Portable Manual

Feeder
DADF-Q1

Canon

Feb 7 2006

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.

Corrections

This manual may contain technical inaccuracies or typographical errors due to improvements or changes in products. When changes occur in applicable products or in the contents of this manual, Canon will release technical information as the need arises. In the event of major changes in the contents of this manual over a long or short period, Canon will issue a new edition of this manual.

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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

Chapter 2 Standards and Adjustments

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Chapter 4 Outline of Components

Chapter 5 System Construction

Chapter 1 Maintenance and Inspection

1.1 Periodically Replaced Parts

1.1.1 Periodiccally Replaced Parts

This machine dose not have the periodiccally replaced parts.

1.2 Durables

1.2.1 Durables

Some parts of the DADF may require replacement once or more over the period of product warranty because of wear or damage. Replace them as needed by referring to the following guide, in which the life of each part is expressed in terms of the number of originals (may be checked in the copier's service mode).

T-1-1

No.	Part name	Part No.	Q'ty	Estimated life	Remarks
1	Feeding belt	FB5-9541	1	200,000	The time when cleaning is not effective.
2	Pickup roller	FB4-7640	2	250,000	Replace
3	Feeding roller*	FB4-6991 (separation roller)	12	250,000	
		FG6-7725 (Feed roller unit)	1		
4	Separation belt*	FG6-7724 (separation unit)	1	250,000	
		FE6-3059 (separation belt)	11		
5	Hinge (L)	FC6-0987	1		
6	Hinge (R)	FC6-0988	1	100,000	

* Replacement with unit is recommended for No. s and 4, however individual part is set up.
The actual number of originals handled may be checked in the copier's service mode (COPIER>COUNTER>DRBL-2).

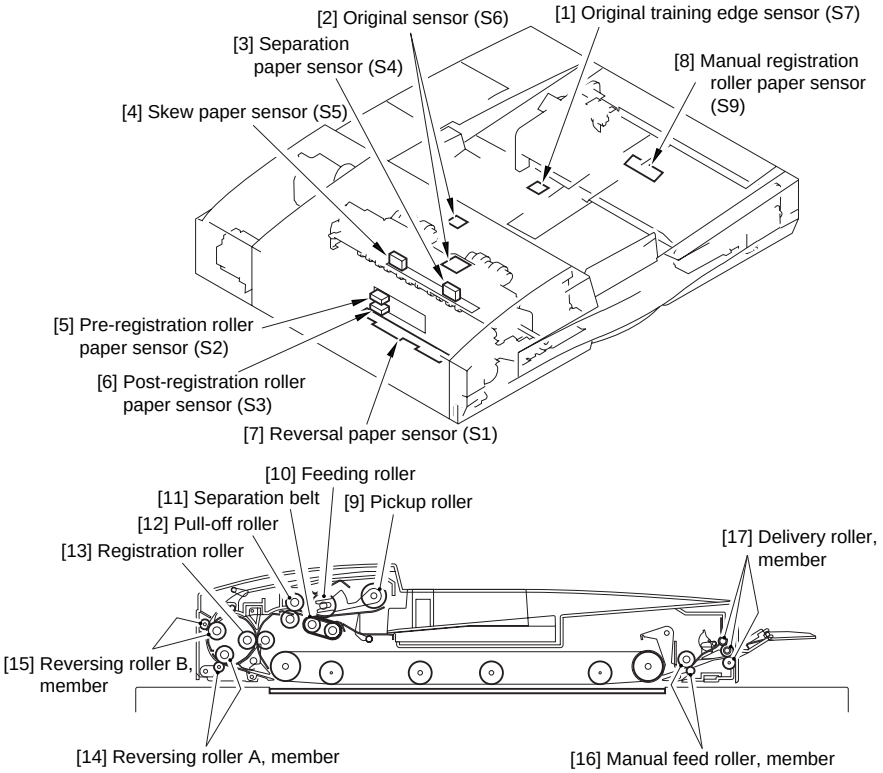
Expected service life shows the central value of a group of evaluation data points. Parts Numbers may subject to change because of design

1.3 Periodical Servicing

1.3.1 Scheduled Servicing Chart

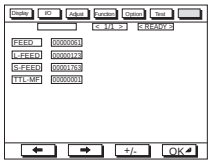
T-1-2

Ref.	Part name	every 100,000 or 6 mo	every 200,000 or 1 yr	Remarks
1	Original training edge sensor (S7)		Cleaning	Actual volume
2	Original sensor (S6)		Cleaning	
3	Separation paper sensor (S4)		Cleaning	
4	Skew paper sensor (S5)		Cleaning	
5	Pre-registration roller paper sensor (S2)		Cleaning	
6	Post-registration roller paper sensor (S3)		Cleaning	
7	Reversal paper sensor (S1)		Cleaning	
8	Manual registration roller paper sensor (S9)		Cleaning	
9	Pickup roller	Cleaning		
10	Feeding roller	Cleaning		
11	Separation belt	Cleaning		
12	Pull-off roller		Cleaning	
13	Registration roller		Cleaning	
14	Reversing roller A, member		Cleaning	
15	Reversing roller B, member		Cleaning	
16	Manual feed roller, member		Cleaning	
17	Delivery roller, member		Cleaning	
	Various slave roller, member		Cleaning	



F-1-1

The actual number of originals handled may be checked in the copier's service mode (the sum of L-FEED and S-FEED under COPIER>COUNTER>Feeder).



F-1-2

Expected service life shows the central value of a group of evaluation data points. Parts Numbers may subject to change because of design

1.4 Cleaning

1.4.1 Outline

T-1-3

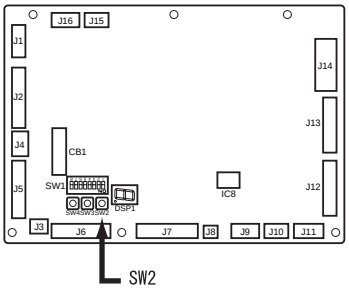
Item	Description
Separation assembly	Clean the separation assembly using copy paper and alcohol.
Registration roller (tray pickup)	1. If the dirt is limited, Execute automatic cleaning of the registration roller. 2. If dirt is appreciable, Clean the registration roller using lint-free paper and alcohol.

1.4.2 Cleaning the Separation Assembly

1) Remove the screw, and detach the ADF controller cover.
2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

F-1-3

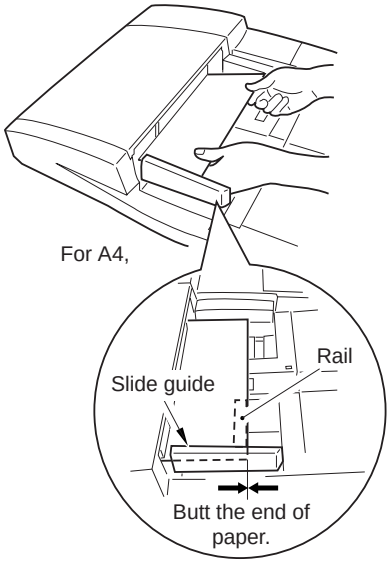
3) Press the push switch (SW2) on the ADF controller PCB.



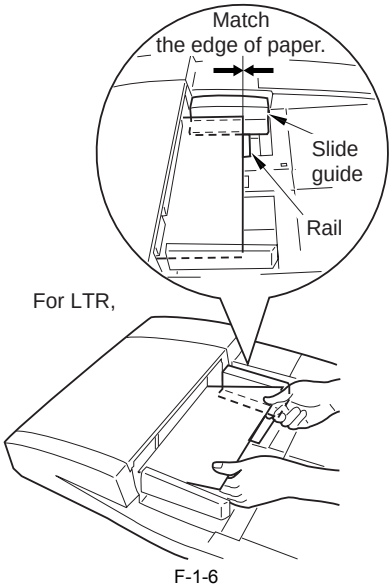
F-1-4

4) Moisten copy paper with alcohol, and slide it in while firmly holding on to its trailing edge.

Be sure to keep the trailing edge of the copy paper as indicated.



F-1-5

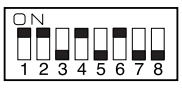


F-1-6

5) Press the push switch (SW2) on the ADF controller PCB to end the operation.

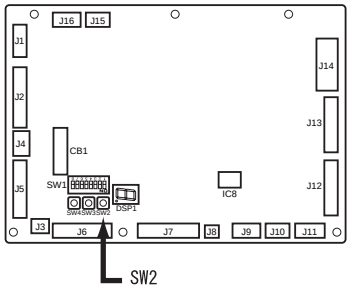
1.4.3 Cleaning the Registration Roller

If the dirt is limited,
1) Remove the screw, and detach the ADF controller cover.
2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.



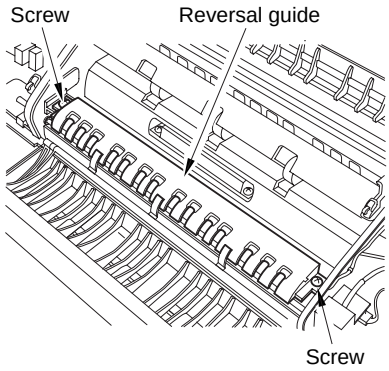
F-1-7

3) Place about ten sheets of copy paper in the original tray.
4) Press the push switch (SW2) on the ADF controller PCB. The operation will end automatically.



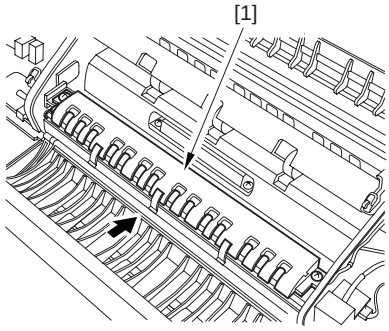
F-1-8

If dirt is appreciable,
1) Open the upper cover, and open the feeding guide.
2) Remove the two screws, and detach the reversal guide.



F-1-9

⚠
When mounting the reversing guide, do so while forcing it in the direction of the arrow. If not mounted properly, it can trigger jams.

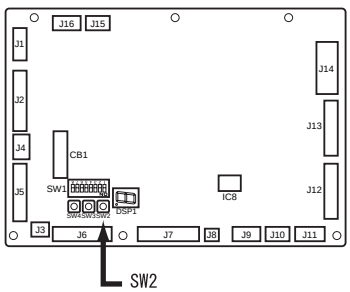


F-1-10

3) Remove the ADF controller cover, and set the DIP switch (SW1) ADF controller PCB as follows.

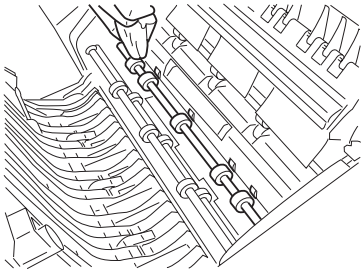
F-1-11

4) Press the push switch (SW2) on the ADF controller PCB.
- The reversing assembly will start to operate.



F-1-12

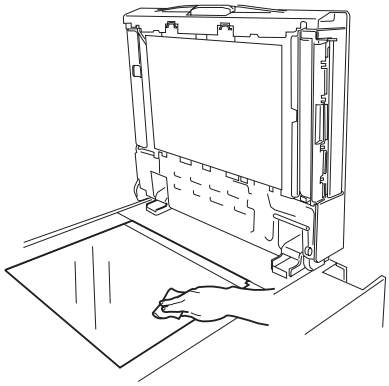
5) Clean with lint-free paper moistened with alcohol.



F-1-13

1.4.4 Copyboard Glass

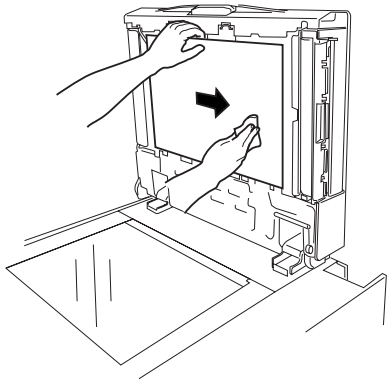
1) Wipe the copyboard glass of the copier with a cloth moistened with alcohol.



F-1-14

1.4.5 Belt Assembly

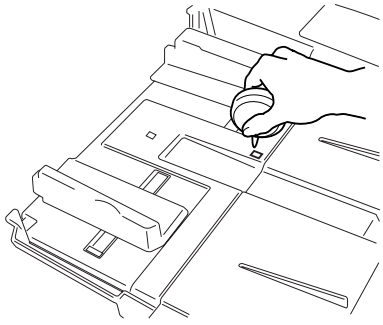
1)Dry wipe the original feeding belt while moving it in the direction of the arrow.
If the dirt is excessive, wipe it with a cloth moistened with a solution of mild detergent; then, dry wipe it.



F-1-15

1.4.6 Original Trailing Edge Sensor

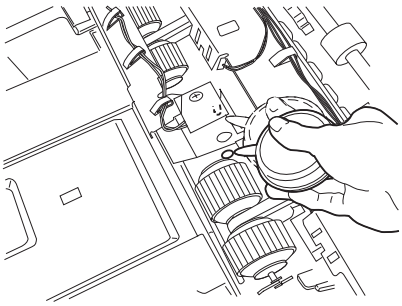
1) Clean the sensor widow in the original tray using a blower brush.



F-1-16

1.4.7 Original Sensor

1) Remove the pickup assembly cover.
2) Clean the light-receiving area of the sensor stay and the light-emitting area at the rear of the guide plate using a blower brush.



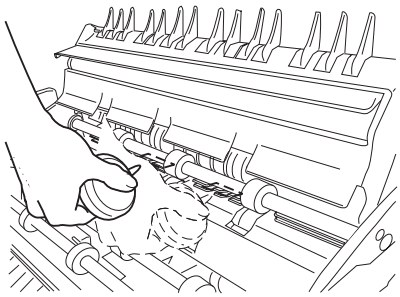
F-1-17

1.4.8 Separation Paper/Skew Paper

⚠

Do not use a solvent (alcoholfamily or ketone family) to clean the prism face. It is made of acrylic resin, and contact with solvent can discolor it, adversely affecting its operation.

1) Open the pickup assembly upper cover.
2) Open the registration guide, and put the blower brush between the separation stay and the separation guide to clean. (The one to the front is the separation paper sensor, while the one at the rear is the skew paper sensor.)



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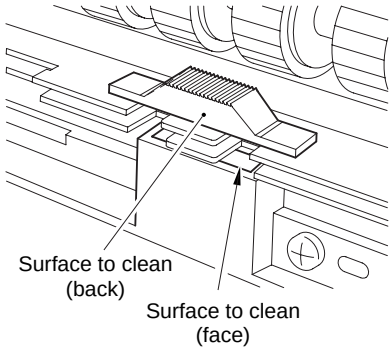


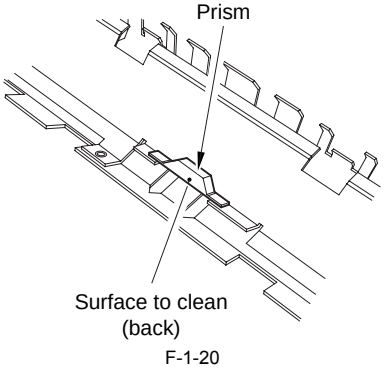
F-1-19

1.4.9 Pre-Registration Roller Paper

⚠

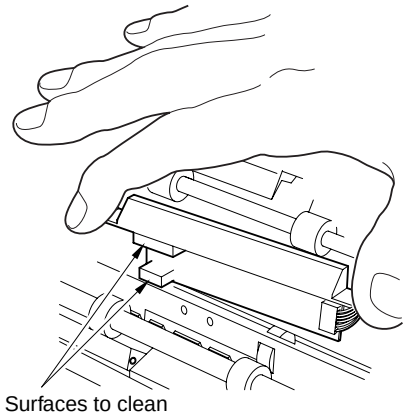
Do not use a solvent (alcoholfamily
or ketone family) to clean the prism face. It is made of acrylic resin, and contact with solvent can discolor it, adversely affecting its operation.

