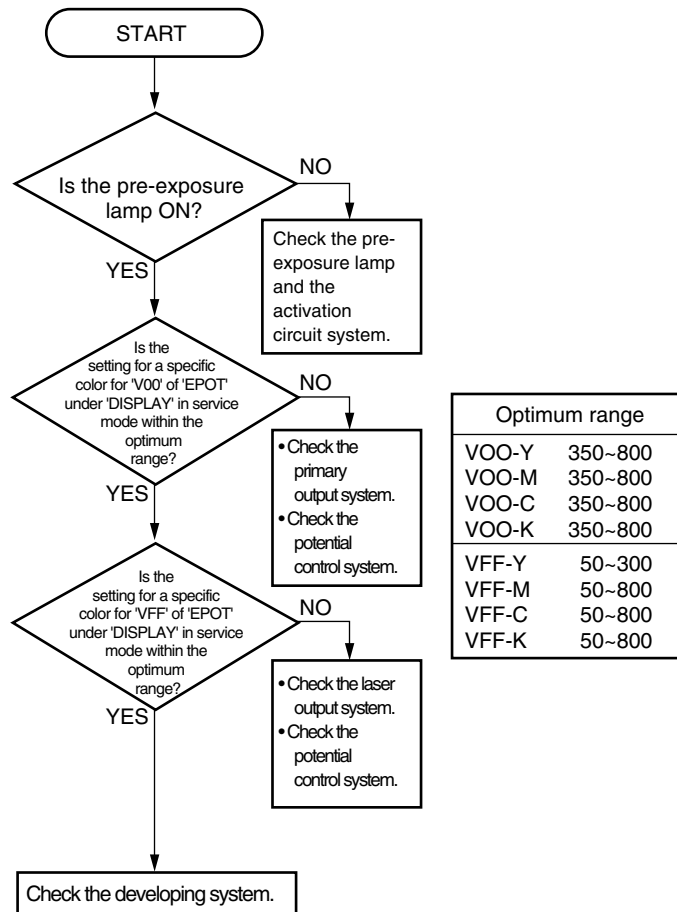


F-2-5

## 2.1.3 Checking the Latent Static Image Formation System

0005-6454

CLC5100 / CLC4000

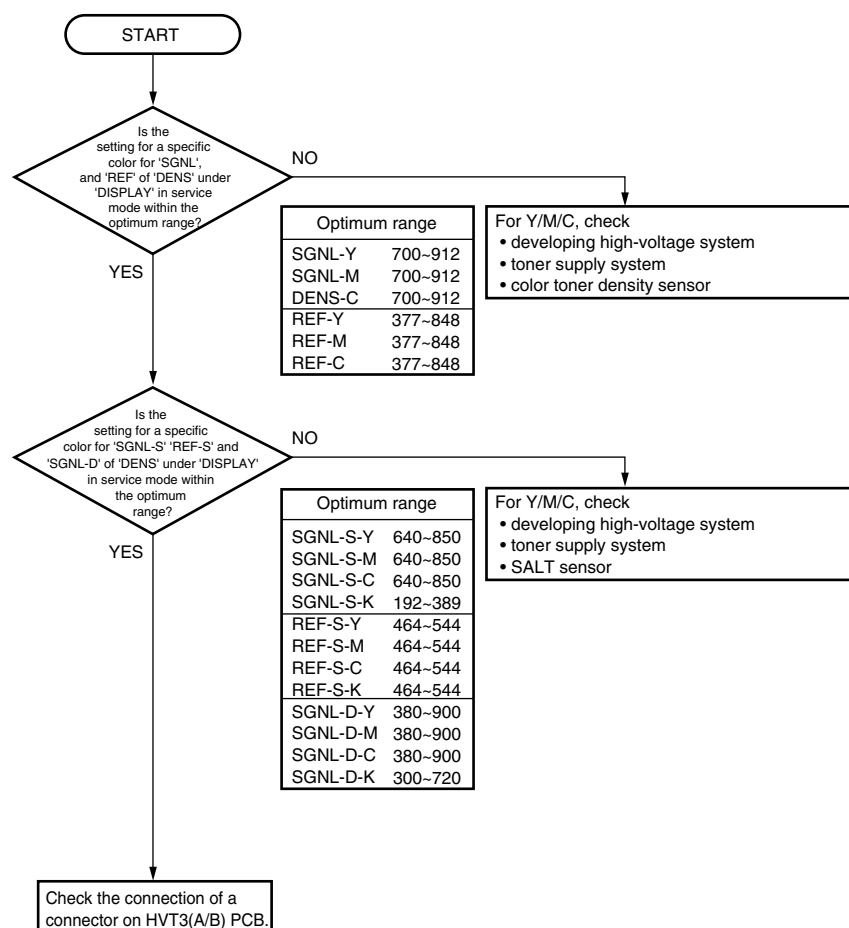


F-2-6

## 2.1.4 Checking the Developing System

0005-6455

CLC5100 / CLC4000



F-2-7

# 2.2 Image Adjustments

## 2.2.1 Non-Image Width 0002-5263

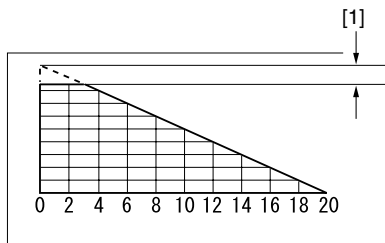
CLC5100 / CLC4000

The non-image width on copies made in Direct with original detection OFF must be as follows:

Leading edge:  $2.5 \pm 1.5$  mm ( $2.5 \pm 2.0$  mm)

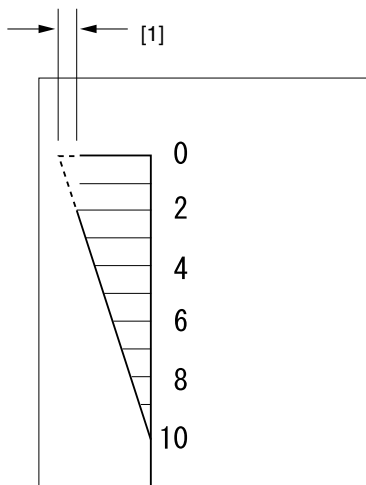
Left/right:  $2.0 \pm 1.5$  mm ( $2.0 \pm 1.5$  mm)

The value in parentheses refers to the second side of a two-sided copy.



F-2-8

[1]: $2.5 \pm 1.5$ mm



F-2-9

[1]: $2.0 \pm 1.5$ mm

## 2.2.2 Image Margin

0002-5267

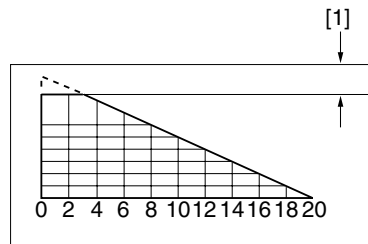
CLC5100 / CLC4000

The image margin on copies made in Direct with original detection OFF must be as follows:

Leading edge [1]:  $2.5 \pm 1.5$  mm ( $2.5 \pm 2.0$  mm)

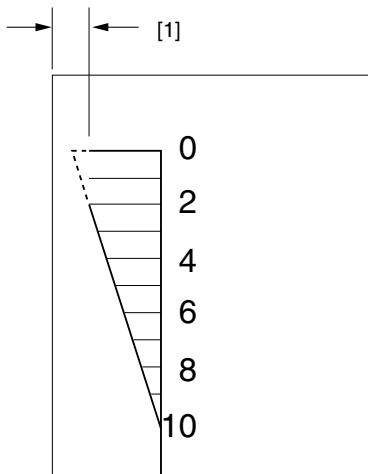
Left/right [2]:  $2.0 \pm 1.5$  mm ( $2.0 \pm 1.5$  mm)

The value in parentheses refers to the second side of a two-sided copy.



F-2-10

[1]: $2.5 \pm 1.5$ mm



F-2-11

[1]: $2.0 \pm 1.5$ mm

## 2.2.3 Checking and Adjusting the Non-Image Width and Margin

0002-5269

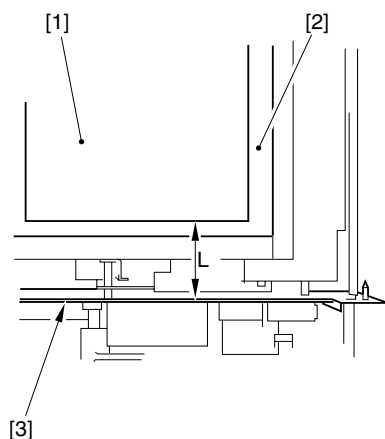
CLC5100 / CLC4000

Make adjustments in the following order:

- Left-right registration
- Image margin
- Image reading start position (ADJ-XY)
- Image margin (check)

a. Adjusting the Left/Right Registration

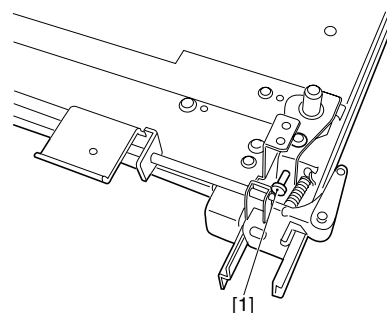
- 1) Make 10 copies each using all cassettes, multifeeder, duplexing unit, and paper deck, and check the left/right margin.
- 2) If the margin is not as indicated, perform the following:
  - Standard Registration
- 3) Select 'FUNC > ATTRACT'.
- 4) Using 'ATT-SLCT', select the pick-up assembly which is outside the specification.
- 5) Press 'ATT-ON'. (Paper will be picked up automatically and stopped retained on the transfer belt.)
- 6) Make adjustments so that the distance L between the front edge of paper [1] and the front side plate [3] of the transfer unit [2] is  $74.7 \pm 0.5$  mm (reference). (In the case of LTR,  $83.7 \pm 0.5$  mm.)



F-2-12

- Using the Cassette as the source of Paper

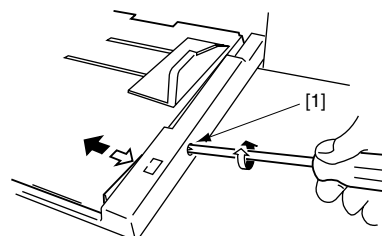
- 1) Slide out the cassette from the machine.
  - 2) Remove the cassette front cover.
  - 3) Turn the adjusting screw [1] to adjust the position of the horizontal registration plate.
- To increase the registration at the front, turn the adjusting screw to the left.
  - To increase the registration at the rear, turn the adjusting screw to the right.
- 4) After the adjustment, be sure to execute 'paper width basic value registration'.



F-2-13

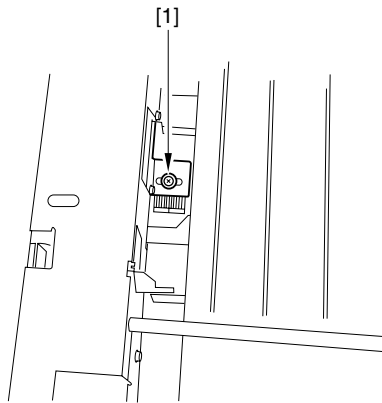
- Using the Multifeeder as the source of Paper

Turn the screw [1] to move the tray position so that the standard value is attained.



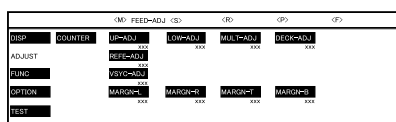
F-2-14

- Using the Two-Sided Copies as the source of Paper Loosen the screw [1], and adjust the position of the paper guide plate so that the standard value is attained.



F-2-15

#### b. Adjusting the Image Margin



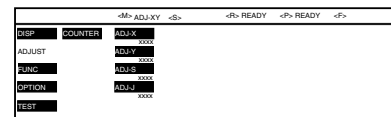
F-2-16

- 1) Start service mode, and select 'ADJUST > FEED-ADJ'.
- 2) While the 'FEED-ADJ' screen is on, press the Start key.
- 3) If the image margin is not as indicated, adjust the image writing start position in the main scanning direction using 'UPADJ', 'LOW-ADJ', 'MULT-ADJ', 'DECK-ADJ', and 'REFE-ADJ' and using 'VSYC-ADJ' in the sub scanning direction. Then, adjust the non-image width using 'MARGIN-L, -R, -T, -B'.  
(For details, see. "SERVICE MODE.")

## 2.2.4 Adjusting the Image Reading Start Position (ADJ-XY)

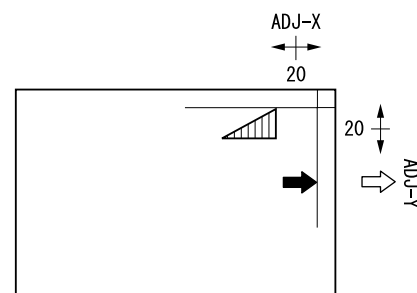
0002-3604

CLC5100 / CLC4000



F-2-17

- 1) Start service mode, and select 'ADJUST > ADJ-XY'.
- 2) While the 'ADJ-XY' screen is on, press the Start key.  
- The appropriate copying mode will be set automatically, and a copy is made with a shift of about 20 mm as shown in the Figure.
- 3) If a portion of the image is missing, decrease the setting of 'ADJ-X' and 'ADJ-Y'.
- 4) If an area outside the image area is copied, increase the setting of 'ADJ-X' and 'ADJ-Y'.
- 5) Press the Start key once again, and check the output.
- 6) Press the Reset key.



F-2-18

## 2.2.5 Adjusting the Pick-Up Timing (paper deck) 0002-3613

CLC5100 / CLC4000

If a discrepancy is found in the image leading edge margin on 'LTR' copies made using the paper deck, correct the problem by performing the following steps:

- 1) Place three or more sheets of 'LTR' paper in the paper deck.
- 2) Start service mode, and select 'FUNC>P-UP-TMG'.
- 3) Execute 'PK-ADJ-D'.  
-The machine picks up a single sheet of paper.
- 4) Execute 'AK-ADJ-D' for a total of three times to pick up three sheets of paper.
- 5) When pick-up has ended, press 'DSEND-D'.

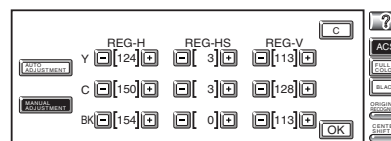
## 2.2.6 Image Positioning Correction 0002-5726

CLC5100 / CLC4000

In case image position shifts in every color as well as the image positioning correction (Service Mode 'FUNC>IMG-REG>AUTO-ADJ') did not provide any effects on the image shift problem, follow the below procedures for adjustments.

- 1) Select the service mode 'TEST>PG>TYPE'. Set to "6 (lattice pattern)" and press the start button. (A test print will be printed out.)
- 2) Select the service mode 'OPTION>P-OPT>REG-DISP'. Set to "1" and then press the OK key.
- 3) Press the reset key twice to exit from the service mode.
- 4) Press the user mode key to enter the user mode.

- 5) Select "Image Positioning Correction." (The display indicates as below.)



F-2-19

- 6) Select "Manual Correction" key.
- 7) On the test print already made, on the basis of magenta color, measure how mm other three colors are shifting from the magenta.
- 8) In terms of any shifts in main scanning direction, make an adjustment by changing values of REG-H (rough adjustment) / REG-HS (fine adjustment).  
REG-H: In case the numerical value is increased by "+16," the position will shift to the rear side by 1 mm.  
REG-HS: In case the numerical value is increased by "+32," the position will shift to the rear side by 0.5mm.
- 9) In terms of any shifts in sub-scanning direction, make an adjustment by changing the REG-V value.  
REG-V: In case the numerical value is increased by "+16," the position will shift to the trailing edge by 1mm.
- 10) Select "Auto Correction" key.
- 11) Press the OK button to exit from the user mode.
- 12) On the lattice-patterned test print, check if the image is normal.  
- In case the image position is not good, re-adjust the image.  
- In case the image position is good, go to the next step.
- 13) Select the service mode 'OPTION>P-OPT>REG-DISP'. Set to "0" and press the OK key.
- 14) Press the reset key twice to exit from the service mode.

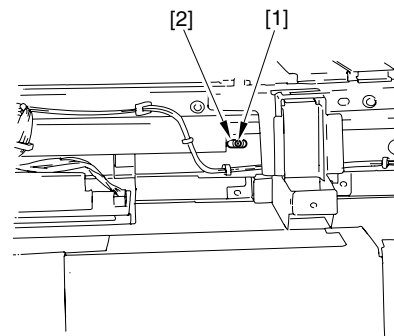
## 2.3 Scanning System

### 2.3.1 When Replacing the Scanning Lamp, Standard White Plate, Lamp Regulator, Reflecting Lamp Cover, Reader Controller PCB, Flash memory on Reader controller PCB, or Analog Processor PCB CCD Unit

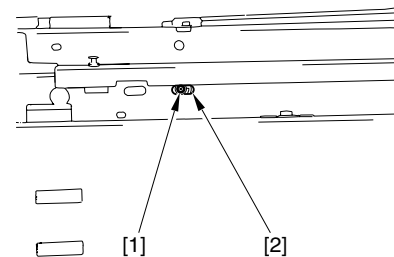
0002-5743

CLC5100 / CLC4000

- 1) Execute data reading using 'CCD' under 'FUNC' in service mode.



F-2-20



F-2-21

### 2.3.2 Routing the Scanner Cable

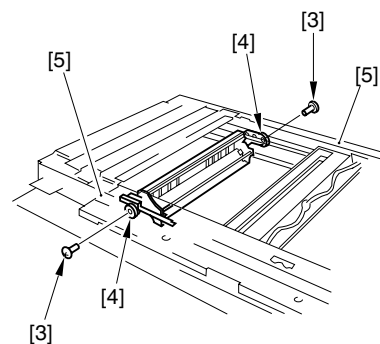
0002-6049

CLC5100 / CLC4000

- You must keep the mirror positioning tool (FY9-3040-000) near at hand before routing the scanner cable.

- 1) Remove the left cover and the hopper left cover.
- 2) Remove the control panel.
- 3) Remove the vertical size plate and the right glass retainer right, and remove the copyboard glass.
- 4) Move the No. 2 mirror mount until the pulley shaft [1] of the No. 2 mirror mount is visible through the long hole [2] in the side plate.

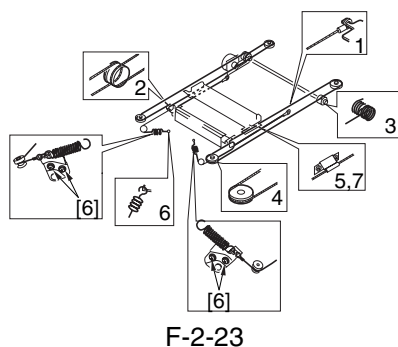
- 5) Fit a binding screw (M4 × 8mm) [3] to the pulley shaft [4] to fix the front and rear of the pulley temporarily to the side plate [5], thereby temporarily fixing the No. 2 mirror mount in place.



F-2-22



- 6) Fit the scanner cable on the pulley and the hook as indicated in the Figure.

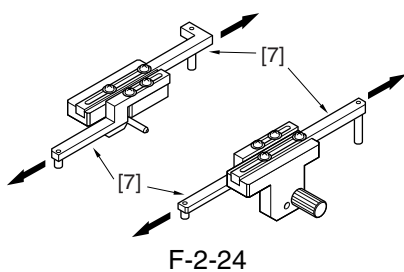


F-2-23



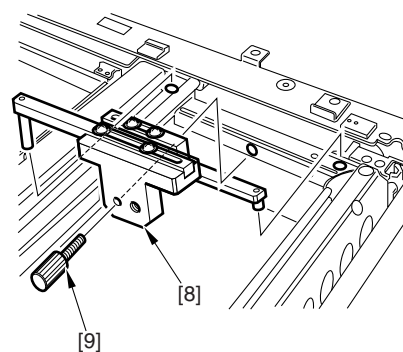
- Take care not to damage the wire by the edge of the metal plate.
- Be sure to keep the four screws [6] loose during the work.

- 7) Remove the screw [3] used in step 5.
- 8) Loosen the screw on the mirror positioning tool (FY9-3040-000), and extend the arm [7] fully.

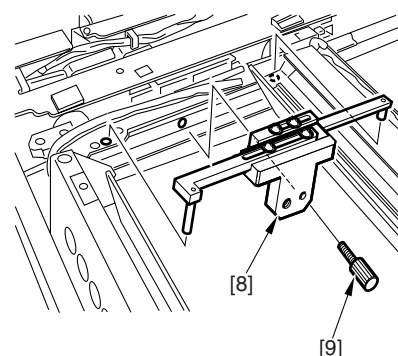


F-2-24

- 9) Set the mirror positioning tool [8] between the No. 1 mirror mount and the No. 2 mirror mount; then, insert the pin [9] that comes with the mirror positioning tool.

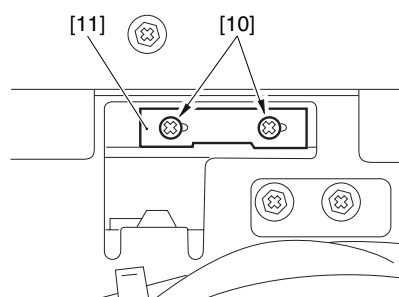


F-2-25

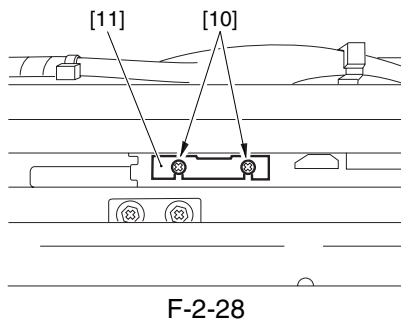


F-2-26

- 10) Using two screws [10], fit the metal fixing [10] of the scanner cable to the No. 1 mirror mount through the angular hole in the side plate.



F-2-27



- 11) Remove the mirror positioning tool.
- 12) Fully tighten the four screws [6] loosened in step 6.

### Reference

You need not adjust the cable tension.



1. Check to make sure that the scanner cable is not twisted or has not ridden over the pulley.
2. Move the No. 1 mirror mount and the No. 2 mirror mount by hand to make sure that they move smoothly; at this time, take care not to touch the reflecting plate.

## 2.4 Laser Exposure System

### 2.4.1 When Replacing the Laser Unit

0002-0242

CLC5100 / CLC4000

- 1) Perform laser focus adjustment.
- 2) Perform laser power adjustment.
- 3) Perform laser intensity adjustment.

### 2.4.2 When Replacing the Video Controller PCB

0002-0245

CLC5100 / CLC4000

Nothing in particular.

### 2.4.3 When Replacing the BD Unit

0002-0247

CLC5100 / CLC4000

⚠ Before removing the BD unit, be sure to mark its position with a scribe.

- 1) Using 'FUNC>INSTALL', set 'IMG-REG' to '0'.
- 2) Turn off the power switch, and replace the BD unit.
- 3) After replacement, execute 'FUNC>INSTALL>REG-APER' in service mode. (If a BD error 'E100' occurs, check the position of the unit, and execute 'REG-APER' once again.)
- 4) Execute 'FUNC>IMG-REG>AUTO-ADJ' in service mode.
- 5) Using 'FUNC>INSTALL' in service mode, set 'IMG-REG' to '1'.

### 2.4.4 Adjusting the Laser Power

0002-5854

CLC5100 / CLC4000

You must always adjust the laser power whenever you have replaced the laser unit.

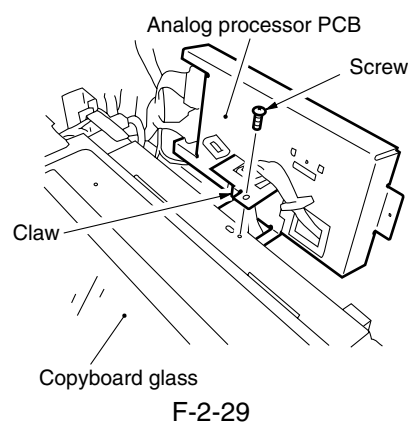
#### a. Required Tools

Laser Power Checker (FY9-4013)

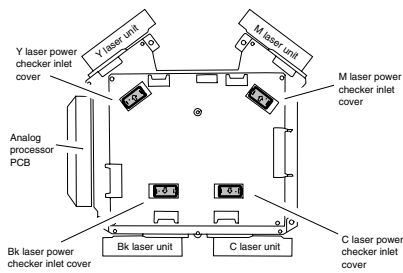
Digital Multimeter (CK-0436)

⚠ The output of the Laser Power Checker may change over time; have it calibrated once a year at the service station using a special calibration tool.

- 1) If you have replaced the laser unit for C/Bk, position the analog processor PCB as indicated in the following figure.

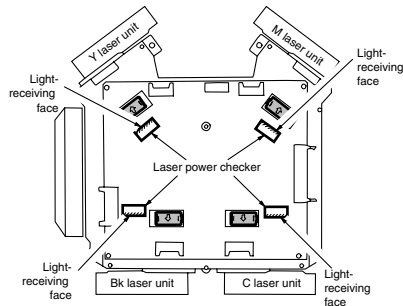


- 2) Turn on the power switch.
- 3) Open the laser power checker inlet cover.



F-2-30

- 4) Set the laser power checker switch to '2'.
- 5) Insert the laser power checker with its light-receiving face oriented as indicated in the figure below.



F-2-31

- 6) Insert the lead wire of the laser power checker into the Digital Multimeter, and set it to the 200 mV range.
- 7) Start service mode, and execute 'POWER' and '1/2 POWER' of '6 LASER' under 'FUNC'.
- 8) The nominal laser power adjustment values are: 'POWER: 85.0±0.8mV, 1/2 POWER: 45.0±0.4mV'. After replacing the laser unit in the field, the allowable ranges for the adjusted values must be extended to tolerate the variations below:
  - 1) ±3.4% for adjustment variations at the factory
  - 2) ±7.4% for variations resulting from the ambient temperature fluctuations at the time of adjustment and variations among individual power checkers used in the field.

Accordingly, after replacing the laser unit in the field,

verify that the adjusted laser power is within the ranges below.

'POWER: 85.0±9.39mV, 1/2 POWER: 45.0±4.97mV'

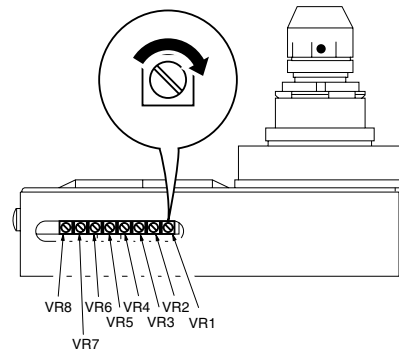
If laser power is within the ranges, no further adjustment is necessary.

If laser power is out of the range, follow the procedure below to adjust and contain it within the ranges.

If the value is different, make adjustments described below to set the indicated value.

### Making Adjustments

- 1) Turn the volumes VR1 through VR8 on the laser unit fully clockwise.



F-2-32

### Y/Bk Laser Unit

VR1:1/2 POWER

VR2:POWER

VR3:800-P00

VR4:800-PFF

VR5:400-P00

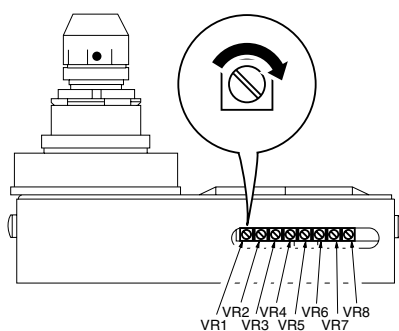
VR6:400-PFF

VR7:200-P00

266-P00

VR8:200-PFF

266-PFF



F-2-33

## C/M Laser Unitm

- 2) Start service mode, and execute '1/2 POWER' of 'LASER' under 'FUNC'.
- 3) Turn VR1 counterclockwise so that the reading of the Digital Multimeter is '20.0 ±0.2 mV'. (Take care not to turn too fast; the reading will increase abruptly at a certain point.)
- 4) Press the Stop key to stop the laser output.
- 5) Execute 'POWER' of '6 LASER' under 'FUNC'.
- 6) Turn VR2 counterclockwise so that the reading of the Digital Multimeter is '44.8 ±0.4 mV'. (Take care not to turn too fast; the reading will increase abruptly at a certain point.)
- 7) Take notes of the reading of 'POWER' after adjustment.
- 8) Press the Stop key to stop the laser output.
- 9) Perform laser intensity adjustment.



When turning the VR, turn it slowly while referring to the reading of the Digital Multimeter; do not increase the power excessively.

Turning the VR clockwise decreases the laser output. Do not exceed the setting recorded on the label; otherwise, the laser di-ode may become damaged.

## 2.4.5 Adjusting the Laser

## Intensity

0002-5885

CLC5100 / CLC4000

**⚠** Be sure to adjust the laser power before making the following adjustments

- 1) Start service mode, and execute 'FUNC > 6 LASER > BIAS'
- 2) Take notes of the reading of the Digital Multimeter.
- 3) Press the Stop key to stop the laser output.
- 4) Compute the target value according to the following formula:

T-2-1

Formula	Results
P00 target:BIAS + 0.1 =	
PFF target:	
266/200/400lines(60.0-	
BIAS)× 0.7 + BIAS =	
800lines(60.0-BIAS)×	
0.57 + BIAS =	

- 5) Execute 'FUNC > 6 LASER > 800-P00'
- 6) Turn VR3 counterclockwise so that the reading of the Digital Multimeter is the P00 target value.
- 7) Press the Stop key to stop the laser output.
- 8) Execute 'FUNC > 6 LASER > 800-PFF'
- 9) Turn VR4 counterclockwise so that the reading of the Digital Multimeter is the PFF target value.
- 10) Press the Stop key to stop the laser output.
- 11) Likewise, adjust the following volumes:  
Execute the following in service mode, and use VR5:'FUNCTION>LASER>400-P00'  
Execute the following in service mode, and use6:'FUNCTION>LASER>400-PFF'

12) Likewise, adjust the following volumes:

For Bk/Y laser unit,

Execute the following in service mode, and use  
VR7:'FUNC>LASER>266-P00'

Execute the following in service mode, and use  
VR8:'FUNC>LASER> 266-PFF'

For C/M laser unit,

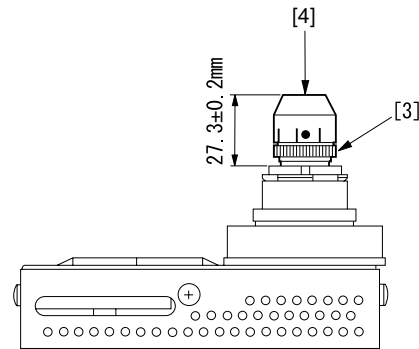
Execute the following in service mode, and use  
VR7:'FUNC>LASER>200-P00'

Execute the following in service mode, and use  
VR8:'FUNC>LASER>200-PFF'

13) Press the Reset key to end service mode.

14) Turn off the power switch.

15) Remove the laser power checker, and install the inlet cover.



F-2-35

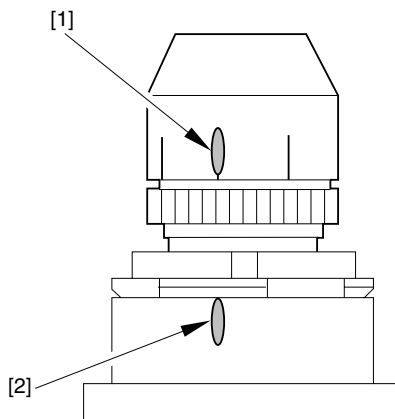
## 2.4.6 Laser Focus

### Adjustment

0002-0382

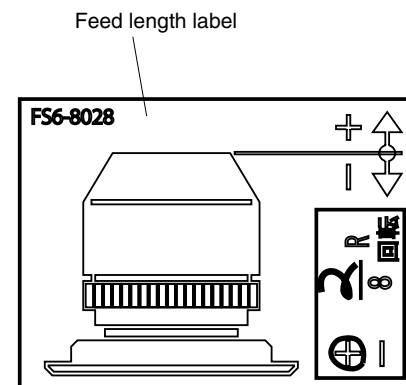
CLC5100 / CLC4000

1) Check to make sure that the marking [1] on the lens assembly matches the marking [2] on the lens mount (standard position).



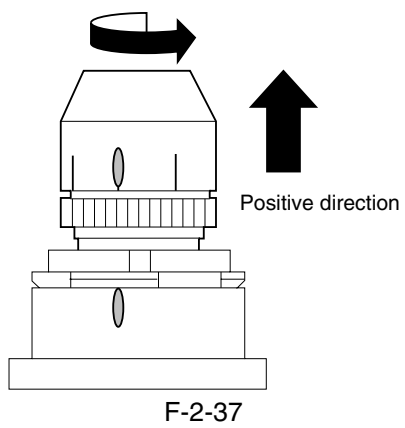
F-2-34

2) Perform focusing adjustments by turning the lens assembly once again according to the values recorded on the label. For instance, if the value is "+2/8," turn the lens assembly in the positive direction (counterclockwise when viewing from the end of the lens assembly) over two notches.



F-2-36

If the unit is not in standard position, loosen the locking nut [3], and turn the lens assembly until the distance to the end [4] of the lens assembly is  $27.3 \pm 0.2$  mm, i.e., where the markings match.



- 3) Tighten the locking nut [3], and fix the position of the lens in place.

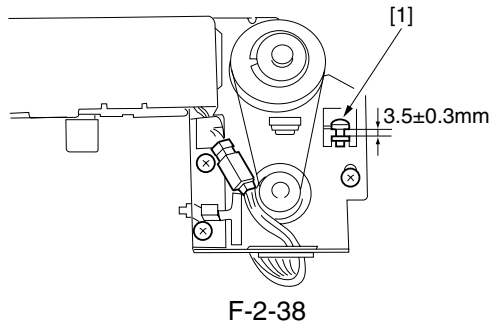
## 2.5 Image Formation System

### 2.5.1 Adjusting the Tension on the Drive Belt of the Transfer Belt Motor

0002-4273

CLC5100 / CLC4000

- 1) Make adjustments so that the gap of the adjusting screw [1] of the transfer belt motor is  $3.5 \pm 0.3$  mm.



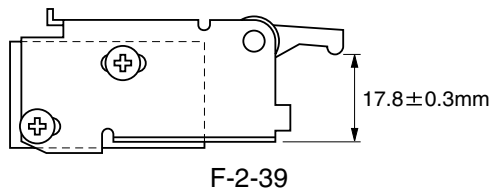
### 2.5.2 Adjusting the Position of the Transfer Belt-Related Solenoid

0002-5740

CLC5100 / CLC4000

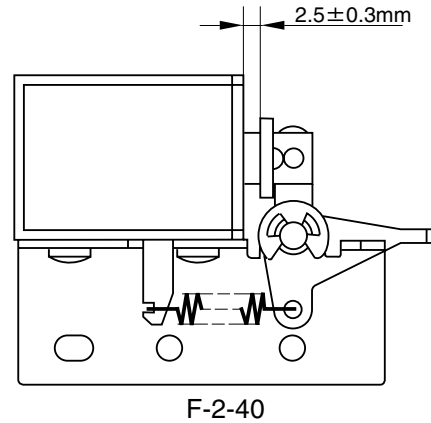
- a. Adjusting the Position of the Transfer Blade Solenoid (SL7)

Fix the solenoid in place so that the distance between the solenoid arm and the solenoid mount base is  $17.8 \pm 0.3$  mm when the plunger of the solenoid is pulled.



- b. Adjusting the Position of the Oil Removing Roller Solenoid (SL18)

Fix the solenoid in place so that the stroke indicated in the following Figure is  $2.5 \pm 0.3$  mm when the solenoid arm is pulled by the spring.



### 2.5.3 Adjusting the Height of the Charging Wire

0002-5765

CLC5100 / CLC4000

T-2-2

Charging assembly	Height of charging wire (mm)	Variable width
Primary charging assembly	10.5±0.2	4 mm (approx.)
Separation charging assembly	16.5±0.3	4 mm (approx.)
Pre-fixing charging assembly	17±0.3	4 mm (approx.)



## Reference

The height (position) of the charging wire may be adjusted by turning the screw found behind the corona assembly. (The height of the charging wire for the primary charging assembly, however, cannot be adjusted.) A full turn of the screw changes the position of the charging wire by about 0.7 mm.

### Points to Note When Handling the Primary Grid Plate and the Primary Charging Wire

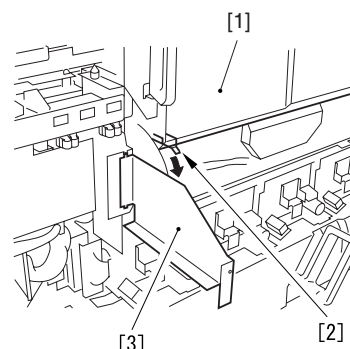
Do not clean the primary grid plate or the primary charging wire. If image faults (uneven density) occurs, replace the part.

## 2.5.4 Replacing the Developer

0002-5791

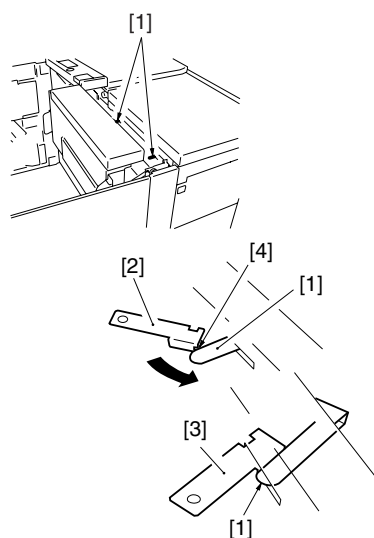
CLC5100 / CLC4000

- 1) Insert the door switch actuator into the door switch assembly.
- 2) Turn on the power, and insert and turn the control key.
- 3) Start service mode, and select 'FUNC > IN-STALL'.
- 4) Select the 2nd screen, and set 'LSNSKIL' to '1'.
- 5) Select '0' by executing 'ADJSUT > PASCAL > PASCAL'.
- 6) Wait until warm-up ends.
- 7) Lift the hopper assembly [1] to the topmost position. (At this time, the locking mechanism [2] will turn on automatically. Make a visual check of the hopper assembly to make sure that the hopper assembly is locked.)
- 8) Install the hopper retaining fixings [3] (left, right).
- 9) Release the hopper assembly, and move the assembly down to where the retaining fixings are located.



F-2-41

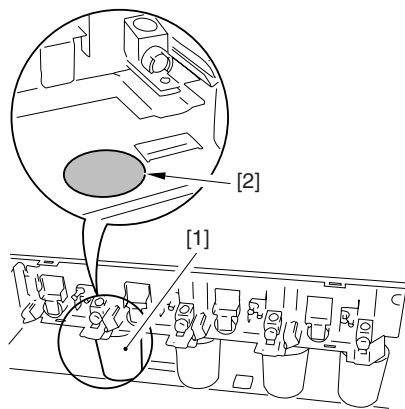
- 10) Install the laser shutter opening tool.



F-2-42

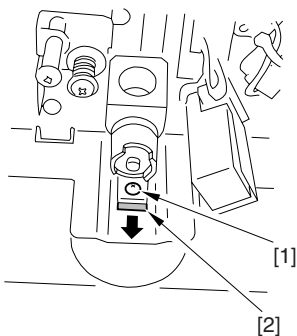
- [1] Laser shutter
- [2] Shutter pushing member
- [3] Laser shutter pushing member
- [4] Groove

- 11) Raise the hopper assembly as far as it moves, and operate the locking mechanism by hand; then, remove the hopper metal fixings (left, right).
- 12) Slide out the transfer assembly.
- 13) Place the collecting container [1] as shown.



F-2-43

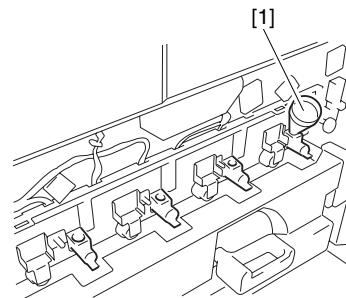
- 14) Remove the screw [1], and pull out the collecting container shutter [2]. (At this time, check to make sure that the collecting container opening is open.)



F-2-44

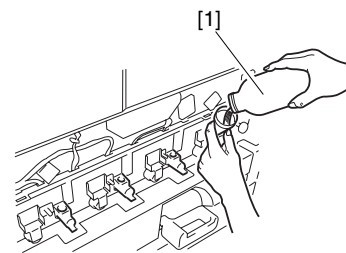
- 15) Select the 2nd screen of 'FUNC > INSTALL' in service mode.
- 16) To collect all four developers, press 'RECV-4'; for each, press 'RECV-C, -M, -Y, -K'. (The developer will be discharged into the collecting container; the operation will stop in about 2 min.)
- 17) When done, close the collecting container shutter, and fit and tighten the screw.
- 18) Remove the collecting container.
- 19) Close the transfer unit.
- 20) Press 'SPLY-C, -M, -Y, -K' as appropriate for the color to replace on the service mode screen [1].
- 21) Check to make sure that the screw inside the developing assembly has started to rotate.

- 22) Fit the funnel [1] that comes with the starter in the supply mouth of the developing assembly.



F-2-45

- 23) Pour developer [1] into the developing assembly.  
- Tilt the container while turning it to avoid spilling the developer.



F-2-46

- 24) When done, press the Stop key to stop the operation of the developing assembly.
- 25) Install the hopper metal fixings (left, right), and release the locking mechanism of the hopper assembly; then, lower the hopper as far as the metal fixings.
- 26) Remove the laser shutter opening tool.
- 27) Lift the hopper assembly to the topmost position. (At this time, the locking mechanism will not work; lock it by hand.)
- 28) Clean the SALT sensor of the color in question.
- 29) Remove the hopper retaining fixing (left, right).
- 30) Release the hopper assembly, and move it down to its specific position.
- 31) Select the 1st screen of 'FUNC > INSTALL' in service mode.

- Replacement for All Colors

- 32) Execute 'STIR-4'. (about 4 min)
- 33) Execute 'INIT-7'. (about 2 min)
- 34) Execute 'WINCLR4'.
- 35) Record the results on the service label.
- 36) Execute 'ADJUST > PASCAL > PASCAL' to select '1'.
- 37) Turn off and on the power switch.
- 38) Execute 'auto gradation correction' in user mode.

- Replacement for C/M/Y

- 32) Execute 'STIR-C/M/Y' as necessary. (about 1 min)
- 33) Execute 'INIT-C/M/Y' as necessary. (about 1 min)
- 34) Execute 'SINIT-C/M/Y' as necessary. (about 1 min)
- 35) Execute 'WINCLR-C, M, or -Y'.
- 36) Select '1' by executing 'ADJUST > PASCAL > PASCAL'.
- 37) Record the result on the service label.
- 38) Turn off and then on the power switch.
- 39) Execute 'auto gradation correction (full correction)' in user mode.

- Replacement for Bk Only

- 32) Execute 'STIR-K'. (about 1 min)
- 33) Execute 'SINIT-K'. (about 1 min)
- 34) Execute 'WINCLR-K'.
- 35) Record the result on service mode.
- 36) Select '1' by executing 'ADJSUT > PASCAL > PASCAL'.
- 37) Turn off and then on the power switch.
- 38) Execute 'auto gradation correction (full correction)' in user mode.

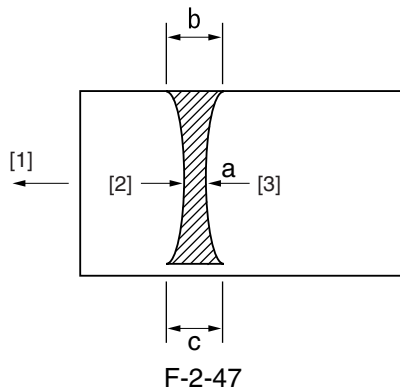
## 2.6 Fixing System

### 2.6.1 Adjusting the Nip (fixing pressure adjusting nut)

0002-5178

CLC5100 / CLC4000

Check to make sure that the nip width is as indicated in the table. If not, turn the adjusting screw to adjust.



F-2-47

- [1]: Feeding direction  
[2]: A3  
[3]: Center of copy paper

**▲** b and c represent points 10 to 15 mm from the edges.

T-2-3

Dimension	Measurements(Taken when the upper and lower rollers are sufficiently heated.)
a	7.5±0.3[mm]
lb-cl	0.5[mm]or less
b-a c-a	0.5[mm]or less

#### <Measuring the Nip Width>

If the fixing rollers are cool, wait until the standby period is over, wait an additional 15 min, and make 20 copies before taking measurements.

#### <Taking Measurements>

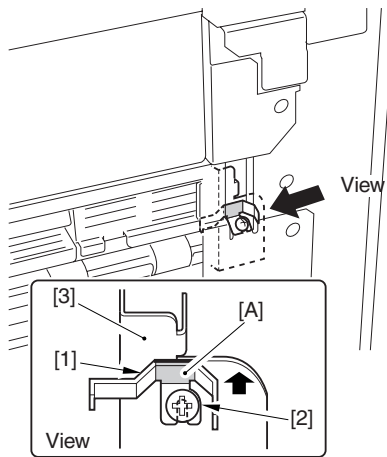
- 1) Start service mode.
- 2) Select 'NIP-CHK' of 'FUSER' under 'FUNC'.
- 3) Select 'NIP-CHK=1'.
- 4) Press the Start key to execute. (The operation will stop automatically.)
- 5) Measure the dimensions indicated in the Figure as a, b, and c.

### 2.6.2 Adjusting the Mounting Position of the External Paper Delivery Unit Guide Plate

0002-5974

CLC5100 / CLC4000

- 1) Remove the left cover.
- 2) Open the front cover.
- 3) Pull out the fixing unit mount to the position where the front side plate of the external delivery paper unit and the section A of the guide plate [1] overlap each other.
- 4) Loosen a screw [2] for the guide plate. The guide plate [1] should be pushed in while it is being pushed to the front side plate of the external delivery unit [3].



F-2-48

5) Tighten the screw [2] for the guide plate.


## 2.7 Electrical Components

### 2.7.1 When Replacing the ROM on the DC Controller PCB or the Reader Controller PCB 0002-5855

CLC5100 / CLC4000

The term "eader controller" or the "DC controller" within parentheses indicates work unique to the respective PCB.

- 1) Turn on the power switch.
- 2) Record the settings of the user mode. (reader controller)
- 3) Set 'IMG-REG' on the second page of the INSTALL screen under 'FUNC' in service mode from '1' to '0'. (DC controller)
- 4) Turn off the power switch.
- 5) Disconnect the power plug from the power outlet. (DC controller)

 You must always disconnect the power plug from the outlet; merely turning off the power switch will not cut the power to the DC controller.

