Portable Manual

Finisher, Sorter, DeliveryTray
Saddle Finisher-V2

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.

The following paragraph does not apply to any countries where such provisions are inconsistent with local law.

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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."

Contents

Chapter 1 Maintenance and Inspection

Chapter 2 Standards and Adjustments

Chapter 3 Error Code

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Chapter 5 System Construction

Chapter 1 Maintenance and Inspection

1.1 Periodically Replaced Parts

1.1.1 Periodically Replaced Parts in the Finisher

The finisher does not have a part that requires periodical replacement.

1.1.2 Periodically Replaced Parts in the Saddle Finisher

The saddle finisher does not have a part that requires periodical replacement.

1.2 Durables

1.2.1 Durables in the Finisher

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

T-1-1

					as of November 2005
No.	**Parts name**	**Parts number**	**Q'ty**	**Life**	**Remarks**
1	Stapler	FC6-6222-000	1	500,000 times	A single cartridge is good for about 5000 operations.
2	Roller belt	FB5-9103-000	2	1,000,000 pages	
4	Stack edging roller static eliminator	FC6-6134-000	1	1,000,000 pages	
5	Static eliminator	FC6-6341-000	1	1,000,000 pages	
6	Static eliminator	FC6-5864-000	2	1,000,000 pages	
7	Static eliminator	FC6-6101-000	1	1,000,000 pages	

1.2.2 Durables in the Saddle Stitcher

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

T-1-2

					as of November 2005
No.	**Parts name**	**Parts number**	**Q'ty**	**Life**	**Remarks**
1	Stitcher	FM2-6618-000	1	500,000 times	A single cartridge is good for about 5000 operations.
2	Static eliminator (T2)	FL2-3655-000	1	1,000,000 pages	
3	Flapper static eliminator	FL2-3656-000	1	1,000,000 pages	
4	Shift roller	FL2-3692-000	1	1,000,000 pages	
5	Paper static eliminator	FL2-3654-000	1	1,000,000 pages	

1.3 Periodical Servicing

1.3.1 Scheduled Servicing for the Finisher

The finisher does not have items that require scheduled servicing.

1.3.2 Scheduled Servicing for the Saddle Stitcher

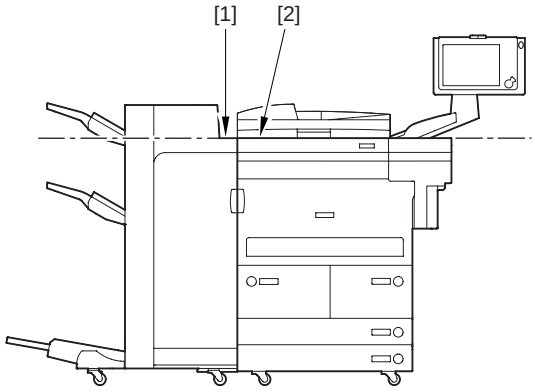
The saddle stitcher does not have items that require scheduled serving.

Chapter 2 Standards and Adjustments

2.1 Basic Adjustment

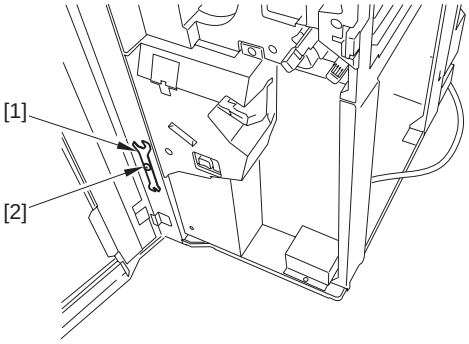
2.1.1 Adjusting the Height

If jams start to occur often, adjust the height of the machine as follows:
1) Check the height of the finisher and the host machine. If the difference between the right top surface [1] of the finisher and the left top surface [2] of the host machine is not +/-2 mm, go through the following steps:



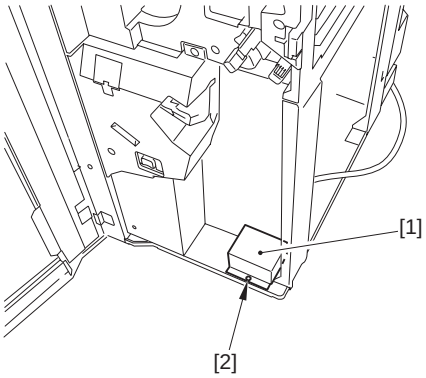
F-2-1

2) Detach the finisher from the host machine.
3) Detach the spanner [1] from the front cover.
- 1 screw [2]



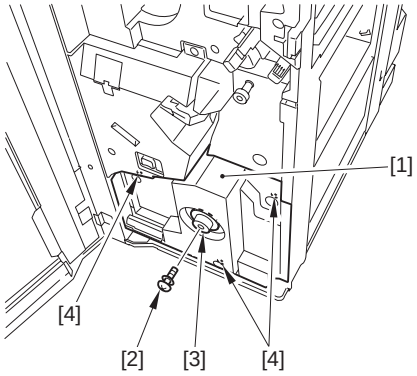
F-2-2

4) In the case of the Finisher-V1/V1L, detach the caster cover [1] found at the front.
- 1 screw [2]



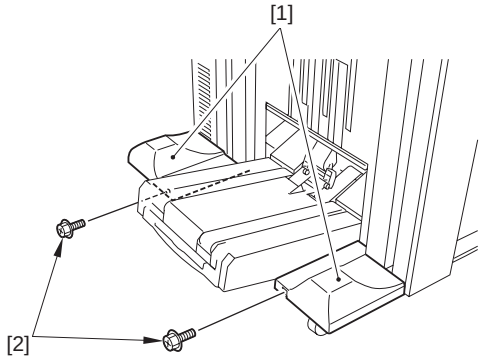
F-2-3

5) In the case of the Saddle Finisher-V2/V2L, detach the saddle inside cover (lower) [1].
- 1 screw [2]
- 1 knob [3]
- 3 screws [4]



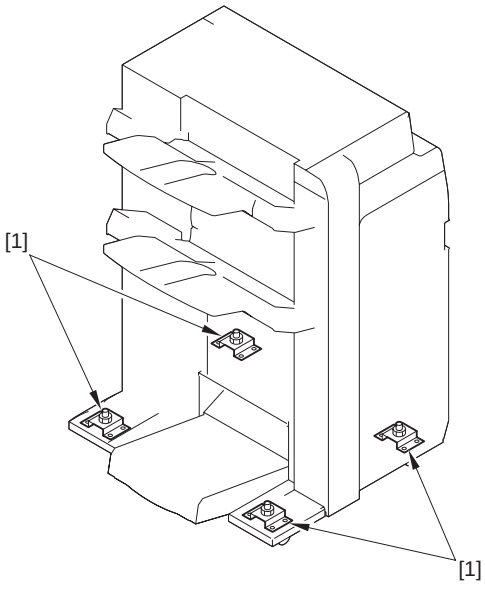
F-2-4

6) Detach the 2 caster covers [1] found on the left side. (The illustration shows the saddle finisher.)
- 2 screws [2]



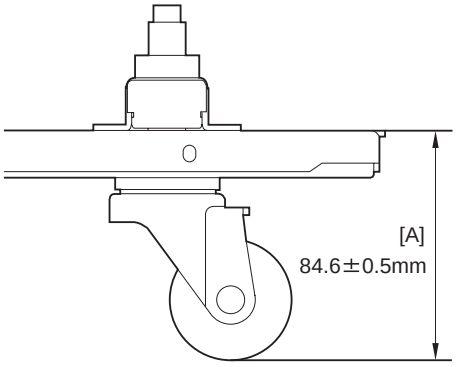
F-2-5

7) Adjust the 4 casters [1].



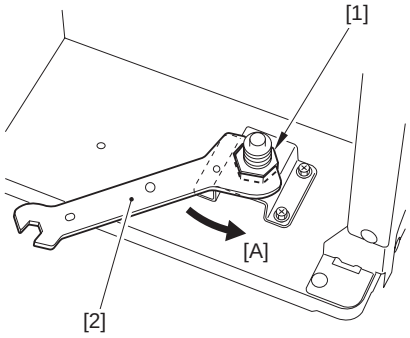
F-2-6

8) Measure the distance [A] from the caster to the base plate. Make adjustments so that it is 84.6 +/-0.5 mm.



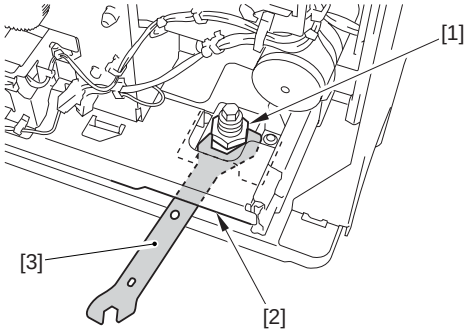
F-2-7

9) Loosen the fixing nut [1] of the caster in the direction of [A] using a spanner (large) [2].



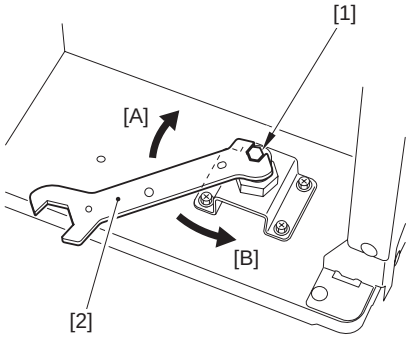
F-2-8

When loosening the caster fixing nut [1] at the front of the saddle finisher, be sure to insert the spanner [3] through the gap under the saddle assembly base plate [2].



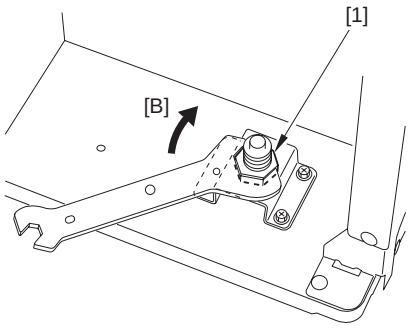
F-2-9

10) Turn the adjusting bolt [1] using a spanner (small) [2].
- to raise, turn the bolt in the direction of [A].
- to lower, turn the bolt in the direction of [B].
(A full turn will cause a change of about 1.75 mm in height.)



F-2-10

11) Tighten the fixing nut [1] in the direction of [B].



F-2-11

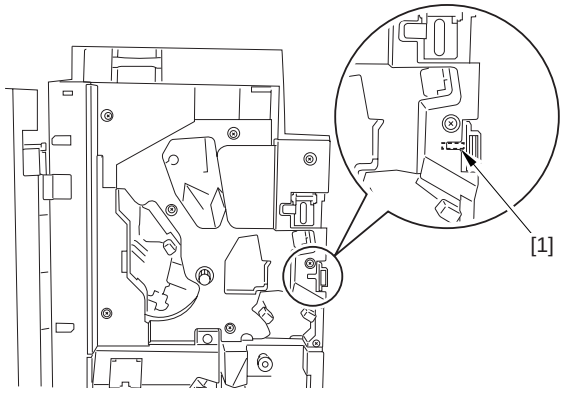
12) Adjust the remaining 3 casters in the same way.
13) Connect the finisher to the host machine, and check the height. If the difference in height is as indicated, mount the covers and parts that you have removed. Otherwise, adjust the height once again.

2.1.2 Adjusting the Horizontal Registration/Angle

If the horizontal registration/angle is not correct, go through the following adjustments:

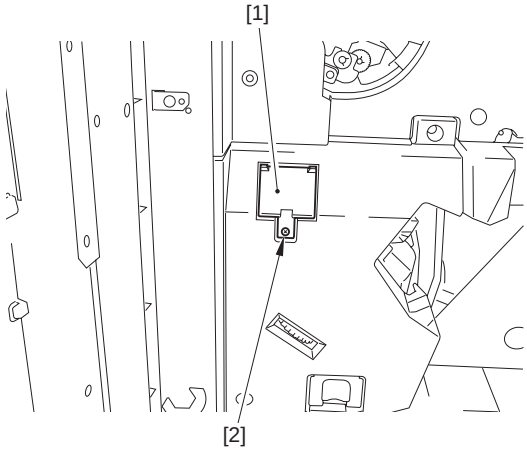
1. Checking the Adjustment Value

1) Turn on the finisher and then the host machine.
2) Open the front cover, and insert the door switch actuator into the door switch [1].



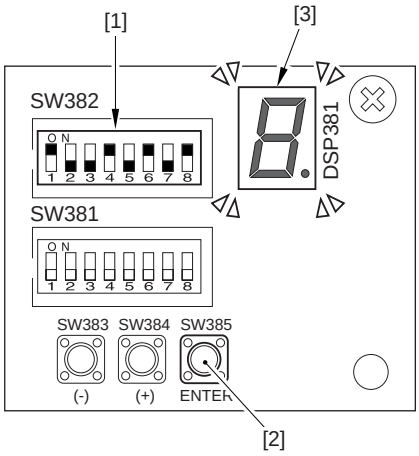
F-2-12

3) Detach the switch cover [1] of the inside cover (lower).
- 1 screw [2]



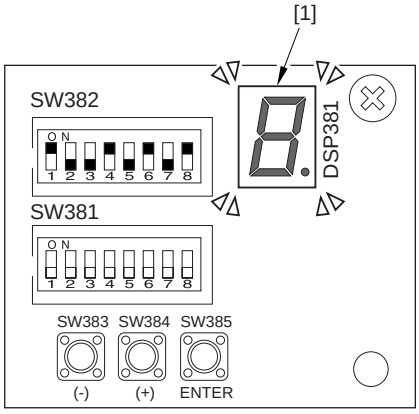
F-2-13

4) Set the DIP switch SW382 [1] on the switch PCB as shown (1, 4, 6, and 8 at ON), and press the enter button (SW385) [2]; in response, the LED [3] will flash '0'.



F-2-14

5) Place a single sheet of paper in the ADF, and make prints by setting the copy count to '3'.
6) Check the horizontal registration/angle adjustment value indicated by the LED [1].
The indication will be in the following sequence: A>horizontal registration adjustment value>b>angle adjustment value. Take notes of the values.

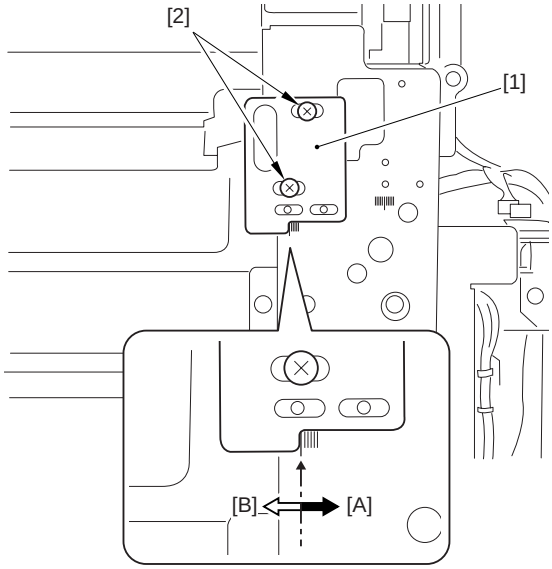


F-2-15

7) Press the enter button to end adjustment mode.
8) Turn off the host machine and then the finisher in sequence.
If the indicated values are not as follows, adjust the horizontal registration/ angle:
- for horizontal registration adjustment value, -3 to +3 mm
- for angle adjustment value, -2 to +2 mm

2. Adjusting the Horizontal Registration

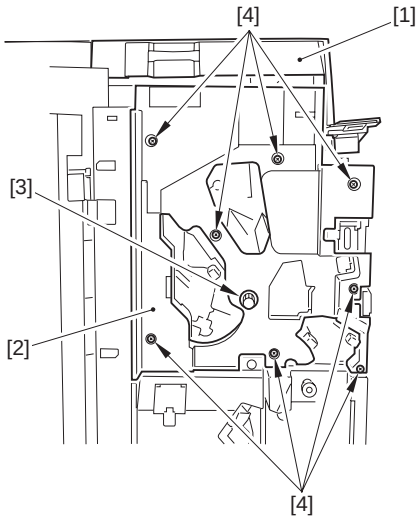
1) Disconnect the finisher from the host machine.
2) Loosen the 2 screws [2] on the positioning plate [1] found on the right side.
3) If the value recorded is on the + side, move the plate in the direction of [A] and tighten the screw [2].
If the value recorded is on the - side, on the other hand, move the plate in the direction of [B] and tighten the screw [2]. (1 index equivalent of 1mm)



F-2-16

3. Adjusting the Angle

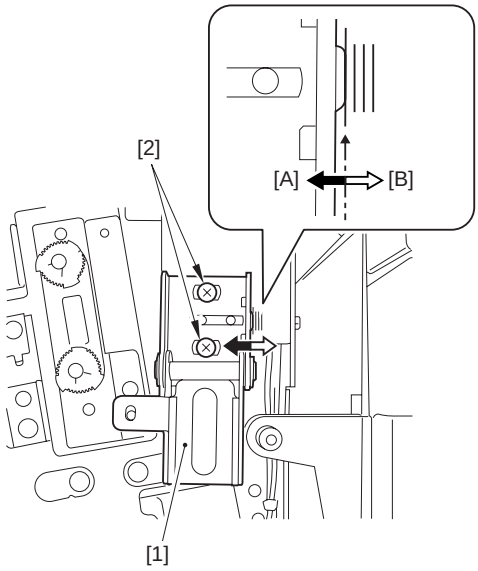
If the angle is as indicated, start with step 7).
1) Lift the upper cover [1], and detach the inside cover (upper) [2].
- 1 knob [3]
- 8 screws [4]



F-2-17

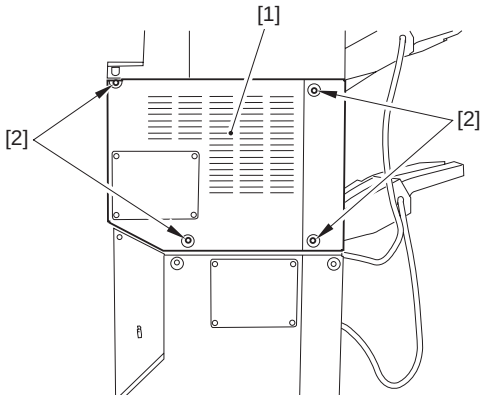
2) Loosen the 2 screws [2] on the latch base (front) [1].
3) If the value recorded is on the + side, move the base in the direction of [A] and tighten the screw [2].
If the value recorded is on the - side, on the other hand, move the base in the direction of [B] and tighten the screw [2]. (1 index equivalent of 1 mm)

⚠
Make sure that the total of the indexes over which the latch base (front, rear) is moved is between -2 and +2 mm.



F-2-18

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

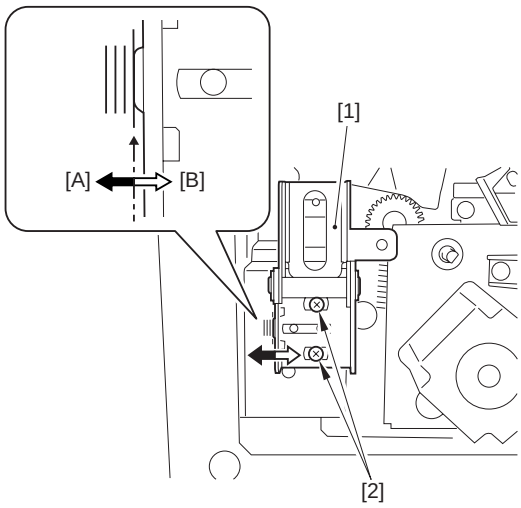


F-2-19

5) Loosen the 2 screws [2] on the latch base (rear) [1].
6) If the value recorded is on the + side, move the base in the direction of [A] and tighten the screw [2].
If the value recorded is on the - side, on the other hand, move the base in the direction of [B] and tighten the screw [2]. (1 index equivalent of 1 mm)

⚠

Make sure that the total of the indexes over which the latch base (front, rear) has been moved is between -2 and +2 mm.

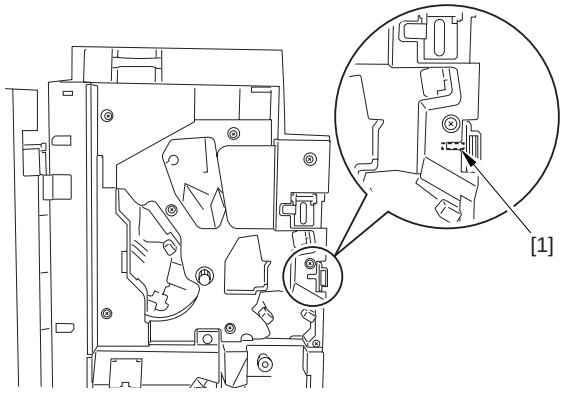


F-2-20

7) Connect the finisher and the host machine.
8) Turn on the finisher and the host machine in sequence.
9) Check the adjustment values once again.
If the adjustment values indicated by the LED are not as indicated here, go through the adjustment steps once again.
Otherwise, press the enter button to end adjustment mode.
10) Put the DIP switch back to its initial settings, and attach the covers and parts you have removed.

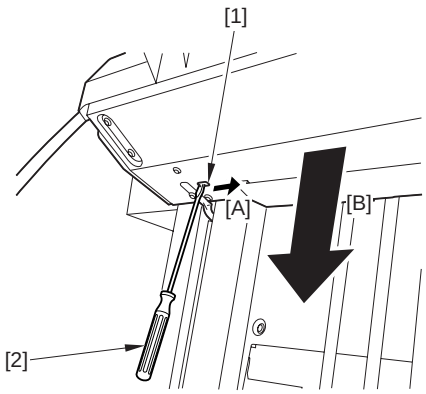
2.1.3 Adjusting the Sensor Intensity

Go through the following steps when installing the finisher or replacing specific sensor:
1) Turn on the finisher and the host machine in sequence.
2) Open the front cover, and insert the door switch actuator into the door switch [1].



