Service Manual

Finisher, Sorter, DeliveryTray
Paper Folding Unit-D1

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 Specifications

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1.1 Product Specifications

1.1.1 Specifications

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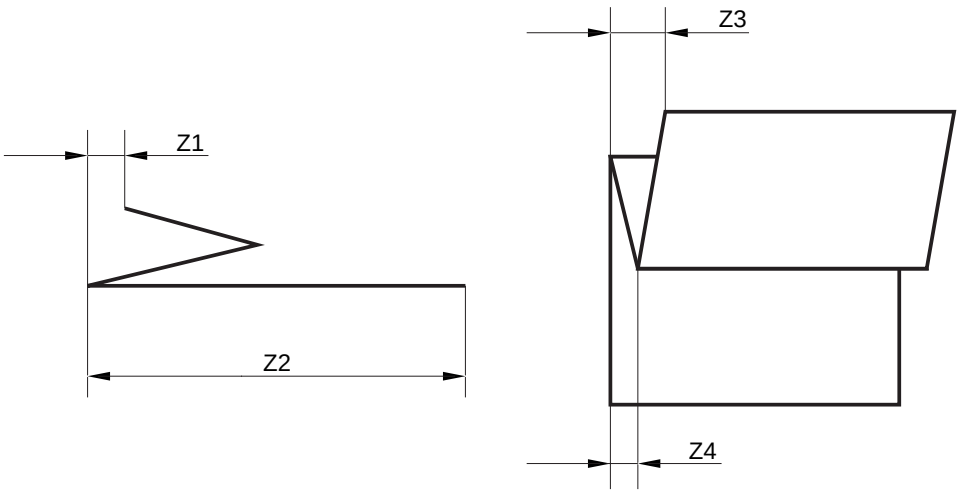
Item	Description	Remarks
Folding method	by roller contact (in keeping with passage of paper)	
Paper weight	64g/m2 to 80g/m2	
Paper size	A3, B4, 279.4mm x 432.8mm (11"x17")	
Folding mode	Z-folding	
Dimensions	180mm x 786mm x 1040mm (WxDxH)	including casters
Power consumption	80 W (approx.)	
Weight	49 kg (approx.)	
Power supply	24 VDC/5 V from the finisher	



Z1:2+2/-1 mm or less

Z2: $\frac{\text{paper length}}{2}$ +/-2 mm or less

Z3、4:+/-5 mm or less

In high temperature/humidity
or low temperature environment,
Z3、4:+/-2.0 mm or less

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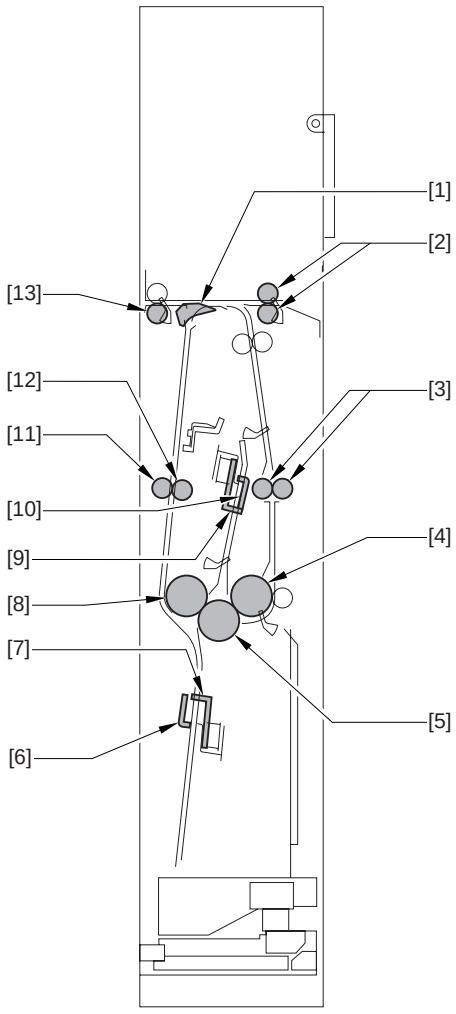
1.2 Names of Parts

1.2.1 Cross Section



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[1]	Folder inlet flapper	[8]	Folding roller B
[2]	Feed roller 1	[9]	No.2 stopper (B4)
[3]	No.2 folding roller	[10]	No.2 stopper (A3/279.4mmx431.8mm (11x17))
[4]	Folding roller C	[11]	Skew correction roller
[5]	Folding roller A	[12]	Pressure roller
[6]	No.1 stopper (A3/279.4mmx431.8mm (11x17))	[13]	Feed roller 2
[7]	No.1 stopper (B4)		

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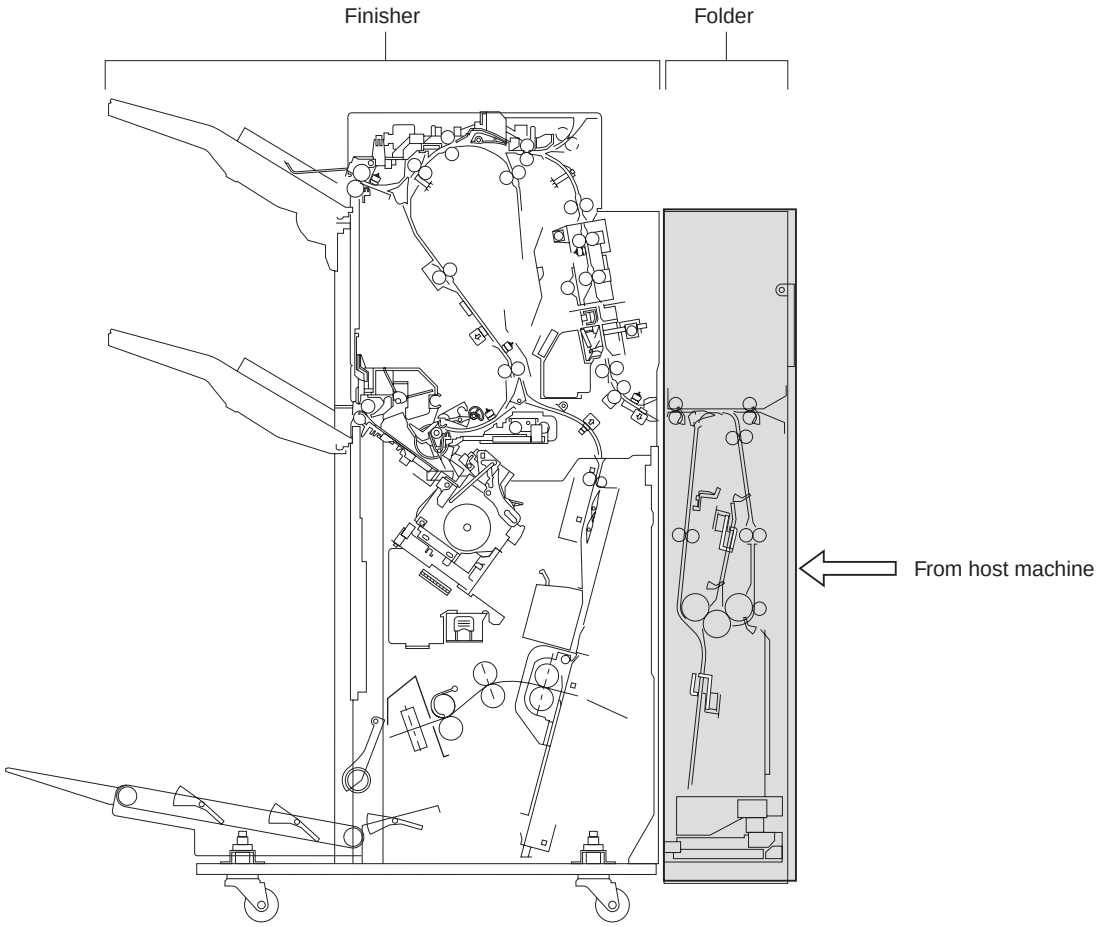
2.1 Basic Construction

2.1.1 Overview

The machine is an accessory designed for installation to the upstream side of a finisher. It responds to commands from its host machine to Z-fold paper or sends paper to the finisher along its through path.



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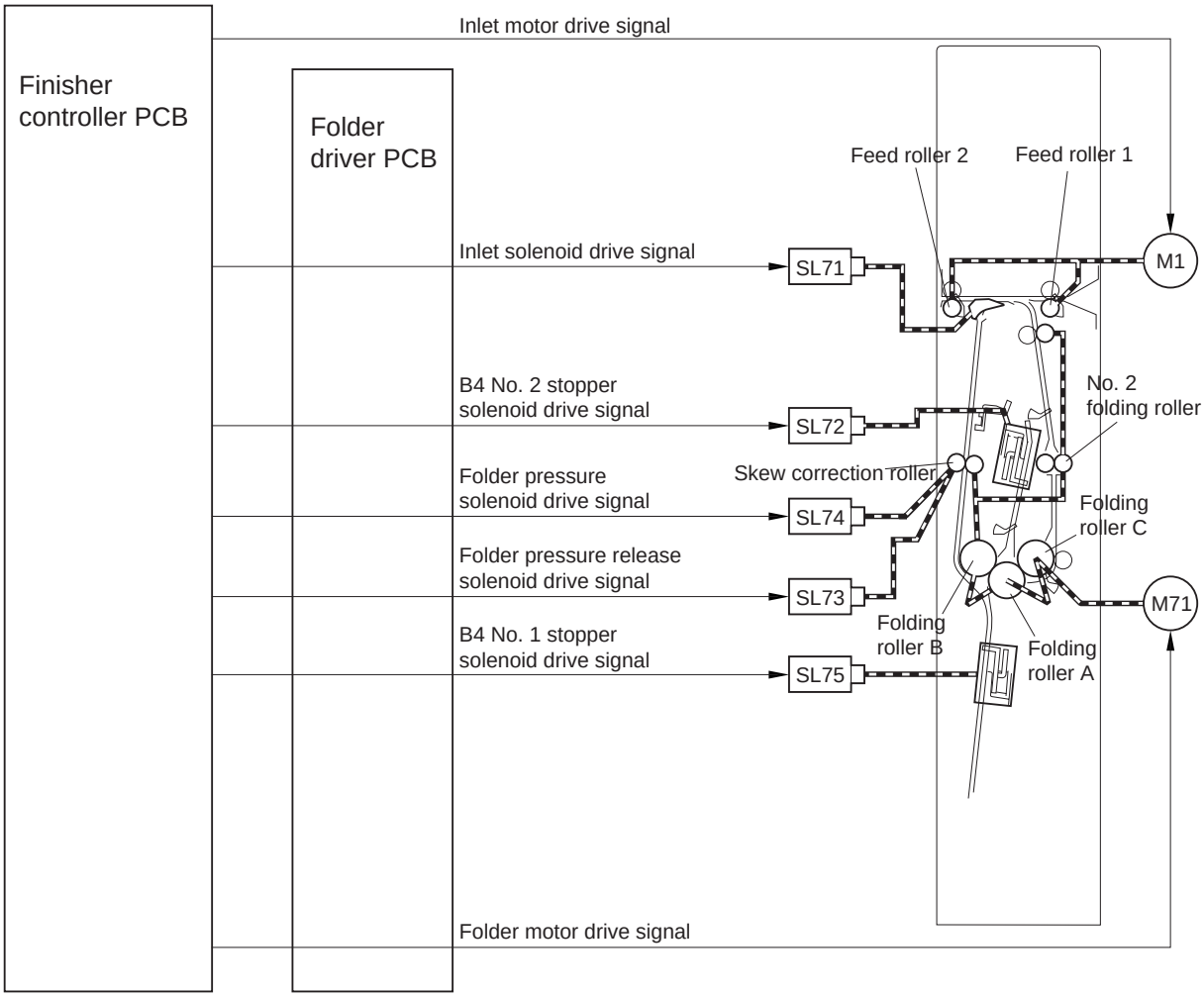
2.2 Feed Drive System

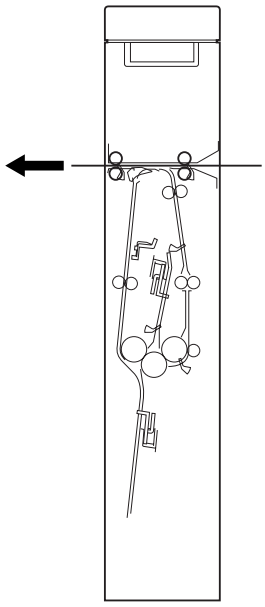
2.2.1 Overview

The machine moves paper arriving from its host machine to the finisher by means of various feed rollers.
The feed rollers 1 and 2 are driven by the inlet motor (M1) of the finisher.
The skew roller, folding rollers A and B, and No. 2 folding roller are driven by the folder motor (M71).
The machine turns on/off the inlet solenoid (SL71) according to the mode selected on the host machine.
The machine has the following feed functions:
- stopping the paper for folding
- removing the skew
- folding the paper



F-2-2

Through Path Transport



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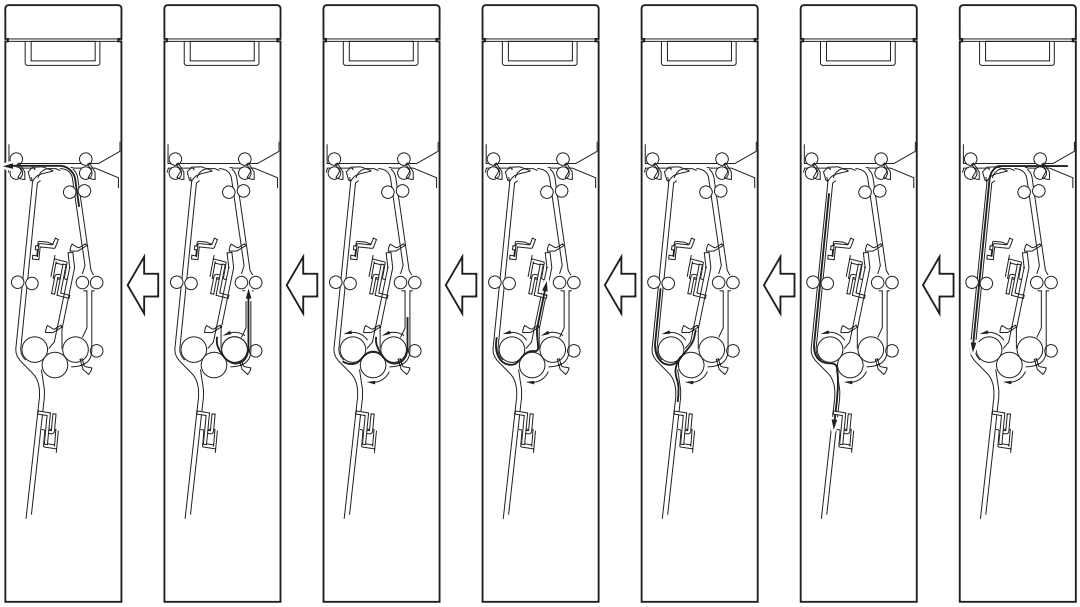
Z-Folding