- 6) Replace the ROM of the DC controller and the ROM of the reader controller.
- 7) Connect the power plug to the power outlet, and turn on the power switch.
- 8) Execute 'FUNC > R-CON > RAM-CLR' in service mode.  
(the power switch will automatically be off)  
[reader controller]
- 9) Turn on the power switch. (('E350' will be indicated) (Rreader controller)
- 10) Execute 'FUNC > CCD > AUTO-ADJ' in service mode. (about 8 min; reader controller)
- 11) If a projector is installed, execute 'FUNC > PROJ-ADJ > PROJ-CCD' in service mode. (reader controller)
- 12) Compare the value in A of the service label and

the service mode value; if different, or if you replaced the DC controller PCB as a whole, perform the steps for initializing the RAM on the DC controller PCB shown below. (DC controller) If you are not clearing the RAM of the DC controller PCB, be sure to check the setting of the following: 'ADJUST>HV-TR-Y>TR-#'; then, if '-3' is indicated, set it to '0'. (Be sure to do the same for zones A, B, and C.)

- 13) Set 'IMG-REG' on the panel of 'INSTALL2' under 'FUNC' in service mode from '0' to '1'. (DC controller)
- 14) Enter new user mode settings and the value of B of service label. (reader controller) (If any of the service mode settings relating to the reader controller other than the items under B of the service label has been changed, be sure also to change such settings.)
- 15) Turn off and on the power switch.
- 16) Execute auto gradation correction, after setting 'ADJUST > PASCA' in service mode to '1'.

### 2.7.2 When Replacing the Reader Controller PCB 0002-0419

CLC5100 / CLC4000

- 1) Initialize the RAM on the reader controller PCB. (See the appropriate instructions.)
- 2) Turn off and on the power switch.

### 2.7.3 When Replacing the DC Controller PCB 0002-0420

CLC5100 / CLC4000

- 1) Start service mode, and check to make sure that 'DISP > BLT-DRFT > BELT-POS' is 'CENTER'; if not, move the transfer belt to the center.
- 2) Turn off the power switch.
- 3) Disconnect the power plug from the power outlet.

**⚠** Be sure to disconnect the power plug from the power outlet. Merely turning off the power switch will not cut the power.

- 4) Replace the DC controller PCB.
- 5) Turn on the power switch.
- 6) Initialize the RAM on the DC controller PCB. (See the appropriate instructions.)
- 7) Turn on and then off the power switch.

## 2.7.4 Initializing the RAM on the DC controller PCB 0002-5879

CLC5100 / CLC4000

- 1) Record the setting of 'OFFSET-C/M/Y/K' found in the second row of page 2 on the EPC screen of 'FUCNT' in service mode.
- 2) Start service mode, and check to make sure that 'BELT-POS' of 'BLT-DRFT' under 'DISP' is 'CENTER'; if not, move the transfer belt to the center.
- 3) Execute 'FUNC>DC-CON>RAM-LR' in service mode.
- 4) Turn off the power switch, and disconnect and then connect the power plug (so that the RAM will be cleared).
- 5) Turn on the power switch.
- 6) If you have replaced the DC controller PCB, replace the developer according to the instructions on Replacing the Developer.
- 7) Enter the value of A recorded on the service label. (If you have changed other service mode settings related to the DC controller, enter such settings as well.)
- 8) Execute 'REG-APER' of 'INSTALL2' under 'FUNC' in service mode.
- 9) Enter the setting of 'OFFSET- C/M/Y/K' recorded in step 1) to the following: 'FUNC>DC-CON>POTOFST-C/M/Y/K'.

The settings on the screens of service mode are cleared when the RAM on the reader controller PCB is initialized.

T-2-4

ADJUST	Settings on ADJ-XY screen Settings on DOC-REC screen Settings on PROJ screen Settings on ED/RF screen Settings on COL-ADJ screen Settings on ADJ-MISC screen Settings on PRJ-ADJ screen
OPTION	Settings on P-OPT screen Settings on ON-SET on P-OPT screen Settings on REMOTE screen Settings on DECK screen

The settings on the screens of service mode are cleared when the RAM on the DC controller PCB is initialized.

T-2-5

ADJUST	Settings on PASCAL screen Settings on FEED-ADJ screen Settings on ENV-SET screen Settings on HV-TR C/M/Y/K screen Settings on HV-SP screen Settings on HV-FS screen Settings on HV-EL screen
FUNC	Settings on DC-CON screen Settings on P-UP-TMG screen Settings on P-THICK screen Settings on IMG-REG screen Settings on FUSER screen
OPTION	Settings on P-OPT screen (except ON-SET))

Service Mode Settings Related to the DC Controller PCB

## T-2-6

ADJUST	Settings on PASCAL screen Settings on FEED-ADJ screen Settings on ENV-SET screen Settings on HV-TR C/M/Y/K screen Settings on HV-SP screen Settings on HV-FS screen Settings on HV-EL screen
FUNC	Settings on DC-CON screen Settings on P-UP-TMG screen Settings on P-THICK screen Settings on IMG-REG screen Settings on FUSER screen
OPTION	Settings on P-OPT screen (except ON-SET)

## 2.7.5 Initializing the RAM on the Reader Controller PCB

0002-5905

CLC5100 / CLC4000

- 1) Record the settings of user mode.
- 2) Execute 'FUNC>R-CON>RAM-CLR' in service mode. (The power switch will automatically turn off.)
- 3) Turn on the power switch.
- 4) Execute 'FUNC>CCD>AUTO-ADJ' in service mode. (about 8 min)
- 5) If a projector is installed, execute 'FUNC>PROJ-ADJ>PROJ-CCD' in service mode.
- 6) Enter any new user mode settings and the settings recorded in B of the service label. (If you have changed any other service mode settings related to the reader controller, enter such settings.)

## 2.7.6 When Replacing the Image Position

Correction CCD Unit 0002-0451

CLC5100 / CLC4000

- 1) After replacing the image position correction CCD unit, execute 'FUNC>INSTALL (2nd screen)>REG- APER' in service mode. Thereafter, be sure to turn off and on the power switch to correct the image position.

## 2.7.7 When Replacing the Paper Thickness Sensor

0002-0456

CLC5100 / CLC4000

- 1) Check the settings (A through E) recorded on the label attached to the paper thickness sensor you are replacing, and record them under 'SNSR-RNK' on the service label. At this time, you need not perform step 3) and the subsequent steps if the settings are the same as the settings under 'FUNC>P-THICK>SNSR-RNK' of service mode.
- 2) Replace the power thickness sensor.
- 3) Enter the settings you recorded on the service label in step 1) under 'FUNC>PTHICK> SNSR-RNK' in service mode. (Each press on 'SNSR-RNK' toggles the settings A through E.)
- 4) Check to make sure that the values of 'P-TH-1' and 'P-TH-2' are identical to the values recorded on the service label; if different, enter the correct values using 'FUNCDC- CON (5/5)>P-TH-1/2' in service mode.
- 5) End service mode.



## 2.7.8 After Replacing the Pick-Up Motor/Pick-Up Unit

0002-0460

CLC5100 / CLC4000

- 1) Place three or more A4 or LTR sheets of paper in the cassette (upper, lower).
- 2) Select 'FUNC > P-UP-TMG' in service mode.
- 3) Execute 'PK-ADJ-U' three times.
  - A value near '186' will be indicated under 'DATA-A' and 'PUdT-U'.
- 4) Press 'D-SEND-U' to write the adjustment data in RAM.
- 5) Execute 'PK-ADJ-L' three times.
  - A value near '104' will be indicated under 'DATA-L' and 'PUdT-L'.
- 6) Press 'D-SEND-L' to write the adjustment data in RAM.
- 7) Write the value of 'PUdT-U/L' on the service label.
- 8) End service mode.

## 2.7.9 Checking the Environment

### Measurement PCB

0002-0463

CLC5100 / CLC4000

The condition of the environment measurement PCB and the environment sensor is checked using the environment measurement checking tool (TKN-0457) and the sensor for the environment checking sensor (TKN-0456).

#### a. Checking the Environment Measurement PCB

- 1) Turn off the power switch.
- 2) Remove the multitray covers 1 and 2.
- 3) Remove the environment sensor from the environment measurement PCB, and insert the sensor for the environment measurement checking sensor (TKN-0457) in its place.

- 4) Turn on the power switch.
- 5) Set the meter to the 30 VDC range, and check to make sure that the voltage of J1-1 (+) and J1-2 (-) on the environment measurement PCB is 24 V  $\pm 2.4$ V. If not, check the DC power supply PCB (DCP1).
- 6) Start service mode, and select 'DISPLAY'.
- 7) Check the temperature and humidity on the ANALOG screen.
 

BODY °C ..... 25 $\pm$ 5

BODY % ..... 40 $\pm$ 10
- 8) Check to make sure that the reading is within specification.
 

If not, go to step 9).

If the reading is as indicated, go to step 14).
- 9) Press the Reset key, and turn off the power switch.
- 10) Disconnect J1 of the environment measurement PCB.
- 11) Turn on the power switch; start service mode, and select 'DISPLAY'.
- 12) Check the temperature and humidity on the ANALOG screen.
 

BODY °C..... 25 $\pm$ 5

BODY %..... 36 $\pm$ 10
- 13) Check to make sure that the reading is as indicated.

#### Reference

If the reading is not as indicated, suspect a fault in the DC controller.

- 14) Press the Reset key.
  - 15) Turn off the power switch.
  - 16) Connect J1 of the environment measurement PCB.
  - 17) Remove the environment measurement sensor from the environment measurement PCB, and insert the environment sensor.
  - 18) Install all covers.
- #### b. Checking the Environment Sensor
- 1) Check the environment PCB.
  - 2) Turn on the power switch, and leave it on for 5 min.
  - 3) Start service mode, and select 'DISPLAY'.
  - 4) Check the temperature and humidity on the

ANALOG screen. (data A)


BODY °C..... dataA1

BODY % ..... dataA2

- 5) Press the Reset key, and turn off the power switch.
- 6) Remove the environment sensor from the environment measurement PCB, and insert the sensor for the environment sensor (TKN-0456) in its place.
- 7) Turn on the service switch, and leave it on for 5 min.
- 8) Start service mode, and select 'DISPLAY'.
- 9) Check the temperature and humidity on the ANALOG screen. (data B)  
 BODY °C ..... dataB1  
 BODY % ..... dataB2
- 10) Compare data A and data B
  - The difference between data A1 and data B1 is  $0 \pm 5$ .
  - The difference between data A and data B is  $0 \pm 20$ .

If the difference is outside the specification, replace the environment sensor.

- 11) Press the Reset key, and turn off the power switch.
- 12) Remove the sensor for the environment sensor from the environment measurement PCB, and insert the environment sensor.
- 13) Install all covers.

 The sensor for the environment sensor (TKN-0456) is adjusted with high precision at the factory. Keep it in a sealed case with a drying agent.

## 2.7.10 Checking the High

### Voltage Control System 0002-0468

CLC5100 / CLC4000

#### a. Outline

If an image fault occurs, you must first determine whether the cause is the latent static formation block which includes the photosensitive drum and the potential control system or the developing/ transfer

system.

The machine's high-voltage is controlled to a specific level using the environment sensor and the potential sensor.

T-2-7

Sensor	Environment sensor
Environment sensor	Primary grid bias Transfer blade bias Separation charging bias
Potential sensor	Primary grid bias Developing bias

#### b. Target Contrast Potential

The primary grid bias or the developing bias control mechanism may be checked by canceling the auto setting mechanism by the environment sensor for target contrast potential.

- 1) Select 'VCONT' of 'ADJ-MISC' under 'ADJUST' in service mode.
- 2) Select an appropriate value from the target contrast voltage levels in the following table, and enter it.

T-2-8

	Y	M	C	K
0	Auto	Auto	Auto	Auto
1	390.00	365.00	370.00	420.00
2	390.00	365.00	370.00	420.00
3	390.00	365.00	370.00	420.00
4	370.00	345.00	355.00	410.00
5	340.00	325.00	335.00	390.00
6	310.00	295.00	315.00	380.00
7	295.00	275.00	290.00	370.00
8	245.00	225.00	225.00	330.00

- 3) Execute 'FUNC > EPC' in service mode.

4) Make copies, and check the images.

- If the image is better, suspect a fault in the environment sensor or the environment measurement PCB.

5) Return the setting of 'VONT' of 'ADJ-MISC' under 'ADJUST' in service mode to '0'.

## 2.7.11 Checking the Photointerrupters 0002-5940

CLC5100 / CLC4000

The machine allows you to use a conventional meter or service mode when checking its photointerrupters.

a. Using a Meter

- 1) Set the meter to the 30VDC range.
- 2) Connect the - probe of the meter to J101-7 (GND) of the DC control PCB.
- 3) Connect the + probe to the terminals (on the DC controller PCB or the deck controller PCB) shown on the pages that follow.

4) Make checks according to the instructions given.

b. Using Service Mode

- 1) Start service mode.
- 2) Press 'DISP'.
- 3) Press 'SENSOR'.
- 4) Make checks as indicated.

	SENSOR	READY	READY
DISP	COUNTER	80000H	80100H
ADJUST		80001H	80101H
FUNC		80002H	80102H
SPIN		80003H	80103H
SPIN		80004H	80104H
SPIN		80005H	80105H
SPIN		80006H	80106H
SPIN		80007H	80107H
SPIN		80008H	80108H
SPIN		80009H	80109H
SPIN		8000AH	8010AH
SPIN		8000BH	8010BH
SPIN		8000CH	8010CH
SPIN		8000DH	8010DH
SPIN		8000EH	8010EH
SPIN		8000FH	8010FH
SPIN		80010H	80110H
SPIN		80011H	80111H
SPIN		80012H	80112H
SPIN		80013H	80113H
SPIN		80014H	80114H
SPIN		80015H	80115H
SPIN		80016H	80116H
SPIN		80017H	80117H
SPIN		80018H	80118H
SPIN		80019H	80119H
SPIN		8001AH	8011AH
SPIN		8001BH	8011BH
SPIN		8001CH	8011CH
SPIN		8001DH	8011DH
SPIN		8001EH	8011EH
SPIN		8001FH	8011FH
SPIN		80020H	80120H
SPIN		80021H	80121H
SPIN		80022H	80122H
SPIN		80023H	80123H
SPIN		80024H	80124H
SPIN		80025H	80125H
SPIN		80026H	80126H
SPIN		80027H	80127H
SPIN		80028H	80128H
SPIN		80029H	80129H
SPIN		8002AH	8012AH
SPIN		8002BH	8012BH
SPIN		8002CH	8012CH
SPIN		8002DH	8012DH
SPIN		8002EH	8012EH
SPIN		8002FH	8012FH
SPIN		80030H	80130H
SPIN		80031H	80131H
SPIN		80032H	80132H
SPIN		80033H	80133H
SPIN		80034H	80134H
SPIN		80035H	80135H
SPIN		80036H	80136H
SPIN		80037H	80137H
SPIN		80038H	80138H
SPIN		80039H	80139H
SPIN		8003AH	8013AH
SPIN		8003BH	8013BH
SPIN		8003CH	8013CH
SPIN		8003DH	8013DH
SPIN		8003EH	8013EH
SPIN		8003FH	8013FH
SPIN		80040H	80140H
SPIN		80041H	80141H
SPIN		80042H	80142H
SPIN		80043H	80143H
SPIN		80044H	80144H
SPIN		80045H	80145H
SPIN		80046H	80146H
SPIN		80047H	80147H
SPIN		80048H	80148H
SPIN		80049H	80149H
SPIN		8004AH	8014AH
SPIN		8004BH	8014BH
SPIN		8004CH	8014CH
SPIN		8004DH	8014DH
SPIN		8004EH	8014EH
SPIN		8004FH	8014FH
SPIN		80050H	80150H
SPIN		80051H	80151H
SPIN		80052H	80152H
SPIN		80053H	80153H
SPIN		80054H	80154H
SPIN		80055H	80155H
SPIN		80056H	80156H
SPIN		80057H	80157H
SPIN		80058H	80158H
SPIN		80059H	80159H
SPIN		8005AH	8015AH
SPIN		8005BH	8015BH
SPIN		8005CH	8015CH
SPIN		8005DH	8015DH
SPIN		8005EH	8015EH
SPIN		8005FH	8015FH
SPIN		80060H	80160H
SPIN		80061H	80161H
SPIN		80062H	80162H
SPIN		80063H	80163H
SPIN		80064H	80164H
SPIN		80065H	80165H
SPIN		80066H	80166H
SPIN		80067H	80167H
SPIN		80068H	80168H
SPIN		80069H	80169H
SPIN		8006AH	8016AH
SPIN		8006BH	8016BH
SPIN		8006CH	8016CH
SPIN		8006DH	8016DH
SPIN		8006EH	8016EH
SPIN		8006FH	8016FH
SPIN		80070H	80170H
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SPIN		80076H	80176H
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SPIN		80078H	80178H
SPIN		80079H	80179H
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SPIN		8007BH	8017BH
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SPIN		80084H	80184H
SPIN		80085H	80185H
SPIN		80086H	80186H
SPIN		80087H	80187H
SPIN		80088H	80188H
SPIN		80089H	80189H
SPIN		8008AH	8018AH
SPIN		8008BH	8018BH
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SPIN		8008DH	8018DH
SPIN		8008EH	8018EH
SPIN		8008FH	8018FH
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SPIN		80097H	80197H
SPIN		80098H	80198H
SPIN		80099H	80199H
SPIN		8009AH	8019AH
SPIN		8009BH	8019BH
SPIN		8009CH	8019CH
SPIN		8009DH	8019DH
SPIN		8009EH	8019EH
SPIN		8009FH	8019FH
SPIN		800A0H	801A0H
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SPIN		800A2H	801A2H
SPIN		800A3H	801A3H
SPIN		800A4H	801A4H
SPIN		800A5H	801A5H
SPIN		800A6H	801A6H
SPIN		800A7H	801A7H
SPIN		800A8H	801A8H
SPIN		800A9H	801A9H
SPIN		800AAH	801AAH
SPIN		800ABH	801ABH
SPIN		800ACH	801ACH
SPIN		800ADH	801ADH
SPIN		800AEH	801AEH
SPIN		800AFH	801AFH
SPIN		800B0H	801B0H
SPIN		800B1H	801B1H
SPIN		800B2H	801B2H
SPIN		800B3H	801B3H
SPIN		800B4H	801B4H
SPIN		800B5H	801B5H
SPIN		800B6H	801B6H
SPIN		800B7H	801B7H
SPIN		800B8H	801B8H
SPIN		800B9H	801B9H
SPIN		800BAH	801BAH
SPIN		800BBH	801BBH
SPIN		800BCH	801BCH
SPIN		800BDH	801BDH
SPIN		800BEH	801BEH
SPIN		800BFH	801BFH
SPIN		800C0H	801C0H
SPIN		800C1H	801C1H
SPIN		800C2H	801C2H
SPIN		800C3H	801C3H
SPIN		800C4H	801C4H
SPIN		800C5H	801C5H
SPIN		800C6H	801C6H
SPIN		800C7H	801C7H
SPIN		800C8H	801C8H
SPIN		800C9H	801C9H
SPIN		800CAH	801CAH
SPIN		800CBH	801CBH
SPIN		800CH	801CH
SPIN		800CDH	801CDH
SPIN		800CEH	801CEH
SPIN		800CFH	801CFH
SPIN		800D0H	801D0H
SPIN		800D1H	801D1H
SPIN		800D2H	801D2H
SPIN		800D3H	801D3H
SPIN		800D4H	801D4H
SPIN		800D5H	801D5H
SPIN		800D6H	801D6H
SPIN		800D7H	801D7H
SPIN		800D8H	801D8H
SPIN		800D9H	801D9H
SPIN		800DAH	801DAH
SPIN		800DBH	801DBH
SPIN		800DCH	801DCH
SPIN		800DDH	801DDH
SPIN		800DEH	801DEH
SPIN		800DFH	801DFH
SPIN		800E0H	801E0H
SPIN		800E1H	801E1H
SPIN		800E2H	801E2H
SPIN		800E3H	801E3H
SPIN		800E4H	801E4H
SPIN		800E5H	801E5H
SPIN		800E6H	801E6H
SPIN		800E7H	801E7H
SPIN		800E8H	801E8H
SPIN		800E9H	801E9H
SPIN		800EAH	801EAH
SPIN		800EBH	801EBH
SPIN		800ECH	801ECH
SPIN		800EDH	801EDH
SPIN		800EEH	801EEH
SPIN		800EFH	801EFH
SPIN		800F0H	801F0H
SPIN		800F1H	801F1H
SPIN		800F2H	801F2H
SPIN		800F3H	801F3H
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SPIN		800F7H	801F7H
SPIN		800F8H	801F8H
SPIN		800F9H	801F9H
SPIN		800FAH	801FAH
SPIN		800FBH	801FBH
SPIN		800FCH	801FCH
SPIN		800FDH	801FDH
SPIN		800FEH	801FEH
SPIN		800FFH	801FFH

F-2-49

T-2-9

Sensor	Name	Service mode	Checks
PS1	Registration paper sensor	800006 bit0	During copying, '1' if paper is present over the registration paper sensor. '0' if absent.
PS2	Multifeeder lifter sensor (upper)	80000A bit2	After the multifeeder has been selected and the Start key has been pressed, '1' when the lifter of the multifeeder moves up.
PS3	Multifeeder lifter sensor (lower)	80000A bit3	During standby, '1' if the lifter of the multifeeder is down.
PS4	Multifeeder paper width sensor (front)	80000B bit0	During standby, '1' when paper is set in the multifeeder.
PS5	Multifeeder paper width sensor (rear)	80000B bit1	During standby, '1' when paper is set in the multifeeder.

Sensor	Name	Service mode	Checks
PS6	Oil level sensor	80000E bit2	'1' if the arm is over the sensor. '0' otherwise.
PS8	Pre-duplex feeding sensor 1	800007 bit6	'1' if paper is present over the pre-duplex feeding sensor. '0' if absent.
PS9	Pre-duplex feeding sensor 2	800007 bit7	'0' if paper is present over the pre-duplex feeding sensor 2. '1' if absent.
PS10	Transfer belt cleaning web rotation sensor	80000F bit7	Slide out the transfer unit, and open the transfer belt assembly. Close the transfer belt assembly by blocking the light of PS10 by paper; and set the transfer unit to the copier. '1' when the power is ON. '0' when the light is not blocked.

Sensor	Name	Service mode	Checks
PS11	Transfer belt cleaning web length sensor	80000E bit0	Slide out the transfer unit, and open the transfer belt assembly. Close the transfer belt assembly by blocking the light of PS11 by paper; and set the transfer unit to the copier. '1' when the power is ON. '0' when the light is not blocked.
PS12	Transfer belt lifter sensor 1	80000F bit0	'1' when the transfer belt is moved down under 'FUNC' in service mode. '0' when moved up.
PS13	Transfer belt lifter sensor 2	80000F bit1	'0' when the transfer belt is moved down under 'FUNC' in service mode. '1' when moved up.

Sensor	Name	Service mode	Checks
PS14	Post registration paper sensor	800007 bit0	During copying, '1' when paper is present over the post registration paper sensor. '0' when absent.
PS15	Separation sensor	800007 bit1	'1' when paper is present over the separation sensor. '0' when absent.
PS17	Transfer belt edge sensor 1	80000F bit2	During standby, '1' when the detecting lever is present over PS17. '0' when absent.
PS18	Transfer belt edge sensor 2	80000F bit3	During standby, '1' when the detecting lever is present over PS18. '0' when absent.

Sensor	Name	Service mode	Checks
PS19	Transfer belt edge sensor 3	80000F bit4	During standby, '1' when the detecting lever is present over PS19. '0' when absent.
PS20	Transfer belt edge sensor 4	80000F bit5	During standby, '1' when the detecting lever is present over PS20. '0' when absent.
PS21	Pick-up vertical path 1 sensor	800006 bit1	'1' when paper is present over the pick-up vertical path 1 sensor. '0' when absent.
PS22	Paper deck connection	800005 bit4	'0' when the paper deck is set in the copier.
PS23	Cassette 1 paper sensor	80000B bit4	During standby, slide out the cassette 1. '1' when the cassette is slid in with paper. '0' when the cassette is slid in without

Sensor	Name	Service mode	Checks
PS24	Cassette 1 lifter sensor	80000A bit0	During standby, slide out the cassette 1. '0' when the cassette is slid out. '1' when the cassette is slid in.
PS25	Pick-up vertical path 2 sensor	800006 bit2	'1' when paper is present over the pick-up vertical path 2 sensor. '0' when absent.
PS26	Pick-up vertical path 3 sensor	800006 bit3	'1' when paper is present over the pick-up vertical path 3 sensor. '0' when absent.
PS27	Cassette 2 lifter sensor	80000A bit1	During standby, '1' when the cassette 2 is slid out. '0' when the cassette 2 is slid in.

Sensor	Name	Service mode	Checks
PS28	Cassette 2 paper sensor	80000B bit5	During standby, '1' when the cassette is slid in with paper. '0' when the cassette is slid in without paper.
PS29	Duplex paper jogging guide home position sensor	80000A bit0	During standby, slide out the duplexing unit, and remove the front cover. '1' when the duplexing unit is slid in and the light-blocking plate is over sensor. '0' otherwise.
PS30	Duplex sensor 1	800008 bit0	During standby, '1' when paper is put over the duplex sensor 1. '0' otherwise.
PS31	Duplex paper sensor 2	80000B bit7	During standby, '1' when paper is put over the duplex sensor 1. '0' otherwise.

Sensor	Name	Service mode	Checks
PS32	Delivery vertical path sensor 2	800007 bit4	'1' when paper is present over the delivery vertical path sensor 2. '0' when absent.
PS33	Duplex reversal sensor	800007 bit5	'1' when paper is present in the duplexing reversing assembly. '0' when absent.
PS34	Delivery sensor	800007 bit3	'1' when paper is put over the delivery sensor. '0' otherwise.
PS35	Internal delivery sensor	800007 bit2	'1' when paper is put over the internal delivery sensor. '0' otherwise.
PS36	Upper web length sensor	80000E bit3	During standby, '1' when the detecting lever is put over the sensor. '0' otherwise.

Sensor	Name	Service mode	Checks
PS37	Scanner home position sensor	Reader unit controller	During standby, remove the copyboard glass. '1' when the light-blocking plate is put over PS37.
PS38	Delivery vertical path sensor 1	800008 bit3	'1' when paper is put over the delivery vertical path sensor1. '0' otherwise.
PS39	Shutter closed sensor	802011 bit6	Execute 'FUNC > F-MISCp > MTR' in service mode to operate the shutter. PS39: '1' at first; '0' when operation starts; then, '1' in about 10 sec. PS40: '0' at first; '1' about 5 sec after operation; then, '0' once again.
PS40	Shutter open sensor	802011 bit7	

Sensor	Name	Service mode	Checks
PS41	Cassette 1 open/close sensor	800003 bit6	'1' if paper is present in the cassette. '0' when absent.
PS42	Cassette 2 open/close sensor	800003 bit5	'1' if paper is present in the cassette. '0' when absent.
PS8001	Paper deck paper absent sensor	80000B bit6	'1' if paper is present in the paper deck. '0' when absent.



## 2.8 Pickup/Feeding System

### 2.8.1 Registering the Cassette/Multifeeder Paper Width Basic Setting (under 'FUNC') 0002-4304

CLC5100 / CLC4000

You must register the paper width basic setting if you have

- Replaced the paper width VR of the copier (including the multifeeder).
  - Adjusted the front/rear registration for the cassette.
- For the cassette, you must register the setting for 'STMTR' and 'A4R'; for the multifeeder, you must register the setting for 'A6R', 'A4R', and 'A4'.

#### a. Cassette 1 or 2

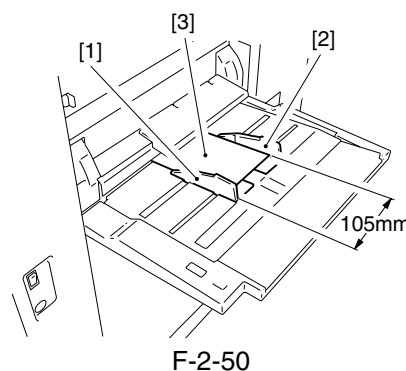
- 1) Slide out the cassette you want to register the setting for, and set the paper width guide plate inside the cassette to A4R.
- 2) Set the cassette in the copier.
- 3) Check that the basic setting is indicated on the 'CST-AD' screen of 'FUNC' in service mode on the control panel.
- 4) Select the size of the cassette for which you want to register the basic setting:  
UP-A4R (cassette 1)  
LOW-A4R (cassette 2)
- 5) Note that basic setting 1 has been registered.
- 6) Slide out the cassette you want to register the setting for, and set the paper width guide plate inside the cassette to STMTR.
- 7) Set the cassette in the copier.
- 8) Check that the basic setting is indicated on the 'CST-AD' screen of 'FUNC' in service mode on the control panel.
- 9) Select the size of the cassette for which you want to register the basic setting:

UP-STMTR  
LOW-STMTR

- 10) Note that basic setting 2 has been registered.

#### b. Multifeeder

- 1) Set the paper guide plate [1] of the multifeeder to A4R (210 mm).
- 2) Note that the basic setting is indicated on the 'CST-AD' screen for 'FUNC' in service mode on the control panel.
- 3) Select the size for which you want to register the basic setting.  
MF-A4R
- 4) Note that basic setting 1 has been registered.
- 5) Set the paper guide plate [1] of the multifeeder to A6R (105 mm) [3].

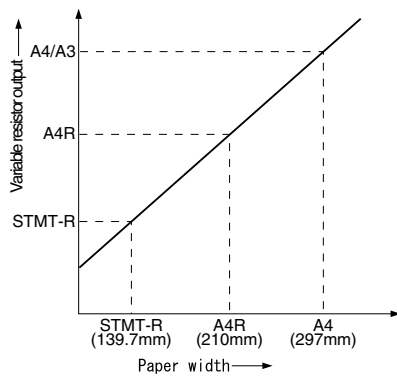


- 6) Check that the basic setting is indicated on the 'CST-AD' screen under 'FUNC' in service mode on the control panel.
- 7) Select the size for which you want to register the basic setting.  
MF-A6R
- 8) Note that basic setting 2 has been registered.
- 9) Set the paper guide plate of the multifeeder to A4 (297 mm).
- 10) The basic setting is indicated on the 'CST-AD' screen under 'FUNC' in service mode on the control panel.
- 11) Select the size for which you want to register the basic setting.

MF-A4

12) Note that basic setting 3 has been registered.

**⚠** If you have registered basic settings, record the settings on the service label. If you have replaced the DC controller PCB, enter the settings recorded on the service label using 'DC-CON' under 'FUNC' in service mode.



F-2-51

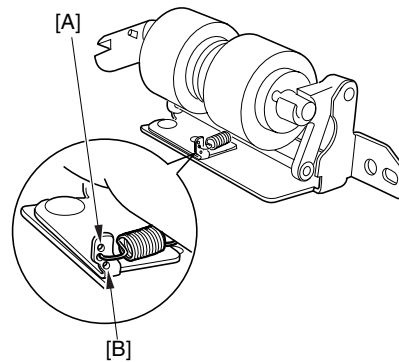
## 2.8.2 Adding the Pressure of the Cassette Separation Roller

0002-5760

CLC5100 / CLC4000

If double-feeding or pickup failure occurs during pickup operation, change the position of the pressure spring of the separation roller:

- If double-feeding occurs, move the hook of the spring in the direction of [A].
- If pickup failure occurs, move the hook of the spring in the direction of [B].



F-2-52

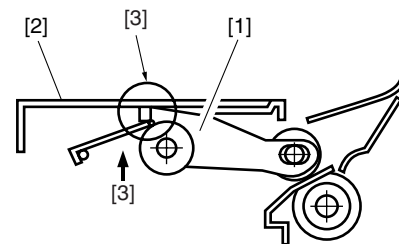
## 2.8.3 Adjusting the Position of the Cassette Pick-Up Roller Releasing Solenoid (SL9, SL10)

0002-4816

CLC5100 / CLC4000

Install the solenoid so that the pick-up roller arm [1] butts against the upper stay [2] when the plunger of the solenoid is pushed in.

[3]: Butted



F-2-53

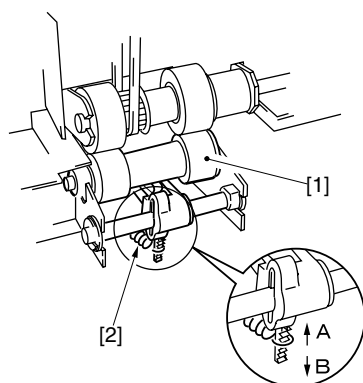
## 2.8.4 Adding the Pressure of the Cassette Separation Roller

0002-4831

CLC5100 / CLC4000

If double-feeding or pickup failure occurs during pickup operation, change the position of the pressure spring [2] of the separation roller [1]:

- If double-feeding occurs, move the hook of the spring in the direction of [A].
- If pickup failure occurs, move the hook of the spring in the direction of [B].



F-2-54

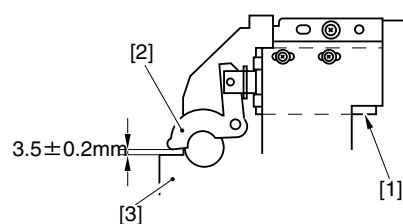
## 2.8.5 Adjusting the Position of the Multifeeder Pick-Up Roller Releasing Solenoid (SL5)

0002-4837

CLC5100 / CLC4000

Install the solenoid so that the distance between the solenoid arm [2] and the rear side plate [3] is  $3.5 \pm 0.2$  mm when the plunger of the solenoid [1] is pushed in.

- rear



F-2-55

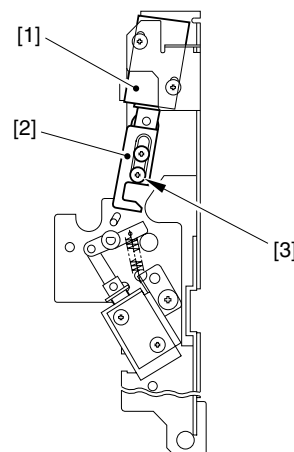
## 2.8.6 Adjusting the Position of the Delivery Paper Deflecting Plate Solenoid (SL14)

0002-4849

CLC5100 / CLC4000

- Place the delivery assembly upright on a flat surface.
- Fix the solenoid in position where the arm [2] hits the stepped screw [3] and stops with the arm lifted and the plunger of the solenoid [1] pushed in.

- rear



F-2-56

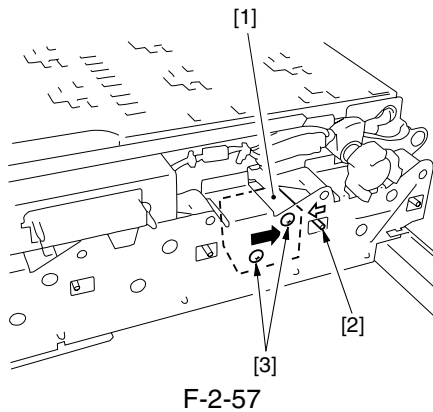
### 2.8.7 Adjusting the Position of the Duplexing Unit Paper Deflecting Plate Solenoid (SL11)

0002-4859

CLC5100 / CLC4000

- 1) Remove the duplexing unit.
- 2) Fix the solenoid in place with a mounting screw [3] after moving the solenoid to the delivery direction while the plunger [2] of the solenoid [1] is pushed in.

- rear



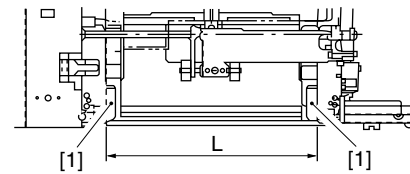
F-2-57

### 2.8.8 Adjusting the Position of the Duplexing Unit Stacking Assembly Paper Guide Plate

0002-5785

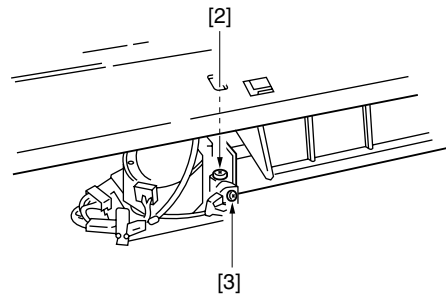
CLC5100 / CLC4000

- 1) Select A3 or 11x17, and copy on the first side of a two-sided copy.
- 2) Slide out the duplexing unit to the front.
- 3) Measure the distance L of the paper guide plate [1].  
 $A3 : L = 297.5 \pm 0.5 \text{ mm}$   
 $11 \times 17 : L = 297.5 \pm 0.5 \text{ mm}$



F-2-58

- 4) If the measurement is outside the standards, remove the duplexing unit front cover.
- 5) Loosen the screw [2], and turn the adjusting screw [3]; then, adjust the position of the paper guide plate home position sensor.



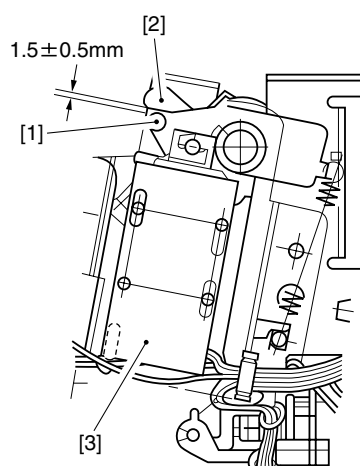
F-2-59

### 2.8.9 Adjusting the Position of the Duplexing Unit Feeding Roller Solenoid (L13)

0002-5789

CLC5100 / CLC4000

Let the feeding roller drop to the bottom of the duplex feeding assembly on its own weight. At this time, fix the solenoid [3] so that the end-to-end distance between the lever [1] and the arm [2] is  $1.5 \pm 0.5 \text{ mm}$  when the plunger of the solenoid is pushed.



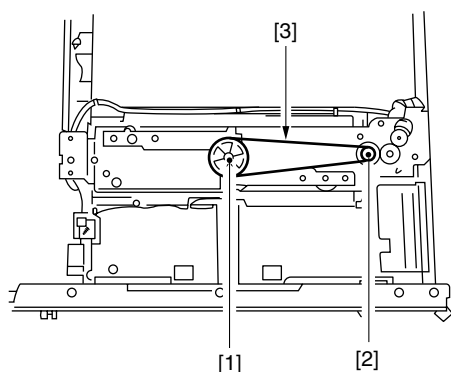
F-2-60

### 2.8.10 Attaching the Timing Belt for the Duplexing Unit Stacking Assembly Paper Guide Plate

0002-4903

CLC5100 / CLC4000

- 1) Install the gear [1] with the paper guide plate fully open.
- 2) Install the timing belt [3] to the gear [1] and the pulley [2].



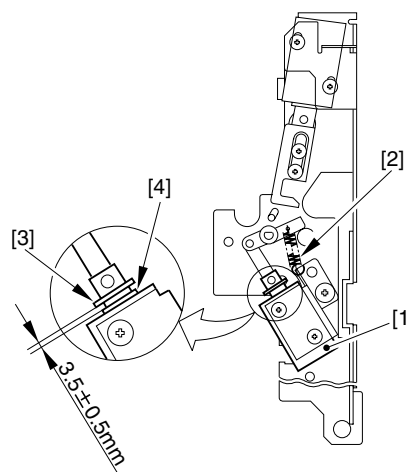
F-2-61

### 2.8.11 Adjusting the Position of the Separation Claw Solenoid (SL15)

0002-4908

CLC5100 / CLC4000

- 1) Place the delivery assembly upright.
- 2) Fix the solenoid in place where the distance between the E-ring [3] and the resin washer [4] is  $3.5 \pm 0.5$  mm when the plunger of the solenoid [1] is pulled by the spring [2].



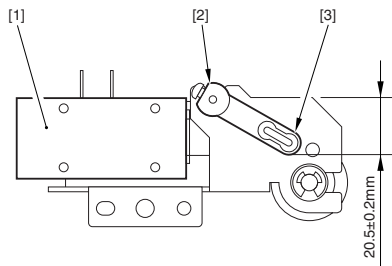
F-2-62

### 2.8.12 Adjusting the Position of the Upper Fixing Web Take-Up Solenoid (SL3)

0002-5799

CLC5100 / CLC4000

- 1) Place the delivery assembly upright.
- 2) Fix the solenoid in place so that the vertical distance between the top end of the solenoid shaft [2] and the top end of the solenoid lever [3] is  $16.3 \pm 0.2$  mm when the plunger of the solenoid [1] is pushed.



F-2-63

### 2.8.13 When Replacing the Registration Roller Unit 0002-4921

CLC5100 / CLC4000

You must make adjustments as follows whenever you have replaced the registration roller unit:

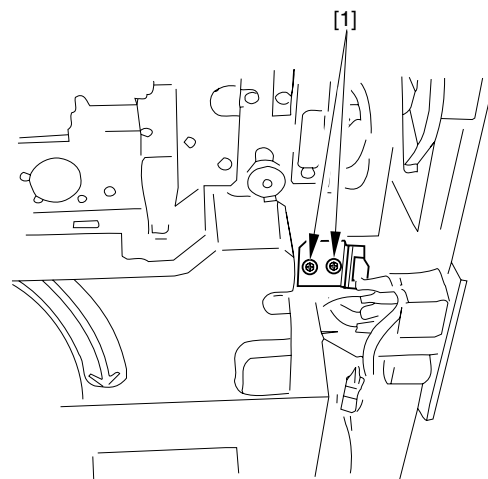
- 1) Replace the registration roller unit.
- 2) Make several copies of the Test Chart, and check the leading edge margin, left/ right margin, and for skew movement.
- 3) If the leading edge margin is not as specified, make adjustments once again. (For standards and method, See "Image Adjustments" Parts)
- 4) If skew movement is noted, make adjustments as instructed in the section that follows.

### 2.8.14 Correcting Skew Movement 0002-4924

CLC5100 / CLC4000

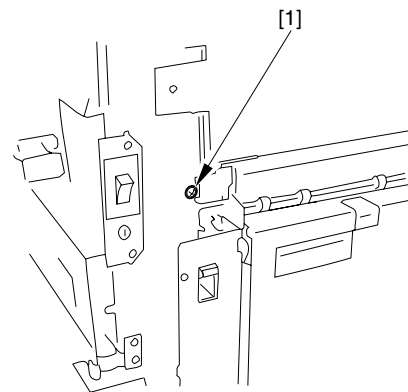
If you must correct skew movement after replacing the registration roller unit, perform the following:

- 1) Remove the transfer right cover and the front right cover. (See "External Controls" Parts)
- 2) Loosen the two mounting screws [1] on the registration roller unit.

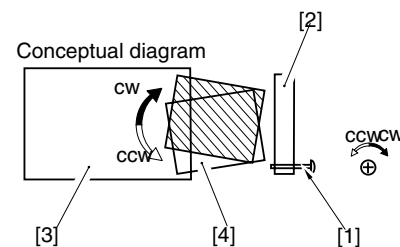


F-2-64

- 3) Adjust the screw [2] used to position the fixing plate.
  - The leading edge of paper will be toward the front in relation to the movement of feeding (CW).



F-2-65



F-2-66

- 4) After making adjustments, fully tighten the screw loosened in step 2).

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# Chapter 3 Error Code

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## 3.1 Error Code Details

### 3.1.1 Error Code Details

0004-9338

CLC5100 / CLC4000

CPU on the machine's image processor and DC controller PCB is equipped with a mechanism to check the condition of the machine (sensors, in particular). The mechanism runs a check as necessary and indicates the presence of an error upon detection.

See the tables that follow for descriptions of codes; you may check these codes using 'JAM/ERROR' under 'DISPLAY' in service mode.

'0001' will be used for the detailed code column of errors without a detailed code.

#### Reference

1. If the self diagnosis mechanism has been activated, you can reset the machine by turning its power switch off and then on. This, however, does not apply to 'E000'; if allowed with the hermistor out of order, such would heat and damage the fixing roller.
2. If 'E005' (ADD CLEANING BELT) is indicated, replace the cleaning web and execute 'E005-RLS' of 'FUSER' under 'FUNC' in service mode.
3. Even after clearing the E indication by turning off the power switch, a description of the last E indication may be checked using 'JAM/ERROR' under 'DISPLAY' in service mode.

#### - Clearing E000

- 1) Start service mode, and select 'FUSER' under 'FUNC'.
- 2) Press 'E000-RLS'.
- 3) Turn off and then on the power switch.

#### - Clearing E005

- 1) Start service mode, and select 'FUSER' under 'FUNC'.
- 2) Press 'E005-RLS'.
- 3) Turn off and then on the power switch.

#### - Clearing E075

- 1) Start service mode, and select 'F-MISCp' under 'FUNC'.
- 2) Press 'E075-RLS'.
- 3) Turn off and then on the power switch.

#### - Clearing 'E004'

- 1) Turn off the power switch.
- 2) Disconnect and connect the power plug from and to the power outlet.
- 3) Turn on the power switch.

## T-3-1

Code	Cause	Description
E000	"xx" represents the heater. xx=01: upper heater xx=02: lower heater xx=03: external heater	
0001	- The oil heater thermistor or the oil thermistor or the external heating thermistor has a short circuit. - The AC driver PCB is faulty. - The DC controller PCB is faulty.	The output of the oil heater thermistor does not reach 50 deg C within 2min after the oil heater has gone ON; as detected by the lowtemperature detection circuit on the DC controller PCB (after the oil temperature has reached a specific level). When the high temperature detection circuit on the DC controller PCB detects abnormal high temperature; then, the power OFF signal (PWOFF*) is set to '0', and the power switch (SW2) is turned OFF after that.
xx01	- Fixing thermistor (short circuit) - External heat thermistor (short circuit) - Triac (short circuit)	The overheating detection circuit on the DC controller PCB has detected an overheating condition. A difference of 60 deg C or higher is detected between the reading of the main thermistor and that of the sub thermistor.
xx02	DC controller PCB (faulty)	The main thermistor has detected overheating (210 deg C).
xx20	- Fixing thermistor (poor contact, open circuit) - Fixing heater (open circuit) - Triac (faulty) - DC controller PCB (faulty)	When control is to 160 deg C or less, a rise in temperature of 10 deg C or more does not occur within 4 min.
xx40		The temperature drops to 140 deg C or less during temperature control for standby.
xx50		The temperature drops to 140 deg C or less during temperature control for printing.
0061	- The oil heater thermistor or the oil thermistor has a short circuit. - The AC driver PCB is faulty. - The DC controller PCB is faulty.	The oil thermistor has detected overheating (180 deg C).
0071		The oil thermistor has detected overheating (220 deg C).
0081		The high-temperature detection circuit on the DC controller PCB has detected overheating (190 deg C for the oil thermistor output; 230 deg C for the oil heater thermistor).
0062	- The oil heater thermistor or the oil thermistor has an open circuit. - The AC driver PCB is faulty. - The DC controller PCB is faulty.	At the end of the WAIT period, the output of the oil thermistor does not reach 50 deg C.
0072		At the end of the WAIT period, the oil heater thermistor does not reach 50 deg C.