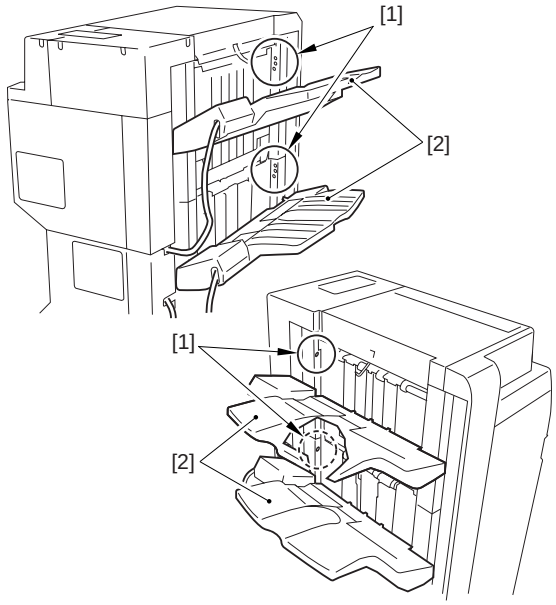
F-2-21

3) Insert a screwdriver [2] through the hole [1] in the bottom face of the tray; then, disengage the tray in the direction of [A], and lower the tray A/B in the direction of [B].



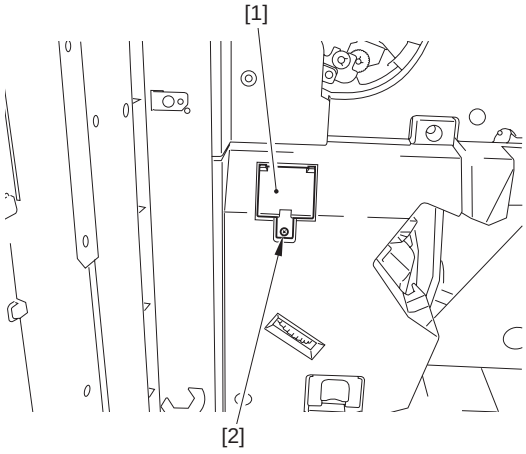
F-2-22

Be sure to lower the tray A/B [2] until it does not block the tray sensor (front/rear) [1].



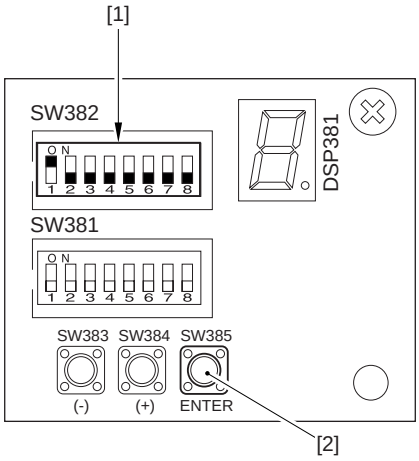
F-2-23

4) Detach the inside cover (lower) and the switch cover [1].
- 1 screw [2]



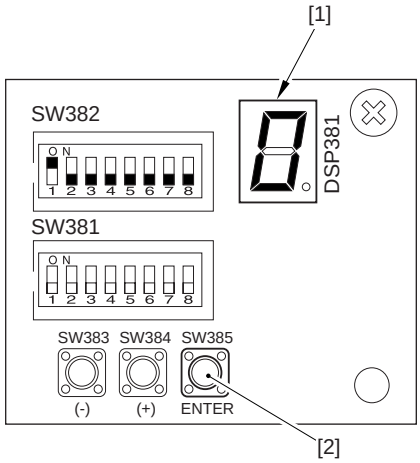
F-2-24

5) Set the DIP switch SW382 [1] of the switch PCB as shown (1: ON), and press the enter button (SW385) [2] to start sensor intensity adjustment.



F-2-25

6) If the LED [1] indicates '0', the adjustment has been successful. Press the enter button (SW385) [2] to end the sensor intensity adjustment.



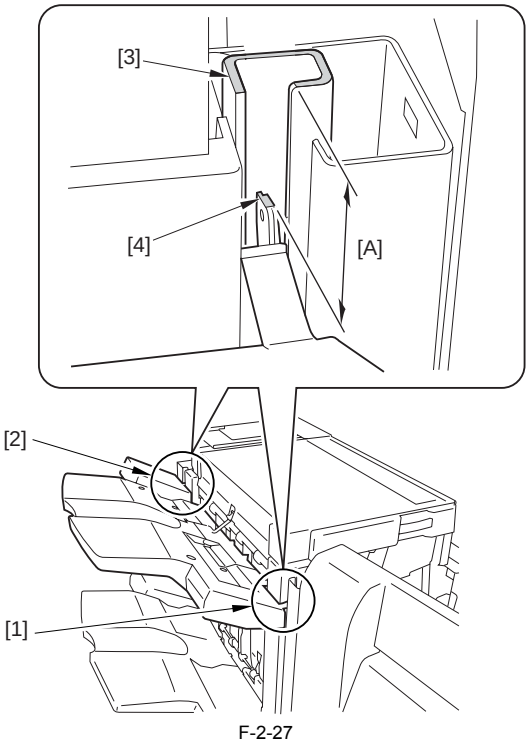
F-2-26

7) If any of the sensors is faulty (i.e., the LED flashes '0'), press the + (SW384) [1]/- (SW383) [2] button to find out the code number indicated by the LED [3], and replace the faulty sensor.

2.2 Adjustment at Time of Parts Replacement

2.2.1 Adjusting the Tray A/B Position

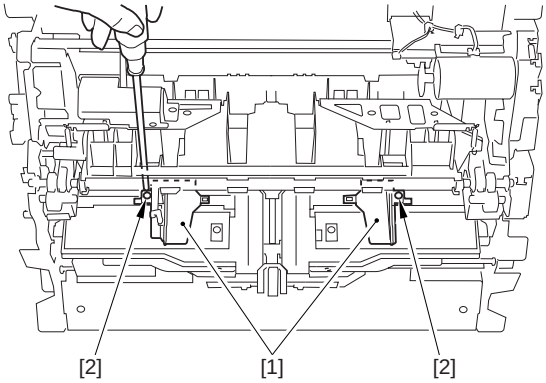
Go through the following steps if you have replaced the tray A or B so that the tray is horizontal:
1) Holding the tray horizontally, fit it to the support (left, right).
At this time, be sure that distance A (i.e., from the tip of the support [3] to the tray shaft [4]) is the same at the front [1] and the rear [2].



F-2-27

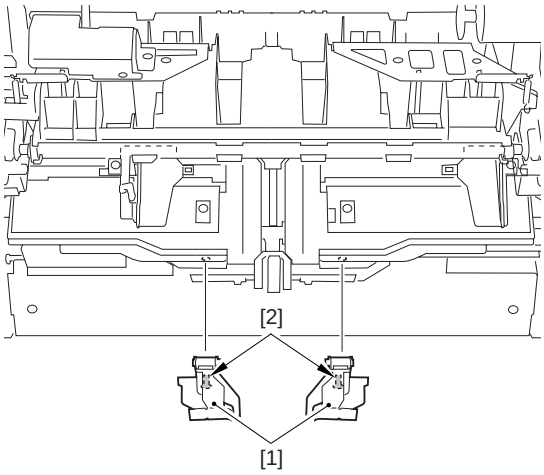
2.2.2 Adjusting the Angle of the Aligning Plate (orthogonal)

Go through the following steps if you have replaced the alignment motor of the intermediate handling tray assembly or the EEPROM of the finisher controller PCB:
1) After mounting the intermediate handling tray assembly, loosen the 2 screws [2] on the aligning plate [1] of the assembly.



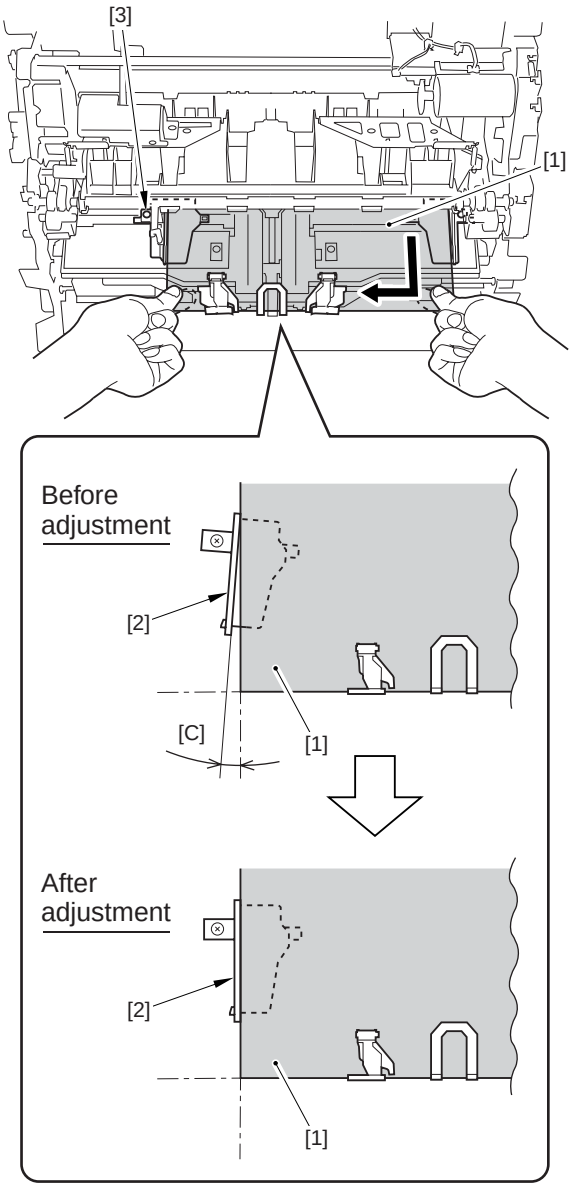
F-2-28

2) Fix the 2 paper edge stoppers [1] in place on the host machine using 2 screws [2].



F-2-29

3) Place A4 paper [1] in the intermediate handling tray in the direction of the arrow. Make adjustments so that there is no gap between the paper edge [1] and the aligning plate [2]; then, fix the aligning plate using a screw [3].

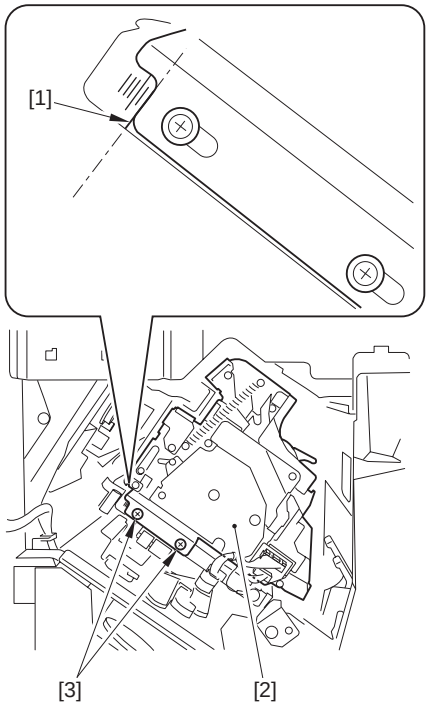


F-2-30

2.2.3 Adjusting the Stapler Position

Go through the following steps if you have replaced the stapler unit found in the intermediate handling tray assembly:

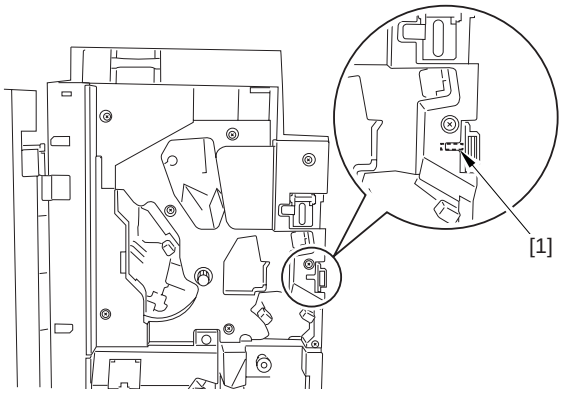
1) Mark the position [1] of the stapler unit before replacement.
2) Mount the new stapler unit [2] with reference to the marking [1], fixing it in place using 2 screws [3].



F-2-31

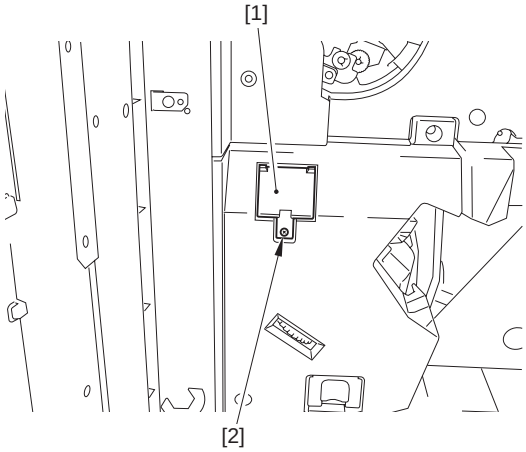
2.2.4 Adjusting the Speed of the Swing Guide

Go through the following steps if you have replaced the swing guide motor or the EEPROM of the finisher controller PCB:
1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



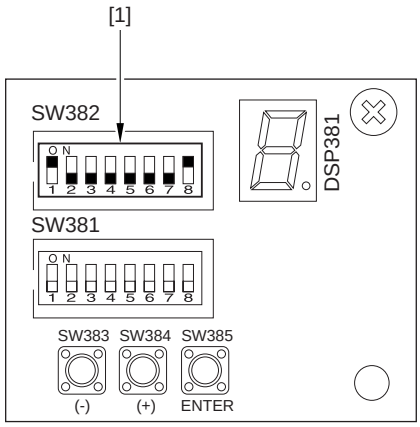
F-2-32

4) Remove the screw [2], and detach the switch cover [1].



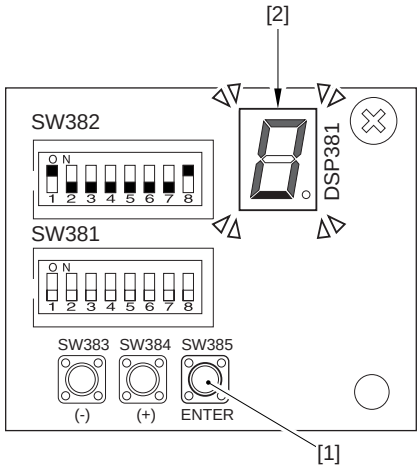
F-2-33

5) Set the DIP switch SW382 [1] on the switch PCB as follows:



F-2-34

6) Press the push switch SW385 [1] to start adjustment of the swing guide speed.
In a while, press the push switch SW385 [1]; if the LED [2] indicates '0', the adjustment has ended successfully.

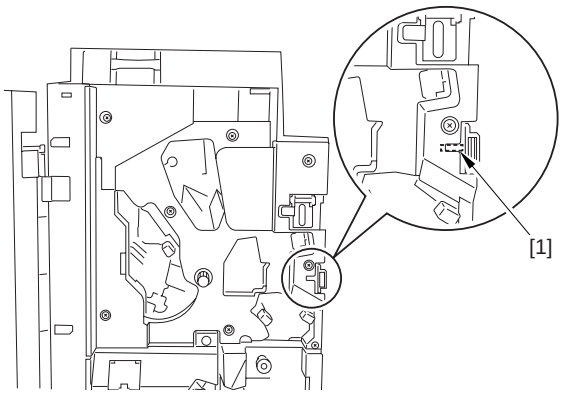


F-2-35

7) If the LED indicates other than '0', the result is not good. Repeat the steps.

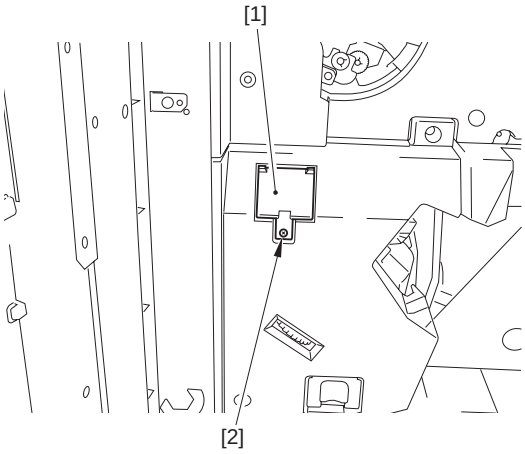
2.2.5 Adjusting the Aligning Plate Width

Go through the following steps if you have replaced the front alignment motor or the rear alignment motor or the EEPROM of the controller PCB:
1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



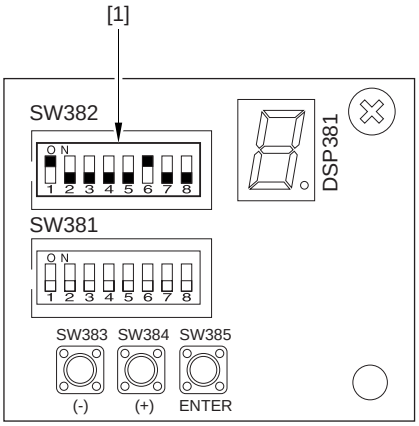
F-2-36

4) Remove the screw [2], and detach the switch cover [1].



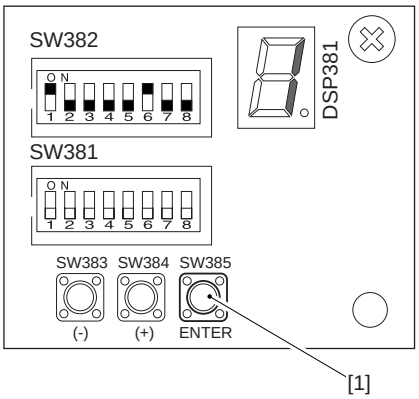
F-2-37

5) Set the DIP switch SW382 [1] on the switch PCB as follows:



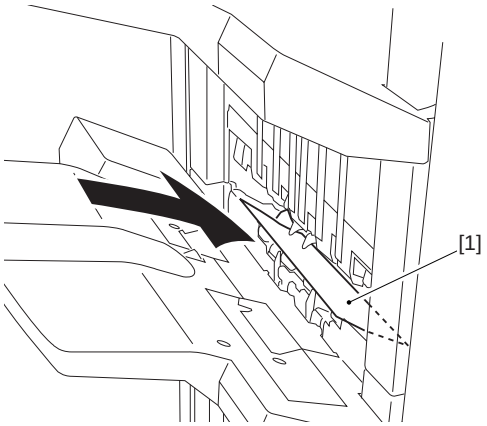
F-2-38

6) Press the push switch SW3851 [1] to start adjustment of the front aligning plate width.



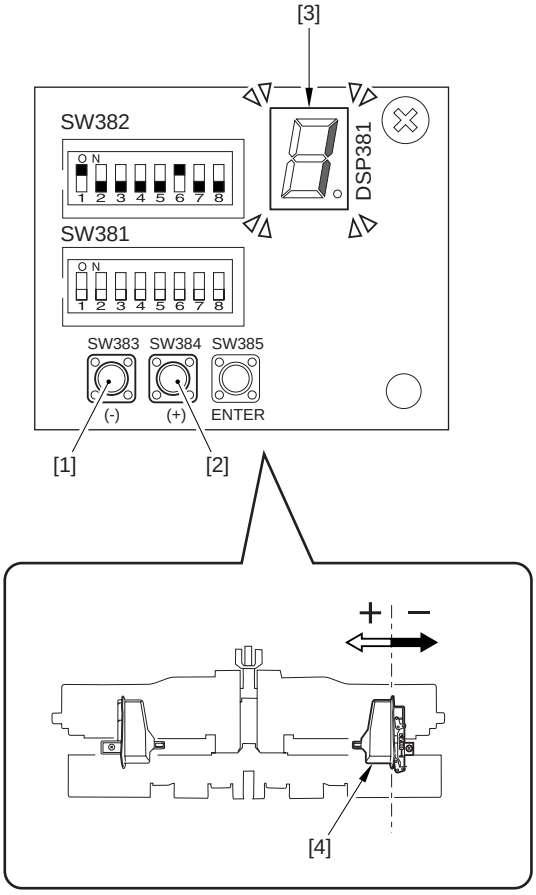
F-2-39

7) Place A4 paper [1] in the intermediate handling tray. (Be sure to butt the paper against the rear of the handling tray.)



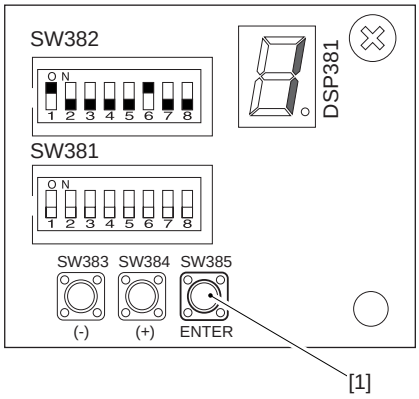
F-2-40

8) Press the push switch SW383 [1] or SW384 [2] to store the new value.
A single press on SW383 will cause the LED [3] to indicate '-1', moving the front aligning plate [4] by about 0.2 mm toward the front. On the other hand, a single press on SW384 will cause the LED [3] to indicate '+1', moving the front aligning plate [4] by about 0.2 mm toward the rear.
range of adjustment: +10 to -10 (unit: 0.2 mm)



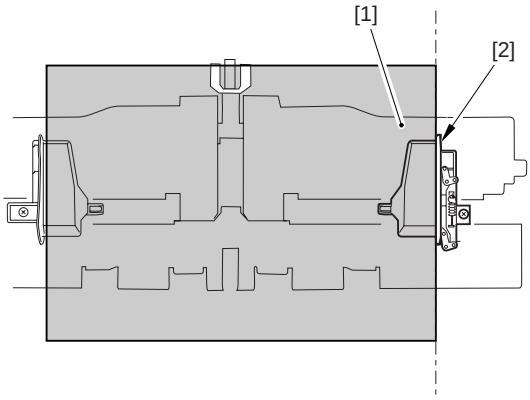
F-2-41

9) Press the push switch SW385 [1] to store the distance of travel of the front aligning plate.