1) Remove the reversing guide.
2) Clean the face of the prism behind the reversing guide.



F-1-20

3) Remove the registration sensor PCB.
4) Clean the two filter surfaces of the sensor.

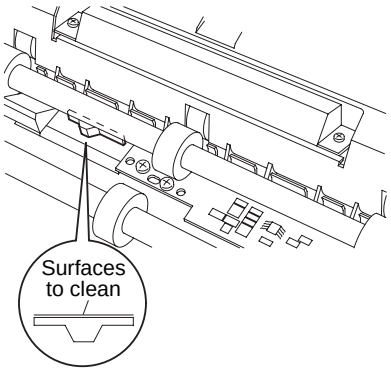


F-1-21

1.4.10 Post-Registration Roller Paper

⚠
Do not use a solvent (alcoholfamily or ketone family) to clean the prism face. It is made of acrylic resin, and contact with solvent can discolor it, adversely affecting its operation.

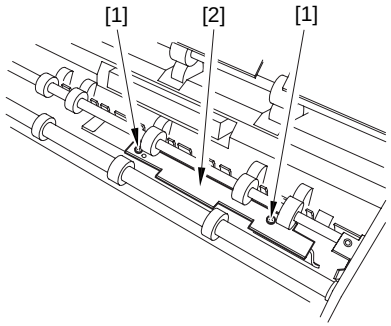
1) Open the pickup upper cover.
2) Remove the reversing guide.
3) Clear the surface of the prism of the post-registration roller paper sensor.



F-1-22

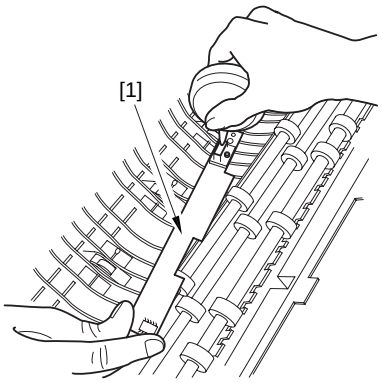
1.4.11 Reversal Paper Sensor

1) Remove the reversing guide.
2) Remove the two screws [1], and detach the reversal sensor [2].



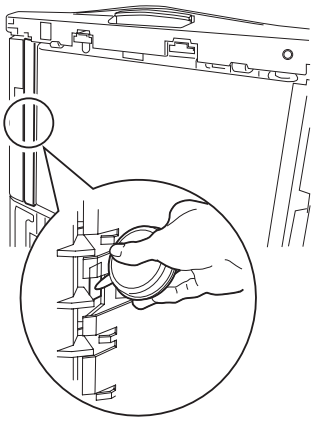
F-1-23

3) Clean the filter face of the reversal sensor [2] using a blower brush.



F-1-24

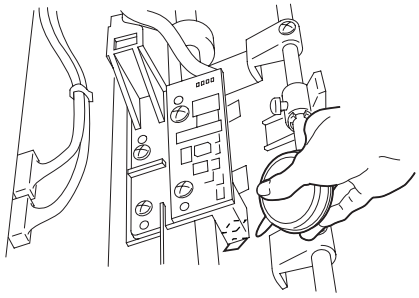
4) Open the DADF fully.
5) While opening the pickup middle guide found to the left of the feeding belt, aim a blower brush against the prism of the reflecting face of the reversal sensor in view in the rear to clean.



F-1-25

1.4.12 Manual Feed Registration

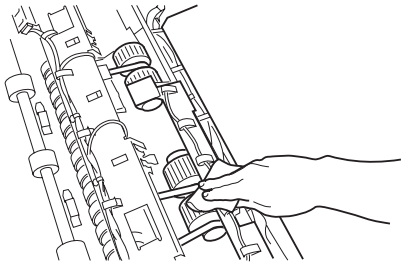
1) Remove the body front cover.
2) Remove the main cover.
3) Aim a blower brush against the detecting hole of the registration sensor on the delivery upper guide to clean.



F-1-26

1.4.13 Pickup Roller

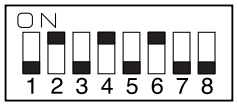
1) Open the pickup assembly upper cover.
2) Remove the pickup cover.
3) Clean the surface of the roller using lint-free paper or cloth moistened with alcohol.



F-1-27

1.4.14 Separation Belt/Feeding

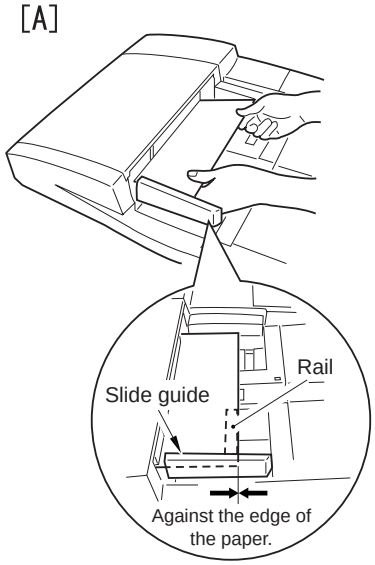
1) Obtain a single sheet of A4 or LTR copy paper.
2) Remove the ADF controller cover, and set the DIP switch (SW1) on the ADF controller PCB as indicated.



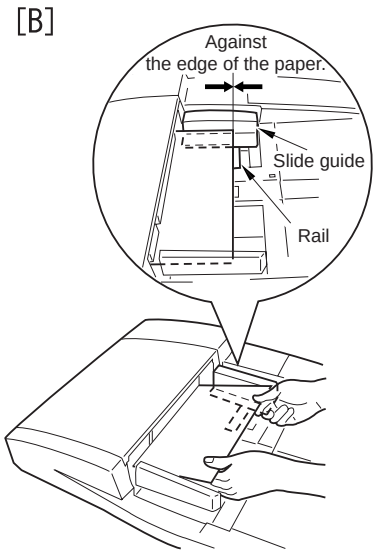
F-1-28

3) Press the push switch (SW2) on the ADF controller PCB.
- The separation assembly will start.
4) Moisten t the copy paper obtained in step 1) with alcohol.
5) Keep the copy paper against the pickup slot to clean.

The pull-off roller is also driven. Hold the copy paper so that it will not be drawn to the pull-off roller: in the case of A4, as shown in Figure A; in the case of LTR, as shown in Figure B.



F-1-29



F-1-30

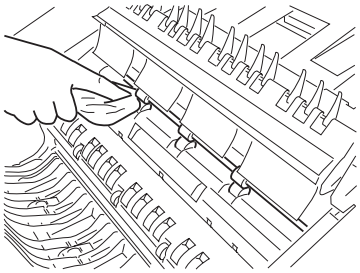
6) At the end of cleaning work, press the push switch (SW2) once again.
- The separation assembly will stop.

1.4.15 Pull-Off Roller

1) Open the upper cover, and open the feeding guide.
2) Remove the ADF controller cover, and set the DIP switch (SW1) on the ADF controller PCB as indicated.

F-1-31

3) Press the push switch (SW2) on the ADF controller PCB.
- The separation assembly will start.
4) Clean it with lint-free paper moistened with alcohol.



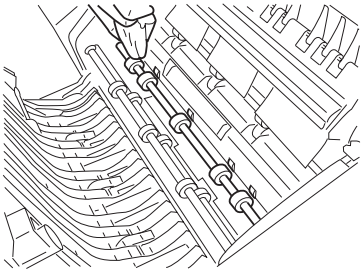
F-1-32

1.4.16 Registration Roller

1) Open the upper cover, and open the feeding guide.
2) Remove the reversing guide.
3) Remove the ADF controller cover, and set the DIP switch (SW1) on the ADF controller PCB as indicated.

F-1-33

4) Press the push switch (SW2) on the ADF controller PCB.
- The reversing assembly will start.
5) Clean it with lint-free paper moistened with alcohol.

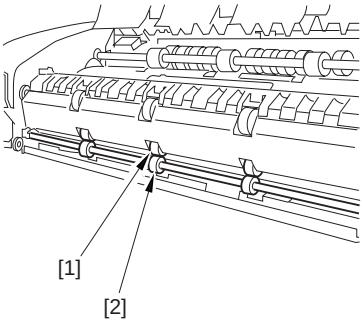


F-1-34

6) Press SW2 to stop the operation.

1.4.17 Reversing Roller A, Support Member

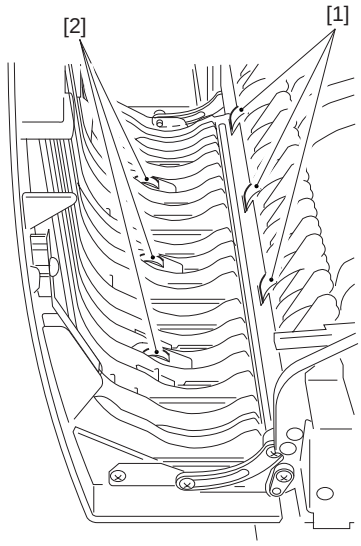
1) Open the pickup assembly upper cover.
2) Clean the reversing roller A [2] and the support member [1] with lint-free paper or a cloth moistened with alcohol.



F-1-35

1.4.18 Reversing Roller B, Support Member

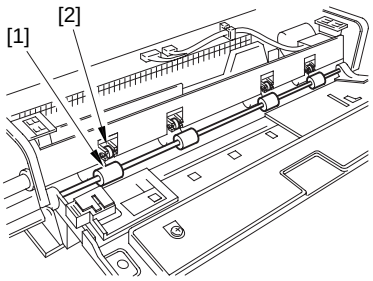
1) Open the pickup assembly upper cover.
2) Clean the reversing roller B [1] and the support member [2] with lint-free paper or a cloth moistened with alcohol.



F-1-36

1.4.19 Manual Feed Roller, Support Member

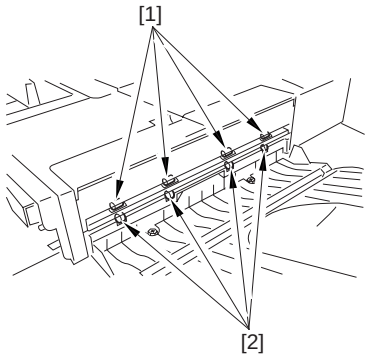
1) Open the manual feed tray.
2) Clean the manual feed (delivery) roller [1] and the support member [2] with lint-free paper or a cloth moistened with alcohol.



F-1-37

1.4.20 Delivery Roller, Support Member

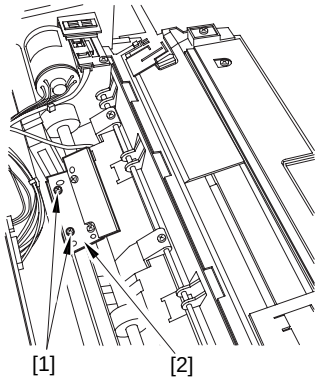
1) With the manual feed tray closed, clean the delivery (manual feed) roller [1] and the support member [2] with lint-free paper or a cloth moistened with alcohol.



F-1-38

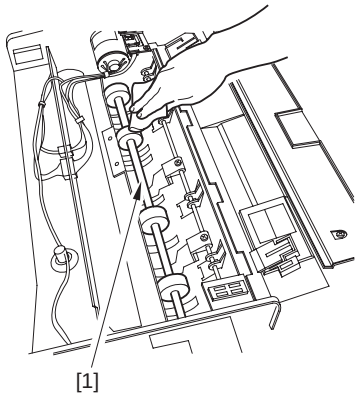
1.4.21 Manual Feed Registration Roller, Support Member

1) Remove the main cover.
2) Remove the two screws [1], and the detach the manual feed registration sensor PCB [2].



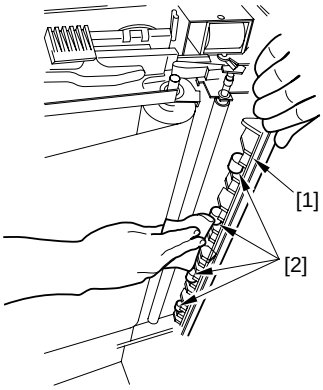
F-1-39

3) Clean the manual feed registration roller [3] with lint-free paper or a cloth mounted with alcohol.



F-1-40

4) Shift up the DADF, and open the delivery lower guide [4]; then, clean the manual feed registration roller member [5] with lint-free paper or a cloth moistened with alcohol.



F-1-41

Chapter 2 Standards and Adjustments

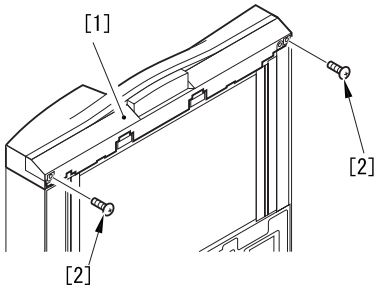
2.1 Basic Adjustment

2.1.1 Basic Adjustments

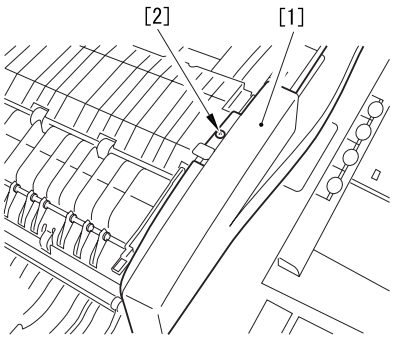
The basic adjustments of the DADF consist of the following, which must be performed in sequence:
[1] ADF height adjustment
[2] ADF right angel adjustment
[3] Skew correction
[4] Horizontal adjustment
[5] Original stop position adjustment

2.1.2 ADF Height Adjustment

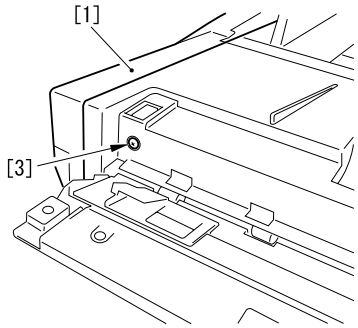
1) Remove the front cover [1].
-Three screws [2] (remove)
-One screw [3] (loosen)



F-2-1

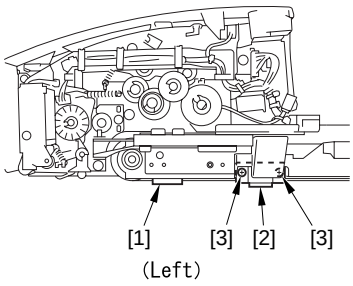


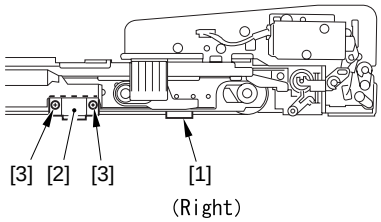
F-2-2



F-2-3

2) Make adjustments by loosening the two fixed screws [5] on the magnet catch so that the left and right rubber feet are in contact with the base when the DADF is closed.



