

Portable Manual

Feeder
DADF-P1

Canon

Application

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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

1.1 Periodically Replaced Parts

1.1.1 Periodically Replaced Parts

This machine does not have parts that must be replaced periodically.

1.2 Durables

1.2.1 Durables

This machine does not have durables.

1.3 Periodical Servicing

1.3.1 Periodic Service Items

This machine does not have periodic service items.

Chapter 2 Standards and Adjustments

2.1 Basic Adjustment

2.1.1 Outline

This machine has the following adjustment items. Carry out each adjustment after replacing the relevant parts.

T-2-1

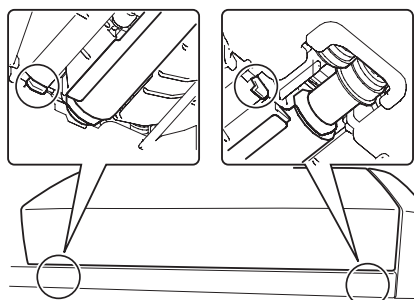
No.	Adjustment type	Replaced parts	Remarks
[1]	Height adjustment	Hinge	
[2]	Perpendicularity adjustment	Hinge	
[3]	Magnification adjustment	Motor/roller	
[4]	Side registration adjustment	-	During installation only
[5]	Leading edge registration adjustment	-	During installation only
[6]	Reading position adjustment	White roller	

⚠ Carry out the adjustment of above all after removing the ADF from the reader unit.

2.1.2 Height Adjustment

1. Pre-check

Check that the front and rear feet on the pickup side of the DADF are close contact with the document glass when the DADF is closed.



F-2-1

MEMO

Insert a sheet of paper between the ADF's document glass and the feet (two) and pull the paper in the direction of the arrow to check that you feel slight resistance.

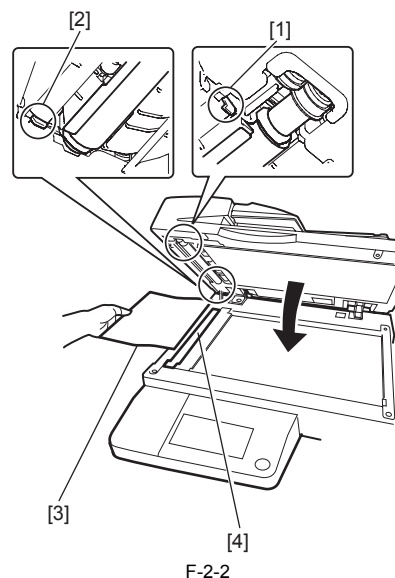
The recommended way of making this check is as follows:

First, insert a sheet of paper between the front foot [1] and the ADF's document glass, and then pull it.

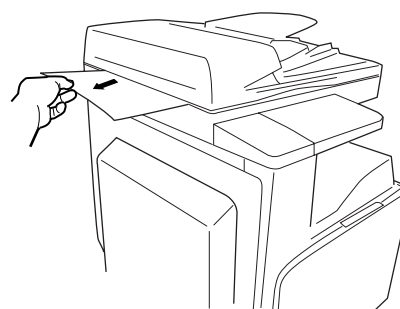
Next, insert a sheet of paper between the rear foot [2] and the ADF's document glass, and then pull it.



- Use plain paper for this adjustment.
- Insert the paper [3] in such a manner that the sheet portion [4] of the document glass is covered.



F-2-2



F-2-3

2. Adjustment Sequence

* When the front foot or rear foot is floating

- 1) Adjust the left hinge. (See 3.)
- 2) Adjust the right hinge. (See 4.)
- 3) Adjust the left hinge (see 3) or check the left hinge (see 1).

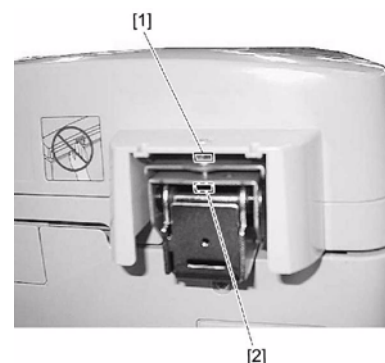
* When both feet are floating

- 1) Adjust the left hinge. (See 3.)
 - 2) Adjust the right hinge. (See 4.)
 - 3) Adjust the left hinge. (See 3.)
 - 4) Adjust the right hinge (see 4) or check the right hinge (see 4).
- #### 3. Adjusting the Left Hinge Height
- 1) Adjust the left hinge height using the left height adjusting screw [1].