F-2-42

10) Check that there is no gap between the paper and the aligning plate as the result of the foregoing steps. If there still is a gap, go back to step 8).

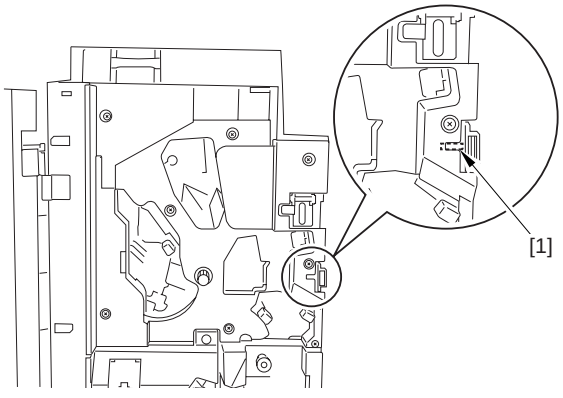


F-2-43

2.2.6 Adjusting the Transport Belt Position

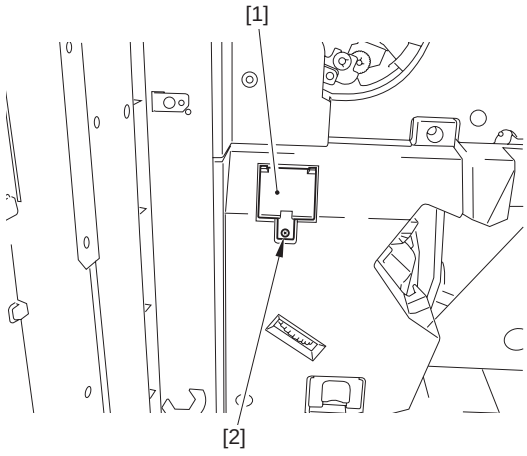
Go through the following steps if you have replaced the transport belt of the intermediate tray or there is displacement among the sheets of a delivered stack:

1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



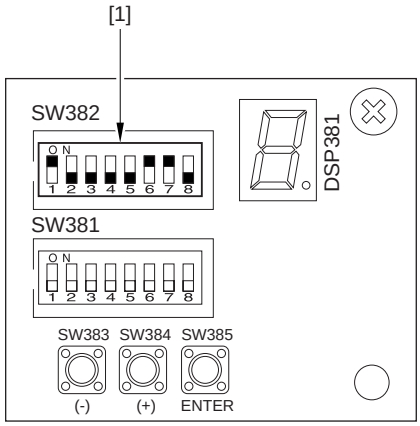
F-2-44

4) Remove the screw [2], and detach the switch cover [1].



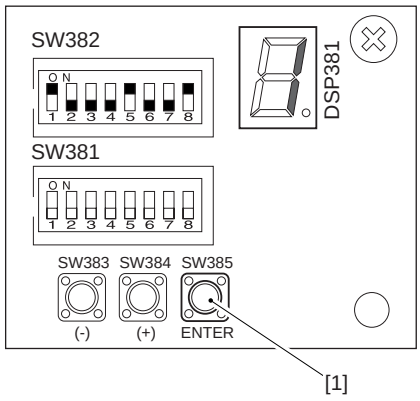
F-2-45

5) Set the DIP switch SW382 [1] on the switch PCB as follows:



F-2-46

6) Press the push switch SW385 [1] to start adjustment of the transport belt position.

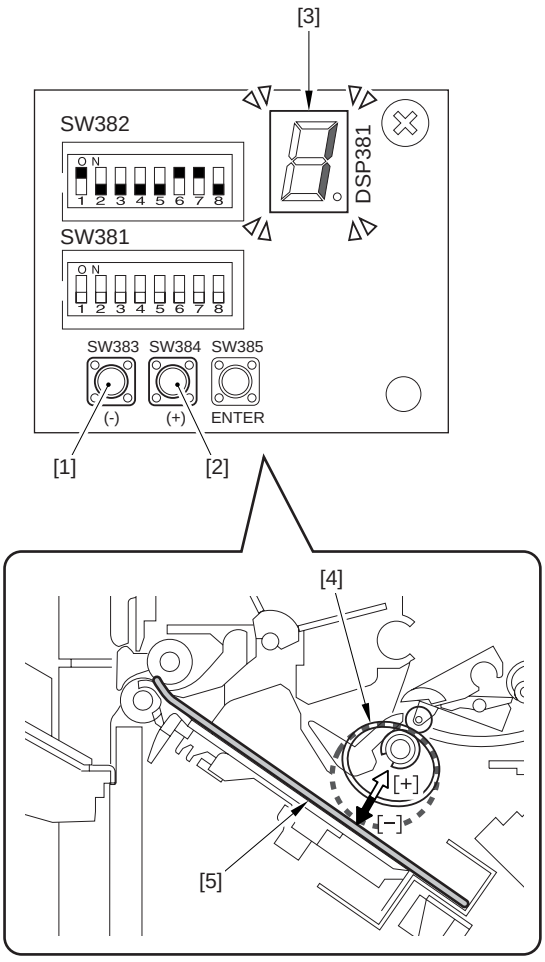


F-2-47

7) Press the push switch SW383 [1] or SW384 [2] to store the adjustment value.

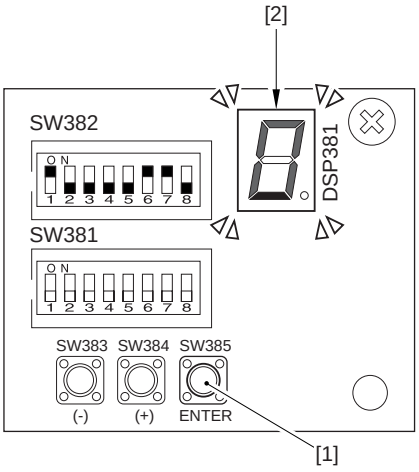
A single press on SW383 will cause the LED to indicate '-1', closing up the distance between the belt [4] and the paper [5] and, thus, increasing the retention by the belt. On the other hand, a single press on SW384 will cause the LED to indicate '+1', distancing the belt [4] and the paper [5] and, thus, decreasing the retention by the belt. (range: +4 to -4)

Reference:
1. If wear has occurred on the transport belt or recycled paper (i.e., with high surface resistance) is used, select a negative adjustment value (-1 to -4) to increase the retention.
2. If dents have occurred in the edge of paper, select a positive adjustment value (+1 to +4) to decrease the retention.



F-2-48

8) Press the push switch SW385 [1] to end adjustment of the transport belt. If the LED [2] indicates '0', the adjustment has ended successfully.



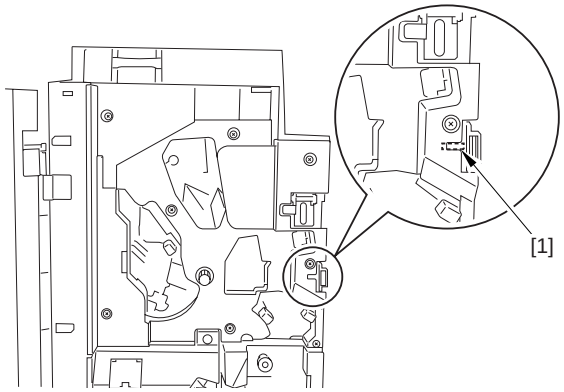
F-2-49

9) If the LED indicates '0', on the other hand, the adjustment has failed. Repeat the foregoing steps.

2.2.7 Adjusting the Stapling Position (rear 1-point)

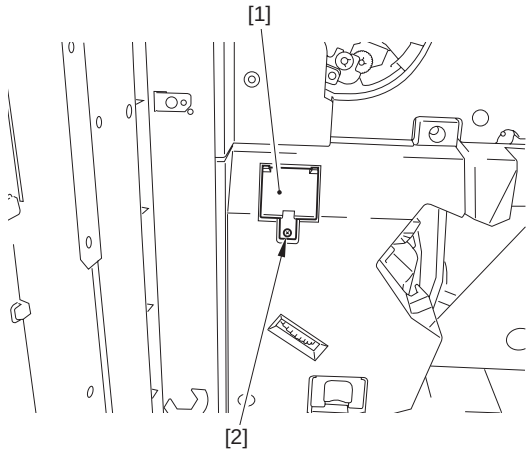
Go through the following steps if there is displacement in the stapling position (rear 1-point) or if you have replaced the EEPROM of the finisher controller PCB:

1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



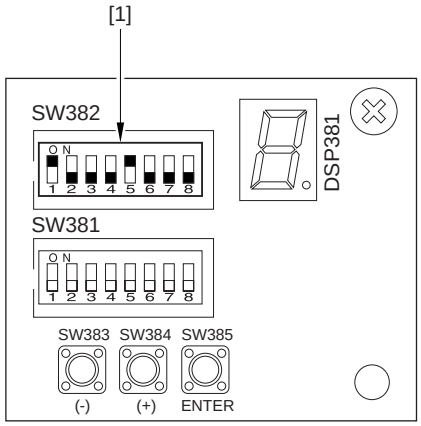
F-2-50

4) Remove the screw [2], and detach the switch cover [1].



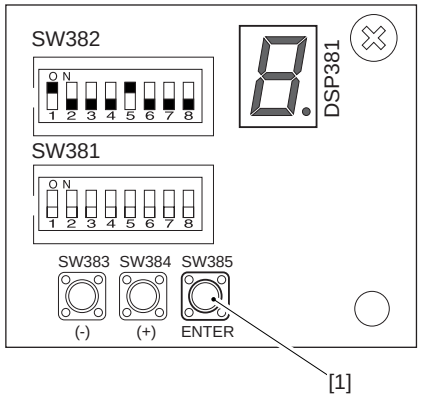
F-2-51

5) Set the DIP switch SW382 [1] of the switch PCB as follows:



F-2-52

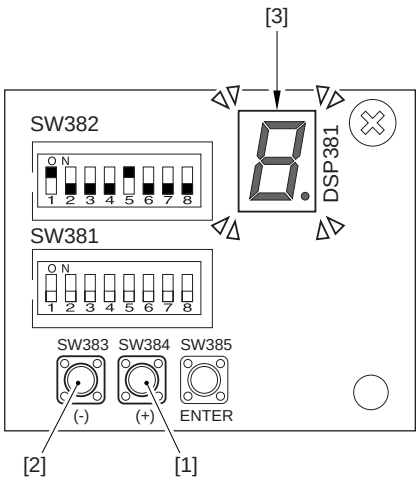
6) Press the push switch SW385 [1] to start adjustment of the stapling position (rear 1-point).



F-2-53

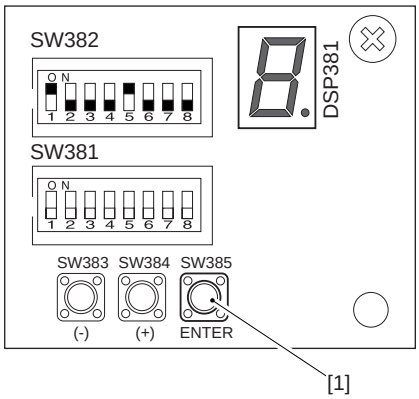
7) Press the push switch SW383 [1] or SW384 [2] to store the adjustment value.
A single press on SW383 will cause the LED [3] to indicate '-1', moving the stapling position toward the rear. On the other hand, a single press on SW384 will cause the LED [3] to indicate '+1', moving the stapling position toward the front.

range of adjustment: +20 to -20 (unit: 0.5 mm)



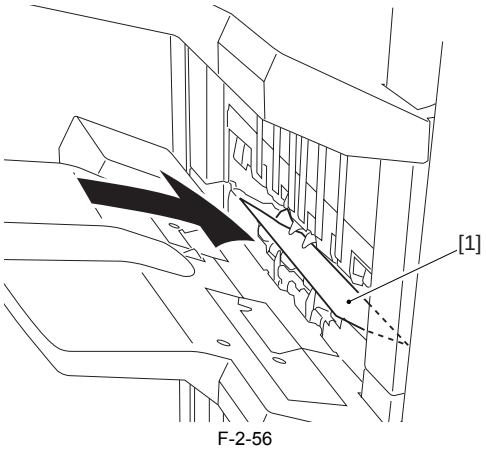
F-2-54

8) Press the push switch SW385 [1] to move the stapler to the rear.



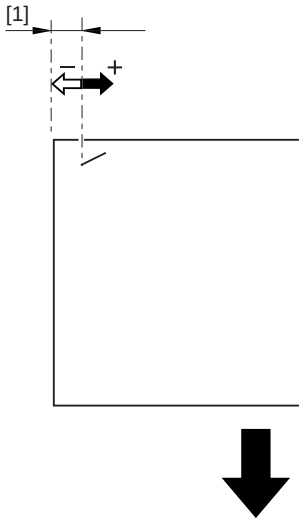
F-2-55

9) Place A4 paper [1] in the intermediate handling tray. (Be sure to butt the paper against the rear of the handling tray.)
Thereafter, press the push switch SW385 to execute stapling.



F-2-56

10) Check to see that the stapling position is 5 +/-2 mm [1] as a result of the foregoing steps. Otherwise, go back to step 6).

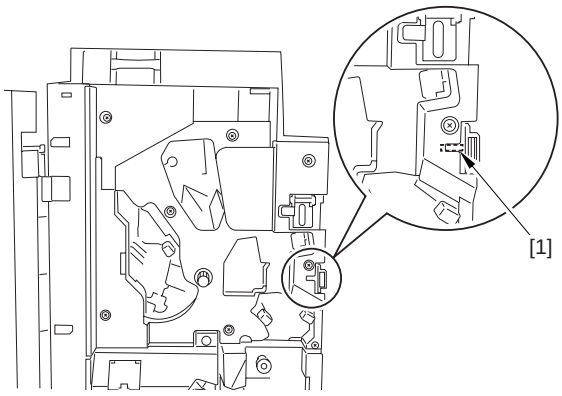


F-2-57

If the LED indicates a value other than '0', the adjustment is likely to have failed. Start over.

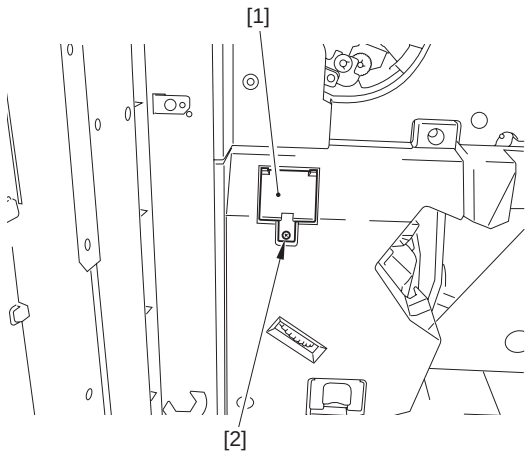
2.2.8 Adjusting the Stapling Position (front 1-point)

Go through the following steps if the stapling position (front 1-point) is displaced or if you have replaced the EEPROM of the finisher controller PCB:
1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



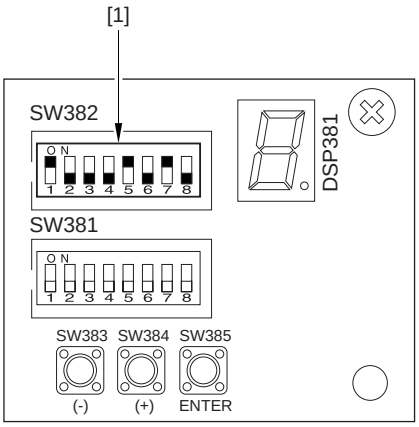
F-2-58

4) Remove the switch [2], and detach the switch cover [1].



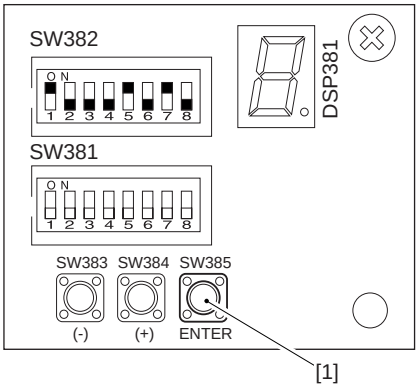
F-2-59

5) Set the DIP switch SW382 [1] on the switch PCB as follows:



F-2-60

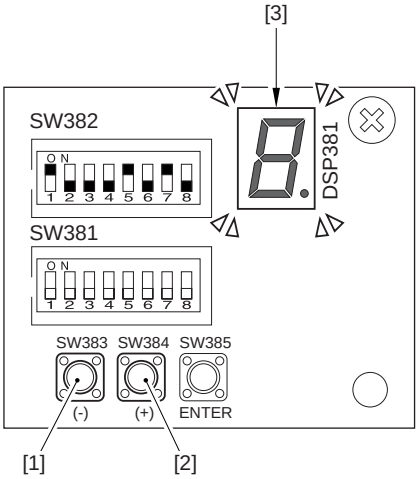
6) Press the push switch SW385 [1] to start adjustment of the stapling position (front 1-point).



F-2-61

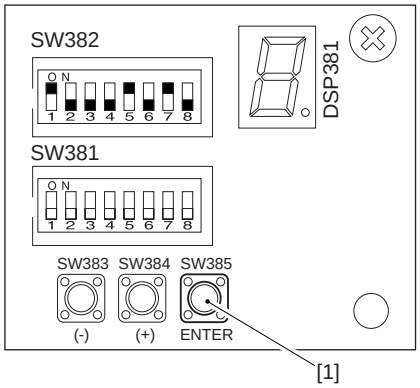
7) Press the push switch SW383 [1] or SW382 [3] to store the new adjustment value.
A press on SW383 causes the LED [3] to indicate '-1', moving the stapling position (front 1-point) toward the rear. On the other hand, a press on SW384 causes the LED [3] to indicate '+1', moving the stapling position toward the front.

range of adjustment: +20 to -20 (unit: 0.5 mm)



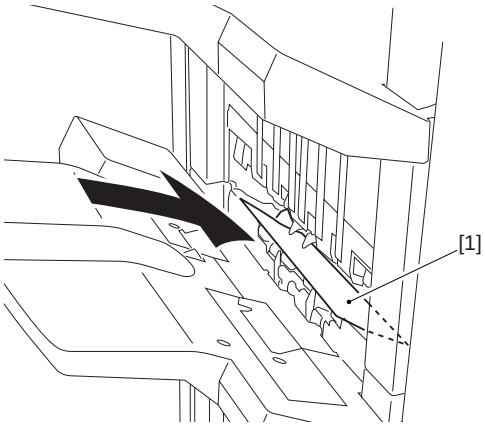
F-2-62

8) Press the push switch SW385 [1] to move the stapler toward the front.



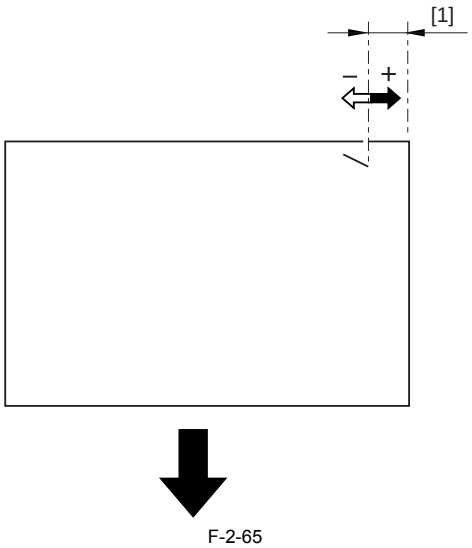
F-2-63

9) Place A4 paper [1] in the intermediate handling tray. (Be sure to butt the paper against the rear of the handling tray.)



F-2-64

10) Check to make sure that the stapling position is 5 +/-2 mm [1] as a result of the foregoing steps. Otherwise, go back to step 6).

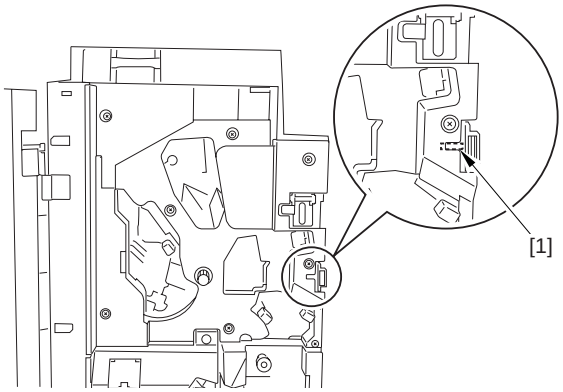


F-2-65

If the LED indicates other than '0', the adjustment is likely to have failed. Start over.

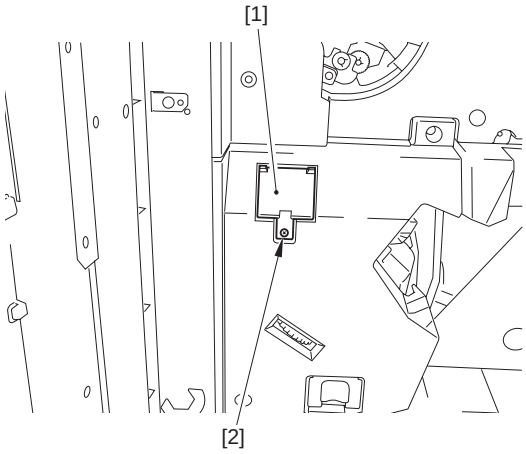
2.2.9 usting the Stapling Position (2-point)

Go through the following steps if there is displacement in stapling position (2-point) or if you have replaced the EEPROM of the finisher controller PCB:
1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



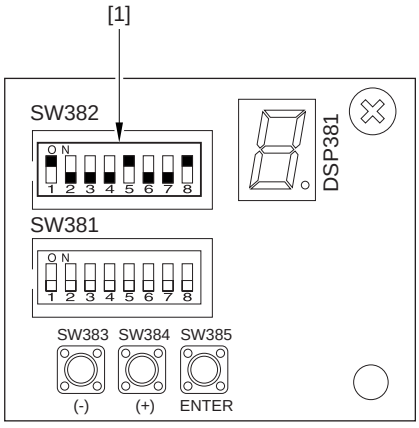
F-2-66

4) Remove the screw [2], and detach the switch cover [1].