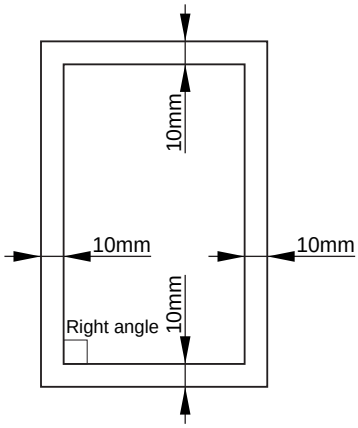


F-2-4

3) After the adjustment, tighten the fixing screws on the magnet catch, and mount the front cover.

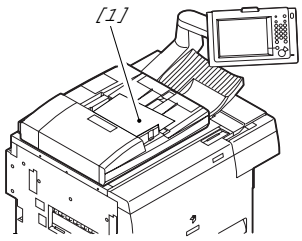
2.1.3 ADF Right Angle Adjustment

This adjustment is to adjust the right angle made by the copier's scanner and the DADF's original feed path.
1) Using an A4 or LTR sheet of copy paper, prepare a test chart as shown.



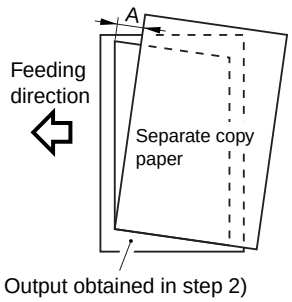
F-2-5

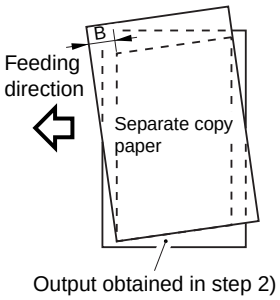
2) Place the test chart [1] in the original tray, and make a Direct copy in stream reading mode.



F-2-6

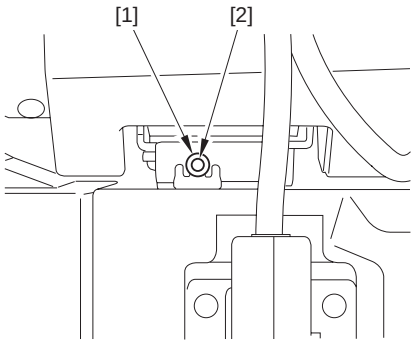
3) Place a separate sheet of copy paper over the output obtained in step 2) to check the right angel.
A<1 mm
B<1 mm





F-2-7

4) If the value is not as indicated, loosen the fixing nut [1] found at the rear of the right hinge unit; then, make adjustments by turning the adjusting screw [2].



F-2-8

If A>0, turn the adjusting screw counterclockwise.
If B>0, turn the adjusting screw clockwise.

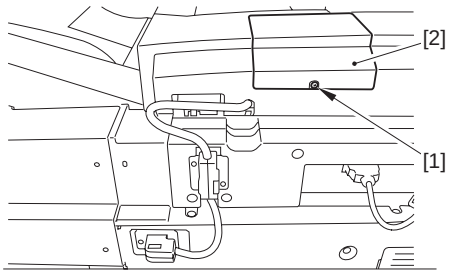
5) Tighten the fixing nut to secure the adjusting screw.

2.1.4 Correcting the Skew

The skew must be removed for the following three:
[1] Pickup from the original tray
[2] Pickup from the manual feed tray
[3] Reversal for double-sided originals ADF controller cover

a. Pickup from the Original Tray

1) Remove the screw [1], and detach the ADF controller cover [2].

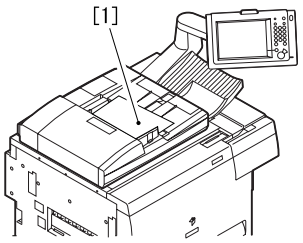


F-2-9

2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

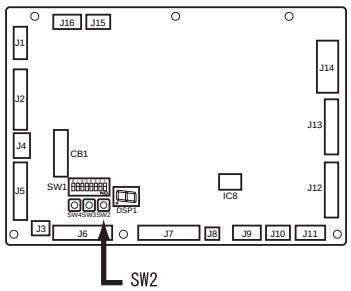
F-2-10

3) Place a single sheet of A4 or LTR copy paper in the original tray. Copy paper [1].



F-2-11

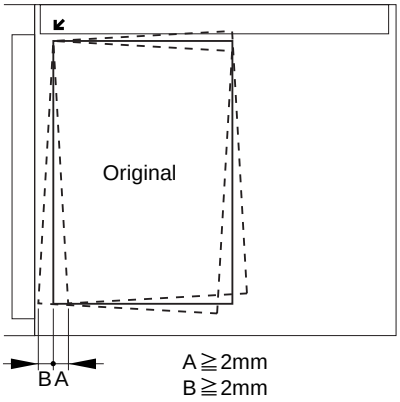
4) Press the push switch (SW2) on the ADF controller PCB once.
- The original will be picked up and stopped on the copyboard glass.



F-2-12

5) Open the DADF slowly, and check to make sure that A and B indicated in the figure are 2 mm or less.

Close the DADF, and press the push switch (SW2) on the ADF controller PCB once.
- The original will be delivered to the delivery tray.

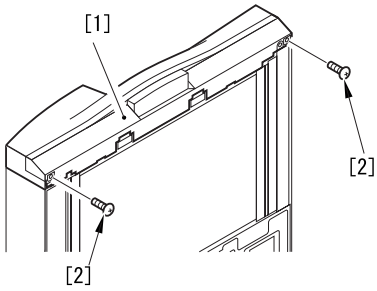


F-2-13

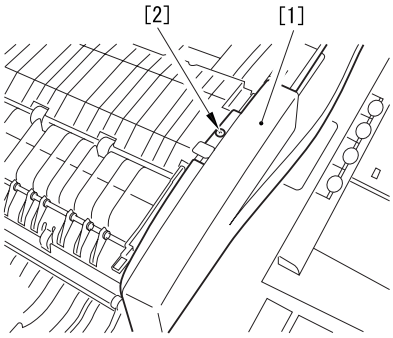
If the Value Is Not As Indicated

Adjust the position of the registration roller.

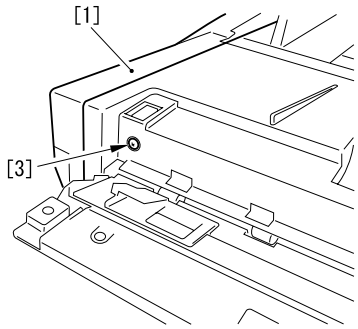
1) Remove the front cover [1].
-Three screws [2] (remove)
-One screw [3] (loosen)



F-2-14



F-2-15

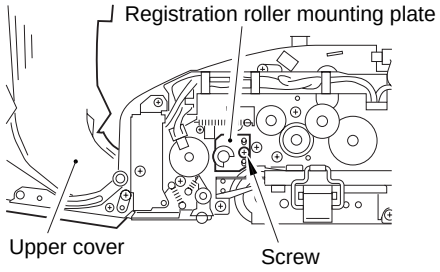


F-2-16

2) Open the upper cover, and loosen the fixing screw on the registration roller mounting plate; then, slide it up/down to adjust the mounting angle of the registration roller.

If A>0, slide the mounting plate down.

If B>0, slide the mounting plate up.



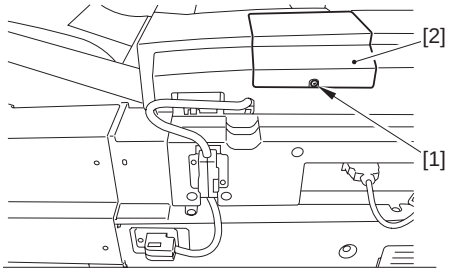
F-2-17

3) At the end of adjustment, tighten the fixing screw of the registration roller mounting plate.

4) Set the DIP switch (SW1) on the ADF controller PCB back to its initial setting, and mount the ADF controller cover.

b. Pickup from the Manual Feed Tray

1) Remove the screw [1], and detach the ADF controller cover [2].



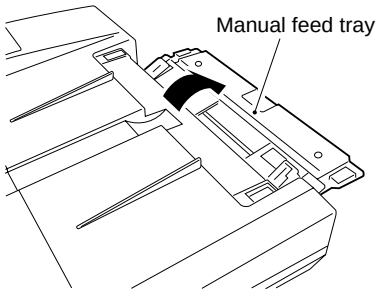
F-2-18

2) Set the DIP switch (SW1) on the ADF controller PCB as follows.

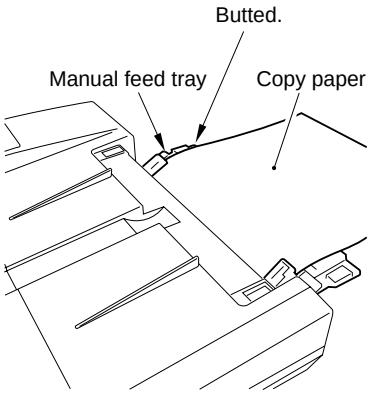
F-2-19

3) Open the manual feed tray, and place a single sheet of A4 or LTR copy paper.

- Be sure to butt the copy paper against the rear.



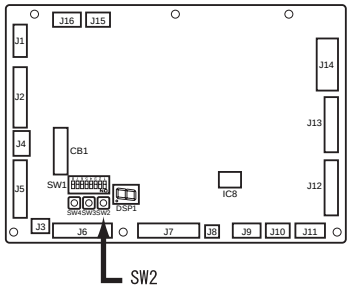
F-2-20



F-2-21

4) Press the push switch (SW2) on the ADF controller PCB once.

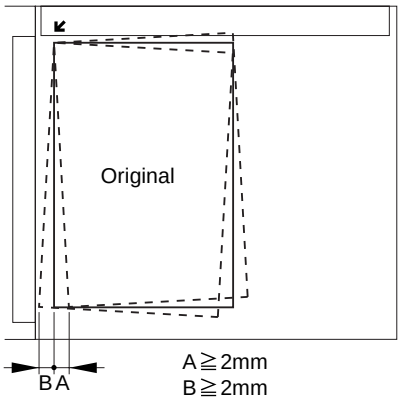
- The original will be picked up and stopped on the copyboard glass.



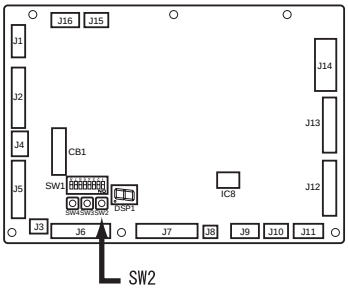
F-2-22

5) Open the DADF slowly, and check to make sure that A and B indicated in the Figure is 2 mm or less. Close the DADF, and press the push switch (SW2) on the ADF controller once.

- The original will be delivered to the delivery tray.



F-2-23



F-2-24

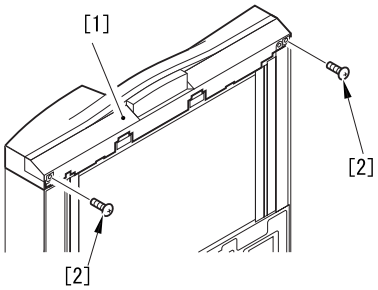
If the Value Is Not As Indicated

Adjust the position of the manual feed registration roller.

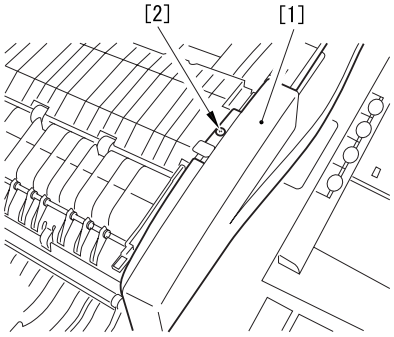
1) Remove the front cover [1].

-Three screws [2] (remove)

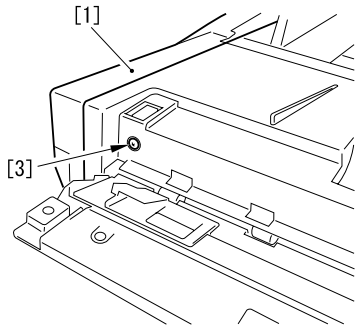
-One screw [3] (loosen)



F-2-25



F-2-26

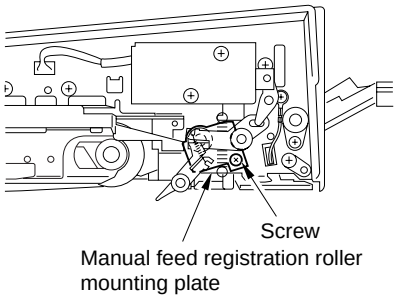


F-2-27

2) Loosen the fixing screw on the manual feed registration roller mounting plate, and slide it to the left and the right to adjust the position of the registration roller.

If A>0, slide the mounting plate to the right.

If B>0, slide the mounting plate to the left.



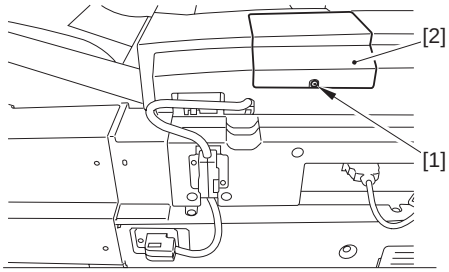
F-2-28

3) At the end of the adjustment, tighten the fixing screw on the manual feed registration roller mounting plate.

4) Set the DIP switch (SW1) on the ADF controller PCB back to its initial setting, and mount the ADF controller cover.

c. Reversal for Double-Sided Originals

1) Remove the screw [1], and detach the ADF controller cover [2].

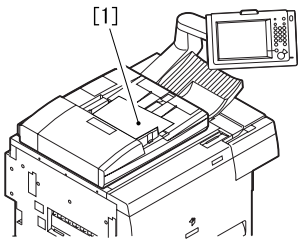


F-2-29

2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

F-2-30

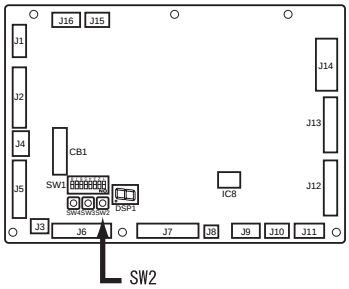
3) Place a single sheet [1] of A4 or LTR copy paper in the original tray.



F-2-31

4) Press the push switch (SW2) on the ADF controller PCB twice.

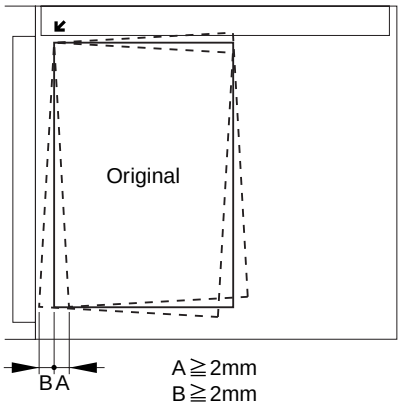
- A single press on the push switch (SW2) causes the original to be picked up and stopped on the copyboard glass. (CW rotation) Another press will reverse the original and stop it on the copyboard glass.



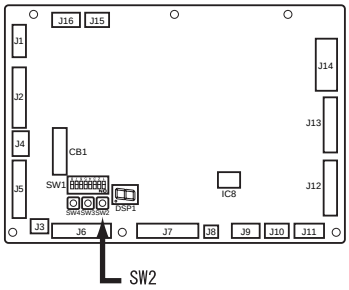
F-2-32

5) Open the DADF slowly, and check to make sure that A and B indicated in the figure are 2 mm or less. Close the DADF, and press the push switch (SW2) on the ADF controller PCB once.

- The original will be delivered to the delivery tray.