⚠ Loosen the nut [2] before adjustment, and tighten it after adjustment.

* If the front foot is floating, turn the adjusting screw clockwise to lower the front foot until it touches the glass.

* If the rear foot or both feet are floating, turn the adjusting screw counter-clockwise to lower the rear foot until it touches the glass.

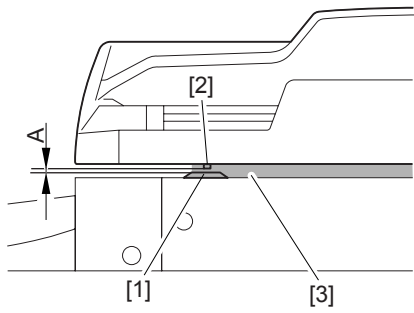


F-2-4

4. Adjusting the Right Hinge Height

1) When closing the DADF, perform the following checks:

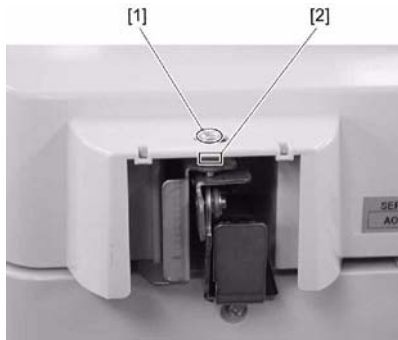
- The rib [1] on the bottom of the ADF must contact the copyboard glass holder (right) [2]. (Gap A should not exist.)
- Check that the document pressure sheet [2] touches the document glass.



F-2-5

2) If the height is inappropriate, adjust it using the right hinge height adjusting screw [1].

⚠ Loosen the nut [2] before adjustment, and tighten it after adjustment.



F-2-6

- * Turning the adjusting screw clockwise reduces clearance A.
- * Turning the adjusting screw counterclockwise increases clearance A.

3) Perform step 1 of the left hinge height adjustment procedure. If the height is inappropriate, adjust it again.

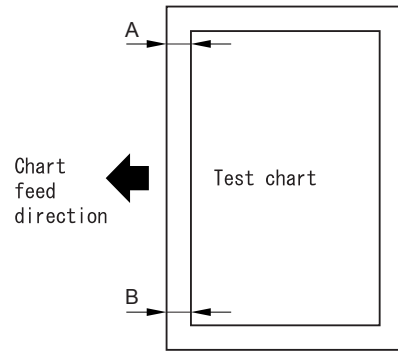
2.1.3 Perpendicularity Adjustment

1) Place the test chart on the DADF and take a copy of it.

MEMO

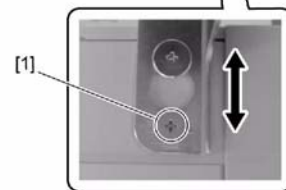
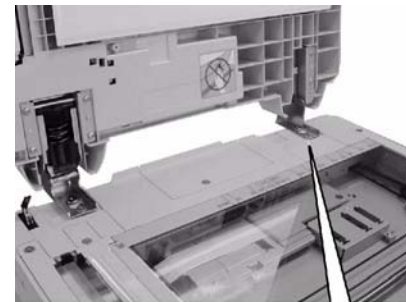
The test chart is printed on the back cover of the Installation Procedure. Copy or clip it.

2) Check the squareness of the image on the copy. Measure the dimensions A and B at the leading edge of the test chart and the dimensions A' and B' at the leading edge of the copy. If it not $(A-B) = (A'-B')$, perform steps 3 and later.



F-2-7

3) Loosen the right hinge clamping screw [1], and slide the hinge back and forth with reference to the graduation marks.



F-2-8

4) Tighten the hinge clamping screw loosened in step 3).

MEMO:

If the chart is not available, the image output by performing the following steps can be used for squareness adjustment.

1) Enter the service mode.