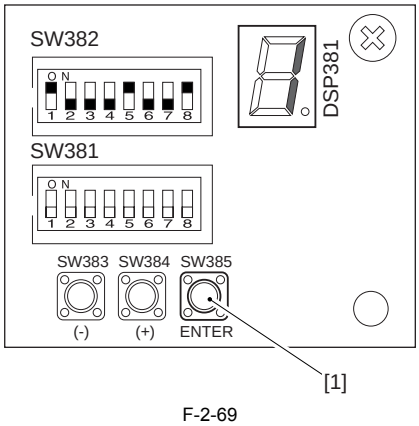
F-2-67

5) Set the DIP switch SW382 [1] on the switch PCB as follows:



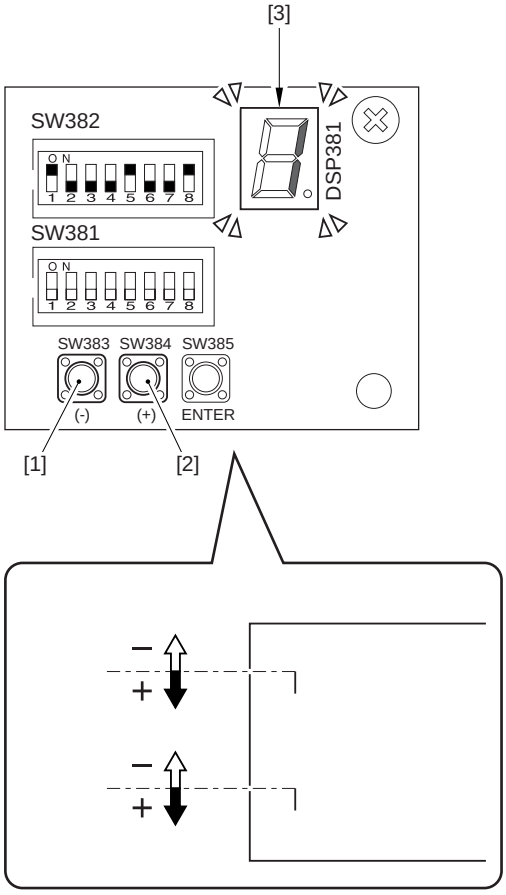
F-2-68

6) Press the push switch SW385 [1] to start adjustment of stapling position (2-point).



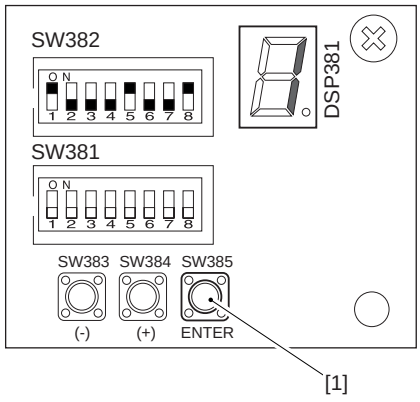
F-2-69

7) Press the push switch SW383 [1] or SW384 [2] to store the new adjustment value.
A single press on SW383 will cause the LED [3] to indicate '-1', moving the stapling position (2-point) upward. On the other hand, a single press on SW384 will cause the LED [3] to indicate '+1', moving the stapling position in downward direction.
range of adjustment: +20 to -20 (unit: 0.5 mm)



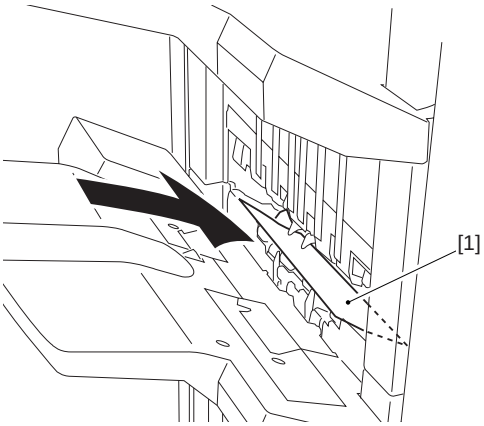
F-2-70

8) Press the push switch SW385 [1] to move the stapler to the 2-point stapling position.



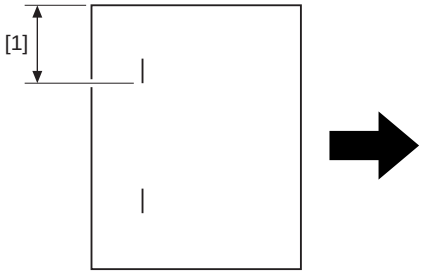
F-2-71

9) Place A4 paper [1] in the intermediate handling tray. (Be sure to butt the paper against the rear of the handling tray.)



F-2-72

10) Check to see that the stapling position is as follows [1] as the result of the foregoing steps: for A-Series, 86.3 +/-4 mm; for L-Series, 73.7 +/-4 mm. Otherwise, go back to step 6).



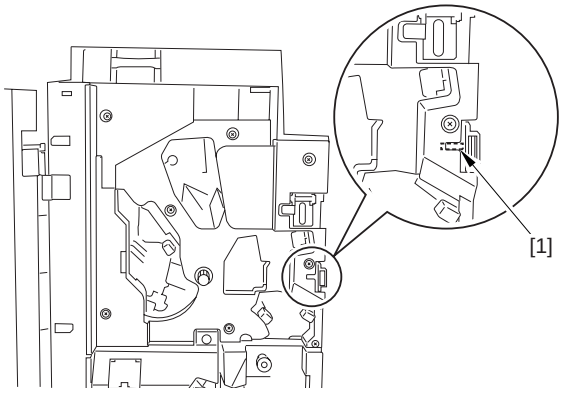
F-2-73

If the LED indicates other than '0', the adjustment is likely to have failed. Start over.

2.2.10 Adjusting the Delivery of Stapled Stacks (lower delivery)

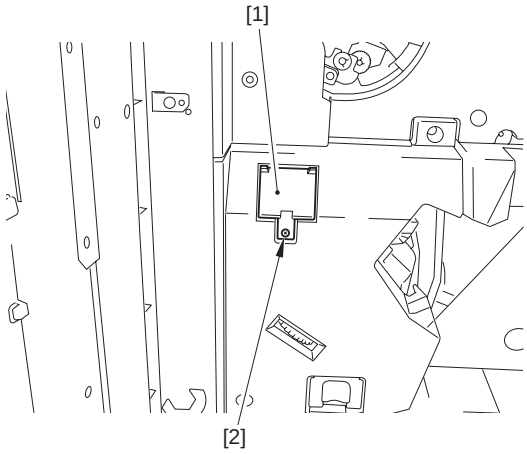
Go through the following steps if there is displacement among sheets of a stapled stack (lower delivery; cover, 1st to 3rd sheets) or if you have replaced the EEPROM of the finisher controller PCB:

1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



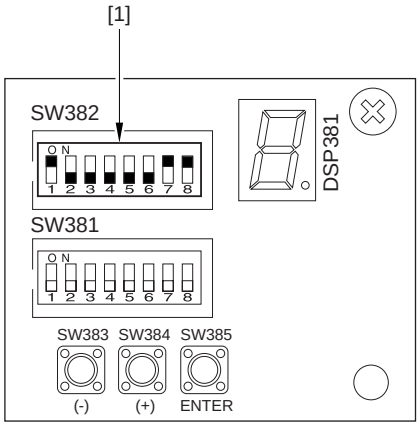
F-2-74

4) Remove the screw [2], and detach the switch cover [1].



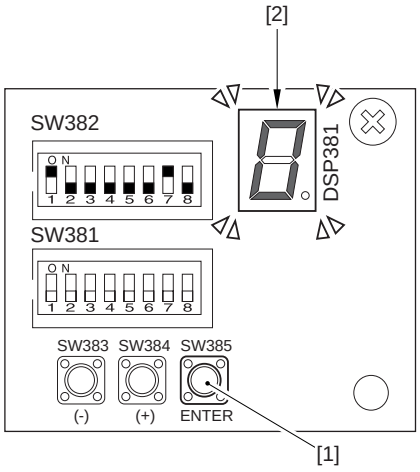
F-2-75

5) Set the DIP switch SW382 [1] on the switch PCB as follows:



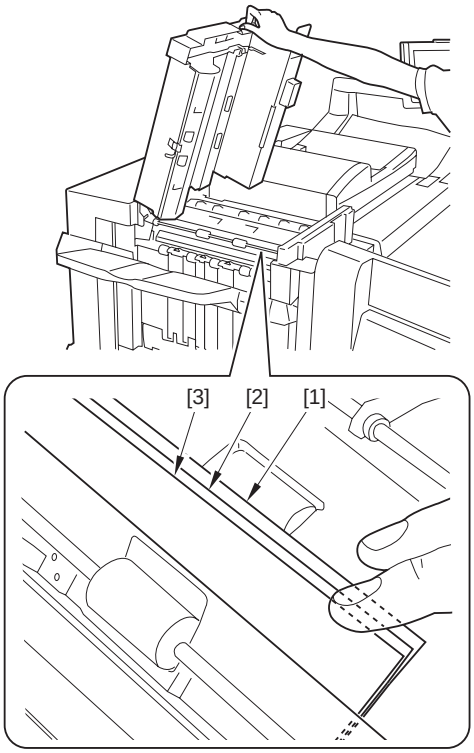
F-2-76

6) Press the push switch SW385 [1] so that the LED [2] flashes '0', indicating that the machine is ready for adjustment.

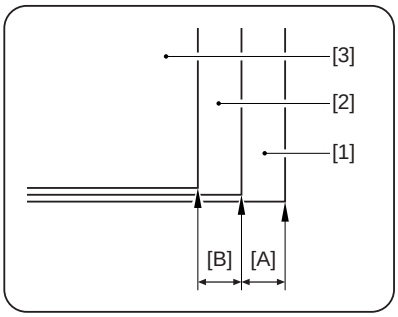


F-2-77

7) Place 3 originals in the ADF, and set as follows on the control panel: A4, 1 set (staple sort).
8) Press the Start key on the control panel to execute copying.
9) Open the upper cover, and measure the displacement (A: between 1st and 2nd sheets; B: between 2nd and 3rd sheets).
Repeat this step 5 times, and see that the average of A and B is as indicated (2 +/-0.5 mm). If not, go through the following steps:



F-2-78



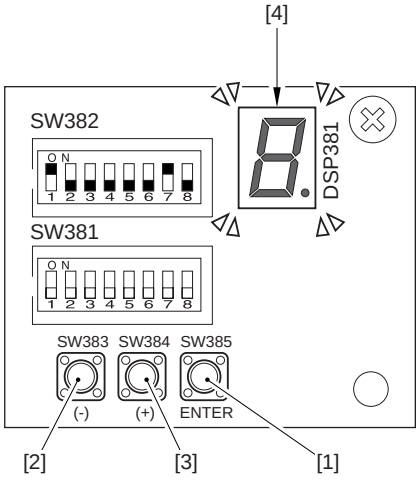
F-2-79

[1] 1st sheet
[2] 2nd sheets
[3] 3rd sheets

10) If A (between 1st and 2nd sheets) or B (between 2nd and 3rd sheets) is not as indicated, go through the following:

Press the push switch SW385 [1] so that the machine is in adjustment mode for A (between 1st and 2nd sheets). Press the push switch SW383 [2] to decrease the displacement, or press SW384 [3] to increase the displacement. (The LED [4] indicates the correction value.)

range of adjustment: +30 to -30 (unit: 0.2 mm)



F-2-80

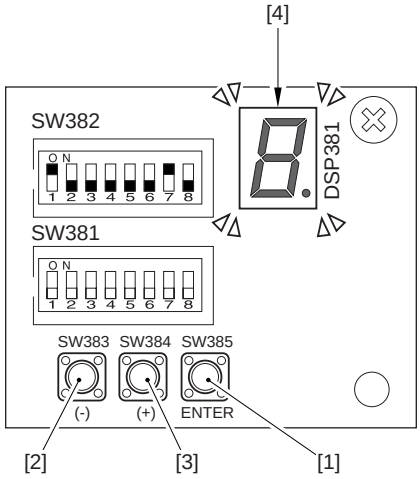
11) If B (between 2nd and 3rd sheets) is not as indicated, go through the following:

Press the push switch SW385 [1] so that the machine is in adjustment mode for B (between 1st and 3rd sheets).

Press the push switch SW382 [2] to decrease the displacement, or press SW384 [3] to increase the displacement. (The LED [4] will indicate the correction value.)

range of adjustment: +30 to -30 (unit: 0.2 mm)

Another press on SW385 will store the A/B correction value.



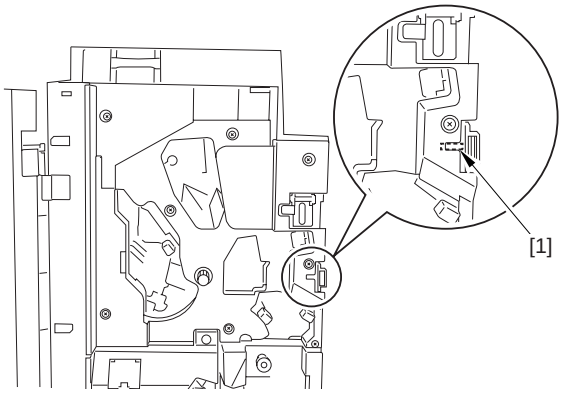
F-2-81

A press on the push switch SW385 while the LED is indicating '0' will cause the LED to indicate the A and B correction values in sequence.
Pay attention so that you remain aware of which correction value you are working on.

2.2.11 Adjusting the Delivery of Stapled Stacks (saddle delivery)

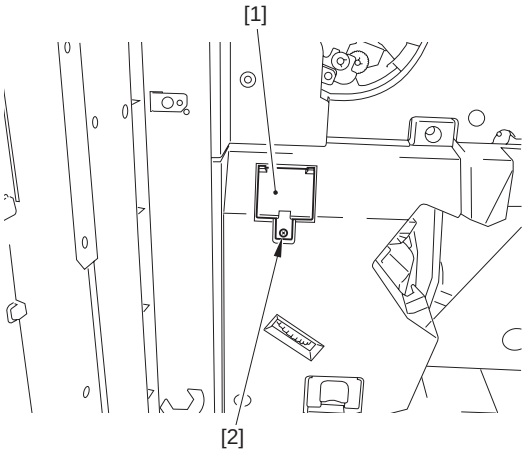
Go through the following steps if there is displacement (cover, 1st to 3rd sheets) among sheets of a stapled stack (saddle delivery) or if you have replaced the EEPROM of the finisher controller:

1) Turn on the finisher.
2) Turn on the host machine so that the machine will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



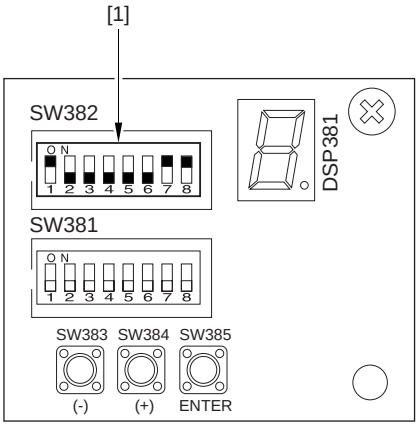
F-2-82

4) Remove the screw [2], and detach the switch cover [1].



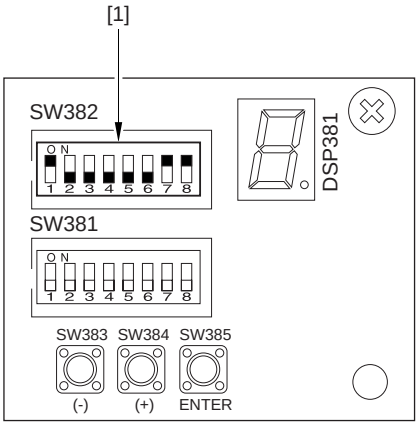
F-2-83

5) Set the DIP switch SW382 [1] on the switch PCB as follows:



F-2-84

6) Press the push switch SW385 [1] so that the LED [2] flashes '0', indicating that the machine is ready for adjustment.

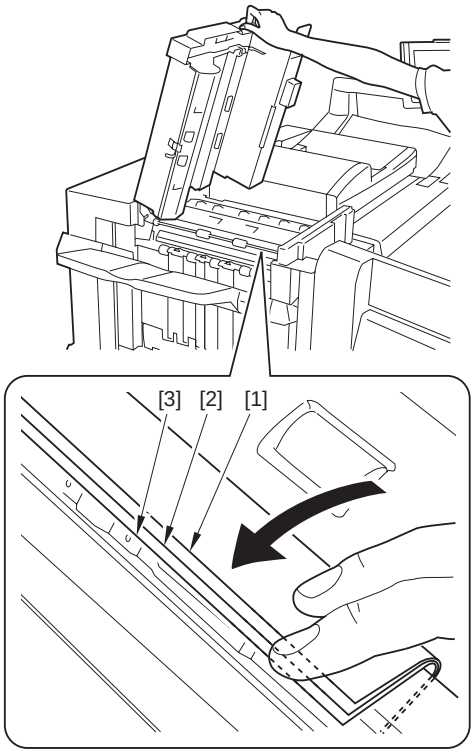


F-2-85

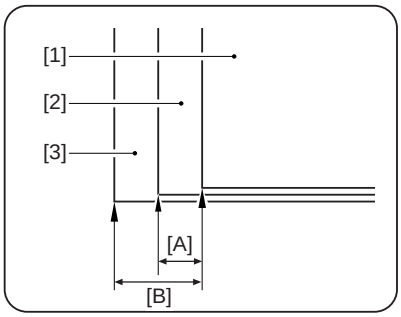
7Åj Place 3 originals in the ADF, and set the following on the control panel: A3, 1 set (middle stapling).
8) Press the Start key on the control panel to start printing.
9) Open the upper cover, and measure the displacement (A: between 1st and 2nd sheets; B: between 2nd and 3rd sheets) of the stack found in the buffer assembly. Repeat this step 5 times, and see that the average of A/B is as indicated (A: 2 +/-0.5 mm; B: 6 +/-0.5mm). If not, go through the following:

⚠

Be sure to turn over the stack as follows before taking measurements:



F-2-86



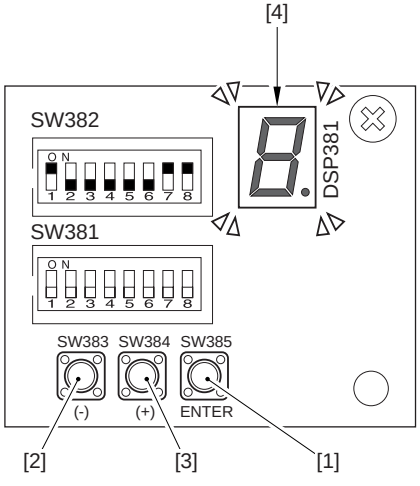
F-2-87

[1] 1st sheet
[2] 2nd sheets
[3] 3rd sheets

10) If A (between 1st and 2nd sheets) or B (between 2nd and 3rd sheets) is not as indicated, go through the following:

Press the push switch SW385 [1] once so that the machine is ready for adjustment of A (between 1st and 2nd sheets). A press on the push switch SW383 [2] will decrease the displacement, while a press on SW384 [3] will increase the displacement. (The LED [4] will indicate the correction value.)

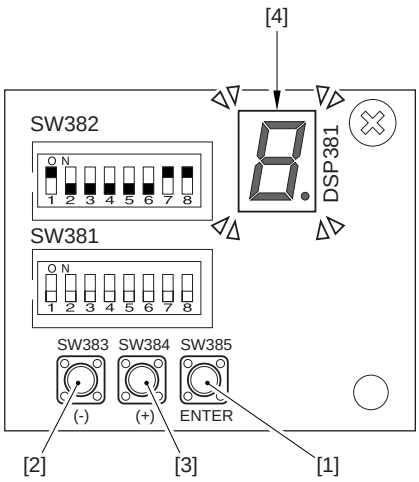
range of adjustment: +30 to -30 (unit: 0.2 mm)



F-2-88

11) If B (between 1st and 3rd sheets) is not as indicated, go through the

following:
Press the push switch SW385 [1] so that the machine is ready fro adjustment of B (cover, between 1st and 3rd sheets).
A press on the push switch SW383 [2] will decrease the displacement, while a press on SW384 [3] will increase the displacement. (The LED [4] will indicate the correction value.)
range of adjustment: +30 and -30 (unit: 0.2 mm)
Another press on SW385 will store the new A/B correction value.

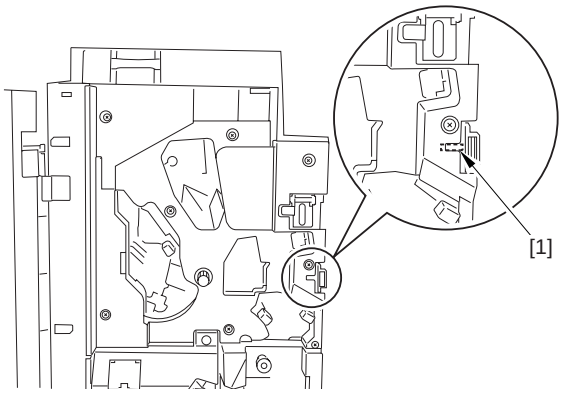


F-2-89

A press on the push switch SW385 while the LED is indicating '0' will cause the LED to indicate the A and B correction values in sequence.
Pay attention to remain aware of which correction value you are working on.

