

Service Manual

Paper Deck

Paper Deck-V1

Canon

Feb 21 2005

Application

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

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Caution

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

Symbols Used

This documentation uses the following symbols to indicate special information:

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

The following rules apply throughout this Service Manual:

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

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

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

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

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

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

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

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Chapter 1 Specifications

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1.1 Product Specifications

1.1.1 Specifications

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T-1-1

Item	Specifications
Pickup	Clawless (retard)
Paper accommodation	Side tray
Copy paper type	Plain paper (64 to 90 g/m ²), thick paper (91 to 200g/m ²), colored paper, recycled paper, eco paper
Reproduction size	A4, B5, LTR
Paper stack	Height: 385 mm (approximate height of stack; about 3,500 sheets of 80 g/m ²)
Paper size switch	By size guide plate (in steps), in service mode (OPTION)
Dimensions	323 (W) x 583 (D) x 574 (H) mm/ 12.7 (W) x 23.0 (D) x 22.6 (H) in
Weight	46 kg (approx.)/101.4 lb (approx.)
Power supply	DC from host machine
Operating environment	Same as host machine

The specifications are subject to change for product improvement.

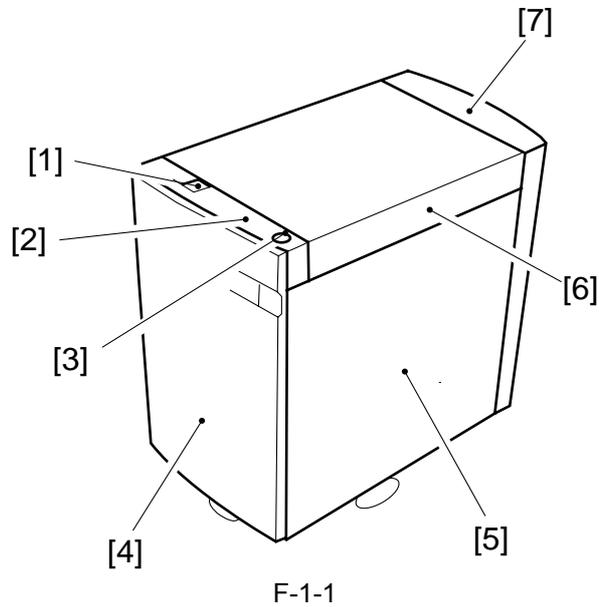
1.2 Names of Parts

1.2.1 Names of Parts

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External Covers

- [1] Deck release grip
- [2] Upper front cover
- [3] Compartment open/close switch
- [4] Front cover
- [5] Right cover
- [6] Upper cover
- [7] Rear cover



Chapter 2 Functions

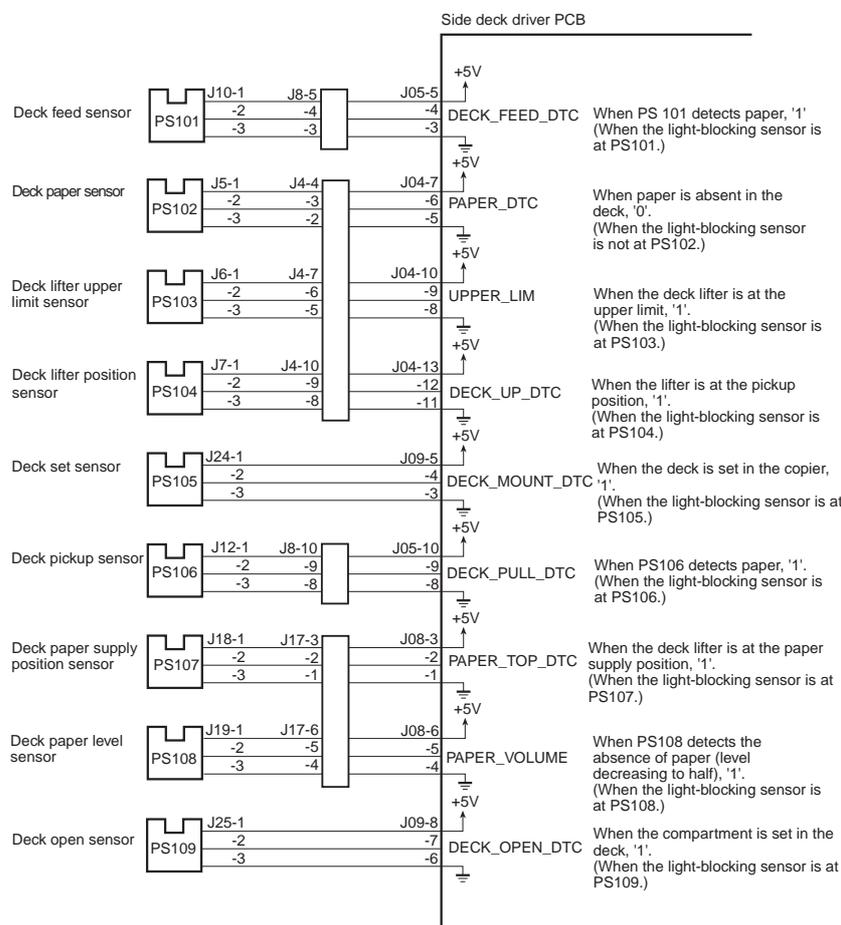
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2.1 Basic Construction