Code	Cause	Description
0320	<ul style="list-style-type: none"> <li>- The external heat roller thermistor has poor contact, or has an open circuit.</li> <li>- The external heat roller heater has an open circuit.</li> <li>- The DC controller PCB is faulty.</li> </ul>	The machine detects a fault in its start-up sequence. The increase in temperature detected by the external heat roller main thermistor (TH900) is less than 20°C /min from when the external heat roller heater goes on to when the reading reaches the standby temperature (205 deg C ).
0340		The machine detects a fault after it has detected that the standby temperature has been reached. The reading of the external heat roller main thermistor (TH9000) is 190 deg C or less during standby after the external heat roller has reached its standby temperature (205 deg C).
0350		The machine detects a fault after it has detected that the standby temperature has been reached. The reading of the external heat roller main thermistor (TH9000) is 190 deg C or less during standby after the external heat roller has reached its standby temperature (205 deg C).
E004		
0001	Triac (short circuit)	The triac is ON after the CPU on the DC controller PCB has turned ON the fixing heater triac drive signal and the external heater triac drive signal.
0002		The triac is ON after the CPU on the DC controller PCB has turned OFF the triac drive signal for the drum heater.
E005	<ul style="list-style-type: none"> <li>-Cleaning web (inside fixing assembly; taken up)</li> <li>-Web length sensor (PS36; faulty)</li> <li>-DC controller PCB (faulty)</li> </ul>	The cleaning web solenoid has turned ON 270 times after the web length sensor detected the lever.
E006		
0001	<ul style="list-style-type: none"> <li>- Fixing drawer connector (fault)</li> <li>- Fixing lever switch (SW5; fault)</li> <li>- DC controller PCB (fault)</li> </ul>	The fixing drawer connector connection signal CONNECT goes '0' when the front cover is closed (i.e., the cover connector is disconnected).
0002		The fixing lever switch signal F-KBLK goes '1' when the front cover is closed (i.e., the releasing lever is not set).
E012		
0001	<ul style="list-style-type: none"> <li>- Drum drive system (overload)</li> <li>- Drum motor (M21; error)</li> <li>- DC controller PCB (faulty)</li> </ul>	The rotation speed of the motor has deviated from a specific value for 0.1 sec or more.
E013		

Code	Cause	Description
0001	- Waste toner feeding motor (faulty) - Waste toner feeding screw (rotation fault)	The rotation speed of the waste toner feeding motor has deviated from a specific value for 0.1 sec or more (PLL signal '0').
0002	- DC controller PCB (faulty)	The waste toner lock detection switch (SW4) has been pressed for 0.1 sec or more.
E014	- Fixing motor (M9; error) - DC controller PCB (faulty)	The rotation speed of the motor has deviated from a specific value for 0.1 sec or more.
E015	- Multifeeder pickup motor (M10; faulty) - DC controller PCB (faulty)	- The clock pulses of the pick-up motor cannot be detected. - The rotation speed of the motor has deviated from a specific speed for 0.1 sec or more.
E017	- Duplex feeding motor (M19; faulty) - DC controller PCB (faulty)	The rotation speed of the duplex feeding motor has deviated from a specific value for 0.1 sec or more (PLL signal '0').
E018	- Polishing/oil removing motor (M15; faulty) - DC controller PCB (faulty)	The rotation speed of the polishing/oil removing motor has deviated from a specific value for 0.1 sec or more.
E020	Toner Density Fault xx=01:C xx=02:M xx=03:Y xx=04:BK xx represents the color for the developing assembly. The notations in the descriptions are as follows: SGNL, toner density signal; REF, reference signal.	
xx3A	- Photosensitive drum (deterioration) - SALT sensor (faulty) - Stirring (developer inside developing assembly; faulty) - Stray light (to sensor; no cover, front door open)	The variation of the following is 47 or more for 5 samplings of the density data when sampling during copying sequence: SGNL-S-C, SGNL-S-M, SGNL-S-Y, SGNL-S-K
xx3B	- SALT sensor (faulty) - Stirring (developer inside developing assembly; faulty) - Stray light (to sensor; no cover, front door open) - Photosensitive drum (deterioration) - SALT sensor (soiled window, damage) - Photosensitive drum (dirt; cleaning failure)	The variation of the following is 47 or more for 5 samplings of the density data when sampling during copying sequence: REF-S-C, REF-S-M, REF-S-Y, REF-S-K

Code	Cause	Description
xx40	<ul style="list-style-type: none"> <li>- SALT sensor (faulty)</li> <li>- Stirring (developer inside developing assembly; faulty)</li> <li>- Stray light (to sensor; no cover, front door open)</li> </ul>	When setting initial data (upon installation, for example), the average value after sampling of the following values is 848 or higher: SGNL-S-C, SGNL-S-M, SGNL-S-Y, SGNL-S-K; or, the value of SGNL-S-K is 352 or higher.
xx41	<ul style="list-style-type: none"> <li>- Photosensitive drum (deterioration)</li> <li>- SALT sensor (soiled window, damage)</li> <li>- Photosensitive drum (dirt; cleaning failure)</li> </ul>	When setting initial data (upon installation, for example), the average value after sampling of the following values is 848 or higher: REF-S-C, REF-S-M, REF-S-Y, REF-S-K; or, the value of REF-S-K is 544 or higher.
xx42	<ul style="list-style-type: none"> <li>- SALT sensor (faulty)</li> <li>- Stirring (developer inside developing assembly; faulty)</li> </ul>	When setting initial data (upon installation, for example), the value of the following is 255: SIGG-S-C, SIGG-S-M, SIGG-S-Y, SIGG-S-K
xx43	<ul style="list-style-type: none"> <li>- Stray light (to sensor; no cover, front door open)</li> <li>- Photosensitive drum (deterioration)</li> <li>- SALT sensor (soiled window, damage)</li> <li>- Photosensitive drum (dirt; cleaning failure)</li> </ul>	When setting initial data (upon installation, for example), the gain of the SALT reference signal for each color is 255.
xx45	<ul style="list-style-type: none"> <li>- SALT sensor (faulty)</li> <li>- Stirring (developer inside developing assembly; faulty)</li> <li>- Stray light (to sensor; no cover, front door open)</li> </ul>	When setting initial data (upon installation, for example), the average value after sampling of the following values is 512 or higher: SGNL-S-C, SGNL-S-M, SGNL-S-Y; or, the value of SGNL-S-K is 144 or lower.
xx46	<ul style="list-style-type: none"> <li>- Photosensitive drum (deterioration)</li> <li>- SALT sensor (soiled window, damage)</li> <li>- Photosensitive drum (dirt; cleaning failure)</li> </ul>	When setting initial data (upon installation, for example), the average value after sampling of the following values is 336 or less: REF-S-C, REF-S-M, REF-S-Y; or, the value of REF-S-K is 464 or lower.
xx47	<ul style="list-style-type: none"> <li>- SALT sensor (faulty)</li> <li>- Stirring (developer inside developing assembly; faulty)</li> </ul>	When setting initial data (upon installation, for example), the average value after sampling of the following values is 0: SIGG-S-C, SIGG-S-M, SIGG-S-Y, SIGG-S-K.
xx48	<ul style="list-style-type: none"> <li>- Stray light (to sensor; no cover, front door open)</li> <li>- Photosensitive drum (deterioration)</li> <li>- SALT sensor (soiled window, damage)</li> <li>- Photosensitive drum (dirt; cleaning failure)</li> </ul>	When setting initial data (upon installation, for example), the average gain after sampling of the SALT reference signal for each color is 0.
xx4A	<ul style="list-style-type: none"> <li>- Back-up data (DC controller PCB; error)</li> </ul> <p>Be sure to execute RAM clear, and enter the value recorded on the service label.</p>	During copying sequence, the average value after sampling of the following values is 848 or higher: SGNL-S-C, SGNL-S-M, SGNL-S-Y; or, the value of SGNL-S-K is 445 or higher.
xx4B	<ul style="list-style-type: none"> <li>- Initial settings may be missing.</li> </ul>	During copying sequence, the average value after sampling of the following values is 848 or higher: SGNL-S-C, SGNL-S-M, SGNL-S-Y; or, the value of REF-S-K is 544 or higher.

Code	Cause	Description
xx4C	- Back-up data (DC controller PCB; error) Be sure to execute RAM clear, and enter the value recorded on the service label.	During copying sequence, the average value after sampling of the following values is 512 or lower: SGNL-S-C, SGNL-S-M, SGNL-S-Y; or, the value of SGNL-S-K is 102 or lower.
xx4D	- Initial settings may be missing.	During copying sequence, the average value after sampling of the following values is 336 or lower: REF-S-C, REF-S-M, REF-S-Y; or, the value of REF-S-K is 464 or lower.
xx4F	SALT sensor (fault)	The value of 'SGNL-S-C/M/Y/K', which has been obtained by averaging samplings during copying sequence is 1008 or more.
xx50	- SALT sensor (faulty) - Stirring (developer inside developing assembly; faulty)	When setting initial data (upon installation, for example), the gain cannot be set (i.e., no change is noted in the value of SGNL between GAIN: 20H and GAIN: E0).
0455	- Stray light (to sensor; no cover, front cover open) - Photosensitive drum (deterioration)	An appropriate patch cannot be obtained when setting initial data (e.g., at time of installation).
xx60	- SALT sensor (dirt on window, damage)	During multiple initial rotation (at power-on, for example), the window cleaning correction value is 60% or lower.
xx70	- Photosensitive drum (dirt; cleaning failure)	During multiple initial rotation (at power-on, for example), the window cleaning correction value is 140% or lower.
xx80	- Back-up data (DC controller PCB; error) Be sure to execute RAM clear, and enter the value recorded on the service label.	During copying sequence, the initial setting for the following is 848 or higher because of an error in the memory back-up data: SGNL-S-C, SGNL-S-M, SGNL-S-Y; or, the value of SGNL-S-K is 352 or higher.
xx81	- Initial settings may be missing.	During copying sequence, the initial setting for the following is 848 or higher because of an error in the memory back-up data: REF-S-C, REF-S-M, REF-S-Y; or, the value of REF-S-K is 544 or higher.
xx82	- Back-up data (DC controller PCB; error) Be sure to execute RAM clear, and enter the value recorded on the service label.	During copying sequence, the value of the following is 255 because of an error in the memory back-up data: SIGG-S-C, SIGG-S-M, SIGG-S-Y, SIGG-S-K
xx85	- Initial settings may be missing.	During copying sequence, the initial setting for the following is 512 or lower because of an error in the memory back-up data: SGNL-S-C, SGNL-S-M, SGNL-S-Y; or, the value of SGNL-S-K is 144 or lower.



Code	Cause	Description
xx86	- Back-up data (DC controller PCB; error) Be sure to execute RAM clear, and enter the value recorded on the service label. - Initial settings may be missing.	During copying sequence, the initial setting of the following is 336 or lower because of an error in the memory back-up data: REF-S-C, REF-S-M, REF-S-Y; or the value of REF-S-K is 464 or lower.
xx87		During copying sequence, the value of the following is 0 because of an error in the memory back-up data: SIGG-S-C, SIGG-S-M, SIGG-S-Y, SIGG-S-K.
xx88	- Back-up data (DC controller PCB; error) Be sure to execute RAM clear, and enter the value recorded on the service label. - Initial settings may be missing.	During copying sequence, the data on the light (in the absence of toner) reflected by each photosensitive drum is 16 or lower because of an error in the memory back-up data.
xx89		During copying sequence, the data for window soiling correction is 16 or lower because of an error in the memory backup data.
xx8A	- Back-up data (DC controller PCB; error) Be sure to execute RAM clear, and enter the value recorded on the service label. - Initial settings may be missing.	The value of 'REF-S-C/M/Y/K' which has been obtained by aver-aging samplings setting initial data is 16 or less.
xx8F		During copying sequence, the gain of the SALT reference signal for each color is NOT 128 because of an error in the memory back-up data.
xx90	SALT sensor shutter (fault)	Extreme changes have occurred in the window soiling correction value 10 times or more.
xx91		An error has occurred in the data 10 times or more as a result of window soiling correction.
xxAA	- Developer (deterioration) - Developing cylinder (rotation failure) - Developing assembly (locking failure)	During copying sequence, the variation in 5 samplings of the following values is 47 or higher: SGNL-C, SGNL-M, SGNL-Y
xxAB	- Toner density sensor (faulty) - Developer (inside developing assembly; stirring failure) - Toner level sensor (faulty)	During copying sequence, the variation in 5 samplings of the following values is 47 or higher: REF-C, REF-M, REF-Y
xxB0	- Developer (deterioration) - Developing cylinder (rotation failure) - Developing assembly (locking failure)	When setting initial data, the average after sampling of the following values is 859 or higher: SGNL-C, SGNL-M, SGNL-Y
xxB1	- Toner density sensor (faulty) - Developer (inside developing assembly; stirring failure) - Toner level sensor (faulty)	When setting initial data, the average after sampling of the following values is 859 or higher: REF-C, REF-M, REF-Y

Code	Cause	Description
xxB2	- Developer (deterioration) - Developing cylinder (rotation failure)	When setting initial data, the average after sampling of the follow-ing values is 255. SIGG-C, SIGG-M, SIGG-Y
xxB5	- Developing assembly (locking failure) - Toner density sensor (faulty) - Developer (inside developing assembly; stirring failure) - Toner level sensor (faulty)	When setting initial data, the average after sampling of the follow-ing values is 777 or lower: SGNL-C, SGNL-M, SGNL-Y
xxB6	- Developer (deterioration) - Developing cylinder (rotation failure) - Developing assembly (locking failure)	When setting initial data, the average of the following values after sampling is 205 or lower: REF-C, REF-M, REF-Y
xxB7	- Toner density sensor (faulty) - Developer (inside developing assembly; stirring failure) - Toner level sensor (faulty)	When setting initial data, the average of the following values after sampling is 0: SIGG-C, SIGG-M, SIGG-Y
xxBA	- Developer (deterioration) - Developing cylinder (rotation failure) - Developing assembly (locking failure)	During copying sequence, the average of the following values after sampling is 1013 or higher: SGNL-C, SGNL-M, SGNL-Y
xxBB	- Toner density sensor (faulty) - Developer (inside developing assembly; stirring failure) - Toner level sensor (faulty)	During copying sequence, the value of the following is 30% or more higher than the initial setting: REF-C, REF-M, REF-Y
xxBC	- Developing assembly (deterioration) - Developing cylinder (rotation failure) - Developing assembly (locking failure) - Toner density sensor (faulty) - Developer (inside developing assembly; stirring fault) - Toner level sensor (faulty)	During copying sequence, the average of the following values after sampling is 306 or higher: SGNL-C, SGNL-M, SGNL-Y
xxBD	- Developing assembly (deterioration) - Developing cylinder (rotation failure) - Developing assembly (locking failure)	REF-During copying sequence, the value of the following is 30% or more lower than the initial setting: REF-C, REF-M, REF-Y
xxBF	- Toner density sensor (faulty) - Developer (inside developing assembly; stirring fault) - Toner level sensor (faulty)	When setting initial data, the values of the following cannot be set: SIGG-C, SIGG-M, SIGG-Y
xxF1	- Toner sensor (faulty)	The C/M/Y hopper error sensor has detected the absence of toner.
04F2	- Toner stirring screw (faulty)	The Bk hopper error sensor has detected the absence of toner 10 times or more continuously.

Code	Cause	Description
xxD0	- Developer (deterioration) - Developing cylinder (rotation failure) - Toner density sensor (faulty)	The value of the toner supply time correction data based on 'SGNL-C/M/Y' is 141 or more for 20 copies or more during copy-ing sequence.
xxE0	- Developer (inside developing assembly; stirring fault) - Toner level sensor (faulty)	The value of the toner supply time correction data based on 'SGNL-C/M/Y' is -188 or less for 20 copies or more during copy-ing sequence.
E023		
0101	- Developing motor (faulty) - DC controller PCB (faulty) - Developing cylinder (rotation failure)	The rotation speed of the C developing motor (M18C) has deviated from a specific value for 0.1 sec or more (PLL signal '0').
0201		The rotation speed of the M developing assembly (M18M) has de-viated from a specific value for 0.1 sec or more (PLL signal '0').
0301		The rotation speed of the Y developing motor (M18Y) has deviated from a specific value for 0.1 sec or more (PLL signal '0').
0401		The rotation speed of the Bk developing motor (M18Bk) has devi-ated from a specific speed for 0.1 sec or more (PLL signal '0').
E030	- Counter (open circuit) - DC controller PCB (faulty)	Check immediately before the counter turns ON and OFF.(Normal if the counter drive signal is '0' when the counter turns ON; nor-mal if the counter drive signal is '1' when the counter turns OFF.)
E032	Data communication (error between Copy Data Controller-A1 and copier)	After the copier has generated the copy start signal, count pulses have not been detected by the data Controller-A1 within a specific period of time.
E040		
0001	- The cassette lifter motor is faulty. - The DC controller PCB is faulty.	The error detection circuit on the DC controller PCB has detected overcurrent in the upper cassette lifter motor drive circuit.
0002		The error detection circuit on the DC controller PCB has detected overcurrent in the lower cassette lifter motor drive circuit.

Code	Cause	Description
0101	- Multifeeder lifter motor (M1; faulty) - DC controller PCB (faulty)	The upper lifter sensor (PS2) does not turn ON within 6 sec after the multifeeder lifter motor (M1) has turned ON.
0102		The lower lifter sensor (PS3) does not turn ON within 6 sec after the multifeeder lifter motor (M1) has turned ON.
0103		The error detection circuit of the DC controller PCB detects overcurrent in the multifeeder lifter drive circuit.
E041		
0001	- The deck lifter motor (M2) is faulty. - The deck lifter lower limit switch (SW2) is faulty. - The DC controller PCB is faulty.	When the lift action of the paper deck is not completed within 60 secs.
E044		
0001	- The paper width set for the cassette or the multifeeder is wrong. - The slide resistor is faulty.	Wrong paper width for multifeeder
0002		Wrong paper width for upper cassette
0003		Wrong paper width for lower cassette
E050		
0001	- Duplex paper jogging guide motor (M23; faulty) - Duplex paper jogging guide home position sensor (PS29; faulty)	The duplexing unit stacking guide home position sensor (PS29) does not turn ON within 4 sec after the duplex paper jogging guide motor (M23) has turned ON.
0002	- DC controller PCB (faulty)	The duplex paper jogging guide home position sensor (PS29) re-mains ON for 1 sec or more after the duplexing unit stacking guide motor (M23) has turned ON.
E061	Potential Control Fault high-order 2 digits xx=00:common error xx=01:Y xx=02:M xx=03:C xx=04:BK	
xx01	- Potential measurement unit (faulty) - DC controller PCB (faulty) - Primary/Pre-primary charging assembly (faulty) - Pre-exposure lamp (faulty)	The difference between VD1 measured during the 1st rotation and VD1 measured during the 2nd rotation is 30 V or more.
xx02		The difference between VD2 measured during the 1st rotation and VD2 measured during the 2nd rotation is 30 V or more.
xx03		The difference between VL1 measured during the 1st rotation and VL1 measured during the 2nd rotation is 30 V or more.
xx04		The difference between VL2 measured during the 1st rotation and VL2 measured during the 2nd rotation is 30 V or more.

Code	Cause	Description
xx10	<ul style="list-style-type: none"> <li>- Primary/Pre-primary charging assembly (faulty)</li> <li>- HVDC (faulty)</li> <li>- Pre-exposure lamp (faulty)</li> </ul>	The measurement of VD1 is 500 V or higher and, in addition, the measurement of VD2 is 900 V or higher.
xx11	<ul style="list-style-type: none"> <li>- Primary charging assembly (faulty)</li> <li>- HVDC (faulty)</li> </ul>	The measurement of VD1 is 900 V or higher and, in addition, the measurement of VD2 is 900 V or higher.
xx12	<ul style="list-style-type: none"> <li>- Video controller PCB (faulty)</li> </ul>	The measurement of VD1 is 200 V or lower and, in addition, the measurement of VD2 is 600 V or lower.
xx13	<ul style="list-style-type: none"> <li>- Laser unit (faulty)</li> </ul>	The measurement of VD1 is 150 V or lower and, in addition, the measurement of VD2 is 300 V or lower.
xx14	<ul style="list-style-type: none"> <li>- Primary charging assembly (faulty)</li> <li>- HVDC (faulty)</li> </ul>	The measurement of VD1 is 150 V or lower and, in addition, the measurement of VD2 is 150 v or lower.
xx15	<ul style="list-style-type: none"> <li>- Potential measurement unit (faulty)</li> <li>- DC controller PCB (faulty)</li> </ul>	The measurement of VD1, VD2, VL1, or VL2 is 10 V or lower.
xx16	<ul style="list-style-type: none"> <li>- Video controller PCB (faulty)</li> <li>- Laser unit (faulty)</li> <li>- Scanner (faulty)</li> </ul>	<p>The difference between VD1 and VL1 measurements is 20 V or less and, in addition, the measurement of VD1 is 200 V or more.</p> <p>The difference between VD2 and VL2 measurements is 200 V or less and, in addition, the VD2 measurement is 600 V or higher.</p>
xx17	<ul style="list-style-type: none"> <li>- Video controller PCB (faulty)</li> <li>- Laser intensity (poor adjustment)</li> <li>- Laser unit (faulty)</li> </ul>	The VL1 measurement is 200 V or higher and, in addition, the VL2 measurement is 400 V or higher.
xx21	<ul style="list-style-type: none"> <li>- Laser unit (faulty)</li> <li>- Laser shutter (faulty)</li> <li>- Photosensitive drum (faulty)</li> <li>- Scanner (faulty)</li> <li>- Video controller PCB (faulty)</li> <li>- Laser intensity (adjustment faulty)</li> </ul>	The computation value (750 V) of Vdc is the upper limit value (750 V) or higher.
xx22	<ul style="list-style-type: none"> <li>- Laser unit (faulty)</li> <li>- Laser shutter (faulty)</li> <li>- Photosensitive drum (faulty)</li> <li>- Scanner (faulty)</li> <li>- Video controller PCB (faulty)</li> <li>- Laser intensity (adjustment faulty)</li> </ul>	The computation value of Vg is the upper limit value (950 V) or higher.
xx23	<ul style="list-style-type: none"> <li>- Laser unit (faulty)</li> <li>- Laser shutter (faulty)</li> <li>- Photosensitive drum (faulty)</li> <li>- Scanner (faulty)</li> <li>- Video controller PCB (faulty)</li> <li>- Laser intensity (adjustment faulty)</li> </ul>	The computation value of V00 is the upper limit value (950 V) or higher.

Code	Cause	Description
xx24	- Potential measurement unit (faulty)	The computation value of Vdc is the lower limit value (200 V) or lower.
xx25	- HVDC (faulty)	The computation value of V00 is the lower limit value (325 V) or lower.
xx26	- Laser unit (faulty) - Video controller PCB (faulty) - Laser intensity (adjustment faulty)	The computation value of Vg is the lower limit value (250 V) or lower.
xx27	- Potential measurement unit (faulty) - HVDC (faulty)	The computation value of VFF is the lower limit value (700 V) or lower.
xx28	- Laser unit (faulty) - Video controller PCB (faulty) - Laser intensity (adjustment faulty)	The computation value of VFF is the lower limit value (0 V) or lower.
xx30	-Video controller PCB (faulty)	The measurement of VD1 is 400 V or higher.
xx31	- Laser unit (faulty) - Laser intensity (adjustment fault) - Photosensitive drum (faulty) - Scanner (faulty) - Potential measurement unit (faulty) - HVDC (faulty)	The measurement of VD1 is 200 V or lower.
xx32	-Video controller PCB (faulty)	The measurement of VD2 is 800 V or higher.
xx33	- Laser unit (faulty) - Laser intensity (adjustment fault) - Photosensitive drum (faulty) - Scanner (faulty) - Potential measurement unit (faulty) - HVDC (faulty)	The measurement of VD2 is 500 V or lower.
xx34	-Video controller PCB (faulty)	The measurement of VL1 is 200 V or higher.
xx35	- Laser unit (faulty) - Laser intensity (adjustment fault)	The measurement of VL2 is 400 V or more.
xx36	- Photosensitive drum (faulty) - Scanner (faulty) - Potential measurement unit (faulty) - HVDC (faulty)	The measurement of VL2 is 0 V or lower.
xx50	- Potential measurement unit (faulty)	The difference between the computation value of Vdc measured previously and the computation value of Vdc measured currently is 30 V or more.
xx51	- DC controller PCB (faulty)	The difference between the computation value of Vg measured previously and the computation value of Vg measured currently is 30 V or more.

Code	Cause	Description
xx52	- Potential measurement unit (faulty) - HVDC (faulty)	The computation value of V00 is the upper limit value (325 V) or higher.
xx53	- Video controller PCB (faulty) - Laser unit (faulty) - Laser shutter (faulty) - Scanner (faulty) - Environment sensor (faulty) - Photosensitive drum (faulty) - Photosensitive drum (poor grounding)	The computation value of V00 is the lower limit value (325 V) or lower
E062	Drum Temperature Control Fault high-order 2 digits xx=00:common error xx=01:Y xx=02:M xx=03:C xx=04:BK	
xx01	- DC controller PCB (faulty)	The drum temperature is 57 deg C or more for 0.5 sec or more.
xx02	- AC driver (faulty)	The drum temperature has dropped below 15 deg C or less after it has reached a specific temperature.
0010	Drum thermistor (faulty)	The drum thermistor has an open circuit or a short circuit.
E072	-Belt cleaner drive motor - Transfer belt unit - DC controller	The sensor output does not change after a specific period of time (6 sec).
E073		
0001		The connect signal CONNECT of the transfer assembly frame goes '0' when the front cover is closed.
0002		The transfer belt edge sensor 4 (PS20) and the transfer belt edge sensor 1 (PS17) detected the belt at the same time.
0003		The transfer belt edge sensor 3 (PS19) and the transfer belt edge sensor 2 (PS18) detected the belt at the same time.
0004		The transfer belt edge sensor 3 (PS19) and the transfer belt edge sensor 4 (PS20) detected the belt at the same time.
0005		The transfer belt edge sensor 1 (PS17) and the transfer belt edge sensor 2 (PS18) detected the belt at the same time.
E074	- Transfer belt lifter sensor 1 (PS12), 2 (PS13) - Transfer belt lifter clutch (CL17; faulty) - DC controller PCB (faulty)	The transfer belt lifter sensor 1 (PS12) or 2 (PS13) does not go '1' (ON) within a specific period of time after the transfer belt lifter clutch (CL17) has turned ON.
E075		

Code	Cause	Description
0001	<ul style="list-style-type: none"> <li>- Transfer belt edge sensor 1 (PS17; fault)</li> <li>- Transfer belt edge sensor 2 (PS18; fault)</li> <li>- Transfer belt edge sensor 1 (PS19; fault)</li> <li>- Transfer belt edge sensor 2 (PS20; fault)</li> <li>- Transfer belt swing motor (M13; fault)</li> <li>- DC controller PCB (fault)</li> </ul>	The transfer belt edge sensor 1 (PS17) does not turn off 200 sec after it has detected the belt.
0002		The transfer belt edge sensor 2 (PS18) does not turn off 200 sec after it has detected the belt.
0003		The transfer belt edge sensor 3 (PS19) detected the transfer belt.
0004		The transfer belt edge sensor 4 (PS20) detected the transfer belt.
E076		
0001	<ul style="list-style-type: none"> <li>- The transfer belt cleaner belt motor is faulty.</li> <li>- The connection between the motor and the DC controller PCB is faulty.</li> <li>- The DC controller PCB is faulty.</li> </ul>	The error detection circuit on the DC controller PCB has detected overcurrent in the transfer belt waste toner motor drive circuit.
0002	<ul style="list-style-type: none"> <li>- The transfer belt cleaner web has been taken up.</li> <li>- The web length sensor is faulty.</li> <li>- The DC controller PCB is faulty.</li> </ul>	An excess load is imposed on the transfer belt cleaning web motor (M12) because of the shortage of the web, causing the cleaning web rotation sensor (PS10) to detect faulty rotation.
E077		
0001	<ul style="list-style-type: none"> <li>- The transfer belt waste toner motor is faulty.</li> <li>- The connection between the motor and the DC controller PCB is faulty.</li> <li>- The DC controller PCB is faulty.</li> </ul>	The error detection circuit on the DC controller PCB has detected overcurrent in the transfer belt waste toner motor drive circuit.
E100	high-order 2 digits xx=00:common error xx=01:Y xx=02:M xx=03:C xx=04:BK	
xx01	<ul style="list-style-type: none"> <li>- Laser unit (faulty)</li> <li>- Laser driver PCB (faulty)</li> </ul>	At the start of potential control, the BD signal is not detected for 1 sec or more.
xx02	<ul style="list-style-type: none"> <li>- Image processor PCB (faulty)</li> </ul>	The operation ON current used to obtain optimum intensity is larger than a specific value.
E110	<ul style="list-style-type: none"> <li>- Laser scanner drive system (overload)</li> <li>- Laser scanner motor (M4; faulty)</li> <li>- DC controller PCB (faulty)</li> </ul>	The rotation speed of the motor has deviated from a specific value for 0.1 sec or more.
E194	high-order 2 digits xx=00:common error xx=01:Y xx=02:M xx=03:C xx=04:BK	



Code	Cause	Description
xx01	<ul style="list-style-type: none"> <li>- CCD unit for pattern reading (faulty)</li> <li>- PCB for pattern reading (faulty)</li> <li>- DC controller PCB (faulty)</li> </ul> In addition, a fault in the primary charging assembly or the transfer belt may have prevented the formation of a pattern.	The center of a pattern cannot be determined.
xx02		The center position (difference) in relation to the M pattern is 61 or more in main scanning direction.
xx03		The center position (difference) in relation to the M pattern is 113 or more for C and Bk and 141 or more for Y in sub scanning direction.
0001		After the shutter motor has started to rotate, the shutter open sensor does not turn on after a specific period of time.
0002		After the shutter motor has started to rotate, the shutter closed sensor does not turn on after a specific period of time.
E220	<ul style="list-style-type: none"> <li>- The scanning lamp has deteriorated or has an open circuit.</li> <li>- The lamp regulator PCB is faulty.</li> <li>- The reader controller PCB is faulty.</li> </ul>	The lamp does not turn on 500 msec after the scanning lamp ON signal has been generated. Or, the lamp fails to turn off 500 msec after the scanning lamp OFF signal has been generated.
E226	The reader suction fan (FM12/13) is faulty.	The reader suction fan (FM12/13) has stopped to rotate.
E249		
0001	The memory elements on the PCB are not connected, have poor contact, or are faulty.	An error has occurred in the course of a read/write check of the memory on the IP memory PCB.
0002		An error has occurred in the course of a read/write check of the memory on the ED board.
E260		
0001	<ul style="list-style-type: none"> <li>- DC power supply PCB unit (faulty)</li> <li>- DC controller PCB (faulty)</li> <li>- DC power supply cooling fan (faulty)</li> </ul>	When the power switch is turned ON, 5V is not present on the DC controller PCB.
0002		When the power switch is turned on with the front cover closed, 24 V is not present on the DC controller PCB.
0003		The thermal switch has detected overheating of the 5V system on the DC power supply PCB.
0004		The thermal switch has detected overheating in the 24VR system on the DC power supply PCB.
0005		0005 The thermal switch has detected overheating in the 24VU system on the DC power supply PCB.
0006		The DC power supply cooling fan is not rotating normally.

Code	Cause	Description
E350	ECO-ID PCB (faulty)	<ul style="list-style-type: none"> <li>- The ECO-ID PCB is not mounted.</li> <li>- The connection between ECO-ID PCB and reader controller PCB is faulty.</li> </ul> <p>During the power switch has been turned ON, the communication between ECO-ID PCB and the reader controller is not normal.</p>
E351	Image processor PCB (faulty)	The communication within the image processor PCB is faulty.
E400	Data communication with copier (faulty)	Communication with the copier is monitored at all times. The communication is disrupted for 5 sec or more.
E401	<ul style="list-style-type: none"> <li>- Pick-up motor (M1; faulty)</li> <li>- Pick-up roller home position sensor 1 (S8; faulty)</li> </ul>	The sensor state does not change even after the pick-up motor has been driven for more than 2 sec.
E402	<ul style="list-style-type: none"> <li>- Belt motor (M3; faulty)</li> <li>- Belt motor clock sensor (S11; faulty)</li> </ul>	The number of belt motor clock pulses is less than a specific value for 100 ms.
E403	<ul style="list-style-type: none"> <li>- Reversing motor (M2; faulty)</li> <li>- Slip sensor (S10; faulty)</li> </ul>	The number of slip clock pulses is below a specific value for 100 ms.
E404	<ul style="list-style-type: none"> <li>- Delivery motor (M5; faulty)</li> <li>- Delivery motor clock sensor (S12; faulty)</li> </ul>	The number of delivery motor clock pulses is below a specific value for 200 ms.
E405	<ul style="list-style-type: none"> <li>- Pick-up motor (M1; faulty)</li> <li>- Pick-up motor clock sensor (S12; faulty)</li> </ul>	The number of pick-up motor clock pulses is below a specific value for 200 ms.
E407	<ul style="list-style-type: none"> <li>- Pick-up motor (M6; faulty)</li> <li>- Tray position sensor (S25; faulty)</li> </ul>	The sensor state does not change even the tray ascent motor is driven for 2 sec or more.
E408	<ul style="list-style-type: none"> <li>- Feeding motor (M8; faulty)</li> <li>- Feeding motor clock sensor (S22; faulty)</li> </ul>	The number of feeding motor clock pulses is below a specific value for 100 ms.
E411	<ul style="list-style-type: none"> <li>- Registration sensor 1 (S3; faulty)</li> <li>- Skew sensor 1 (S4; faulty)</li> <li>- Manual feed registration sensor (S19; faulty)</li> <li>- Image leading edge sensor (S20; faulty)</li> <li>- Original sensor 1 (S7; faulty)</li> </ul>	The output of each sensor in the absence of paper is higher than a specific value.
E505		
0001	Backup RAM	When there is a checksum error in the stacker controller circuit board RAM data during power on.
E510	Feeding motor (M1; rotation failure)	There is no clock signal from the clock sensor (P15) of the feeding motor for 250 ms or more.
E510		
0001	Feed motor (M1)	When feed motor error detect signal is detected.
E511		

Code	Cause	Description
0001	Upper delivery motor (M2)	When upper delivery motor error detect signal is detected.
E512		
0001	Lower delivery motor (M3)	When lower delivery motor error detect signal is detected.
E516	Low-speed feeding motor (M10; rotation failure)	There is no clock signal from the clock sensor (P123) of the feeding motor for 250 ms or more.
E517		
0001	The locking cam home position for the buffer pass unit cannot be detected.	The upper cam solenoid 1 is damaged, the upper cam sensor 1 is damaged, or the position of the upper cam sensor light-blocking plate is faulty.
0002		The upper cam solenoid 2 is damaged, the upper cam sensor 2 is damaged, or the position of the upper cam sensor light-blocking plate is faulty.
0003		The upper cam solenoid 1 or 2 is damaged, both upper cam sensor 1 and 2 are damaged, or the position of the upper cam sensor light blocking plate is wrong.
0004	The locking cam home position for the buffer pass unit cannot be detected.	Either or both of the upper cam solenoids are damaged, or the position of the upper cam sensor light-blocking plate is faulty.
0005		The upper cam solenoid or the sensor is damaged.
0006		A serial port communication sensor read attempt has failed (mis-match in echo back).
0007	The locking cam home position for the buffer pass unit cannot be detected.	A serial port communication unit read attempt has failed (mismatch in echo back).
0008		A serial port communication unit write attempt has failed (mis-match in echo back).
0009		A serial port communication unit write attempt has failed (mis-match in write execution echo back).
0011	The locking cam home position for the buffer pass unit cannot be detected.	The lower cam solenoid 1 is damaged, the lower cam sensor 1 is damaged, or the position of the lower cam sensor light-blocking plate is faulty.
0012		The lower cam solenoid 2 is damaged, the lower cam sensor 2 is damaged, or the position of the lower cam sensor light-blocking plate is faulty.
0013		Either lower cam solenoid 1 or 2 is damaged, both lower cam sensors 1 and 2 are damaged, or the position of the lower cam sensor light-blocking plate is faulty.

Code	Cause	Description
0014	The locking cam home position for the buffer pass unit cannot be detected.	Either or both of the upper cam solenoids are damaged, or the position of the lower cam sensors light-blocking plate is faulty.
0015		Either the lower cam solenoid or the sensor is damaged.
E522	Push bar motor (M7; rotation failure)	The operation does not end within 2000 ms after the motor drive signal has been generated.
E523	Reference wall motor (M6; rotation failure)	The operation does not end within 2000 ms after the motor drive signal has been generated.
E524	Multi guide motor (M5; rotation failure)	The operation does not end within 2000 ms after the motor drive signal has been generated.
E525	Bin paper sensor 1 (S3, S4; auto adjustment fault)	Auto adjustment of the bin paper sensor 1 (S3, S4) cannot be executed; or, an error has occurred in the auto adjustment value.
E526	Bin paper sensor 2 (S6, S7; auto adjustment)	Auto adjustment of the bin paper sensor (S6, S7) cannot be executed; or, an error has occurred in the auto adjustment value.
E530	Guide bar motor (M8 rotation failure)	The operation does not end within a specific time after the motor drive signal has been generated: 5000 ms if front retrieval, and 2000 ms otherwise.
E530		
0001	Upper front jog motor (M8)	When the upper front jog motor does not return to home position after 2 seconds has elapsed.
0002	Upper front jog sensor (PI10)	When the upper front jog motor does not move from home position after 2 seconds has elapsed.
0003	Upper rear jog motor (M9)	When the upper rear jog motor does not return to home position after 2 seconds has elapsed.
0004	Upper rear jog sensor (PI11)	When the upper rear jog motor does not move from home position after 2 seconds has elapsed.
E531	Stapler unit drive motor (M4; rotation failure)	<ul style="list-style-type: none"> <li>- The operation does not end within 2000 ms after the motor drive signal has been generated.</li> <li>- There is no clock signal from the clock sensor (P18) of the motor for 250 ms or more.</li> <li>- The input signal from the shifting home position sensor (P19) for 1000 ms or more.</li> </ul>
E532	Stapler unit shift motor (M3; rotation failure)	The operation does not end within 5000 ms after the motor drive signal has been generated.
E533	Stapler paper sensor auto adjustment (faulty)	Auto adjustment of the stapler paper sensor cannot be executed; or, an error has occurred in the auto adjustment value.

Code	Cause	Description
E538		
0001	Lower front jog motor (M10)	When the lower front jog motor does not return to home position after 2 seconds has elapsed.
0002	Lower front jog sensor (PI12)	When the lower front jog motor does not move from home position after 2 seconds has elapsed.
0003	Lower rear jog motor (M11)	When the lower rear jog motor does not return to home position after 2 seconds has elapsed.
0004	Lower rear jog sensor (PI13)	When the lower rear jog motor does not move from home position after 2 seconds has elapsed.
E540	Bin shift motor (M9; rotation failure)	<ul style="list-style-type: none"> <li>- The operation does not end within a specific period of time after the motor drive signal has been generated: 20000 ms during initialization, and 2000 ms otherwise.</li> <li>- There is no clock signal from the clock plate sensor of the motor for 250 ms or more.</li> <li>- The input signal from the lead cam position sensor (P120) does not change for 2000 ms or more.</li> </ul>
E540		
0001	Upper delivery tray shift motor (M12) Upper paper surface detect sensor (PI101, PI102)	During upper delivery tray shift operation, when paper surface detect does not complete within 15 seconds when the tray is at full position or within 10 seconds at other position.
0002	Upper tray paper full detect sensor (PI18, PI19)	While the upper paper surface detect sensor is detecting the paper surface, when paper surface detect state remains after 2 seconds has elapsed since the upper delivery tray is lowered.
E542		
0001	Lower delivery tray shift motor (M13) Lower tray paper surface detect sensor (PI101, PI102)	During lower delivery tray shift operation, when paper surface detect does not complete within 15 seconds when the tray is at full position or within 10 seconds at other position.
0002	Lower tray paper full detect sensor (PI20, PI21)	While the lower paper surface detect sensor is detecting the paper surface, when paper surface detect state remains after 2 seconds has elapsed since the lower delivery tray is lowered.
E550	Power supply error	When POWER system 24V is not detected.
E561		
0001	Upper offset motor (M4)	When the upper delivery roller is performing shift operation and does not return to home position after 1 second has elapsed.

Code	Cause	Description
0002	Upper delivery roller home position sensor (PI6)	When the upper delivery roller is performing shift operation and does not move from home position after 1 second has elapsed.
E562		
0001	Lower offset motor (M5)	When the lower delivery roller is performing shift operation and does not return to home position after 1 second has elapsed.
0002	Lower delivery roller home position sensor (PI7)	When the lower delivery roller is performing shift operation and does not move from home position after 1 second has elapsed.
E577		
0001	Upper paddle motor (M6)	When the upper paddle is operating and does not return to home position after 1.2 seconds has elapsed.
0002	Upper paddle home position sensor (PI8)	When the upper paddle is operating and does not move from home position after 1.2 seconds has elapsed.
E579		
0001	Lower paddle motor (M7)	When the lower paddle is operating and does not return to home position after 1.2 seconds has elapsed.
0002	Lower paddle home position sensor (PI9)	When the lower paddle is operating and does not move from home position after 1.2 seconds has elapsed.
E599	DC output (from sorter controller; faulty)	An error has occurred in the DC output (24 VL, 24 VP) from the sorter con-troller PCB.
E620	- IP-MAIN PCB (faulty) - IP-ED PCB (faulty)	The communication between the IP-ED PCB and the IP-MAIN PCB is interrupted for 5 sec or more.
E634	Film projector lamp (faulty)	See the Service Manual for the film projector.
E700	- DC controller PCB (faulty) - Reader unit controller PCB (faulty) - Power supply PCB (faulty)	The communication between the DC controller PCB and the reader unit controller PCB is disrupted for 5 sec or more.
E718	- IP-MAIN PCB (faulty) - Film projector controller PCB (faulty)	The communication between the IP-MAIN PCB and the film projector is interrupted for 5 sec or more.
E800	- Power switch - DC controller PCB - DC harness	An interruption in the auto shut-off signal is detected for 1 sec or more.
E804		
0001	Power supply unit (DCP1) cooling fan FM 17/18 (error)	The rotation of the cooling fan for the power supply unit (DCP1) has stopped.
E805		

Code	Cause	Description
0001	The delivery assembly exhaust fan (FM1/2/3) is faulty.	The delivery assembly exhaust fan (FM1/2/3) has stopped to rotate.
0002	The general exhaust fan (FM21/22/23) is faulty.	The general exhaust fan (FM21/22/23) has stopped to rotate.
E807		
0001	The laser cooling fan (FM4/5) is faulty.	The laser cooling fan (FM4/5) has stopped to rotate.
0002	The laser scanner motor cooling fan (FM24) is faulty.	The laser scanner motor cooling fan (FM24) has stopped to rotate.
0003	The digital unit cooling fan 3 (FM16) is faulty.	The digital unit cooling fan 3 (FM16) has stopped to rotate.
0004	The digital unit cooling fan 1/2 (FM14/15) is faulty.	The digital unit cooling fan 1/2 (FM14/15) has stopped to rotate.
E822		
0002	Reversing twin fan (FM90002/90003) is faulty.	Reversing twin fan (FM90002/90003) has stopped to rotate.
0003	The reversing assembly exhaust fan (FM28/29/30/33) is faulty.	The reversing assembly exhaust fan (FM28/29/30/33) has stopped to rotate.
0004	The fixing heat discharge fan (FM31) is faulty.	The fixing heat discharge fan (FM31) has stopped to rotate.
0006	The pre-fixing exhaust fan (FM35/36) is faulty.	The pre-fixing exhaust fan (FM35/36) has stopped to rotate.
E824		
0001	The primary exhaust fan (FM6) is faulty.	The primary exhaust fan (FM6) has stopped to rotate.
0002	The primary suction fan (FM8/9) is faulty.	The primary suction fan (FM8/9) has stopped to rotate.
E826		
0001	The pickup cooling fan (FM26/32) is faulty.	The pickup cooling fan (FM26/32) has stopped to rotate.
E840		
0001	The external heat roller drive motor (M9004) is faulty.	When the machine tries to move the roller, there is no change in the signal from the external the HP sensor 1 (PS9003) after it has started the external heat roller drive motor (M9004).
0002	The external heat roller HP sensor 1 (PS9003) or the external heat roller HP sensor 2 (PS9004) is faulty.	The machine detects an unmatched between the readings of the following: external heat roller HP sensor 1 (PS9003, software control sensor, outside) and external heat roller HP sensor 2 (PS9004, hardware error sensor).