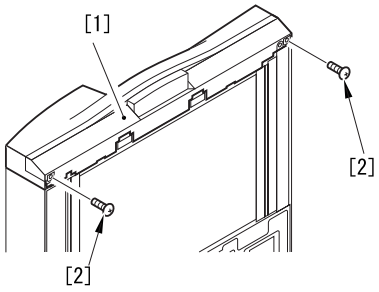


F-2-33

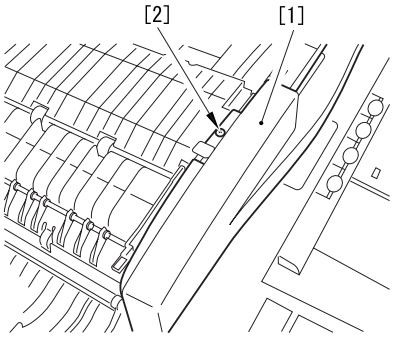


F-2-34

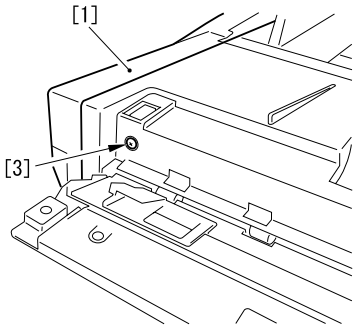
If the Value Is Not As Indicated
If the value is not as indicated, adjust the position of the registration roller.
1) Remove the front cover [1].
-Three screws [2] (remove)
-One screw [3] (loosen)



F-2-35

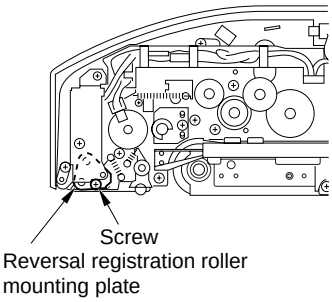


F-2-36



F-2-37

2) Loosen the fixing screw on the reversal registration roller mounting plate, and slide it to the left and the right to adjust the mounting angle of the registration roller.

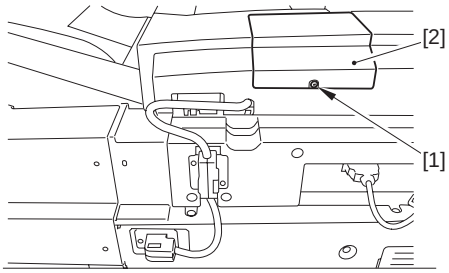


F-2-38

If A>0, slide the mounting plate to the left.
If B>0, slide the mounting plate to the right.
3) At the end of adjustment, tighten the fixing screw on the reversal registration roller mounting plate.
4) Set the DIP switch (SW1) on the ADF controller PCB back to its initial setting, and mount the ADF controller cover.

2.1.5 Horizontal Registration Adjustment

Horizontal registration adjustment is made for the following two:
[1] Pickup from the original tray
[2] Pick up from the manual feed tray
a. Pickup from the Original Tray
1) Remove the screw [1], and detach the ADF controller cover [2].

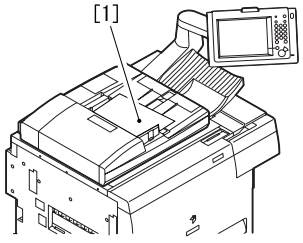


F-2-39

2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

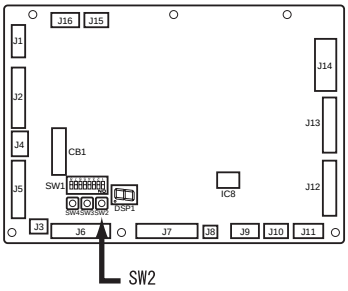
F-2-40

3) Place a single sheet [1] of A4 or LTR copy paper in the original tray.



F-2-41

4) Press the push switch (SW2) on the ADF controller PCB once.
- A single press on the push switch (SW2) causes the original to be picked up and stopped on the copyboard glass.

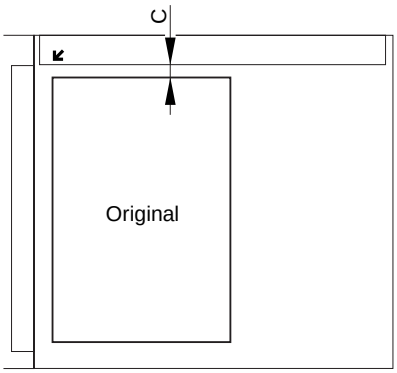


F-2-42

5) Open the ADF slowly, and check to make sure that C shown in the figure is as indicated.

T-2-1

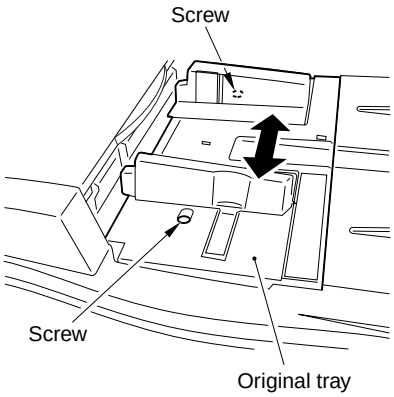
Original size	Value of C
A4	3.1±1mm
LTR	11.9±1mm



F-2-43

6) Close the DADF, and press the push switch (SW2) on the ADF controller PCB once.
- The original will be delivered to the delivery tray.

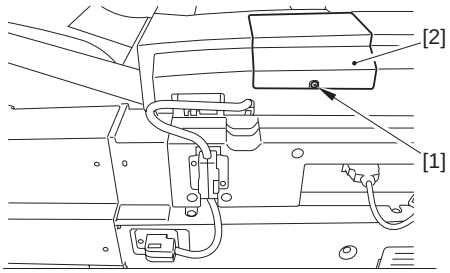
If the Value Is Not As Indicated
If the value is not as indicated, adjust the position of the original tray.
1) Loosen the tray fixing screw, and adjust the position of the original tray.



F-2-44

If C>3.1 mm for A4 or 11.9 mm for LTR, shift the manual feed tray toward the rear.
If C<3.1 mm for A4 or 11.9 mm for LTR, shift the manual feed tray toward the front.
2) At the end of the adjustment, loosen the original tray fixing screw.
3) Set the DIP switch (SW1) on the ADF controller PCB back to its initial setting, and mount the ADF controller cover.

b. Manual Feed Tray Pickup
1) Remove the screw [1], and detach the ADF controller cover [2].

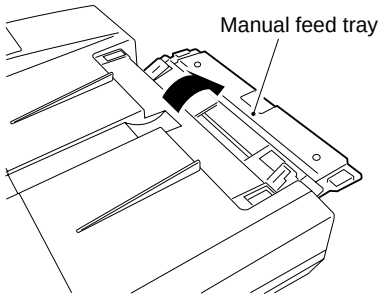


F-2-45

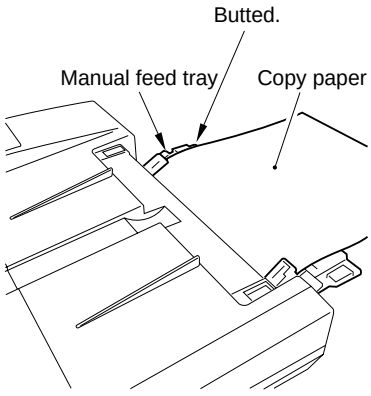
2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

F-2-46

3) Open the manual feed tray, and place a single sheet of A4 or LTR copy paper.
- Be sure to butt the copy paper against the rear.

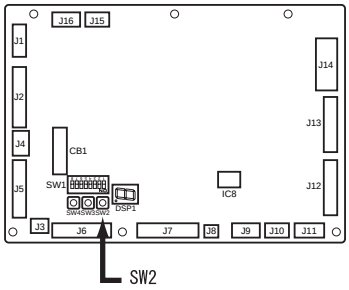


F-2-47



F-2-48

4) Press the push switch (SW2) on the ADF controller PCB once.
- A single press on the push switch (SW2) causes the original to be picked up and sopped on the copyboard glass.

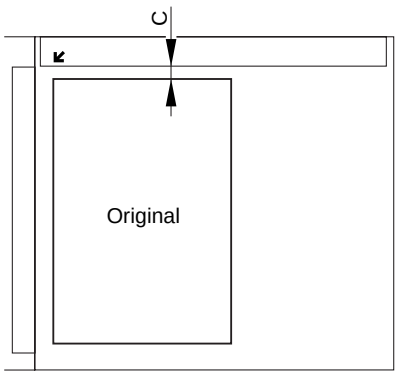


F-2-49

5) Open the DADF slowly, and check to make sure that C shown is as indicated.

T-2-2

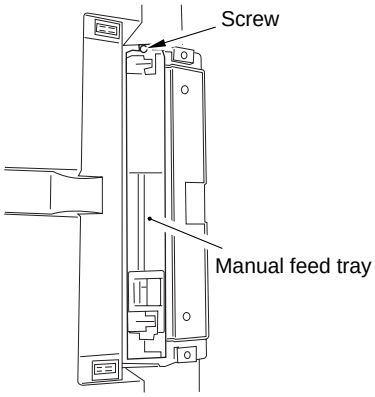
Value of C
3.1±1mm



F-2-50

Close the DADF, and press the push switch (SW2) on the ADF controller PCB once.
- The original will be delivered to the delivery tray.

If the Value Is Not As Indicated
If the value is not as indicated, adjust the position of the manual feed tray.
1) Loosen the manual feed tray fixing screw, and adjust the position of the manual feed tray.



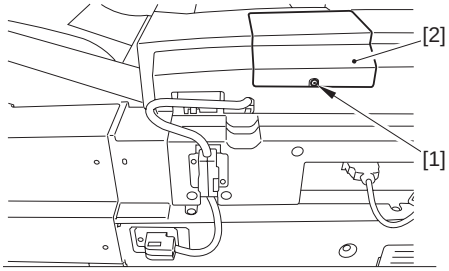
F-2-51

If C>3.1 mm, shift the original tray toward the rear.
If C<3.1 mm, shift the original tray toward the front.
2) At the end of adjustment, tighten the manual feed tray fixing screw.
3) Set the DIP switch (SW1) on the ADF controller PCB back to its initial setting, and mount the ADF controller cover.

2.1.6 Original Stop Position Adjustment

Original stop position adjustment is made for the following two:
[1] Pickup from the original tray
[2] Pickup from the manual feed tray ADF controller cover

a. Original Tray Pickup
1) Remove the screw [1], and detach the ADF controller cover [2].

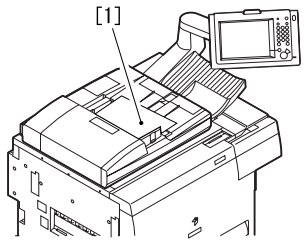


F-2-52

2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

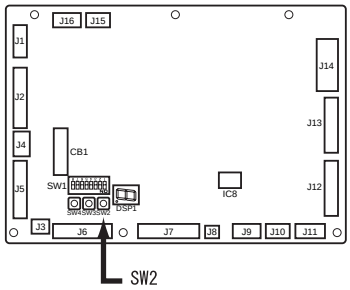
F-2-53

3) Place a single sheet [1] of A4 or LTR copy paper in the original tray.



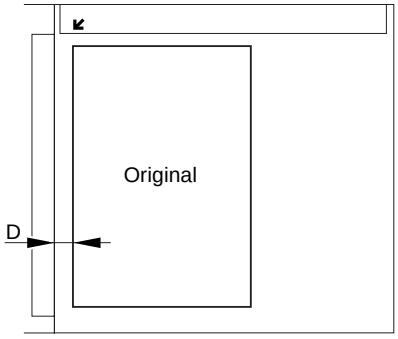
F-2-54

4) Press the push switch (SW2) on the ADF controller PCB once.
- A single press on the push switch (SW2) causes the original to be picked up and stopped on the copyboard glass.



F-2-55

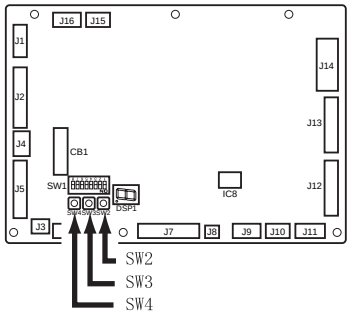
5) Open the DADF slowly, and check to make sure that D indicated is 11±1 mm.
Then, close the DADF slowly.



D=11±1mm

F-2-56

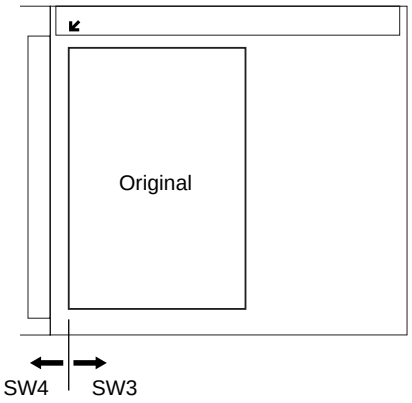
6) To adjust the original stop position, use the push switches SW3 and SW4 on the ADF controller PCB.
A single press on each switch will shift the original stop position by a distance of 0.5 mm. When the correct stop position is attained, press the push switch (SW2).
- The original will be delivered, and the new position will be stored in memory.



F-2-57

T-2-3

Switch	Direction of shift
SW3	Right
SW4	Left



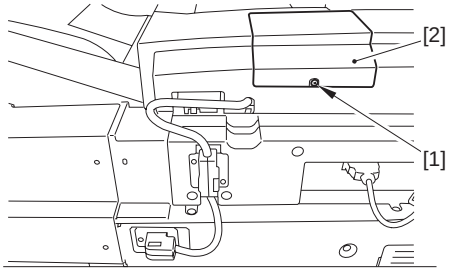
F-2-58

Holding down on the push switch will not cause more than a single shift.

EX
If the copy paper is stopped 12 mm from the copyboard glass,
Close the DADF slowly leaving the copy paper on the copyboard glass.
To shift the stop position 1 mm to the left, the following is true:
1 0.5 (adjustment interval) = 2
Hence, press the push switch SW4 twice, and then press the push switch SW2.
- The copy paper will be delivered, and the new setting will be stored in memory.

b. Pickup from the Manual Feed Tray

1) Remove the screw [1], and detach the ADF controller cover [2].

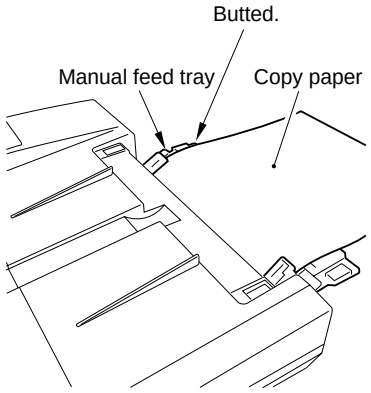


F-2-59

2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

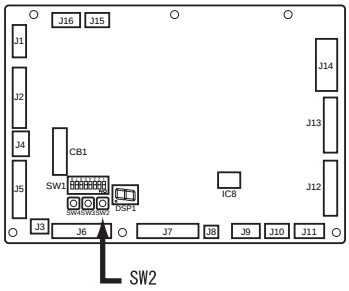
F-2-60

3) Open the manual feed tray, and place a single sheet of A4 or LTR copy paper.
- Be sure to butt the copy paper against the rear.