2.1.1 Inputs to the Side Paper Deck (1/2)

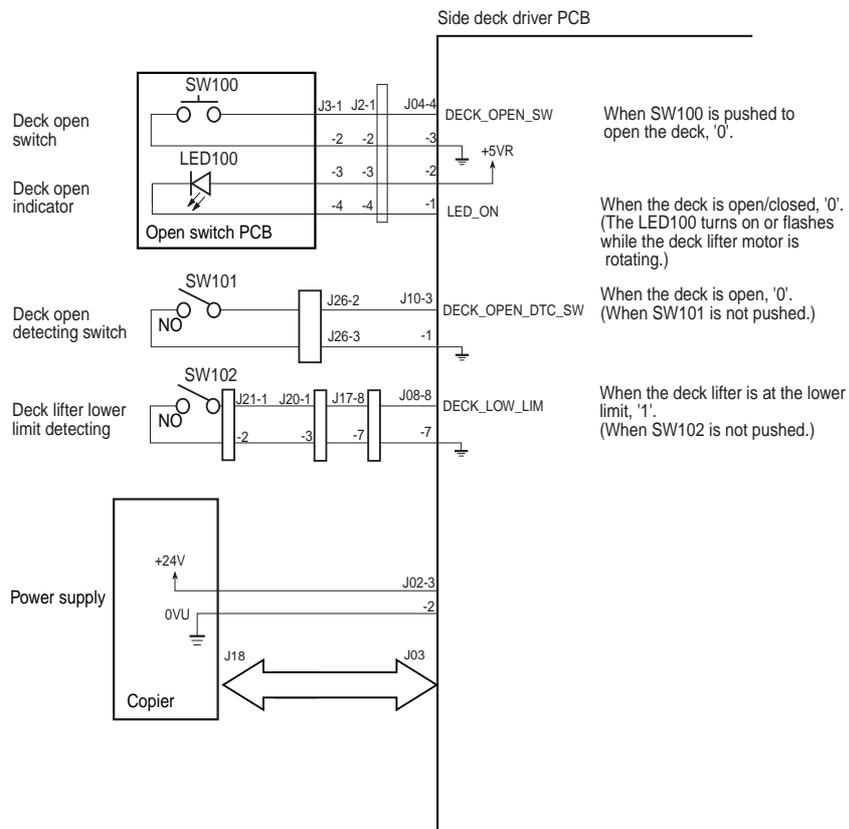
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2.1.2 Inputs to the Side Paper Deck (2/2)

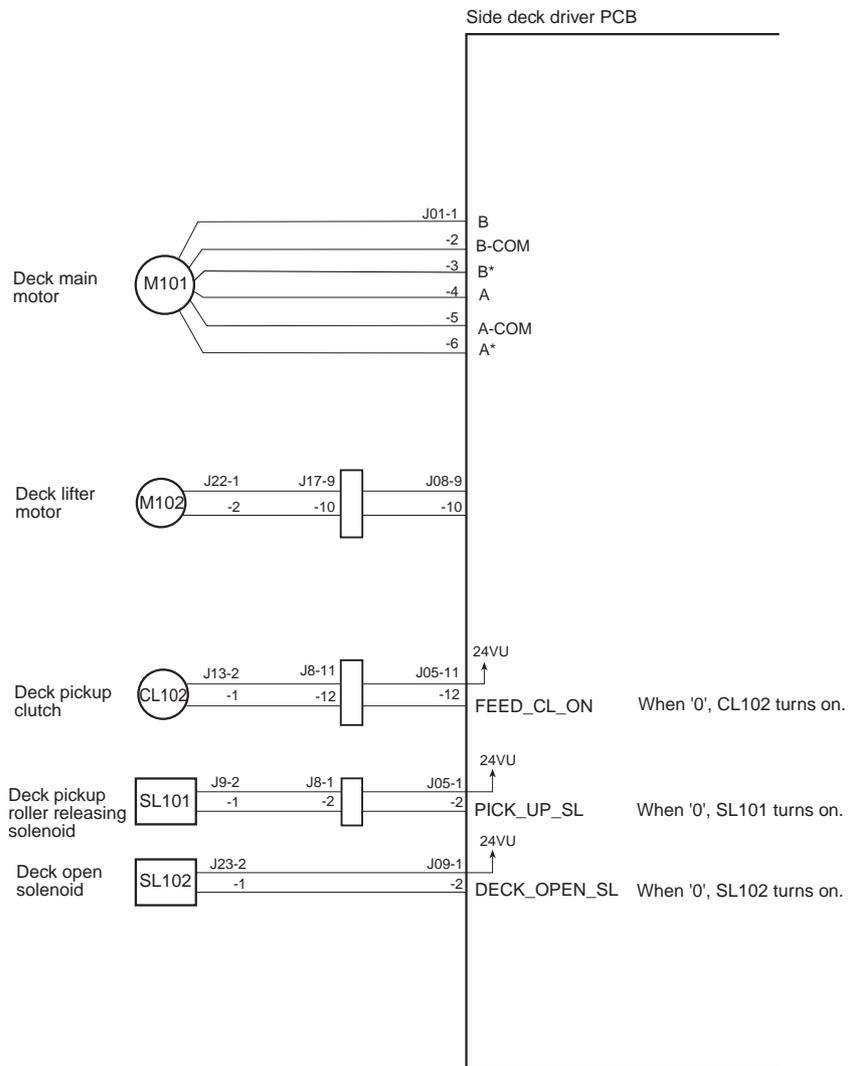
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F-2-2