Code	Cause	Description
0003	External Heating roller drive motor (M9004) is faulty.	When a halt of the fixing motor (M9) continues for 800msec or more while the external heat roller is on contact.
0010	applying drive motor (M9005) is faulty.	When an error detection signal for the oil-applying roller drive motor is detected for 100msec or more. However, error detection is not executed for 6sec after the speed of the oil-applying roller drive motor is changed.
E905		
0001	The twin motor (M3) is faulty.	The machine detects the ON signal for the swing sensor (PS11) longer than a specific period of time.
E906		
0001	The air heater (H1) is faulty.	The reading of the environment sensor (SEN) is 120 deg C or more for 1 sec or more.
0002		<p>The environment sensor (SEN) cannot detect a specific temperature:</p> <p>if set to 60 deg C -&gt; 53 deg C or less</p> <p>if set to 70 deg C -&gt; 61 deg C or less</p> <p>if set to 70 deg C -&gt; 69 deg C or less</p> <p>if set to 90 deg C -&gt; 79 deg C or less</p>



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# Chapter 4 User Mode Items

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## 4.1 List of User Modes

0002-1297

CLC5100 / CLC4000

### T-4-1

Item	Description
Key touch sound	ON*/OFF
Error alert sound	ON*/OFF
Auto cassette change	ON*/OFF
Single original sort	ON*/OFF
Feeder auto start	ON*/OFF
Trace width	(1 to 4mm; 1-mm increments; 4mm*)
Outline position	(inside*/outside)
Shadow length	(0.25 to 0.5mm; 0.25mm increments/1.5mm*)
Delivery curl correction	
Duplex guide adjustment	(-6 to 6mm; 1step increments; 0*)
Ratio in steps	(1% increments*/0.1% increments)
Density in steps	(9 steps/17 steps*)
Color sheet change	(sheet A*/sheet B/sheet C/custom sheet: no color selection*)
Deck palte adjustment	ON(adjustment mode)/OFF(normal mode)*
Settings initialization	
	Paper selection: auto*
	Copy count: 1*
	Ratio: Direct*
	Zoom: 100%
	Original type: text/print photo*
	Density: auto-OFF*
	Density: median*
	ACS: ON*
	Original size auto detection: ON*
	Center shift: ON*
Mode memory	
Timer setting	Auto clear time (1 to 9min; in 1-min increments/2min*) Auto power-off time (1 to 24hr; in 1-hr increments/2hr*)
Delivery tray selection	Auto select*/Only upper tray/Only lower tray

Item	Description
Density correction	Quick correction Enables simple correction of halftone gradations (photo, images;test print read once)
Auto gradation correction	Full correction In addition to halftone (photo, image), gradation and density of text may be corrected (test print read 3 times)
Background level adjustment	Background adjustment mode (A*/B) Color space adjustment (ON*/OFF)
Text/photo level	
Zoom fine-adjustment	
Cleaning	
Transparency source	no setting*
Thin paper source	no setting*
Deck paper type	Plain paper*/Thick paper/Extra thick paper/Coated paper
Deck size change	A4*/A3/B5/B4/LTR/11X17/304X440mm/305X457mm
Auto vertical/horizontal rotation	ON/OFF*
Print color processing	ON/OFF*
	*Factory default.

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# Chapter 5 Service Mode

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## 5.1 DISPLAY (Status Display Mode)

### 5.1.1 DISPLAY Table

#### 5.1.1.1 DISPLAY table

0004-6122

CLC5100 / CLC4000

&lt;VERSION&gt; DISPLAY &gt; VERSION

T-5-1







DISPLAY > VERSION	
Sub item	Description
The ROM version of individual PCBs (host machine and accessories) - for example <R-CON XX.YY> XX:ROM version number, YY:R&D number - for example <RF XXXX.YY.ZZ> XXXX:Not used, YY:ROM version number, ZZ:R&D number.	
R-CON	Indicates the version of the ROM on the reader controller PCB.
DC-CON	Indicates the version of the ROM on the DC controller PCB.
SCANNER	Indicates the version of the ROM on the original scanner motor driver PCB.
ECO	Indicates the version of the ROM on the IP-ECO PCB.
IPU	Indicates the version of the ROM of the external controller.
SERIAL No.	Indicates the serial number. (For factory.)
CNT-MODE	Indicates the type of count control of the copy counter.(See the table that follows.)
RF	Indicates the version of the ROM on the RDF controller PCB.(only if connected)
SORTER	Indicates the version of the ROM on the sorter controller PCB.(only if connected)
FINISHER	Indicates the version of the ROM on the finisher controller PCB.(only if connected)

T-5-2

## - Details of CNT-MODE

Display	7	5	3	4
Counter 1	Total counter	Total counter	Total counter	Total copy counter
Counter 2	Full color copy counter	Full color copy counter (large size)	Full color print + full color copy counter (large size)	Full color copy counter (large size)
Counter 3	Retention counter	Color print counter (large size)	Bk print + Bk copy counter (large size)	Total print counter
Counter 4	Bk print + Bk copy counter	Bk print + Bk copy counter	Small size total counter	Bk print + Bk copy counter
Counter 5	Full color print counter	Full color copy (small size)	Full color print + full color copy (small size)	Full color copy counter (small size)
Counter 6	Two-sided copy counter	Full color print (small size)	Bk print + Bk copy counter (small size)	Mono color counter

T-5-3

		Counter control type	Product notation
Counter 1 	Counter 4 	7	F14-0411(JPN)
Counter 2 	Counter 5 	5	F14-0431(USA)/0441(EUR) F14-0431(AUS)/0481(DTL) F14-0491(AMS)/0451(UK)
Counter 3 	Counter 6 	3	F14-0471(FRN)
		4	not used

<ACC-ST>    **DISPLAY > ACC-ST**

T-5-4

<b>DISPLAY &gt; ACC-ST</b>	
<b>Sub item</b>	<b>Description</b>
EDITOR	Indicates the state (connection) of the editor. 0: Editor absent. 1: Editor present.
IPU/PS	Indicates the state of connection of the IF board/external controller. 0: IF board absent 1: not used 2: IF board present (An external controller may be connected, but is not powered.) 3: IF board present (A communication is under way with the external controller.)
CCV	Indicates the status (connection) of the Control Card V. 0: CCV absent. 1: CCV present.
DECK	Indicates the status (connection) of the paper deck. 0: Paper deck absent. 1: Paper deck present.
RF	Indicates connection of the RF. 0: RF absent. 1: RF present.
STS	Indicates the status (connection) of the STS. 0: STS absent. 1: STS present.
FINISHER	Indicates connection of the FINISHER. 0: FINISHER absent. 1: FINISHER present.
ED	Indicates the status (connection) of the ED board. 0: ED absent. 1: ED present.
ASSIST	Indicates the status (connection) of the Copy data controller-A1/DA unit-A1. 0: Connection absent. 1: Connection present.
CCX	Indicates the status (connection) of the Card reader-A1. 0: Connection absent. 1: Connection present.

<ANALOG>    **DISPLAY > ANALOG**

## T-5-5

<b>DISPLAY &gt; ANALOG</b>	
<b>Sub item</b>	<b>Description</b>
- for example <BODY(°C)   XXX°C   YYY> XXX:output conversion value   YYY:output value (0 to 1023)	
BODY (°C)	Indicates the machine inside temperature[°C] measured by the environment sensor.
BODY (%)	Indicates the machine inside humidity[%] measured by the environment sensor.
BODY (g)	Indicates the machine internal absolute humidity[g] obtained from the measurements collected by the environment sensor.
FUSER-U	Indicates the upper fixing roller temperature[°C]. (output of thermistor TH1)
FUSER-L	Indicates the lower fixing roller temperature[°C]. (output of thermistor TH3).
EPOT-Y/M/C/K	Indicates the drum surface potential[V] measured by the potential sensor.
OPTICS	Indicates the temperature of the laser scanner assembly[°C]. (thermistor TH7)
DRUM-T-Y/M/C/K	Indicates the drum heater temperature[°C]. (thermistor TH8/9/10/11)
WIDTH-MF/1/2	Indicates the paper width conversion value (mm) of the multifeder, paper deck, and each cassette.
OIL-TMP	Indicates the temperature[°C] of the fixing oil. (Output from the fixing oil thermistor TH5)
OILH-TMP	Indicates the temperature[°C] of the fixing oil heater.(Output from the fixing oil thermistor TH6)
FIX-U-SB	Indicates the temperature[°C] of the fixing upper roller end. (Output from the fixing upper thermistor TH2)
FIX-L-SB	Indicates the temperature[°C] of the fixing lower roller end. (Output from the fixing lower thermistor TH4)
PPR-TMP	not used
HROL-C	Indicates the temperature[°C] of the external heat roller (output of thermistor HT9000).

DISPLAY > ANALOG	
Sub item	Description
HROL-E	Indicates the temperature[°C] of the external heat roller (output of thermistor TH9001).
PD-TMP	Indicates the temperature[°C] of the inside of the paper deck measure by the environment sensor.
PD-HUM	Indicates the humidity(%) of the inside of the paper deck measured by the environment sensor.
PD-AB-HUM	Indicates the absolute humidity (g) of the inside of the paper deck computed based on the result of measurement by the environment sensor.

<DENS> DISPLAY > DENS

T-5-6

DISPLAY > DENS		
Sub item	Description	Remarks
DENS-Y/M/C	Indicates the discrepancy of the density of the developer on the developing cylinder (each color) in reference to the target value in %. +: Darker than target value. -: Lighter than target value. The value is the result of computations based on SGNL and REF stored under ATR-INIT and SGNL and REF on the screen.	Normal if between 700 and 912.
SGNL-Y/M/C	Indicates the measurement (AD conversion) of the current density of the developer (each color). Measurements are taken for each copy run.	Normal if between 700 and 912.
REF-Y/M/C	Indicates the measurement (AD conversion) of the reference signal (each color). Measurements are taken for each copy run.	Normal if between 377 and 848.
DENS-S-Y/M/C/K	Indicates the density of the pattern on the drum (each color) in reference to the target value.	Normal if between -40 and +40.

DISPLAY > DENS		
Sub item	Description	Remarks
SGNL-S-Y/M/C/K	Indicates the measurement (AD conversion value) of the density of the toner on the drum (each color). Measurements are taken for each copying run.	For C, M, and Y, normal if between 640 and 850 (CMY). For K, normal if between 192 and 389.
REF-S-Y/M/C/K	Indicates the measurement (AD conversion value) of the SALT reference signal (each color).	For all colors, normal if between 464 and 544.
SGNL-D-Y/M/C/K	Indicates the measurement of the light reflected by the photosensitive drum.	For C, M, and Y, normal if between 380 and 900. For K, normal if between 300 and 720.
WINDOW	Indicates the window soiling correction coefficient. The value decreases when the SALT sensor becomes soiled.	Normal if between 60 and 140.

<EPOT>    DISPLAY > EPOT

T-5-7

DISPLAY > EPOT		
Sub item	Description	Remarks
VOO=Y/M/C/K	Indicates the target value for VD (with laser output at 00). Indicates the optimum value computed by potential control.	Unit: V Optimum value: 350 to 800 The measurements of VOO and VFF may be checked by "EPC" under "FUNC".
VFF=Y/M/C/K	Indicates the target value for VL (with laser output at off). Indicates the optimum value computed by potential control.	Unit: V Optimum value: 50 to 300 The measurements of VOO and VFF may be checked by "EPC" under "FUNC".



DISPLAY > EPOT		
Sub item	Description	Remarks
VDC=Y/M/C/K	Indicates the target value for Vdc (developing bias DC component). Indicates the optimum value computed by potential control.	Unit: V Optimum value: 200 to 650
VG=Y/M/C/K	Indicates the target value for Vg (grid bias). Indicates the optimum value computed by potential control.	Unit: V Optimum value: 300 to 800

<SHD/BOF>    DISPLAY > SHD/BOF

T-5-8

DISPLAY > SHD/BOF		
Sub item	Description	Remarks
BAR-CODE	Indicates the bar code value of the standard white plate.	The value is indicated only after executing "FUNC > CCD > AUTO > ADJ". (Thereafter, the value will not be indicated at power on/off.)
BOARD-B/G/R	Indicates the output of each CCD when the standard white plate is read. (output value after A/D conversion)	Initial value: 211
TARGET-B/G/R	Indicates the shading target value.	Initial value: 233
BOF-B/G/R	Indicates the output of each CCD when the scanning lamp is off. (odd bit/ even bit)	

**<SENSOR> DISPLAY > SENSOR**

Indicates the input ports of the DC controller PCB.

T-5-9

<b>DISPLAY &gt; SENSOR</b>			
<b>bit</b>	<b>Connector</b>	<b>Description</b>	<b>Remarks</b>
<b>&lt;800000&gt;</b>			
0	SW2	power switch	ON:1 OFF:0
1	-	AC input	AC input present: 0
2	TH6	fixing oil/oil heater thermistor error detection	ready: 0; error: 1
3	FM35,36	pre-fixing exhaust fan error detection	ready: 0; error: 1
4	H1,2	fixing heater power error detection	error: 0
5	H3,4,5,6	drum heater power error detection	error: 0
6	TH1,2,3,4	fixing thermistor error detection	ready: 0; error: 1
7	TH8,9,10,11	drum thermistor error detection	ready: 0; error: 1
<b>&lt;800001&gt;</b>			
0	-	counter error detection	error 1/ counter OFF: 1
1	-	auto shut-off open circuit detection	error 1/ port OFF: 1
2	-	5V U error detection	ready: 1; error: 0
3	-	24V U error detection	ready: 1; error: 0
4	-	overheat 5 V U detection	ready: 0; error: 1
5	-	overheat 24R detection	ready: 0; error: 1
6	-	overheat 24V U detection	ready: 0; error: 1
7	FM17,18	power supply cooling fan 1/2 operation error detection	ready: 0; error: 1
<b>&lt;800002&gt;</b>			
0	M10	multifeeder pickup motor PLL error detection	ready: 0; error: 1
1	M21	photosensitive drum motor PLL error detection	ready: 0; error: 1
2	M29	scanner motor PLL error detection	ready: 0; error: 1
3	M9	fixing motor PLL error detection	ready: 0; error: 1

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
4	M20	waste toner feed motor PLL error detection	ready: 0; error: 1
5	M19	duplex feed motor PLL error detection	ready: 0; error: 1
6	M15	polishing/oil removal motor PLL error detection	ready: 0; error: 1
7	-	not used	-
<800003>			
0	M18 C	C developing motor PLL error detection	ready: 0; error: 1
1	M18 M	M developing motor PLL error detection	ready: 0; error: 1
2	M18 Y	Y developing motor PLL error detection	ready: 0; error: 1
3	M18 K	Bk developing motor PLL error detection	ready: 0; error: 1
4	PS41	cassette 1 open/closed detection	connected: 1
5	PS42	cassette 2 open/closed detection	connected: 1
6	FM4,5	laser cooling fan error detection	ready: 0; error: 1
7	FM12,13	scanner cooling fan error detention	ready: 0; error: 1
<800004>			
0	SW6	multifeeder pickup cover open/closed detection	open: 0; closed: 1
1	SW1	front cover open/closed detection	open: 1; closed: 0
2	SW3	control key detection	ON:0 OFF:1
3	SW8003	paper deck cover open/closed detection	open: 1; closed: 0
4	SW1	buffer cover connection detection	open: 1; closed: 0
5	FM8,9	primary suction fan error detection	ready: 0; error: 1
6	TH6	oil thermistor open detection	error: 0
7	TP3	oil system overheat detection	error: 0
<800005>			
0	-	fixing unit connection detention	connected: 0
1	-	fixing assembly knob connection detection	connected: 0
2	-	holding tray unit connection detection	connected: 0
3	-	transfer unit connection detection	connected: 0

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
4	PS22	paper deck connection detection	connected: 0
5	-	buffer unit connection detection	connected: 0
6	FM6	primary exhaust fan error detection	ready: 0; error: 1
7	FM7	pre-fixing feeding fan error detection	ready: 0; error: 1
<800006>			
0	PS1	registration paper sensor	paper present: 1
1	PS21	pickup vertical path 1 sensor	paper present: 1
2	PS25	pickup vertical path 2 sensor	paper present: 1
3	PS26	pickup vertical path 3 sensor	paper present: 1
4	OHP sensor	transparency sensor	paper present: 1
5	FM32	pickup cooling fan 2 error detection	ready: 0; error: 1
6	FM31	fixing heat exhaust fan error detection	ready: 0; error: 1
7	FM20,27	delivery lower cooling fan 2/3 error detection	ready: 0; error: 1
<800007>			
0	PS14	post-registration sensor jam detection	paper present: 1
1	PS15	separation sensor jam detection	paper present: 1
2	PS35	inside delivery sensor jam detection	paper present: 0
3	PS34	delivery sensor jam detection	paper present: 1
4	PS32	delivery vertical path sensor	paper present: 1
5	PS33	duplex reversal sensor	paper present: 0
6	PS8	holding tray pre-feeding sensor 1	paper present: 1
7	PS9	holding tray pre-feeding sensor 2	paper present: 0
<800008>			
0	PS30	holding tray flapper assembly jam detection	paper present: 0
1	-	not used	-
2	FM34	delivery cooling fan error detection	error: 0
3	PS34	delivery sensor	paper present: 0
4	TH1,2	upper fixing thermistor open detection	error: 0
5	TH3,4	lower fixing thermistor open detection	error: 0

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
6	TP1	fixing assembly (upper) overheat detection	error: 0
7	TP2	fixing assembly (lower) overheat detection	error: 0
<800009>			
0	SEU1	cassette 1 paper length sensor 1	-
1	SVR1	cassette 1 paper length sensor 2	-
2	SEU2	cassette 2 paper length sensor 1	-
3	SVR2	cassette 2 paper length sensor 2	-
4	M16	cassette 1 lifter motor overcurrent detection	error: 1
5	M17	cassette 2 lifter motor overcurrent detection	error: 1
6	M8001	paper deck lifter motor overcurrent detection	error: 1
7	M1	multifeeder lifter motor overcurrent detection	error: 0
<80000A>			
0	PS24	cassette 1 lifter sensor	lifter up: 1
1	PS27	cassette 2 lifter sensor	lifter down: 0
2	PS2	multifeeder lifter sensor (upper)	detected: 0
3	PS3	multifeeder lifter sensor (lower)	detected: 1
4	SW8002	paper deck lifter upper limit detection	detected: 1
5	SW8002	paper deck lifter lower limit	detected: 0
6	PS29	duplex paper guide home position sensor	detected: 1
7	M31	transfer belt waste toner motor overcurrent detection	error: 0
<80000B>			
0	PS4	multifeeder paper sensor (front)	paper present: 0
1	PS5	multifeeder paper sensor (rear)	paper present: 0
2	SW6	multifeeder pickup cover open/closed detection	detected: 1

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
3	PS8003	paper deck registration sensor	paper present: 1
4	PS23	cassette 1 paper sensor	paper present: 1
5	PS28	cassette 2 paper sensor	paper present: 1
6	SW8001	paper deck detection sensor	paper present: 1
7	PS31	holding tray paper sensor	paper present: 1
<80000C>			
0-3	-	for factory adjustment	-
4	-	memory read delay (C)	H: enable
5	-	memory read delay (M)	H: enable
6	-	memory read delay (Y)	H: enable
7	-	memory read delay (Bk)	H: enable
<80000D>			
0	TS1,5	toner level sensor (C)	below level: 1
1	TS2,6	toner level sensor (M)	below level: 1
2	TS3,7	toner level sensor (Y)	below level: 1
3	TS4,8	toner level sensor (Bk)	below level: 1
4	FM34	delivery cooling fan error detection	ready: 0; error: 1
5	FM20	delivery lower cooling fan 1 error detection	ready: 0; error: 1
6	FM32	pickup cooling fan error detection	ready: 0; error: 1
7	FM33	reversal assembly exhaust fan error detection	ready: 0; error: 1
<80000E>			
0	PS11	transfer belt cleaning web level sensor	web absent: 1
1	SW4	waste toner lock detection switch	lock error: 0
2	PS6	fixing oil level sensor	oil prevent: 1
3	PS36	fixing web length sensor	web absent: 1
4	M12	transfer belt cleaning web motor overcurrent detection	error: 1
5	FM37	power supply cooling fan error detection	ready: 0; error: 1
6	FM21,22,23	general exhaust fan error detection	ready: 0; error: 1

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
7	SW9	rear cover open detection	ready: 0; error: 1
<80000F>			
0	PS12	transfer belt lifter sensor 1	UP:01
1	PS13	transfer belt lifter sensor 2	DOWN:10
2	PS17	transfer belt front end sensor 1	detected: 0
3	PS18	transfer belt rear end sensor 2	detected: 0
4	PS19	transfer belt front end sensor 3	detected: 1
5	PS20	transfer belt rear end sensor 4	detected: 1
6	-	not used	-
7	PS10	transfer belt cleaning web rotation sensor	repeat 1 and 0 as rotating
<800010>			
0	M35	registration motor pulse count	count end: 1
1	M13	transfer belt swing motor pulse count	count end: 1
2	M23	duplex paper guide motor pulse count	count end: 1
3	-	not used	-
4-5	-	for factory adjustment	-
6	-	image position correction CCD shutter (front)	open: 1
7	-	image position correction CCD shutter (rear)	open: 1
<800011>			
0	-	for factory adjustment	00:DD
1	-	for factory adjustment	01:DE
2-7	-	not used	-
<802000>			
0	-	CPU leading edge signal	ON:1
1	-	DCPRDY	DCON_Ready:1
2-3	-	for factory adjustment	-
4	-	auto shut-off	ON:1
5	-	external PCB rest	rest: 0

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
6	-	24 VDC remote	ON:1
7	-	physync enable	enable: 1
<802001>			
0-3	-	for factory adjustment	-
4	-	all-night power supply switch	after power SW-ON: 1
5	TH12	environment sensor	low humidity: 0
6	-	buffer unit power supply remote	ON:0
7	-	flicker PCB control signal	ON:0
<802002>			
0	M9	fixing motor ON	ON:1
1	M9	fixing motor speed switch	ON:1
2	-	not used	-
3	M10	multifeeder pickup motor ON	ON:1
4	M21	photosensitive drum motor ON	ON:1
5	M29	scanner motor ON	ON:1
6	M14	transfer belt motor ON	ON:1
7	M20	waste toner feeder motor ON	ON:1
<802003>			
0	M18 C	developing motor (C) ON	ON:1
1	M18 M	developing motor (M) ON	ON:1
2	M18 Y	developing motor (Y) ON	ON:1
3	M18 K	developing motor (Bk) ON	ON:1
4	LA2	exposure lamp (C) ON	ON:1
5	LA3	exposure lamp (M) ON	ON:1
6	LA4	exposure lamp (Y) ON	ON:1
7	LA5	exposure lamp (Bk) ON	ON:1
<802004>			
0	FM7	pre-rising feeding fan	ON:1
1	-	not used	-



DISPLAY > SENSOR			
bit	Connector	Description	Remarks
2	M15	polishing/oil removing motor ON	ON:1
3	M15	polishing/oil removing motor rotation direction	CW*/CCW
4	CL17	transfer belt lifter clutch ON	ON:1
5	M12	transfer belt cleaning web motor ON	ON:1
6	SL18	polishing roller solenoid ON	ON:1
7	M31	transfer belt waste toner motor	ON:1
<802005>			
0	SL7 C	transfer blade solenoid (C) in contac	DOWN:01 UP:10
1	SL7 C	transfer blade solenoid (C) off contact	
2	SL7 M	transfer blade solenoid (M) in contract	DOWN:01 UP:10
3	SL7 M	transfer blade solenoid (M) off contact	
4	SL7 Y	transfer blade solenoid (Y) in contact	DOWN:01 UP:10
5	SL7 Y	transfer blade solenoid (Y) off contact	
6	SL7 K	transfer blade solenoid (Bk) in contact	DOWN:01 UP:10
7	SL7 K	transfer blade solenoid (Bk) off contact	
<802006>			
0	M24 C	primary wire cleaner motor (C)	rear: 01 front: 10
1	M24 C	primary wire cleaner motor (C)	
2	M24 M	primary wire cleaner motor (M)	rear: 01 front: 10
3	M24 M	primary wire cleaner motor (M)	
4	M24 Y	primary wire cleaner motor (Y)	rear: 01 front: 10
5	M24 Y	primary wire cleaner motor (Y)	
6	M24 K	primary wire cleaner motor (Bk)	rear: 01 front: 10
7	M24 K	primary wire cleaner motor (Bk)	
<802007>			
0	CL1	toner supply clutch (C)	ON:1
1	CL2	toner supply clutch (M)	ON:1
2	CL3	toner supply clutch (Y)	ON:1
3	CL4	toner supply clutch (Bk) upper	ON:1

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
4	CL5	toner supply clutch (Bk) lower	ON:1
5	-	hopper sensor select	ON:1
6	M32	separation wire cleaner motor	ON:1
7	M32	separation wire cleaner motor	ON:1
<802008>			
0	SL3	fixing take-up solenoid ON	ON:1
1	SL4	fixing web releasing solenoid ON	ON:1
2	M30	fixing lower web motor ON	ON:1
3	SL2	fixing oil pump drive solenoid ON	ON:1
4	SL15	separation claw releasing solenoid ON	ON:1
5	M22	pre-fixing charging assembly wire cleaner motor	ON:1
6	M22	pre-fixing charging assembly wire cleaner motor	ON:1
7	M4	laser scanner motor speed switch	0: full speed 1: half-speed
<802009>			
0	H1	fixing upper heater ON	ON:1
1	H2	fixing lower heater ON	ON:1
2	H7,8	cassette heater ON	ON:1
3	H9	fixing oil heater ON	ON:1
4	H3	drum heater (C)	ON:1
5	H4	drum heater (M)	ON:1
6	H5	drum heater (Y)	ON:1
7	H6	drum heater (Bk)	ON:1
<80200A>			
0	SALT C	SALT sensor LED (C) ON	ON:1
1	SALT M	SALT sensor LED (M) ON	ON:1
2	SALT Y	SALT sensor LED (Y) ON	ON:1
3	SALT K	SALT sensor LED (Bk) ON	ON:1
4	ATR C,M,Y	toner concentration sensor LED ON	ON:1

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
5	LED1,2	pattern read LED ON	ON:1
6	SL17 C,M,Y,K	SLT sensor shutter solenoid (CM YBk) open	ON:1
7	SL17 C,M,Y,K	SLT sensor shutter solenoid (CMYBk) closed	ON:1
<80200B>			
0	FM4,5	laser cooling fan	ON:1
1	FM8,9	primary suction fan ON	ON:1
2	FM6	primary exhaust fan ON	ON:1
3	-	not used	-
4	FM19,20,27	delivery cooling fan ON	ON:1
5	FM34	delivery lower fan ON	ON:1
6	-	not used	-
7	FM1,2,3	delivery assembly exhaust fan speed switch	0: full speed 1: half-speed
<80200C>			
0	SL9	cassette 1 pickup roller releasing solenoid ON	UP:1
1	SL10	cassette 2 pickup roller releasing solenoid ON	UP:1
2	SL5	multifeeder pickup roller releasing solenoid ON	UP:1
3	SL8001	paper deck pickup roller releasing solenoid ON	UP:1
4	SL8	duplex pickup roller releasing solenoid ON	UP:1
5	SL13	paper feed roller solenoid ON	UP:1
6	FM24	laser scanner motor cooling fan	ON:1
7	FM26	pickup cooling fan	ON:1
<80200D>			
0	CL12	cassette 1 pickup clutch ON	ON:1
1	CL14	cassette 2 pickup clutch ON	ON:1
2	CL7	paper thickness detecting roller clutch	ON:1

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
3	CL6	multifeeder pickup clutch ON	ON:1
4	CL8002	paper deck pickup clutch ON	ON:1
5	-	not used	-
6	CL10	duplex pickup clutch ON	ON:1
7	FM28,29,30	reversal assembly exhaust fan 1, 2, 3	ON:1
<80200E>			
0	SL16	registration roller releasing solenoid ON	ON:1
1	OHP sensor	transparency sensor LED ON	ON:1
2	PTS1	paper thickness sensor LED ON	ON:1
3	FM17,18	power supply exhaust fan 1, 2	ON:1
4	FM31	fixing heat discharge fan	ON:1
5	FM32	pickup cooling fan 2	ON:1
6	FM20,27	delivery lower cooling fan 2, 3	ON:1
7	-	not used	-
<80200F>			
0	M16	cassette 1 lifter motor ON	ON:1
1	M17	cassette 2 lifter motor ON	ON:1
2	M1	multifeeder lifter motor (up)	UP: 01
3	M1	multifeeder lifter motor (down)	DOWN:10
4	M8001	paper deck lifter motor (up)	UP:01
5	M8001	paper deck liter motor (down)	DOWN:11
6	M21,22,23	general exhaust fan (IPU)	ON:1
7	M21,22,23	general exhaust fan speed	0: full speed 1: half-speed
<802010>			
0	FM34	delivery cooling fan half-speed	bit0,1=1,0 half-speed
1	FM34	delivery cooling fan full-speed	bit0,1=1,0 full-speed
2	CL16	reversal assembly dive clutch ON	ON:1
3	M19	duplex feeding motor ON	ON:1
4	SL14	delivery paper deflecting plate solenoid ON	ON:1

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
5	SL11 L	duplex paper deflecting plate solenoid (L) ON	ON:1
6	SL11 M	duplex paper deflecting solenoid (M) ON	ON:1
7	SL11 S	duplex paper deflecting plate solenoid (S) ON	ON:1
<802011>			
0	M2	image position correction mirror slant correction motor (Y)	select:0
1	M3	image correction mirror ratio correction motor (Y)	select:0
2	M5	image position correction mirror slat correction motor (C)	select:0
3	M6	image position correction mirror ratio correction motor (C)	select:0
4	M7	image correction mirror slant correction motor (Bk)	select:0
5	M8	image position correction mirror ratio correction motor (Bk)	select:0
6	PS39	pattern read CCD shutter (closed -> open)	ON:1
7	PS40	pattern read CCD shutter (open -> closed)	ON:1
<804000>			
0	CNT1	total copy counter 1	ON:1
1	CNT2	total copy counter 2	ON:1
2	CNT3	total copy counter 3	ON:1
3	CNT4	total copy counter 4	ON:1
4	CNT5	total copy counter 5	ON:1
5	CNT6	total copy counter 6	ON:1
6-7	-	for factory adjustment	-
<804002>			
0-7	-	for factory adjustment	-

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
<804004>			
0-2	-	for factory adjustment	-
3	-	not used	-
4-7	-	for factory adjustment	-
<804006>			
0-7	-	for factory adjustment	-
<804008>			
0-7	-	for factory adjustment	-
<80400A>			
0-7	-	for factory adjustment	-
<80400C>			
0	-	transfer current (C) ON	STBY:00,10 ON:10 Up-Speed ON:11
1	-	transfer current (C) UP	
2	-	transfer current (M) ON	STBY:00,10 ON:10 Up-Speed ON:11
3	-	transfer current (M) UP	
4	-	transfer current (Y) ON	STBY:00,10 ON:10 Up-Speed ON:11
5	-	transfer current (Y) UP	
6	-	transfer current (Bk) ON	STBY:00,10 ON:10 Up-Speed ON:11
7	-	transfer current (Bk) UP	
<80400E>			
0	-	primary bias (C) ON	ON:1
1	-	primary bias (M) ON	ON:1
2	-	primary bias (Y) ON	ON:1
3	-	primary bias (Bk) ON	ON:1
4	-	separation AC bias ON	ON:1
5	-	blank pulse enable	ON:1
6	-	stray toner blocking high-voltage ON	ON:1
7	-	transfer,separation,pre-fixing enable	ON:1
<804010>			
0	-	developing bias AC (C) ON	ON:1

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
1	-	developing bias AC (M) ON	ON:1
2	-	developing bias AC (Y) ON	ON:1
3	-	developing bias AC (Bk) ON	ON:1
4	-	developing bias DC (C) ON	ON:1
5	-	developing bias DC (M) ON	ON:1
6	-	developing bias DC (Y) ON	ON:1
7	-	developing bias DC (Bk) ON	ON:1
<889020>			
0	-	not used	-
1		external heat roller overheating detection	detected: 0, ready: 1
2	TH9000	external heat roller thermistor open detection	detected: 0, ready: 1
3	-	not used	-
4	M9005	application roller drive motor PLL detection	off: 1, on: 0
5	PS9003,9004	external heat roller HP sensor error detection	error: 1, ready: 0
6	-	paper deck AC relay error detection	error: 1, ready: 0
7	-	fixing relay detection	ON:1 OFF:0
<889022>			
0	-	not used	-
1	PS9003	external heat roller HP sensor 1	detected: 1
2	PS9003	external heat roller HP sensor 2	detected: 1
3-7	-	not used	-
<889024>			
0	-	not used	-
1	FM9000,9001	fixing front suction fan error detection	error: 1, ready: 0
2	-	not used	-
3	FM9002	reversing twin fan 1 error detection	error: 1, ready: 0
4	FM9003	reversing twin fan 2 error detection	error: 1, ready: 0

DISPLAY > SENSOR			
bit	Connector	Description	Remarks
5-7	-	not used	-
<889036>			
0	-	not used	-
1	H9000	external heat heater	ON:1 OFF:0
2-3	-	not used	-
4	M9005	application roller drive motor	ON:1 OFF:0
5	M9005	application roller drive motor speed switch	high-speed:1 low-speed:0
6	-	24 VDC remote signal	CLC5100:1
7	-	24 VDC remote signal	CLC4000:1
<889038>			
0	-	not used	-
1	FM9000,900 1	fixing front suction fan speed switch	full speed: (0,1), half-speed: (1,0), rest: (0,0)
2			
3-7	-	not used	-
<88903A>			
0	-	not used	-
1	-	fixing flywheel CL	ON: 1 OFF: 0
2	-	not used	-
3	FM9002	reversing twin fan 1	ON: 1 OFF: 0
4	FM9003	reversing twin fan 2	ON: 1 OFF: 0
5-6	-	not used	-
7	-	paper deck AC relay ON	ON: 1 OFF: 0
<889060>			
0-5	-	not used	-
6	-	fixing unit connection detection	connected: 0, not connected; 1
7	-	not used	-
<889072>			
0-7	-	not used	-



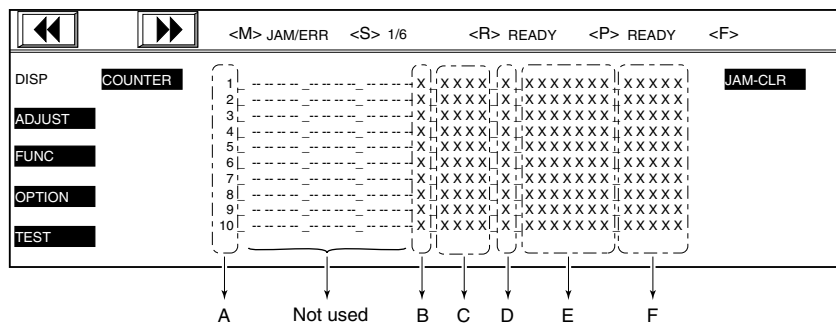
DISPLAY > SENSOR			
bit	Connector	Description	Remarks
<889074>			
0-5	-	not used	-
6	M9004	external heat roller drive motor current switch 0	100%: (1,1), 70%: (0,1), 30%: (1,0), 0%: (0,0)
7	M9004	external heat roller drive motor current switch 1	
<889076>			
0-7	-	not used	-
<889078>			
0-7	-	not used	-
<88907A>			
0-7	-	not used	-
<88907C>			
0-7	-	not used	-

### <JAM/ERR> DISPLAY > JAM/ERR

The 1st through 4th screens show the most recent 40 jams (location and type).

The 5th and 6th screens provide histories of errors.

- JAM



F-5-1

## T-5-10

DISPLAY > JAM/ERR		
A.Jam history number		
01-40	a higher number represents an older history	
B.Jam location		
0	Body	
1	RDF	
2	Sorter	
C-1.Jam Code (high-order 2 digits)		
00	Jam at accessory	
01	Delay jam	
02	Stationary jam	
10	Jam at power-on or when the front cover, pick-up cover, or delivery cover is opened/closed.	
11	Jam when the front cover, pick-up assembly cover, or delivery cover is opened/closed during copying operation.	
C-2.Jam Code (low-order 2 digits)		
00	Registration paper sensor	PS1
01	Pick-up vertical path 1 sensor	PS21
02	Pick-up vertical path 2 sensor	PS25
04	Pick-up vertical path 3 sensor	PS26
05	Deck feed sensor	PS6(in PaperDeck)
06	Deck pickup sensor	PS1(in PaperDeck)
31	Registration rear sensor	PS14
32	Separation sensor	PS15
33	Internal delivery sensor	PS35
34	Delivery sensor	PS34
35	Buffer pass inlet paper sensor	P38 (in Buffer Unit)
36	Sorter	PI3/4/7 (in Sorter)
37	Buffer pass delivery sensor	PS3 (in Buffer Unit)
38	Buffer pass reversal timing sensor	PS1 (in Buffer Unit)
39	Buffer pass reversal jam sensor	PS2 (in Buffer Unit)

DISPLAY > JAM/ERR		
61	Delivery vertical path sensor 1	PS38
62	Delivery vertical path sensor 2	PS32
63	Duplexing unit reversal sensor	PS33
64	Pre-duplex feeding sensor 1	PS8
65	Pre-duplex feeding sensor 2	PS9
66	Duplex paper sensor 1	PS30
67	Duplex paper sensor 2	PS31
<b>D.Pick-up location</b>		
1	Upper cassette	
2	Lower cassette	
3	Paper deck	
8	Multifeeder	
9	Duplexing unit	
<b>E.Pick-up soft counter (by pick-up assembly)</b>		
<b>F.Paper Size</b>		
<b>JAM-CLR</b>		
	Clear all jam histories	

Jam Code (Stacker-B1)

T-5-11

Code	Jam Type	Description
1211	Vertical Path Sensor 1 Delay Jam	When the vertical path sensor 1 (PI2) does not detect the paper after a prescribed time has elapsed since the inlet sensor (PI1) detected the tip of the paper.
1212	Vertical Path Sensor 2 Delay Jam	When the vertical path sensor 2 (PI3) does not detect the paper after a prescribed time has elapsed since the vertical path sensor 1 (PI2) detected the tip of the paper.
1216	Inlet Sensor Delay Jam	When the inlet sensor (PI1) cannot detect paper after a prescribed time has elapsed since receiving the eject signal from the host machine.
1218	Upper Delivery Sensor Delay Jam	When the upper eject sensor (PI4) does not detect the paper after a prescribed time has elapsed since the inlet sensor (PI1) detected the tip of the paper.

Code	Jam Type	Description
1219	Lower Eject Sensor Delay Jam	When the lower eject sensor (PI5) does not detect the paper after a prescribed time has elapsed since the vertical path sensor 2 (PI3) detected the tip of the paper.
1328	Upper Eject Sensor Detention Jam	When the paper does not come out of the upper eject sensor (PI4) after a prescribed time has elapsed since the upper eject sensor (PI4) detected the tip of the paper.
1329	Lower Eject Sensor Detention Jam	When paper does not come out of the lower eject sensor (PI5) after a prescribed time has elapsed since the lower eject sensor (PI5) detected the tip of the paper.
133F	Remaining Jam in the Path	When the stacker received the sorter start signal while either pass sensor turned it on.
1408	Door Open Jam	When the stacker is disconnected from the host machine or the top cover is opened while operating.
1438	Eject Cover Open Jam	When the eject cover is opened during operation.
1507	Power On Jam	When paper is detected inside the stacker when the power is turned on or when the cover is closed.

## T-5-12

- ERROR

DISPLAY > JAM/ERR	
Sub item	Description
CODE	Indicates the appropriate error code (E) for the results of self diagnosis.
E000 -	Indicates detail codes for each error code. (See the descriptions on self diagnosis.)
HIST-0 to 9	Indicates a history of error codes (E).
ERA-CLR	Clears all error code histories.

&lt;RF-INF&gt; DISPLAY &gt; RF-INF

## T-5-13

DISPLAY > RF-INF	
Sub item	Description
STATUS-1/2/3/4	For R&D

DISPLAY > RF-INF	
Sub item	Description
DOC-1/2/3/4	For R&D
ERROR	Indicates the error code sent by the RDF controller PCB. 01H : equivalent of E401 02H : equivalent of E402 03H : equivalent of E403 04H : equivalent of E404 05H : equivalent of E405 06H : no corresponding error 07H : equivalent of E411 11H : equivalent of E411 21H : equivalent of E400
JAM	Indicates the jam code sent by the RDF controller PCB. See the details section in service manual of RDF.
ALARM	Indicates the alarm code sent by the RDF controller PCB. 01H : re-circulating bar idle rotation 02H : not used 03H : separation failure 04H : separation skew 05H : not used

<SORT-INF>    **DISPLAY > SORT-INF**

T-5-14

DISPLAY > SORT-INF	
Sub item	Description
STATUS-1/2/3/4	For R&D
ERROR	For R&D
JAM	Indicates the jam code sent by the sorter controller PCB. 01H : feeding delay jam 02H : feeding stationary jam 03H : staple jam 04H : power-on jam 08H : cover open jam (during feeding) 09H : cover open jam (other than during feeding)
ALARM-1	Indicates the alarm code sent by the sorter controller PCB. 02H : overstacking
ALARM-2	Indicates the alarm code sent by the sorter controller PCB. 02H : staple jam 03H : stapler safety mechanism activation 04H : stapler overstacking 05H : mixed paper sizes (horizontal) 07H : stapler unit absent 08H : separation failure OAH : stap
ALARM-3/4	for future use

**<BLT-DRFT>    DISPLAY > BLT-DRFT**

T-5-15

<b>DISPLAY &gt; BLT-DRFT</b>	
<b>Sub item</b>	<b>Description</b>
- for example <F TO B    XXXX    YYYY    ZZZZ> - for example <F TO B C.Time XXXX    YYYY> XXXX:Most recent data    YYYY:Second most recent data ZZZZ:Third most recent data Unit: 0.1 sec	
DIR	Indicates the present swing condition (direction) of the transfer belt. B->F: moving (swinging) from rear to front F->B: moving (swinging) from front to rear
BELT -- POS	Indicates the present condition (position) of the transfer belt. FRONT: near front    CENTER: near center BACK:near rear
FST	Indicates the time required by the transfer belt between when it reaches the transfer belt edge sensor (PS17, front) and when it leaves the sensor.
F TO B	Indicates the time required by the transfer belt between when it reaches the transfer belt edge sensor (PS17, front) and when it reaches the end sensor 2 (PS18, rear).
BST	Indicates the time required by the transfer belt between when it reaches the transfer belt edge sensor 2 (PS18, rear) and when it leaves the sensor.
B TO F	Indicates the time required by the transfer belt between when it reaches the transfer belt edge sensor 2 (PS18, rear) and when it reaches the end sensor 1 (PS17, front).
F TO B C.Time	Indicates data (F TO B data minus FST data); time taken by the belt to move from front to back.
B TO F C.Time	Indicates data (B TO F data minus BST data); time taken by the belt to move from back to front.
TOTAL	Indicates data (F TO B data plus B TO F data); time taken by the belt to make a round trip.

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**<USER>    DISPLAY > USER**

T-5-16

<b>DISPLAY &gt; USER</b>	
<b>Sub item</b>	<b>Description</b>
LANGUAGE	Language used/destination of shipment. example: <LANGUAGE XX.YY.ZZ.aa> XX:country, YY:language, ZZ:00=CANON, 01=others, aa:00=AB series, 01=Inch series, 02=A series, 03=all sizes

## 5.2 ADJUST (Adjustment Mode)

### 5.2.1 ADJUST Table

#### 5.2.1.1 ADJUST Table

0004-7401

CLC5100 / CLC4000

&lt;ADJ-XY&gt; ADJUST &gt; ADJ-XY

T-5-17

ADJUST > ADJ-XY	
Sub item	Description
ADJ-X	Use it to make adjustments so that the image read start position (X direction, sub scanning direction) matches the reference point on the copyboard glass. Fine-adjusts the distance from the original scanner home position sensor to the read start position. - Unit: Number of steps of the stepping motor. - Follow the instructions on the next page.
	<b>Settings range:</b> -200 to +200 (-3.9 to +3.9mm) Unit:0.11 mm (approx.)
ADJ-Y	Use it to make adjustments so that the image read start position (Y direction, main scanning direction) matches the reference point on the copyboard glass. - Unit: Pixel - Follow the instructions on the next page.
	<b>Settings range:</b> -100 to +100 (-2.5 to +2.5mm) Unit:0.06 mm (approx.)
ADJ-S	Use it to fine-adjust the point at which the standard white plate is measured for shading correction data. - Unit: Number of steps of the stepping motor. - Scratches or dirt, if any, on the standard white plate can cause conspicuous vertical white lines on copies. If such is noted, shift the point of measurement using 'ADJ-S'.
	<b>Settings range:</b> 0 to 45(0 to 4.8mm) Unit:0.11 mm (approx.)
ADJ-J	Adjusts the preparatory time for the scanner motor.
	<b>Settings range:</b> 450 to 550 Unit:0.1 msec (approx.)



remarks: Record any new values on the service data sheet

### -Adjusting the Image Read Start Position

You must check the point of retention ('FUNC ->ATTRACT') before making the following adjustments:

- 1) Before starting service mode, turn OFF the original detection mechanism.
- 2) Select the <ADJ-XY> screen, and press the Start key. The appropriate copying modes will be set automatically, and a copy will be made with a shift of about 20 mm as shown in following.
- 3) If any part of the image is missing, decrease the values of 'ADJ-X' and 'ADJ-Y'.
- 4) If an area outside the image is copied, increase the values of 'ADJ-X' and 'ADJ-Y'.