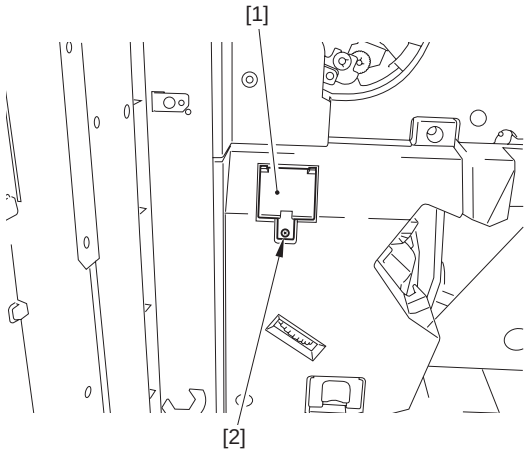
2.2.12 Adjusting the Saddle Binding Position

Go through the following steps if there is displacement in stitching position (saddle delivery) or if you have replaced the EEPROM of the finisher controller PCB:
1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Open the front door, and insert the door switch actuator into the door switch [1].



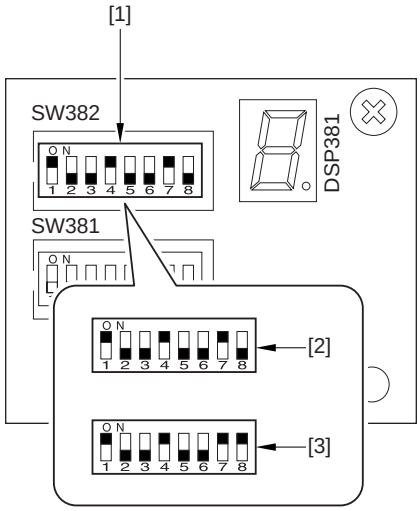
F-2-90

4) Remove the screw [2], and detach the switch cover.



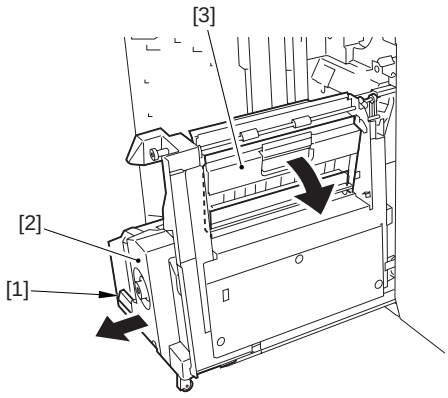
F-2-91

5) Set the DIP switch DIP SW382 [1] on the switch PCB as follows:
- for A-Series, [2]
- for L-Series, [3]



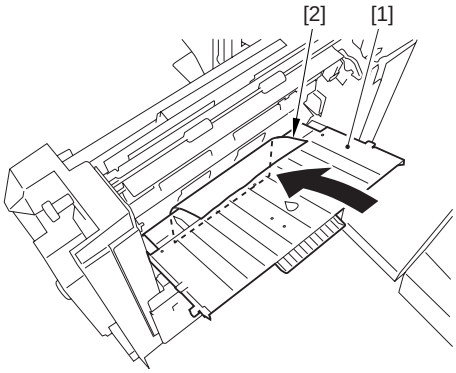
F-2-92

6) Hold the lever [1], and slide out the saddle unit [2]; then, open the saddle right guide [3].



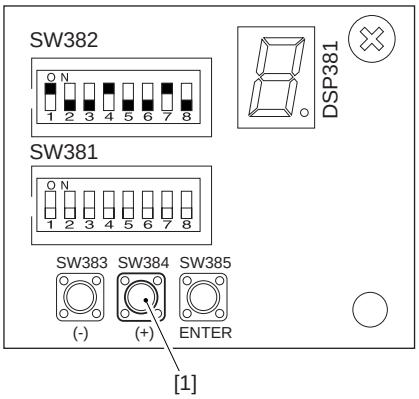
F-2-93

7) Place paper (A4 or LTR) [1] along the transport guide. (Be sure to butt the paper against the positioning plate.)



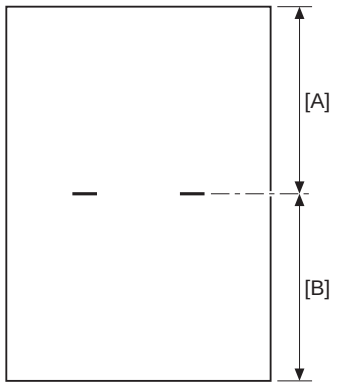
F-2-94

8) Press the push switch SW384 [1] once to start stitching operation.



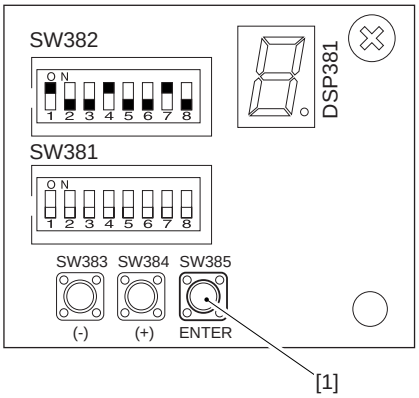
F-2-95

9) Remove the paper, and measure the stitching position (A, B).



F-2-96

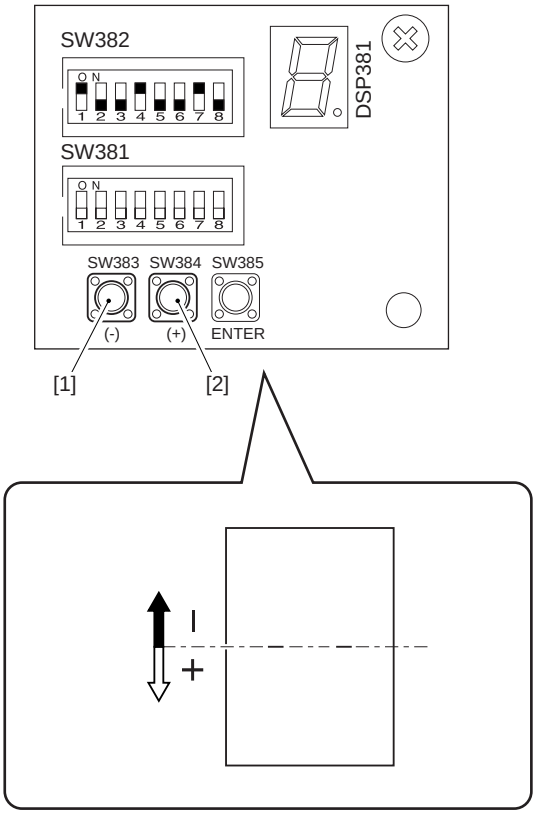
10) If the measurements (A, B) are as indicated (i.e., if A - B is within 0.5 mm), press the push switch SW385 [1] once to end adjustment mode. If not, go through the following:



F-2-97

11) Press the push switch (SW383, SW384) according to the degree of displacement from the standard.
A press on SW383 [1] will move the stapling position upward, while a press on SW384 [2] will move it downward.

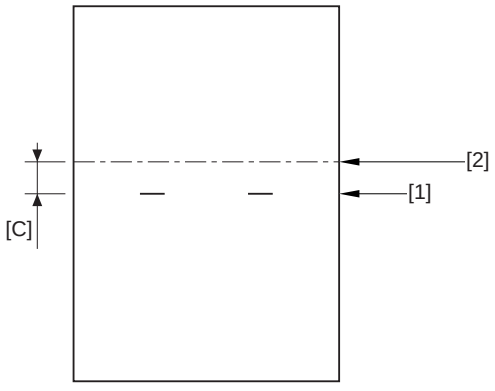
range of adjustment: +5 to -5 (unit: 0.2 mm)



F-2-98

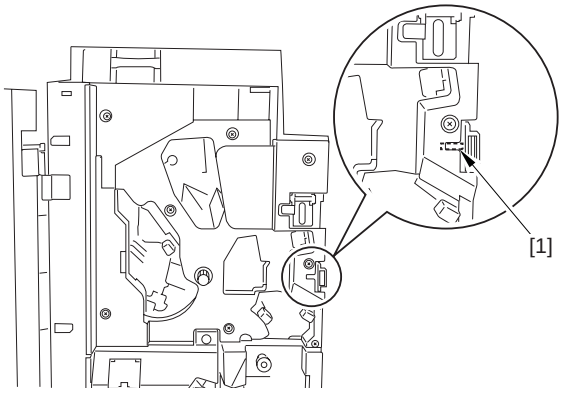
2.2.13 Adjusting the Saddle Folding Position

Go through the following steps if there is displacement in folding position (saddle delivery) or if you have replaced the EEPROM of the finisher controller PCB:
1) Turn on the finisher.
2) Turn on the host machine so that it will be in a standby state.
3) Set the machine for a set of 20 sheets on the control panel, and execute printing.
4) Spread open the bound booklet, and measure the following position [2] in relation to the stapling position [1].
If the measurement is as indicated (i.e., C is 0.5 mm or less), end the adjustment. Otherwise, go through the following:



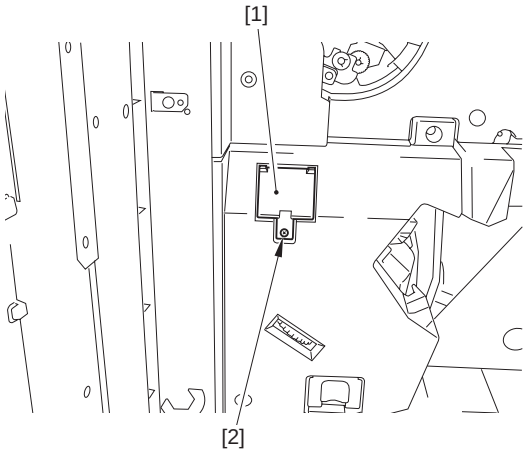
F-2-99

5) Open the front door, and insert the door switch actuator into the door switch [1].



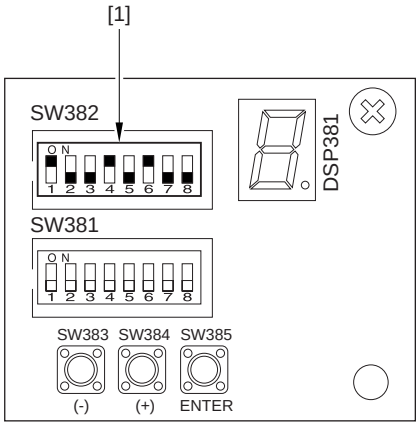
F-2-100

6) Remove the screw [2], and detach the switch cover [1].



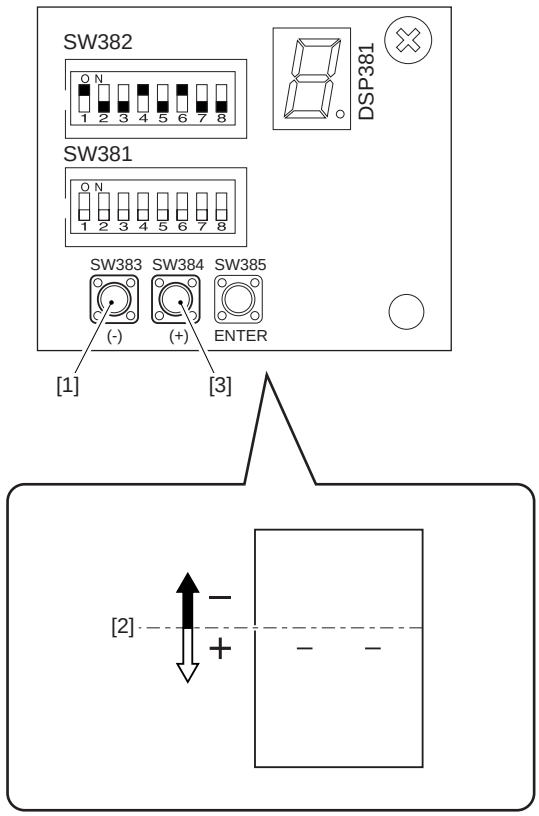
F-2-101

7) Set the DIP switch DIPSW382 [1] on the switch PCB as follows:



F-2-102

6) Obtain the correction value from the measurement, and press the 2 push switches (SW383, SW384) as necessary to correct.
A press on SW383 [1] will move the folding position [2] upward, while a press on SW 384 [3] will move it downward.
range of adjustment: +30to -30 (unit: 0.1 mm)

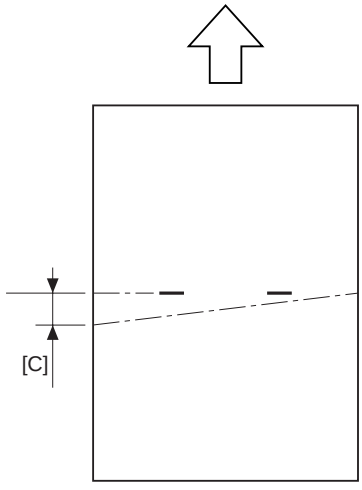


F-2-103

9) Press the push switch SW385 once to end adjustment mode.

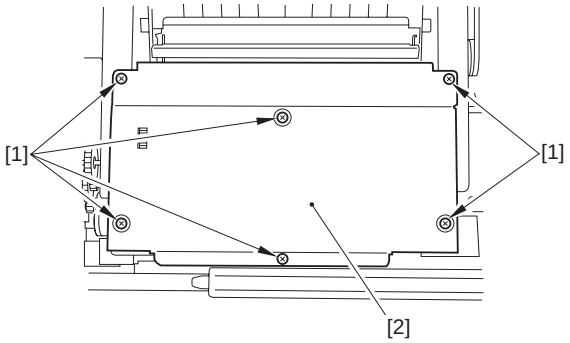
2.2.14 Adjusting the Saddle Lead Edge Stopper Position

Go through the following steps if the saddle folding position has become displaced.
1) Generate a print using the saddle assembly, and measure the displacement (C) of the folding position.



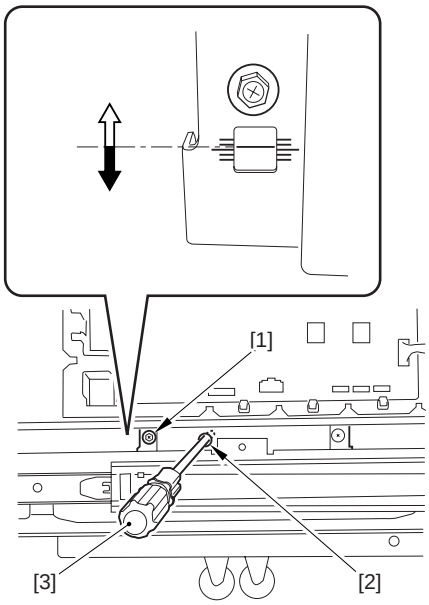
F-2-104

2) Slide out the saddle assembly; then, remove the 5 screws [1], and detach the PCB cover [2].



F-2-105

3) Loosen the fixing screw [1] of the lead edge stopper, and change the position of the stopper to suit the displacement (C) of the following position measured in the foregoing step. (A single index will cause a change of 1 mm.)
Specifically, insert a Phillips screwdriver into the adjusting hole, and move the screwdriver up/down to move to a different index.



F-2-106

Chapter 3 Error Code

3.1 Overview

3.1.1 Overview

The CPU on the machine's finisher controller PCB is equipped with a mechanism to check the machine condition as needed; when it detects a fault, the machine communicates the fact to the host machine in the form of a code and a detail code.
The host machine indicates the code on its control panel. (The detail code may be checked in the host machine's service mode.)

3.2 Service Error Code

3.2.1 Service Error Code for the Finisher

T-3-1

Code	Detail code	Description	Remedial action
E501	0001	finisher communication fault	
		Data communication has failed even after 3 retries.	- Check the connectors of the finisher controller PCB and the DC controller PCB. - Replace the finisher controller PCB. - Replace the DC controller PCB.
E503	0003	professional puncher communication error	
		Communication between finisher and professional puncher is not possible.	- Check the connectors of the finisher and the professional puncher. - Replace the finisher controller PCB. - Suspect a fault on the side of the professional puncher. (For details, see the manual for the professional puncher.)
	8004	trimmer communication error	
		Communication between finisher and trimmer is not possible.	- Check the connectors between finisher and trimmer. - Replace the finisher controller PCB. - Suspect a fault on the side of the trimmer. (For details, see the manual for the trimmer.)
	8005	inserter communication error	
		Communication between finisher and inserter is not possible.	- Check the connectors between finisher and inserter. - Replace the finisher controller PCB. - Suspect a fault on the side of the inserter. (For details, see the manual for the inserter.)
E505	0001	finisher controller PCB fault (EEPROM error)	
		A fault exits in the data stored in the EEPROM on the finisher controller PCB.	- Replace the EEPROM on the finisher controller PCB.
E514	8001	- fault in assist motor or finisher controller PCB - fault in assist HP sensor	
		The assist HP sensor does not go on within 5 sec after the start-up of the assist motor.	- Check the connectors of the assist HP sensor. - Check the connectors of the assist motor. - Replace the assist HP sensor. - Replace the assist motor. - Replace the finisher controller PCB.
	8002	- fault in assist motor or finisher controller PCB - fault in assist HP sensor	
		The assist HP sensor does not go off within 5 sec after the start-up of the assist motor.	- Check the connectors of the assist HP sensor. - Check the connector of the assist motor. - Replace the assist HP sensor. - Replace the assist motor. - Replace the finisher controller PCB.
E530	8001	- fault in rear alignment motor or finisher controller PCB - fault in rear alignment HP sensor	
		The rear alignment HP sensor does not go on within 5 sec after the start-up of the rear alignment motor.	- Check the connectors of the rear alignment HP sensor. - Check the connectors of the area alignment motor. - Replace the rear alignment HP sensor. - Replace the rear alignment motor. - Replace the finisher controller PCB.
	8002	- fault in rear alignment motor or finisher controller PCB - fault in rear alignment HP sensor	
		The rear alignment HP sensor does not go off within 1 sec after the start-up of the rear alignment motor.	- Check the connectors of the rear alignment HP sensor. - Check the connectors of the rear alignment motor. - Replace the rear alignment HP sensor. - Replace the rear alignment motor. - Replace the finisher controller PCB.

Code	Detail code	Description	Remedial action
E531	8001	- stapler motor fault - stapler HP fault - finisher controller PCB fault	
		- Check the connectors of the stapler unit. - Replace the stapler unit. - Check the connectors of the stapler HP sensor. - Replace the stapler HP sensor. - Replace the finisher controller PCB.	- Check the connectors of the stapler unit. - Replace the stapler unit. - Check the connectors of the stapler HP sensor. - Replace the stapler HP sensor. - Replace the finisher controller PCB.
	8002	- stapler motor fault - stapler HP sensor fault - finisher controller PCB fault	
		The stapler HP sensor does not go off within 500 msec after the start-up of the stapler motor.	- Check the connectors of the stapler unit. - Replace the stapler unit. - Check the connectors of the stapler HP sensor. - Replace the stapler HP sensor. - Replace the finisher controller PCB.
E532	8001	- stapler shift motor fault - stapler HP sensor fault - finisher controller PCB fault	
		The stapler HP sensor does not go off within 500 msec after the start-up of the stapler shift motor.	- Check the connectors of the stapler shift motor. - Replace the stapler shift motor. - Check the connectors of the stapler HP sensor. - Replace the stapler HP sensor. - Replace the finisher controller PCB.
	8002	- stapler shift motor fault - stapler HP sensor - finisher controller PCB fault	
		The stapler HP sensor does not go off within 500 msec after the start-up of the staple shift motor.	- Check the connectors of the staple shift motor. - Replace the stapler shift motor. - Check the connectors of the stapler HP sensor. - Replace the stapler HP position. - Replace the finisher controller PCB.
E535	8001	- swing guide motor fault - swing guide open sensor fault - finisher controller PCB fault	
		The swing guide open sensor does not go on within 2 sec after the start-up of the swing guide motor.	- Check the connectors of the swing guide motor. - Replace the swing guide motor. - Check the connectors of the swing guide open sensor. - Replace the connectors of the swing guide open sensor. - Replace the finisher controller PCB.
	8002	- swing guide motor fault - swing guide closed sensor fault - finisher controller PCB fault	
		The swing guide closed sensor does not go on within 2 sec after the start-up of the swing guide motor.	- Check the connectors of the swing guide motor. - Replace the swing guide motor. - Check the connectors of the swing guide open sensor. - Replace the swing guide closed sensor. - Replace the finisher controller PCB.
E537	8001	- fault in front alignment motor or finisher controller PCB - front alignment HP sensor fault	
		The front alignment HP sensor does not go on within 5 sec after the start-up of the front alignment motor.	- Check the connectors of the front alignment HP sensor. - Check the connectors of the front alignment motor. - Replace the front alignment HP sensor. - Replace the front alignment motor. - Replace the finisher controller PCB.
	8002	- fault in front alignment motor or finisher controller PCB - front alignment HP sensor	
		The front alignment HP sensor does not go off within 5 sec after the start-up of the front alignment motor.	- Check the connectors of the front alignment HP sensor. - Check the connectors of the front alignment motor. - Replace the front alignment HP sensor. - Replace the front alignment motor. - Replace the finisher controller PCB.