2.1.3 Outputs from the Side Paper Deck (1/1)

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F-2-3

2.2 Basic Operation

2.2.1 Outline

0009-2047

The side paper deck (hereafter, "deck") is capable of accommodating as many as 3500 sheets of paper at a time (A4/LTR/B5; 80 g/m²), ready to pick up and feed paper in response to control signals from its host machine's DC controller.

The lifter of the deck is driven by the deck lifter motor (M102), and the pickup operation is executed using the drive from the deck main motor (M101).

2.2.2 Pickup Operation

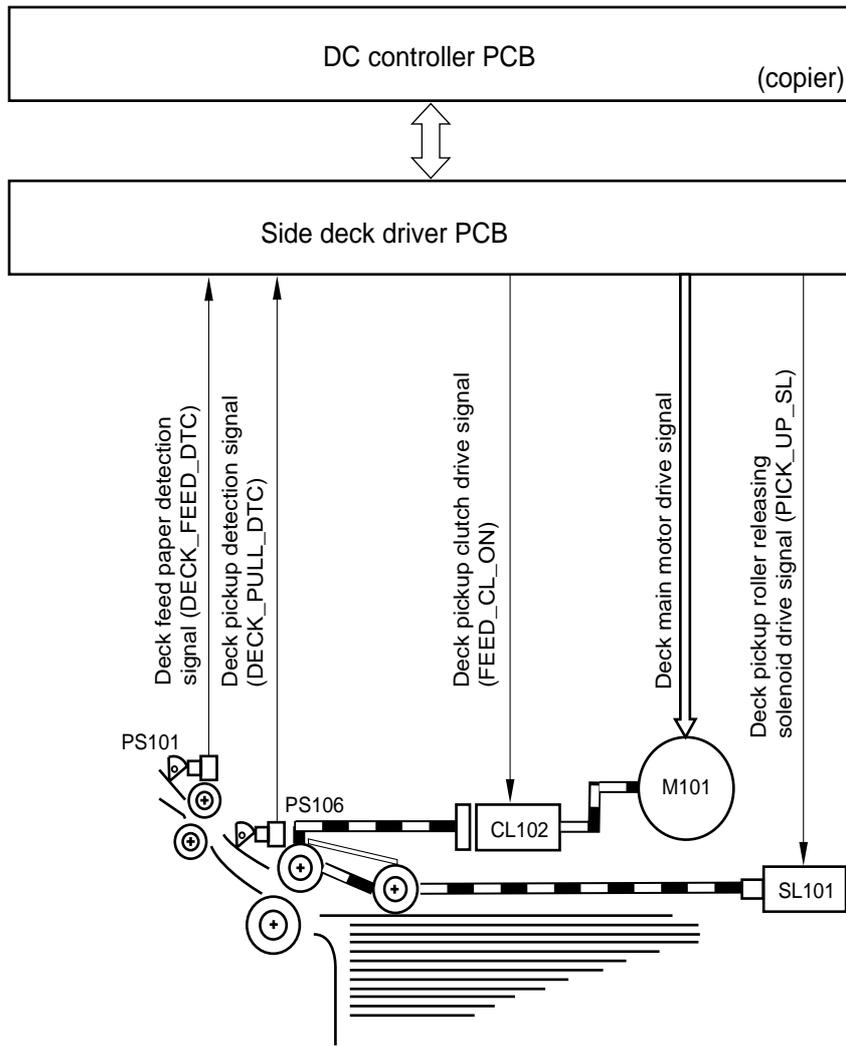
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The paper placed in the deck is held up by the lifter at a specific point of paper pickup.