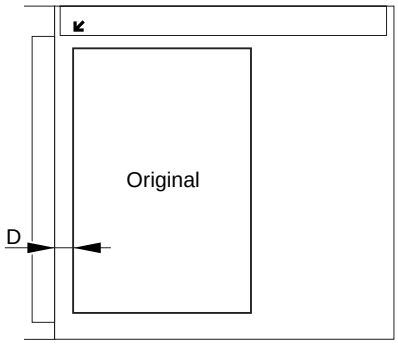
F-2-61

4) Press the push switch (SW2) on the ADF controller PCB once.
- A single press on the push switch (SW2) causes the original to be picked up and stopped on the copyboard glass.



F-2-62

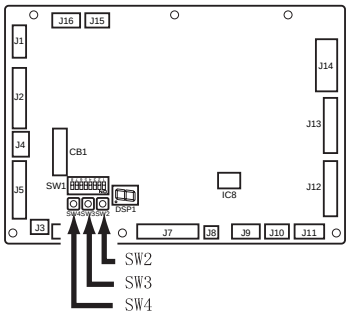
5) Open the DADF slowly, and check to make sure that D indicated is 11±1 mm.
Close the DADF slowly.



D=11±1mm

F-2-63

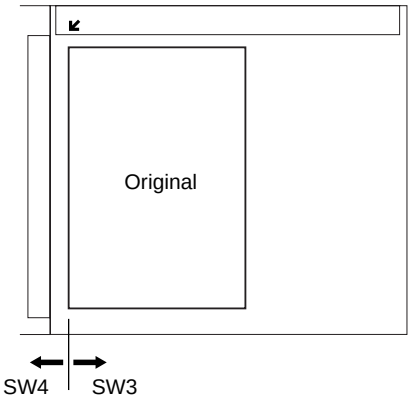
6) To adjust the original stop position, use the push switches SW3 and SW4 on the ADF controller PCB.
A single press on each switch will shift the original stop position by 0.5 mm.
When the correct position is attained (after switch operation), press the push switch SW2.
- The original will be delivered, and the new setting will be stored in memory.



F-2-64

T-2-4

Switch	Direction of shift
SW3	Right
SW4	Left



F-2-65

Holding down the push switch will not cause more than a single shift.

EX
If the copy paper stops 12 mm from the copyboard glass,
Close the DADF slowly leaving the copy paper on the copyboard glass.
To shift the stop position 1 mm to the left, the following is true:
1 0.5 (adjustment interval) = 2
Hence, press the push switch SW4 twice, and press the push switch SW2.
- The copy paper will be delivered, and new setting will be stored in memory.

2.2 Adjustment at Time of Parts Replacement

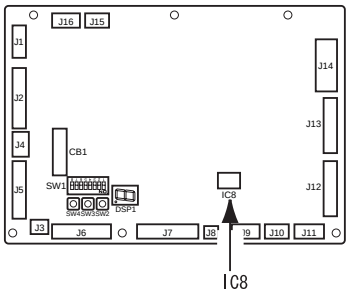
2.2.1 Outline

T-2-5

Major parts	Work
- ADF controller PCB	1) Replacement of the EEPROM
-EEPROM (memory back-up) -Reversal sensor (S1) -Pre-registration roller paper sensor (S2) -Post-registration roller paper sensor (S3) -Separation paper sensor (S4) -Skew paper sensor (S5) -Original sensor (S6) -Original trailing edge sensor (S7) -Manual feed registration roller paper sensor (S9) -Delivery motor (M5)	2) Adjust the sensors and the delivery motor

2.2.2 Replacing the EEPROM

Perform the following when replacing the ADF controller PCB.
1) Remove the EEPROM (IC8) from the faulty ADF controller PCB.



F-2-66

2) Mount the EEPROM removed in step 1) to the new ADF controller PCB.

MEMO:
The EEPROM on the new ADF controller PCB is not used yet.

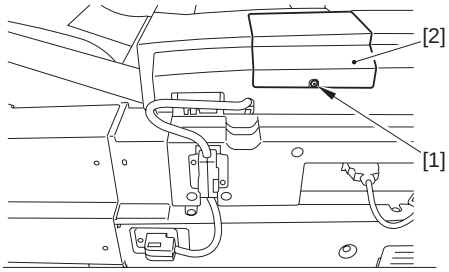
3) Turn on the copier, and check to make sure that error code E420 is not indicated.
4) If error code E420 is indicated, mount back the EERPOM once removed from the new ADF controller PCB.
5) Perform the work under 1.2.3 "Adjusting the Sensors and the Delivery Motor."

2.2.3 Adjusting the Sensors and the

Perform the adjustment if you have replaced any of the following parts:
- EEPROM (memory backup)
- Reversal sensor (S1)
- Pre-registration roller senor (S2)
- Post-registration roller sensor (S3)
- Separation paper sensor (S4)
- Skew paper sensor (S5)
- Original sensor (S6)
- Original trailing edge sensor (S7)
- Manual feed registration roller paper sensor (S9)
- Delivery motor (M5)

MEMO:
The delivery motor is adjusted by sending a reference signal to it, and the speed of rotation at that time is measured by the delivery motor clock sensor (PI11).
The result is used when generating the motor rotation speed control signal (EJMPWM*).

Steps to Take
1) Open the DADF, and make a single A4 copy of a solid black original.
2) Remove the screw [1], and detach the ADF controller cover [2].

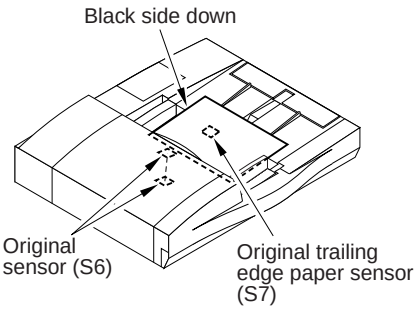


F-2-67

3) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

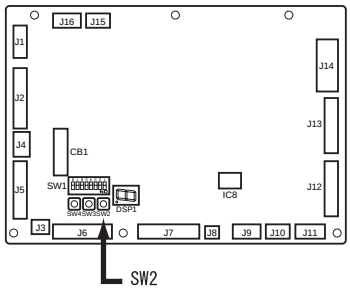
F-2-68

4) Place the output obtained in step 1) in the original tray with the black side facing down. Take care not to cover the original sensor (S6) when placing the output.



F-2-69

5) Press the push switch (SW2) on the ADF controller PCB.
- The LED will indicate the following in sequence, showing the result at the end: 1, 2, 3, 4, 5, 6, 7, 8, 9, A.



F-2-70

T-2-6

Result	LED2 indication	Description
OK	(O)	All sensors (S1 through S9) are normal).
NG	(F)	Any of the sensors (S1 through S9) is faulty.

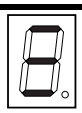
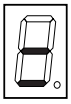
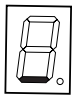
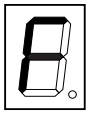
6) At the end of the operation, press the push switch (SW2) on the ADF controller PCB once again.

If the Result is NG

Check the condition of each of the sensors (S1 through S9), and replace the sensor considered to be faulty.

The condition of a sensor is indicated in the following three levels:

T-2-7

Condition	DSP1 indication	Check or replace
Good		No
Alarm 1		No
Alarm 2		Yes
Faulty		Yes

1) While DSP1 is indicating 'NG', press the push switch SW3 or SW4 to select the sensor.

T-2-8

Switch	DSP1 indication	Sensor or motor in question
SW3	1	Original sensor (S6)
	2	Original trailing edge sensor (S7) Separation sensor (S4)
	3	Separation sensor (S4)
	4	Skew sensor (S5)
	5	Pre-registration roller paper sensor (S2)
	6	Post-registration paper sensor (S3)
	7	Reversal sensor (S1)
	8	Pre-last original paper sensor (S8)
SW4	9	Delivery motor (M5)

2) At the end of the operation, press the push switch (SW2) on the ADF controller PCB.

2.3 Auxiliary Adjustmant

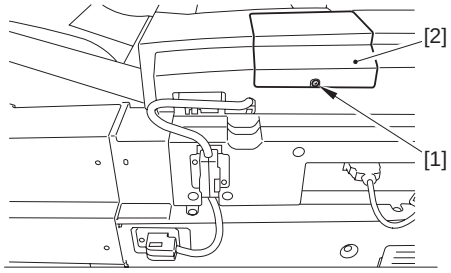
2.3.1 Outline

T-2-9

Item to adjust	Function
Degree of arching at the registration roller when pickup is from the tray	Removing the skew for CW pickup
Degree of arching at the registratoin roller at time of reversal	Removing the skew at time of reversal
Degree of arching at the registration roller in manual feed mode	Removing the skew in manual feed mode
Speed of the feeding belt	Fine-adjusting the reproduction ratio for stream reading mode
Speed of reversal	Fine-adjusting the speed of reversal
Checking the sensor output	Checking the presence/absence of paper over a specific sensor
Hinge spring pressure	Adjustment of a hinge hold angle

2.3.2 Adjusting the Degree of Arching at the Registration Roller (pickup from the tray), (at time of reversal), (manual feed mode)

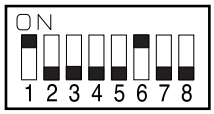
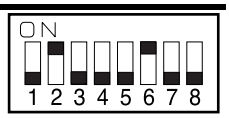
1) Remove the screw [1], and detach the ADF controller cover [2].



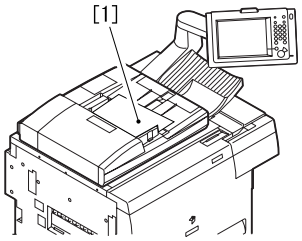
F-2-71

2) Set the DIP switch (SW1) on the ADF controller PCB as follows to suit the need:

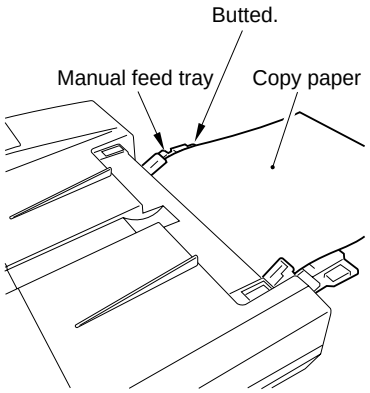
T-2-10

Item	Switch setting
Pickup from tray	
Reversal	
Manual feed	

3) Place a single sheet [1] of A4 or LTR copy paper in the original tray.

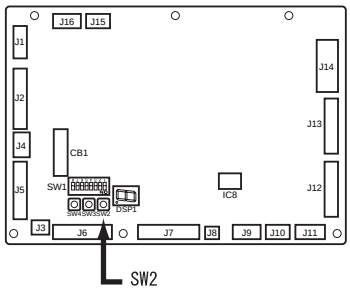


F-2-72



F-2-73

4) Press the push switch (SW2) on the ADF controller PCB.
- The copy paper will be picked up and stopped on the copyboard glass.
- DSP1 will start to flash to indicate the current value.



F-2-74

T-2-11

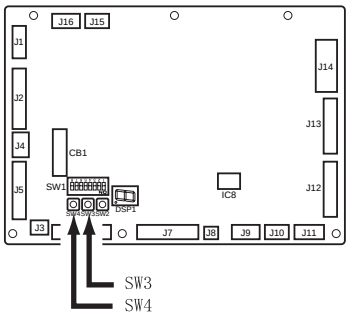
Switch	DSP1 indication	Adjustment value*	Switch	DSP1 indication	Adjustment value*	Switch	DSP1 indication	Adjustment value*
SW3	A-E2	-30	SW3	A-F7	-9	SW3	A-0C	12
↓	A-E3	-29	↓	A-F8	-8	↓	A-CD	13
	A-E4	-28		A-F9	-7		A-CE	14
	A-E5	-27		A-FA	-6		A-CF	15
	A-E6	-26		A-Fb	-5		A-10	16
	A-E7	-25		A-FC	-4		A-11	17
	A-E8	-24		A-Fd	-3		A-12	17
	A-E9	-23		A-FE	-2		A-13	18
	A-EA	-22		A-FF	-1		A-14	19
	A-Eb	-21		A-00	0 (reference value)		A-15	20
	A-Ec	-20		A-01	1		A-16	21
	A-Ed	-19		A-02	2		A-17	22
	A-Ee	-18		A-03	3		A-18	23
	A-Ef	-17		A-04	4		A-19	24
	A-F0	-16		A-05	5		A-1A	25
	A-F1	-15		A-06	6		A-1b	26
	A-F2	-14		A-07	7		A-1C	27
	A-F3	-13		A-08	8		A-1d	28
	A-F4	-12		A-09	9		A-1E	29
↑	A-F5	-11	↑	A-0A	10	↑	A-1F	30
SW4	A-F6	-10	SW4	A-0b	11	SW4	-	-

*0.1% (feed length).

5) Press the push switch SW3 or SW4 on the ADF controller PCB to adjust the degree of arching by referring to the table.

T-2-12

Switch	Change
SW3	Increases the arching.
SW4	Decreases the arching.



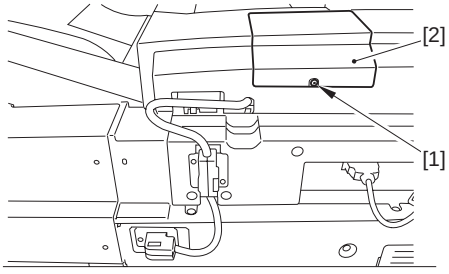
F-2-75

6) At the end of operation, press the push switch (SW2) on the ADF controller PCB once again.
- The copy paper will be delivered, and the adjustment value will be stored in memory.

2.3.3 Adjusting the Speed of the Feeding Belt

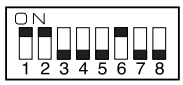
MEMO:
Adjusting the speed of the feeding belt will automatically adjust the speed of reversal.

1) Remove the screw [1], and detach the ADF controller cover [2].



F-2-76

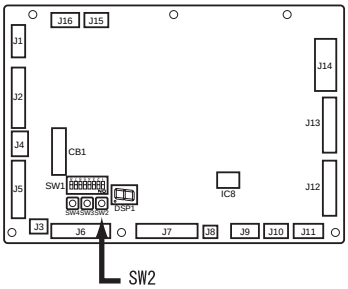
2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.



F-2-77

3) Pres the push switch (SW2).
- DSP 1 displays the current volume by flushing.

T-2-13

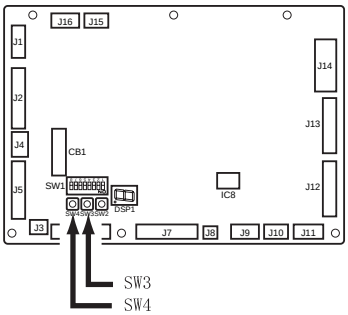


F-2-78

Switch	DSP1 indication	Adjustment value*	Switch	DSP1 indication	Adjustment value*	Switch	DSP1 indication	Adjustment value*
SW3	A-E2	-30	SW3	A-F7	-9	SW3	A-0C	12
↓	A-E3	-29	↓	A-F8	-8	↓	A-CD	13
	A-E4	-28		A-F9	-7		A-CE	14
	A-E5	-27		A-FA	-6		A-CF	15
	A-E6	-26		A-Fb	-5		A-10	16
	A-E7	-25		A-FC	-4		A-11	17
	A-E8	-24		A-Fd	-3		A-12	17
	A-E9	-23		A-FE	-2		A-13	18
	A-EA	-22		A-FF	-1		A-14	19
	A-Eb	-21		A-00	0 (reference value)		A-15	20
	A-Ec	-20		A-01	1		A-16	21
	A-Ed	-19		A-02	2		A-17	22
	A-Ee	-18		A-03	3		A-18	23
	A-Ef	-17		A-04	4		A-19	24
	A-F0	-16		A-05	5		A-1A	25
	A-F1	-15		A-06	6		A-1b	26
	A-F2	-14		A-07	7		A-1C	27
	A-F3	-13		A-08	8		A-1d	28
	A-F4	-12		A-09	9		A-1E	29
↑	A-F5	-11	↑	A-0A	10	↑	A-1F	30
SW4	A-F6	-10	SW4	A-0b	11	SW4	-	-

*0.1% (image reproduction ratio).