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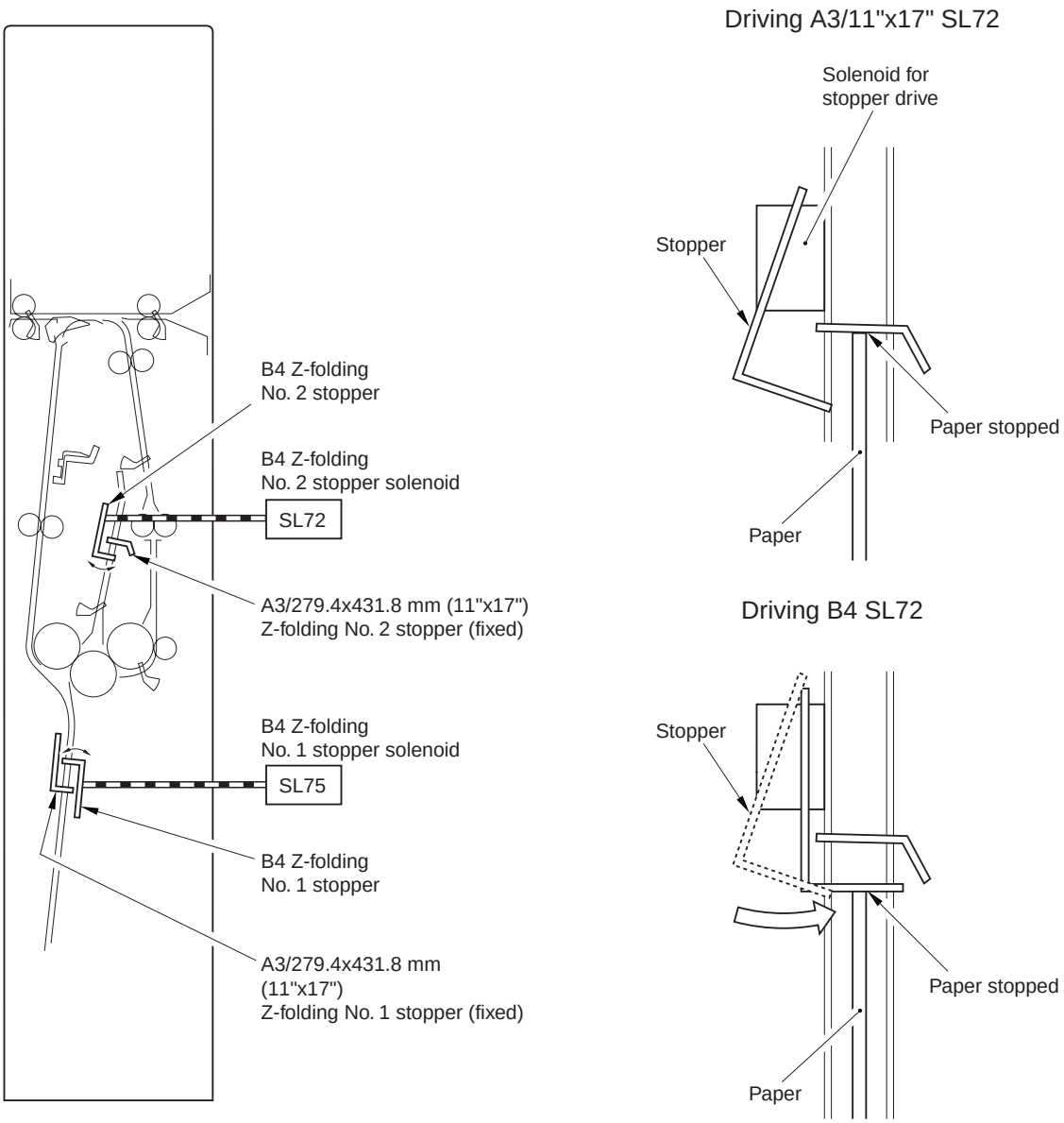
2.2.2 Stopping the Paper for Folding

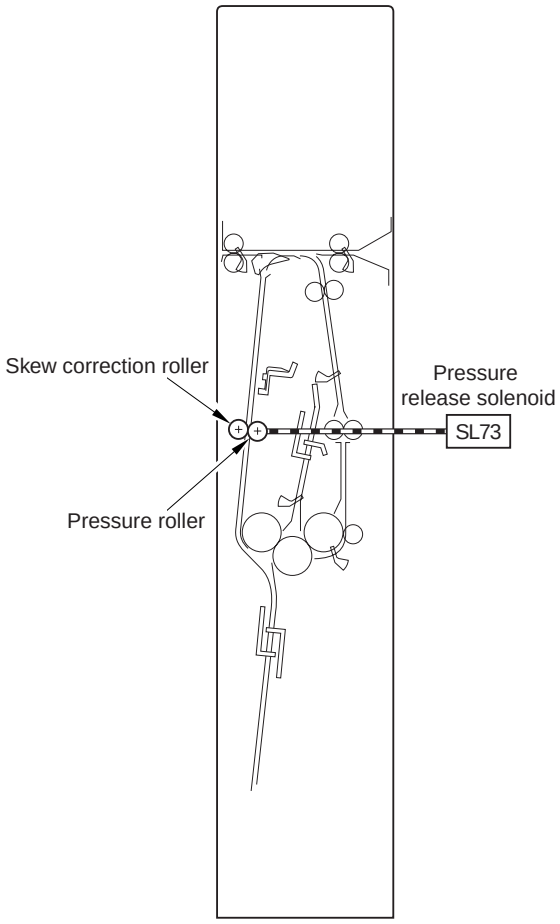
The machine uses either of 2 stoppers: one for A3/11x17, and the other for B4, driven when their respective solenoids go on to stop the paper.



F-2-5

2.2.3 Correcting the Skew

Before starting to fold paper, the machine removes the skew, if any, using the skew correction roller and the pressure roller.



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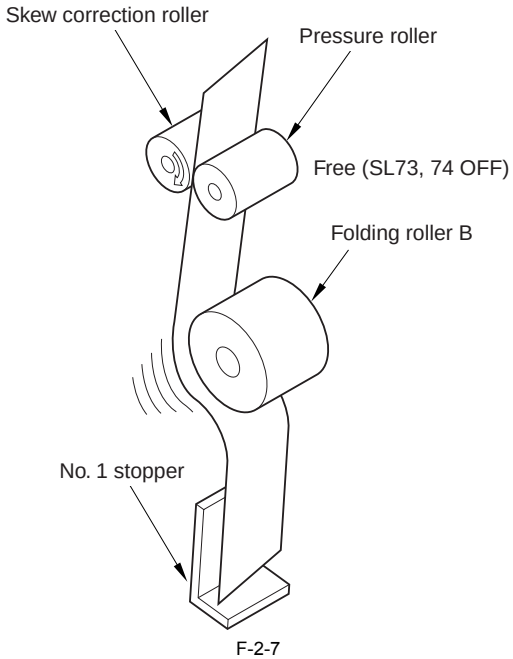
1) The paper is moved by the skew correction roller while remaining in contact with the skew correction roller and, as a result, is made to arch.



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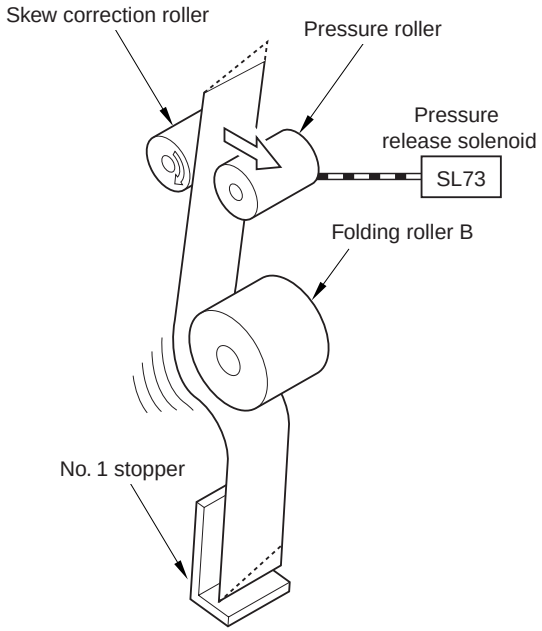
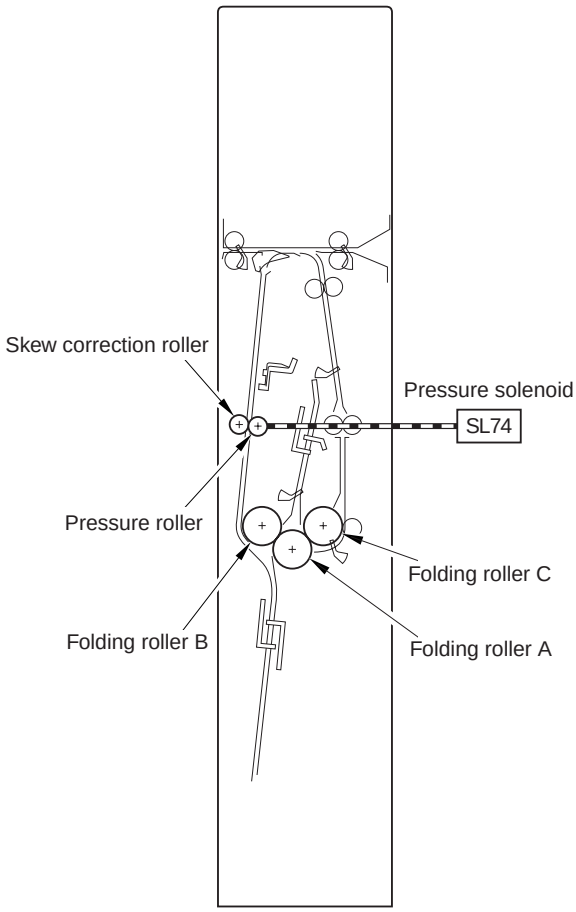
2) When the pressure release solenoid (SL73) goes on, the pressure roller moves away from the paper to correct any skew.


Skew correction roller
Pressure roller
Pressure
release solenoid
SL73
Folding roller B
No. 1 stopper

F-2-8

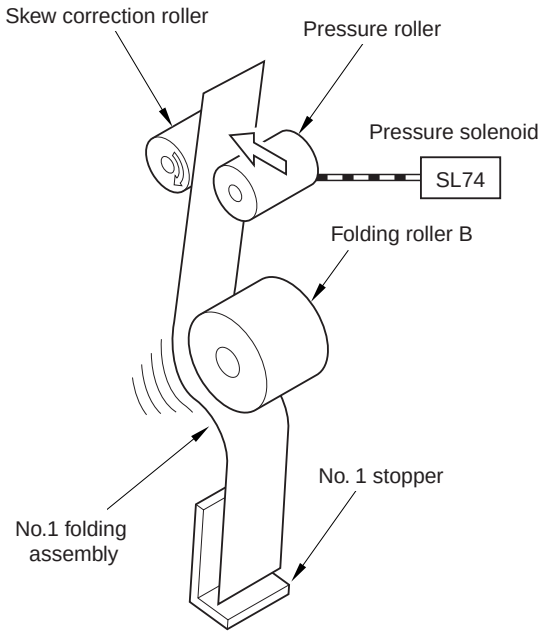
2.2.4 Folding

After removing the skew, the folding rollers A, B, and C fold the paper into a Z.



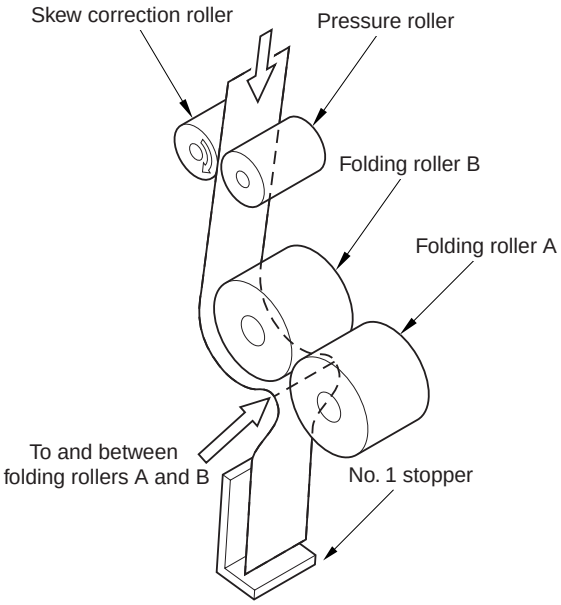
F-2-9

1) After removing the skew, and the machine turns on the pressure solenoid (SL74) so that the pressure roller comes into contact with the skew correction roller and moves and arches the paper.



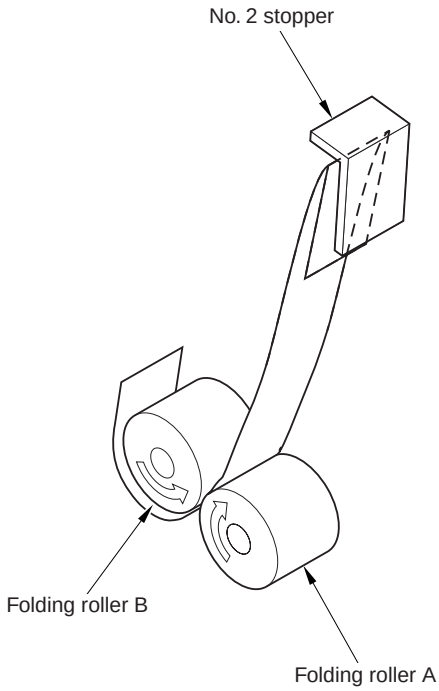
F-2-10

2) As the paper arches more and more, it is pulled between folding rollers A and B and folded (1st folding).



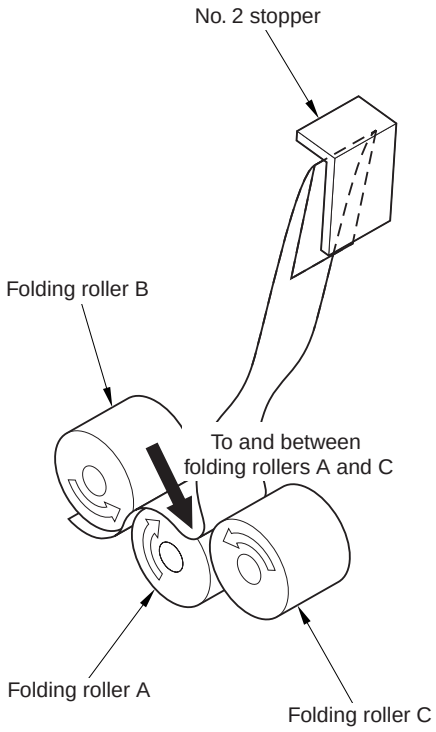
F-2-11

3) When folded, the paper is moved to the No. 2 stopper by the work of folding rollers A and B and stopped when its lead edge hits the No. 2 stopper.



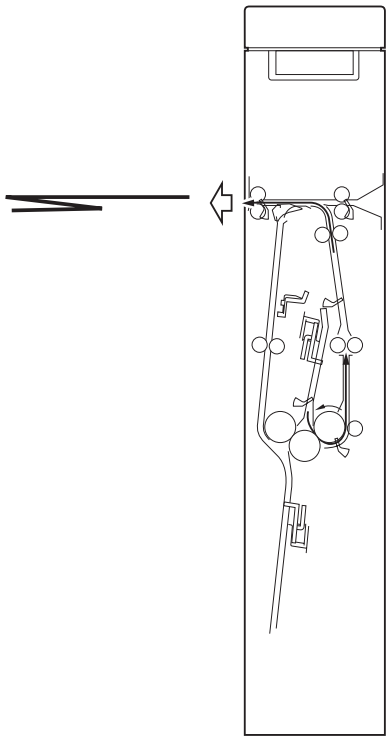
F-2-12

4) The paper is moved farther by folding rollers A and B and is made to arch.
5) As the paper arches more and more, it is pulled between folding rollers A and C and folded (2nd folding).