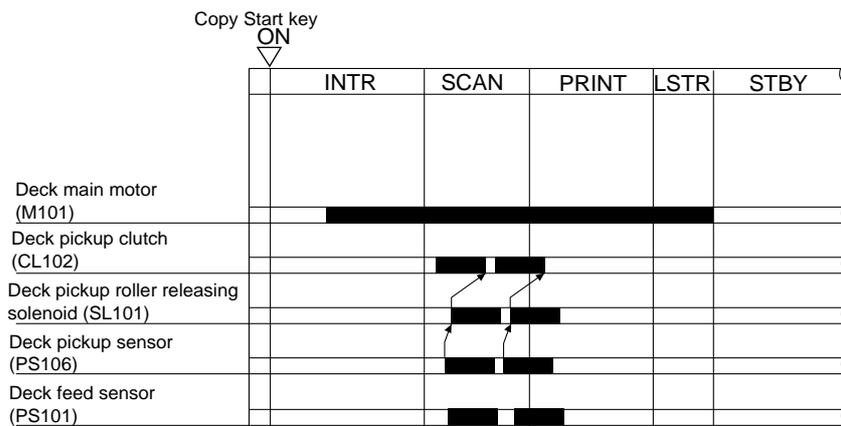
When the Start key is pressed and the deck pickup clutch (CL102) goes on, the pickup roller starts to rotate by the drive of the deck main motor (M101), thus picking up paper. At this time, the pickup/feed roller and the separation roller make sure that no more than a single sheet of paper is moved ahead. Thereafter, when the deck pickup sensor (PS106) detects the paper, the deck pickup roller release solenoid (SL101) goes on so that the pickup roller leaves the surface of the stack of paper.

The paper is then moved to the host machine's registration roller, where it is arched to remove any skew.

The registration roller serves to control the paper so that its leading edge will match the image on the photosensitive drum.



F-2-4



F-2-5

2.2.3 Controlling the Deck Main Motor (M101)

0009-2049

1. Controlling the Deck Main Motor (M101)

The deck main motor is controlled by the host machine's DC controller. The following diagram shows the circuit used to drive the deck main motor, and the circuit has the following functions:

[1] turns on/off the deck main motor

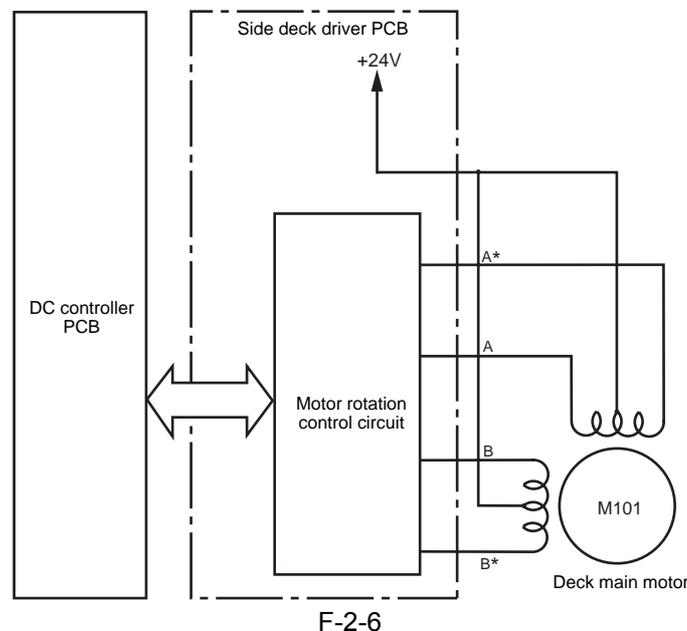
[2] changes the speed of rotation of the deck main motor

a. Turning On/Off the Motor

The deck main motor is turned on or off by controlling the output of the pulse signals (A, A*, B, B*) from the host machine.

b. Changing the Speed of Rotation of the Motor

The deck is designed to automatically change the speed of pickup so as to support future host machines. The pickup speed is changed in response to external clock signals (M-CLK) that are sent by the host machine's DC controller to the side deck drive PCB in keeping with the speed of motor rotation.



2.2.4 Controlling the Deck Lifter Motor (M102)

0009-2050

2. Controlling the Deck Lifter Motor (M102)

The deck lifter motor control circuit is found as part of the side deck driver PCB. The following is a block diagram of the circuit:

The combination circuit shown in the diagram consists of various logic circuits, and the deck lifter motor is rotated in normal or reverse direction using combinations of the deck lifter drive signal (DECK_LIFT_ON) and the deck lifer DOWN/UP signal (DECK_DW/UP) from the host machine's DC controller and the output signals of various sensors.

If, for some reason, the deck lifter position sensor (PS104) does not detect the lifter within a specific period of time in the presence of the deck lifter DOWN/UP signal, the machine will indicate an alarm code ('05'; may be checked

in service mode COPIER>DISPLAY>ALARM1>BODY).