Code	Detail code	Description	Remedial action
E540	8001	- fault in tray A lift motor or finisher controller PCB - tray A rotation sensor	
		The tray A rotation sensor does not go on within 300 msec after the start-up of the tray A lift motor.	- Check the connectors of the tray A rotation sensor. - Check the connectors of the tray A lift motor. - Replace the tray A rotation sensor. - Replace the tray A lift motor. - Replace the finisher controller PCB.
	8002	tray A area sensor fault - finisher controller PCB	
		The tray A has been identified as being lower than tray B.	- Check the connectors of the tray A area sensor. - Replace the tray A area sensor. - Replace the finisher controller PCB.
	8003	- tray approach switch fault - finisher controller PCB fault	
		The tray approach switch has gone on.	- Check the connectors of the tray approach switch. - Replace the tray approach switch. - Replace the finisher controller PCB.
	80FF	- fault in tray A lift motor or finisher controller PCB - tray A rotation sensor fault	
		The up/down movement does not end within 25 sec after the start-up of the tray A lift motor.	- Check the connectors of the tray A rotation sensor. - Check the connectors of the tray A lift motor. - Replace the tray A rotation sensor. - Replace the tray A lift motor. - Replace the finisher controller PCB.
E542	8001	- fault in tray B lift motor or finisher controller PCB - tray B rotation sensor error	
		The tray B rotation sensor does not go on within 300 msec after the start-up of the tray B lift motor.	- Check the connectors of the tray A rotation sensor. - Check the connectors of the tray A lift motor. - Replace the tray A rotation sensor. - Replace the tray A lift motor. - Replace the finisher controller PCB.
	8002	- fault in tray B area sensor or finisher controller PCB	
		The tray B is identified as being higher than the intermediate handling tray delivery slot.	- Check the connectors of the tray A rotation sensor. - check the connectors of the tray A lift motor. - Replace the tray A rotation sensor. - Replace the tray lift motor. - Replace the finisher controller PCB.
	80FF	fault in tray B area sensor or finisher controller PCB	
		The tray B is identified as being higher than the intermediate handling tray delivery slot.	- Check the connectors of the tray B rotation sensor. - Check the connectors of the tray B lift motor. - Replace the tray B rotation sensor. - Replace the tray B lift motor. - Replace the finisher controller PCB.
E551	8001	power supply fan error	
		The lock signal has been detected for 2 sec or more while the fan is operating.	- Check the connectors of the power supply fan. - Suspect a fault in the power supply fan. - Replace the finisher controller PCB.
	8002	feed fan error	
		The lock signal has been detected for 2 sec or more while the fan is operating.	- Check the connectors of the feed fan. - Suspect a fault in the feed fan. - Replace the finisher controller PCB.
E566	8001	- fault in horizontal registration sensor or horizontal registration detection unit shift motor	
		The horizontal registration sensor does not go on within 5 sec after the start-up of the horizontal registration detection unit.	- Check the connectors of the horizontal detection unit shift motor and the horizontal sensor. - Replace the horizontal registration detection unit shift motor and the horizontal registration sensor. - Replace the finisher controller PCB.
	8002	fault in shift roller unit HP sensor or horizontal registration shift motor	
		The shift roller unit HP sensor does not go on within 5 sec after the start-up of the horizontal registration shift motor.	- Check the connectors of the horizontal registration shift motor and the shift roller unit HP sensor. - Replace the horizontal registration shift motor and the shift roller unit HP sensor. - Replace the finisher controller PCB.
E567	8001	- fault in shift roller unit HP sensor or horizontal registration shift motor	
		The shift roller unit HP sensor does not go off within 5 sec after the start-up of the horizontal shift motor.	- Check the connectors of the horizontal registration shift motor and the shift roller unit HP sensor. - Replace the horizontal registration shift motor and the shift roller unit HP sensor. - Replace the finisher controller PCB.
	8002	- fault in transport roller HP sensor or transport roller shift motor	
		The transport roller HP sensor does not go on within 5 sec after the start-up of the transport roller shift motor.	- Check the connectors of the transport roller shift motor and the transport roller HP sensor. - Replace the transport roller shift motor and the transport roller HP sensor. - Replace the finisher controller PCB.

Code	Detail code	Description	Remedial action
E568	8001	- fault in transport roller HP sensor or transport roller shift motor	
		The transport roller HP sensor does not go off within 5 sec after the start-up of the transport roller shift motor.	- Check the connectors of the transport roller shift motor and the transport roller HP sensor. - Replace the transport roller shift motor and the transport roller HP sensor. - Replace the finisher controller PCB.
	8002	- fault in paddle rotation HP sensor or paddle rotation motor	
		The paddle rotation HP sensor does not go off within 5 sec after the start-up of the paddle rotation motor.	- Check the connectors of the paddle rotation motor and the paddle rotation HP sensor. - Replace the paddle rotation motor and the paddle rotation HP sensor. - Replace the finisher controller PCB.
E577	8001	- fault in paddle lift HP sensor or paddle lift motor	
		The paddle lift HP sensor does not go on within 5 sec after the start-up of the paddle lift motor.	- Check the connectors of the paddle lift motor and the paddle lift HP sensor. - Replace the paddle lift motor and the paddle lift HP sensor. - Replace the finisher controller PCB.
	8002	- fault in paddle lift HP sensor or paddle lift motor	
		The paddle lift HP sensor does not go off within 5 sec after the start-up of the paddle lift motor.	- Check the connectors of the paddle lift motor and the paddle lift HP sensor. - Replace the paddle lift motor and the paddle lift HP sensor. - Replace the finisher controller PCB.
	8003	- fault in transport belt HP sensor or transport belt shift motor	
		The transport belt sensor does not go on within 5 sec after the start-up of the transport belt shift motor.	- Check the connectors of the paddle lift motor and the paddle lift HP sensor. - Replace the paddle lift motor and the paddle lift HP sensor. - Replace the finisher controller PCB.
	8004	- fault in transport belt HP sensor or transport belt shift motor	
		The paddle lift HP sensor does not go off within 5 sec after the start-up of the paddle lift motor.	- Check the connectors of the paddle lift motor and the paddle lift HP sensor. - Replace the paddle lift motor and the paddle lift HP sensor. - Replace the finisher controller PCB.
E578	8001	- fault in transport belt HP sensor or transport belt shift motor	
		The transport belt sensor does not go on within 5 sec after the start-up of the transport belt shift motor.	- Check the connectors of the transport belt shift motor and the transport belt HP sensor. - Replace the transport belt shift motor and the transport belt HP sensor. - Replace the finisher controller PCB.
	8002	- fault in transport belt HP sensor or transport belt shift motor	
		The transport belt HP sensor does not go off within 5 sec after the start-up of the transport belt shift motor.	- Check the connectors of the transport belt shift motor and the paper edge area HP sensor. - Replace the paper edge stopper shift motor and the paper edge area HP sensor. - Replace the finisher controller PCB.
E57A	8001	- fault in paper edge area sensor or paper edge stopper shift motor	
		The paper edge area HP sensor does not go on within 5 sec after the start-up of the paper edge stopper shift motor.	- Check the connectors of the paper edge stopper shift motor and the paper edge area HP sensor. - Replace the paper edge stopper shift motor and the paper edge area HP sensor. - Replace the finisher controller PCB.
	8002	- fault in paper edge area sensor or paper edge stopper shift motor	
		The paper edge area HP sensor does not go off within 5 sec after the start-up of the paper edge stopper shift motor.	- Check the connectors of the paper edge stopper shift motor and the paper edge area HP sensor. - Replace the paper edge stopper shift motor and the paper edge area HP sensor. - Replace the finisher controller PCB.
	8003	paper edge stopper fault	
		Interference with the stapler prevents operation at the start of paper edge stopper operation.	- Check the connectors of the paper edge stopper shift motor. - Replace the paper edge stopper shift motor. - Replace the finisher controller PCB.
E57B	8001	- fault in paper trail edge HP sensor or paper trail edge motor	
		The paper trail edge HP sensor does not go on within 5 sec after the start-up of the paper trail edge motor.	- Check the connectors of the paper edge motor and the paper edge HP sensor. - Replace the paper edge motor and the paper edge HP sensor. - Replace the finisher controller PCB.

Code	Detail code	Description	Remedial action
E57C	8003	- fault in upper guide HP sensor or upper guide motor	
		The upper guide HP sensor does not go on within 5 sec after the start-up of the upper guide motor.	- Check the connectors of the upper guide motor and the upper guide HP sensor. - Replace the upper guide motor and the upper guide HP sensor. - Replace the finisher controller PCB.
	8004	- fault in upper guide HP sensor or upper guide motor	
		The upper guide HP sensor does not go off within 5 sec after the start-up of the upper guide motor.	- Check the connectors of the upper guide motor and the upper guide HP sensor. - Replace the upper guide motor and the upper guide HP sensor. - Replace the finisher controller PCB.
E583	8001	- fault in stack delivery auxiliary tray HP sensor or stack delivery auxiliary motor	
		The stack delivery auxiliary tray HP sensor does not go on within 5 sec after the start-up of the stack delivery auxiliary motor.	- Check the connectors of the stack auxiliary motor and the stack delivery auxiliary tray HP sensor. - Replace the HP sensor. - Replace the finisher controller PCB.
	8002	- fault in stack delivery auxiliary tray HP sensor or stack delivery auxiliary motor	
		The stack delivery auxiliary tray HP sensor does not go off within 5 sec after the start-up of the stack delivery auxiliary motor.	- Check the connectors of the stack auxiliary motor and the stack delivery auxiliary tray HP sensor. - Replace the HP sensor. - Replace the finisher controller PCB.
E584	8001	- fault in shutter HP sensor or paddle rotation motor	
		The shutter HP sensor does not go on within 5 sec after the start-up of the paddle rotation motor.	- Check the connectors of the paddle rotation motor and the shutter HP sensor. - Replace the paddle rotation motor and the shutter HP sensor. - Replace the finisher controller PCB.
	8002	fault in shutter HP sensor or paddle rotation motor	
		The shutter HP sensor does not go off within 5 sec after the start-up of the paddle rotation motor.	- Check the connectors of the paddle rotation motor and the shutter HP sensor. - Replace the paddle rotation motor and the shutter HP sensor. - Replace the finisher controller PCB.

3.2.2 Service Error Code for the Saddle Finisher

T-3-2

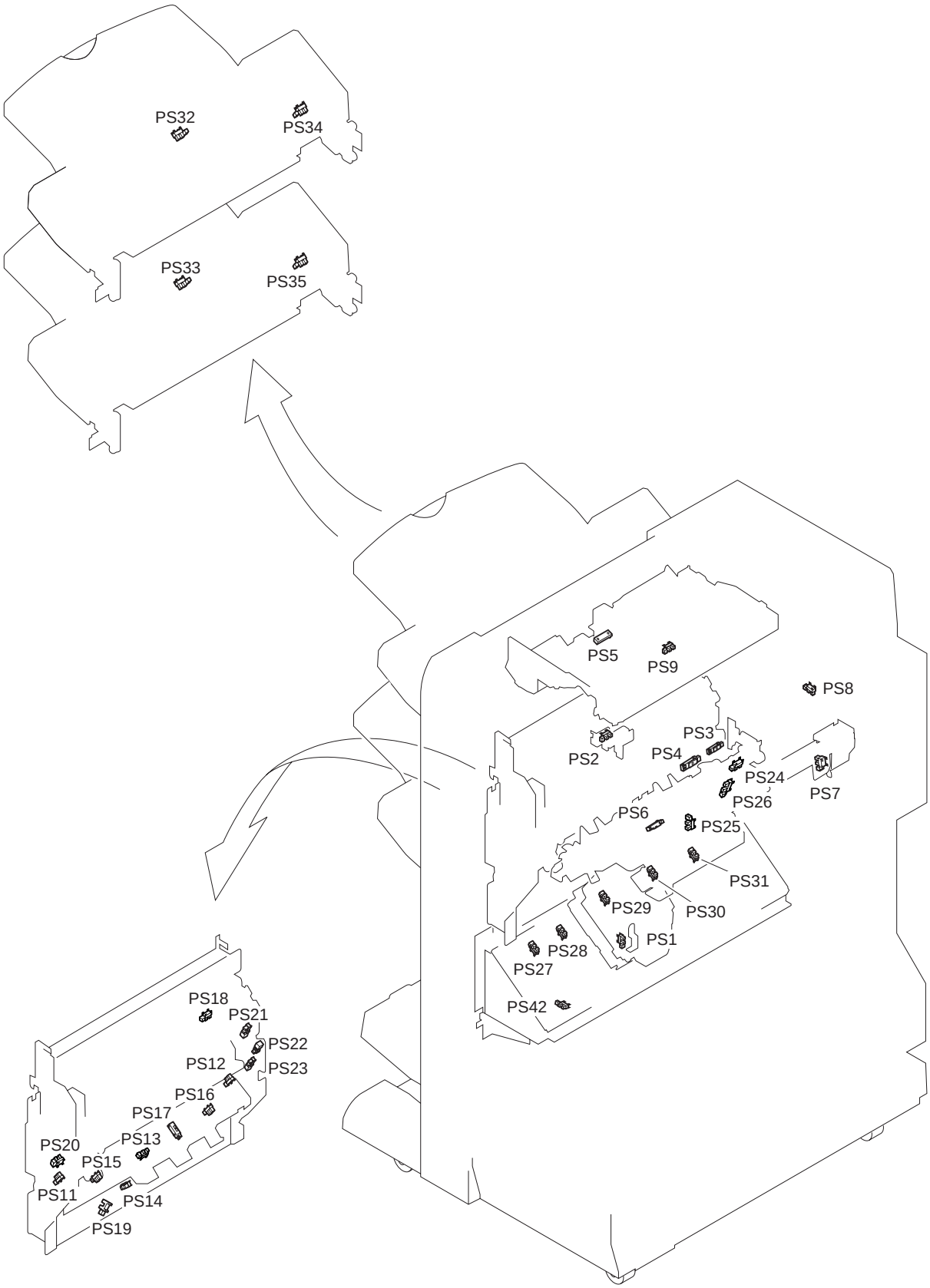
Code	Detail code	Description	Remedial action
E5F0	8001	- fault in stopper HP sensor or stopper motor	
		The stopper HP sensor does not go on within 5 sec after the start of the stopper motor.	- Check the connectors of the stopper motor and the stopper HP sensor. - Replace the stopper motor and the stopper HP sensor. - Replace the saddle stitcher controller PCB.
	8002	- fault in stopper HP sensor or stopper motor	
		The stopper HP sensor does not go off within 5 sec after the start of the stopper motor.	- Check the connectors of the stopper motor and the stopper HP sensor. - Replace the stopper motor and the stopper HP sensor. - Replace the saddle stitcher controller PCB.
E5F1	8001	- fault in folding/transport motor rotation sensor or following/transport motor	
		The folding/transport motor rotation sensor does not go on for 1 sec after the start-up of the folding/transport motor.	- Check the connectors of the folding/ transport motor and the folding/transport motor rotation sensor. - Replace the folding/transport motor and the folding/transport motor rotation sensor. - Replace the saddle stitcher controller PCB.
E5F2	8001	- fault in saddle roller guide HP sensor or saddle guide motor	
		- The saddle guide HP sensor does not go on within 5 sec after the start-up of the saddle guide motor.	- Check the connectors of the saddle guide motor and the saddle roller guide HP sensor. - Replace the saddle guide motor and the saddle roller guide HP sensor. - Replace the saddle stitcher controller PCB.
	8002	- fault in saddle roller guide HP sensor or saddle guide motor	
		The saddle roller guide HP sensor does not go off within 5 sec after the start-up of the saddle guide motor.	- Check the connectors of the saddle guide motor and the saddle roller guide HP sensor. - Replace the saddle guide motor and the saddle roller guide HP sensor. - Replace the saddle stitcher controller PCB.

Code	Detail code	Description	Remedial action
E5F3	8001	- fault in saddle aligning plate HP sensor or saddle aliment motor	
		The saddle aligning plate HP sensor does not go on within 5 sec after the start-up of the saddle alignment motor.	- Check the saddle alignment motor and the saddle aligning plate HP sensor. - Replace the saddle alignment motor and the saddle aligning plate HP sensor. - Replace the saddle stitcher controller PCB.
	8002	- fault in saddle aligning plate HP sensor or saddle alignment motor	
		The saddle aligning plate HP sensor does not go off within 5 sec after the start-up of the saddle alignment motor.	- Check the connectors of the saddle alignment motor and the saddle aligning plate HP sensor. - Replace the saddle alignment motor and the saddle aligning plate HP sensor. - Replace the saddle stitcher controller PCB.
E5F4	8001	- stitcher unit fault	
		The home position is not detected within 500 msec after the start-up of the saddle unit.	- Check the connectors of the stitcher unit. - Replace the stitcher unit. - Replace the saddle stitcher controller PCB.
	8002	- stitcher unit fault	
		The stitcher unit is still in home position 500 msec after the start-up of the saddle unit.	- Check the connectors of the stitcher unit. - Replace the stitcher unit. - Replace the saddle stitcher controller PCB.
E5F6	8001	- fault in saddle paper stop plate HP sensor or saddle paper stop plate motor	
		The saddle paper stop plate HP sensor does not go on within 800 msec after the start-up of the saddle paper stop plate motor.	- Check the connectors of the saddle paper stop plate motor and the saddle paper stop plate HP sensor. - Replace the saddle paper stop plate motor and the saddle paper stop plate HP sensor. - Replace the saddle stitcher controller PCB.
	8002	- fault in saddle paper stop plate HP sensor or saddle paper stop plate motor	
		The saddle paper stop plate HP sensor does not go off within 300 msec after the start-up of the saddle paper stop plate motor.	- Check the connectors of the saddle paper stop plate motor and the saddle paper stop plate HP sensor. - Replace the saddle paper stop plate motor and the saddle paper stop plate HP sensor. - Replace the saddle controller PCB.
E5FA	8000	- fault in saddle pressing motor or saddle pressing position sensor	
		The saddle pressing position sensor does not go on within 200 msec after the start-up of the saddle pressing motor.	- Check the saddle pressing motor and the saddle pressing position sensor. - Replace the saddle pressing motor and the saddle pressing position sensor. - Replace the stitcher controller PCB.
	8001	- fault in saddle pressing motor or saddle pressing HP sensor	
		The saddle pressing HP sensor does not go on 1 sec after the start-up of the saddle pressing motor.	- Check the saddle pressing motor and the saddle pressing HP sensor. - Replace the saddle pressing motor and the saddle pressing HP sensor. - Replace the stitcher controller PCB.
	8002	- fault in saddle pressing motor or saddle pressing HP sensor	
		The saddle pressing HP sensor does not go off within 1 sec after the start-up of the saddle pressing motor.	- Check the saddle pressing motor and the saddle pressing HP sensor. - Replace the saddle pressing motor and the saddle pressing HP sensor. - Replace the stitcher controller PCB.
E5FB	8001	- fault in saddle pull-in roller motor and saddle pull-in roller HP sensor.	
		The saddle pull-in roller HP sensor does not go on within 3 sec after the start-up of the pull-in roller motor.	- Check the saddle pull-in roller motor and the saddle pull-in roller HP sensor. - Replace the saddle pull-in roller motor and the saddle pull-in roller HP sensor. - Replace the stitcher controller PCB.
	8002	- fault in saddle pull-in roller motor and saddle pull-in roller HP sensor.	
		The saddle pull-in roller HP sensor does not go off within 3 sec after the start-up of the pull-in roller motor.	- Check the saddle pull-in roller motor and the saddle pull-in roller HP sensor. - Replace the saddle pull-in roller motor and the saddle pull-in roller HP sensor. - Replace the stitcher controller PCB.