F-2-13

6) When folded into a Z, the paper is moved to the finisher.

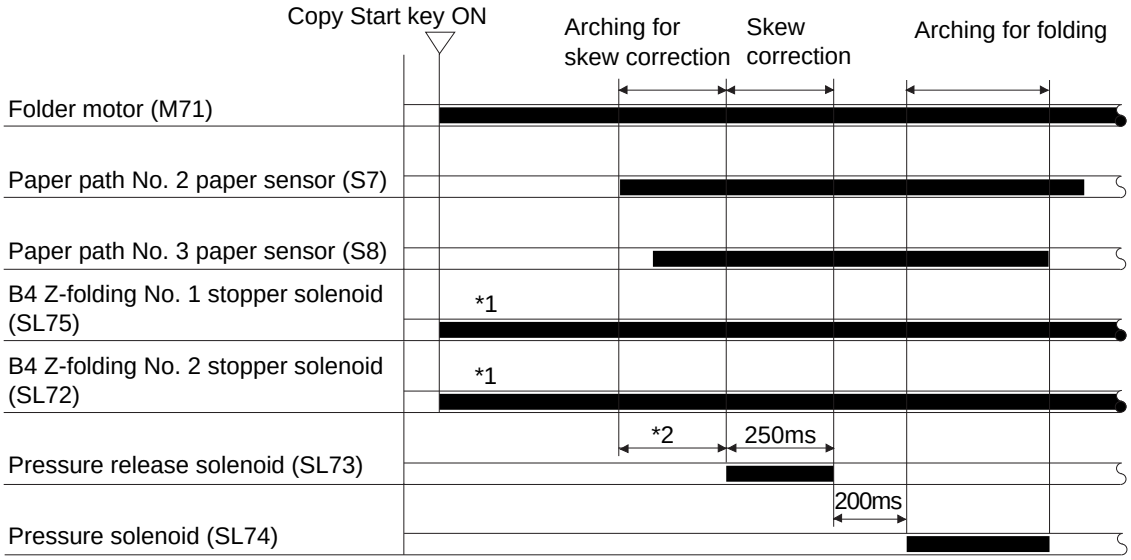


F-2-14

2.2.5 Controlling the Speed of Transport

The machine controls the folder motor (M71) and the inlet motor (M1) of the finisher to control the speed of paper transport.
The transport speed is always the process speed, identical to the process speed of the host machine (between 523 and 1012 mm/sec).
When folding is not selected, the speed of transport is controlled by the inlet motor (M1) of the finisher.

2.2.6 Start-Up Sequence



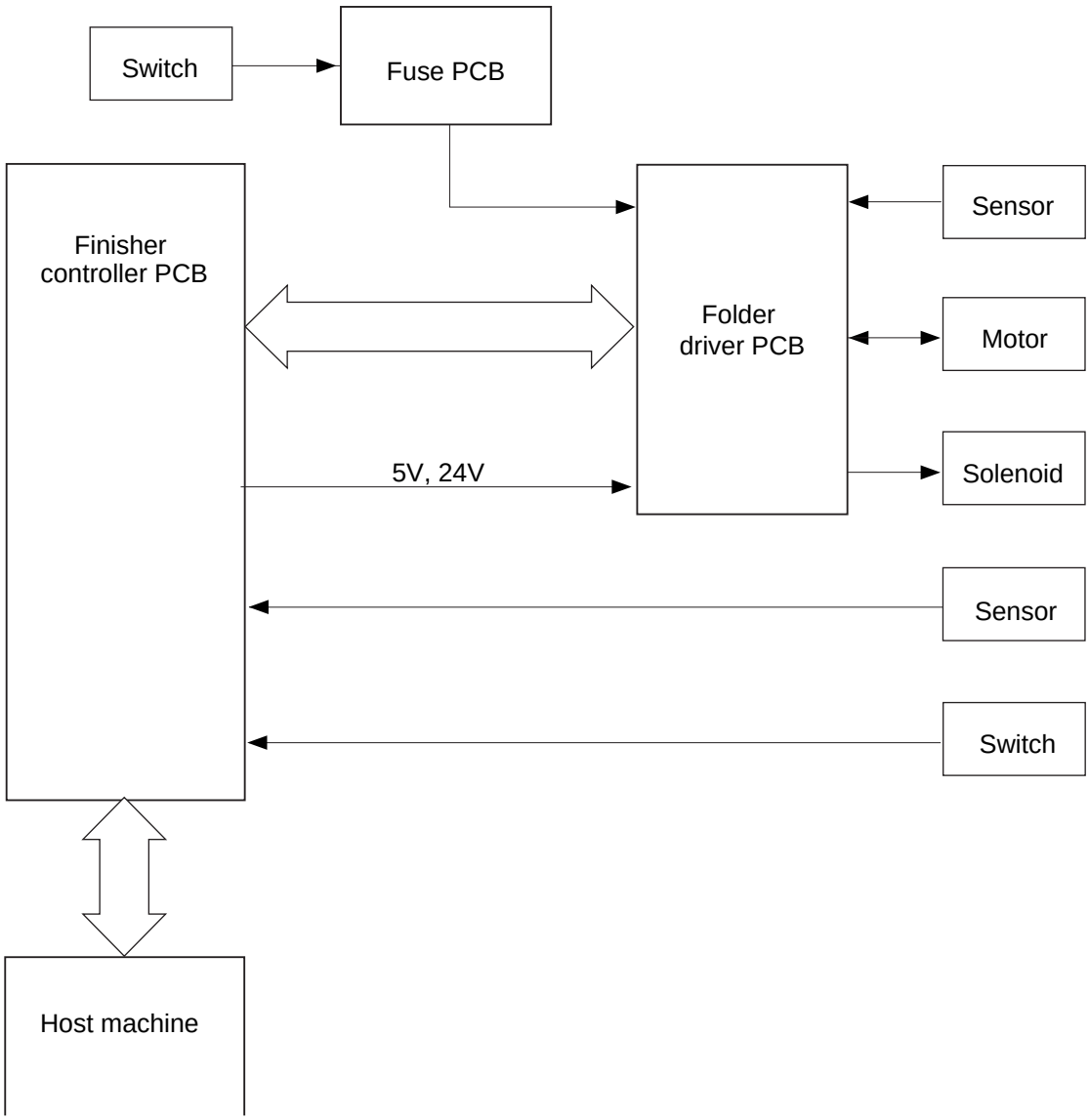
*1: goes on only when B4 is being used.
*2: varies according to paper size.

F-2-15

2.3 Electrical Control Unit

2.3.1 Diagram of Electrical Circuitry

The finisher is controlled by the finisher controller PCB.
The folder driver PCB receives the signal from the finisher controller PCB to drive the motors and solenoids. The power (5V, 24V) from the finisher controller PCB is supplied to the individual loads of the folder.



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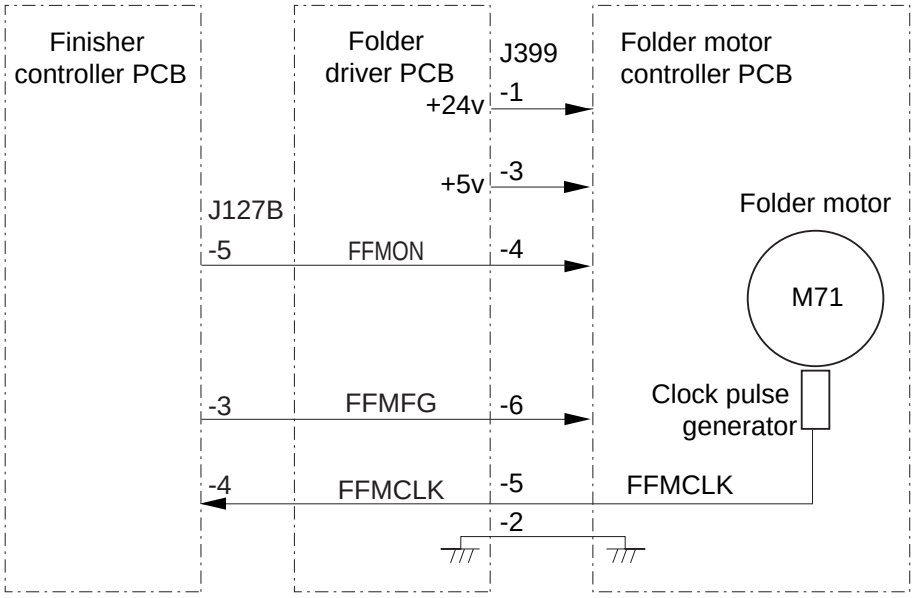
2.3.2 Controlling the Folder Motor

The finisher controller sends reference pulses (FFMFG) to the folder motor controller PCB.
When the folder motor (M71) rotates, the folder controller PCB compares the reference pulses (FFMFG) and the clock pulses (FFMCLK) and controls them so that they are identical. The clock pulses (FFMCLK) are also sent to the finisher controller for synchronization with the inlet motor (M1) of the finisher.
The finisher controller PCB monitors the clock pulses (FFMCLK); if the number of pulses occurring over a period of 1 sec does not reach a specific value, the machine will identify the condition as a fault in the folder motor, stopping the motor and, at the same time, indicating error code E518.



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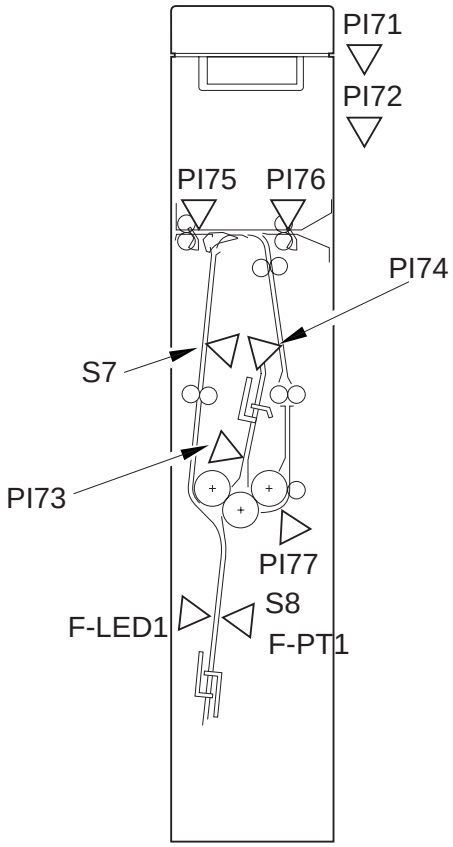
2.4 Detecting Jams

2.4.1 Overview

The machine's paper path is equipped with 9 sensors for detection of jams. The machine detects the presence/absence of a jam with reference to the signal from a specific sensor at such times as programmed in the CPU of the finisher controller PCB.
When the CPU identifies the presence of a jam, the machine sends the jam signal to its host machine, thereby causing the host machine to stop operating and to indicate a jam message in its control panel.
The CPU identifies any of the following as the presence of a jam:
- at power-on or at the end of a warm-up period, there is paper over a specific sensor (power-on jam)
- paper fails to reach a specific sensor within a specific period of time (delay jam)
- paper fails to move past a specific sensor within a specific period of time (stationary jam)
- the upper cover is opened while the folder is in operation (door open jam)

T-2-1

Notation	Sensor	Description	Code
PI76	paper path paper sensor 1	detects delay, stationary, and power-on jams	0011/0021
S7	paper path paper sensor 2	detects delay, stationary, and power-on jams	0012/0022
S8 (F-LED1)	paper path paper sensor 3 (light-emitting)	detects delay, stationary, and power-on jams	0013/0023
S8 (F-PT1)	paper path paper sensor 3 (light-receiving)	detects delay, stationary, and power-on jams	0013/0023
PI75	paper path paper sensor 4	detects delay, stationary, and power-on jams	0014/0024
PI73	folding path residual paper sensor 1	detects power-on jams	0007
PI77	folding path residual paper sensor 2	detects power-on jams	0007
PI74	folding path residual paper sensor 3	detects power-on jams	0007
PI71	upper cover open/closed sensor	detects door open jams	0008
PI72	folder placement sensor	detects door open jams	0008



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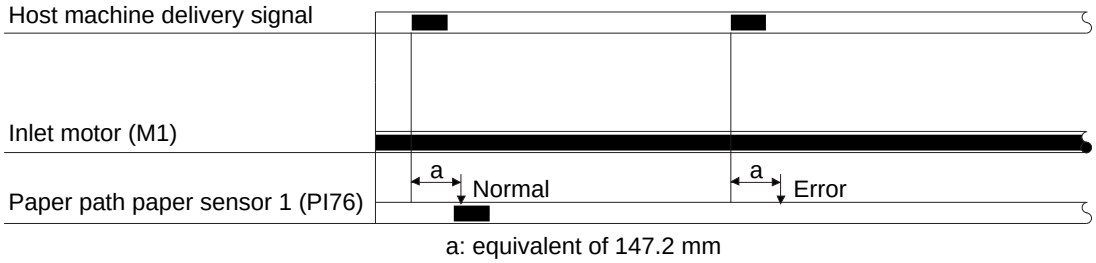
2.4.2 Timing of Jam Detection

Paper path paper sensor 1 delay jam (0011)



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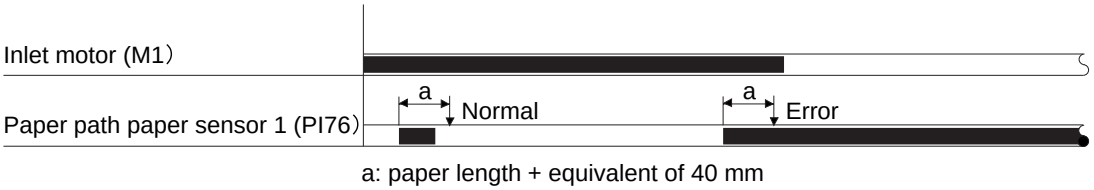
Paper path paper sensor 1 stationary jam (0021)



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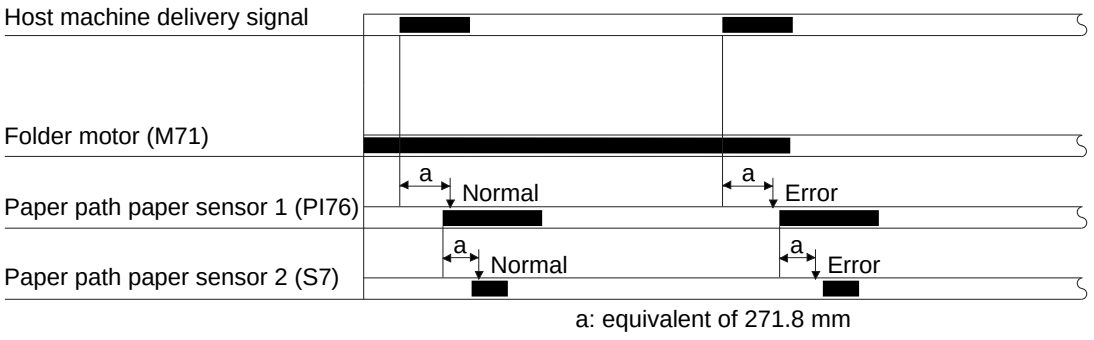
Paper path paper sensor 2 delay jam (0012)