[1] Conditions Used to Move Up the Lifter

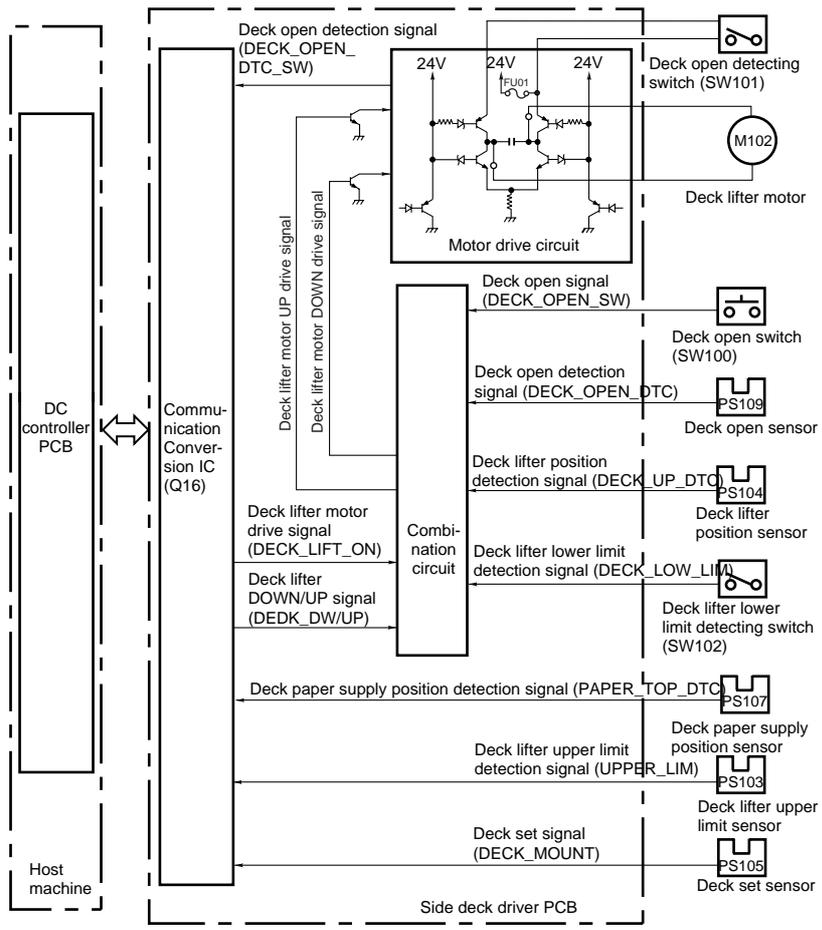
- the deck is joined with its host machine, i.e., the deck set signal (DSCK_MOUNT) is '1'.
- the deck (compartment) is closed, i.e., the deck open detection signal (DECK_OPEN_DTC) is '1'.
- the deck (compartment) is closed, i.e., the deck open detecting switch is 'on'.
- the deck lifter upper limit signal (UPPER_LIM) is '0' and, in addition, the deck lifter position detecting signal (DECK_UP_DTC) is '0'.
- the deck lifer motor drive signal (DECK_LIFT_ON) is '0'.
- the deck lifter DOWN/UP signal (DECK_DW/UP) is '0'.

In the presence of these conditions, the lifter starts to move up.

[2] Conditions Used to Move Down the Lifter

- the deck (compartment) is open, i.e., the deck open detection signal (DECK_OPEN_DTC) is '0'.
- the deck lower limit detection signal (DECK_LOW_LIM) is '0' and, in addition, the deck lifter position detection signal (DECK_UP_DTC) is '0'.
- the deck lifter motor drive signal (DECK_LIFT_ON) is '0'.
- the deck lifter DOWN/UP signal (DECK_DW/UP) is '1'.

In the presence of these conditions, the lifter starts to move down.



Note: The communication conversion IC (Q16) in the diagram performs serial ← parallel signal conversion.

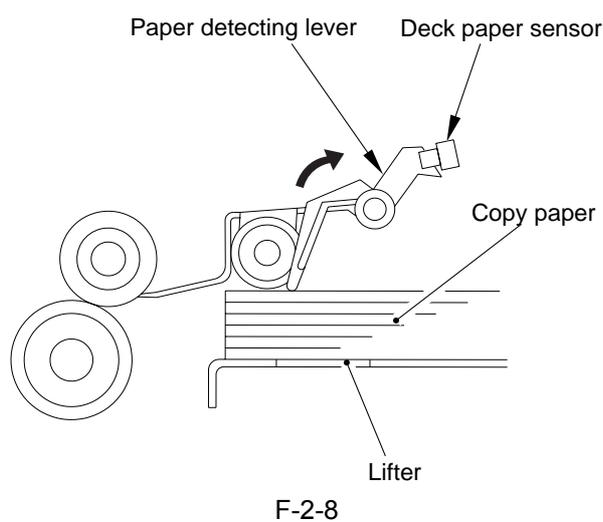
2.3 Paper Detection

2.3.1 Detecting the Presence/Absence of Paper

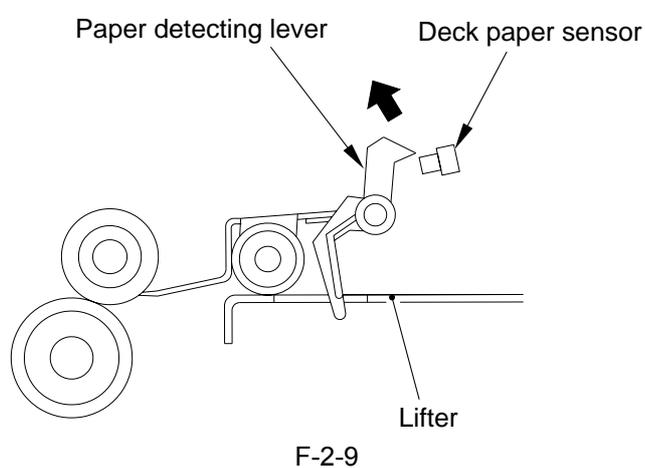
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1. Detecting the Presence/Absence of Paper