<DOC-REC> ADJUST > DOC-REC

T-5-18

ADJUST > DOC-REC	
Sub item	Description
DA-XS, DA-XE, DA-YS, DA-YE	<p>Fine-adjusts the original detection area.</p> <p>The original must be placed correctly on the copyboard glass in original de-tecton mode; if placed at an angle, the copies will have a black frame. To prevent the problem, set a value by which such frames will be erased.</p> <p><b>Settings range:</b> -99 to +99 (0 to 6.3mm) Unit=0.06mm (approx.) Standard: XS=16 XE=16 YS=16 YE=16</p>
DS-DOC	<p>You may enter any value as the slice level for original detection. A higher value increases detection capability but tends to lead to wrong detection.</p> <p>DS-DOC: When detecting ordinary originals</p> <p><b>Settings range:</b> 0 to 31 Standard: 20 Density level:0 to 248</p>

remarks: Record any new values on the service data sheet

<ED/RF> ADJUST > ED/RF

T-5-19

ADJUST > ED/RF	
Sub item	Description
ED-MODE	<p>Switches editor operation mode.</p> <p><b>Settings:</b> 0 to 3 Standard:0 0:Normal operation 1:1-point input check 2:Continuous input check</p>

ADJUST > ED/RF	
Sub item	Description
EDADJ-X, <TEMP-X>, <ED-X>, EDADJ-Y, <TEMP-Y>, <ED-Y>	EDADJ-X:Input coordinate adjustment value for sub scanning direction (X direction) from the Editor <TEMP-X>:Input coordinate present value, mm converted values <ED-X>:Post-correction computed values, mm converted values
	<b>Settings range:</b> -99 to +99 (-12.6 to +12.6mm) Standard:0 Unit:0.13 mm (approx.)
LOOP-MB	Changes the processing method used to read images into memory for color-ing in area specification/color creation. If the value is increased, filling gaps will be easier; too high a value, how-ever, will result in bleeding.
	<b>Settings range:</b> 0 to 3 Standard:0
LOOP-TH	If the slice level adjustment value is increased for binarization used for reading images into memory for area specification/color creation, finer lines may be read.
	<b>Settings range:</b> 0 to 255 Standard:0
RFADJ-RX, RFADJ-RY, RFADJ-DX, RFADJ-DY	Adjusts registration (with RF in use). Corrects registration when originals are picked up from the RF. Corrects in relation to main scanning direction -> CCD read start position. Corrects in relation to sub scanning direction -> original read start timing. RX ->For correction in sub scanning direction when pick-up is from the RDF tray. RY ->For correction in main scanning direction when pick-up is from the RDF tray. - If RY=0 (initial value), the CCD starts reading at a point 2 mm away from the index for A4 and 11 mm away from the index for LTR. DX ->For correction in sub scanning direction when pick-up is from the manual feeding tray (feeding assembly). DY ->For correction in main scanning direction when pick-up is from the manual feeding tray (feeding assembly).
	<b>Settings range:</b> 0 to 99 Unit: RX, DX=0.11mm (approx.) RY, DY=0.06mm (approx.) Standard: RX, DX=0 RY, DY=0 For this mode, you must have finished: 1. Adjusting the original stop position. 2. Adjusting the horizontal registration.

remarks: Record any new values on the service data sheet

## &lt;V-CONT&gt; ADJUST &gt; V-CONT

T-5-20

ADJUST > V-CONT	
Sub item	Description
VCONT-C/M/Y/K	Indicates the present value of the target contrast potential.
VBACK-C/M/Y/K	Indicates the present value of de-fogging potential.

## &lt;COL-ADJ&gt; ADJUST &gt; COL-ADJ

T-5-21

ADJUST > COL-ADJ	
Sub item	Description
ADJ-Y/M/C/K	<p>Corrects user color balance adjustment.</p> <ul style="list-style-type: none"> <li>- Be sure to set the setting for user color balance adjustment to 0 before using this mode.</li> <li>- Follow the image adjustment basic procedure.</li> </ul>
	<p><b>Settings range:</b> -8 to +8   Standard: 0</p> <p>+: Darker   -: Lighter</p>
OFST-Y/M/C/K	<p>Adjusts light area density and color balance.</p> <ul style="list-style-type: none"> <li>- Follow the image adjustment basic procedure.</li> <li>- If fogging is noted, decrease the value.</li> <li>- To increase reproducibility of images with extremely low density, increase the setting.</li> </ul>
	<p><b>Settings range:</b> -16 to +16   Standard: Y=0   M=0   C=0   K=0</p>
MASK-M	<p>Use it to adjust the hue of magenta.</p> <ul style="list-style-type: none"> <li>- Increase the setting if the gray area is greenish or bluish.</li> <li>- Decrease the setting if the gray area is reddish.</li> </ul>
	<p><b>Settings range:</b> -6 to +6   Standard: 4</p> <ul style="list-style-type: none"> <li>- It hardly affects areas other than the gray area.</li> <li>- Its effects are felt only in print/photo mode or text print/photo mode.</li> </ul>

ADJUST > COL-ADJ	
Sub item	Description
P-TBL-M/C/Y/K	<p>Use it to make fine adjustments so that the hues will be closer to the hues of offset printing.</p> <p>After comparing M/C/Y/K outputs against professionally (offset) printed material, if the print-out is lighter, increase the setting of 'P-TBL-Y/M/C/K'.</p> <p>If the print-out is darker, decrease the setting of 'P-TBL-Y/M/C/K'.</p> <p><b>Settings range:</b> -3 to +3   Standard: 0</p> <p>See the descriptions under 'OPTION &gt; R-OPT &gt; MANAGE'.</p>

remarks: Record any new values on the service data sheet

<PASCAL>    ADJUST > PASCAL

T-5-22

ADJUST > PASCAL	
Sub item	Description
PASCAL	Determines whether to use or not data on gradation correction and contrast potential obtained by auto gradation correction control.
	<p><b>Settings range:</b></p> <p>Set it to 0 when adjusting images; otherwise, be sure to set it to 1.</p> <p>Standard: 1</p>
M/C/Y/K-VRATE	Indicates the offset value used to determine contrast potential.
DMXCT-Y/M/C	Use it to specify whether to use the solid density control data for each color obtained (auto gradation correction control).
	<b>Settings:</b> 0: Do not use   1: Use      Standard: 1
LUTCT-Y/M/C/K	Use it to specify whether to use the gradation correction control data of each color (auto gradation correction control).
	<b>Settings:</b> 0: Do not use   1: Use      Standard: 1

ADJUST > PASCAL	
Sub item	Description
P-OFST-Y/M/C/K	Use it to set data for correction of the target value for high-density areas in auto gradation correction mode (i.e., to correct variation of CCD readings).  <b>You must enter the value recorded on the service label once again if you have initialized the RAM on the DC controller PCB, since initialization returns it to the standard value. Set to optimum value at time of shipment.</b>
	<b>Settings range:</b> -20 to +20 Standard: 0 +: Darker -: Lighter

- **M/C/Y/K-DMAX Density Value (reference only)**

- If the value of C-, M-, Y-, or K-DMAX is lower than 75, a fault may be assumed in the development of the color in question.
- If all values of C-, M-, Y-, and K-DMAX are lower than 75, a fault may be assumed in transfer or fixing.
- If the value of C-, M-, Y-, or K-DMAX is 120 or higher and copies have fogging, a fault is assumed in ATR of the color in question.

- **PASCAL,DMXCT-T/M/C,LUTCT-Y/M/C/K,P-OFST-Y/M/C/K Point to Note when Changing the Settings**

If you have changed the setting of 'PASCAL', 'DMXCT-C/M/Y', 'LUTCT-C/M/Y/K', or 'P-OFST C/M/Y/K', be sure to execute auto gradation in user mode.

**<ADJ-MISC> ADJUST > ADJ-MISC**

T-5-23

ADJUST > ADJ-MISC	
Sub item	Description
VCONT	Switches between auto and manual for target contrast potential (VG, VDC).
	<b>Settings:</b> 0: Auto (set by auto gradation correction control) 1 to 8: Manual 1 to 8 used for checks; normally, set it to 0 after a check. 9 to 12 not used. (for factory)

ADJUST > ADJ-MISC	
Sub item	Description
SEG-ADJ	<p>Fine-adjusts the separation level between text and photo in text/photo mode or text/halide mode.</p> <p>+: Identifies photos better.</p> <p>-: Identifies text better.</p> <p>This mode corrects text/photo setting of user mode.</p>
	<b>Settings range:</b> -3 to +3    Standard: 0
BC-ADJ	<p>Use it to adjust the color space area identified as black text in black text processing.</p>
	<p><b>Settings range:</b> -3 to +3    Standard: 0</p> <p>A higher setting will increase the color space area within which an original is identified as being a black text original.</p>
ACS-ADJ	<p>Use it to adjust the color space area identified as chromatic in ACS evaluation.</p> <p>Use it to make adjustments if a black-and-white copy is made as the result of ACS evaluation when copying an obviously chromatic original.</p>
	<p><b>Settings range:</b> -6 to +6    Standard: -2</p> <p>A higher setting will increase the color space area within which an original is identified as being chromatic.</p>
K-DOFST	<p>Use it to correct the target value of the SALT signal.</p> <p>If fogging is noted only for Bk, increase the setting to suppress.</p>
	<b>Settings range:</b> -4 to +4    Standard: 0
HV-PSTCL	<p>Using this service mode item, you may change the output current of the auxiliary charging assembly between -150 and +150 uA in increments of 50 uA.</p>
	<b>Settings range:</b> -3 to +3    Standard: 0

remarks: Record any new values on the service data sheet

## &lt;FEED-ADJ&gt; ADJUST &gt; FEED-ADJ

T-5-24

ADJUST > FEED-ADJ	
Sub item	Description
UP-ADJ	Adjusts the image write start position in main scanning direction when pick-up is from the upper cassette. Be sure to select the upper cassette on the User screen in advance.
	<b>Settings range:</b> 0 to 255 Standard: 128 unit: about 0.06mm A higher value leads to a movement to the rear.
LOW-ADJ	Adjusts the image write start position in main scanning direction when pick-up is from the lower cassette. Be sure to select the upper cassette on the User screen in advance.
	<b>Settings range:</b> 0 to 255 Standard: 128 unit: about 0.06mm A higher value leads to a movement to the rear.
MULT-ADJ	Adjusts the image write position in main scanning direction when pick-up is from the multifeeder. Be sure to select the upper cassette on the User screen in advance.
	<b>Settings range:</b> 0 to 255 Standard: 128 unit: about 0.06mm A higher value leads to a movement to the rear.
DECK-ADJ	Adjusts the image write start position in main scanning direction when pick-up is from the paper deck. Be sure to select the upper cassette on the User screen in advance.
	<b>Settings range:</b> 0 to 255 Standard: 128 unit: about 0.06mm A higher value leads to a movement to the rear. (only if deck is connected)
REFE-ADJ	Adjusts the image write start position in main scanning direction for re-pick up operation.
	<b>Settings range:</b> 0 to 255 Standard: 128 unit: about 0.06mm A higher value leads to a movement to the rear.
MT-RG-T	Use it to adjust the image write start position in scanning direction for heavy paper from the manual feed tray.
	<b>Settings range:</b> -20 to 20 Standard: 0 unit: about 0.1mm An increase in the value will cause a shift toward the trailing edge.
COAT-ADJ	Use it to adjust the image write start position in main scanning direction for coated paper from the paper deck.
	<b>Settings range:</b> 0 to 256 Standard: 128 unit: about 0.06mm An increase in the value will cause a shift toward the trailing edge.

ADJUST > FEED-ADJ	
Sub item	Description
VSYC-ADJ	Adjusts the image write start position in sub scanning direction.
	<b>Setting range:</b> 0 to 255   Standard: 128   unit: about 0.11mm A higher setting will cause a shift toward the rear.
MT-RG-UT	Use it to adjust the image start position in sub scanning direction for heavy paper from the multifeeder tray.
	<b>Settings range:</b> -20 to 20   Standard: 0   unit: about 0.1mm An increase in the value will cause a shift toward the trailing edge.
MLT-CL	Use it to increase the leading edge margin by causing pickup of heavy paper from the multifeeder and other sources and the activation of the feed clutch to occur earlier than registration.
	<b>Settings range:</b> 0 to 50   Standard: 0   unit: msec An increase in the value will cause a shift toward the training edge.
DK-RG-T	Use it to adjust the image start position in sub scanning direction for thick paper from the appear deck.
	<b>Settings range:</b> -20 to 20   Standard: 0   unit: about 0.1mm An increase in the value will cause a shift toward the trailing edge.
1REG-LP	Use it to adjust the degree of arching copy paper at the rear of the registration roller (paper stop timing).
	<b>Settings range:</b> -6 to +6   Standard: 0 - A higher setting will increase the arching. - Too low a setting can cause skew movement.
DK-RG-UT	Use it to adjust the image start position in sub scanning direction for heavy paper from the paper deck.
	<b>Settings range:</b> -20 to 20   Standard: 0   unit: about 0.1mm An increase in the value will cause a shift toward the trailing edge.



**<ENV-SET> ADJUST > ENV-SET**

T-5-25

<b>ADJUST &gt; ENV-SET</b>	
<b>Sub item</b>	<b>Description</b>
BODY (°C) BODY (%) BODY (g)	Indicates the machine internal temperature (°C), internal humidity (%), internal humidity absolute value (g) measured by the environment sensor. Same as the reading under 'DISPLAY > ANALOG'
>	Indicates the present environment.
ENV-A to G	Sets ON/OFF of the cassette heater. The heater will turn on if the internal humidity absolute value exceeds the setting.
OFF	Sets to OFF for all environment.

**reference**

The settings of 'ENV-SET' are stored as soon as the CPU on the DC controller PCB is supplied with power (i.e., when the power plug is connected to the power outlet), and will be renewed every 8 hr.

**<HV-TR> ADJUST > HV-TR**

This mode will prove effective when correcting transfer faults under each item in question.

T-5-26

<b>ADJUST &gt; HV-TR</b>	
<b>Sub item</b>	<b>Description</b>
<b>Settings range:</b> -5 to +5 <b>Standard:</b> 0 <b>unit:</b> 1.0 uA Record any new values on the service data sheet (excluding BODY (°C), BODY (%), BODY (g), ZONE A/B/C and << ZONE A >> )	
BODY (°C) BODY (%) BODY (g)	Indicates the machine internal temperature (°C), internal humidity (%), internal humidity absolute value (g) measured by the environment sensor. Same as the reading under 'DISPLAY > ANALOG'
TRY-OFS-C/M/Y/K	Adjusts the transfer high-voltage output. If you have changed the settings of 'TRY-OFS-C/M/Y/K', check to make sure that the value of 'TR-#' for each zone is '0'; otherwise, enter '0'.
ZONE A/B/C	Indicates the machine internal humidity absolute value (g) in the three ranges of A through C.
<< ZONE A >>	Indicates the zone in which the setting shown is effective.

ADJUST > HV-TR	
Sub item	Description
TR-N1	Effective in plain paper mode and, in addition, when copying on a one-sided copy or on the 1st side of a two-sided copy.
TR-N2	Effective in plain paper mode and, in addition, when copying on the 2nd side of a two-sided copy.
TR-OHP	Effective in OHP mode.
TR-#	Effective during image position correction control.
TR-T1	Effective in thick paper mode and, in addition, copying on a one-sided copy or on the 1st side of a two-sided copy.
TR-T2	Effective in thick paper mode and, in addition, copying on the 2nd side of a two-sided copy.
TR-UT1	Effective in ultra thick paper mode and, in addition, when copying on the 1st side of a two-sided copy.
TR-UT2	Effective in ultra thick paper mode and, in addition, when copying on the 2nd side of a two-sided copy.
TR-S1-1	Effective in special paper 1 mode and, in addition, when copying on a one-sided copy or on the 1st side of a two-sided copy.
TR-S1-2	Effective in special paper 1 mode and, in addition, when copying on the 2nd side of a two-sided copy.
TR-S2-1	Effective in special paper 2 mode and, in addition, when copying on a one-sided copy.
TR-S2-2	Effective in special paper 2 mode and, in addition, when copying on the 2nd side of a two-sided copy.
TR-S3-1	Effective in special paper 3 mode and, in addition, when copying on a one-sided copy or on the 1st side of a two-sided copy.
TR-S3-2	In special paper 3 mode and, in addition, when copying on the 2nd side of a two-sided copy.

**<HV-SP> ADJUST > HV-SP**

This mode will prove effective when correcting image distortion, separation faults, or feeding faults under each item in question.

T-5-27

<b>ADJUST &gt; HV-SP</b>	
<b>Sub item</b>	<b>Description</b>
<b>Settings range:</b> -5 to +5 <b>Standard:</b> 0 <b>unit:</b> 25 uA Record any new values on the service data sheet (excluding BODY (°C), BODY (%), BODY (g), ZONE A/B/C and << ZONE A >>)	
BODY (°C) BODY (%) BODY (g)	Indicates the machine internal temperature (°C), internal humidity (%), internal humidity absolute value (g) measured by the environment sensor. Same as the reading under 'DISPLAY > ANALOG'
SP-OFST	Adjusts the transfer high-voltage output.
ZONE A/B/C	Indicates the machine internal humidity absolute value (g) in the three ranges of A through C.
<< ZONE A >>	Indicates the zone in which the setting shown is effective.
SP-N1	Effective in plain paper mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
SP-N2	Effective in plain paper mode and, in addition, when copying on the 2nd side of a two-sided copy.
SP-OHP	Effective in OHP mode.
SP-#	Effective during image position correction control.
SP-T1	Effective in thick paper mode and, in addition, copying on a one-sided copy or on the 1st side of a two-sided copy.
SP-T2	Effective in thick paper mode and, in addition, copying on the 2nd side of a two-sided copy.
SP-UT1	Effective in ultra thick paper mode and, in addition, when copying on the 1st side of a two-sided copy.
SP-UT2	Effective in ultra thick paper mode and, in addition, when copying on the 2nd side of a two-sided copy.
SP-S1-1	Effective in special paper 1 mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
SP-S1-2	Effective in special paper 1 mode and, in addition, when copying on the 2nd side of a two-sided copy.

ADJUST > HV-SP	
Sub item	Description
SP-S2-1	Effective in special paper 2 mode and, in addition, when copying on a onesided copy.
SP-S2-2	Effective in special paper 2 mode and, in addition, when copying on the 2nd side of a two-sided copy.
SP-S3-1	Effective in special paper 3 mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
SP-S3-2	In special paper 3 mode and, in addition, when copying on the 2nd side of a two-sided copy.

### <HV-FS> ADJUST > HV-FS

This mode will prove effective when correcting image distortion under each item in question.

T-5-28

ADJUST > HV-FS	
Sub item	Description
<b>Settings range:</b> -5 to +5    Standard: 0    unit: 25 uA Record any new values on the service data sheet (excluding BODY (°C), BODY (%), BODY (g), ZONE A/B/C, STMT-MD and << ZONE A >>) 	
BODY (°C) BODY (%) BODY (g)	Indicates the machine internal temperature (°C), internal humidity (%), internal humidity absolute value (g) measured by the environment sensor. Same as the reading under 'DISPLAY > ANALOG'
FS-OFST	Adjusts the transfer high-voltage output.
ZONE A/B/C	Indicates the machine internal humidity absolute value (g) in the three ranges of A through C.
STMT-MD	Adjust the high-voltage output for size of STMT.  <b>Setting range:</b> -1 to +9    Standard: 0 If stray toner occurs for STMT size images before fixing, increase the setting (so that the high-voltage output will increase) to limit the problem. However, keep in mind that too high a setting will cause the paper to stick to the guide before fixing, turning into a jam.
<< ZONE A >>	Indicates the zone in which the setting shown is effective.

ADJUST > HV-FS	
Sub item	Description
FS-N1	Effective in plain paper mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
FS-N2	Effective in plain paper mode and, in addition, when copying on the 2nd side of a two-sided copy.
FS-OHP	Effective in OHP mode.
FS-#	Effective during image position correction control.
FS-T1	Effective in thick paper mode and, in addition, copying on a one-sided copy or on the 1st side of a two-sided copy.
FS-T2	Effective in thick paper mode and, in addition, copying on the 2nd side of a two-sided copy.
FS-UT1	Effective in ultra thick paper mode and, in addition, when copying on the 1st side of a two-sided copy.
FS-UT2	Effective in ultra thick paper mode and, in addition, when copying on the 2nd side of a two-sided copy.
FS-S1-1	Effective in special paper 1 mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
FS-S1-2	Effective in special paper 1 mode and, in addition, when copying on the 2nd side of a two-sided copy.
FS-S2-1	Effective in special paper 2 mode and, in addition, when copying on a onesided copy.
FS-S2-2	Effective in special paper 2 mode and, in addition, when copying on the 2nd side of a two-sided copy.
FS-S3-1	Effective in special paper 3 mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
FS-S3-2	In special paper 3 mode and, in addition, when copying on the 2nd side of a two-sided copy.

**<HV-EL> ADJUST > HV-EL**

This mode will prove effective when correcting transfer faults or soiling on the back of copies under each item in question.

T-5-29

<b>ADJUST &gt; HV-EL</b>	
<b>Sub item</b>	<b>Description</b>
<b>Settings range:</b> -5 to +1 <b>Standard:</b> -2 <b>unit:</b> 0.5 kv Record any new values on the service data sheet (excluding BODY (°C), BODY (%), BODY (g), ZONE A/B/C and << ZONE A >>)	
BODY (°C) BODY (%) BODY (g)	Indicates the machine internal temperature (°C), internal humidity (%), internal humidity absolute value (g) measured by the environment sensor. Same as the reading under 'DISPLAY > ANALOG'
EL-OFST	Adjusts the transfer high-voltage output.
ZONE A/B/C	Indicates the machine internal humidity absolute value (g) in the three ranges of A through C.
<< ZONE A >>	Indicates the zone in which the setting shown is effective.
EL-N1	Effective in plain paper mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
EL-N2	Effective in plain paper mode and, in addition, when copying on the 2nd side of a two-sided copy.
EL-OHP	Effective in OHP mode.
EL-#	Effective during image position correction control.
EL-T1	Effective in thick paper mode and, in addition, copying on a one-sided copy or on the 1st side of a two-sided copy.
EL-T2	Effective in thick paper mode and, in addition, copying on the 2nd side of a two-sided copy.
EL-UT1	Effective in ultra thick paper mode and, in addition, when copying on the 1st side of a two-sided copy.
EL-UT2	Effective in ultra thick paper mode and, in addition, when copying on the 2nd side of a two-sided copy.
EL-S1-1	Effective in special paper 1 mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
EL-S1-2	Effective in special paper 1 mode and, in addition, when copying on the 2nd side of a two-sided copy.

<b>ADJUST &gt; HV-EL</b>	
<b>Sub item</b>	<b>Description</b>
EL-S2-1	Effective in special paper 2 mode and, in addition, when copying on a onesided copy.
EL-S2-2	Effective in special paper 2 mode and, in addition, when copying on the 2nd side of a two-sided copy.
EL-S3-1	Effective in special paper 3 mode and, in addition, when copying on a onesided copy or on the 1st side of a two-sided copy.
EL-S3-2	In special paper 3 mode and, in addition, when copying on the 2nd side of a two-sided copy.

### **<EC-ADJ> ADJUST > EC-ADJ**

Enter the value indicated on the label attached to the EC coat glass.

**Settings range:** 0 to 99 **Standard:** R=48, G=53, B=70

### **<DTMP-ADJ> ADJUST > DTMP-ADJ**

Drum heater temperature switch.

Settings: EXTRA-LO (Approx 30°C)/LOW (Approx 32°C)/NORMAL (Approx 34°C)/HIGH (Approx 36°C)/EXTRA-HI (Approx 38°C)

The values within brackets indicate target temperature of the thermistor.

**Standard:** 0

## 5.3 FUNCTION (Operation/Inspection Mode)

### 5.3.1 FUNCTION Table

#### 5.3.1.1 FUNCTION Table

0004-7984

CLC5100 / CLC4000

&lt;INSTALL&gt; FUNCTION &gt; INSTALL

T-5-30

FUNCTION > INSTALL	
Sub item	Description
INIT-C/M/Y	Use it to read in the initial value of the toner density signal (SGNL, REF) of the specified color. - The value will be indicated on screen 3/4. Record it to the service label.
INIT-3	Reads the initial value of the toner density signal (SGNL, REF) of three colors (C, M, Y) in sequence. - The value will be indicated on screen 3/4. Record it to the service label.
INIT-7	Reads the initial value of the toner density signal (SGNL, REF) of the ATR and SALT sensors in sequence. - The value will be indicated on screens 3/4 and 4/4. Record it to the service label.
SINIT-C/M/Y/K	Reads the initial value of the SALT signal (SGNL, REF) of the specified color. - The value will be indicated on screen 4/4. Record it to the service label.
SINIT-4	Reads the initial value of the SALT signal (SGNL, REF) of four colors (C, M, Y, K) in sequence. - The value will be indicated on screen 4/4. Record it to the service label.
STIR-C/M/Y/K	Stirs the starter of the specified color.
STIR-4	Stirs the starters of the four colors.
SPLY-C/M/Y/K	Rotates the cylinder of the developing assembly to supply starter of the specified color.
IMG-REG	Turns on or off the image position auto correction function. 0: OFF 1: ON
LSNS-KIL	Turns on or off the toner sensor output mode for moving up/down the hopper. 0: OFF 1: ON Initial: 0 Used only at time of installation.



FUNCTION > INSTALL	
Sub item	Description
NLSET-K	Use it to suppress fogging of Bk, if noted in a low-humidity environment, as follows: 1. In the environment in question, check to make sure that the moisture content is 5 g (indicated as '500 g' on the screen) or less. 2. Replace the Bk developer. (See the descriptions of 'replacing the developer' however, do not execute auto gradation correction as yet.) 3. Execute 'FUNC>INSTALL (2nd page)>NLSET K' in service mode. (about 1 min) 4. Check to make sure that 'PASCAL' in 'ADJUST>PASCAL' in service mode is '1'. 5. Execute auto gradation correction in user mode.
REG-APER	Executes auto correction of the read-in coordinates of the image position correction pattern.
RECV-C/M/Y/K	Rotates the cylinder of the developing assembly to draw developer out of the developing assembly of the specified color. - Be sure to place the developer collecting container under the developer before opening of the developer supply mouth. <b>This mode is NOT to be executed at time of installation.</b>
RECV-4	Rotates the cylinders of the developing assemblies to draw the developers out of the developing assemblies for four colors.
WINCLR-C/M/Y/K	Use it to read in the initial value of the window soiling correction coefficient of a specific color.
WINCLR-4	Use it to read in the initial value of the window soiling correction coefficient of the four colors.
SGNL-C/M/Y	Indicates the value of the toner density signal when INIT is executed as ATR control. For SGNL-C, SGNL-M, and SGNL-Y, normally, 818 +-41.
REF-C/M/Y	Indicates the value of the toner density reference signal when INIT is executed as ATR control. Be sure to record the reading on the label.
SIGG-C/M/Y	Indicates the gain value (gain value used to set SGNL-C/SGNL-M/SGNLY to 818) for the toner density signal during ATR control. Be sure to record the reading on the label.
SGNL-S-C/M/Y/K	Indicates the value of the SALT signal. Be sure to record the reading on the label.
REF-S-C/M/Y/K	Indicates the value of the SALT reference signal.
SGNL-D-C/M/Y/K	Indicates the value of the light reflected by the photosensitive drum. Be sure to record the reading.
SIGG-S-C/M/Y/K	Indicates the value of the gain for the SALT signal. Be sure to record the reading.

## &lt;R-CON&gt; FUNCTION &gt; R-CON

T-5-31

FUNCTION > R-CON	
Sub item	Description
RAM-CLR	<p>Clears the all data of RAM on the reader controller PCB and sets the standard value.</p> <p><b>Remarks:</b> The power switch will automatically turn off when 'RAM-CLR' is executed.</p> <p>The contents of the RAM are replaced with the initial settings when the power switch is turned on thereafter.</p>
CHK-SUM	<p>Starts a check of the DIMM ROM on the reader controller PCB, i.e., totals the RAM data.</p> <p><b>Remarks:</b> During operation, '&lt;R&gt;READY-&gt;BUSY'.</p>
RCON	<p>Indicates the check sum value of DIMM ROM on the reader controller PCB.</p> <p><b>Remarks:</b> Indicates only when 'CHK-SUM' is executed.</p>

## &lt;DC-CON&gt; FUNCTION &gt; DC-CON

T-5-32

FUNCTION > DC-CON	
Sub item	Description
RAM-CLR	<p>Clears the all data of RAM on the DC controller PCB and sets the standard value.</p> <p><b>Remarks:</b> The contents of the RAM will not be replaced with the initial settings until the CPU on the DC controller PCB is powered, requiring you to turn off the power switch and disconnect and then connect the power plug after executing 'RAM-CLR'.</p>
CHK-SUM	<p>Starts a check of the ROM on the DC controller PCB, i.e., totals the data in RAM.</p>
DCCON	<p>Indicates the check sum value of DIMM ROM on the DC controller PCB.</p> <p><b>Remarks:</b> Indicates only when 'CHK-SUM' is executed.</p>
UP-A4R	<p>Enters the adjustment value for paper width detection reference point 1 for cassette 1.</p>

FUNCTION > DC-CON	
Sub item	Description
UP-STMR	Enters the adjustment value for paper width detection reference point 2 for cassette 1.
LOW-A4R	Enters the adjustment value for paper width detection reference point 1 for cassette 2.
LOW-STMR	Enters the adjustment value for paper width detection reference point 2 for cassette 2.
MF-A4R	Enters the adjustment value for paper width detection reference point 1 for the multifeeders.
MF-A6R	Enters the adjustment value for paper width detection reference point 2 for the multifeeders.
MF-A4	Enters the adjustment value for paper width detection reference point 3 for the multifeeders.
SGNL-C/M/Y	Enters the value of the toner density signal when INIT is executed as ATR control.
REF-C/M/Y	Enters the value of the toner density reference signal when INIT is executed as ATR control.
SIGG-C/M/Y	Enters the value of the gain for the toner density signal during ATR control (gain used to set SGNL-C, SGNL-M, and SGNL-Y to 818).
SGNL-S-C/M/Y/K	Use it to enter the value of the SALT signal.
REF-S-C/M/Y/K	Use it to enter the value of the SALT reference signal.
SGNL-D-C/M/Y/K	Use it to enter the value of the signal representing the intensity of light reflected by the photosensitive drum.
SIGG-S-C/M/Y/K	Use it to enter the value of the gain for the SALT signal.
PT-OFST-K	Use it to enter the adjustment value of the density pattern for SALT.
PUDT-U/L	Use it to enter the adjustment value for pick-up timing adjustment (P-UPTMG).
P-TH-1/2	Enters the output characteristics of the paper thickness sensor set at time of shipment from the factory.
SNSR-RNK	Enters the characteristics of the paper thickness sensor to be installed newly. <b>Remarks:</b> The values A through E change by toggle operation

FUNCTION > DC-CON	
Sub item	Description
C/Y/K-OFS	Use it to enter the offset value for the image position correction pattern. <b>Do not enter any values other than those on the service data sheet.</b>
POTOFSTC/M/Y/K	Use it to enter the offset value for the potential sensor.

## &lt;CCD&gt; FUNCTION &gt; CCD

T-5-33

FUNCTION > CCD	
Sub item	Description
AUTO-ADJ	Use it to specify the start of auto adjustment. The bar code data recorded on the standard white plate is read, and offset adjustment, intensity adjustment for the scanning lamp, and gain adjustment are executed in sequence. The display changes as follows: <R>RADY -> Bar code -> OeAdj -> Offdj -> LampAdj -> GainAdj -> OeAdj -> InitBAdj -> Gz-bar. <b>Remarks:</b> Adjustments are made so that the value of point A is identical to the setting obtained from the bar code data recorded on the standard white plate.
LAMP	Use it to indicate the level adjustment value of the scanning lamp.
CCD-MODE	Use it to indicate whether the mode selected in user mode is normal mode or precious metal mode. <b>Remarks:</b> 0: normal mode 1: precious metal mode
CCD-DISP	Use it to switch the display data for the following in service mode: 'FUNC>CCD' <b>Settings:</b> 0: indicate display in normal mode 1: indicate data in precious metal mode Standard: 0
TARGET	Use it to display the shading adjustment correction value (target value of point B). BLUE: Use it to indicate the data of BLUE. GREEN: Use it to indicate the data of GREEN. RED: Use it to indicate the data of RED.

FUNCTION > CCD	
Sub item	Description
GAIN-UP	Use it to indicate the setting of the gain-up mode (precious metal mode) for the analog processor PCB <b>Remarks:</b> 0 : normal mode 255 : precious metal mode
OFFST	Indicates the value for offset level adjustment of the odd bits of the CCD. BLUE: Indicates the data for blue of the offset level. GREEN: Indicates the data for green of the offset level. RED: Indicates the data for red of the offset level.
BALANCE	Indicates the value for balance level adjustment of the even and odd bits of the CCD. BLUE: Indicates the data for blue of the balance level. GREEN: Indicates the data for green of the balance level. RED: Indicates the data for red of the balance level.
GAIN	Indicates the value for gain level adjustment of the CCD. BLUE: Indicates the data for blue of the gain level. GREEN: Indicates the data for green of the gain level. RED: Indicates the data for red of the gain level.

## &lt;LASER&gt; FUNCTION &gt; LASER

T-5-34

FUNCTION > LASER	
Sub item	Description
1/2POWER	Turns ON the laser output for laser power minimum value adjustment.
POWER	Turns ON the laser output for laser power maximum value adjustment.
BIAS-C/M/Y/K	Turns ON the laser output for laser power bias value adjustment.
400-P00-(C,M,Y,K) 800-P00-(C,M,Y,K)	Turns ON the laser output corresponding to V00 to check V00 in text mode.
200-P00-(M,C) 266-P00-(Y,K)	Turns ON the laser output corresponding to V00 to check V00 in photo mode.
400-PFF-(C,M,Y,K) 800-PFF-(C,M,Y,K)	Turns ON the laser output corresponding to V00 to check VFF in text mode.
200-PFF-(M,C) 266-PFF-(Y,K)	Turns ON the laser output corresponding to V00 to check VFF in photo mode.

Remarks: A press on the Stop key will turn off the laser output.

## &lt;P-UP-TMG&gt; FUNCTION &gt; P-UP-TMG

T-5-35

FUNCTION > P-UP-TMG	
Sub item	Description
PK-ADJ-U/L	Use it to execute automatic pick-up from the upper/lower cassette, thereby obtaining the pick-up timing adjustment value. Be sure to place A4 or LTR paper in the upper and lower cassettes before executing the operation.
DATA-U/L/D	Use it to indicate the data obtained by 'PK-ADJ-U/L/D'.
PUDT-U/L/D	Use it to indicate the maximum value of the data obtained by 'PK-AJD-U/ L/D'.
D-SEND-U/L/D	Use it to write the obtained data into memory.
MF-SKEW	Use it to execute skew removing operation twice when pick-up is from the multifeeder tray (effective only when the paper type is set to 'thickest'). 0: Remove skew by registration roller 1: Remove skew by registration roller and feeding roller <b>Remarks:</b> Use it if thick paper tends to move askew.
PK-ADJ-D	Use it to start automatic pick-up from the paper deck and to obtain the pickup timing adjustment value. <b>This mode is an adjustment mode for LTR paper. As such, be sure to deposit LTR paper in the paper deck in advance.</b> <b>Remarks:</b> Use the mode if a discrepancy is noted along the leading edges of LTR copies.

## &lt;ATTRACT&gt; FUNCTION &gt; ATTRACT

T-5-36

FUNCTION > ATTRACT	
Sub item	Description
ATT-SLCT	Selects the source of paper for checking the point of retention. <b>Source of paper:</b> 1: Upper cassette 2: Lower cassette 3: Paper deck 4: Multifeeder 5: Duplexing pick up assembly
ATT-ON	Starts operations according to the settings under ATT-SLCT, and stops automatically with paper retained on the transfer belt.

Remarks: Use A4/LTR paper for the mode.

## &lt;EPC&gt; FUNCTION &gt; EPC

T-5-37

FUNCTION > EPC	
Sub item	Description
EPC	Executes potential measurement on the photosensitive drum. <b>Remarks:</b> The potential measurement data is used for the next copying run.
POTOFSTC/M/Y/K	Indicates the offset value for the potential sensor.
OFFSET	Executes offset adjustment on the potential measurement circuit of the photosensitive drum. <b>Remarks:</b> The potential measurement data is used for the next copying run.
V00-300V	Indicates the photosensitive drum surface potential when the grid bias potential of the primary charging assembly is -300 V and the laser output is V00. <b>Approximate value:</b> 250 to 350
V00-700V	Indicates the photosensitive drum surface potential when the grid bias potential of the primary charging assembly is -700 V and the laser output is V00. <b>Approximate value:</b> 650 to 750
VFF-300V	Indicates the photosensitive drum surface potential when the grid bias potential of the primary charging assembly is -300 V and the laser output is VFF. <b>Approximate value:</b> 10 to 150
VFF-700V	Indicates the photosensitive drum surface potential when the grid bias potential of the primary charging assembly is -700 V and the laser output is VFF. <b>Approximate value:</b> 50 to 250

## &lt;BLADE&gt; FUNCTION &gt; BLADE

T-5-38

FUNCTION > BLADE	
Sub item	Description
BLD-SLCT	<p>Use it to determine the combination of ways to operate the transfer blade and the transfer belt cleaning blade.</p> <p>- Press 'BLD-SLCT', enter a number on the keypad, and press the 'OK' key.</p> <p><b>Settings:</b></p> <p>1: Transfer blade In contac, Transfer cleaning blade Off contact  2: Transfer blade Off contact, Transfer cleaning blade In contact  3: Transfer blade In contact, Transfer cleaning blade In contact</p>
BLD-ON	<p>Starts operation according to the settings under BLD-SLCT.</p> <p>In 10 sec, the blade will take off-contact position.</p>

## &lt;FUSER&gt; FUNCTION &gt; FUSER

T-5-39

FUNCTION > FUSER	
Sub item	Description
NIP-CHK	<p>Measures the fixing assembly nip.</p> <p>Paper is stopped once at the point of fixing and then delivered.</p> <p>Sine the operation uses cassette 1 as the source of paper, 'NO PAPER' will be indicated over 'P' if no paper exists in cassette 1. The notation changes to 'READY' when paper is supplied.</p> <p><b>Remarks:</b> Press NIP-CHK to execute.</p> <p>The notation over 'P' changes from READY to SERVICE and then to READY to end the execution.</p>
E000-RLS	<p>Clears E000.</p> <p>Be sure to turn off and then on the power switch after execution.</p> <p><b>Remarks:</b> The notation over 'P' changes from ERROR to BUSY and then to ERROR. Turn off and on the power switch to clear.</p>
E005-RLS	<p>Clears E005.</p> <p>Be sure to turn off and then on the power switch after execution.</p> <p><b>Remarks:</b> The notation over 'P' changes from ERROR to BUSY and then to ERROR. Turn off and on the power switch to clear.</p>



FUNCTION > FUSER	
Sub item	Description
UPPER-CR	<p>Use it to adjust the fixing temperature value (upper roller). If you have replaced the fixing assembly, enter the value recorded on the label attached to the fixing assembly. Thereafter, be sure to turn off and then on the power switch.</p> <p><b>Settings range:</b> -3 to +3    At time of shipment:0</p> <p><b>Do not enter a value other than the one indicated on the label.</b></p>
LOWER-CR	<p>Use it to adjust the fixing temperature value (lower roller). If you have replaced the fixing assembly, enter the value recorded on the label attached to the fixing assembly. Thereafter, be sure to turn off and then on the power switch.</p> <p><b>Settings range:</b> -3 to +3    At time of shipment: 0</p> <p><b>Do not enter a value other than the one indicated on the label.</b></p>

## &lt;CST-AD&gt; FUNCTION &gt; CST-AD

T-5-40

FUNCTION > CST-AD	
Sub item	Description
UP-A4R	Executes automatic adjustment of paper width detection reference point 1 for cassette 1.
UP-STMR	Executes automatic adjustment of paper width detection reference point 2 for cassette 1.
LOW-A4R	Executes automatic adjustment of paper width detection reference point 1 for cassette 2.
LOW-STMR	Executes automatic adjustment of paper width detection reference point 2 for cassette 2.
MF-A4R	Executes automatic adjustment of paper width detection reference point 1 for the multifeeder.
MF-A6R	Executes automatic adjustment of paper width detection reference point 2 for the multifeeder.
MF-A4	Executes automatic adjustment of paper width detection reference point 3 for the multifeeder.

## &lt;F-MISCs&gt; FUNCTION &gt; F-MISCs

## T-5-41

FUNCTION > F-MISCs						
Sub item	Description					
LED-CHK	Starts an activation check on the LED.					
LED-OFF	Starts an activation check on the LED.					
LCD-CHK	Starts an activation check on the LCD. (The notation becomes highlighted.) <b>Remarks:</b> A press on the Stop key ends the check.					
KEY-CHK	Starts an input check on the key. (See the detail for KEY-CHK.) <b>Remarks:</b> Indicates the number/name of the input key in question					
KEY-OFF	Ends the input check on the key.					
SC-MOVE	Starts a check on the scanner. Each press on SC-MOVED changes the notation.(See the detail for SC-MOVE.)					
LAMP-ON	Starts a check on the scanning lamp. Each press on LAMP-ON changes the notation and the operation as follows:					
	<table> <tr> <td>Notation</td><td>Operation</td></tr> <tr> <td>0-&gt;1</td><td>ON when intensity data 80 (light)</td></tr> <tr> <td>1-&gt;0</td><td>ON when Intensity data 00 (dark)</td></tr> </table> <p>Each press on the key switches between '00' and '80' for the intensity data. - '00' represents OFF</p>	Notation	Operation	0->1	ON when intensity data 80 (light)	1->0
Notation	Operation					
0->1	ON when intensity data 80 (light)					
1->0	ON when Intensity data 00 (dark)					
DEMO	Reserved.					
RESERVE1/2/3/4	Reserved.					

- Details of KEY-CHK

## T-5-42

Key	Key name	Key	Key name
0 to 9	0 to 9	Reset	RESET
Stop	STOP	Two-Sided	A
One-Touch Adjust	B	Color Adjust	C
Extended Zoom	D	Frame Erase	E

Key	Key name	Key	Key name
Color Create	F	Page Separate	G
Shift	H	Image Create	I
Area Select	K	Synthesize	L
User Mode	M	Cover	N
Transparency Insert	O	Start	START
Pre-Heat	STAND BY	Interrupt	INTERRUPT
Clear	CLEAR	ID	ID
Call	CALL		

- Details of SC-MOVE

### T-5-43

Notation	Operation	
0/4	HP -> A	HP
1/4	A -> B	<div style="display: flex; justify-content: space-around; border: 1px solid black; padding: 2px;"> <span>√A</span> <span>B</span> <span>C</span> </div>
2/4	B -> C	
3/4	C -> HP	

<F-MISCp>    **FUNCTION > F-MISCp**

### T-5-44

FUNCTION > F-MISCp	
Sub item	Description
IO	Use it to select the type of IO (input/output) check. See the details section.
IO-ON	Use it to start an IO (input/output) check.
SHV	Use it to select the type of check on the high-voltage output. Enter a number on the keypad, and press the OK key. See the details section.
SHV-ON	Use it to start a check on the high-voltage output. Press the Stop key to stop operation.
MTR	The kind of check of a motor is specified. It decides by the OK key after inputting a number with a ten key. See the details section.

FUNCTION > F-MISCp	
Sub item	Description
MTR-ON	Use it to start a check on the motor. Press the Stop key to stop the operation.
FAN	The kind of check of a motor is specified. It decides by the O.K. key after inputting a number with a ten key. See the details section.
FAN-ON	Use it to start a check on the fan. Press the Stop key to stop the operation.
DRM-ROT	Use it to cause the drum to rotate idly for 10 min. Press the Stop key to stop. <b>Be sure to release the transfer belt before execution.</b>
E075-RLS	Use it to clear 'E075'. After execution, check to make sure that the transfer belt is at the correct position; then, turn off and then on the power switch.
SHUT-OFF	Use it to check the operation of the auto power-off mechanism.

## T-5-45

- Details of IO

Details of IO			
No.	Parts name	No.	Parts name
1	not used	2	Transfer belt lifter clutch (CL17)
3	Polishing roller solenoid (SL18)	4	Y transfer blade solenoid (SL7Y)
5	M transfer blade solenoid (SL7M)	6	C transfer blade solenoid (SL7C)
7	K transfer blade solenoid (SL7Bk)	8	C toner supply clutch (CL1)
9	M toner supply clutch (CL2)	10	Y toner supply clutch (CL3)
11	Bk toner (upper) supply clutch (CL4)	12	Bk toner (lower) supply clutch (CL5)
13	Fixing web take up solenoid (SL3)	14	Fixing web releasing solenoid (SL4)
15	Fixing oil pump drive solenoid (SL2)	16	Separation claw releasing solenoid (SL15)
17	SALT sensor shutter (SL17Y, M, C, Bk)	18	Cassette 1 pickup roller releasing solenoid (SL9)
19	Cassette 2 pickup roller releasing solenoid (SL10)	20	Multifeeder pickup roller releasing solenoid (SL5)
21	Paper deck pickup roller releasing solenoid (SL8001)	22	not used
23	Paper feed roller solenoid (SL13)	24	Cassette 1 pickup clutch (CL12)
25	Cassette 2 pickup clutch (CL14)	26	Multifeeder pickup clutch (CL6)

Details of IO			
No.	Parts name	No.	Parts name
27	Multifeeder feeding clutch (CL7)	28	not used
29	Paper deck pickup clutch (CL8002)	30	Duplex pickup roller clutch (CL10)
31	Registration roller releasing solenoid (SL16)	32-36	not used
37	Reversing roller drive clutch (CL16)	38	Delivery paper deflecting solenoid (SL14)
39	Duplexing unit paper deflecting plate solenoid (L; SL11L)	40	Duplexing unit paper deflecting plate solenoid (M; SL11M)
41	Duplexing unit paper deflecting plate solenoid (S; SL11S)	42-44	not used
45	Pre-exposure lamp	46	Fixing motor (138 mm/s)
47	ATR LED	48	SALT-Y LED
49	SALT-M LED	50	SALT-C LED
51	SALT-K LED	52	not used
53	Fixing FW drive clutch (CL9000)	54	Paper deck air heater (H1)
55	Paper deck cassette heater (H2, H3)		

## T-5-46

- Details of SHV

Details of SHV		
No.	High-voltage output	Control
1	Primary C charging assembly, grid C output, auxiliary high-voltage Y (-350 uA), developing bias CDC (-370 V) output	Transfer lifter DOWN, photosensitive drum motor ON, pre-exposure ON, primary C output, grid C output (500 V), auxiliary highvoltage output C (-350 uA), developing bias CDC (-370 V) output IB (Waits for a stop command, or 60 sec.) Primary C output, grid C output (500 V), auxiliary high-voltage output C (-350 uA), developing bias CDC (-370 V) output OFF, preexposure OFF, photosensitive drum motor OFF

Details of SHV		
No.	High-voltage output	Control
2	Primary M charging assembly, grid M output, auxiliary high-voltage Y (-350 uA), developing bias MDC (-370 V) output	Transfer lifter DOWN, photosensitive drum motor ON, pre-exposure ON, primary M output, grid M output (500 V), auxiliary highvoltage output M (-350 uA), developing bias MDC (-370 V) output IB (Waits for a stop command, or 60 sec.) Primary M output, grid M output (500 V), auxiliary high-voltage output M (-350 uA), developing bias MDC (-370 V) output OFF, pre-exposure OFF, photosensitive drum motor OFF
3	Primary Y charging assembly, grid Y output, auxiliary high-voltage Y (-350 uA), developing bias YDC (-370 V) output	Transfer lifter DOWN, photosensitive drum motor ON, pre-exposure ON, primary Y output, grid Y output (500 V), auxiliary highvoltage output Y (-350 uA), developing bias YDC (-370 V) output IB (Waits for a stop command, or 60 sec.)Primary Y output, grid Y output (500 V), auxiliary high voltage output Y (-350 uA), developing bias YDC (-370 V) output OFF, preexposure OFF, photosensitive drum motor OFF
4	Primary K charging assembly, grid K output, auxiliary high-voltage Y (-350 uA), developing bias KDC (-370 V) output	Transfer lifter DOWN, photosensitive drum motor ON, pre-exposure ON, primary K output, grid K output (500 V), auxiliary highvoltage output K (-350 uA), developing bias KDC (-370 V) output IB (Waits for a stop command, or 60 sec.) Primary K output, grid K output (500 V), auxiliary high-voltage output K (-350 uA), developing bias KDC (-370 V) output OFF, pre-exposure OFF, photosensitive drum motor OFF
5	Primary Y/M/C/K primary charging assembly, C/M/Y/K grid output, C/M/Y/K transfer high-voltage, developing bias C/M/Y/K-DC 370 V) output, internal static eliminator assembly, separation charging assembly output	Transfer lifter UP, photosensitive drum motor ON, pre-exposure ON, belt motor ON, transfer blade ON C/M/Y/K primary output, grid output (500 V), developing bias DC (-370 V) output, internal static eliminator assembly output, separation charging output, transfer charging output ON (Waits for a stop command while the transfer belt makes 10 rotations.) Transfer charging output, internal static eliminator assembly output, separation charging output OFF, transfer blade OFF, post rotation sequence

Details of SHV		
No.	High-voltage output	Control
6	Developing bias C-AC/DC output, anti-stray toner high-voltage output	Developing bias C-AC/DC output, anti-stray toner high-voltage output ON (Waits for a stop command, or 60 sec.) Developing bias C-AC/DC output, anti-stray toner high-voltage output OFF
7	Developing bias M-AC/DC output, anti-stray toner high-voltage output	Developing bias M-AC/DC output, anti-stray toner high-voltage output ON (Waits for a stop command, or 60 sec.) Developing bias M-AC/DC output, anti-stray toner high-voltage output OFF
8	Developing bias Y-AC/DC output, anti-stray toner high-voltage output	Developing bias Y-AC/DC output, anti-stray toner high-voltage output ON (Waits for a stop command, or 60 sec.) Developing bias Y-AC/DC output, anti-stray toner high-voltage output OFF
9	Developing bias K-AC/DC output, anti-stray toner high-voltage output	Developing bias K-AC/DC output, anti-stray toner high-voltage output ON (Waits for a stop command, or 60 sec.) Developing bias K-AC/DC output, anti-stray toner high-voltage output OFF

## T-5-47

- Details of MTR

Details of MTR		
No.	Motor	Control
1	M10 (Multifeeder pickup motor)	Operates for 10 sec, stops for 3 sec, and then operates for 10 sec and stops. Its operation stops in response to a press on the Stop key.
2	M21 (photosensitive drum motor)	Operates for 10 sec, stops for 3 sec, and then operates for 10 sec and stops. Its operation stops in response to a press on the Stop key.
3	M4 (laser scanner motor)	Operates for 10 sec, stops for 3 sec, and then operates for 10 sec and stops. Its operation stops in response to a press on the Stop key.