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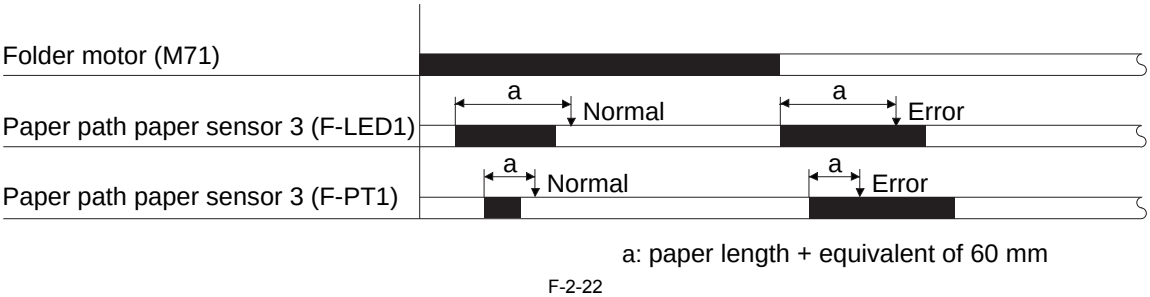
Paper path paper sensor 2 stationary jam (0022)



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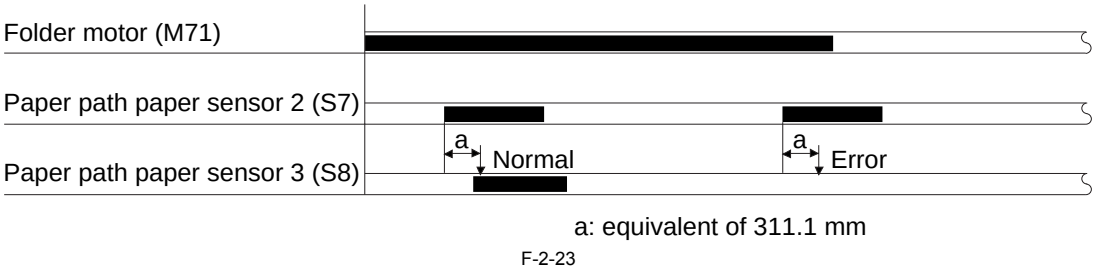
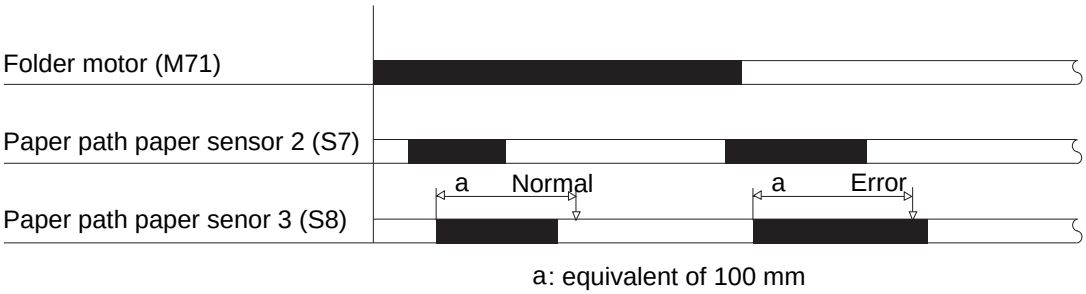
Paper path paper sensor 3 delay jam (0013)



F-2-23

Paper path paper sensor 3 stationary jam (0023)



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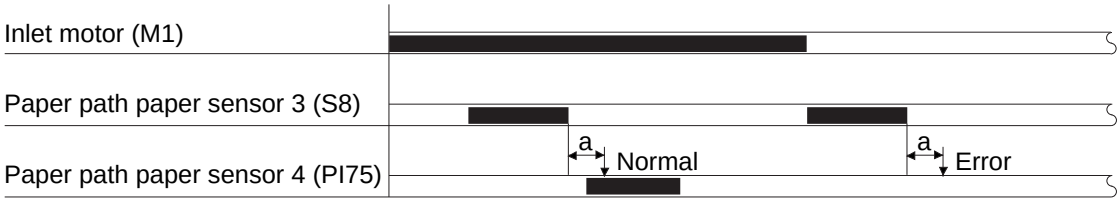
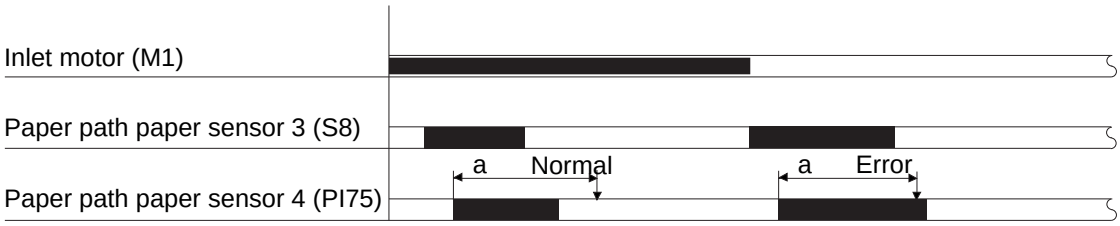
Paper path paper sensor 4 delay jam (0014)



F-2-25

Paper path paper sensor 4 stationary jam (0024)



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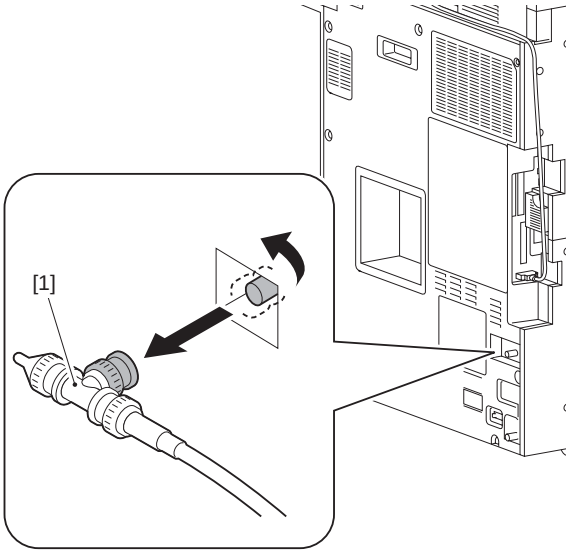
3.1 Removing from the Host Machine

3.1.1 Folder Assembly

3.1.1.1 Removing from the Host Machine

Make sure that the power of the host machine is turned off and the power plug is removed from the outlet.

1) Remove the signal cable [1] from the host machine.



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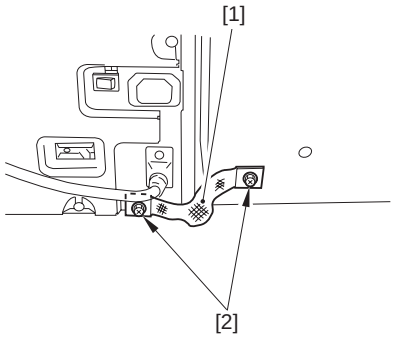
2) Remove the shunt cable [1].
- 2 screws [2]



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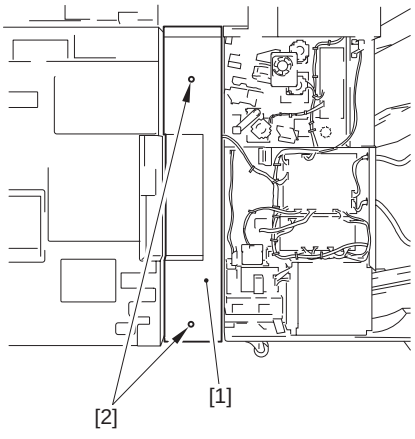
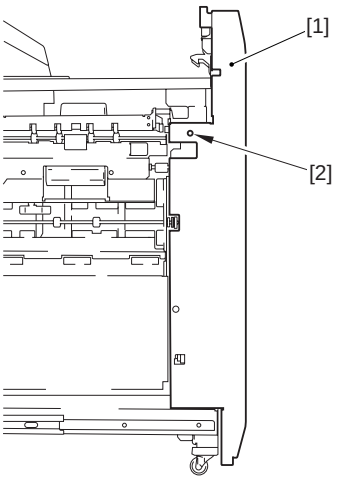
3) Remove the rear cover [1].
- 2 screws [2]



F-3-3

4) Remove the front cover [1].
- 3 screws [2]

<Left side>



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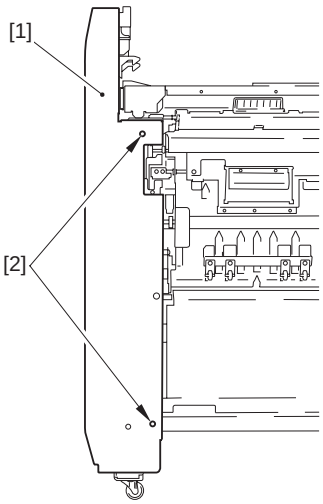
<Right side>



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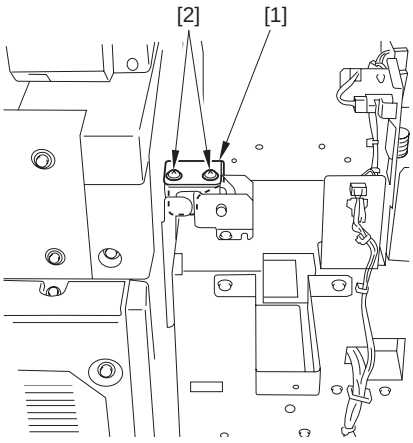
5) Remove the reinforcing plate [1] from the hook (rear).
- 2 screws [2]



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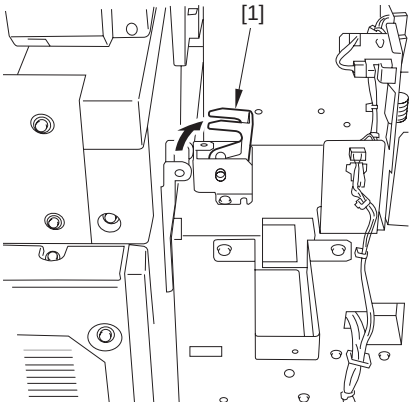
6) Lift the hook (rear) [1].



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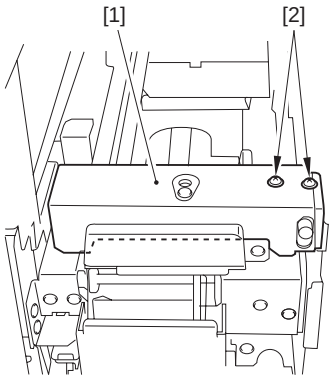
7) Remove the magnet catch plate [1].
- 2 screws [2]



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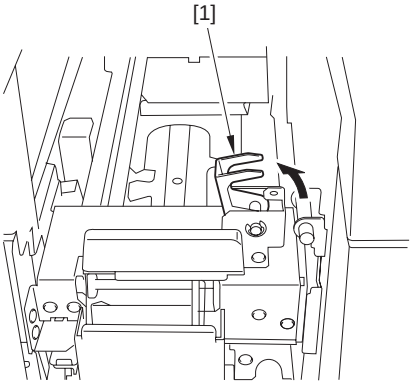
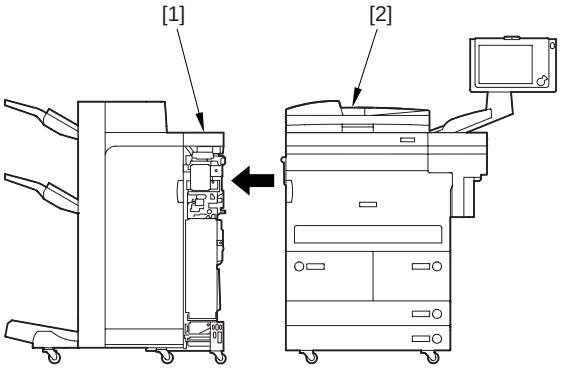
8) List the hook (front) [1].



F-3-9

9) Disconnect the finisher [1] and the host machine [2].



F-3-10

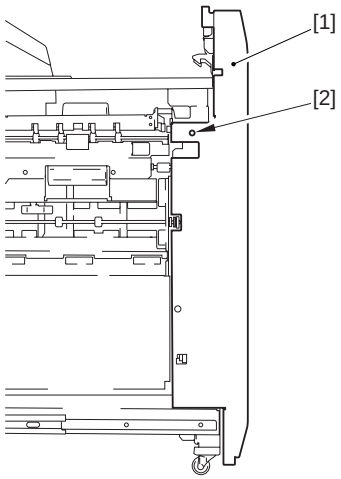
3.2 External Covers

3.2.1 Front Cover

3.2.1.1 Removing the Front Cover

1) Slide out the folder assembly.
2) Remove the front cover [1] of the folder unit.
- 3 screws [2]

<Left>



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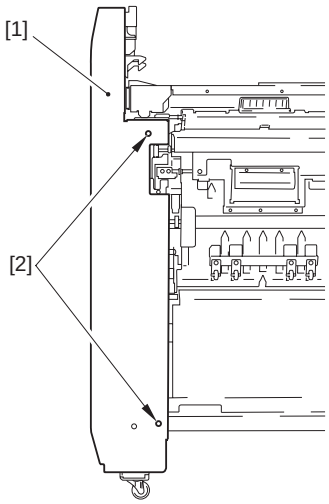
<Right>

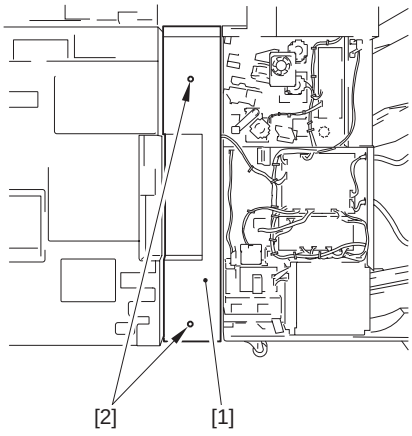


F-3-12

3.2.2 Rear Cover

3.2.2.1 Removing the Rear Cover

1) Remove the rear cover [1] of the folder unit.
- 2 screws [2]



F-3-13

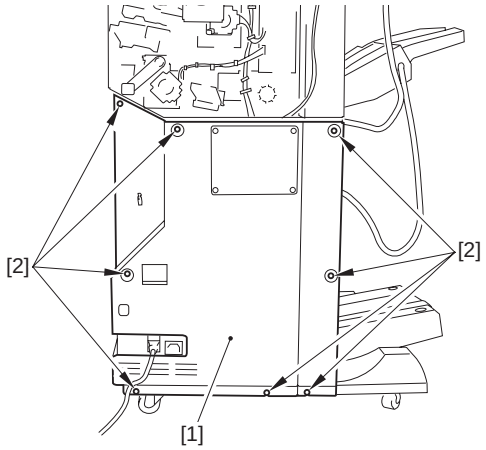
3.2.3 Rear Lower Cover

3.2.3.1 Before Removing the Lower Rear Cover

1) Remove the middle rear cover. (page 3-3) Reference[Removing the Middle Rear Cover]