The presence/absence of paper inside the deck is checked by the deck paper sensor (PS102). When paper runs out and the paper detecting lever of the pickup roller assembly leaves the deck paper sensor, the host machine indicates the absence of paper on its control panel.



F-2-8



F-2-9

2.3.2 Changing the Deck Paper Size

0009-2052

2. Changing the Deck Paper Size

To change the paper size of the deck, you must move the guide plate in the deck to suit the user's needs and then select the correct paper size in service mode: OPTION>ACC>DK-P.

2.3.3 Detecting the Level of Paper

0009-2053

3. Detecting the Level of Paper in the Deck

The deck uses the deck paper supply position sensor (PS107), deck paper level sensor (PS108), and deck paper sensor (PS102) to check the level of paper inside its compartment; the result of the check is indicated on the host machine' s control panel. The following table shows how a check is made with reference to the states of the sensors:

T-2-1

paper level	PS102	PS107	PS108
100% to about 50%	1	1	1
about 50% to about 10%	1	1	0
less than 10%	1	0	0
no paper	0	0	0

1: the light-blocking plate is over the sensor.

0: the light-blocking plate is not over the sensor.

2.4 Deck Lifter

2.4.1 Detecting the Presence/Absence of Paper

0009-2054

The lifter of the deck is joined to a reel by means of a cable, and is driven by the deck lifter motor (M102); i.e., the lifter moves up or down depending on the direction of rotation of the motor.

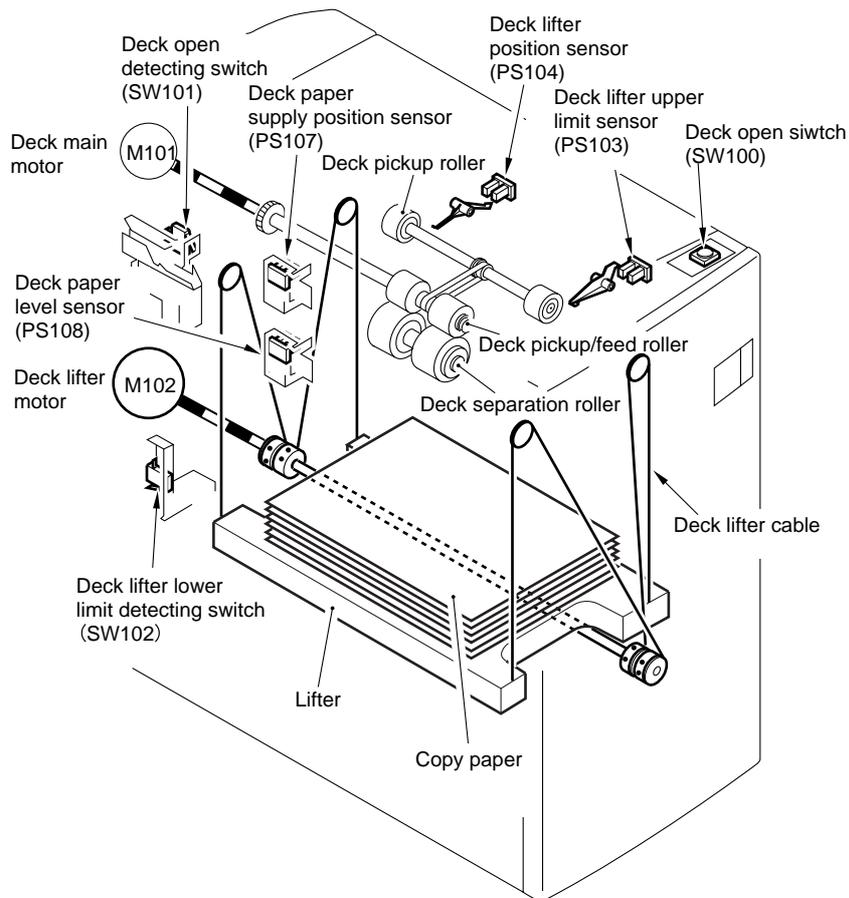
When the deck (compartment) is pushed inside the host machine, the deck open detecting switch (SW101) is pushed. The lifter starts to move up as soon as the deck open sensor (PS109) detects the light-blocking plate; the lifter stops to move up when the deck position sensor (PS104) detects the top of the stack of paper placed on the lifter

In the rare event that the lifter should fail to stop moving up after the sensor lever blocks the deck lifter position sensor for some reason, the deck lifter upper limit sensor (PS103) will go on to stop the lifter, thereby preventing damage to the deck.