4) Press the push switch SW3 or SW4 on the ADF controller PCB, and adjust the speed of the belt by referring to the table.



F-2-79

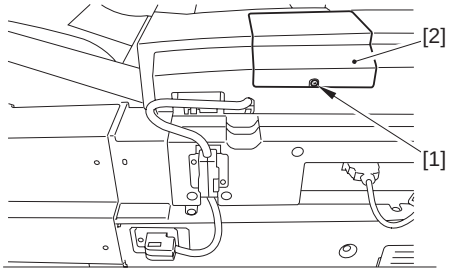
T-2-14

Switch	Change
SW3	Increases the belt speed (decreasing the image).
SW4	Decreasing the belt speed (increasing the image).

5) At the end of the operation, press the push switch (SW2) on the ADF controller PCB once again.

2.3.4 Adjusting the Speed of Reversal

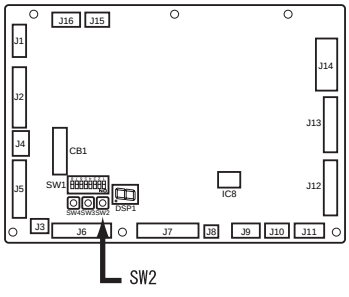
1) Remove the ADF cover [2] by the screw [1], and set the DIP switch (SW1) on the ADF controller PCB as indicated.



F-2-80

F-2-81

2) Pres the push switch (SW2).
- DSP 1 displays the current volume by flushing.



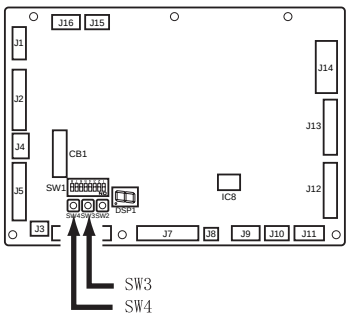
F-2-82

T-2-15

Switch	DSP1 indication	Adjustment value*	Switch	DSP1 indication	Adjustment value*	Switch	DSP1 indication	Adjustment value*
SW3	A-E2	-30	SW3	A-F7	-9	SW3	A-0C	12
↓	A-E3	-29	↓	A-F8	-8	↓	A-CD	13
	A-E4	-28		A-F9	-7		A-CE	14
	A-E5	-27		A-FA	-6		A-CF	15
	A-E6	-26		A-Fb	-5		A-10	16
	A-E7	-25		A-FC	-4		A-11	17
	A-E8	-24		A-Fd	-3		A-12	17
	A-E9	-23		A-FE	-2		A-13	18
	A-EA	-22		A-FF	-1		A-14	19
	A-Eb	-21		A-00	0 (reference value)		A-15	20
	A-Ec	-20		A-01	1		A-16	21
	A-Ed	-19		A-02	2		A-17	22
	A-Ee	-18		A-03	3		A-18	23
	A-Ef	-17		A-04	4		A-19	24
	A-F0	-16		A-05	5		A-1A	25
	A-F1	-15		A-06	6		A-1b	26
	A-F2	-14		A-07	7		A-1C	27
	A-F3	-13		A-08	8		A-1d	28
	A-F4	-12		A-09	9		A-1E	29
↑	A-F5	-11	↑	A-0A	10	↑	A-1F	30
SW4	A-F6	-10	SW4	A-0b	11	SW4	-	-

*0.1% (image reproduction ratio).

3) Press the push switch SW3 or SW4 on the ADF controller PCB to adjust the speed of reversal by referring to theable.



F-2-83

T-2-16

Switch	Change
SW3	Increase the speed of reversal.
SW4	Decrease the speed of reversal.

4) At the end of the operation, press the push switch (SW2) on the ADF controller.

2.3.5 Checking the Sensor Output

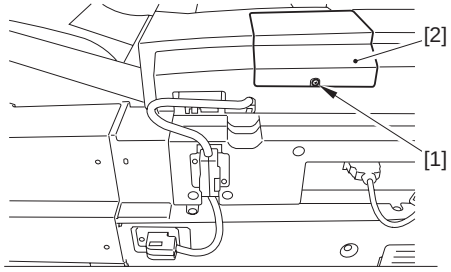
The DADF uses a 7-segment LED (DSP1) on its ADF controller PCB to allow a check on the presence/absence of paper or the state (open/closed) of the upper cover of the following sensors:

T-2-17

DIS1	Sensor in question (notation)	DSP1	Sensor in question (notation)
(1)	Original sensor (S6)	(7)	Reversal sensor (S1)
(2)	Original trailing edge sensor (S7)	(8)	Manual feed registration roller paper sensor (S9)
(3)	Separation sensor (S4)	(9)	Pre-reversal sensor (PI4)
(4)	Skew sensor (S5)	(A)	Original paper sensor (PI13)
(5)	Pre-registration roller paper sensor (S2)	(b)	Manual feed set sensor (PI12)
(6)	Post-registration roller paper sensor(S3)	(c)	ADF closed/open sensor (PI10)

DIS1	Sensor in question (notation)	DSP1	Sensor in question (notation)
		(d)	Upper cover sensor (front; PI6)
		(e)	Upper cover sensor (rear; PI3)

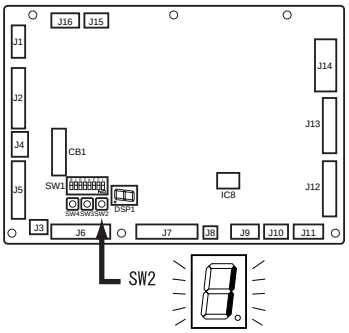
1) Remove the ADF controller cover [2] by removing the screw [1], and set the DIP switch (SW1) on the ADF controller PCB as indicated (normal operation mode).



F-2-84

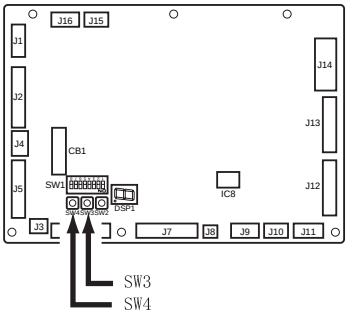
F-2-85

2) Press the push switch (SW2) once.
- The 7-segment LED (DSP1) on the ADF controller PCB will start to flash [1] to indicate that a check on the sensor operation has started.



F-2-86

3) Press the push switch SW3 or SW4; the indication of the 7-segment LED (DSP1) will change to indicate the state (paper present/absent) of the sensor in question.

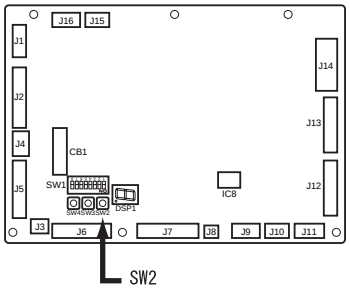


F-2-87

T-2-18

DSP1	Presence/absence of paper
ON	Present
Flashing	Absent

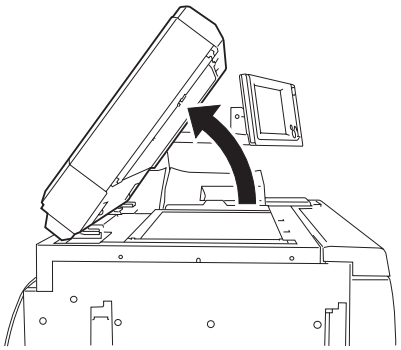
4) To end the check, press the push switch (SW2) once.
- The LED2 indication will return to normal mode.



F-2-88

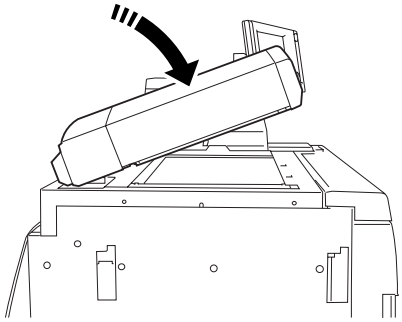
2.3.6 Hinge spring pressure adjustment

1.How to Check the Hinge
1) Open the ADF widely.



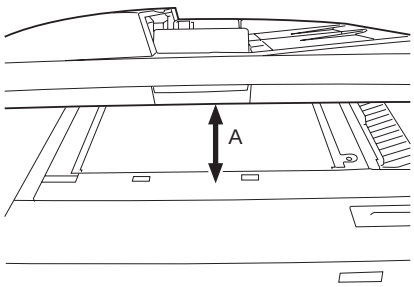
F-2-89

2) Close the ADF gradually and stop it just before the point where it closes with its own weight (just before the hinge becomes unable to retain the ADF).



F-2-90

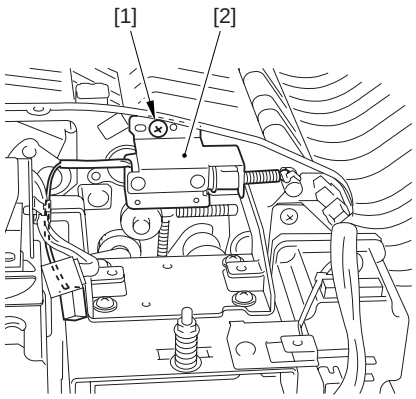
3) At this point, if the distance 'A' between the edge of the front cover and the upper front cover is 20cm or more, perform the hinge spring pressure aadjustment described next.



F-2-91

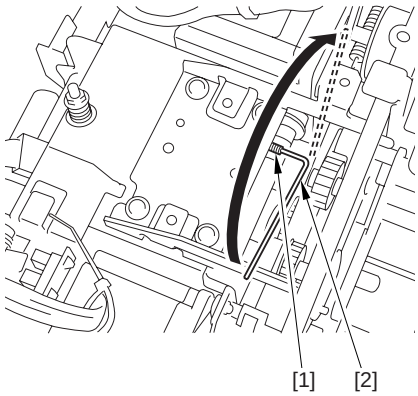
2.How to adjust the pressure of hinge spring

a. Hinge (left)
1)Unscrew a screw [1] and detach and pre-reversal solenoid mount [2].



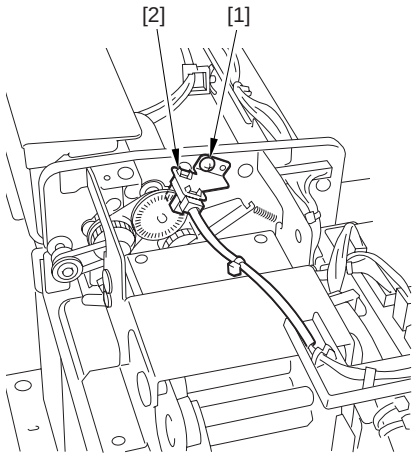
F-2-92

2)Rotate the spring pressure adjusting screw [A] of the hinge to the direction of the arrow [B] (in a clockwise direction) using a hex wrench 18 times by 60 degrees (Max. angle to be rotated per time) per time (Shorten the spring pressure adjusting screw [A] by 2mm).



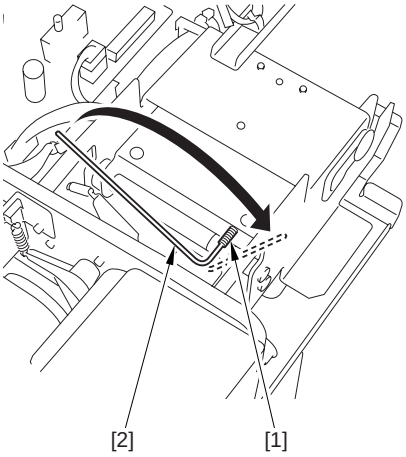
F-2-93

b. HInge (right)
1) Unscrew a screw [1] and detach the delivery motor clock sensor mount [2].



F-2-94

2) Rotate the spring pressure adjusting screw [A] of the hinge to the direction of the arrow [B] (in a clockwise direction) using a hex wrench 18 times by 60 degrees (Max. angle to be rotated per time) per time (Shorten the spring pressure adjusting screw [A] by 2mm).



F-2-95

2.4 Other

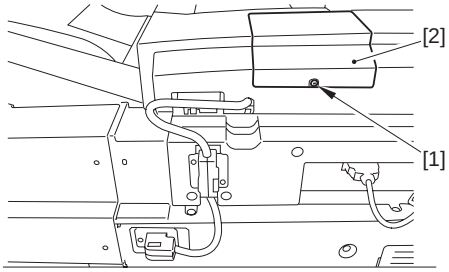
2.4.1 Outline

T-2-19

Item	Description
Jam history	Indicates the most recent 3 jams.
Software version	Indicates the version of the software.
Document width detection switch (SW301) check	A document width detection switch (SW301) check is carried out automatically.
Backup RAM clearance	A backup RAM clear is performed.

2.4.2 Jam History

1) Remove the screw [1], and detach the ADF controller cover [2].

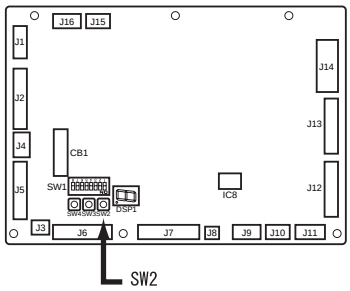


F-2-96

2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

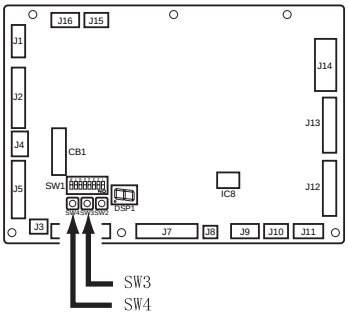
F-2-97

3) Press the push switch (SW2) on the ADF controller PCB.
- DSP1 will indicate the latest jam code.



F-2-98

4) Press the push switches SW3 and SW4 to change the DSP1 indication, thereby checking the jam history. DSP1 will flash five times in sequence to indicate the nature of the jam.



F-2-99

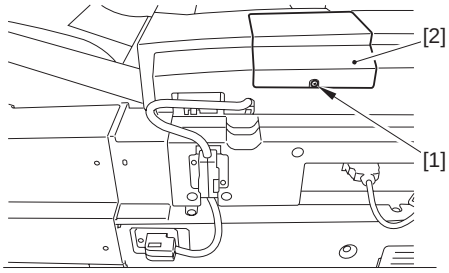
T-2-20

Switch	DSP1	Description
SW3 ↓	1-X1-X2-Y1-Y2	Previous (latest)
	2-X1-X2-Y1-Y2	2nd most recent
SW4 ↑	3-X1-X2-Y1-Y2	3rd most recent

5) At the end of the check, press the push switch (SW2) on the ADF controller PCB once again.

2.4.3 Version of the Software

1) Remove the screw [1], and detach the ADF controller cover [2].

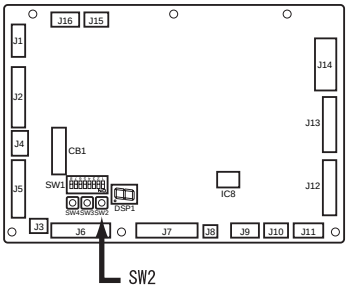


F-2-100

2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

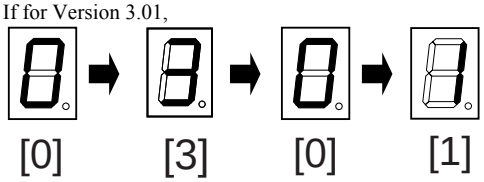
F-2-101

3) Press the push switch (SW2) on the ADF controller PCB.
- DSP1 will flash four times to indicate the version of the software.