3.2.3.2 Removing the Lower Rear Cover

1) Remove the middle rear cover.
   - 8 screws [2]

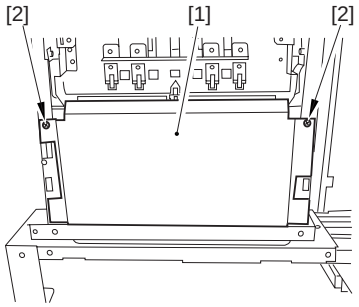


F-3-14

3.2.4 Lower Right Cover

3.2.4.1 Removing the Lower Right Cover

1) Open the upper cover, and slide out the folding unit.
2) Remove the lower right cover [1].
   - 2 screws [2]

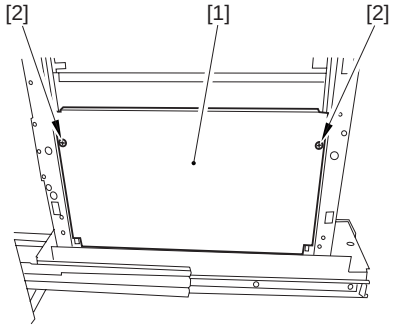


F-3-15

3.2.5 Lower Left Cover

3.2.5.1 Removing the Lower Left Cover

1) Open the upper cover, and slide out the folder unit.
2) Remove the lower left cover [1].
   - 2 screws [2]

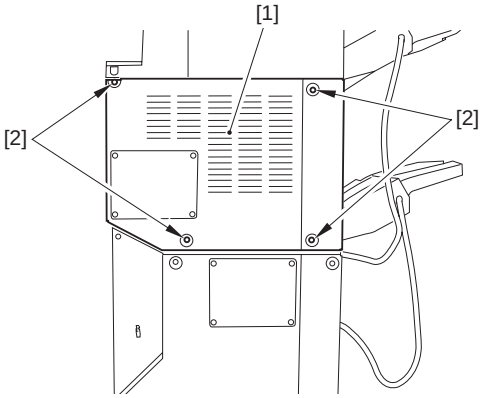


F-3-16

3.2.6 Rear Middle Cover

3.2.6.1 Removing the Middle Rear Cover

1) Remove the middle rear cover [1].
   - 4 screws [2]



F-3-17

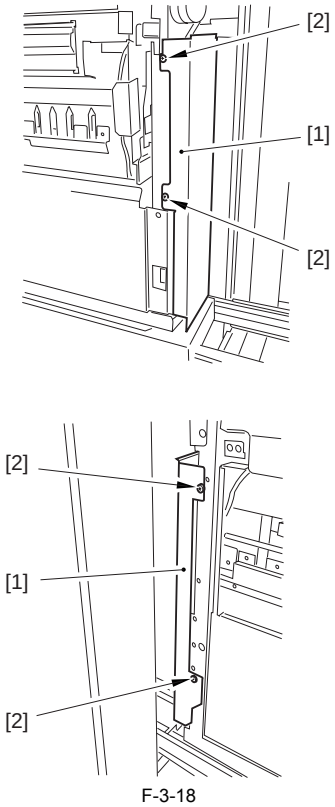
3.2.7 Inside Cover (Front)

3.2.7.1 Before Removing the Inside Cover (rear)

1) Remove the front cover. (page 3-2) Reference[Removing the Front Cover]

3.2.7.2 Removing the Inside Cover (front)

1) Remove the inside cover (front) [1].
   - 4 screws [2]



F-3-18

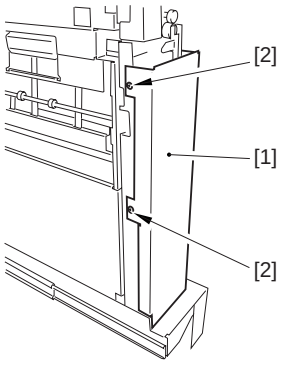
3.2.8 Inside Cover (Rear)

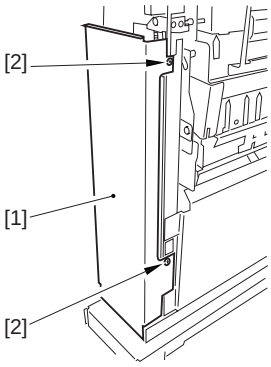
3.2.8.1 Before Removing the Inside Cover (rear)

1) Remove the rear cover. (page 3-2) Reference[Removing the Rear Cover]

3.2.8.2 Removing the Inside Cover (rear)

1) Remove the inside cover (rear) [1].
   - 4 screws [2]





F-3-19

3.3 Drive System

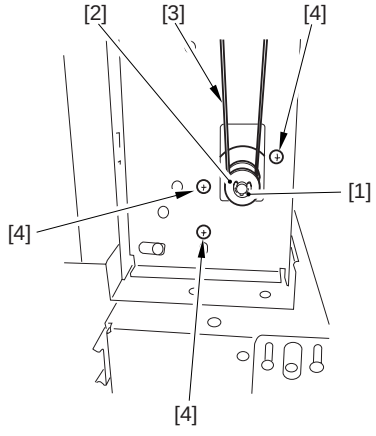
3.3.1 Folder Motor

3.3.1.1 Before Removing the Folder Motor

1) Remove the rear cover. (page 3-2) Reference[Removing the Rear Cover]
2) Remove the lower right cover. (page 3-3) Reference[Removing the Lower Right Cover]
3) Remove the inside cover (front). (page 3-3) Reference[Removing the Inside Cover (front)]

3.3.1.2 Removing the Folder Motor

1) Remove the E-ring [1], and detach the gear cover [2].
2) Remove the drive belt [3].
3) Remove the 3 screws [4].



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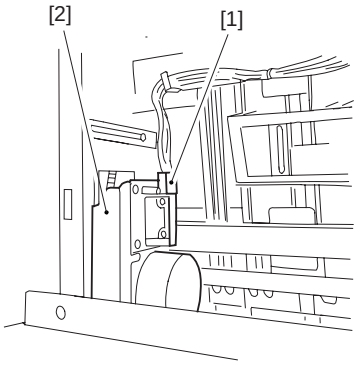
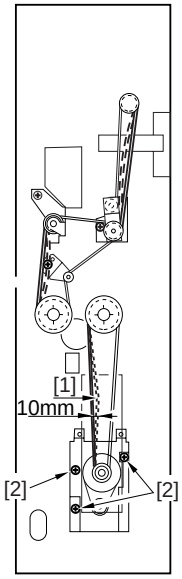
4) Disconnect the connector [1], and detach the folder motor [2].



F-3-21

3.3.1.3 After Replacing the Folder Motor

Tighten the screw [2] so that the slack of the transport belt [1] is 10 mm when it is pushed with a force of 500 +/-100 g using a tension gauge.



F-3-22

3.4 Electrical System

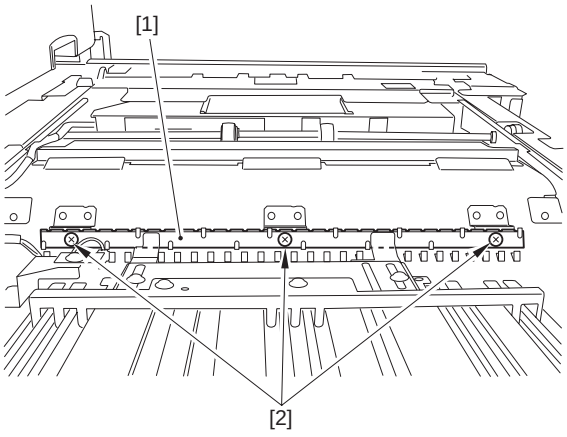
3.4.1 Left Guide Static Eliminator

3.4.1.1 Before Removing the Left Guide Static Eliminator

1) Remove the lower left cover. (page 3-3) Reference[Removing the Lower Left Cover]

3.4.1.2 Removing the Left Guide Static Eliminator

1) Remove the left guide static eliminator [1].
   - 3 screws [2]



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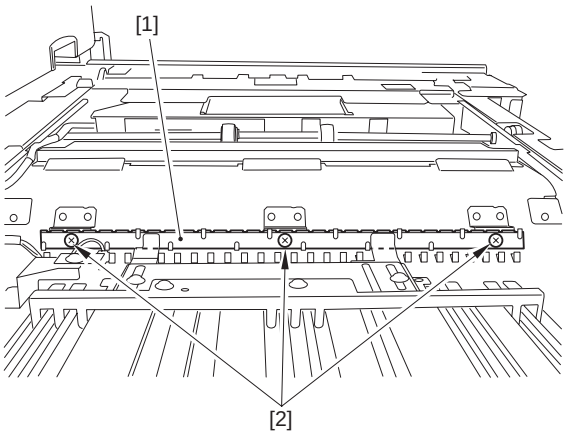
3.4.1.3 After Replacing the Left Guide Static Eliminator

1) Temporarily tighten the 3 adjusting screws [2] of the left guide static eliminator.



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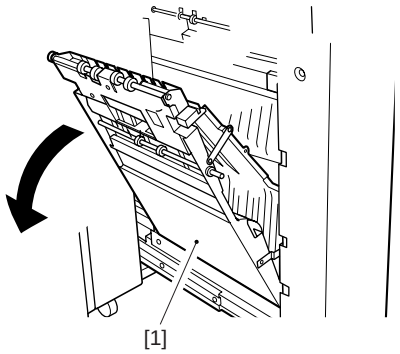
2) Open the left guide [1].



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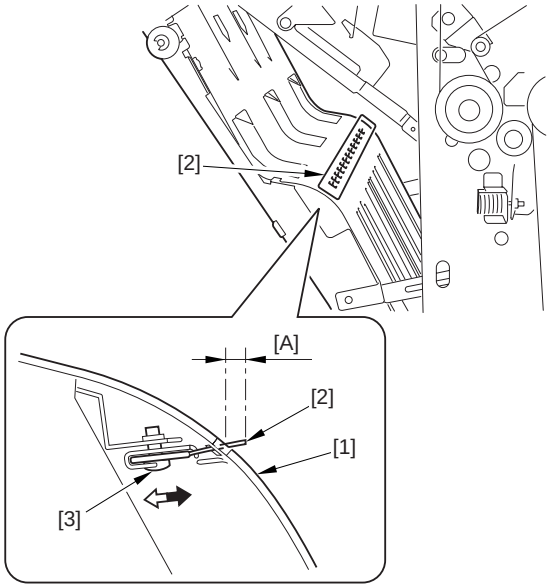
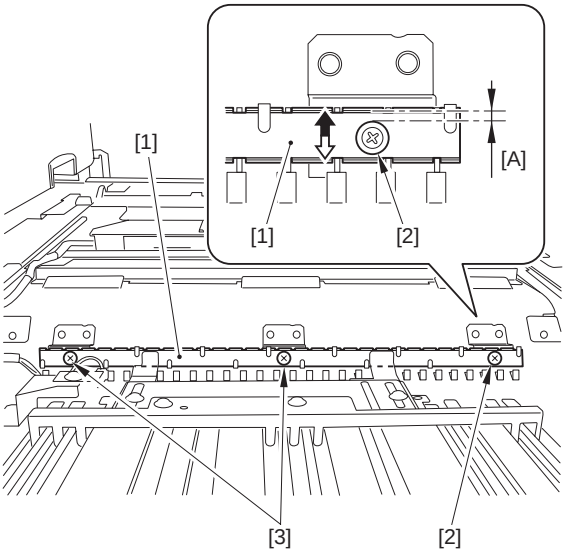
3) Make adjustments so that the extension [A] of the static eliminator [2] and the guide surface [1] of the left guide is 1 +0.3/-0.3 mm; then, tighten the adjusting screw at the front.



F-3-26

4) Measure the distance [A] between the guide surface of the left guide static eliminator [1] and the screw [2]; then, adjust the remaining 2 screws [3] in the same way. Fully tighten the screws.



F-3-27

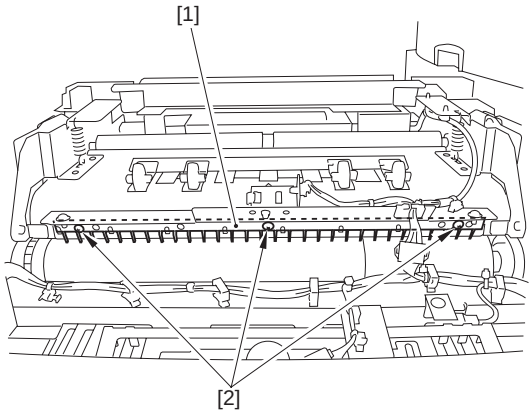
3.4.2 Right Guide Static Eliminator

3.4.2.1 Before Removing the Right Guide Static Eliminator

1) Remove the lower right cover. (page 3-3)Reference[Removing the Lower Right Cover]

3.4.2.2 Removing the Right Guide Static Eliminator

1) Remove the right guide static eliminator [1].
- 3 screws [2]



F-3-28

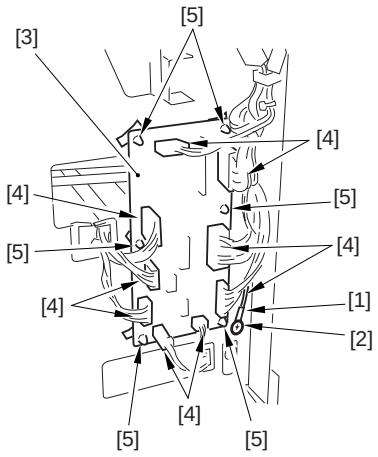
3.4.3 Folder Driver PCB

3.4.3.1 Before Removing the Folder Driver PCB

1) Remove the rear cover. (page 3-2) Reference[Removing the Rear Cover]
2) Open the upper cover, and slide out the folder unit.
3) Remove the inside cover (rear). (page 3-3) Reference[Removing the Inside Cover (rear)]
4) Put the folder unit back into position; then, close the upper cover.

3.4.3.2 Removing the Folder Driver PCB

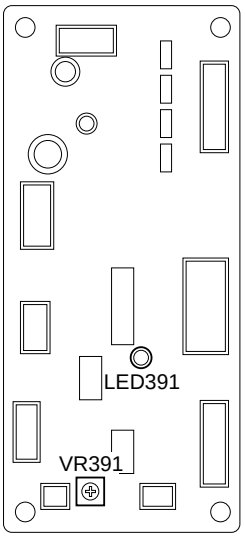
1) Remove the grounding wire [1].
   - 1 screw [2]
2) Remove the folder driver PCB [3].
   - 9 connectors [4]
   - 6 PCB supports [5]



F-3-29

3.4.3.3 When Replacing the Folder Driver PCB

1) Turn on the finisher.
2) Turn VR391 so that LED391 on the folder PCB flashes, indicating the adjustment of the sensitivity of the light-receiving side of the sensor. If the LED remains on after turning VR391, the presence of a fault is likely. Replace the sensor or the folder driver PCB.



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Chapter 4 Maintenance

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4.1 Maintenance and Inspection

4.1.1 Periodically Replaced Parts

4.1.1.1 Periodically Replaced Parts

The machine does not have parts that must be replaced on a periodical basis.

4.1.2 Durables

4.1.2.1 Durables

Some parts of the machine may require replacement once or more because of deterioration or damage. Replace them as necessary.