The lifter, on the other hand, starts to move down when the deck open switch (SW100) is pushed, and will keep moving down until the lifter moves past the sensor lever of the deck paper supply position sensor (PS107), i.e., falling edge of the sensor output.

The addition of paper in this condition will push the lever of the deck paper supply position sensor, causing the lifter to move farther down until the stack of paper moves past the sensor lever.

The lifter repeats its descent operation each time paper is added until the deck lifter lower limit detecting switch (SW102) is pushed (maximum paper supply position).



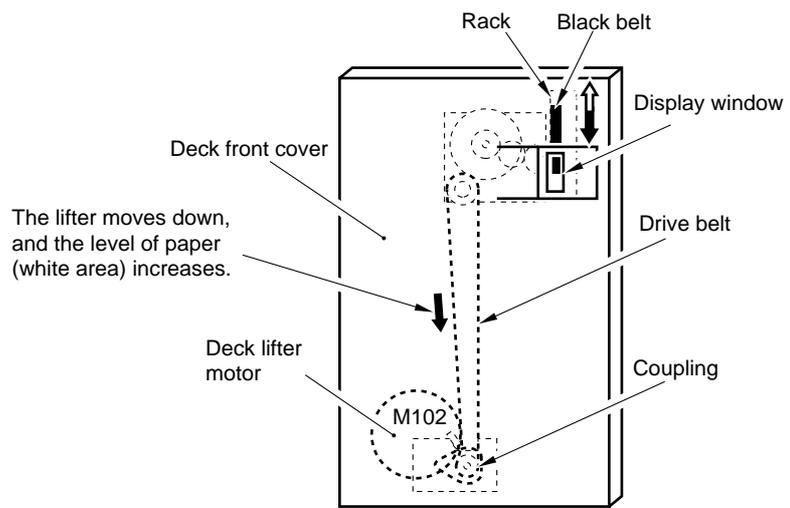
F-2-10

2.4.2 Indicating the Level of Paper on the Deck Front Cover

0009-2055

The drive of the deck lifter motor (M102) is received by a coupling, and is then transmitted to the rack through a drive belt. The rack is equipped with a black belt, moving up and down within the display window in the deck front cover in keeping with the movement of the rack.

When the level of paper decreases and, as a result, the lifter moves to pickup position, the area of the black belt within the display window increases, while the area of white (indicating the amount of paper) decreases, enabling a check on the level of paper.



F-2-11

2.5 Opening /Closing the Compartment

2.5.1 Opening/Closing the Compartment

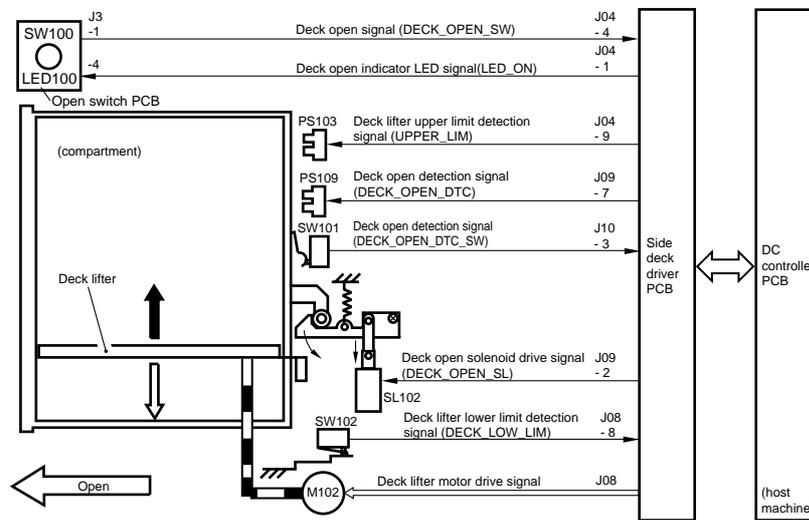
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1. Opening/Closing the Deck

When the deck open switch (SW100) is pushed, the deck open solenoid (SL102) goes on to free the lock on the deck (compartment); as a result, the deck is pushed several centimeters to the front by the work of a spring. At the same time, the deck lifter motor (M102) starts to rotate to move down the lifter inside the deck.