Details of MTR		
No.	Motor	Control
4	M20 (waste toner feed motor)	Operates for 10 sec, stops for 3 sec, and then operates for 10 sec and stops. Its operation stops in response to a press on the Stop key.
5	M18C, M18M, M18Y, M18Bk (C/M/Y/K developing motor)	Operates for 10 sec, stops for 3 sec, and then operates for 10 sec and stops. Its operation stops in response to a press on the Stop key.
6	M9 (fixing motor), M9005 (application roller drive motor)	Rotates for 10 sec at standard speed (138 mm/sec) for plain paper (64 to 104 g), for 10 sec at standard speed (90 mm/sec) for thick paper (157 g), for 10 sec at standard speed (68 mm/sec) for ultra thick paper (209 g), for 10 sec at gloss speed (45 mm/sec) for ultra thick paper (209 g), and stops for 3 sec. Its operation stops in response to a press on the Stop key.
7	M14 (transfer belt motor)	Operates for an equivalent of 2 rotations of the belt and stops for 3 sec; then, operates for an equivalent of 2 rotations, and stops. Its operation stops in response to a press on the Stop key.
8	M9002, M9003 (fixing front feed motor)	Rotates for 10 sec at standard speed (138 mm/sec) for plain paper (64 to 104 g), for 10 sec at standard speed (90 mm/sec) for thick paper (157 g), for 10 sec at standard speed (68 mm/sec) for ultra thick paper (209 g), for 10 sec at gloss speed (45 mm/sec) for ultra thick paper (209 g), and stops for 3 sec. Its operation stops in response to a press on the Stop key.
9	Buffer pass unit motor	Rotates for 10 sec at standard speed (138 mm/sec) for plain paper (64 to 104 g), for 10 sec at standard speed (90 mm/sec) for thick paper (157 g), for 10 sec at standard speed (68 mm/sec) for ultra thick paper (209 g), for 10 sec at gloss speed (45 mm/sec) for ultra thick paper (209 g), and stops for 3 sec. Its operation stops in response to a press on the Stop key.



Details of MTR		
No	Motor	Control
10	M19 (duplex feed motor)	Operates for 10 sec, stops for 3 sec, and then operates for 10 sec and stops. Its operation stops in response to a press on the Stop key.
11	M15 (polishing/oil removing motor)	Rotates CCW/CW for 10 sec, stops for 3 sec, rotates CCW for 10, and then stops. Its operation stops in response to a press on the Stop key.
12	M24Y, M24M, M24C, M24Bk (primary charging wire cleaner motor)	Cleans by a single back-and-forth trip.
13	Fixing web motor	Operates for 5 sec and then stops.
14	M12 (Transfer belt cleaning motor)	Operates for 1 sec and then stops.
15	M2 (mirror slant correction motor for Y)	M2 (mirror slant correction motor for Y)
16	M3 (mirror ratio correction motor for Y)	Rotates CW for a single full turn, rotates CCW for a single turn, and then stops.
17	M5 (mirror slant correction motor for C)	Rotates CW for a single full turn, rotates CCW for a single turn, and then stops.
18	M6 (mirror ratio correction motor for C)	Rotates CW for a single full turn, rotates CCW for a single turn, and then stops.
19	M7 (mirror slant correction motor for Bk)	Rotates CW for a single full turn, rotates CCW for a single turn, and then stops.
20	M8 (mirror ratio correction motor for Bk)	Rotates CW for a single full turn, rotates CCW for a single turn, and then stops.
21	M13 (transfer belt swing motor)	Rotates CW for a single full turn, rotates CCW for a single turn, and then stops.
22	M23 (duplexing paper jogging guide motor)	Executes home position detection, stops for 3 sec, moves to A4 position, stops for 3 sec, moves to B4 position, stops for 3 sec, moves to A4R position, stops for 3 sec, moves to B5R position, stops for 3 sec, and then moves to home position.
23	M28 (duplex reversal motor)	Rotates for draw-in operation for 3 sec, rotates for feed-out operation for 3 sec, stops for 1 sec, rotates for draw-in for 3 sec, rotates for feed-out for 3 sec, and then stops.

Details of MTR		
No	Motor	Control
24	M16 (cassette1 lifter motor)	Rotates for lifter-up operation for 3 sec, and then stops. (Return the lifter by hand.)
25	M17 (cassette2 lifter motor)	Rotates for lifter-up operation for 3 sec, and then stops. (Return the lifter by hand.)
26	M1 (multifeeder lifter motor)	Rotates for lifter-up operation for 3 sec, stops for 3 sec, rotates for lifter-down operation for 3 sec, and then stops.
27	M2 (paper deck lifter motor)	Rotates for lifter-down operation for 10 sec, rotates for lifter-up operation for 10 sec, and then stops.
28	Registration shutter motor	Executes a single registration shutter open/close operation.
29	Y/C/Bk image correction mirror Ratio correction motor (M3, M6, M8)	Operates the image correction mirror, and generates a test pattern (PG=06, grid); then, returns the mirror to original position. (Each motor may be assumed to be operating normally if a discrepancy exists between the M grid and the grid of each color.) Pick-up will be from the cassette 1; be sure to put A4/LTR paper in the cassette in advance.
30	Y/C/Bk image correction mirror Slant correction motor (M2, M5, M7)	
31	M38(cassette1 pickup motor)	The motor operates for 10 sec, stops for 3 sec, and then operates for a further 10 sec before it stops.
32	M39(cassette2 pickup motor)	The motor operates for 10 sec, stops for 3 sec, and then operates for a further 10 sec before it stops.
33	M37(re-pickup motor)	The motor operates for 10 sec, stops for 3 sec, and then operates for a further 10 sec before it stops.
34	M1(paper deck pickup motor)	The motor operates for 10 sec, stops for 3 sec, and then operates for a further 10 sec before it stops.
35	M35(registration motor)	The motor operates for 10 sec, stops for 3 sec, and then operates for a further 10 sec before it stops.
36	M2(buffer unit reversal motor)	The motor operates for 10 sec, stops for 3 sec, and then operates for a further 10 sec before it stops.
37	Transfer belt cleaning web motor(M12)	The motor operates for 10 sec, stops for 3 sec, and then operates for a further 10 sec before it stops.
38	Paper deck swing motor (M3)	The machine drives the swing motor for 20 sec to fan out the sheets of paper, and then stops it; as the same drive signal is used, the paper fanning fan also goes on.

Details of MTR		
No.	Motor	Control
39	External heat roller drive motor (M9004)	The motor drives the external heat roller to bring it into contact, keeps it at rest for 2 sec, and then drives it to move it away; it repeats this sequence 3 times.

## T-5-48

- Details of FAN

Details of FAN		
No.	FAN	Control
1	Laser cooling fan (FM4, front; FM5, rear)	On for 5 sec, off for 5 sec; then, remains on continuously.
2	Primary suction fan (FM8, left; FM9, right)	ON for 5 sec, off for 5 sec; then, on for 5 sec and stops.
3	Primary exhaust fan (FM6)	ON for 5 sec, off for 5 sec; then, on for 5 sec and stops.
4	Pre-fixing feeding fan (FM7) high-speed rotation	Rotates at high-speed for 10sec, then, rotates at low speed for 10sec, and stops.
5	Pre-fixing feeding fan (FM7) low-speed rotation	On for 5 sec, off for 5 sec; then, operates continuously.
6	Delivery assembly cooling fan1 (FM1), 2(FM2), 3 (FM3) high-speed rotation	
7	Delivery assembly cooling fan 1 (FM1), 2 (FM2), 3 (FM3) low-speed rotation	
8-9	not used	
10	All fans	The cooling fan rotates at high-speed for 5 sec and then at low-speed for 5 sec: [1] Delivery assembly exhaust fan 1 (FM1) [2] Delivery assembly exhaust fan 2 (FM2) Delivery assembly exhaust fan 3 (FM3) [3] Pre-fixing feed fan (FM7) [4] General delivery fan 1 (FM21) [5] General exhaust fan 2 (FM22) [6] General exhaust fan 3 (FM 23) [7] Delivery cooling fan (FM34)
11	Reversing twin fan 1 (FM9002), Reversing twin fan 2 (FM9003)	The machine forces the reversing twin fans 1 and 2 to operate for 10 sec and then stops them.

Details of FAN		
No.	FAN	Control
12	Paper deck heat current fan (FM1) Paper deck cool current fan (FM2)	The machine rotates the paper fanning fan for 20 sec and then stops it; as the same signal is used, the twin motor also goes on.

Reference: Press the Stop key to stop the operation, thereby returning to normal state.

<TCLN> FUNCTION > TCLN

T-5-49

FUNCTION > TCLN	
Sub item	Description
KCLN	Use it to bring the polishing roller in contact while moving the transfer belt. The operation will stop after last rotating sequence. (for about 30 sec). During operation, the notation is 'P' SERVICE.
OCLN	Butts the oil removing roller against the transfer belt, and rotates both the transfer belt and the oil removing roller (for about 30 sec). During operation, the notation is 'P' SERVICE.

Remarks: Stops automatically after operating for a specific period of time.

<P-THICK> FUNCTION > P-THICK

T-5-50

FUNCTION > P-THICK	
Sub item	Description
P-TH-1/2	Indicates the output characteristics of the paper thickness sensor set at time of shipment from the factory.
SNSR-RNK	Enters the characteristics (A through E) of the paper thickness sensor to be installed newly. <b>Remarks:</b> Values A through E change by toggle operation.
P-TH-DATA	Indicates the data on paper that has been fed.

## &lt;IMG-REG&gt; FUNCTION &gt; IMG-REG

T-5-51

FUNCTION > IMG-REG	
Sub item	Description
AUTO-ADJ	Use it to execute the series of operations for image position correction control. <P>READY->SERVICE->READY <b>Remarks:</b> 1 min (approx.)
M-READ	Use it to indicate the start position of reading the pattern for M.
M-W-F M-W-R	Use it to indicate the start position of writing the pattern for M. F: Front. R: Rear.
Y/C/K-REG-H	Use it to correct the write start position of the pattern for Y/C/K. (rough adjustment in main scanning direction) <b>Do not use this item unless 'E194' is indicated (error that disables image position correction)</b>
	<b>Settings range:</b> 0 to 255 Standard:128 Unit: 1 pixel(63.5 um) A higher setting shifts the pattern to the rear.
Y/C/K-REG-HS	Use it to correct the write start position of the pattern for Y/C/K. (fine adjustment in main scanning direction) <b>Do not use this item unless 'E194' is indicated (error that disables image position correction)</b>
	<b>Settings range:</b> 0 to 3 Standard: 0 Unit: 1/4 pixel
Y/C/K-REG-V	Use it to correct the write start position of the pattern for Y/C/K. (sub scanning direction) <b>Do not use this item unless 'E194' is indicated (error that disables image position correction)</b>
	<b>Settings range:</b> 0 to 255 Standard: 128 Unit: 1 pixel(63.5 um)
REG-ERR-FLG	Indicates how the image position correction pattern is read. See the details section.

## - Details of REG-ERR-FLG

0:0000 through 7:0000 corresponds to 8 sets of patterns.

('0000' indicates the absence of an error; if an error is found in all 8 sets, 'E194' will be indicated. If any of the sets is '0000', its data will be used for correction.)

## T-5-52

0 : 0 1 6 A

A B C D E

A: set 1 through set 8 B: Y pattern

C: M pattern D: C pattern

E: Bk pattern

4-bit data is assigned to each color data, and a '1' is assigned where an error exists.

## T-5-53

0 : 0 1 6 A

-

0 1 1 0

A B C D

A: front main scanning B: front sub scanning

C: rear main scanning D: rear sub scanning

In the case of the above, an error exists on the pattern for C of set 1 at front in sub scanning direction and at rear in main scanning direction.

## 5.4 OPTION (Machine Settings Mode)

### 5.4.1 OPTION Table

#### 5.4.1.1 OPTION Table

0004-8857

CLC5100 / CLC4000

&lt;R-OPT&gt; OPTION &gt; R-OPT

T-5-54

OPTION > R-OPT	
Sub item	Description
P-SIZE	Identifies the size of paper and transparency film of the copier.
	<b>Settings:</b> 0: AB-configuration 1: Inch configuration 2: A-configuration 3: All Record any new values on the service data sheet.
METAL	Determines whether to use or not metal mode in user mode.
	<b>Settings:</b> 0: Not available 1: Available Standard: 0 Record any new values on the service data sheet.
CONTROL	Use it to enable copying, printing, and scanning in the absence of the following input: - control key inserted - card inserted (with Control Card-IV/Card Reader-B1 connected) - ID number entered (when pre-set)
	<b>Settings range:</b> 0 to 444 Standard: 0 Record any new values on the service data sheet. (Each digit may be between 0 and 4; if set to '0', conditional operation is not enabled.) See the details section.
MANAGE	Use it to bring the hues closer to those of professional printing. If 'MANAGE' is set to '1', the Pro Print key will be indicated on the user mode screen.
	<b>Settings:</b> 0: Standard 1: Professional printing Standard: 0

OPTION > R-OPT	
Sub item	Description
M-RECOVR	Use it to execute recovery without moving the scanner for recovery copying after the presence of a jam or the absence of toner/oil/paper has been identified.
	<b>Settings:</b> 0 to 1    Standard: 0 0: normal operation 1: no re-scanning during recovery copying <b>Conditions:</b> RDF not used, page separation not used, auto vertical/horizontal rotation not used, double-sided copying not used, enlargement page separation not used, reduced image page composition not used. Record any new values on the service data sheet.
OHP-MODE	Select the maximum density when making a copy onto a transparencies.
	<b>Settings range:</b> 0 to 2    Standard: 0 If the value is increased, the density becomes darker. <b>Reference:</b> The projector for OHP has a reflection type and translucent type. It is preferable to lower the maximum copy density value in the case of the translucent-type projector; therefore, change the maximum copy density setting according to a projector at user's site.
SMP-NUM	Use it to change the range of sampling of the data representing the color selected on an original for color conversion.
	<b>Settings:</b> 0 to 1    Standard: 0 0: sample selected color in area of 2x2 (standard) 1: sample selected color in area of 4x4 Record any new values on the service data sheet. <b>Reference:</b> In the case of an original composed of dots, correct color identification may not be identified; if such is the case, set it to '1' to increase the number of samplings.
THIN-APS	Use it to enable auto paper selection for thin paper.
	<b>Settings:</b> 0 to 1    Standard: 0 0: disable auto paper selection 1: enable auto paper selection Record any new values on the service data sheet. <b>Reference:</b> Thin paper will not be selected if of the following modes is selected: - sort, group, staple - double-sided



OPTION > R-OPT	
Sub item	Description
SCAN-DWN	Use it to reduce the acceleration speed of the scanner.
	<b>Settings:</b> 0 to 1    Standard: 0 0: standard speed. 1: acceleration speed reduced from standard. Record any new values on the service data sheet. <b>Reference:</b> If the image along the leading edge of copies is blurred, the acceleration speed of the scanner may be reduced to eliminate the problem.
JB-ON-PP	A change has been made so that a mode may be selected to enable the upcoming job without removing the paper from the sort bin.
	<b>Settings:</b> 0 to 1    Standard: 0 0: OFF; disable next job unless paper is removed from sort bin 1: ON; enable next job in presence of paper in sort bin Record any new values on the service data sheet.
RPT-ERS	A change has been made so that a mode may be removed to repeat an image from which the original frame has been selected when frame erase is selected (the Frame Erase key will be indicated in the Vertical/Horizontal screen of the image repeat function if settings have been made in service mode).
	<b>Settings:</b> 0 to 1    Standard: 0 0: OFF; disable image repeat for original frame erase 1: ON; enable image repeat for images from which frame has been removed if so specified. (However, repeat width may no longer be specified, and the number of repetitions will be once vertically and twice horizontally.) Record any new values on the service data sheet.

- Details of CONTROL

<Value of Each Digit and Enabled Operations>

1st digit: operation settings when control key is turned off

2nd digit: operation setting when card is not inserted

3rd digit: operation setting when ID No. is not entered

T-5-55

Value of digit	BW copy	Color copy	BW print	Color print	Scan
0	×	×	×	×	×
1	×	×	×	×	×
2	×	×	○	○	×
3	○	×	×	×	×
4	○	×	○	○	×
○: enabled    ×: disabled					

**EX 1** If the setting is '2',

When the control key is turned off, black-and white printing/color printing is enabled.

When the control card is not inserted, none is enabled.

When the ID No. is not entered, none is enabled.

**EX 2** If the setting is '431',

When the control key is turned off, none is enabled.

When the card is not inserted, black-and-white copying is enabled.

When the ID No. is not entered, black-and-white copying/black-andwhite printing/color printing is enabled.

T-5-56

Counter	Control key turned off	Card not inserted	ID number not entered
Counter on user mode screen	○	○	○
Card counter	○	△	○
ID No. counter	○	○	×
○:increment    △:increment as needed    ×:do not increment			

- Guide to the Table -

**a. Counter on the User Mode Screen**

- The count is incremented regardless of the settings for conditional operation.

**b. Card Counter**

If the Control Card-IV is connected,

- If the setting for the absence of a card (2nd digit) is '3' or '4', the count is not incremented regardless of the presence/absence of a card in black-and-white copying mode.
- If the setting or the absence of a card (2nd digit) is '2' or '4', the counter is not incremented regardless of the presence/absence of a card in blackand- white printing/color printing mode.

If the Card Reader-B1 is connected,

- If the setting for the absence of a card (2nd digit) is '3' or '4', the counter is not incremented in the absence of a card in black and-white copying mode.
- In black-and-white printing/color printing mode, the counter is not incremented regardless of the setting for conditional operation.

However, the OA counter of the Copy Data Controller-A1 is incremented regardless of the setting for unconditional operation.

**c. ID No. Counter**

- If the setting for the absence of an ID No. (3rd digit) is '3' or '4', the counter is not incremented regardless of an ID No. input in black-and-white copying mode.
- If the setting for the absence of an ID No. (3rd digit) is '2' or '4', the counter is not incremented regardless of an ID No. input in black-andwhite printing/color printing mode.

**<P-OPT>    OPTION > P-OPT**

T-5-57

<b>OPTION &gt; P-OPT</b>	
<b>Sub item</b>	<b>Description</b>
T-WEB	Changes the frequency at which the transfer belt cleaning web turns on.
	<b>Settings range:</b> 1 to 5    Standard: 3 Record any new values on the service data sheet
TBLT-POS	Changes the stop position of the transfer belt.
	<b>Settings range:</b> -2 to 2    Standard: 0    Unit: 2mm Record any new values on the service data sheet
AUTO-REG	Turn off the interlock between the image position correction and the start key.
	<b>Settings:</b> 0 to 1    Standard: 0 0: Turn on the interlock with a start key. 1: Turn off the interlock with a start key. Record any new values on the service data sheet

OPTION > P-OPT	
Sub item	Description
RT-LSTR	A drum idle rotation mode has been added to the last rotation that takes place at the end of printing.
	<b>Settings:</b> 0 to 2    Standard: 1 0: do not execute drum idle rotation at time of last rotation 1: execute drum idle rotation if paper is other than plain or thin (default) 2: execute drum rotation for all types of paper Record any new values on the service data sheet
F-WEB-MD	Changes the ON/OFF sequence of the web solenoid when the fixing web solenoid is turned on.
	<b>Standard:</b> 1
F-WEB	Changes the frequency at which the fixing web solenoid turns on.
	<b>Settings range:</b> 1 to 255    Standard: 8 Record any new values on the service data sheet
REG-DISP	User mode for image positioning adjustment added to make forced registration. Select [Start adjustment] to make the same operation as is made in service mode by: [FUNC>IMG-REG>AUTO-ADJ]
	<b>Settings:</b> 0 to 1    0: Non-display    1: Display Record any new values on the service data sheet
RT-TM-TP	A change has been made so that the time length of drum idle rotation may be changed when making copies in 'extra-length thick paper/thickest paper'.
	<b>Settings range:</b> 0 to 3    Standard: 2 0: 15SEC    1: 30SEC    2: 60SEC    3: 120SEC Record any new values on the service data sheet
PSTCL-ON	Enabling or disabling the charging mechanism after display cleaning turn it on or off as needed if memory of the edge of a sheet occurs in a low-temperature environment or cyan or black dots occur in the images.
	<b>Settings:</b> 0 to 1    0: Normal    1: All environment ON

OPTION > P-OPT	
Sub item	Description
REG-NEXT	Use it to delay the timing at which the first sheet of paper is picked up to prevent lines in main scanning direction near 188 mm from the leading edge of paper.
	<b>Settings:</b> 0 to 1    Standard: 0 0: Normal   1: All environment ON <b>Remarks:</b> The potential on the transfer belt is not stable when the first copy is made, with the photosensitive drum at times developing paper traces (drum memory) caused by the leading edge of paper. The traces will collect toner, and a line will occur on the next copy near 188 mm from its leading edge.
CPM-DWN	When 'cpm down for low temperature' is selected, the plain paper cpm for the cassette/deck will be made the same as the cpm of the multifeed (i.e., increase the sheet-to-sheet distance) if the environment temperature sensor (under cassette) registers a reading of 21°C or lower. if A4, 35 cpm; if B4, 22 cpm; if A3, 18 cpm, if extra-length, 18 cpm
	<b>Settings:</b> 0 to 1    Standard: 0 Record any new values on the service data sheet
RT-TM-PP	A change has been made so that the time length of drum idle rotation may be changed after auto registration.
	<b>Settings range:</b> 0 to 3    Standard: 2 0: 15SEC   1: 30SEC   2: 60SEC   3: 120SEC Record any new values on the service data sheet
VCNT-TMG	A mode item has been added so that a specific original density may be selected by disabling counting of copies for idle rotation of the drum when printing at a density higher than a specific level.
	<b>Settings range:</b> 0 to 5    Standard: 3 0: count copies for idle rotation regardless of video count (image volume) 1: count copies if image volume is 1.09% or less in relation to paper (may be single color) 2: count copies if image volume is 1.96% or less in relation to paper (may be single color) 3: count copies if image volume is 3.92% or less in relation to paper (may be single color) 4: count copies if image volume is 6.10% or less in relation to paper (may be single color) 5: count copies if image volume is 8.06% in relation to paper (may be signal color) Record any new values on the service data sheet

OPTION > P-OPT	
Sub item	Description
RT-PWR	A change has been made so that the drum may be rotated idly for 2 min at time of power-on (main switch).
	<b>Settings:</b> 0 to 1    Standard: 0 0: OFF; do not execute idle rotation of the drum at power-on (default) 1: ON; execute idle rotation of the drum for 2 min at power-on1 is recommended Record any new values on the service data sheet
D-RT-DSP	When [1] is selected in service mode, the following mode will be indicated in the control panel when user mode is selected. By executing an appropriate item in user mode, the drum may be caused to make idle rotation for 2 min. (The machine, however, must be in standby state.)
	<b>Settings range:</b> 0 to 1    Standard: 0 Record any new values on the service data sheet
JRT-PP	A change has been made so that the number of sheets after which drum idle rotation is executed in the middle of making copies for the following may be changed: extra-length thick paper/thickest paper.
	<b>Settings range:</b> 0 to 10    Standard: 3 0: do not execute    1: every 10 sheets 2: every 30 sheets    3: every 50 sheets (default) 4: every 100 sheets    5: every 300 sheets 6: every 500 sheets    7: every 750 sheets 8: every 1000 sheets    9/10: every 3000 sheets Record any new values on the service data sheet
PSTCL-SW	In the past, a change was made by the service person at time of installation; now, the charge is the default)
	<b>Settings:</b> 0 to 1    Standard: 1 0: OFF; do not turn off auxiliary charging between sheets 1: ON; turn off auxiliary charging between sheets Record any new values on the service data sheet
RT-REG	A change has been made so that the drum may be rotated idly after auto registration.
	<b>Settings:</b> 0 to 1    Standard: 1 0: OFF, do not execute drum idle rotation after auto registration 1: ON; execute drum idle rotation for 1 min after auto registration Record any new values on the service data sheet

OPTION > P-OPT	
Sub item	Description
FIX-TMG	A change has been made so that a mode may be selected to start the fixing assembly once again (after it has been stopped) before the leading edge of thick paper rushes to the fixing assembly.
	<b>Settings:</b> 0 to 1    Standard: 0 0: OFF; do not execute remedial mode against traces of oil for thick paper 1: ON; execute remedial mode against traces of oil at 131 mm of leading edge of thickest paper1 (default) is recommended. Record any new values on the service data sheet
JRT-TP	This mode item is one that has been implemented as part of the study against E012, and it need not be changed (i.e., by keeping it at default; it is offered to be on the safe side).A change has been made so that the number of sheets after which the drum is rotated idly may be changed when making copies in 'non-extra length thick paper/thickest paper' and 'transparency/special paper 1, 2'.
	<b>Settings range:</b> 0 to 10    Standard: 0 0: do not execute    1: every 10 sheets 2: every 30 sheets    3: every 50 sheets 4: every 100 sheets    5: every 300 sheets 6: every 500 sheets    7: every 750 sheets 8: every 1000 sheets    9/10: every 300 sheets Record any new values on the service data sheet
FIN-CURL	A change has been made so that the degree of reducing curl at time of straight path delivery may be selected when a finisher is connected.
	<b>Settings range:</b> 0 to 2    Standard: 2 0: as before, remove curl in 3 steps (slippage under roller: 0, 0.7, 1.2 mm) 1: use 2-step curl reduction(no correction to 1.2-mm slippage under roller) 2: disable curl reduction Record any new values on the service data sheet
PINT-DSP	Switch the density control frequency key in the user mode to display/non-display with 1/0.
	<b>Settings:</b> 0 to 1    0: Non-display 1: Display Record any new values on the service data sheet

<REMOTE>    **OPTION > REMOTE**

T-5-58

<b>OPTION &gt; REMOTE</b>	
<b>Sub item</b>	<b>Description</b>
REMOTE	Use it to set priorities on parameters selected by the controller.
	<p><b>Settings range:</b> 0 to 2    Standard: 2</p> <p>0: Use only the settings made on the copier's control panel. For the items that can be selected only on the controller, the factory settings will be used.</p> <p>1: Use the settings of the items that can be selected on the controller; for the rest of the items, use those selected on the copier.</p> <p>2: Use the settings of the items that can be selected on the controller; for the rest of the items, use the factory settings.</p> <p>Record any new values on the service data sheet</p>
P-PRT-MF	Use it to set priorities on multifeeder setting data in case the mult: feeding is selected from the control panel.
	<p><b>Settings range:</b> 0 to 2    Standard: 2</p> <p>0: Use only the settings made on the copier's control panel. For the items that can be selected only on the controller, the factory settings will be used.</p> <p>1: Use the settings of the items that can be selected on the controller; for the rest of the items, use those selected on the copier.</p> <p>2: Use the settings of the items that can be selected on the controller; for the rest of the items, use the factory settings.</p> <p>Record any new values on the service data sheet</p>



**<DECK> OPTION > DECK****<AIR-ASST>**


Switch the air-assist conditions inside the deck (i.e., temperature setting on heater, air volume setting on the fan) into a specific mode.

T-5-59

<b>Setup Value</b>	<b>Rotation Speed (Fan)</b>	<b>Temperature Control (Heater) for Small-size Paper</b>	<b>Temperature Control (Heater) for Large-size Paper</b>
0 (default)	Full speed (27V drive)	Smooth feeding	Smooth feeding
1	Full speed (27V drive)	Smooth feeding	Prevent gray area
2	For development		
3	Full speed (27V drive)	Prevent gray area	Prevent gray area
4	Half speed (12V drive)	Smooth feeding	Smooth feeding
5	Half speed (12V drive)	Smooth feeding	Prevent gray area
6	For development		
7	Half speed (12V drive)	Prevent gray area	Prevent gray area

"Gray area" in the above table means transfer failure that occurs when the paper inside paper deck gets hot air and becomes dry. This symptom more often applies to large-size paper than small-size paper, because large-size paper stays longer inside paper deck.

A switching from "full-speed" into "half-speed" or a switching from "default" into "Prevent gray area" may prevent smooth feeding, leading to a deck feeding sensor delay jam (0106).

 The above sequence applies to the DCcon version 2.02 and the later.

Here is the one for the DCcon version 2.01 and the earlier.

T-5-60

Setup Value	Drive Timing (Fan)	Rotation Speed (Fan)	Temperature Control (Heater) for Small-size Paper	Temperature Control (Heater) for Large-size Paper
0 (default)	A	12V drive	Smooth feeding	Smooth feeding
1	A	12V drive	Smooth feeding	Prevent gray area
2	A	12V drive	Prevent gray area	Smooth feeding
3	A	12V drive	Prevent gray area	Prevent gray area
4	A	OFF	Smooth feeding	Smooth feeding
5	A	OFF	Smooth feeding	Prevent gray area
6	A	OFF	Prevent gray area	Smooth feeding
7	A	OFF	Prevent gray area	Prevent gray area
8	B	12V drive	Smooth feeding	Smooth feeding
9	B	12V drive	Smooth feeding	Prevent gray area
10	B	12V drive	Prevent gray area	Smooth feeding
11	B	12V drive	Prevent gray area	Prevent gray area
12	B	OFF	Smooth feeding	Smooth feeding
13	B	OFF	Smooth feeding	Prevent gray area
14	B	OFF	Prevent gray area	Smooth feeding
15	B	OFF	Prevent gray area	Prevent gray area

A

Only the hot-air fan (FAN1) works for small-size paper, while, for large-size paper, both the hot-air fan (FAN1) and the cold-air fan (FAN2) work. This mechanism applies to both coated paper and non-coated paper.

B

Both the cold-air fan (FAN2) and the hot-air fan (FAN1) work at the same time. This mechanism applies only to coated paper, regardless of the paper size.

---

<DATA-CON>    OPTION > DATA-CON

T-5-61

OPTION > DATA-CON	
Sub item	Description
B-CLR	<p>Connecting the Copy Data Controller-A1/DA unit-A1 will automatically sets it to '1'.</p> <p>Be sure to set it to '0' when temporarily separating the Copy Data Controller- A1/DA unit-A1 during service work.</p> <p><b>Remarks:</b>'E717' will be indicated if you separate the Copy Data Controller-A1/DA unit-A1 without setting it to '0'.rating the Copy Data Controller A1/DA unit-A1 during service work.</p>

## 5.5 TEST (Test Print Mode)

### 5.5.1 TEST (Test Printing Mode)

#### 5.5.1.1 PG (Generates test prints)

0001-9582

CLC5100 / CLC4000

<M> PG		<S>	<R> READY	<P> READY	<F>
DISP	COUNTER	TXPH 0	THRU 0	TYPE 0	
ADJUST		DENS-Y xxx	DENS-M xxx	DENS-C xxx	DENS-K xxx
FUNC					
OPTION		COLOR-Y 0	COLOR-M 0	COLOR-C 0	COLOR-K 0
TEST					

F-5-2

Be sure to set TYPE back to "0" when ending the test print mode.

#### 5.5.1.2 <TXPH>

0001-9603

CLC5100 / CLC4000

T-5-62

Switches between text mode and photo mode.

04: 400-lines text mode

14: 200-lines photo mode

24: 800-lines

34: Auto switching

Not valid if TYPE is set to 6 (grid).

**Operation** Each press causes the following sequential change.  
**04 -> 14 -> 24 -> 34 -> 04 -> 14 ---**

## 5.5.1.3 &lt;THRU&gt;

0001-9593

CLC5100 / CLC4000

## T-5-63

Switches the gate array of the laser controller PCB.

Not valid if TYPE is set to 5 (halftone).

0: Use gate array

1: Do not use gate array

**Operation** Each press causes the setting to alternate between '0' and '1'.

## 5.5.1.4 &lt;TYPE&gt;

0001-9605

CLC5100 / CLC4000

Selects the type of test print.

## T-5-64

PGTYPE	Descriptionm
0	Image from CCD (normal copying)
1	For R&D
2	256 colors
3	256 gradations
4	17 gradations
5	Full face halftone
6	Grid
7	Image position correction control pattern
8	For R&D
9	For R&D
10	MCYK horizontal stripe
11	For R&D
12	For R&D

PGTYPE	Descriptionm
13	For R&D
14	Full color 17 gradations
15	For R&D
16	Not used
17	For R&D
18	For R&D
19	For R&D
20	For R&D
21	For R&D
22	For R&D

T-5-65

**Remarks** Enter the appropriate number (1 through 16) using the keypad, and press the Start key to generate test prints. In the case of 3, 4, 5, or 6, the color may be selected in color mode (user mode).

- Be sure to return the setting to 0 after generating the test print.

## 5.5.1.5 &lt;DENS-C/M/Y/K&gt;

0001-9634

CLC5100 / CLC4000

T-5-66

Selects the density of each color for full face halftone for TEST>PG>TYPE=5.

**Settings range**      **0 to 255**  
**Standard: 128**

**5.5.1.6 <COLOR-C/M/Y/K>**0001-9638

CLC5100 / CLC4000

T-5-67

Use it to select the color to generate for each PG.

1: Generate.

0: Do not generate.

**Standard value: 1**

## 5.6 COUNTER (Counter Mode)

### 5.6.1 COUNTER Table

#### 5.6.1.1 COUNTER Table

0004-9313

CLC5100 / CLC4000

#### <TOTAL> COUNTER > TOTAL

- After 999999, the reading returns to 000000.
- When a Level 3 item (except 038, 039, 040) is pressed and the Clear key is pressed after the item has been highlighted, the counter reading of the item will return to 000000.
- Check the value of Level 3 item 038 whenever you have replaced the cleaning web of the fixing assembly. If not 0, press E005-RLS under FUSER of FUNC to clear the counter reading.

In addition, executing RAM-CLR for the reader controller PCB will reset all readings of the Level 3 items to 000000 (except 038, 039, 040).

T-5-68

COUNTER > TOTAL	
Sub item	Description
001	Indicates the number of times the Y developing assembly has been used.
002	Indicates the number of times the M developing assembly has been used.
003	Indicates the number of times the C developing assembly has been used.
004	Indicates the number of times the Bk developing assembly has been used.
005	Indicates the number of Y-mono copies.
006	Indicates the number of M-mono copies.
007	Indicates the number of C-mono copies.
008	Indicates the number of Bk-mono copies.
009	Indicates the number of 3-color copies.
010	Indicates the number of 4-color copies.
011	Indicates the total number of copies.
012	Indicates the total number of printouts.
013	Indicates the number of sheets generated using the synthesis function.
014	Indicates the total number of sheets (copies + printouts + synthesized printouts).
015	Indicates the number of sheets picked up from cassette 1.



<b>COUNTER &gt; TOTAL</b>	
<b>Sub item</b>	<b>Description</b>
016	Indicates the number of sheets picked up from cassette 2.
017	Indicates the number of sheets picked up from Paper deck.
018	Indicates the number of sheets picked up from the multifeeder.
019	Indicates the number of sheets picked up from the duplexing unit.
020	Indicates the number of scans made by the scanner.
021	Indicates the number of copies made using the film projector. (reserved)
022	Indicates the number of pick-ups from the RF.
023-035	Reserved
036	Count of Retries of Paper Deck's Pick-up Operation (Counted up when the Paper Deck retries the pick-up operation.)
037	Reserved
038	Indicates the number of times the solenoid has turned ON from when the absence of web has been detected until E005 is indicated.(initially, '270'; incremented by 1 for each activation)
039	Indicates the number of copies to be made until the next time the primary charging wire automatic cleaning mechanism turns on. (initially, '5000'; countdown by 1 per copy)
040	Indicates the number of copies to be made until the next time the polishing roller cleaning mechanism turns on.(initially, '5000'; count down by 1 per copy)

#### <DRBL-1> COUNTER > DRBL-1

The machine is equipped with consumables counters (DRBL-1/DRBL-2/PRDC-1), providing references for parts replaced on a periodical basis or parts requiring replacement.

T-5-69

<Ex>

<b>C1-PU-RI</b>	<b>/</b>	<b>00098400</b>	<b>/</b>	<b>00120000</b>	<b>/</b>	<b>82%</b>	<b>!!</b>	<b>000027</b>
[1]		[2]		[3]		[4]	[5]	[6]

[1] Indicates the name of the part. In the case of the example, the primary charging wire.

[2] Indicates the counter reading (number of actual sheets handled) ; clear it by pressing the clear key after replacing the part.

[3] Indicates the limit setting (guide to replacement) ; the setting may be changed by selecting the image and using the keypad.

[4] Indicates the ratio of counter readings to limit levels.

[5] A single exclamation mark (!) will be indicated between 90% and 100% ; two marks at 100% or higher.

[6] Indicates an estimated number of days to replacement ; in the case of the example, 27 days.