No.	Parts name	Parts No.	Q'ty	Life	as of November 2005 Remarks
1	Static eliminator (right)	FA1-4842	1	1,000,000 folding operations	
2	Static eliminator (left)	FA4-2371	1		

4.1.3 Periodical Servicing

4.1.3.1 Scheduled Servicing

The machine does not have parts that must be serviced on a scheduled basis.

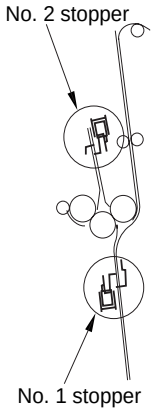
4.2 Adjustment

4.2.1 Basic Adjustment

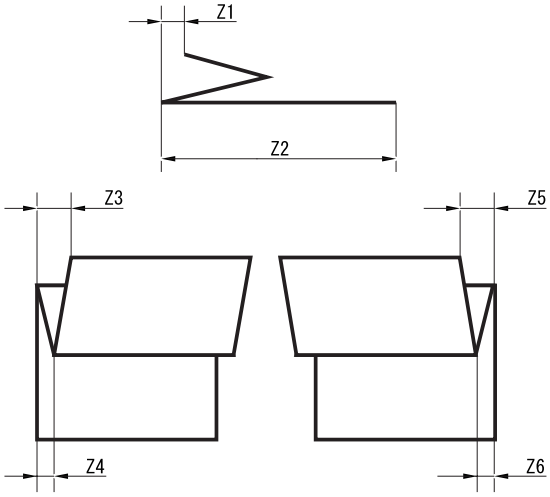
4.2.1.1 Adjusting the Folder Stopper

The folding position may be adjusted or the skew may be removed by adjusting the stopper position.

	Dimension	Adjusting stopper	Adjustment
Z1	long	No. 1 stopper	lower
	short		raise
Z2	long	No. 2 stopper	raise
	short		lower
Z3	long	No. 1 stopper	raise
Z5	long		lower
Z4	long	No. 2 stopper	raise
Z6	long		lower



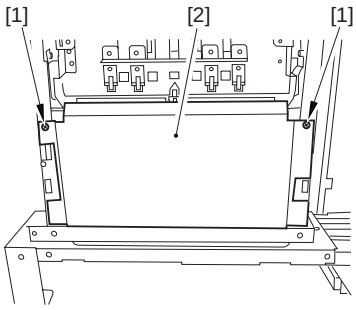
F-4-1



F-4-2

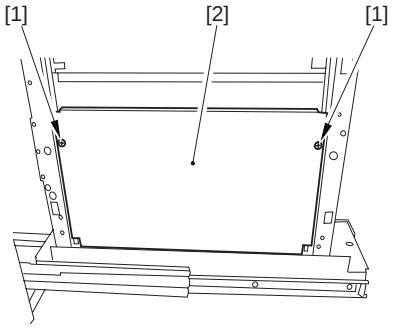
Adjusting the No. 1 Stopper

1) Open the top cover, and slide out the folder unit.
2) Remove the 2 screws [1], and detach the lower right cover [2].



F-4-3

3) Remove the 2 screws [1], and detach the lower right cover [2].



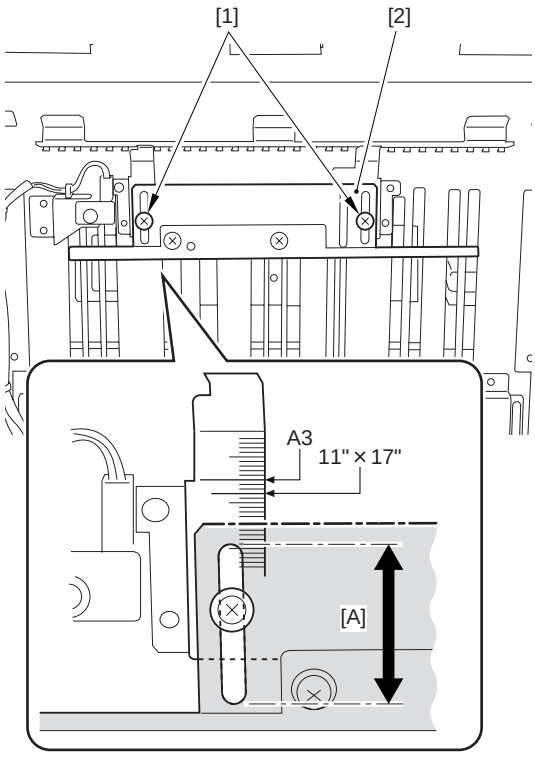
F-4-4

a) Adjusting the Folding Position

a-1) Loosen the 2 screws [1] on the outside, and move the No. 1 stopper [2] up and down to adjust the folding position.

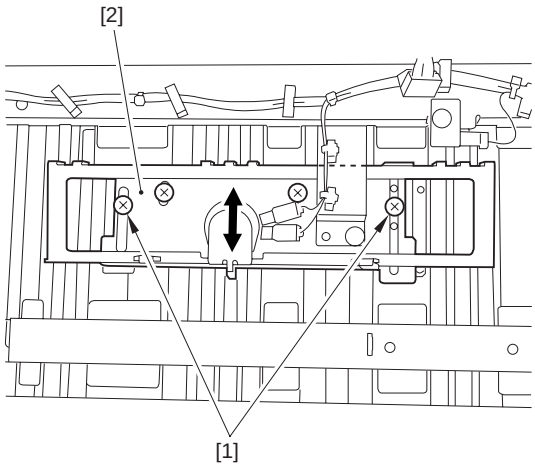
- if dimension Z1 is too long, lower the folding position of the No. 1 stopper.
- if dimension Z1 is too short, raise the folding position of the No. 1 stopper.

if A3/11x17,



F-4-5

If B4,

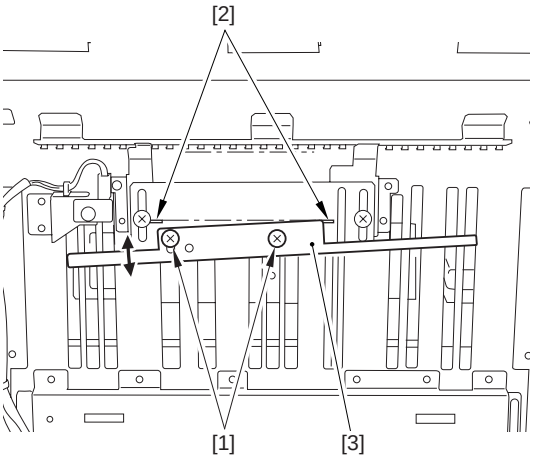


F-4-6

b) Adjusting the Angle

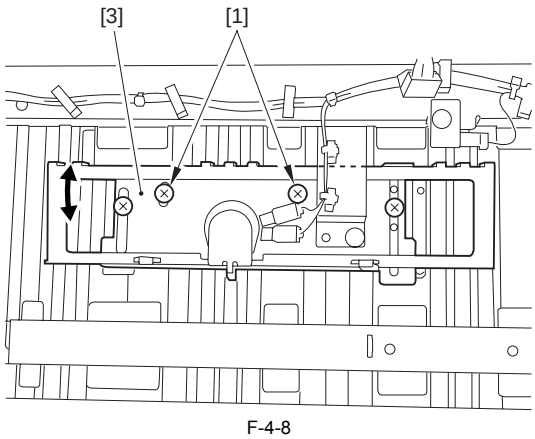
b-1) Loosen the 2 screws [1] on the inside, and move the No. 1 stopper [3] up and down in relation to the reference line [3] to adjust the angle.
- if dimension Z3 is too long, raise the angle position of the No. 1 stopper.
- if dimension Z5 is too long, lower the angle position of the No. 1 stopper.

If A3/11x17,



F-4-7

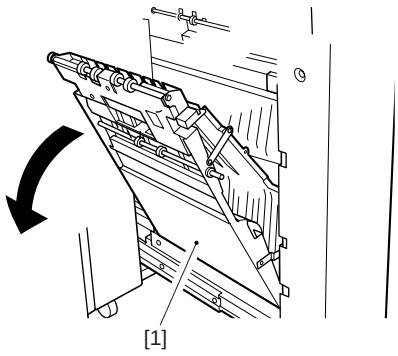
If b4,



F-4-8

Adjusting the No. 2 Stopper

1) Slide out the folder unit, and open the left guide [1].

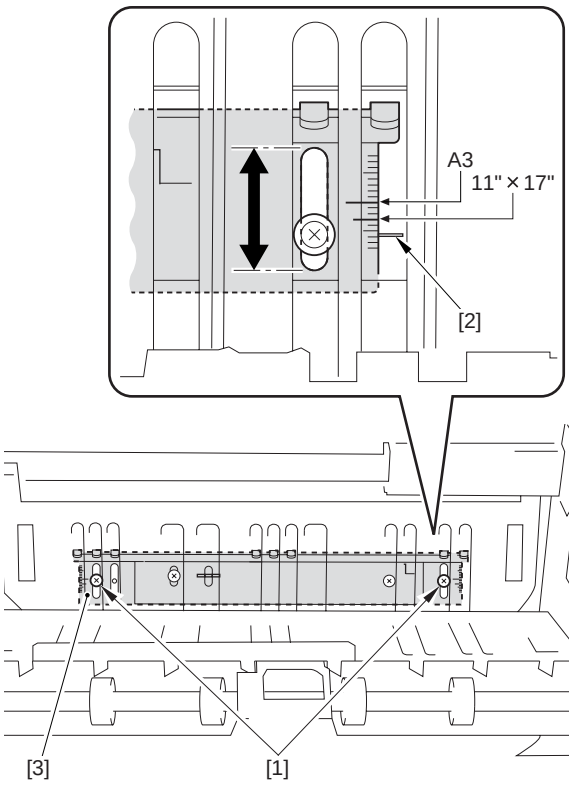


F-4-9

a) Adjusting the Folding Position

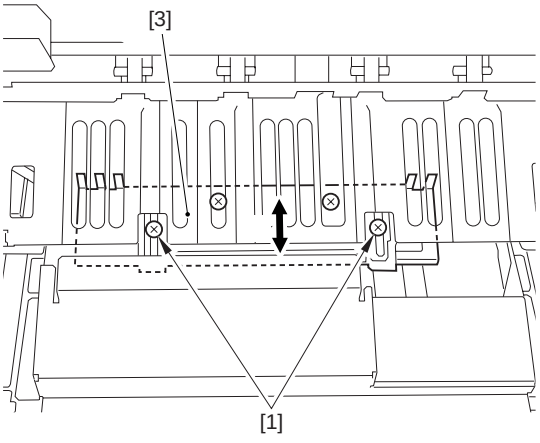
a-1) Loosen the 2 screws [1] on the outside, and move the No. 2 stopper [3] in relation to the reference line [1] to adjust the folding position.
- if dimension Z2 is too long, raise the folding position of the No. 2 stopper.
- if dimension Z2 is too short, lower the folding position of the No. 2 stopper.

If A3/11x17,



F-4-10

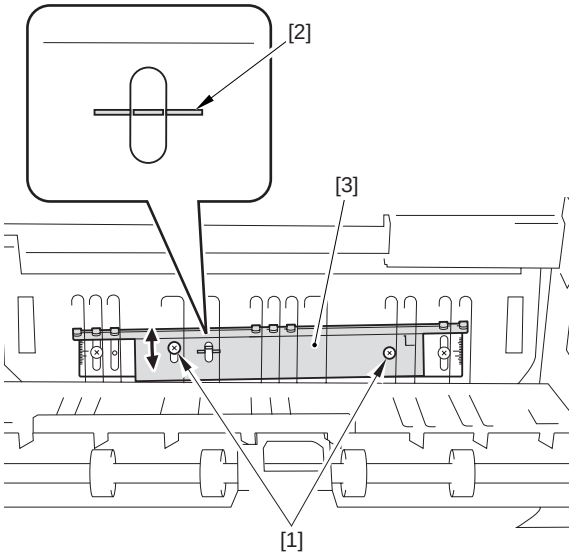
If B4,



F-4-11

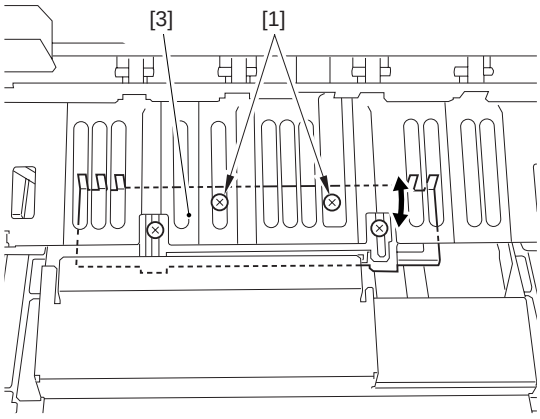
b) Adjusting the Angle
b-1) Loosen the 2 screws [1] on the inside, and move the No. 2 stopper [3] up and down to adjust the angle.
- if dimension Z4 is too long, raise the angle position of the No. 2 stopper.
- if dimension Z6 is too long, lower the angle position of the No. 2 stopper.

if A3/11x17,



F-4-12

If B4,

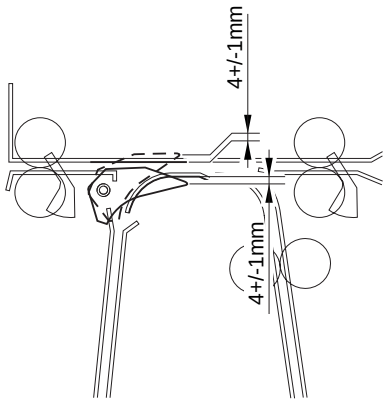


F-4-13

4.2.2 Adjustment at Time of Parts Replacement

4.2.2.1 Adjusting the Inlet Guide

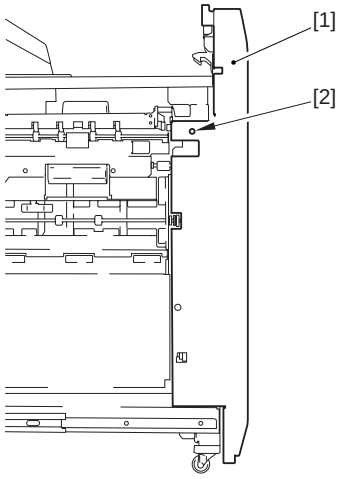
If you have replaced the inlet solenoid, make adjustments so that the state of the inlet guide when the inlet solenoid is on/off is as shown. (In practice, the distance cannot be measured.)



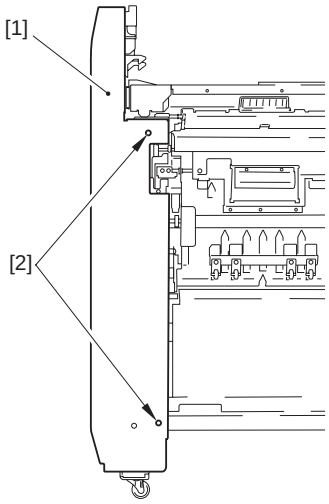
F-4-14

Adjusting the Inlet Solenoid for Its ON State

1) Open the upper cover, and slide out the folder unit.
2) Remove the 3 screws [2], and detach the front cover [1].