F-2-102

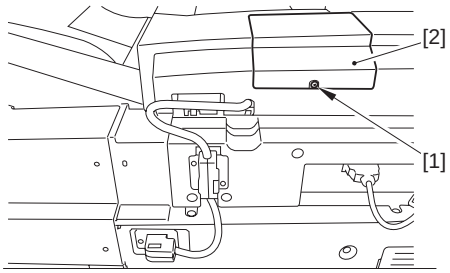
EX:
If for Version 3.01,



4) Press the push switch (SW2) on the ADF controller PCB to end the indication.

2.4.4 Checking the Original Width

1) Remove the screw [1], and detach the ADF controller cover [2].

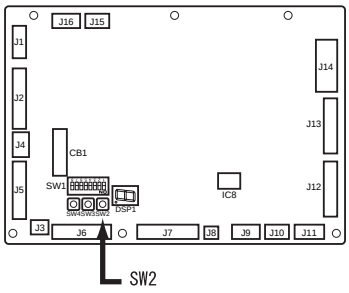


F-2-103

2) Set the DIP switch (SW1) on the ADF controller PCB as indicated.

F-2-104

3) Press the push switch (SW2) on the ADF controller PCB.
- DSP1 will go on or flash to indicate the width of the original each time the position of the side guide is changed.



F-2-105

T-2-21

DSP1 indication		Default size	DSP1 indication		Default size
0	ON	A4	0	ON	A4
	Flash	Non-default		Flash	Non-default
1	ON	LTR	1	ON	LTR
	Flash	Non-default		Flash	Non-default
2	ON	B4	2	ON	B4
	Flash	Non-default		Flash	Non-default
3	ON	LTR	3	ON	LTR
	Flash	Non-default		Flash	Non-default
4	ON	A4	4	ON	A4
	Flash	Non-default		Flash	Non-default
5	ON	ERROR*	5	ON	ERROR*
	Flash	ERROR		Flash	ERROR
6	ON	ERROR	6	ON	ERROR
	Flash	ERROR		Flash	ERROR
7	ON	ERROR*	7	ON	ERROR*
	Flash	ERROR		Flash	

Note: * The original width detecting switch (SW301) may be faulty.

4) Press the push switch (SW2) on the ADF controller PCB to end the operation.

Chapter 3 Error Code

3.1 Service Error Code

3.1.1 E402

Cause
The belt motor (M2) is faulty.
The belt motor clock sensor (PI1) is faulty.
The ADF controller PCB is faulty.

Detection
When the belt motor drive signal is generated, no clock signal is detected for 100 msec.

3.1.2 E404

Cause
Cause The delivery motor (M5) is faulty.
The delivery motor clock sensor (PI11) is faulty.
The ADF controller PCB is faulty.

Detection
When the delivery motor drive signal is generated, no clock signal is detected for 200 msec.

3.1.3 E405

Cause
The separation motor (M4) is faulty.
The separation motor clock sensor (PI2) is faulty.
The ADF controller PCB is faulty.

Detection
When the separation motor drive signal is generated, no clock signal is generated for 200 msec.

3.1.4 E410

Cause
The pickup motor (M3) is faulty.
The pickup roller height sensor 1 (PI8) is faulty.
The pickup roller height sensor 2 (PI9) is faulty.
The pickup roller home position sensor (PI7) is faulty.
The ADF controller PCB is faulty.

Detection
The pickup roller height sensor 1 (PI8) and the pickup roller height sensor 2 (PI9) do not generate a signal within 2 sec after the pickup motor has been driven.
The pickup roller home position sensor (PI7) does not generate a signal within 2 sec after the pickup motor has been driven.

3.1.5 E420

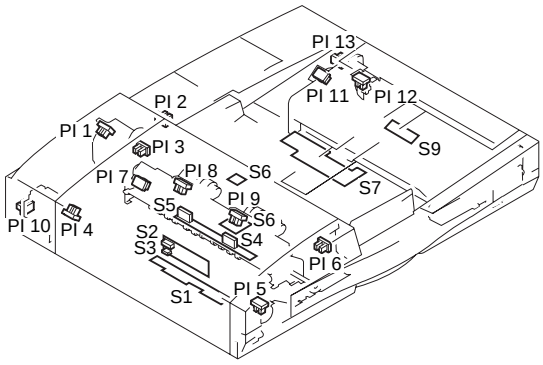
Cause
The backup data cannot be read; or, the data that has been read has an error.

Detection
When the copier is turned on, the backup data cannot be read twice; or, the data that has been read has an error.

Chapter 4 Outline of Components

4.1 Outline of Electrical Components

4.1.1 Sensors



F-4-1

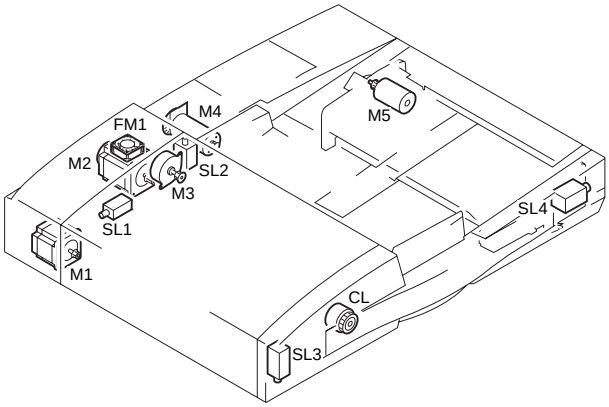
T-4-1

Name	Notation	Description
Photointerrupter	PI 1	Belt motor clock detection
	PI 2	Separation motor clock detection
	PI 3	Left cover open/closed detection (rear)
	PI 4	Pre-reversal paper detection
	PI 5	Registration roller rotation detection
	PI 6	Left cover open/closed detection (front)
	PI 7	Pickup roller home position detection
	PI 8	Pickup roller height detection 1
	PI 9	Pickup roller height detection 2
	PI 10	ADF open/closed detection
	PI 11	Delivery motor clock detection
	PI 12	Manual feed set detection
	PI 13	Original delivery detection

T-4-2

Name	Notation	Description
Reflecting type sensor	S1	Reversing assembly paper detection
	S2	Pre-registration roller paper detection
	S3	Post-registration roller paper detection
	S4	Separation paper detection
	S5	Skew paper detection
	S6	Original detection
	S7	Original trailing edge detection
	S9	Manual feed registration roller paper detection

4.1.2 Motors, Clutches, and Solenoids



F-4-2

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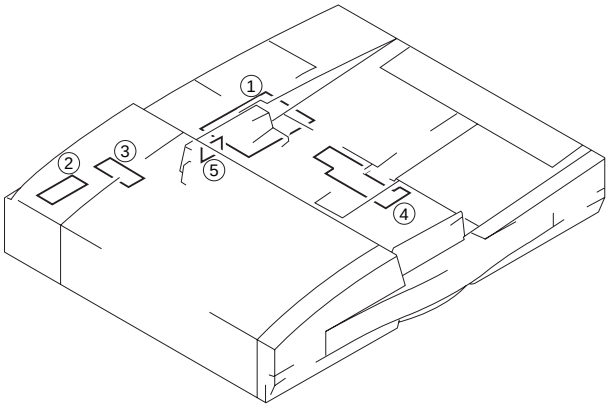
Name	Notation	Description
Motor	M1	Reversal motor
	M2	Belt motor
	M3	Pickup motor
	M4	Separation motor
	M5	Delivery motor
Clutch	CL	Separation clutch
Solenoid	SL1	Reversing solenoid
	SL2	Reversing solenoid
	SL3	Pre-reversal solenoid
	SL4	Delivery solenoid
Fan	FM1	Belt motor cooling fan

4.1.3 PCBs



F-4-3

T-4-4

Reference	Name
1	ADF controller PCB
2	Reversal motor driver PCB
3	Belt motor driver PCB
4	Pickup tray PCB
5	Indication LED PCB

4.2 Variable Resistors (VR), Light-Emitting Diodes (LED), and Check Pins by PCB

4.2.1 Outline

Of the LEDs and check pins found in the machine, those used in the field are discussed:

⚠

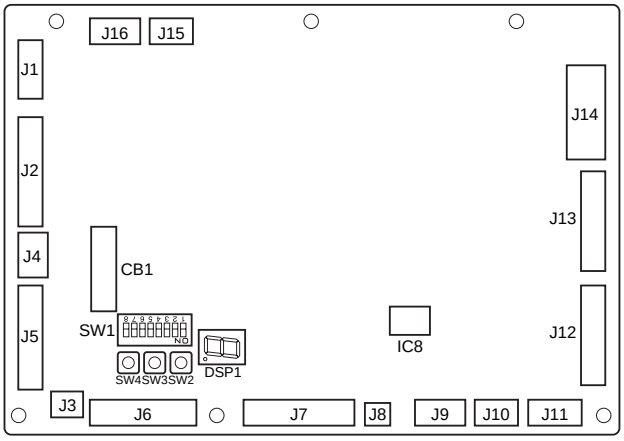
Do not touch any check pins that are not indicated in the table. They are for the factory, and require special tools and high precision.

4.2.2 ADF Controller PCB

⚠

Some LEDs emit light when they are off because of leakage current. This is a normal condition, and must be kept in mind.

Arrangement of Components



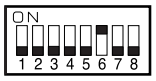
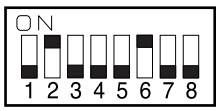
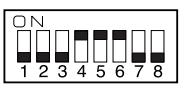
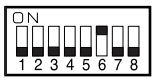
F-4-4

4.2.3 DIP Switch Functions

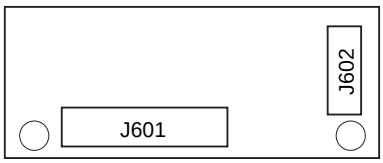
The DIP switch (SW1) on the ADF controller PCB provides the following functions according to how it is set:

T-4-5

Setting	Description
	Normal Operation
	Single-Sided Intermittent Feed Press the push switch SW2 on the ADF controller PCB; thereafter, each press on the push switch SW2 will send the original intermittently.
	Double-Sided Intermittent Feed Press the push switch SW2 on the ADF controller PCB; thereafter, each press on the push switch SW2 will send the original intermittently.
	Belt Motor (M2) Drive Press the push switch SW2 on the ADF controller PCB to start it; another press will stop it. The operation will be as follows, executed automatically: CW (700 -> 520 -> 260 -> 30 mm/sec) -> CCW: 700 -> 520 -> 260 -> 130 mm/sec).
	Reversal Motor (M1) Drive Press the push switch SW2 on the ADF controller PCB to start it; another press will stop it. The operation will be as follows, executed automatically: CW (700 -> 520 -> 260 -> 130 mm/sec) -> CCW (700-> 520 -> 260 -> 130 mm/sec).
	Delivery Motor (M5) Drive Press the push switch SW2 on the ADF controller PCB to start it; another press will stop it. The operation will be as follows, executed automatically: CW (700 -> 520 -> 260 -> 130 mm/sec) -> CCW (700 -> 520 -> 260 -> 130 mm/sec).
	Pickup Motor (M3) Drive Press the push switch (SW2) on the ADF controller PCB; press SW3 to move up or SW4 to move down. Another press on SW2 will stop it.
	Solenoid/Clutch Drive Press the push switch SW2 on the ADF controller PCB to execute the following in sequence; the operation will end automatically: Stopper plate solenoid (SL2) ↓ Stopper plate solenoid (SL2) ↓ Pre-reversal solenoid (SL3) ↓ Reversal solenoid (SL1) ↓ Clutch (CL)

Setting	Description
	Separation Motor (M4), Clutch (CL) Drive Press the push switch (SW2) on the ADF controller PCB to start it; another press will stop it. While in operation, each press on the push switch SW3 changes the speed of motor rotation to 100mm/sec. (700 -> 100 mm/sec)
	Manual Feed Operation Place an original in the manual feed assembly, and press the push switch (SW2) on the ADF controller PCB so that the original will be picked up and stopped.
	Tray Pickup Arch Adjustment Press the push switch SW2 on the ADF controller PCB to start, and use the push switch S23/SW4 to make adjustments. At the end, press the push switch SW2 to store the new setting.
	Reversal Arch adjustment Press the push switch SW2 on the ADF controller PCB to start, and use the push switch SW3/SW4 to make adjustments. At the end, press the push switch SW2 to store the new setting.
	Manual Feed Arch Adjustment Press the push switch SW2 on the ADF controller PCB to start, and use the push switch SW3/SW4 to make adjustments. At the end, press the push switch SW2 to store the new setting.
	Feeding Belt Speed Adjustment (reproduction ratio in stream reading) Press the push switch SW2 on the ADF controller to start, and use the push switch SW3/SW4 to make adjustments. At the end, press the push switch SW2 to store the new setting.
	Reversal Speed Adjustment Press the push switch SW2 on the ADF controller PCB to start, and use the push switch SW3/SW4 to make adjustments. At the end, press the push switch SW2 to store the new setting.
	Original Stop Position Adjustment Press the push switch SW2 on the ADF controller PCB to start, and use the push switch SW3/SW4 to make adjustments. At the end, press the push switch SW2 to store the new setting.
	Manual Feed Original Stop Position Adjustment Press the push switch SW2 on the ADF controller PCB to start, and use the push switch SW3/SW4 to make adjustments. A the end, press the push switch SW2 to store the new setting.
	Sensor and Delivery Motor Auto Adjustment Press the push switch SW2 on the ADF controller PCB. The operation will end automatically.
	Jam History Indication The jam history of the DADF will be indicated by DSP1 on the ADF controller PCB (most recent three jams).
	Software Version Indication Press the push switch SW2 on the ADF controller PCB to indicate the version of the software; another press will stop the indication.
	Separation Assembly Cleaning Press the push switch (SW2) on the ADF controller PCB to rotate the registration roller; another press will stop the operation.
	Registration Roller Cleaning If the dirt is limited, Place 10 sheets of copy paper in the original tray, and press the push switch on the ADF controller PCB. The operation will end automatically.
	Registration Roller Cleaning If the dirt is appreciable, Press the push switch SW2 on the ADF controller PCB. When the registration roller starts to rotate, clean with lint-free paper moistened with alcohol. To stop operation, press the push switch SW2 onceagain.
	Original Width Detecting Switch (SW301) Check Press the push switch SW2 on the ADF controller PCB to start it; another press will stop it.
	Backup RAM Clear
	Press the push switch SW2 on the ADF controller PCB; press the push switch SW3 five times in succession to automatically end backup RAM clear.