## T-5-70

COUNTER > DRBL-1			
Sub item	Description	Remarks	unit
SCN-LMP	the time for lighting of scanning lamp(LA1)		sec
PR-CLN-U	primary charging wire cleaning pad (upper)		copy
PR-CLN-L	primary charging wire cleaning pad (lower)		copy
TR-BLD-C	the number of copies passed through the transfer blade unit(C)	count two per one large size copy	copy
TR-BLD-M	the number of copies passed through the transfer blade unit(M)	count two per one large size copy	copy
TR-BLD-Y	the number of copies passed through the transfer blade unit(Y)	count two per one large size copy	copy
TR-BLD-K	the number of copies passed through the transfer blade unit(K)	count two per one large size copy	copy
TR-BLT	the number of copies passed through the transfer belt	count two per one large size copy	copy
PT-DRM-C	the number of copies passed through the drum(C)		copy
PT-DRM-M	the number of copies passed through the drum(M)		copy
PT-DRM-Y	the number of copies passed through the drum(Y)		copy
PT-DRM-K	the number of copies passed through the drum(K)		copy
CLN-BLD	the number of copies passed through the transfer cleaning blade		copy
DV-UNT-C	the number of copies passed through the developing cylinder(C)		copy

COUNTER > DRBL-1			
Sub item	Description	Remarks	unit
DV-UNT-M	the number of copies passed through the developing cylinder(M)		copy
DV-UNT-Y	the number of copies passed through the developing cylinder(Y)		copy
DV-UNT-K	the number of copies passed through the developing cylinder(K)		copy
C1-PU-RL	the number of copies passed through the pickup roller(cassette1)		copy
C1-SP-RL	the number of copies passed through the separation roller(cassette1)		copy
C1-FD-RL	the number of copies passed through the pickup roller(cassette1)		copy
C2-PU-RL	the number of copies passed through the pickup roller(cassette2)		copy
C2-SP-RL	the number of copies passed through the separation roller(cassette2)		copy
C2-FD-RL	the number of copies passed through the pickup roller(cassette2)		copy
M-PU-RL	the number of copies passed through the multifeeder pickup roller		copy
M-SP-RL	the number of copies passed through the multifeeder separation roller		copy
M-FD-RL	the number of copies passed through the multifeeder pickup roller		copy

COUNTER > DRBL-1			
Sub item	Description	Remarks	unit
FX-UP-RL	the number of copies passed through the upper fixing roller	count two per one large size copy	copy
FX-LW-RL	the number of copies passed through the lower fixing roller	count two per one large size copy	copy
FHTR-U	the number of copies passed through the upper fixing heater	count two per one large size copy	copy
FHTR-L	the number of copies passed through the lower fixing heater	count two per one large size copy	copy
FX-WEB-U	the number of copies passed through the upper fixing web	the limit of FX-WEB is set to 186,000	time
FX-WEB-L	the number of copies passed through the lower fixing web	the limit of FX-WEB is set to 186,000	time
OIL-APBL	the number of copies passed through the oil applying brade		copy
WST-TNR	the number of copies passed through the waste toner box	count two per one large size copy	copy
PRM-GR-C	the number of copies passed through the primary grid wire(C)		copy
PRM-GR-M	the number of copies passed through the primary grid wire(M)		copy
PRM-GR-Y	the number of copies passed through the primary grid wire(Y)		copy
PRM-GR-K	the number of copies passed through the primary grid wire(K)		copy
PRM-UT-C	the number of copies passed through the primary charging assembly(C)		copy
PRM-UT-M	the number of copies passed through the primary charging assembly(M)		copy
PRM-UT-Y	the number of copies passed through the primary charging assembly(Y)		copy
PRM-UT-K	the number of copies passed through the primary charging assembly(K)		copy

COUNTER > DRBL-1			
Sub item	Description	Remarks	unit
PRM-WR-C	the number of copies passed through the primary charging wire(C)		copy
PRM-WR-M	the number of copies passed through the primary charging wire(M)		copy
PRM-WR-Y	the number of copies passed through the primary charging wire(Y)		copy
PRM-WR-K	the number of copies passed through the primary charging wire(K)		copy
TR-WEB	the number of copies passed through the transfer belt web		copy
D-CLNB-C	the number of copies passed through the drum cleaning blade(C)		copy
D-CLNB-M	the number of copies passed through the drum cleaning blade(M)		copy
D-CLNB-Y	the number of copies passed through the drum cleaning blade(Y)		copy
D-CLNB-K	the number of copies passed through the drum cleaning blade(K)		copy
EX-HROL	the number of copies passed through the external heat roller	count two per one large size copy	copy
EX-HTR	the number of copies passed through the external heat roller heater	count two per one large size copy	copy
EX-CROL	the number of copies passed through the external heat roller cleaning roller	count two per one large size copy	copy

## &lt;DRBL-2&gt; COUNTER &gt; DRBL-2

T-5-71

COUNTER > DRBL-2			
Sub item	Description	Remarks	unit
PD-PU-RL	the number of copies passed through the paper deck pickup roller	the number of copies picked up from paper deck	copy
PD-FD-RL	the number of copies passed through the paper deck pickup roller	the number of copies picked up from paper deck	copy
PD-SP-RL	the number of copies passed through the paper deck feeding roller	the number of copies picked up from paper deck	copy

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# Chapter 6 Outline of Components

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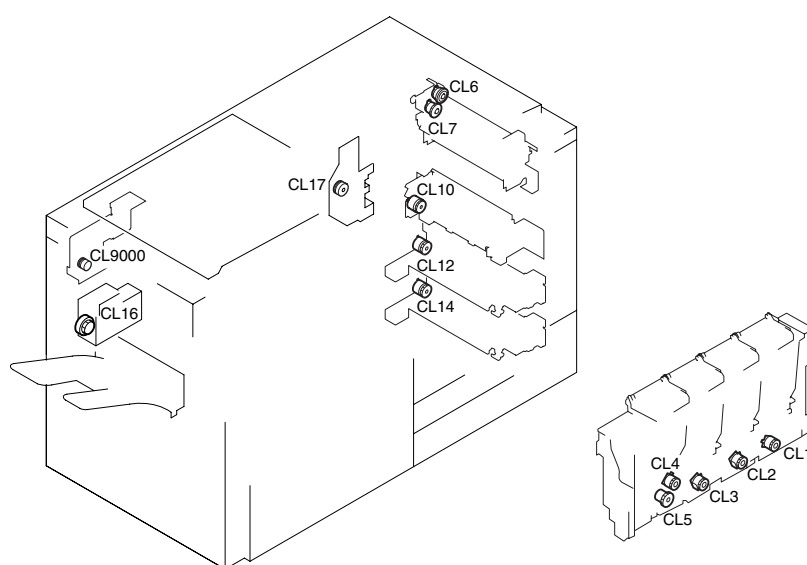


## 6.1 Clutch/Solenoid

### 6.1.1 Clutches

0004-8951

CLC5100 / CLC4000



F-6-1

T-6-1

Ref.	Name	Parts number	DISPLAY > SENSOR		F- MISCp>IO	Error
CL1	Toner supply clutch (C)	FH7-5517	802007-0	ON:1	8	
CL2	Toner supply clutch (M)	FH7-5517	802007-1	ON:1	9	
CL3	Toner supply clutch (Y)	FH7-5517	802007-2	ON:1	10	
CL4	Toner supply (upper) clutch (Bk)	FH7-5517	802007-3	ON:1	11	
CL5	Toner supply (lower) clutch (Bk)	FH7-5518	802007-4	ON:1	12	
CL6	Multifeeder pickup roller clutch	FH7-5371	80200D-3	ON:1	26	
CL7	Multifeeder feed roller clutch	FH7-5518	80200D-2	ON:1	27	

Ref.	Name	Parts number	DISPLAY > SENSOR		F- MISCp>IO	Error
CL10	Re-pickup roller clutch	FH7-5839	80200D-6	ON:1	30	
CL12	Cassette 1 pickup roller clutch	FH7-5839	80200D-0	ON:1	24	
CL14	Cassette 2 pickup roller clutch	FH7-5839	80200D-1	ON:1	25	
CL16	Reversing roller drive clutch	FH7-5477	802010-2	ON:1	37	
CL17	Transfer belt lifter clutch	FH6-5111	802004-4	ON:1	2	E074
CL9000	Fixing flywheel off contact clutch	FH6-5005			53	

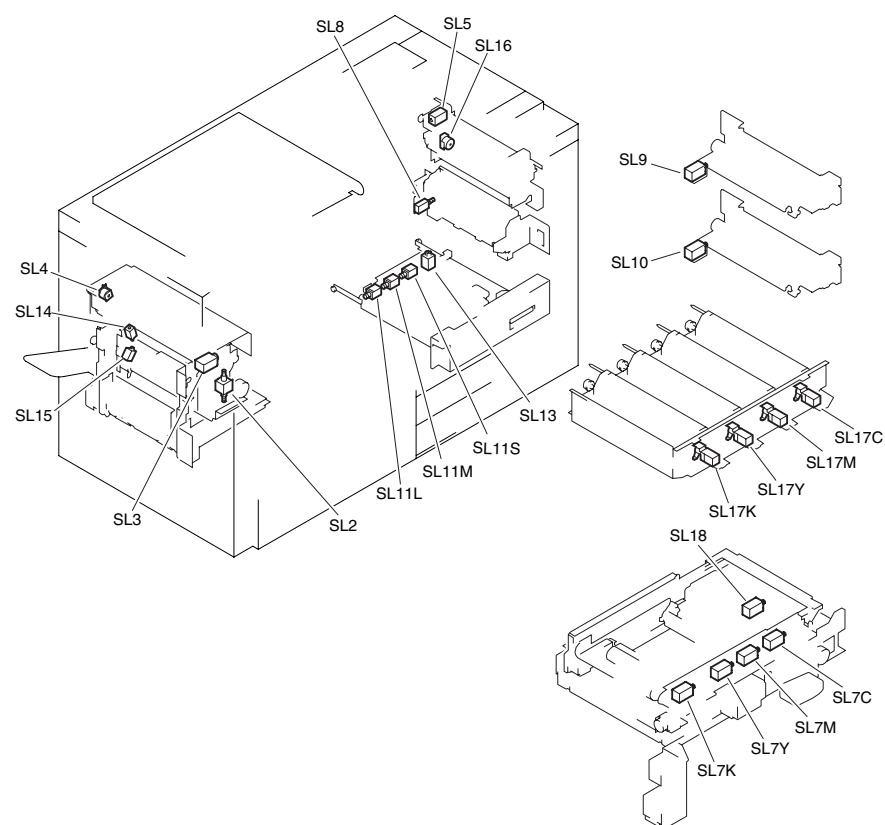
## T-6-2

Ref.	Pickup motor drive PCB	Multifeeder PCB	Hopper relay PCB	Fixing feed motor drive PCB	DC controller PCB
CL1			J3402/J3403		J2229
CL2			J3402/J3403		J2229
CL3			J3402/J3403		J2229
CL4			J3402/J3403		J2229
CL5			J3402/J3403		J2229
CL6		J5704/J5703			J2207
CL7		J5704/J5703			J2207
CL10	J5504/J5502				J2222
CL12	J5503/J5502				J2222
CL14	J5503/J5502				J2222
CL16					J2223
CL17					J2208
CL9000				J5564/J5562	J2249

## 6.1.2 Solenoids

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CLC5100 / CLC4000



F-6-2

T-6-3

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>10
SL2	Fixing oil pump drive solenoid	FH6-5024	802008-3	ON:1	15
SL3	Fixing web take-up solenoid	FH7-5928	802008-0	ON:1	13
SL4	Fixing web releasing solenoid	FH7-5478	802008-1	ON:1	14
SL5	Multifeeder pickup roller releasing solenoid	FH7-5520	80200C-2	UP:1	20
SL7C	Transfer blade solenoid (C)	FF5-5420	802005-0,1	DOWN: 01 UP:10	6
SL7M	Transfer blade solenoid (M)	FF5-5420	802005-2,3	DOWN: 01 UP:10	5

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>IO
SL7Y	Transfer blade solenoid (Y)	FF5-5420	802005-4,5	DOWN: 01 UP:10	4
SL7K	Transfer blade solenoid (Bk)	FF5-5420	802005-6,7	DOWN: 01 UP:10	7
SL8	Re-pickup shutter solenoid	FH7-5489	80200C-4	UP:1	
SL9	Cassette 1 pickup roller releasin solenoid	FH7-5818	80200C-0	UP:1	18
SL10	Cassette 2 pickup roller releasin solenoid	FH7-5818	80200C-1	UP:1	19
SL11S	Duplex paper deflecting plate solenoid (S)	FH7-5965	802010-7	ON:1	41
SL11M	Duplex paper deflecting plate solenoid (M)	FH7-5965	802010-6	ON:1	40
SL11L	Duplex paper deflecting plate solenoid (L)	FH7-5965	802010-5	ON:1	39
SL13	Paper feed roller solenoid	FH7-5961	80200C-5	UP:1	23
SL14	Delivery paper deflecting solenoid	FH7-5401	802010-4	ON:1	38
SL15	Separation claw releasing solenoid	FH7-5913	802008-4	ON:1	16
SL16	Registration roller releasing solenoid	FH7-5478	80200E-0	ON:1	31
SL17C	SALT sensor shutter open/closed solenoid (C)	FF5-5528	80200A-6,7	ON:1	17
SL17M	SALT sensor shutter open/closed solenoid (M)	FF5-5528	80200A-6,7	ON:1	17
SL17Y	SALT sensor shutter open/closed solenoid (Y)	FF5-5528	80200A-6,7	ON:1	17
SL17K	SALT sensor shutter open/closed solenoid (Bk)	FF5-5528	80200A-6,7	ON:1	17
SL18	Polishing roller solenoid	FH7-5913	802004-6	ON:1	3

T-6-4

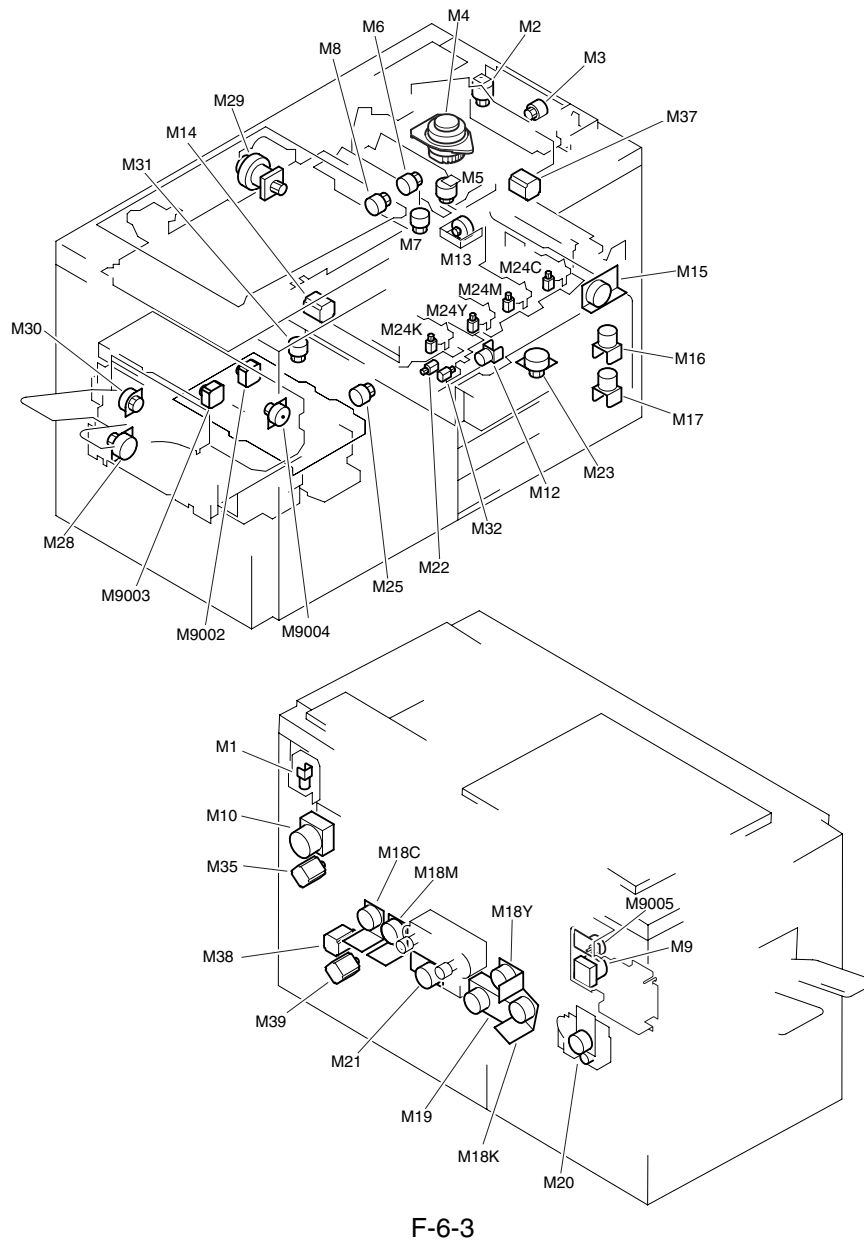
Ref.	Pickup motor drive PCB	Multifeeder PCB	DC controller PCB
SL2			J2209
SL3			J2209
SL4			J2209
SL5		J5704/J5703	J2207
SL7C			J2220
SL7M			J2220
SL7Y			J2220
SL7K			J2220
SL8	J5504/J5502		J2222
SL9	J5503/J5502		J2222
SL10	J5503/J5502		J2222
SL11S			J2224
SL11M			J2224
SL11L			J2224
SL13			J2224
SL14			J2211
SL15			J2211
SL16		J5704/J5703	J2207
SL17C			J2212
SL17M			J2212
SL17Y			J2212
SL17K			J2212
SL18			J2218

## 6.2 Motor

### 6.2.1 Motors

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CLC5100 / CLC4000



F-6-3



T-6-5

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>IO	F-MISCp>MTR		Error	
M1	Multifeeder lifter motor	FH6-1115	800009-7	error:0		26		E040-0101,0102,0103	
			80200F-2,3	UP: 01 DOWN:10					
M2	Mirror slant correction motor (C)	FG6-6418	802011-0	select:0		15	30(*01)		
M3	Mirror ratio correction motor (C)	FG6-6417	802011-1	select:0		16	29(*01)		
M4	Laser scanner motor	FG6-6313	802008-7	full-speed:0,half-speed:1		3		E110	
M5	Mirror slant correction motor(Y)	FG6-6418	802011-2	select:0		17	30(*01)		
M6	Mirror ratio correction motor(Y)	FG6-6417	802011-3	select:0		18	29(*01)		
M7	Mirror slant correction motor(Bk)	FG6-6418	802011-4	select:0		19	30(*01)		
M8	Mirror ratio correction motor(Bk)	FG6-6417	802011-5	select:0		20	29(*01)		
M9	Fixing motor	FH6-1801	800002-3	ready:0 error:1	46	6		E014	E840-0003,0010
			802002-0	ON:1(fixing motor ON)					
			802002-1	ON:1(fixing motor speed switch)					
M10	Multifeeder pickup motor	FH6-1804	800002-0	ready:0 error:1		1		E015	
			802002-3	ON:1					
M12	Transfer belt cleaning web motor	FH6-1106	80000E-4	error:1		14(*02)	37(*03)	E076-0002	
			802004-5	ON:1					
M13	Transfer belt swing motor	FG5-4129	800010-1	count end:1		21		E075-0001,0002,0003,0004	
M14	Transfer belt motor	FH6-1805	802002-6	ON:1		7			

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>IO	F-MISCp>MTR	Error
M15	Polishing/oil removing motor	FH6-1802	800002-6	ready:0 error:1		11	E018
			802004-2	ON:1			
M16	Cassette 1 lifter motor	FH6-1574	800009-4	error:1		24	
			80200F-0	ON:1			
M17	Cassette 2 lifter motor	FH6-1574	800009-5	error:1		25	
			80200F-1	ON:1			
M18C	Developing motor (C)	FH6-1803	802003-0	ON:1		5	E023-0301
M18M	Developing motor (M)	FH6-1803	802003-1	ON:1		5	E023-0201
M18Y	Developing motor (Y)	FH6-1803	802003-2	ON:1		5	E023-0101
M18K	Developing motor (Bk)	FH6-1803	802003-3	ON:1		5	E023-0401
M19	Duplex feed motor	FH6-1287	800002-5	ready:0 error:1		10	E017
			802010-3	ON:1			
M20	Waste toner feed motor	FH6-1112	800002-4	ready:0 error:1		4	
			802002-7	ON:1			
M21	Photosensitive drum motor	FH6-1800	800002-1	ready:0 error:1		2	E012-0001
			802002-4	ON:1			
M22	Pre-fixing charging assembly wire cleaner motor	FG2-7722	802008-5,6	ON:1			
M23	Duplex paper jogging guide motor	FH7-1886	800010-2	count end:1		22	E050-0001,0002
M24C	Primare charging wire cleaner motor(C)	FG2-7722	800003-0	ready:0 error:1		12	
			802006-0,1	rear:01 front:10			

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>IO	F-MISCp>MTR	Error
M24M	Primare charging wire cleaner motor(M)	FG2-7722	800003-1	ready:0 error:1		12	
			802006-2,3	rear:01 front:10			
M24Y	Primare charging wire cleaner motor(Y)	FG2-7722	800003-2	ready:0 error:1		12	
			802006-4,5	rear:01 front:10			
M24K	Primare charging wire cleaner motor(Bk)	FG2-7722	800003-3	ready:0 error:1		12	
			802006-6,7	rear:01 front:10			
M25	Registration shutter drive motor	FG2-7828				28	
M28	Duplex reversal motor	FF6-2510				23	
M29	Original scanner motor	FG6-6426	800002-2	ready:0 error:1			
			802002-5	ON:1			
M30	Fixing lower web motor	FH7-1482	802008-2	ON:1		13	
M31	Transfer belt waste toner motor	FG3-3018	80000A-7	error:0			
			802004-7	ON:1			
M32	Separatio charging assembly motor	FG3-1728	802007-6,7	ON:1			
M35	Registration motor	FH6-1809	800010-0	count end:1		35	
M37	Re-pickup motor	FH6-1571				33	
M38	Cassette 1 pickup motor	FH6-1809				31	
M39	Cassette 2 pickup motor	FH6-1809				32	
M9002	Pre-Fixing Feed motor 1	FH6-1098				8	

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>IO	F-MISCp>MTR	Error
M9003	Pre-Fixing Feed motor 2	FH6-1098	889020-5	error : 1,ready : 0		8	
M9004	External Heating roller drive motor	FH6-1972	889020-5	error : 1,ready : 0		39	E840-0001
M9005	applying drive motor	FH5-1082	889020-4	off : 1,on : 0		6	E840-0003,0010
			889036-4	ON : 1,OFF : 0			
			889036-5	high-speed : 0,low-speed : 1(application roller drive motor speed switch)			

\*01 Operates the image correction mirror, and generates a test pattern (PG=06, grid); then, returns the mirror to original position. Pick-up will be from the cassette 1; be sure to put A4/LTR paper in the cassette in advance.

\*02 Operates for 1 sec and then stops.

\*03 The motor operates for 10 sec, stops for 3 sec, and then operates for a further 10 sec before it stops.

## T-6-6

Ref.	Pickup motor drive PCB	Multifeeder PCB	Fixing feed motor drive PCB	Laser scanner motor drive PCB	Transfer belt motor drive PCB	Original scanner motor PCB	Reader controller PCB	DC controller PCB	AC drive PCB
M1								J2229	
M2								J2208	
M3								J2208	
M4				J4081/ J6037				J2208	
M5								J2210	
M6								J2210	
M7								J2210	
M8								J2210	

Ref.	Pickup motor drive PCB	Multifeeder PCB	Fixing feed motor drive PCB	Laser scanner motor drive PCB	Transfer belt motor drive PCB	Original scanner motor PCB	Reader controller PCB	DC controller PCB	AC drive PCB
M9								J2214	
M10								J2214	
M12								J2218	
M13								J2219	
M14					J3203/ J3201,320 2			J2219	
M15								J2218	
M16								J2239	
M17								J2239	
M18C								J2226	
M18M								J2226	
M18Y								J2223	
M18K								J2223	
M19								J2223	
M20								J2226	
M21								J2225	
M22								J2228	
M23								J2224	
M24C								J2239	
M24M								J2239	
M24Y								J2239	
M24K								J2239	
M25								J2213	
M28								J2211	
M29						J603/ J602	J1309/ J1310	J2206	
M30									J2808
M31								J2218	
M32								J2228	
M35		J5709/J5702						J2240	

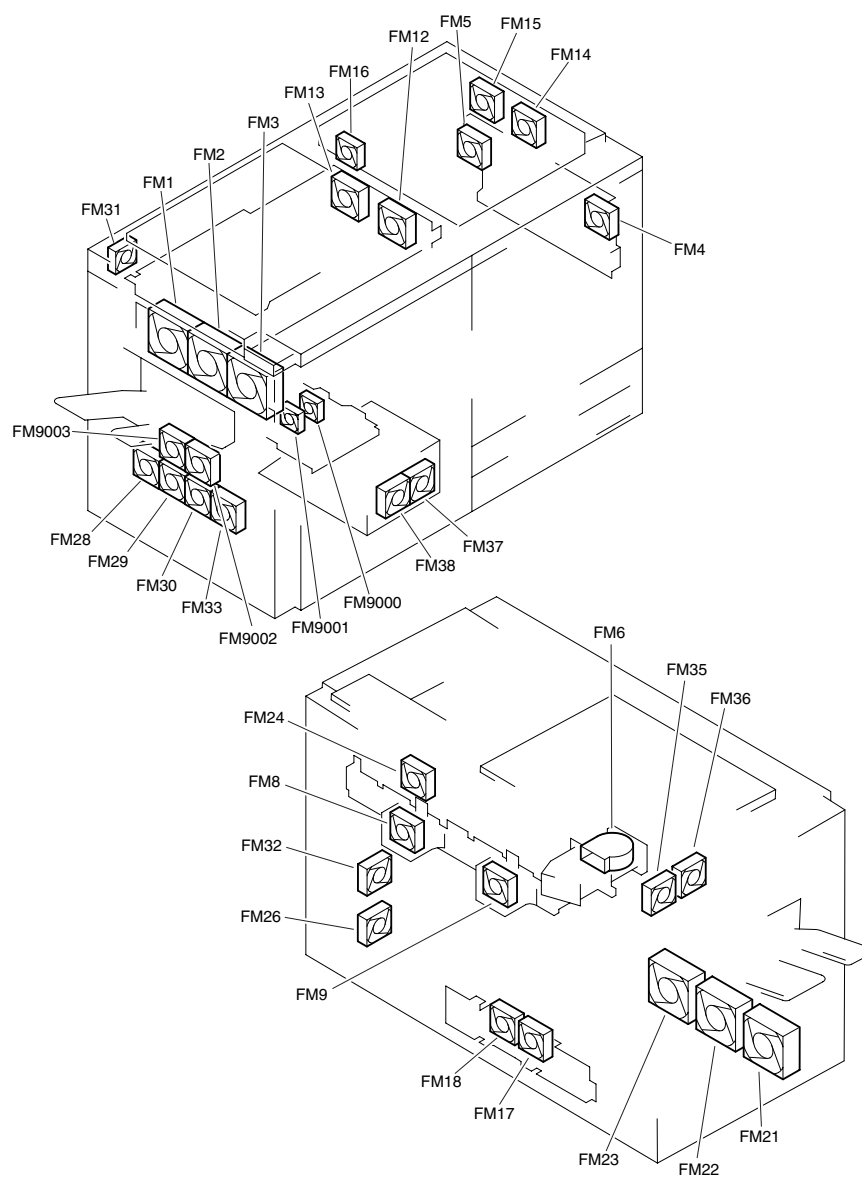
Ref.	Pickup motor drive PCB	Multifeeder PCB	Fixing feed motor drive PCB	Laser scanner motor drive PCB	Transfer belt motor drive PCB	Original scanner motor PCB	Reader controller PCB	DC controller PCB	AC drive PCB
M37	J5505/ J5502							J2222	
M38	J5506/ J5502							J2222	
M39	J5507/ J5502							J2222	
M9002			J5564/ J5562					J2249	
M9003			J5564/ J5562					J2249	
M9004								J2214	
M9005								J2247	

## 6.3 Fan

### 6.3.1 Fans

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CLC5100 / CLC4000



F-6-4

## T-6-7

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>FAN			Error
FM1	Delivery assembly exhaust fan 1	FH6-1793	80200B-7	0:full-speed,1:half-speed	6(high-speed rotation)	7(low-speed rotation)	10	E805-0001
FM2	Delivery assembly exhaust fan 2	FH6-1793	80200B-7	0:full-speed,1:half-speed	6(high-speed rotation)	7(low-speed rotation)	10	E805-0001
FM3	Delivery assembly exhaust fan 3	FH6-1793	80200B-7	0:full-speed,1:half-speed	6(high-speed rotation)	7(low-speed rotation)	10	E805-0001
FM4	Laser cooling fan (front)	FH6-1798	800003-6	ready:0 error:1	1			E807-0001
			80200B-0	ON:1				
FM5	Laser cooling fan (rear)	FH6-1798	800003-6	ready:0 error:1	1			E807-0001
			80200B-0	ON:1				
FM6	Primary exhaust fan	FH6-1790	800005-6	ready:0 error:1	3			E824-0001
			80200B-2	ON:1				
FM8	Rre-fixing feed fan (left)	FH6-1577	800004-5	ready:0 error:1	2			E824-0002
			80200B-1	ON:1				
FM9	Primary suction fan (right)	FH6-1577	800004-5	ready:0 error:1	2			E824-0002
			80200B-1	ON:1				
FM12	Reader assembly cooling fan (front)	FH6-1791	800003-7	ready:0 error:1				E226
FM13	Reader assembly cooling fan (rear)	FH6-1791	800003-7	ready:0 error:1				E226
FM14	Digital unit cooling fan 1	FH6-1795						E807-0004
FM15	Digital unit cooling fan 2	FH6-1795						E807-0004
FM16	Digital unit cooling fan 3	FH6-1796						E807-0003



Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>FAN	Error
FM17	Power supply cooling fan 1	FH6-1792	800001-7	ready:0 error:1		E804-0001
			80200E-3	ON:1		
FM18	Power supply cooling fan 2	FH6-1792	800001-7	ready:0 error:1		E804-0001
			80200E-3	ON:1		
FM21	General exhaust fan 1	FH6-1793	80000E-6	ready:0 error:1	10	E805-0002
			80200F-6	ON:1		
			80200F-7	0:full-speed,1: half-speed		
FM22	General exhaust fan 2	FH6-1793	80000E-6	ready:0 error:1	10	E805-0002
			80200F-6	ON:1		
			80200F-7	0:full-speed,1: half-speed		
FM23	General exhaust fan 3	FH6-1793	80000E-6	ready:0 error:1	10	E805-0002
			80200F-6	ON:1		
			80200F-7	0:full-speed,1: half-speed		
FM24	Laser scanner moter cooling fan	FH6-1706	80200C-6	ON:1		E807-0002
FM26	Pickup cooling fan 1	FH6-1796	80200C-7	ON:1		E826-0001
FM28	Reversing assembly exhaust fan 1	FH6-1577	80200D-7	ON:1		E822-0003
FM29	Reversing assembly exhaust fan 2	FH6-1577	80200D-7	ON:1		E822-0003
FM30	Reversing assembly exhaust fan 3	FH6-1577	80200D-7	ON:1		E822-0003
FM31	Fixing heat discharge fan	FH6-1463	800006-6	ready:0 error:1		E822-0004
			80200E-4	ON:1		

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>FAN	Error
FM32	Pickup cooling fan 2	FH6-1796	800006-5	ready:0 error:1		E826-0001
			80000D-6	ready:0 error:1		
			80200E-5	ON:1		
FM33	Reversing assembly exhaust fan 4	FH6-1577	80000D-7	ready:0 error:1		
FM35	Rre-fixing exhaust fan 1	FH6-1463	800000-3	ready:0 error:1		E822-0006
FM36	Rre-fixing exhaust fan 2	FH6-1463	800000-3	ready:0 error:1		E822-0006
FM9000	Rre-fixing suction fan 1	FH6-1583	889024-1	error:1,ready:0		
			889038-1	full-speed:(0,1),half-speed:(1,0),rest:(0,0)		
FM9001	Rre-fixing suction fan 2	FH6-1583	889024-1	error:1,ready:0		
			889038-1	full-speed:(0,1),half-speed:(1,0),rest:(0,0)		
FM9002	Reversing twin fan 1	FH6-1577	889024-3	error:1, ready:0	11	E822-0002
			88903A-3	ON:1,OFF:0		
FM9003	Reversing twin fan 2	FH6-1577	889024-4	error:1, ready:0	11	E822-0002
			88903A-4	ON:1,OFF:0		

T-6-8

Ref.	Multifeeder PCB	Fixing feed motor drive PCB	Reader controller PCB	DC controller PCB
FM1				J2212
FM2				J2212
FM3				J2212
FM4				J2208
FM5				J2208

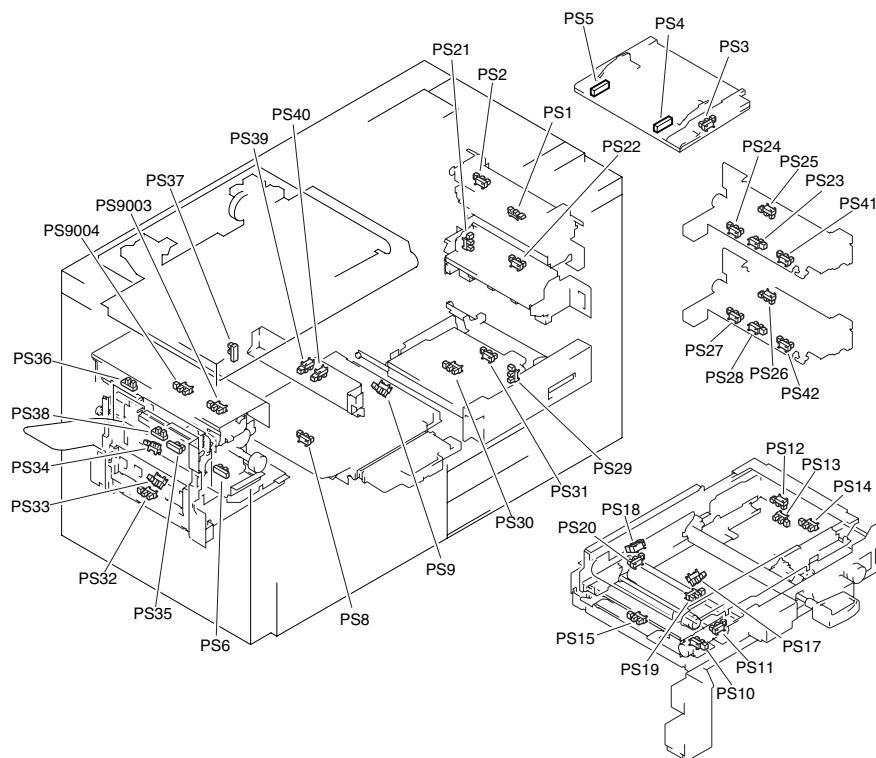
Ref.	Multifeeder PCB	Fixing feed motor drive PCB	Reader controller PCB	DC controller PCB
FM6				J2233
FM8				J2215
FM9				J2215
FM12			J1311/J1310	J2206
FM13			J1311/J1310	J2206
FM14			J1311/J1310	J2206
FM15			J1311/J1310	J2206
FM16			J1311/J1310	J2206
FM17				J2234
FM18				J2234
FM21				J2234
FM22				J2234
FM23				J2234
FM24				J2208
FM26	J5706/J5703			J2207
FM28				J2240
FM29				J2240
FM30				J2240
FM31				J2214
FM32				J2226
FM33				J2240
FM35				J2228
FM36				J2228
FM9000		J5564/J5562		J2249
FM9001		J5564/J5562		J2249
FM9002				J2255
FM9003				J2255

## 6.4 Sensor

### 6.4.1 Sensors, Others

0004-8962

CLC5100 / CLC4000



F-6-5

T-6-9

Ref.	Name	Parts number	DISPLAY > SENSOR		JAM	F-MISCp>IO	Error
PS1	Registration paper sensor	FH7-7326	800006-0	paper present:1	xx00		
PS2	Multifeeder lifter sensor (upper)	FH7-7326	80000A-2	detected:0			E040-0101
PS3	Multifeeder lifter sensor (lower)	FH7-7326	80000A-3	detected:1			E040-0102
PS4	Multifeeder paper width sensor(front)	FH7-7327	80000B-0	paper present:0			
PS5	Multifeeder paper width sensor(rear)	FH7-7327	80000B-1	paper present:0			

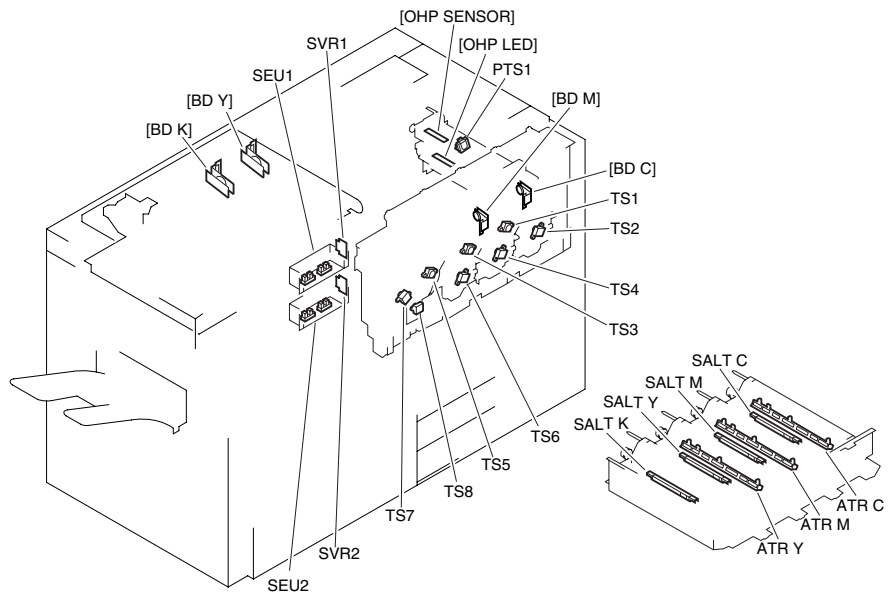
Ref.	Name	Parts number	DISPLAY > SENSOR		JAM	F-MISCp>IO	Error
PS6	Fixing oil level sensor	FH7-7306	80000E-2	oil prevent:1			
PS8	Pre-duplex tray feed sensor 1	FH7-7217	800007-6	paper present:1	xx64		
PS9	Pre-duplex tray feed sensor 2	FH7-7217	800007-7	paper present:0	xx65		
PS10	Transfer belt cleaning web rotation sensor	FH7-7326	80000F-7	repeat 1 and 0 as rotating			E076-0002
PS11	Transfer belt cleaning web length sensor	FH7-7326	80000E-0	web absent:1			
PS12	Transfer belt lifter sensor 1	FH7-7217	80000F-0	UP:01			E074
PS13	Transfer belt lifter sensor 2	FH7-7217	80000F-1	DOWN:10			E074
PS14	Post-registration sensor	FH7-7217	800007-0	paper present:1	xx31		
PS15	Separation sensor	FH7-7217	800007-1	paper present:1	xx32		
PS17	Transfer belt edge sensor 1	FH7-7326	80000F-2	detected:0			E072,E073-0002,0005,E075-0001
PS18	Transfer belt edge sensor 2	FH7-7326	80000F-3	detected:0			E072,E073-0003,0005,E075-0002
PS19	Transfer belt edge sensor 3	FH7-7326	80000F-4	detected:1			E072,E073-0003,0004,E075-0003
PS20	Transfer belt edge sensor 4	FH7-7326	80000F-5	detected:1			E072,E073-0002,0004,E075-0004
PS21	Pickup vertical path 1 sensor	FH7-7394	800006-1	paper present:1	xx01		
PS22	Paper deck connection (pickup cover)sensor	FH7-7394					
PS23	Cassette 1 paper sensor	FH7-7462	80000B-4	paper present:1			
PS24	Cassette 1 lifter sensor	FH7-7462	80000A-0	lifter up:1			
PS25	Pickup vertical path 2 sensor	FH7-7462	800006-2	paper present:1	xx02		

Ref.	Name	Parts number	DISPLAY > SENSOR		JAM	F-MISCp>IO	Error
PS26	Pickup vertical path 3 sensor	FH7-7462	800006-3	paper present: 1	xx04		
PS27	Cassette 2 lifter sensor	FH7-7462	80000A-1	lifter down:0			
PS28	Cassette 2 paper sensor	FH7-7462	80000B-5	paper present: 1			
PS29	Duplex paper jogging guide home position sensor	FH7-7312	80000A-6	detected: 1			E050-0001,0002
PS30	Duplex paper sensor 1	FH7-7326	800008-0	paper present:0	xx66		
PS31	Duplex paper sensor 2	FH7-7217	80000B-7	paper present: 1	xx67		
PS32	Delivery vertical path sensor 2	FH7-7462	800007-4	paper present: 1	xx62		
PS33	Duplex reversal sensor	FH7-7462	800007-5	paper present:0	xx63		
PS34	Delivery sensor	FH7-7462	800007-3	paper present: 1	xx34		
			800008-3	paper present:0			
PS35	Inside delivery sensor	FH7-7306	800007-2	paper present:0	xx33		
PS36	Fixing web length sensor	FH7-7306	80000E-3	web absent: 1			E005
PS37	Original scanner home position sensor	FH7-7306					
PS38	Delivery vertical path sensor 1	FH7-7306			xx61		
PS39	Shutter closed sensor	FH7-7326	802011-6	ON: 1			
PS40	Shutter open sensor	FH7-7326	802011-7	ON: 1			
PS41	Cassette 1 open/closed sensor	FH7-7462	800003-4	connected: 1			
PS42	Cassette 2 open/closed sensor	FH7-7462	800003-5	connected: 1			
PS9003	Externally heat home position sensor 1	FH7-7306	889022-1,2	detected: 1			E840-0002
PS9004	Externally heat home position sensor 2	FH7-7306					E840-0002

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Ref.	Pickup motor drive PCB	Multifeeder PCB	Fixing feed motor drive PCB	Original scanner motor PCB	Reader controller PCB	DC controller PCB
PS1		J5705/J5703				J2207
PS2		J5705/J5703				J2207
PS3		J5707/J5703				J2207
PS4		J5707/J5703				J2207
PS5		J5707/J5703				J2207
PS6						J2209
PS8			J5564/J5562			J2249
PS9			J5564/J5562			J2249
PS10						J2218
PS11						J2218
PS12						J2218
PS13						J2218
PS14						J2218
PS15						J2218
PS17						J2219
PS18						J2219
PS19						J2219
PS20						J2219
PS21	J5504/J5502					J2222
PS22	J5504/J5502					J2222
PS23	J5503/J5502					J2222
PS24	J5503/J5502					J2222
PS25	J5503/J5502					J2222
PS26	J5503/J5502					J2222
PS27	J5503/J5502					J2222
PS28	J5503/J5502					J2222
PS29						J2224
PS30						J2224
PS31						J2224
PS32						J2211

Ref.	Pickup motor drive PCB	Multifeeder PCB	Fixing feed motor drive PCB	Original scanner motor PCB	Reader controller PCB	DC controller PCB
PS33						J2211
PS34						J2211
PS35						J2211
PS36						J2209
PS37				J604/J602	J1309/J1310	J2206
PS38						J2211
PS39						J2213
PS40						J2213
PS41	J5503/J5502					J2222
PS42	J5503/J5502					J2222
PS9003						J2251
PS9004						J2251



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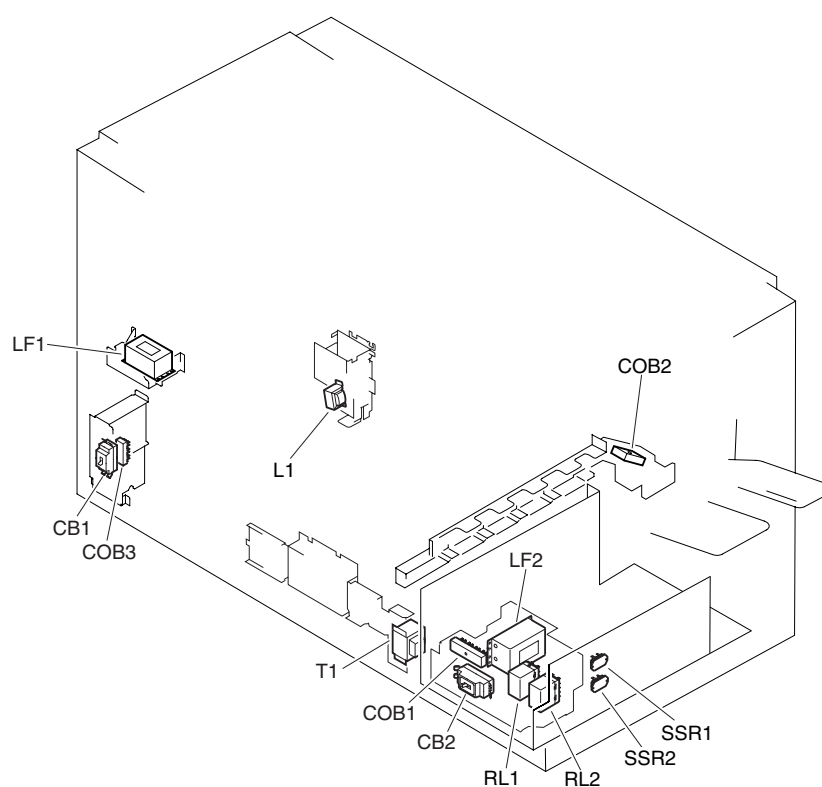


## T-6-11

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>IO
ATR C	ATR sensor (C)	FG6-6280	80200A-4	ON:1(LED ON)	47
ATR M	ATR sensor (M)	FG6-6280	80200A-4	ON:1(LED ON)	47
ATR Y	ATR sensor (Y)	FG6-6280	80200A-4	ON:1(LED ON)	47
BD C	BD sensor (C)	FG6-6323 (FRONT BEAM DETECTOR UNIT)			
BD M	BD sensor (M)	FG6-6323 (FRONT BEAM DETECTOR UNIT)			
BD Y	BD sensor (Y)	FG6-6324 (REAR BEAM DETECTOR UNIT)			
BD K	BD sensor (Bk)	FG6-6324 (REAR BEAM DETECTOR UNIT)			
PTS1	Paper thickness sensor	FH7-7530	80200E-2	ON:1	
SALT C	SALT sensor (C)	FG5-4080	80200A-0	ON:1(LED ON)	50
SALT M	SALT sensor (M)	FG5-4080	80200A-1	ON:1(LED ON)	49
SALT Y	SALT sensor (Y)	FG5-4080	80200A-2	ON:1(LED ON)	48
SALT K	SALT sensor (Bk)	FG5-4080	80200A-3	ON:1(LED ON)	51
SEU1	Cassette 1 paper length sensor	FG5-8221			
SEU2	Cassette 2 paper length sensor	FG5-8221			
SVR1	Cassette 1 paper width sensor	FG5-1957			
SVR2	Cassette 2 paper width sensor	FG5-1957			
TS1	Toner level sensor (upper) C	FH7-7336	80000D-0	below level:1	
TS2	Toner level sensor (lower) C	FH7-7336	80000D-1	below level:1	
TS3	Toner level sensor (upper) M	FH7-7336	80000D-2	below level:1	
TS4	Toner level sensor (lower) M	FH7-7336	80000D-3	below level:1	
TS5	Toner level sensor (upper) Y	FH7-7336	80000D-0	below level:1	
TS6	Toner level sensor (lower) Y	FH7-7336	80000D-1	below level:1	
TS7	Toner level sensor (upper) Bk	FH7-7336	80000D-2	below level:1	
TS8	Toner level sensor (lower) Bk	FH7-7336	80000D-3	below level:1	

## T-6-12

Ref.	Multifeeder PCB	Hopper relay PCB	DC controller PCB
ATR C			J2229
ATR M			J2229
ATR Y			J2229
BD C			J2102
BD M			J2103
BD Y			J2104
BD K			J2105
PTS1	J5708/J5703		J2207
SALT C			J2228
SALT M			J2228
SALT Y			J2228
SALT K			J2228
SEU1			J2226
SEU2			J2226
SVR1			J2226
SVR2			J2226
TS1		J3401/J3403	J2229
TS2		J3401/J3403	J2229
TS3		J3401/J3403	J2229
TS4		J3401/J3403	J2229
TS5		J3401/J3403	J2229
TS6		J3401/J3403	J2229
TS7		J3401/J3403	J2229
TS8		J3401/J3403	J2229



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T-6-13

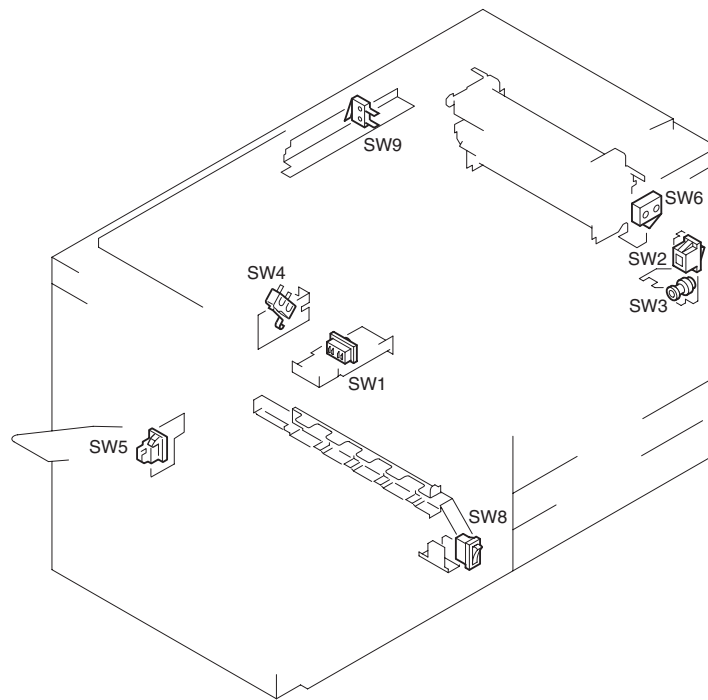
Ref.	Name	Parts number
COB1	Terminal base (large)	WT1-5381
COB2	Terminal base (small)	WT1-5020
COB3	Terminal base (small)	WT1-5020
CB1	Leakage breaker 1	FH7-6310
CB2	Leakage breaker 2	FH7-6310
L1	Noise filter 1	FG3-1392(LAMP REG. P. SUPPLY PCB ASS'Y)
LF1	Noise filter 2	FG6-6366
LF2	Noise filter 3	FH7-9319
RL1	Fixing relay 1	WB1-5170
RL2	Fixing relay 2	WB1-5170
T1	Deck heater transformer	
SSR1	Lower heater triac	WA5-5184
SSR2	Upper heater triac	WA5-5184

## 6.5 Switch

### 6.5.1 Switches

0004-9001

CLC5100 / CLC4000



F-6-8

T-6-14

Ref.	Name	Parts number	DISPLAY > SENSOR		Error
SW1	Front cover switch	WC2-0185	800004-1	open:1 closed:0	
SW2	Power switch	WC1-5114	800000-0	ON:1 OFF:0	
SW3	Control key switch	FH7-6139	800004-2	ON:0 OFF:1	
SW4	Waste toner lock switch	WC4-0241	80000E-1	Lock error:0	E013-0002
SW5	Fixing lever switch	WC2-5327			E006-0001,0002
SW6	Multifeeder pickup cover open/closed switch	FM1-0239 (MULTI PAPER FEED ASSEMBLY)	800004-0	open:0 closed:1	
			80000B-2	detected:1	
SW8	Power save switch	WC1-5118			
SW9	Rear cover open/close switch	WC4-0241	80000E-7	ready:0 error:1	