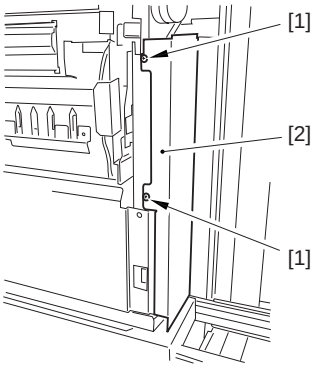


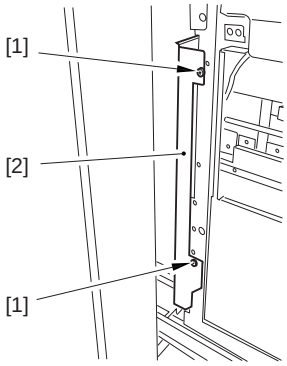
F-4-15



F-4-16

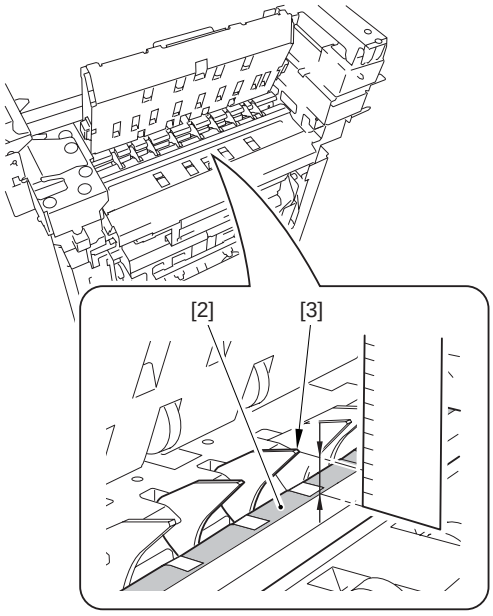
3) Remove the 4 screws [1], and detach the inside cover (front) [2].



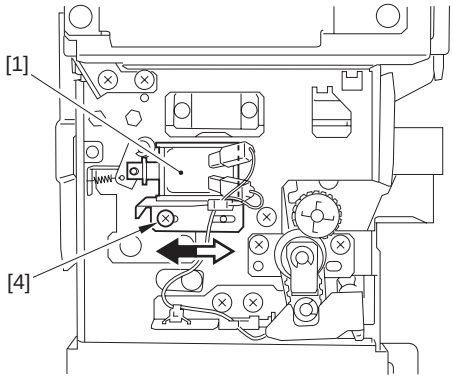


F-4-17

4) Loosen the adjusting screw [4] to adjust so that the distance between the lower guide plate [2] and the inlet guide [2] is 7 +1/-0 mm when the inlet solenoid (SL71) [1] is in an ON state.



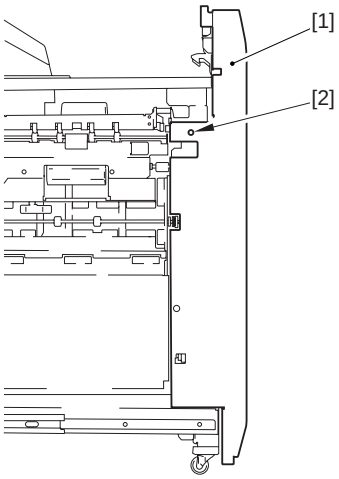
F-4-18



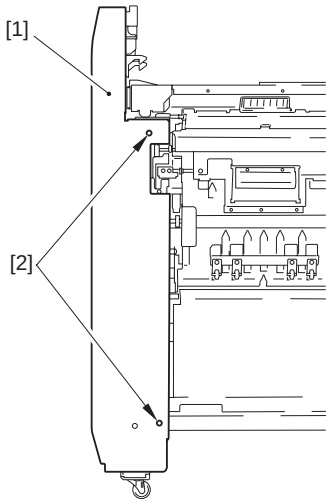
F-4-19

Adjusting the Inlet Solenoid for Its OFF State

1) Open the upper cover, and slide out the folder unit.
2) Remove the 3 screws [2], and detach the front cover [1].

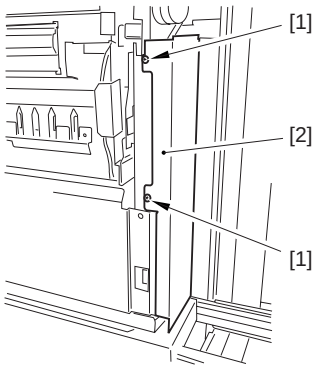


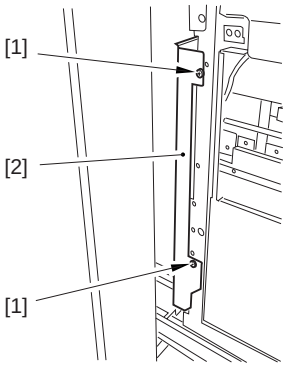
F-4-20



F-4-21

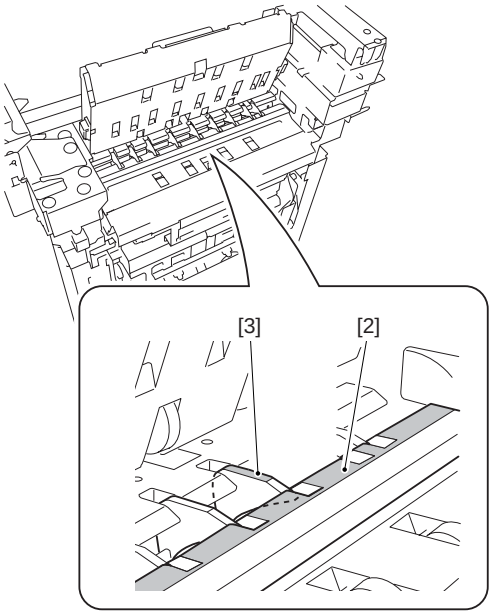
3) Remove the 4 screws [1], and detach the inside cover (front) [2].



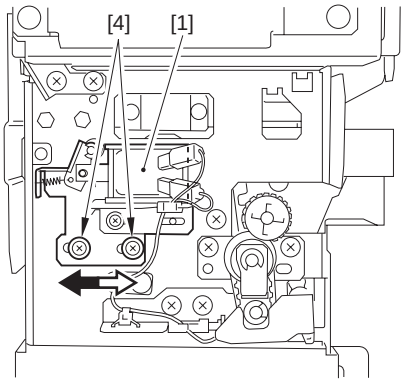


F-4-22

4) Loosen the 2 adjusting screws [4] so that the top surface of the lower guide plate [2] and that of the inlet guide [3] are of the same height when the inlet solenoid (SL71) [1] is in an OFF state.



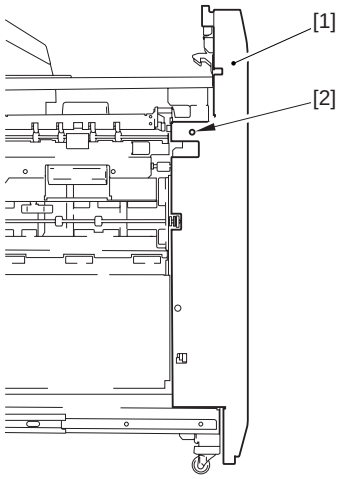
F-4-23



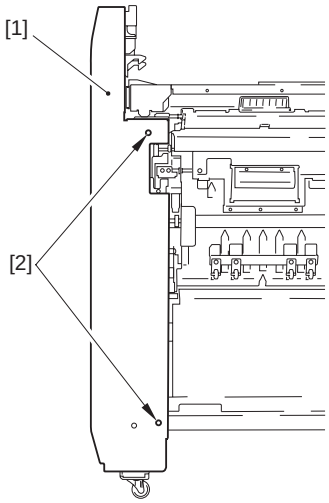
F-4-24

4.2.2.2 Adjusting the Force of the Folding Roller

Go through the following steps if you have replaced the folding roller:
1) Open the upper cover, and slide out the folder unit.
2) Remove the 3 screws [2], and detach the front cover [1].

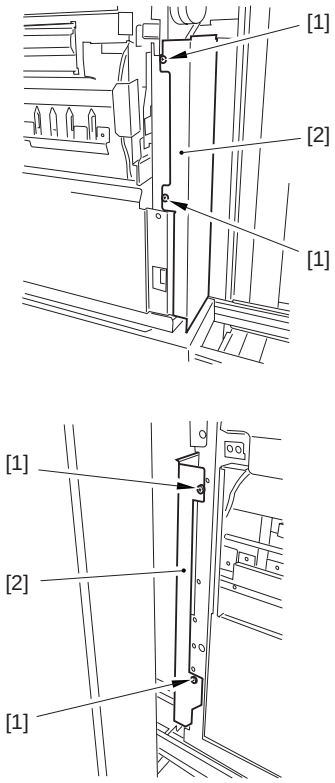


F-4-25



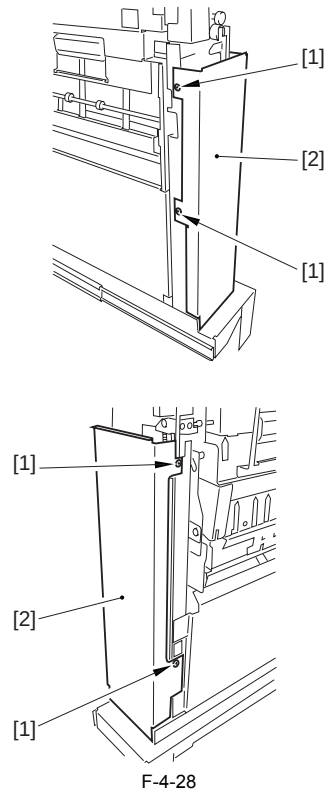
F-4-26

3) Remove the 4 screws [1], and detach the inside cover (front) [2].



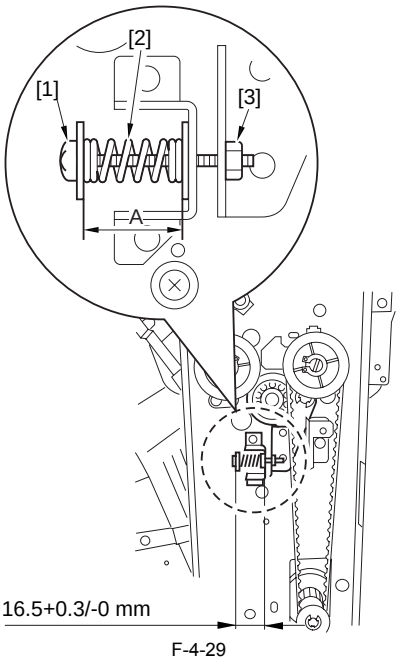
F-4-27

4) Remove the 2 screws, and detach the rear cover.
5) Remove the 4 screws [1], and detach the inside cover (rear) [2].

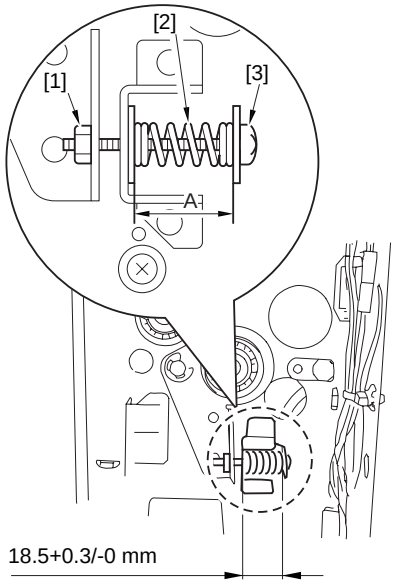


F-4-28

6) Loosen the fixing nut [1], and turn the adjusting screw [3] so that the length of the pressure spring [2] is as indicated:
pressure spring (front): 16.5 +0.3/-0 mm
pressure spring (rear): 18.5 +0.3/-0 mm



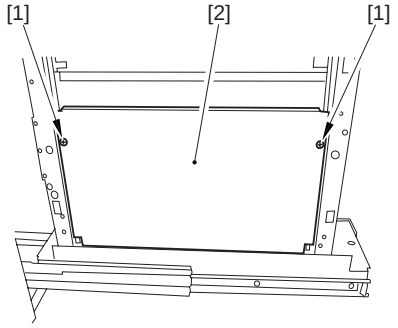
F-4-29



F-4-30

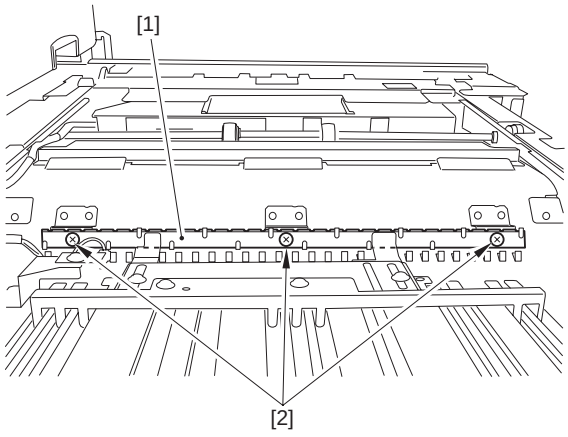
4.2.2.3 Adjusting the Position of the Left Guide Static Eliminator

Go through the following steps if you have replaced the left guide static eliminator:
1) Open the front cover, and slide out the folder unit.
2) Remove the 2 screws [1], and detach the lower left cover [2].



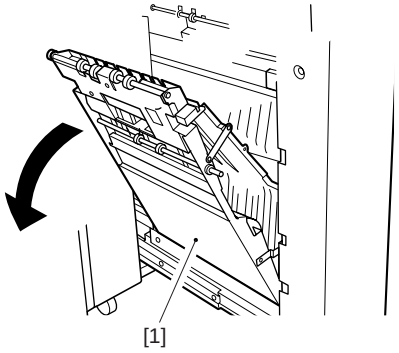
F-4-31

3) Temporarily tighten the adjusting screw [2] of the left guide static eliminator [1].



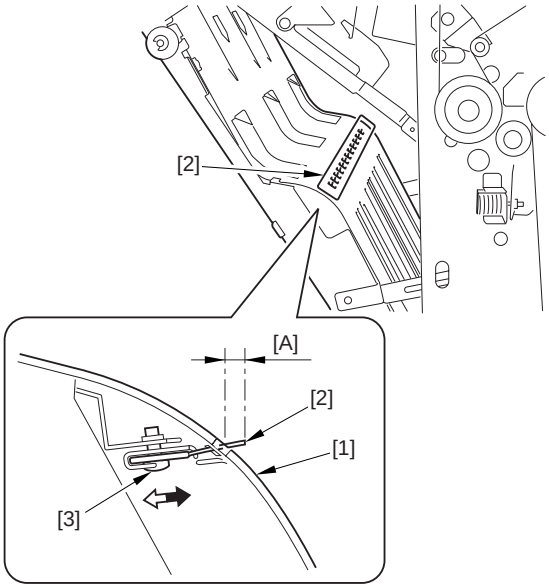
F-4-32

4) Open the left guide [1].