4.2.4 Reversal Motor Driver PCB/ Belt Motor Driver PCB



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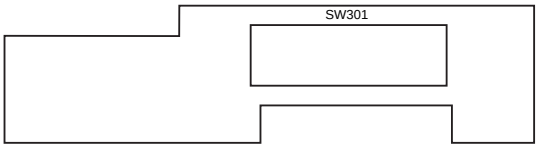
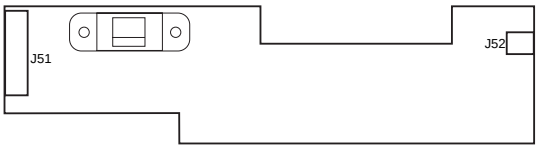
4.2.5 Pickup Tray PCB





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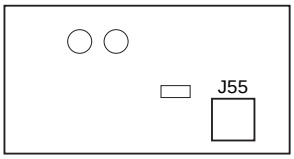
4.2.6 Indication LED PCB



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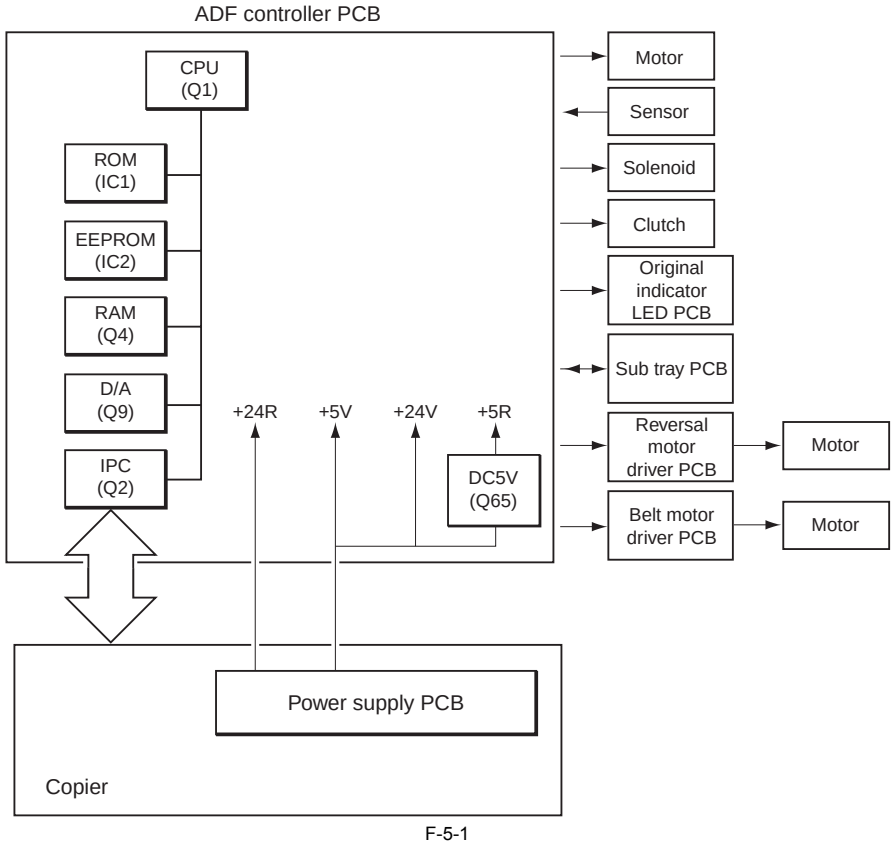
Chapter 5 System Construction

5.1 Basic Construction

5.1.1 Overview of Electrical Circuit

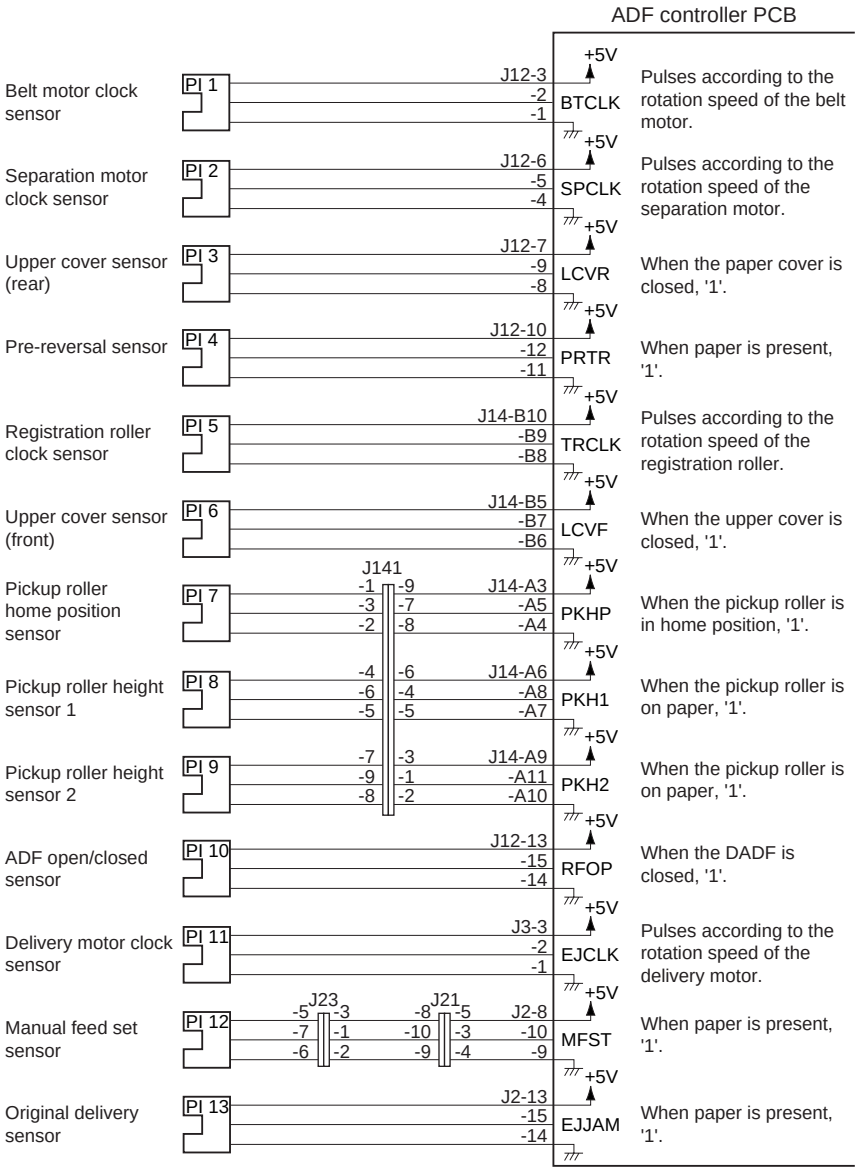
The machine's electrical mechanisms are controlled by the ADF controller PCB (microcomputer CPU). The CPU interprets signals from sensors and the host machine, and generates appropriate signals to drive such loads as motors and solenoids at such times as programmed in advance.



F-5-1

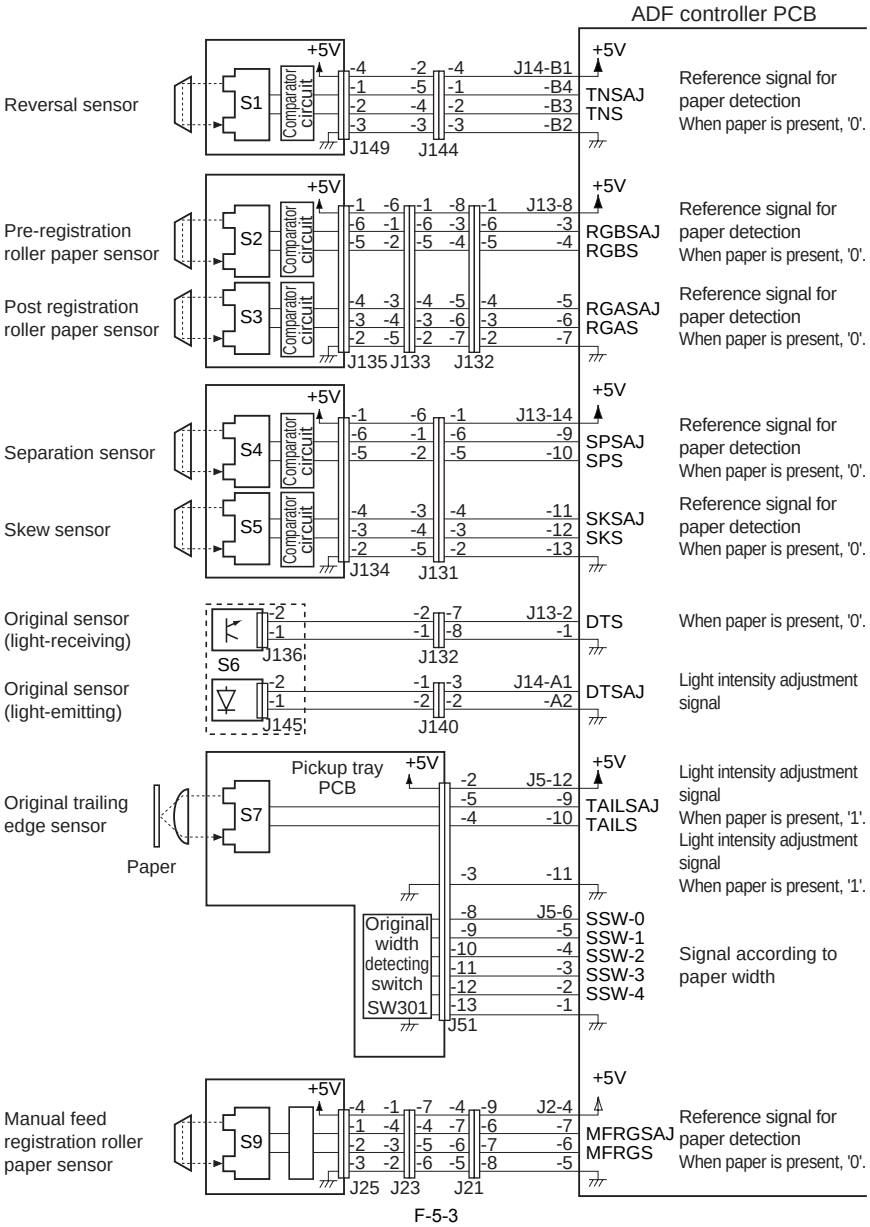
5.1.2 Inputs to ADF Controller PCB

-Inputs to ADF Controller PCB(1/2)



F-5-2

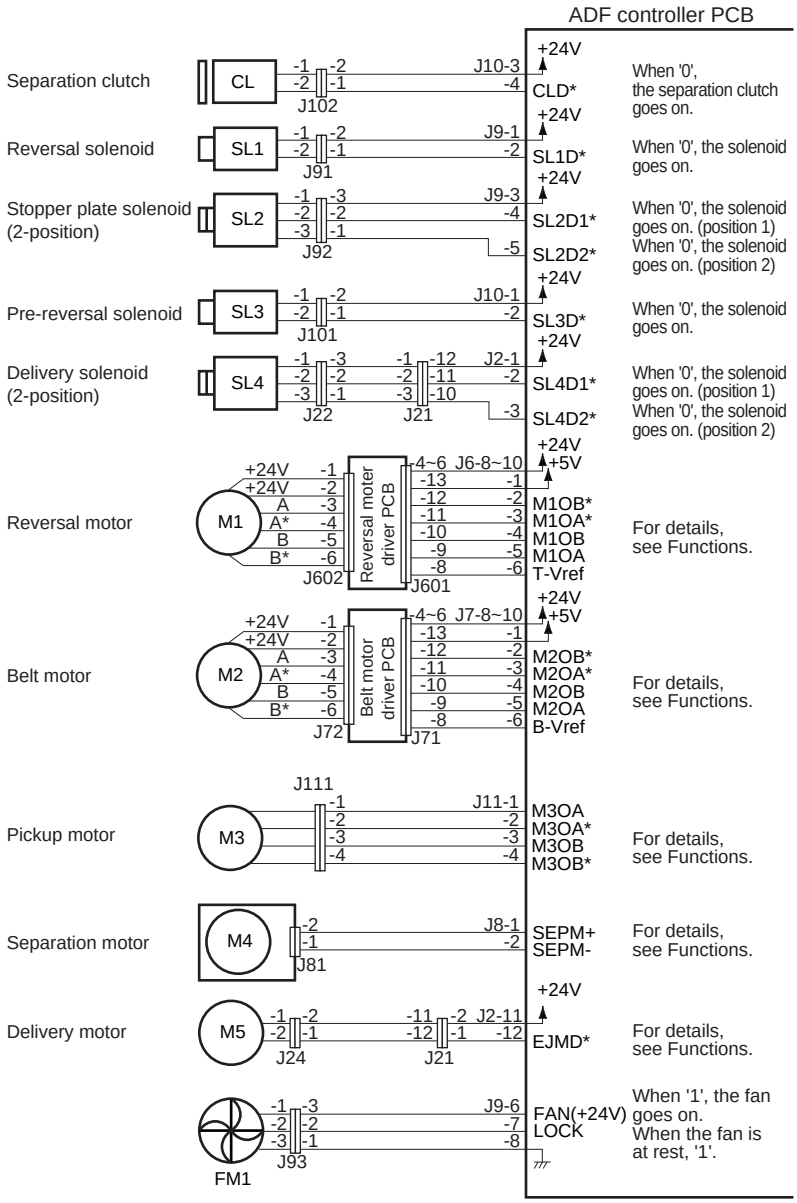
-Inputs to ADF Controller PCB(2/2)



F-5-3

5.1.3 Outputs from ADF Controller PCB

-Outputs from ADF Controller PCB(1/1)



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5.2 Product Specifications

5.2.1 ADF Specifications

T-5-1

Item	Description		Remarks
Original pickup	auto		
Original placement	original tray	face-up	
	manual feeder	face-down: against rear end	
Original separation	top separation		
Original type	Sheet		
Original weight	original tray	50 to 216g/m2	However, if large-size double-sided, 100 g/m2; if longer than 432 mm, 60 to 90 g/m2.
	manual feeder	38 to 216g/m2	
Original size	A5 to A3 / STMT to 279.4X431.8mm (11'X17')		
	feed direction: 139.7 to 432.0 mm (630.l0 mm) cross-feed direction: 182.0 to 297.0 mm		Value in parentheses represents extra-long paper.
Original tray capacity	small-size	100 sheets	In below 80g/ m2paper. The manuscripts exceeding 80g/m2 are base weight conversion.
	A5, A4, B5, STMT, LTR, A4R, B5R, LTRR		
	large-size	100 sheets	80 g/m2 or less. If heavier than 80 g/m2, conversion used. If longer than 432 mm, 1 sheet.
	A3, B4, LGL, 279.4X431.8mm (11'X17')		

Original reference	tray	center	
	manual feeder	rear	
Original reading	stream (single-sided)/fixed		
Pre-cycle end	no		
Control panel	no		
Display	no		
Original AE detection	no (image processing after reading by host machine)		
2-on-1	no (image processing after reading by host machine)		
Original handling	single-sided, double-sided		
Stream reading	yes (all sizes; with 20% to 200% only on one side)		
Manual feeding	yes (1 sheet)		
Original size identification	yes		
Residual original detection	yes (in combination with host machine)		
Jam recovery	yes		
Count mode	no		
Original size mix	yes (limited to same paper series; width)		
Book original	supported (mobile hinge assembly; up/down)		
Tracing paper mode	no		
Silent mode	no		
stamp	no		
Communication with host machine	IP communication 2		
Power supply	24 VDC, 13 VDC		From printer unit by way of reader unit.
Weight	21.5 kg (approx.)		Not including delivery tray.
Dimensions	646 (W) x 569.5 (D) x 143 (H) mm		Not including delivery tray.
Power consumption	100 W or less (during operation)		
Operating noise	sound pressure: host machine + 3 dB		Host machine + ADF + finisher
	alone: 72 dB		
	sound quality: 10.78 sone (85 ipm)		
DF opening/closing noise (impact)	sound pressure: 70 dB		
Operating noise	same as host machine		
Temperature range			
Humidity range			

The above information is subject to change for product revision.

Feb 7 2006