T-6-15

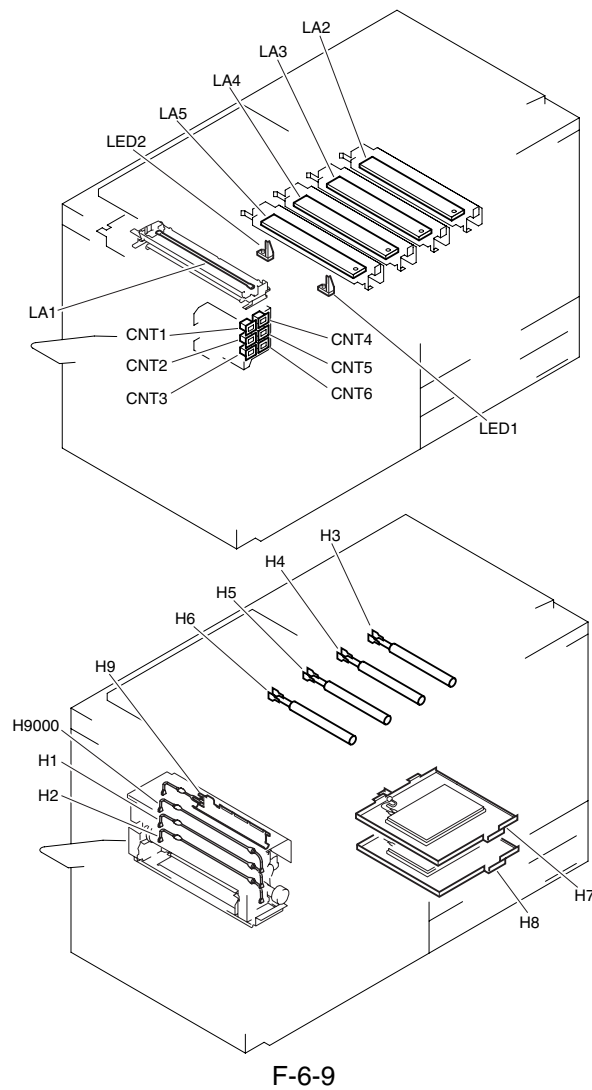
Ref.	Multifeeder PCB	DC controller PCB
SW1		J2232
SW2		J2233
SW3		J2239
SW4		J2223
SW5		J2220
SW6	J5705/J5703	J2207
SW9		J2214

## 6.6 Lamps, Heaters, and Others

### 6.6.1 Lamps, Thermistors, and Heaters

0004-9007

CLC5100 / CLC4000



## T-6-16

Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>IO
LA1	Scanning lamp	FH7-3350			
LA2	Pre-scanning lamp (C)	FG5-4326(EXPOSURE LAMP PCB ASSEMBLY)	802003-4	ON:1	45
LA3	Pre-scanning lamp (M)	FG5-4326(EXPOSURE LAMP PCB ASSEMBLY)	802003-5	ON:1	45
LA4	Pre-scanning lamp (Y)	FG5-4326(EXPOSURE LAMP PCB ASSEMBLY)	802003-6	ON:1	45
LA5	Pre-scanning lamp (Bk)	FG5-4326(EXPOSURE LAMP PCB ASSEMBLY)	802003-7	ON:1	45
LED1	Image position correction LED (front)	FG6-6311(IMAGE REGIST. SENSOR ASSEMBLY)	80200A-5	ON:1	
LED2	Image position correction LED (rear)	FG6-6311(IMAGE REGIST. SENSOR ASSEMBLY)	80200A-5	ON:1	
CNT1	Counter 1	WG2-5160	804000-0	ON:1	
CNT2	Counter 2	WG2-5160	804000-1	ON:1	
CNT3	Counter 3	WG2-5160	804000-2	ON:1	
CNT4	Counter 4	WG2-5160	804000-3	ON:1	
CNT5	Counter 5	WG2-5160	804000-4	ON:1	
CNT6	Counter 6	WG2-5160	804000-5	ON:1	
H1	Fixing upper heater	FH7-4678 (200/208V) FH7-4680 (230V)	800000-4	error:0	
			802009-0	ON:1	
H2	Fixing lower heater	FH7-4679 (200/208V) FH7-4681 (230V)	800000-4	error:0	
			802009-1	ON:1	
H3	Drum heater (C)	FH7-4725	800000-5	error:0	
			802009-4	ON:1	
H4	Drum heater (M)	FH7-4725	800000-5	error:0	
			802009-5	ON:1	

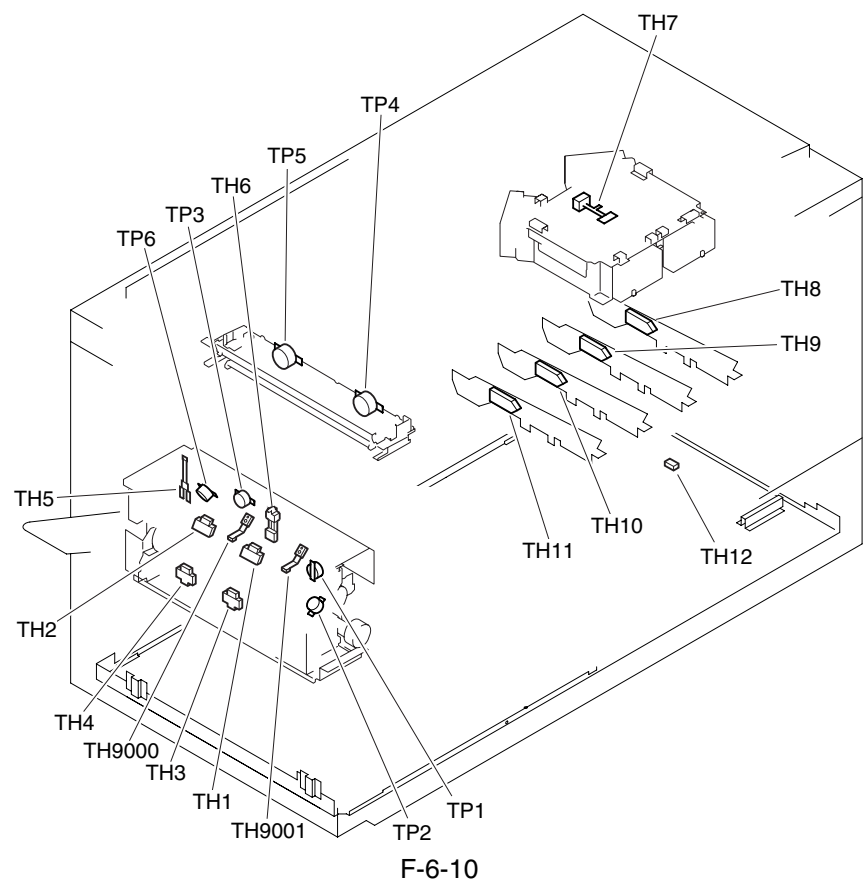
Ref.	Name	Parts number	DISPLAY > SENSOR		F-MISCp>IO
H5	Drum heater (Y)	FH7-4725	800000-5	error:0	
			802009-6	ON:1	
H6	Drum heater (Bk)	FH7-4725	800000-5	error:0	
			802009-7	ON:1	
H7	Cassette 1 heater	FH7-4633	802009-2	ON:1	
H8	Cassette 2 heater	FH7-4633	802009-2	ON:1	
H9	Fixing oil heater	FH7-4682 (200/208V)	802009-3	ON:1	
		FH7-4685 (230V)			
H9000	Externally heated heater	FH7-4777 (200/208V) FH7-4778 (230V)	889020-2	detecte d:0,rea dy:1	
			889036-1	ON:1, OFF:0	

T-6-17

Ref.	DC controller PCB	AC drive PCB
LA1		
LA2	J2239	
LA3	J2239	
LA4	J2239	
LA5	J2239	
LED1		
LED2		
CNT1	J2216	
CNT2	J2216	
CNT3	J2216	
CNT4	J2216	
CNT5	J2216	
CNT6	J2216	
H1		J2804
H2		J2804
H3		J2805
H4		J2805



Ref.	DC controller PCB	AC drive PCB
H5		J2805
H6		J2805
H7		J2807
H8		J2807
H9		J2808
H9000		J2804



## T-6-18

Ref.	Name	Parts number	DISPLAY > SENSOR	
TH1	Fixing upper thermistor (main)	FF3-4575	800000-6	ready:0 error:1
			800008-4	error:0
TH2	Fixing upper thermistor (sub)	FF3-4576	800000-6	ready:0 error:1
			800008-4	error:0
TH3	Fixing lower thermistor (main)	FH7-7534	800000-6	ready:0 error:1
			800008-5	error:0
TH4	Fixing lower thermistor (sub)	FH7-7534	800000-6	ready:0 error:1
			800008-5	error:0
TH5	Fixing oil thermistor	FH7-7532		
TH6	Fixing oil heater thermistor	FH7-7531	800000-2	ready:0 error:1
			800004-6	error:0
TH7	Scanner base thermistor	FH7-7330		
TH8	Drum thermistor (C)	FH7-7438	800000-7	ready:0 error:1
TH9	Drum thermistor (M)	FH7-7438	800000-7	ready:0 error:1
TH10	Drum thermistor (Y)	FH7-7438	800000-7	ready:0 error:1
TH11	Drum thermistor (Bk)	FH7-7438	800000-7	ready:0 error:1
TH12	Environment sensor	FH7-7536	802001-5	low humidity:0
TH9000	Externally Heated Roller thermistor (main)	FM1-0273		
TH9001	Externally Heated Roller thermistor (sub)	FM1-0273		
TP1	Fixing upper roller thermal switch	FH7-7083	800008-6	error:0
TP2	Fixing lower roller thermal switch	FH7-7083	800008-7	error:0
TP3	Fixing oil heat thermal switch	FH7-6317	800004-7	error:0
TP4	Scanning lamp thermal switch 1	FH7-6283		
TP5	Scanning lamp thermal switch 2	FH7-6283		
TP6	Externally Heated Roller thermal switch	FM1-0228		

## T-6-19

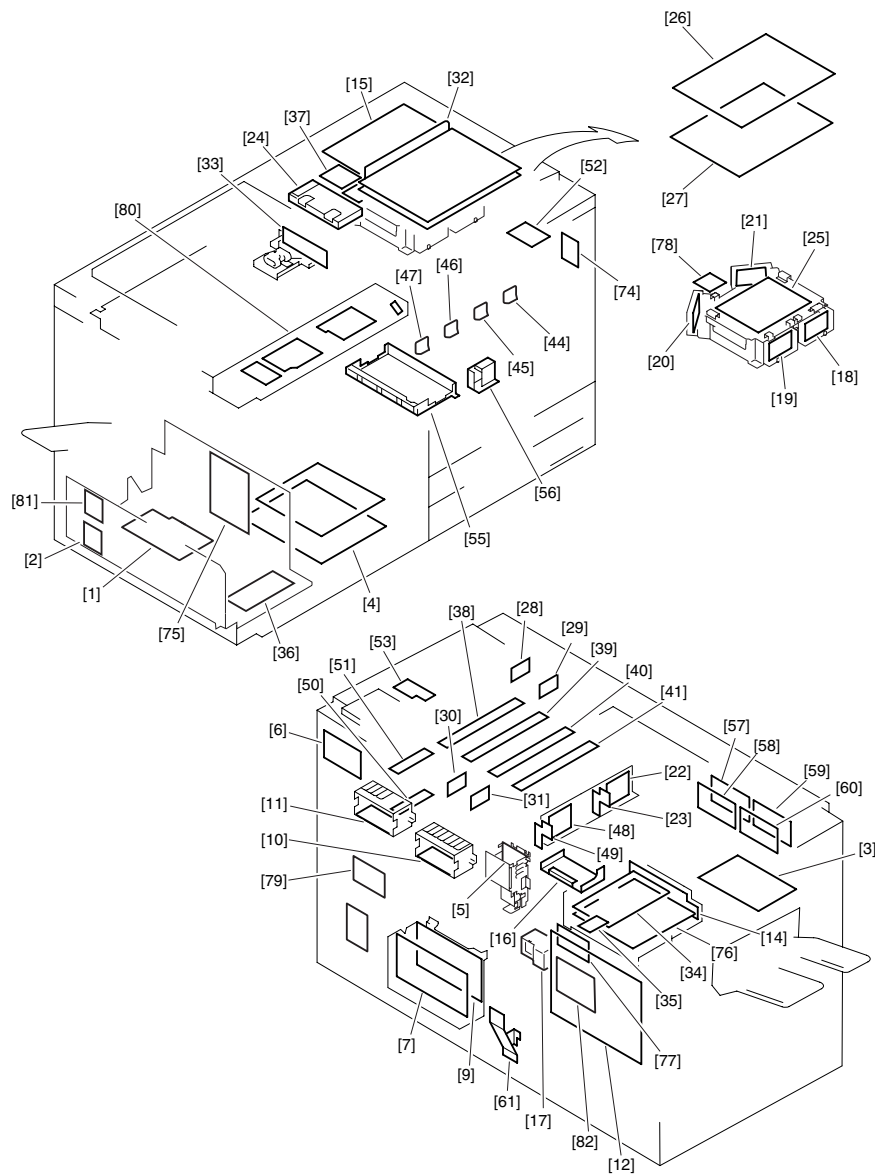
Ref.	DC controller PCB	AC drive PCB
TH1	J2209	
TH2	J2209	
TH3	J2209	
TH4	J2209	
TH5	J2209	
TH6	J2209	
TH7	J2208	
TH8	J2216	
TH9	J2216	
TH10	J2216	
TH11	J2216	
TH12	J2220	
TH9000	J2251	
TH9001	J2251	
TP1		J2804
TP2		J2804
TP3		J2808
TP6		J2804

## 6.7 PCBs

### 6.7.1 PCBs

0004-9038

CLC5100 / CLC4000




F-6-11

## T-6-20

Ref.	Name	Parts number
1	AC drive PCB	FG3-3366
2	Ficker controller PCB 1	FG6-2508
3	DC power supply PCB 2	FH3-2667
4	DC power supply PCB 1	FH3-2597
5	Lamp regulator	FG3-1392
6	Multifeeder PCB	FG6-6360
7	HVT3-A	FG6-6356(DEVELOPING BIAS PCB ASSEMBLY)
8	Pickup motor drive PCB	FG3-1391
9	HVT3-B	FG6-6356(DEVELOPING BIAS PCB ASSEMBLY)
10	HVT2-R	FG5-4255
11	NVT2-L	FG5-4255
12	DC controller PCB	FG3-3362
14	Interface controller motor PCB	FG3-1390
15	Reader controller PCB	FG3-1377
16	Original scanner motor PCB	FG6-6299
17	HVT4	FG5-4258
18	Laser drive PCB (C)	FG6-6314(LASER UNIT)
19	Laser drive PCB (Bk)	FG6-6316(LASER UNIT)
20	Laser drive PCB (Y)	FG6-6316(LASER UNIT)
21	Laser drive PCB (M)	FG6-6314(LASER UNIT)
22	Image position correction PCB (front)	FG6-6311(IMAGE REGIST. SENSOR ASSEMBLY)
23	Image position correction PCB (rear)	FG6-6311(IMAGE REGIST. SENSOR ASSEMBLY)
24	Analog Processor PCB	FG6-6301
25	Video controller PCB	FG3-2691
26	Image processor PCB	FG3-2085
27	IP memory PCB	FG3-2086
28	Beam detection PCB C	FG6-6323(FRONT BEAM DETECTOR UNIT)

Ref.	Name	Parts number
29	Beam detection PCB M	FG6-6323(FRONT BEAM DETECTOR UNIT)
30	Beam detection PCB Y	FG6-6324(REAR BEAM DETECTOR UNIT)
31	Beam detection PCB Bk	FG6-6324(REAR BEAM DETECTOR UNIT)
32	IP motor PCB	FG3-1386
33	CCD drive PCB	FG6-6300(CCD LENS ASSEMBLY)
35	Monitor I/F PCB	FG5-6638
36	Download PCB	FG3-0663
37	ECo-ID PCB	FG3-1396
38	EXPOSURE LAMP PCB ASSEMBLY C	FG5-4326
39	EXPOSURE LAMP PCB ASSEMBLY M	FG5-4326
40	EXPOSURE LAMP PCB ASSEMBLY Y	FG5-4326
41	EXPOSURE LAMP PCB ASSEMBLY Bk	FG5-4326
44	Primary wire relay PCB (C)	FG5-4254
45	Primary wire relay PCB (M)	FG5-4254
46	Primary wire relay PCB (Y)	FG5-4254
47	Primary wire relay PCB (Bk)	FG5-4254
48	Image position correction CCD PCB (front)	FG6-6311(IMAGE REGIST. SENSOR ASSEMBLY)
49	Image position correction CCD PCB (rear)	FG6-6311(IMAGE REGIST. SENSOR ASSEMBLY)
50	OHP sensor PCB (light-receiving)	FG5-3179
51	OHP sensor PCB (emit light)	FG5-3178
52	Environment measurement PCB	FG5-3064
53	Multifeeder paper width detection PCB	FG5-4325
55	HVT1	FG3-2690
56	Transfer belt motor drive PCB	FG3-1433
57	Potential measurement PCB (C)	FG5-4084
58	Potential measurement PCB (M)	FG5-4084
59	Potential measurement PCB (Y)	FG5-4084
60	Potential measurement PCB (Bk)	FG5-4084
61	HVT5	FG5-4259

Ref.	Name	Parts number
74	Hopper relay PCB	FG5-4346
75	Fuse PCB	FG3-3368
76	Interfasce board	FG3-2088
77	Fixing motor drive PCB	FG3-3367
78	Laser scanner motor drive PCB	FH5-3136
79	DC drive PCB	FH5-3135
80	Contrpl paner family PCB	FG5-8275
81	Ficker controller PCB 2	FG6-2508
82	Fixing feed motor drive PCB	FG3-3367

 Some models may not have the flicker controller PCB 1; However, the absence of the PCB does not in any way affect the performance of the machine.





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# Chapter 7 System Construction

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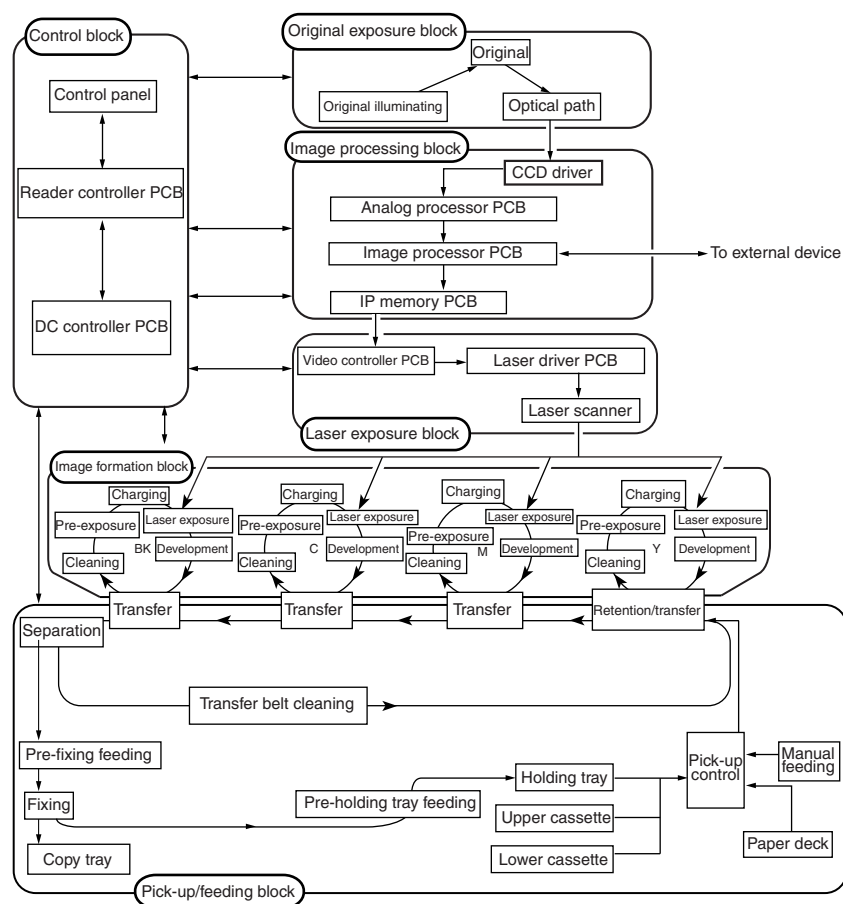
## 7.1 Construction

### 7.1.1 Functional Construction

0005-6600

CLC5100 / CLC4000

The machine consists of six functional blocks: pick-up/feeding, original exposure, image processing, laser exposure, image formation, and control.



F-7-1

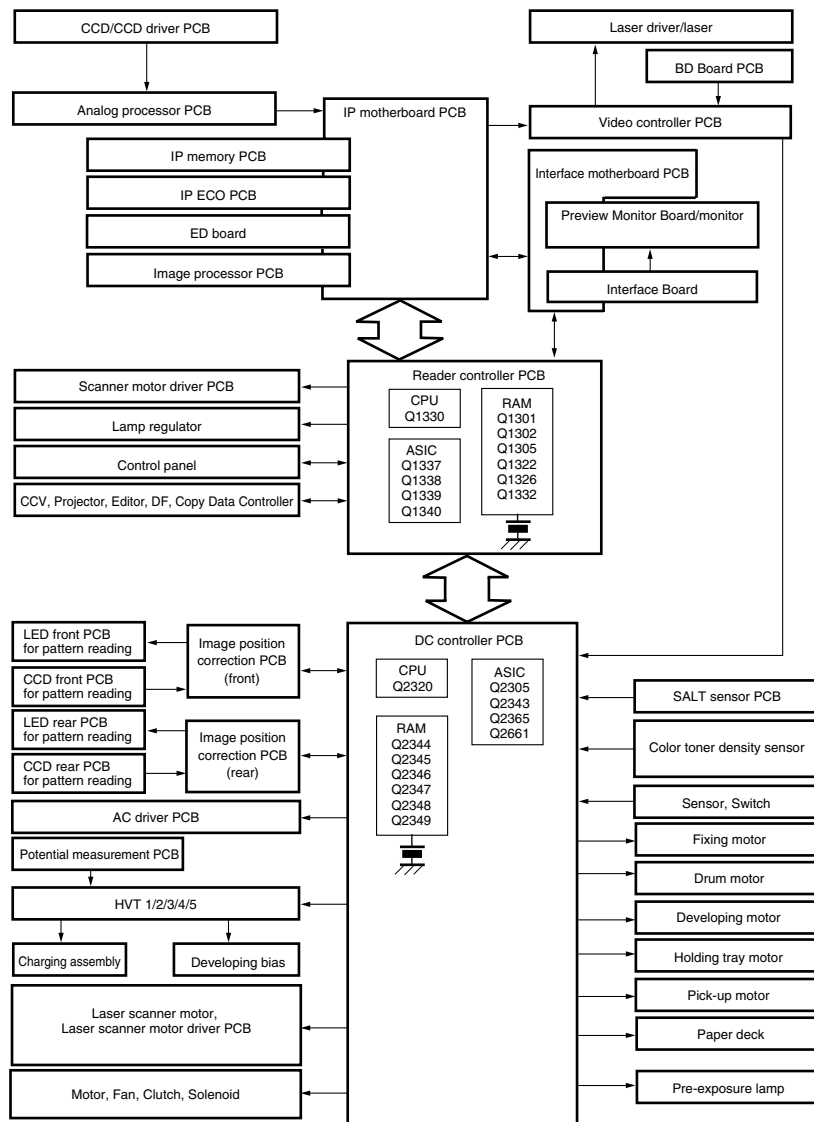
## 7.1.2 Outline of Electrical Circuitry

0005-6601

CLC5100 / CLC4000

The machine's major electrical mechanisms are controlled by the microprocessor mounted on the reader controller PCB and the DC controller PCB.

The controller PCB and the DC controller PCB each are equipped with a lithium battery to back up important data.



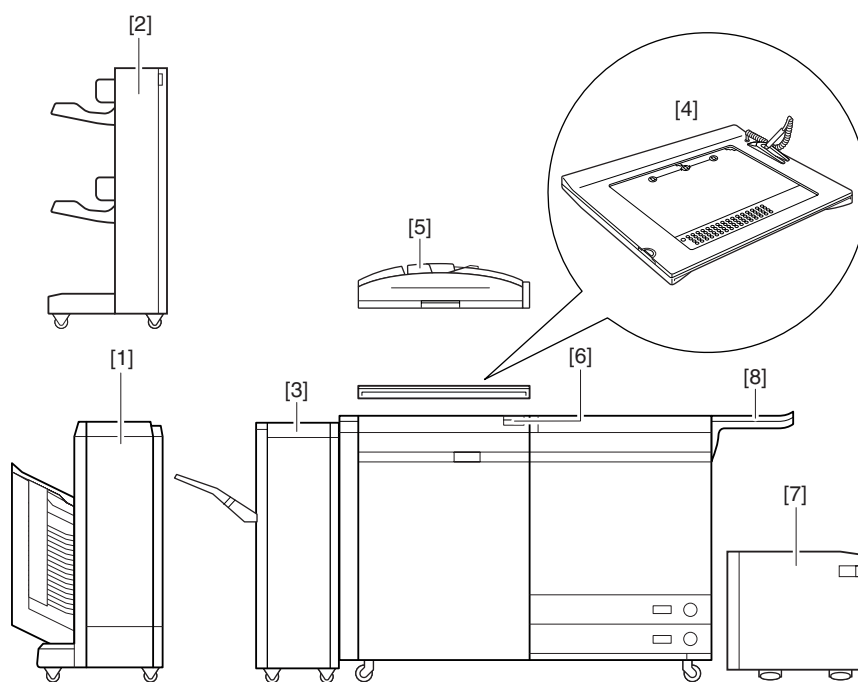
F-7-2

## 7.2 System Construction

### 7.2.1 System Configuration

0002-0300

CLC5100 / CLC4000



F-7-3

T-7-1

- [1] Staple Sorter-F2
- [2] Stacker-B1 (Scheduled to be sold at the end of 2003)
- [3] Buffer Path Unit-D1
- [4] Editor-F1
- [5] RDF-E3
- [6] Control Card V
- [7] Side Paper Deck-R1
- [8] Original Tray\*

\* [8] is included as standard equipment.

## 7.3 Product Specifications

### 7.3.1 Specifications

0002-4586

CLC5100

<b>Copyboard</b>	Fixed
<b>Body</b>	Console
<b>Light source type</b>	Halogen lamp
<b>Lens type</b>	Fixed-focus lens
<b>Photosensitive medium</b>	OPC drum (60 mm dia.)
<b>Image reading method</b>	Light-sensing element (BGR3-line CCD); fixed CCD, scanned by mirror
<b>Reproduction method</b>	Indirect electrostatic method
<b>Exposure method</b>	Laser exposure
<b>Copy density adjustment function</b>	Manual density adjustment (9 levels), color AE
<b>Charging method</b>	Corona
<b>Development method</b>	J/B (jumping/brush) development (C,M,Y,Bk)
<b>Attraction method</b>	Electrostatic absorption (simultaneous with C transfer)
<b>Transfer method</b>	by blade (transfer belt)
<b>Separation method</b>	Electrostatic separation
<b>Pickup method</b>	Cassette (2 cassettes), paper deck, manual feed tray
<b>Cassette pickup method</b>	Separation roller
<b>Paper deck pickup method</b>	Separation roller
<b>Multifeeder pickup method</b>	Separation roller
<b>Drum cleaning method</b>	by blade
<b>Fixing method</b>	By heat roller + external heater roller
<b>Delivery method</b>	Face down (when the buffer path unit is installed)/ Face up
<b>Contrast adjustment function</b>	Auto
<b>Toner supply type</b>	Toner bottle (Y,M,C: 750g, K:640g)
<b>Original type</b>	Sheet, three-dimensional object (up to 2 kg)
<b>Maximum original size</b>	A3 (297mmx432mm) /11x17 (279mmx432mm)
<b>Original size detection function</b>	Concurrent use of the reading CCD



<b>Reproduction ratio</b>	Direct (1:1), Reduce (1: 0.250, 1: 0.500, 1:0.611, 1:0.707, 1:0.815, 1:0.865), Enlarge (1:1.153, 1:1.223, 1:1.414, 1:2.000, 1:4.000)Zoom (1:0.250 to 4.000) (between 25% and 400%, in 1% increments)
<b>Warm-up time</b>	9 min or less
<b>Image margin (leading edge)</b>	Single-sided: 2.5+1.5/-1.5mm, Double-sided: 2.5+2.0/-2.0mm
<b>Image margin (trailing edge)</b>	Single-sided: 2.5+1.5/-1.5mm, Double-sided: 2.5+2.0/-2.0mm
<b>Image margin (left/right)</b>	Single-sided: 2.0+1.5/-1.5mm, Double-sided: 2.0+1.5/-1.5mm
<b>Non-image width (leading edge)</b>	Single-sided: 2.5+1.5/-1.5mm (full image: 0.5+0.5/-0.5mm)Double-sided: 2.5+2.0/-2.0mm (full image: 0.5+0.5/-0.5mm)
<b>Non-image width (left/right)</b>	Single-sided: 2.0+1.5/-1.5mm (full image: 0+1.0/-1.0mm)Double-sided: 2.0+1.5/-1.5mm (full image: 0+1.0/-1.0mm)
<b>Number of gradations</b>	256
<b>Reading resolution</b>	400x400dpi
<b>Copying resolution</b>	400x400dpi
<b>Printing resolution</b>	400x400dpi
<b>First print time</b>	Less than 14 sec. (A4 plain paper: 80 to 105g/m <sup>2</sup> )
<b>Duplex paper size</b>	B5, B4, A4, A3, LTR, LGL, 11x17
<b>Print speed (A4)</b>	51cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed (B4)</b>	30cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed (A3)</b>	25cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed(LTR)</b>	51cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed (LGL)</b>	30cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed (11x17)</b>	25cpm (single-sided mode, plain paper, standard gloss)
<b>Cassette paper size</b>	Max: A3 (297mmx420mm) / 11x17 (279mmx432mm) Min: A5 (148mmx210mm) / STMT (216mmx139.5mm)
<b>Multifeeder paper size</b>	Max: 305mmx457mm, Min: postcard
<b>Cassette paper type</b>	Plain paper (80 to 105g/m <sup>2</sup> ), OHP film (Canon-recommended), Thin paper (64 to 79g/m <sup>2</sup> )
<b>Multifeeder tray paper type</b>	Thin paper (64 to 79g/m <sup>2</sup> ), Plain paper (80 to 105g/m <sup>2</sup> ), Thick paper I (106 to 163g/m <sup>2</sup> , including cast coat paper/recommended postcard), Heavy paper (164 to 209g/m <sup>2</sup> , including cast coat paper/ postal card), Special paper1, 2, OHP film (Canon-recommended)
<b>Paper deck paper type</b>	Plain paper (80 to 105g/m <sup>2</sup> ), Thick paper (106 to 163g/m <sup>2</sup> ), OHP film (Canon-recommended), Thin paper (61 to 79g/m <sup>2</sup> )
<b>Duplex paper type</b>	[Auto duplex] Cassette: Plain paper (90 to 105 gsm) Paper Deck: Plain paper, Heavy paper (90 to 163 gsm) [Manual duplex] Manual feed tray: Plain paper, Heavy paper and Extra heavy paper (90 to 253 gsm)

<b>Cassette capacity</b>	Approx. 550 sheets (81.4g/m <sup>2</sup> )
<b>Multifeeder tray capacity</b>	Approx. 250 sheets (81.4g/m <sup>2</sup> )
<b>Paper deck capacity</b>	Approx. 3500 sheets (80g/m <sup>2</sup> )
<b>Duplex method</b>	Through-pass
<b>Delivery tray stack</b>	Approx. 250 sheets (81.4g/m <sup>2</sup> )
<b>Continuous reproduction</b>	Up to 999 sheets
<b>Auto power off</b>	Default: 2 hours, Setting range: 1 to 24 hours
<b>Auto gradation correction</b>	Yes
<b>Operating environment (temperature range)</b>	15 to 27.5°C
<b>Operating environment (humidity range)</b>	25 to 75%
<b>Operating environment (atmospheric pressure)</b>	810.6 to 1013.3hpa (0.8 to 1.0 atm pressure)
<b>Noise</b>	Sound power level based on the ISO measuring method: 77dB (copying), 71dB (standby)
<b>Power supply rating</b>	200V machine: 200V+10/-10%, 208V machine: 208V+10/-10%, 230V machine: 230V+10/-10%, 230V machine: 230V+10/-10% (50/60hz)
<b>Power consumption (maximum)</b>	200V machine: 3kW230V machine: 3.2kW*measured w/ RDF, buffer path unit, paper deck installed
<b>Power consumption</b>	Copying: 1.87kW or less (A4, continuous copying in full color mode), Standby: 0.86kW/h (reference value)*measured w/ RDF, buffer path unit, paper deck installed
<b>Ozone</b>	0.02ppm or less (upon installation), 0.005ppm or less (100,000 sheets or 1year)
<b>Weight</b>	Japan use: 552 kg/1220 lb. (including copyboard and standard buffer)Overseas use: 619kg/1360 lb. (including copyboard, standard buffer, and standard side paper deck)
<b>Option</b>	1: RDF-E3, 2: Side Paper Deck-R1, 3: Staple Sorter-F2, 4: Editor-F1, 5: Stacker-B1 (scheduled to be supported at the end of 2003), 6: Control Panel 2 (USA only), 7: Manual Auxiliary Tray, 8: Control Card V, 9: ED Board-C1, 10: Interface Board-E1
<b>Transfer cleaning method</b>	by blade
<b>Toner level detection function</b>	Yes
<b>Toner type</b>	Non-magnetic negative toner

## 7.3.2 Specifications

0003-1044

CLC4000

<b>Copyboard</b>	Fixed
<b>Body</b>	Console
<b>Light source type</b>	Halogen lamp
<b>Lens type</b>	Fixed-focus lens
<b>Photosensitive medium</b>	OPC drum (60 mm dia.)
<b>Image reading method</b>	Light-sensing element (BGR3-line CCD); fixed CCD, scanned by mirror
<b>Reproduction method</b>	Indirect electrostatic method
<b>Exposure method</b>	Laser exposure
<b>Copy density adjustment function</b>	Manual density adjustment (9 levels), color AE
<b>Charging method</b>	Corona
<b>Development method</b>	J/B (jumping/brush) development (C,M,Y,Bk)
<b>Attraction method</b>	Electrostatic absorption (simultaneous with Y transfer)
<b>Transfer method</b>	by blade (transfer belt)
<b>Separation method</b>	Electrostatic separation
<b>Pickup method</b>	Cassette (2 cassettes), paper deck, manual feed tray
<b>Cassette pickup method</b>	Separation roller
<b>Paper deck pickup method</b>	Separation roller
<b>Multifeeder pickup method</b>	Separation roller
<b>Drum cleaning method</b>	by blade
<b>Fixing method</b>	By heat roller + external heater roller
<b>Delivery method</b>	Face down (when the buffer path unit is installed)/ Face up
<b>Contrast adjustment function</b>	Auto
<b>Toner supply type</b>	Toner bottle (Y,M,C: 750g, K:640g)
<b>Original type</b>	Sheet, three-dimensional object (up to 2 kg)

<b>Maximum original size</b>	A3 (297mmx432mm) / 11x17 (279mmx432mm)
<b>Original size detection function</b>	Concurrent use of the reading CCD
<b>Reproduction ratio</b>	Direct (1:1), Reduce (1: 0.250, 1: 0.500, 1:0.611, 1:0.707, 1:0.815, 1:0.865), Enlarge (1:1.153, 1:1.223, 1:1.414, 1:2.000, 1:4.000)Zoom (1:0.250 to 4.000) (between 25% and 400%, in 1% increments)
<b>Warm-up time</b>	9 min or less
<b>Image margin (leading edge)</b>	Single-sided: 2.5+1.5/-1.5mm, Double-sided: 2.5+2.0/-2.0mm
<b>Image margin (trailing edge)</b>	Single-sided: 2.5+1.5/-1.5mm, Double-sided: 2.5+2.0/-2.0mm
<b>Image margin (left/right)</b>	Single-sided: 2.0+1.5/-1.5mm, Double-sided: 2.0+1.5/-1.5mm
<b>Non-image width (leading edge)</b>	Single-sided: 2.5+1.5/-1.5mm (full image: 0.5+0.5/-0.5mm)Double-sided: 2.5+2.0/-2.0mm (full image: 0.5+0.5/-0.5mm)
<b>Non-image width (left/right)</b>	Single-sided: 2.0+1.5/-1.5mm (full image: 0+1.0/-1.0mm)Double-sided: 2.0+1.5/-1.5mm (full image: 0+1.0/-1.0mm)
<b>Number of gradations</b>	256
<b>Reading resolution</b>	400x400dpi
<b>Copying resolution</b>	400x400dpi
<b>Printing resolution</b>	400x400dpi
<b>First print time</b>	Less than 14 sec. (A4 plain paper: 80 to 105g/m <sup>2</sup> )
<b>Duplex paper size</b>	B5, B4, A4, A3, LTR, LGL, 11x17
<b>Print speed (A4)</b>	40cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed (B4)</b>	30cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed (A3)</b>	20cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed(LTR)</b>	40cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed (LGL)</b>	30cpm (single-sided mode, plain paper, standard gloss)
<b>Print speed (11x17)</b>	20cpm (single-sided mode, plain paper, standard gloss)
<b>Cassette paper size</b>	Max: A3 (297mmx420mm) / 11x17 (279mmx432mm) Min: A5 (148mmx210mm) / STMT (216mmx139.5mm)
<b>Multifeeder paper size</b>	Max: 305mmx457mm, Min: postcard

<b>Cassette paper type</b>	Plain paper (80 to 105g/m <sup>2</sup> ), OHP film (Canon-recommended), Thin paper (64 to 79g/m <sup>2</sup> )
<b>Multifeeder tray paper type</b>	Thin paper (64 to 79g/m <sup>2</sup> ), Plain paper (80 to 105g/m <sup>2</sup> ), Thick paper I (106 to 163g/m <sup>2</sup> , including cast coat paper/recommended postcard), Heavy paper (164 to 209g/m <sup>2</sup> , including cast coat paper/postal card), Special paper1, 2, OHP film (Canon-recommended)
<b>Paper deck paper type</b>	Plain paper (80 to 105g/m <sup>2</sup> ), Thick paper (106 to 163g/m <sup>2</sup> ), OHP film (Canon-recommended), Thin paper (61 to 79g/m <sup>2</sup> )
<b>Duplex paper type</b>	[Auto duplex] Cassette: Plain paper (90 to 105 gsm) Paper Deck: Plain paper, Heavy paper (90 to 163 gsm) [Manual duplex] Manual feed tray: Plain paper, Heavy paper and Extra heavy paper (90 to 253 gsm)
<b>Cassette capacity</b>	Approx. 550 sheets (81.4g/m <sup>2</sup> )
<b>Multifeeder tray capacity</b>	Approx. 250 sheets (81.4g/m <sup>2</sup> )
<b>Paper deck capacity</b>	Approx. 3500 sheets (80g/m <sup>2</sup> )
<b>Duplex method</b>	Through-pass
<b>Delivery tray stack</b>	Approx. 250 sheets (81.4g/m <sup>2</sup> )
<b>Continuous reproduction</b>	Up to 999 sheets
<b>Auto power off</b>	Default: 2 hours, Setting range: 1 to 24 hours
<b>Auto gradation correction</b>	Yes
<b>Operating environment (temperature range)</b>	15 to 27.5°C
<b>Operating environment (humidity range)</b>	25 to 75%
<b>Operating environment (atmospheric pressure)</b>	810.6 to 1013.3hpa (0.8 to 1.0 atm pressure)
<b>Noise</b>	Sound power level based on the ISO measuring method: 77dB (copying), 71dB (standby)
<b>Power supply rating</b>	200V machine: 200V+10/-10%, 208V machine: 208V+10/-10%, 230V machine: 230V+10/-10%, 230V machine: 230V+10/-10% (50/60hz)
<b>Power consumption (maximum)</b>	200V machine: 3kW 230V machine: 3.2kW*measured w/ RDF, buffer path unit, paper deck installed

<b>Power consumption</b>	Copying: 1.74kW or less (A4, continuous copying in full color mode), Standby: 0.86kW/h (reference value)*measured w/ RDF, buffer path unit, paper deck installed
<b>Ozone</b>	0.02ppm or less (upon installation), 0.005ppm or less (100,000 sheets or 1year)
<b>Weight</b>	Japan use: 552 kg/1220 lb. (including copyboard and standard buffer)Overseas use: 619kg/1360 lb. (including copyboard, standard buffer, and standard side paper deck)
<b>Option</b>	1: RDF-E3, 2: Side Paper Deck-R1, 3: Staple Sorter-F2, 4: Editor-F1, 5: Stacker-B1 (scheduled to be supported at the end of 2003), 6: Control Panel 2 (USA only), 7: Manual Auxiliary Tray, 8: Control Card V, 9: ED Board-C1, 10: Interface Board-E1
<b>Trasnsfer cleaning method</b>	by blade
<b>Toner level detection function</b>	Yes
<b>Toner type</b>	Non-magnetic negative toner

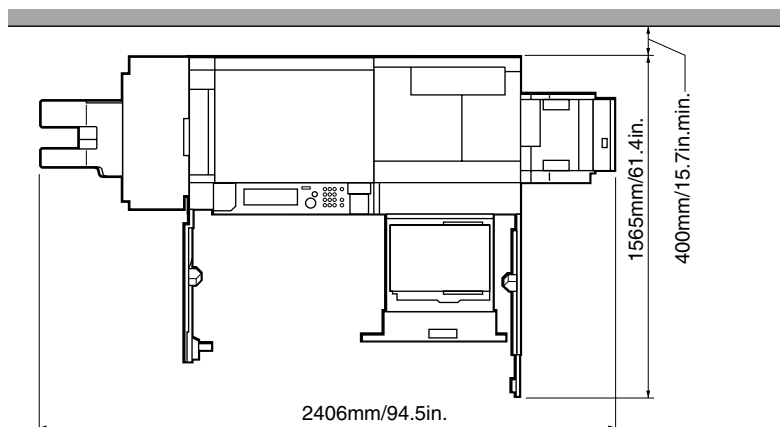
## 7.4 Function List

### 7.4.1 Dimensions

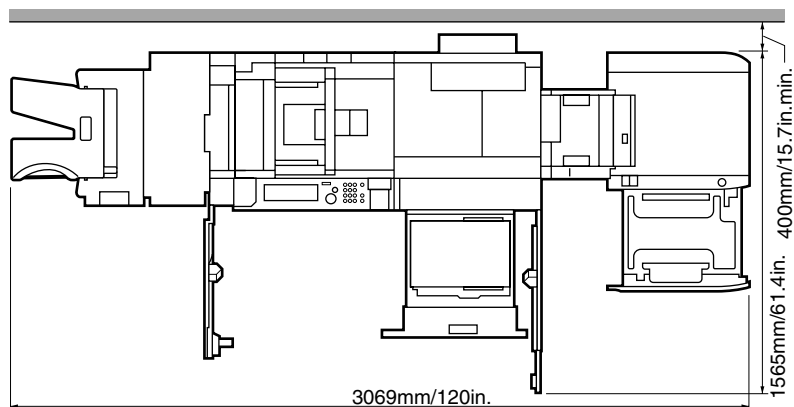
0002-3194

CLC5100 / CLC4000

#### ■ Without Options



#### ■ With Paper Deck, Feeder, and Stapler Sorter



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## 7.4.2 Default Ratios

0002-1108

CLC5100 / CLC4000

T-7-2

Site	Reduction	Ratio	Enlargement	Ratio
Japan 6R5E	-	0.250	B4 to A3 B5R to A4R B5 to A4	1.153
	A3 to A5	0.500	A4R to B4 A5 to B5	1.223
	A3 to B5	0.611	A4R to B4 B5R to B4	1.414
	A3 to A4R B4 to B5R	0.707	A5 to A3	2.000
	B4 to A4R	0.815	-	4.000
	A3 to B4 A4R to B5R	0.865	-	-
North America 5R4E	-	0.250	LGL to 11x17	1.214
	-	0.500	-	1.294
	11x17 to LTRR	0.647	LTRR to 11x17	2.000
	11x17 to LGL	0.733	MINIT to LTRR	4.000
	LGL to LTRR	0.786	-	-
Europe 3R3E	-	0.250	A4R to A3	1.414
	A3 to A5	0.500	A5 to A3	2.000
	A3 to A4R	0.707	-	4.000
Others 5R5E	-	0.250	B4 to A3 B5R to A4R B5 to A4	1.153
	A3 to A5	0.500	A4R to B4 A5 to B5	1.223
	A3 to A4R B4 to B5R	0.707	A4R to A3 B5R to B4	1.414
	B4 to A4R	0.815	A5 to A3	2.000
	A3 to B4 A4R to B5R	0.865	-	4.000



### 7.4.3 Copy Speed

0002-3197


CLC5100 / CLC4000

T-7-3

Pickup Location	Paper Side	Paper Type	Copy Speed		
			A4/LTR	A3/11 × 17	A4R/B4
Cassette	Single	Plain paper	51 (40)	25 (20)	30
		OHP film	9	-	8
	Double	Plain paper	20	10	10
Paper Deck	Single	Plain paper	51 (40)	25	30*
		Thick paper	30	15	18*
		Heavy paper	22	11	13*
	Double	Plain paper	20	10	10*
		Thick paper	13.5	7.5	9*
Multi Feeder	1st side/ 2nd side	Plain paper	35	18	22
		Thick paper	16	11	12
		Heavy paper	13	8	9
		OHP film	9	7	8

The values within brackets indicate the use of the CLC4000.

The values marked with \* indicate the use of B4 paper. (A4R paper cannot be picked up from the paper deck.)

 The above specifications are subject to change for product improvement.



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# Chapter 8 Upgrading

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# Contents

8.1 Outline of the Version Upgrade .....	8-1
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## 8.1 Outline of the Version Upgrade

0005-6515

CLC5100 / CLC4000

The version upgrade of this machine and the accessories can be done by downloading from a personal computer (PC) in which the service support tool (SST) is installed or by replacing DIMM-ROM. The table below shows a list of firmware and the associated way of upgrading.

T-8-1

		Way of Version Upgrade		Notes
		SST	ROM-DIMM replacement	
CLC5100/ 4000	R-CON	Yes	Yes	
	DC-CON	Yes	Yes	
Stapler Sorter F2		No	Yes	
Stacker B1		Yes	No	The special service tool (Downloader PCB: FY9-2034) is necessary.
RDF-E3		No	Yes	
Side Paper Deck R1		The Side Paper Deck-R1 is not equipped with firmware; if you need to upgrade the machine, upgrade the reader controller or the DC controller of the device itself.		





Jul 7 2004

**Canon**