Press the User Mode key " \otimes ", 2 key, 8 key, User Mode key " \otimes " on the operation panel of the host machine.

2) Using the arrow keys on the operation panel, display "SCAN".

3) Press the OK key.

4) When "#SCAN SW" appears, press the OK key.

5) Using the left and right arrow keys, move the cursor to Bit-4 (fifth bit from right) in the Bit SW layout and then press the 1 key. Make sure that the switch bit indication changes as shown below.

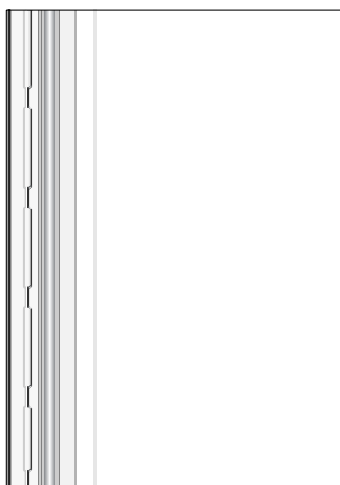
"#SCAN SW 001 10000000">"#SCAN SW 001 10010000"

6) Press the OK key.

7) Make sure that "SCAN SW 002 10000000" is displayed, and then press the Reset key to exit the service mode.

8) Perform copy operation without paper.

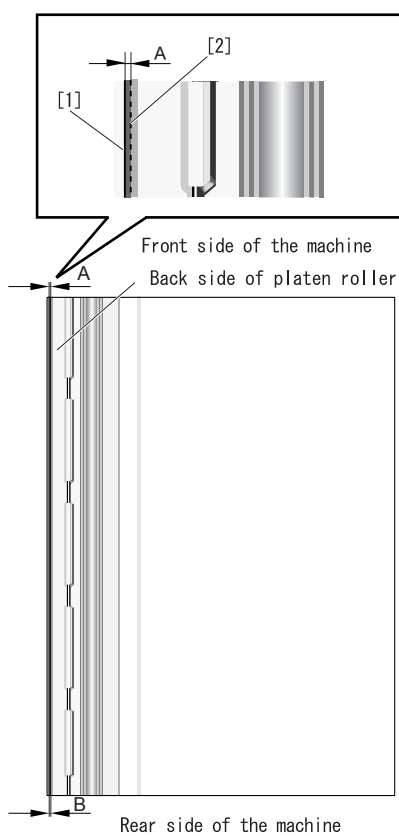
9) The following image is output:



F-2-9

10) View the output image. While checking the shadow line (image of the scanned ADF body) [1] between the platen roller and ADF mylar and the shadow line (image of the scanned printer body) [2] of the stream reading glass mylar for parallelism, move the right hinge to adjust squareness. Move the right hinge so that $A=B=2\text{mm}$.

If $A>B$, the right side of the ADF is shifted rearward.
If $B>A$, the right side of the ADF is shifted frontward.



F-2-10

2.1.4 Magnification Adjustment

1) Place the test chart on the DADF, and take a copy of it. It is called copy A.
2) Compare the longitudinal length of the image on the test chart with that on copy A. Enter the service mode and adjust magnification as required. If the length of the image on copy A is shorter, decrease the value (to reduce the stream reading speed). If the length of the image on copy A is longer, increase the value (to increase the stream reading speed).
3) Enter the service mode.

Press the User Mode key " \otimes ", 2 key, 8 key, User Mode key " \otimes " on the operation panel of the host machine.

4) Using the arrow keys on the operation panel, display "#SCAN".
5) Press the OK key.
6) Using the arrow keys on the operation panel, display "#SCAN NUMERIC".

7) Press the OK key.
8) Using arrow keys, select 48.
9) Using numeric keys, change the value to determine the optimum value. Press the OK key. (Default: 16)
10) Using arrow keys, select 54.
11) Using numeric keys, increase or decrease the value by the value changed in step 9. (Default: 16)

MEMO

- SCAN NUMERIC>48 is the item for adjusting the DADF's feed motor speed.
- SCAN NUMERIC>54 is the item for adjusting the DADF's pickup motor speed.

! Do not change the adjustment value greatly.