Chapter 4 Outline of Components

4.1 Outline of Electrical Components

4.1.1 Sensors (Finisher Unit)



F-4-1

T-4-1

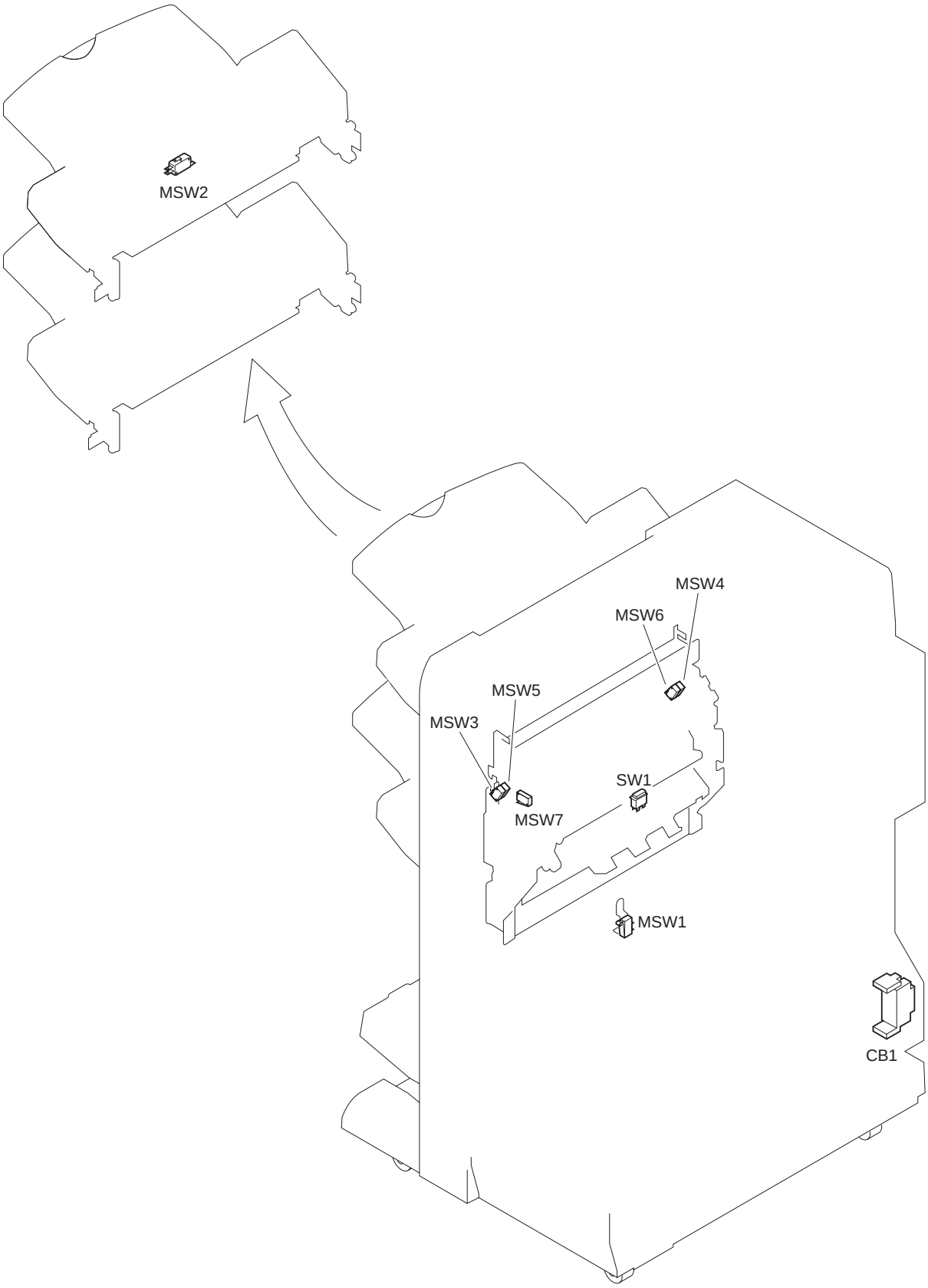
Notation	Name	Description	Parts No.	Jam	Error
PS1	front cover open sensor	detects the state (open/closed) of the front cover	FK2-0149	1422	
PS2	upper cover open/closed sensor	detects the state (open/closed) of the upper cover	FK2-0149	1422	
PS3	inlet sensor	detects paper at the inlet	WG8-5736	1002/1103	
PS4	shift unit trail edge sensor	detects paper in the shift unit	WG8-5736	1004/1105	
PS5	upper delivery sensor	detects paper in the upper delivery assembly	WG8-5736	100A/110B	
PS6	lower delivery sensor	detects paper in the lower delivery sensor	WG8-5736	100E/110F	
PS7	horizontal registration HP sensor	detects the home position of the horizontal registration unit	FK2-0149		E566
PS8	shift roller unit HP sensor	detects the home position of the shift roller unit	FK2-0149		E567
PS9	transport roller HP sensor	detects the home position of the transport roller	FK2-0149		E568
PS11	front alignment HP sensor	detects the home position of the front aligning plate	FK2-0149		E537
PS12	rear alignment HP sensor	detects the home position of the rear aligning plate	FK2-0149		E530
PS13	assist HP sensor	detects the home position of the assist unit	FK2-0149		E514
PS14	stack delivery auxiliary tray HP sensor	detects the home position of the stack delivery auxiliary tray	FK2-0149		E583
PS15	paper edge area 1 sensor	detects paper in the area	FK2-0149		E57A
PS16	paper edge area 2 sensor	detects paper in the area	FK2-0149		E57A
PS17	handling tray paper sensor	detects paper in the handling tray	FK2-0149		
PS18	swing motor rotation sensor	detects the rotation of the swing motor	FK2-0149		
PS19	shutter HP sensor	detects home position of the shutter	FK2-0149		E584
PS20	paddle rotation HP sensor	detects the home position of the paddle rotation	FK2-0149		E577
PS21	paddle lifter HP sensor	detects the home position of the paddle lifter operation	FK2-0149		E577
PS22	swing guide closed sensor	detects the opening operation of the swing guide	FK2-0149		E535
PS23	swing guide open sensor	detects closing operation of the swing guide	FK2-0149		E535
PS24	paper trail edge push mechanism HP sensor	detects the home position of the paper trail edge push mechanism	FK2-0149		E57B
PS25	transport belt HP sensor	detects the home position of the transport belt	FK2-0149		E578
PS26	upper guide HP sensor	detects the home position of the upper guide	FK2-0149		E57C
PS27	stapling position HP sensor	detects the home position of stapling	FK2-0149		
PS28	stapling position sensor 1	detects stapling position	FK2-0149		
PS29	stapling position sensor 2	detects stapling position	FK2-0149		
PS30	stapling position sensor 3	detects stapling position	FK2-0149		
PS31	stapling position sensor 4	detects stapling position	FK2-0149		
PS32	tray A paper sensor	detects paper in tray A	FK2-0149		E540
PS33	tray B paper sensor	detects paper in tray B	FK2-0149		E542
PS34	tray A lifter motor rotation sensor	detects lifter operation of tray A	FK2-0149		E540
PS35	tray B lifer motor rotation sensor	detects lifter operation of tray B	FK2-0149		E542
PS42	staple waste case full sensor	detects the state (full) of the staple waste case	FK2-0149		

T-4-2

Notation	Shift relay PCB	Transport motor driver PCB	Finisher controller PCB
PS1			J117
PS2			J117
PS3			J117
PS4	J463/J461	J278/J271	J118
PS5		J279/J271	J118
PS6			J116
PS7			J116
PS8			J116
PS9		J279/J271	J118

Notation	Shift relay PCB	Transport motor driver PCB	Finisher controller PCB
PS11		J257/J252	J104
PS12		J256/J252	J104
PS13		J256/J252	J104
PS14		J253/J252	J104
PS15		J257/J252	J104
PS16		J256/J252	J104
PS17		J256/J252	J104
PS18		J253/J252	J104
PS19		J253/J252	J104
PS20		J253/J252	J104
PS21		J253/J252	J104
PS22		J253/J252	J104
PS23		J253/J252	J104
PS24			J116
PS25		J263/J251	J104
PS26		J263/J251	J104
PS27			J114
PS28			J114
PS29			J114
PS30			J114
PS31			J114
PS32			J109
PS33			J108
PS34			J109
PS35			J108
PS42			J121

4.1.2 Microswitches (Finisher Unit)

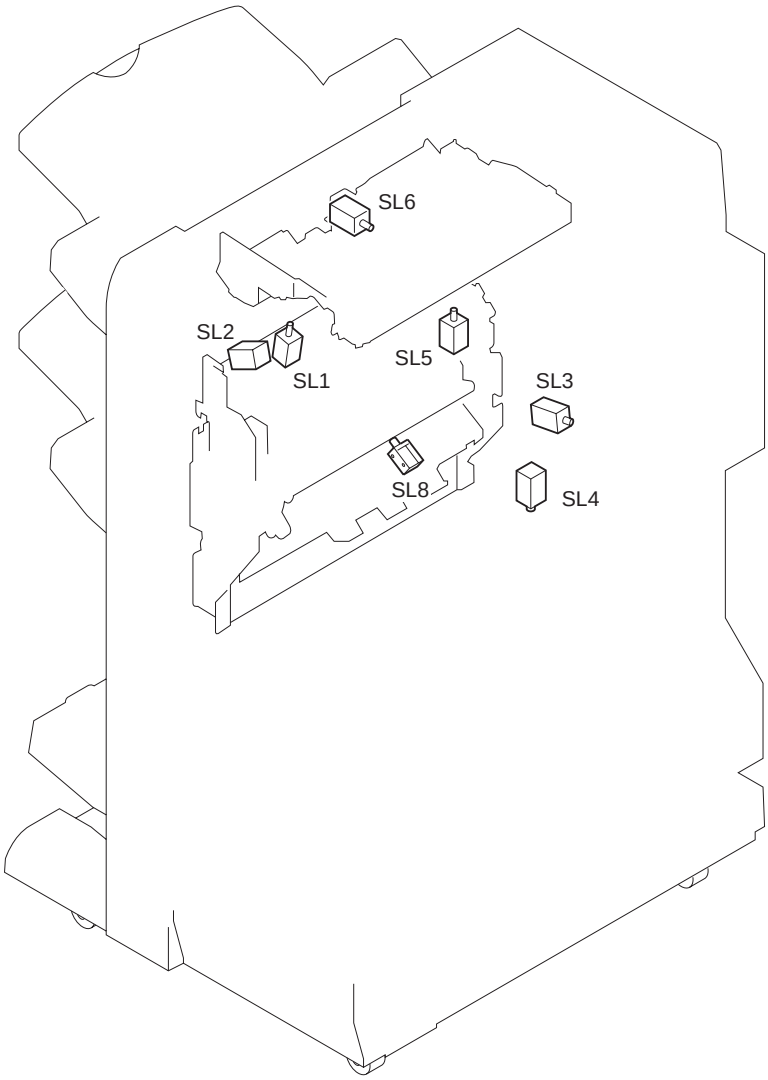


F-4-2

T-4-3

Notation	Name	Description	Parts No.	Jam	Error	Finisher controller PCB
MSW1	front door switch	detects the state (open/closed) of the front door	WC4-5231	1422		J101
MSW2	tray approach switch	detects the approach of the tray	WC4-5159		E540	J101
MSW3	tray safety switch (front)	detects the tray (front) for safety	WC4-5159			J111
MSW4	tray safety switch (rear)	detects the tray (rear) for safety	WC4-5159			J111
MSW5	stapler safety switch (front)	detects the stapler (rear) for safety	FH7-6336			J101
MSW6	stapler safety switch (rear)	detects the stapler (rear) for safety	FH7-6336			J101
MSW7	swing guide safety switch	detects the swing guide for safety	FH7-6336			J113
SW1	main switch		FK2-1741			J103
CB1	circuit breaker		FH7-7625			J103

4.1.3 Solenoids (Finisher Unit)



F-4-3

T-4-4

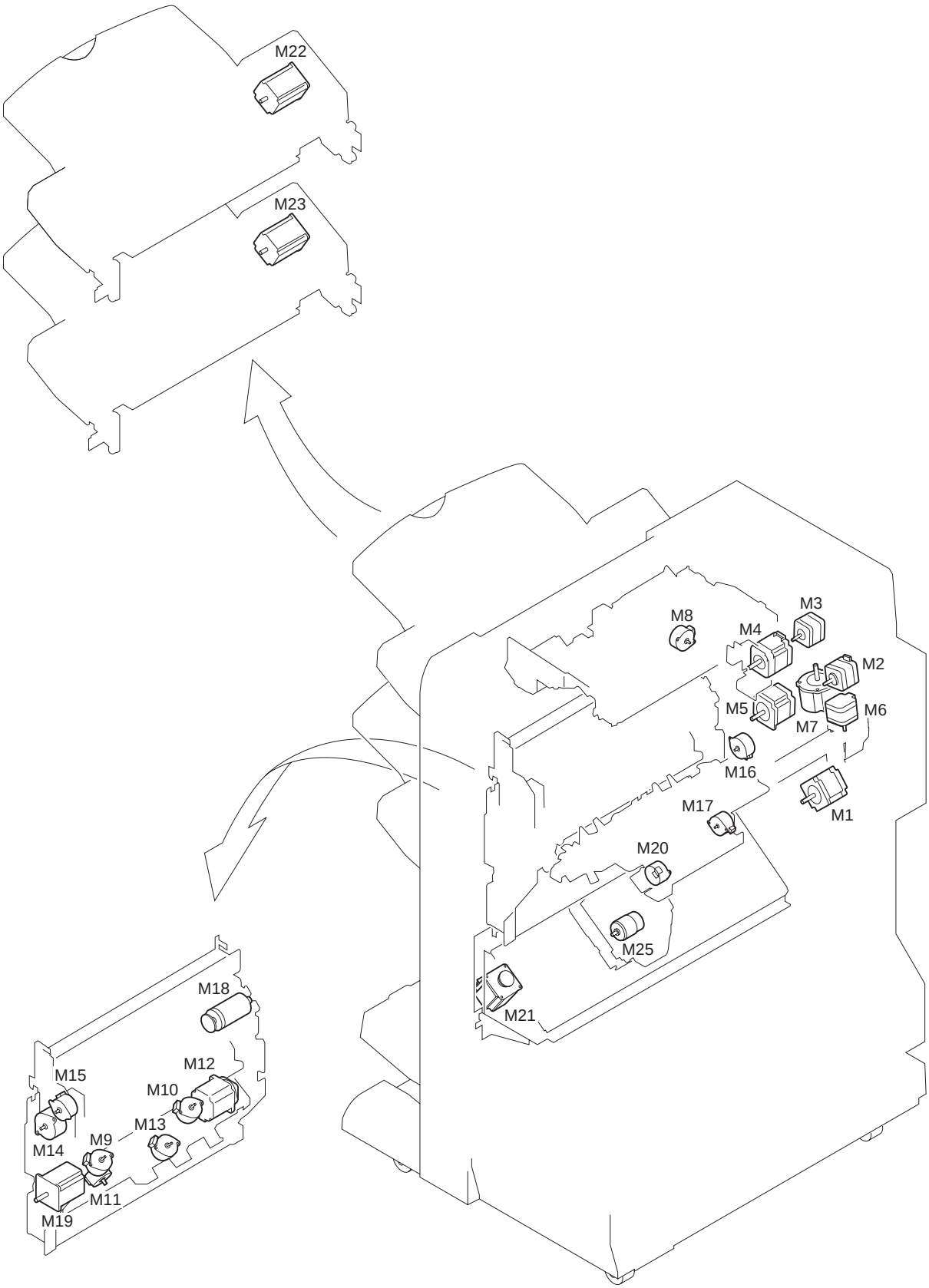
Notation	Name	Parts No.	Error
SL1	buffer switchover solenoid	FK2-1740	
SL2	upper path solenoid	FK2-1740	
SL3	saddle path switchover solenoid	FK2-1740	
SL4	assist roller 1 shift solenoid	FK2-1740	
SL5	assist roller 2 shift solenoid	FK2-1740	
SL6	assist roller 3 shift solenoid	FK2-1740	
SL8	handling tray solenoid	FK2-1782	

T-4-5

Notation	Transport motor driver PCB	Handling tray driver PCB	Finisher controller PCB
SL1			J117
SL2			J117

Notation	Transport motor driver PCB	Handling tray driver PCB	Finisher controller PCB
SL3			J116
SL4			J117
SL5			J117
SL6	J279/271		J118
SL8		J259/J252	J104

4.1.4 Motors (Finisher Unit)



F-4-4

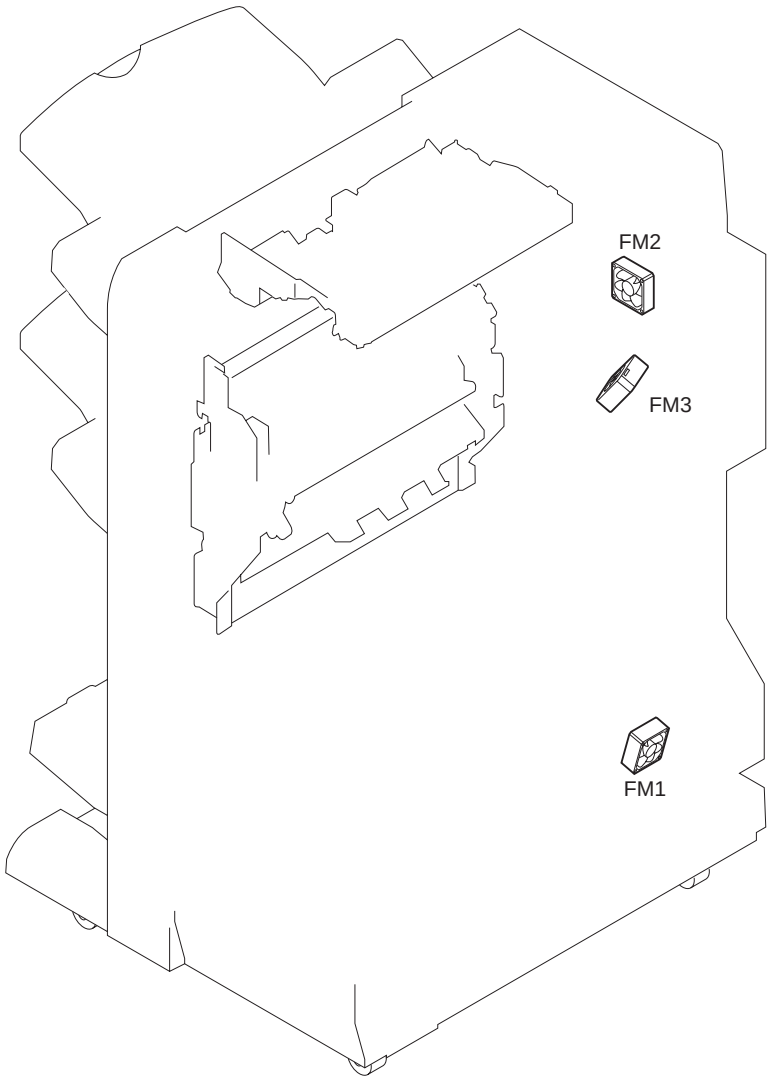
T-4-6

Notation	Name	Parts No.	Error
M1	inlet transport motor	FK2-1704	
M2	shift transport motor	FK2-1705	
M3	pre-buffer transport motor	FK2-1705	
M4	buffer motor	FK2-1704	
M5	delivery motor	FK2-1704	
M6	horizontal registration detection unit shift motor	FK2-1709	E566
M7	horizontal shift motor	FK2-1710	E567
M8	transport roller shift motor	FK2-1711	E568
M9	front alignment motor	FK2-1712	E537
M10	rear alignment motor	FK2-1712	E530
M11	paper edge stopper shift motor	FK2-1714	E57A
M12	assist motor	FK2-1715	E514
M13	stack delivery auxiliary motor	FK2-1716	E57B
M14	paddle rotation motor	FK2-1717	E577
M15	paddle lifter motor	FK2-1718	E577
M16	paper trail edge push motor	FK2-1718	E57B
M17	transport belt shift motor	FK2-1718	E578
M18	swing guide motor	FH6-1644	E535
M19	stack delivery motor	FK2-1722	
M20	upper guide motor	FK2-1718	E57B
M21	stapler shift motor	FK2-1724	E532
M22	tray A lifter motor	FK2-1725	E540
M23	tray B lifter motor	FK2-1725	E542
M25	stapler motor	FM2-6541	E531

T-4-7

Notation	Transport motor driver PCB	Handling tray driver PCB	Stapler driver PCB	tray A motor driver PCB/tray B motor driver PCB	Finisher controller PCB
M1	J273/J271				J118
M2	J278/J271				J118
M3	J276/J271				J118
M4	J277/J271				J118
M5	J275/J271				J118
M6	J276/J271				J118
M7	J277/J271				J118
M8	J279/J271				J118
M9		J257/J252			J104
M10		J256/J252			J104
M11		J257/J252			J104
M12		J264/J252			J104
M13		J260/J252			J104
M14		J260/J252			J104
M15		J259/J252			J104
M16		J258/J252			J104
M17		J263/J252			J104
M18		J264/J252			J104
M19		J264/J252			J104
M20		J263/J252			J104
M21			J317/J311		J114
M22				J291/J292	J109
M23				J291/J292	J108
M25			J315/J311		J114

4.1.5 Fans (Finisher Unit)

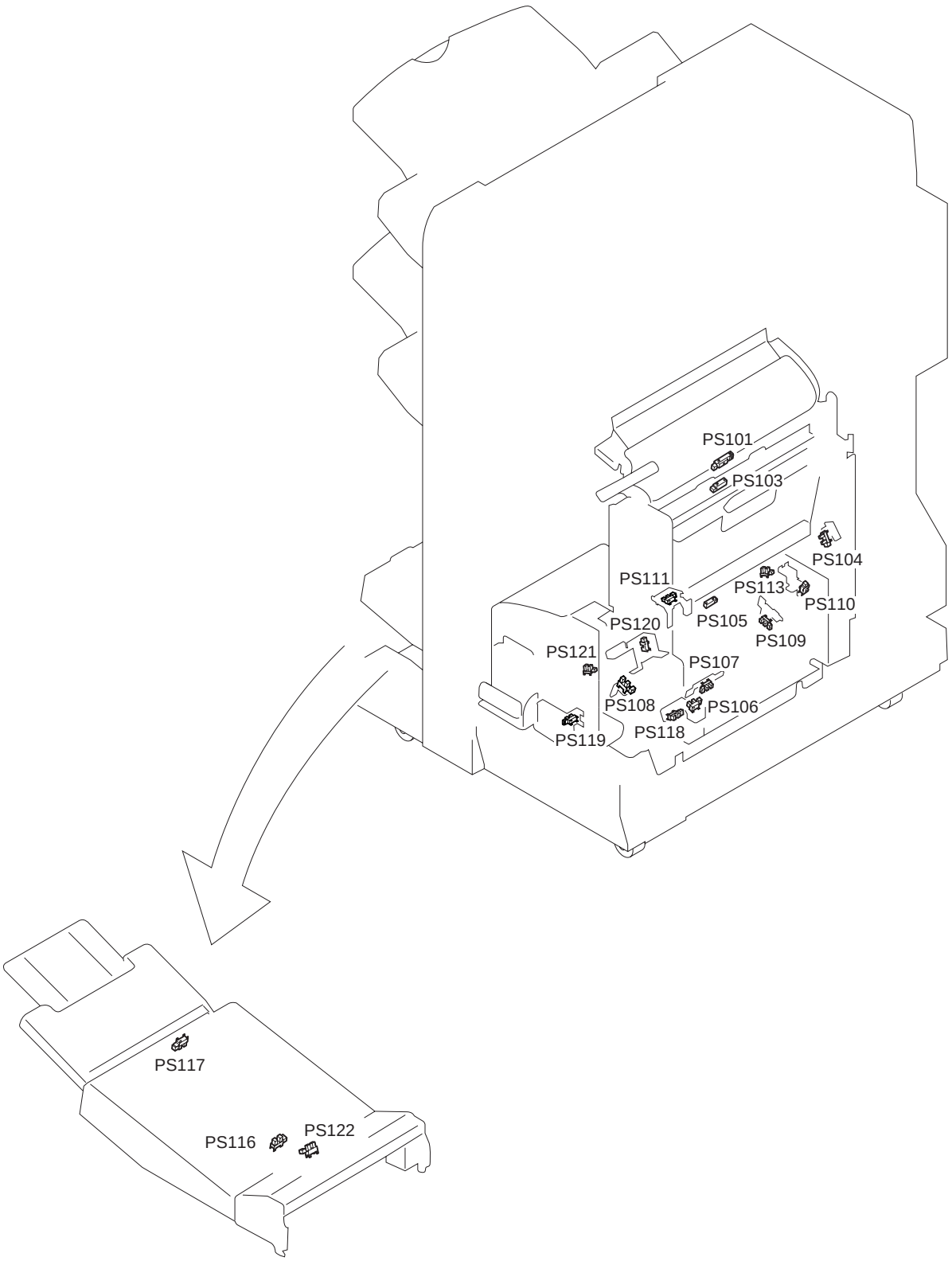


F-4-5

T-4-8

Notation	Name	Parts No.	Error	Finisher controller PCB
FM1	power supply fan	FK2-0636	E551	J103
FM2	transport fan 1	FK2-0636	E551	J116
FM3	transport fan 2	FK2-0636	E551	J116