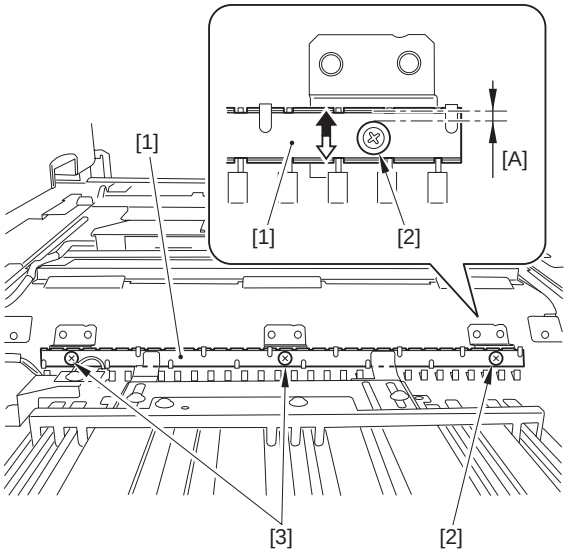
F-4-33

5) Make adjustments so that the length [A] of extension of the guide surface [1] of the left guide and the static eliminator [2] is 1 +0.3/-0.3 mm; then, tighten the adjusting screw [3] at the front.



F-4-34

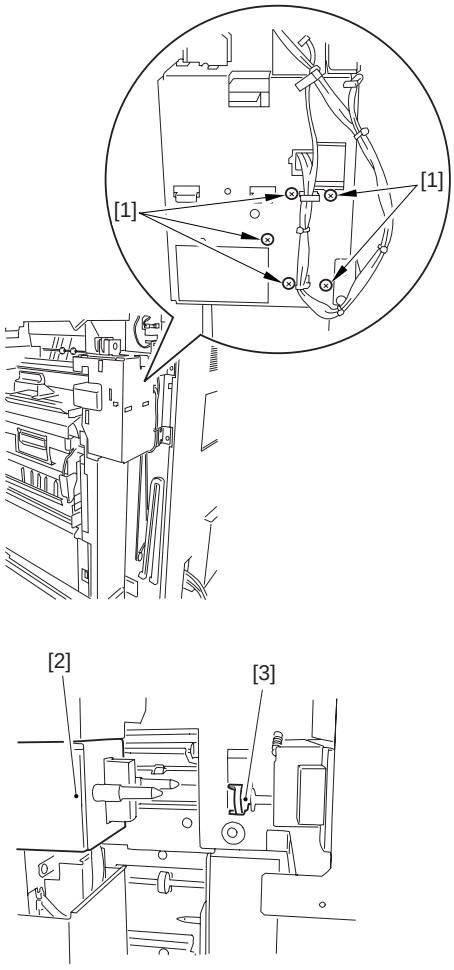
6) Measure the distance [A] between the guide surface of the left guide static eliminator [1] and the screw [2], and adjust the remaining 2 screws [3] to the same distance ; then, tighten the adjusting screws.



F-4-35

4.2.2.4 Adjusting the Position of the Coupling Assembly for the Horizontal Path Drive

Go through the following steps if you have replaced the coupling assembly or abnormal noise has occurred:
1) Loosen the 5 screws [1] of the coupling assembly.
2) Slide in and out the folder unit [2] a couple of times to adjust the position of the coupling assembly [3].



F-4-36

3) Push in the folder unit, and tighten the 5 screws you loosened in step 1).

4.2.2.5 Adjusting the Tension of the Transport Belt

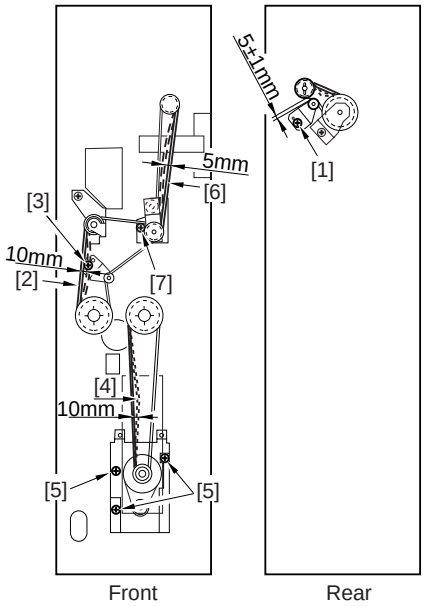
Make the following adjustments if you have detached the belt when replacing parts around it:
Transport Belt A

Tighten the screw [1] in place so that the distance between the flanges is 5 +/-1 mm.

Transport Belt B
Tighten the screw [3] in place so that the slack of the transport belt B [2] is 10 mm when the belt is pushed with a force of 500 +/-100 g using a tension gauge.

Transport Belt C
Tighten the screw [3] in place so that the slack of the transport belt C [4] is 10 mm when the belt is pushed with a force of 500 +/-100 g using a tension gauge.

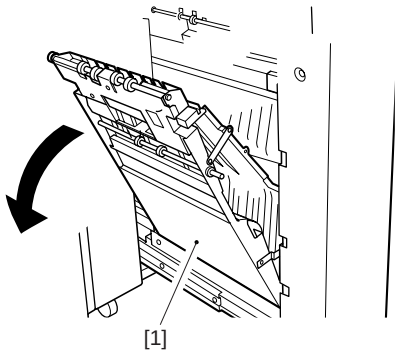
Transport Belt D
Tighten the screw [7] in place so that the slack of the belt is 5 mm when the belt is pushed with a force of 500 +/-100 g using a tension gauge.



F-4-37

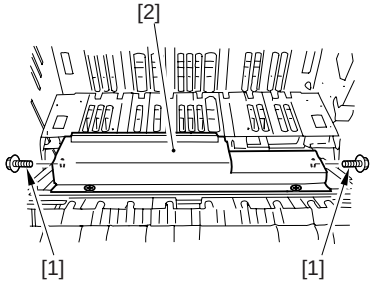
4.2.2.6 Adjusting the Position of the Release Solenoid (SL73)

Go through the following steps if you have replaced the release solenoid (SL73):
1) Open the upper cover, and slide out the folder unit.
2) Open the left guide [1].



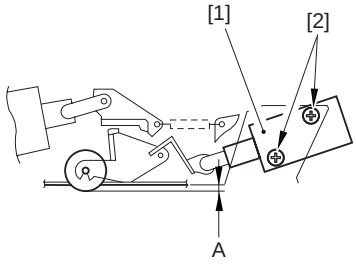
F-4-38

3) Remove the 2 screws [1], and detach the left guide cover [2].



F-4-39

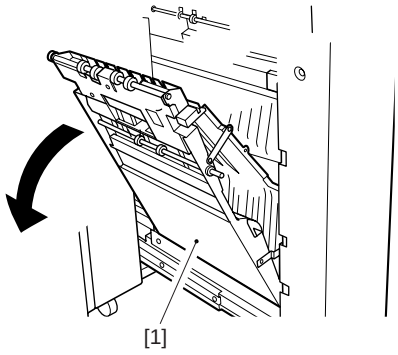
4) Loosen the 2 adjusting screws [2] to adjust the release solenoid [1] so that [A] will be 2 +/-0.3 mm when the solenoid goes on.



F-4-40

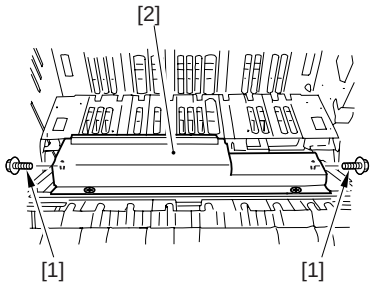
4.2.2.7 Adjusting the Position of the Locking Solenoid (SL74)

Go through the following steps if you have replaced the locking solenoid (SL74):
1) Open the upper cover, and slide out the folder unit.
2) Open the left cover [1].



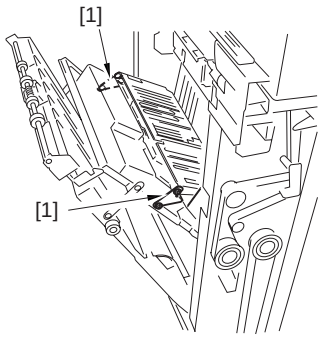
F-4-41

3) Remove the 2 screws [1], and detach the left guide cover [2].



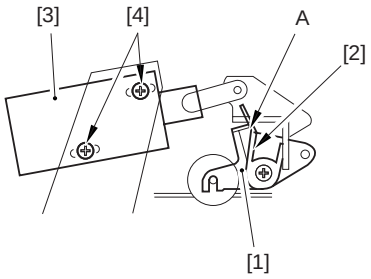
F-4-42

4) Remove the screw (1 pc. each at front and rear), and detach the guide plate for the arm [1].



F-4-43

5) Loosen the 2 adjusting screws [4] to adjust the position of the locking solenoid (SL74) [3] so that the locking roll arm [1] and the pressure spring [2] come into contact at surface [A] when the solenoid goes on.

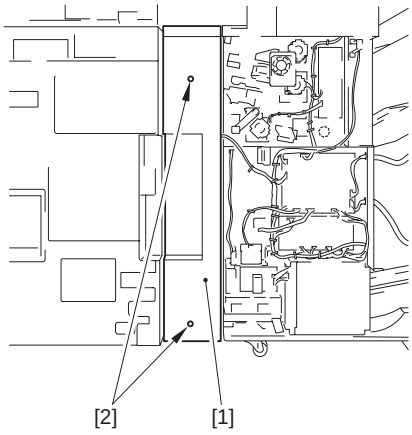


F-4-44

4.2.2.8 Adjusting the Transport Path Paper Sensor 3 (S8)

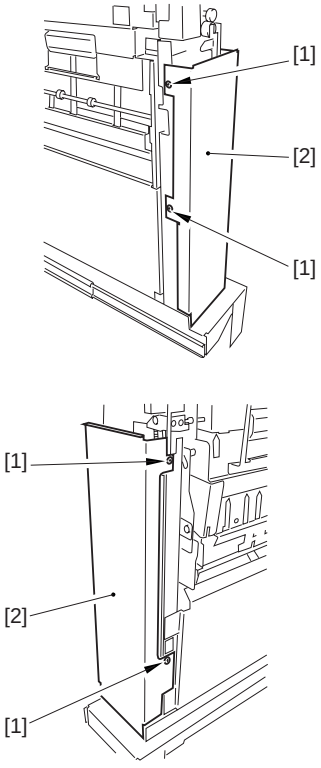
Go through the following steps if you have replaced the folder driver PCB or the transport path paper sensor 3, or if jams occur frequently over the transport path paper sensor:

1) Remove the 2 screws [2], and detach the rear cover [1].



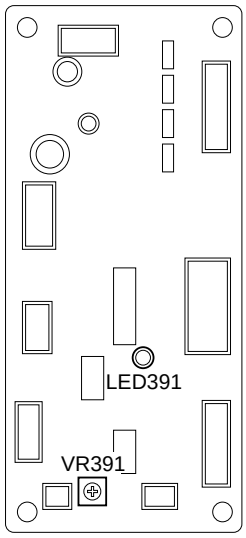
F-4-45

2) Open the upper cover, and slide out the folder unit.
3) Remove the screws [1], and detach the inside cover (rear) [2].



F-4-46

4) Check to make sure there is no paper around the transport path paper sensor 3. If there is any, remove it.
5) Put back the folder unit, and close the upper cover.
6) Turn on the finisher.
7) Turn VR391 so that LED391 on the folder PCB flashes. Doing so adjusts the sensitivity of the light-receiving side of the sensor. If the LED remains on after turning VR391, replace the sensor or the folder driver PCB.



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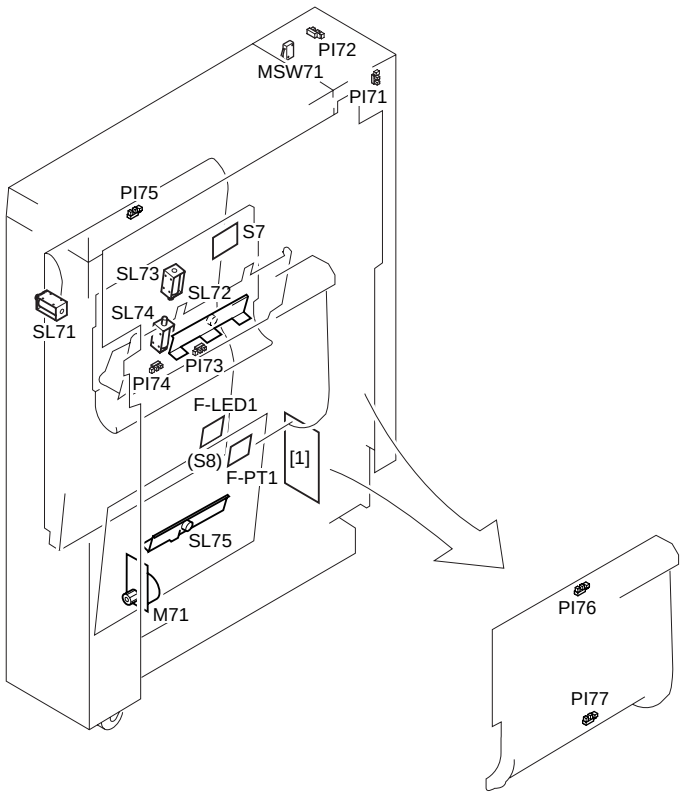
4.3 Outline of Electrical Components

4.3.1 Arrangement and Functions of the Electrical Components



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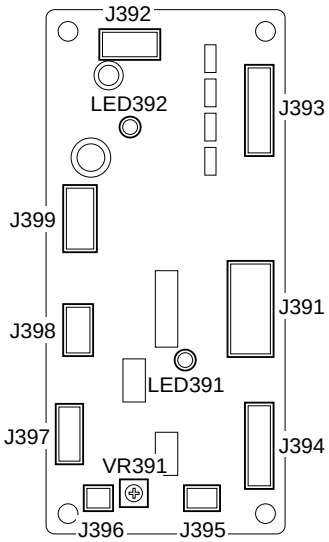
Type	Notation	Description
Solenoid	M71	folder motor
	SL71	inlet solenoid
	SL72	B4Z folding No. 2 stopper solenoid
	SL73	release solenoid
	SL74	lacking solenoid
	SL75	B4Z folding No. 1 stopper solenoid
Photointerrupter	PI71	folder placement detection
	PI72	upper cover open/closed detection
	PI73	folding path residual paper detection 1
	PI74	folding path residual paper detection 3
	PI75	transport path paper detection 4
	PI76	transport path paper detection 1
	PI77	folding path residual paper detection 2
Sensor	S7	transport path paper detection 2
	S8 (F-LED1)	transport path paper detection 3
	S8 (F-PT1)	transport path paper detection 3
Switch	MSM71	upper door switch
PCB	[1]	folder driver PCB

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

4.4.1 Folder Driver PCB



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LED/VR	Description
LED391	Indicates the result of adjusting the transport paper sensor 3 (S8) and the state of paper detection. on: paper detected flashing: paper not detected or adjustment finished off: sensor adjustment recommended
LED392	Indicates the state of 24V supply (for folder). on: 24V being supplied off: 24V not being supplied
VR391	Used when adjusting the transport path sensor 3 (S8).

Chapter 5 Error Code

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5.1 Overview

5.1.1 Overview

The machine's finisher controller PCB is equipped with a mechanism that checks machine condition. It runs a check at such times as programmed and, upon detection of a fault, communicates the fact to the host machine in the form of a code and detail code.
The host machine indicates the code in its control panel (detail code in service mode).

5.2 Service Error Code

5.2.1 E518

Code	Detail	Item	Description	Remedial action
E518		folder motor fault	folder motor error	1. Check the cable connector between the folder motor and the folder driver PCB. 2. Replace the folder motor 3. Replace the folder driver PCB. 4. Replace the finisher controller PCB.

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Canon