2.1.5 Side Registration Adjustment

1) Place the test chart on the DADF and take a copy of it.
2) Compare the side registration on the test chart with that on the copy. Perform adjustment if required. If the image is shifted forward, increase the value. If the image is shifted rearward, decrease the value.
Adjustment step: 0.1 mm
3) Enter the service mode.

Press the User Mode key " \otimes ", 2 key, 8 key, User Mode key " \otimes " on the operation panel of the host machine.

4) Using the arrow keys on the operation panel, display "#SCAN".
5) Press the OK key.
6) Using the arrow keys on the operation panel, display "#SCAN NUMERIC".
7) Press the OK key.
8) Using arrow keys, select 41.
9) Using numeric keys, change the value to determine the optimum value. Press the OK key. (Default: 35)

2.1.6 Leading Edge Registration Adjustment

1) Place the test chart on the DADF and take a copy of it.
2) Compare the leading edge registration on the test chart with that on the copy. Perform adjustment if required. If the image is shifted leftward, decrease the value. If the image is shifted rightward, increase the value.
Adjustment step: 0.1 mm
3) Enter the service mode.

Press the User Mode key " \otimes ", 2 key, 8 key, User Mode key " \otimes " on the operation panel of the host machine.

4) Using the arrow keys on the operation panel, display "#SCAN".
5) Press the OK key.
6) Using the arrow keys on the operation panel, display "#SCAN NUMERIC".
7) Press the OK key.
8) Using arrow keys, select 42.
9) Using numeric keys, change the value to determine the optimum value. Press the OK key. (Default: 220)

! After completion of this adjustment, check for squareness. If it is wrong, go back to the squareness adjustment procedure.

2.1.7 Reading Position Adjustment

1) Enter the service mode.

Press the User Mode key " \otimes ", 2 key, 8 key, User Mode key " \otimes " on the operation panel of the host machine.

2) Using the arrow keys on the operation panel, display "TEST MODE".
3) Press the OK key.
4) Press the 2 key. "SCAN TEST" appears.
5) Press the 3 key. "SHEET POS ADJ" appears.

The optical system starts scanning. Several seconds later, automatic adjustment of the reading position finishes and "OK" appears.

! If automatic adjustment fails, "NG" appears. Perform the following procedure:

Clean the white roller of the DADF and the document glass of the host machine, and then retry auto adjustment.

Chapter 3 Error Code

3.1 Service Error Code

3.1.1 Error Code List

This machine has no error code.

Chapter 4 Outline of Components

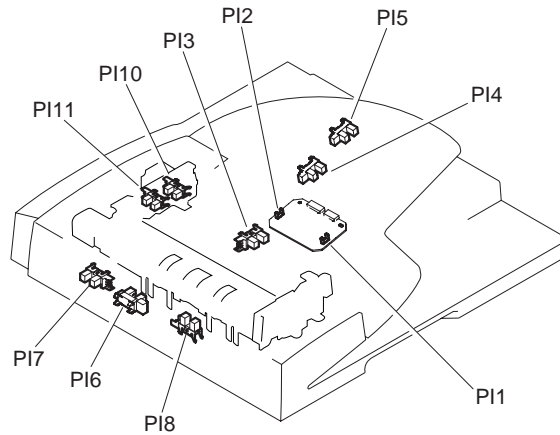
4.1 Outline of Electrical Components

4.1.1 Electric Parts Layout/Functions

<Sensors>

T-4-1

Symbol	Name	Part No.	Relay PCB	ADF driver PCB	Jam code
PI1	Document width sensor 2 (directly mounted on the Relay PCB)	FH5-3731		CN7	
PI2	Document width sensor 1 (directly mounted on the Relay PCB)	FH5-3731		CN7	
PI3	Last document detection sensor	WG8-5696	CN32	CN7	
PI4	Document length sensor 1	WG8-5696	CN32	CN7	
PI5	Document length sensor 2	WG8-5696	CN32	CN7	
PI6	Delivery reversal sensor	WG8-5696		CN8	0007, 000c, 000d
PI7	Read sensor	WG8-5696		CN8	0007, 0008, 000c
PI8	Registration paper sensor	WG8-5696		CN8	0007, 0008, 000c
PI10	Cover open/close sensor	WG8-5696		CN9	000e
PI11	Document set sensor	WG8-5696		CN9	000a