4.1.6 Sensors (Saddle Stitcher Unit)



F-4-6

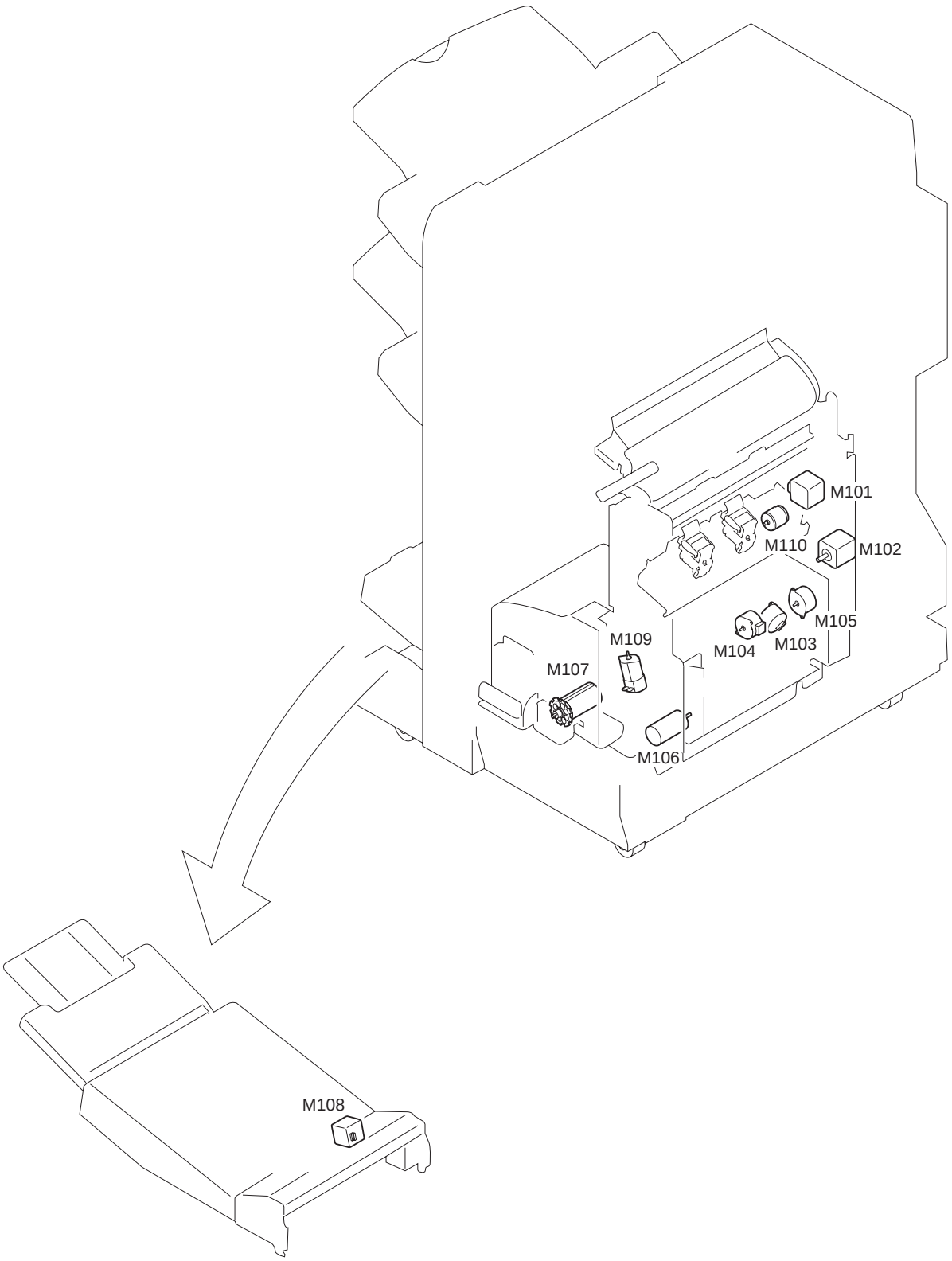
T-4-9

Notation	Name	Description	Parts No.	Jam	Error
PS101	saddle inlet sensor	detects paper at the saddle inlet	FK2-0149	1042/1143	
PS103	saddle small sensor	detects the trail edge of paper in the vertical path assembly 1	FK2-0149	1044/1145	
PS104	saddle pull-in roller HP sensor	detects the home position of the saddle pull-in roller	FK2-0149		
PS105	saddle vertical path sensor	detects paper in the vertical path assembly	FK2-0149	1147	
PS106	saddle lead edge path sensor	detects paper in the saddle lead edge path	FK2-0149		
PS107	saddle lead edge stopper HP sensor	detects the home position of the saddle lead edge stopper	FK2-0149		E5F0
PS108	saddle aligning plate HP sensor	detects the home position of the saddle aligning plate	FK2-0149		E5F3
PS109	saddle roller guide HP sensor	detects the home position of the saddle roller guide	FK2-0149		E5F2
PS110	saddle paper stop plate HP sensor	detects the home position of the saddle paper stop plate	FK2-0149		
PS111	saddle pre-pressing HP sensor	detects paper in front of the saddle pressing unit	FK2-0149	104A/114B	
PS113	saddle HP sensor	detects the home position of the saddle pressing unit	FK2-0149	1054/1155	E5F9
PS116	saddle delivery tray sensor 1	detects paper in the saddle delivery tray	FK2-0149		
PS117	saddle delivery sub tray sensor	detects paper in the saddle delivery sub tray	FK2-0149		
PS118	saddle paper stop plate motor rotation sensor	detects the rotation of the saddle paper stop plate motor	FK2-0149		E5F6
PS119	saddle folding/transport motor rotation sensor	detects the rotation of the saddle folding/transport motor	FK2-0149		E5F1
PS120	saddle pressing motor rotation sensor	detects the rotation of the saddle pressing motor	FK2-0149		
PS121	saddle pressing positioning sensor	detects saddle pressing position	FK2-0149		E5F9
PS122	saddle delivery tray sensor 2	detects paper in the saddle delivery tray	FK2-0149		

T-4-10

Notation	Handling tray driver PCB	Saddle stitcher controller PCB
PS101		J209
PS103		J209
PS104		J209
PS105		J209
PS106		J106
PS107		J212
PS108		J212
PS109		J209
PS110		J209
PS111		J204
PS113		J204
PS116	J255	J105
PS117	J255	J105
PS118		J213
PS119		J212
PS120		J204
PS121		J204
PS122	J255	J105

4.1.7 Motors (Saddle Stitcher Unit)

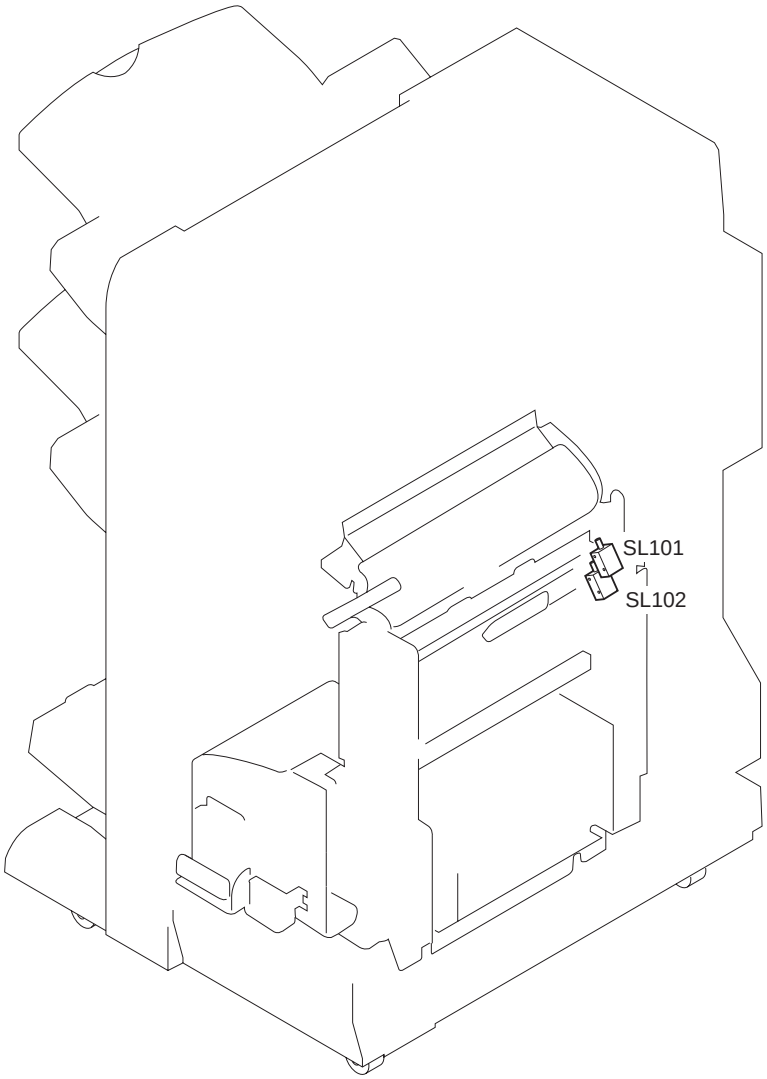


F-4-7

T-4-11

Notation	Name	Parts No.	Error	Handling tray delivery PCB	Saddle stitcher controller PCB	Finisher controller PCB
M101	saddle transport motor	FK2-1728			J205/J203	J130
M102	saddle pull-in roller shift motor	FK2-1729			J204/J203	J130
M103	saddle alignment motor	FK2-1730	E5F3		J211/J203	J130
M104	saddle guide motor	FK2-1731	E5F2		J211/J203	J130
M105	saddle lead edge stopper motor	FK2-1732	E5F0		J204/J203	J130
M106	saddle paper stop plate motor	FK2-1733	E5F6		J206/J203	J130
M107	saddle folding/transport motor	FK2-1734	E5F1		J210/J203	J130
M108	saddle delivery belt motor	FK2-1735		J255/J252		J104
M109	saddle pressing motor	FK2-1736	E5FA		J210/J203	J130
M110	saddle stitcher	FC6-6601	E5F4		J207/J203	J130

4.1.8 Solenoids(Saddle Stitcher Unit)



F-4-8

T-4-12

Notation	Name	Parts No.	Saddle stitcher controller PCB	Finisher controller PCB
SL101	saddle flapper solenoid 1	FK2-1783	J204/J203	J130
SL102	saddle flapper solenoid 2	FK2-1783	J204/J203	J130

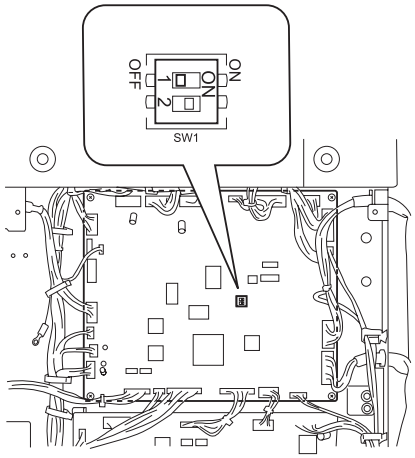
4.2 Variable Resistors (VR), Light-Emitting Diodes (LED), and Check Pins by PCB

4.2.1 Overview

Of the LEDs and check pins used in the machine, those needed during servicing in the field are discussed.

Do not touch the check pins not found in the list herein. They are exclusively for factory use, and require special tools and a high degree of accuracy.

4.2.2 Finisher Controller PCB



F-4-9

T-4-13

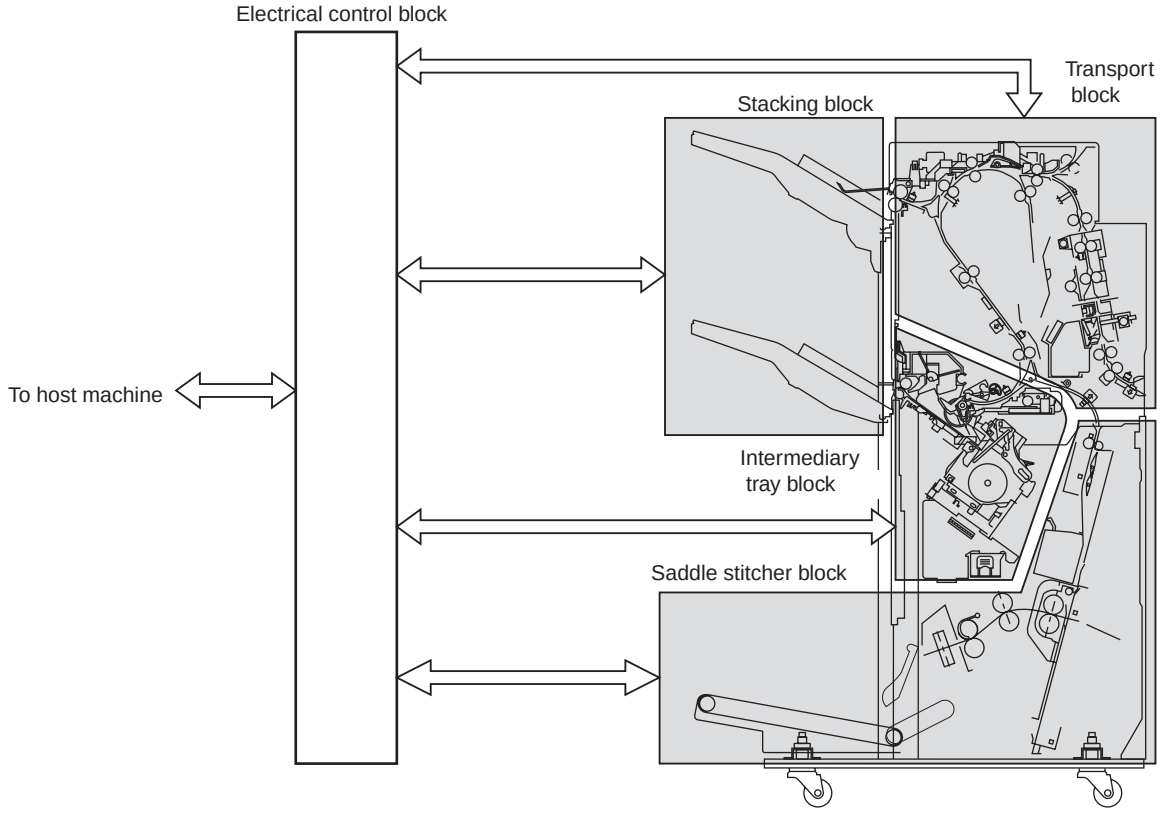
Switch	Switch function
SW1	Use to the upgrading

Chapter 5 System Construction

5.1 Basic Construction

5.1.1 Overview

The machine consists of the following 5 blocks: electrical control block, stacking block, transport block, intermediary tray, and saddle stitcher block (Note).



F-5-1

The descriptions on the saddle stitcher block apply to the Saddle Finisher V2/V2L.

5.2 Product Specifications

5.2.1 Specifications (finisher)

T-5-1

Item	Description		Remarks
Stacking mechanism	tray A/B	by tray lift	
Stacking orientation	tray A	face-down/face-up	
	tray B	face-down	
Stack size	tray A	A3,A4,A4R,A5R,B4,B5,B5R,Jpn postcard R,279.4mmx432.8mm(11x17),LGL,LTR,EXE,LTRR,STMTR,EXER	in feed direction, 148 to 432.8 mm; in cross-feed direction,100 to 297 mm
	tray B	A3,A4,A4R,B4,B5,B5R,279.4mmx432.8mm(11x17),LGL,LTR,EXE,LTRR,EXER	in feed direction, 182 to 432.8 mm; in cross-feed direction, 182 to 297mm
Paper weight	64g/m2 to 300g/m2		
Number of trays	2		
Mode type	non-staple, staple		
Number of sheets (Note 1)	non-staple sort	tray A: if small-/large-size, equivalent of 1000 sheets(147 mm in height)	in multiple mode, the number of sheets are as follows: if small-size, equivalent of 3000 sheets (423 mm in height); if large-size, 1500 sheets (216 mm in height)
		tray B: if small-size, equivalent of 2000 sheets (285mm in height),if large-size, equivalent of 1000 sheets(147 mm in height)	
	staple sort	tray A: if small-/large-size, equivalent of 1000 sheets (147 mm in height), or 100 sets	
		tray B: if small-size, equivalent of 2000 sheets (285 mm in height), or 100 sets; if large-size, equivalent of 1000 sheets (147 mm in height), or 100 sets	

Item	Description	Remarks
Staple/non-staple mix (Note 1)	if small-size, equivalent of 200 sets (285 m in height), or 100 sets; if large-size, equivalent of 100 sheets(9147 mm in height), or 100 sets	applicable to tray B only
Folded sheet mix (Note 1)	tray A: 10 folded sheets max. per set/20 folded sheets max. per job	
	tray B: 10 folded sheets max. per set/30 folded sheets max. per job	
Stapling method	stapling by rotating cam	
Stapled stack	if small-size, 100 sheets	as converted with reference to paper of 80g/m2
	if large-size, 50 sheets	

⚠1: The number of sheets refers to the result of conversion based on paper of 80g/m2

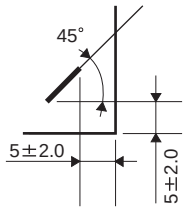
⚠2: A sheet of paper may be grouped into the following:
-large-size; A3,B4,279.4mmx432.8mm(11x17),LGL
-small-size; A4,A5,B5,EXE,LTR,STMT,postcard,A4R,B5R,LTRR

T-5-2

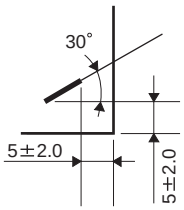
Item	Description		Remarks
Staple accommodation	in special staple cartridge (5000 staples)		
Detection of staples	yes		an alert condition identified at 0 to 40 staples
Manual stapling	no		
Stack size	front 1-point		
		A3,A4,A4R,B4,B5,279.4mmx432.8mm(11x17),EXE,LGL,LTR,LTRR	
	rear 1-point		
		A3,A4,A4R,B4,B5,279.4mmx432.8mm(11x17),EXE,LGL,LTR,LTRR	
	2-point		
		A3,A4,A4R,B4,B5,279.4mmx432.8mm(11x17),EXE,LGL,LTR,LTRR	
Paper detection	yes		
Control panel	no		
Display	no		
Dimensions	W:800xD:786xH:1180mm		
Weight	126 kg (approx.)		
Power supply	100V,200-240V		
Maximum power consumption	360 W or less		

Staple Position

1-Point Stapling (front)

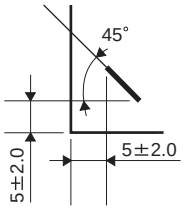


A3, B4, A4, B5, / 11"x17", LTR

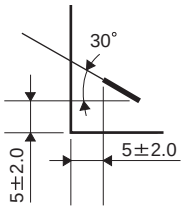


A4R / LGL, LTRR

1-Point Stapling (rear)

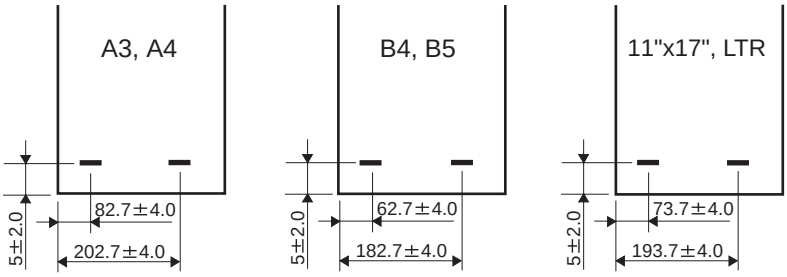


A3, B4, A4, B5, / 11"x17", LTR



A4R / LGL, LTRR

2-Point Stapling



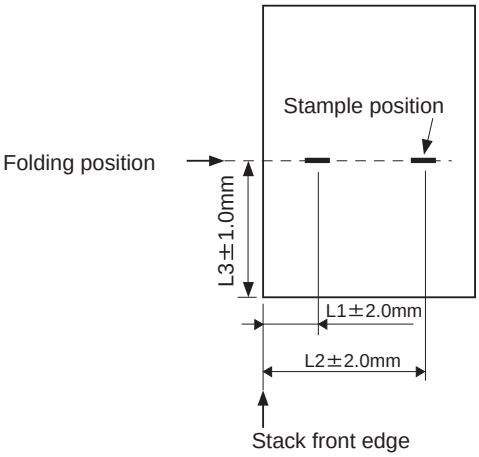
unit: mm

5.2.2 Specifications (saddle finisher)

T-5-3

Item	Specifications	Remarks
Stapling method	middle stapling, double-folding	
Paper size	A3ÅAA4RÅAB4ÅA279.4mmx432.8mmÅi11×17ÅjÅALGLÅALTRR	
Stack	2 to 20 sheets	including 1 cover
Paper weight	64 to 80g/áu(inside paper),64 to 200g/áu(cover paper)	
Number of sets	no limit (free fall)	
Stapling position	2 points (middle-side adjusted; fixed interval)	
Cartridge capacity	2000 staples	
Staple replenishment	Special cartridge	
Staple type	special staple	
Folding method	by roller (under pressure)	
Folding mode	in half	
Folding position	middle	
Staple detection	yes	
Dimensions	W:800×D:786×H:1180mm	
Weight	178 kg (approx.)	
Power supply	from finisher	

Staple and Folding Positions



Paper Size	L1	L2	L3
A3	88.5	208.5	210
B4	68.5	188.5	182
A4R	45	165	148.5
11"x17"	79.7	199.7	216
LGL	48	168	177.8
LTRR	48	168	139.7

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