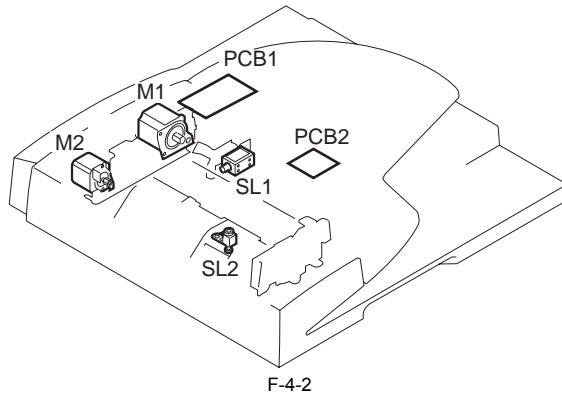


F-4-1

<Motors, Clutch, Solenoids, PCBs, etc.>

T-4-2

Symbol	Name	Function	Part No.	ADF driver PCB	E code
M1	Motor	Feed motor	FH5-1142	CN4	
M2		Pickup motor	FH5-1142	CN11	
SL1	Solenoid	Roller release solenoid	FH6-5136	CN5	
SL2		Stamp solenoid	FB5-9410	CN6	
PCB1	ADF driver PCB	ADF control	FH5-3730		
PCB2	Relay PCB	Repeating for sensors in document pickup tray/Document width detection	FH5-3731	CN7	



F-4-2

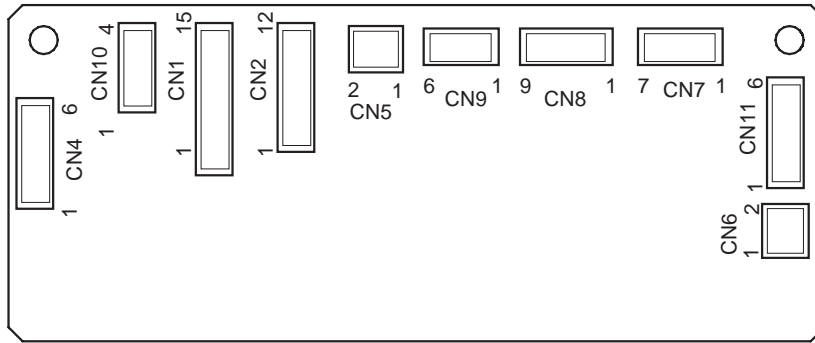
4.2 Variable Resistors (VR), Light-Emitting Diodes (LED), and Check Pins by PCB

4.2.1 Outline

Among the LEDs and check pins of this machine, only those handled during field servicing are listed below.

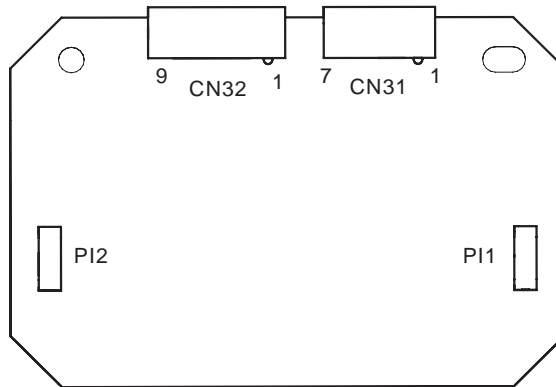
⚠ Check pins not listed in the list are used only in the factory. When performing adjustments and checks using these check pins, special tools and measuring instruments are required. Do not touch them during field servicing.

4.2.2 ADF Driver PCB



F-4-3

4.2.3 Relay PCB



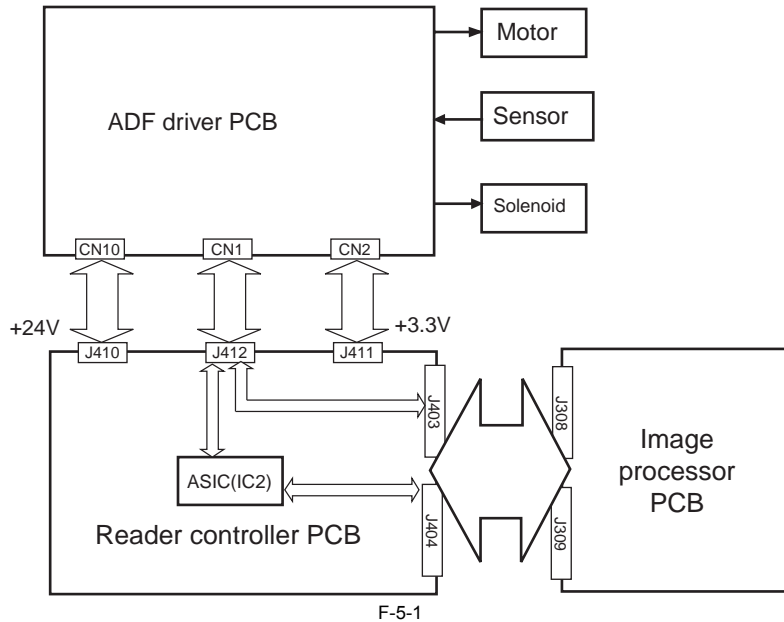
F-4-4

Chapter 5 System Construction

5.1 Basic Construction

5.1.1 Outline of Electric Circuit

Electric circuits of this machine are controlled by the reader controller PCB and image processor PCB. The ASICs on the reader controller PCB and image processor PCB detect the signals received from the host machine to output the signals that drive DC loads such as motors and solenoids at the predetermined timings. The reader controller PCB and image processor PCB do not have a memory area; data (service mode, etc.) is stored in the image processor PCB.



5.2 Product Specifications

5.2.1 Specifications

T-5-1

Item	Specification	Remarks
Document pickup method	Automatic pickup and delivery	
Document loading direction	Face-up	
Document loading position	Aligned to center	
Document separation method	Upper separation	
Document weight	Continuous feed: 52-105 g/m ² or less	Document longer than 432 mm: 60-90 g/m ² (single-sided, single feed)
	Single feed: Less than 37-52 g/m ² , 105-128 g/m ² or less	
Document size	AB type: B6/A5/A5R/B5R/A4/A4R/B4/A3	SMT, B6: Landscape orientation only
	Inch type: STMT/LTR/LTRR/LGN/11 x 17	
	Document width: 148-297 mm	The document with the length indicated in << >> must be held by the operator.
Document length (longitudinal) 128-432 <<1000>> mm		
Document tray capacity	S-size: 50 sheets (S-size: A4, A4R, B5, B5R, A5, A5R, B6, LTR, LTRR, STMT)	(80 g/m ² paper)
	L-size: 25 sheets (L-size: A3, 11 x 17, B4, LGL)	
	Document heavier than 80 g/m ² : Weight equivalent	
	Folded document: 10 mm or less in height	
Document read method	Stream reading	
Document processing mode	- Single-sided document processing - Double-sided document processing	
Document size recognition	Detected by photo interrupter on pickup tray	Longitudinal: Two photo interrupters Lateral: Two photo interrupters
Jam recovery function	Not supported	
Completion stamp function	Supported	

Item		Specification	Remarks
Mixed document function		Same types of paper can be mixed.	Mixing of same type of paper: 52-105 g/m ² or less (equivalent to that in continuous feed mode) Mixing of different types of paper: 64-81.4 g/m ²
		Different types of paper can be mixed.	
		Examples of mixing of different types of paper	
		AB type: A3/B4, A4/B5, B4/A4R, B5/A5	
Book document		Ready (The thickness of the book document must not exceed 50 mm.)	
Document feed speed		100% read: 118 mm/s	Speed range: 26.22 to 236 mm/s
Document processing speed (A4, LTR)		Single-sided: 20 ipm	Document processing speed can be varied.
Power supply		Power system: 24 VDC \pm 5% Logic system: 13 VDC \pm 3%	Supplied from host machine
Weight		Approx. 7.0 kg	
Dimensions		565 (W) x 489.4 (D) x 122 (H) mm	
Operating environment	Temperature range	Same as that of host machine.	
	Humidity range	Same as that of host machine.	

Sep 14 2005