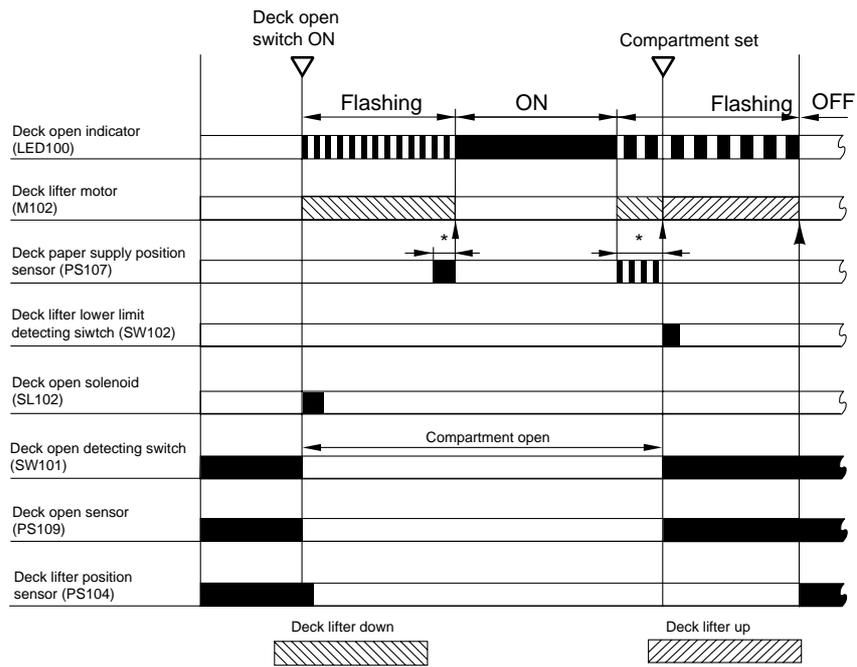
When the deck (compartment) is pushed into the host machine, the deck open sensor (PS109) detects the light-blocking plate, permitting the lifter to move up as far as the pickup position.

When the deck lifter motor rotates to open/close the deck, the deck open indicator (LED100) on the open switch PCB goes on or flashes.



F-2-12

2. Sequence of Operation Used to Open/Close the Deck



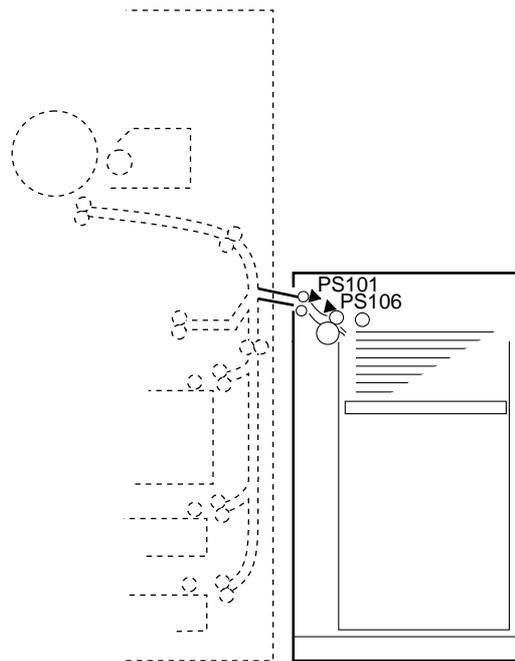
*: Varies according to the level of the stack.

2.6 Detecting Jams

2.6.1 Outline

0009-2057

The side paper deck is equipped with the following 2 sensors used to find out whether or not paper is moving smoothly. The machine checks for the presence of a jam at such times as initiated its DC controller PCB and with reference to the signals from these sensors. When the machine's DC controller PCB identifies a jam, it discharges sheets ahead of the jam and stops the ongoing operation, after which it will indicate jam removal instructions on its control panel.



F-2-14

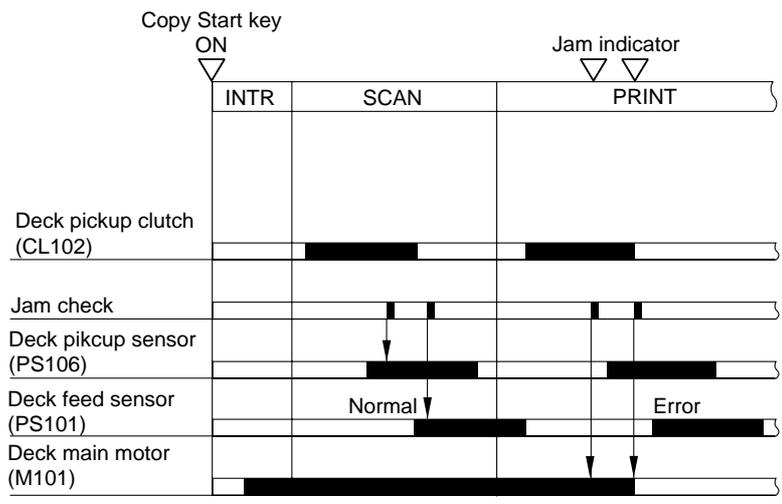
T-2-2

Sensor No.	Name	Principal function
PS101	deck feed sensor	detecting delay jams
PS106	deck pickup sensor	detecting delay jams

The DC controller of the hostmachine identifies a jam under the following conditions:

1. when the machine's power switch is turned on or at the end of the wait-up period or during standby, the presence of paper is detected over the deck feed sensor (PS106).
2. deck pickup/vertical path delay jam

When the deck pickup sensor (PS106)/the deck feed sensor (PS101) does not detect paper at the timing of jam check after starting pickup.



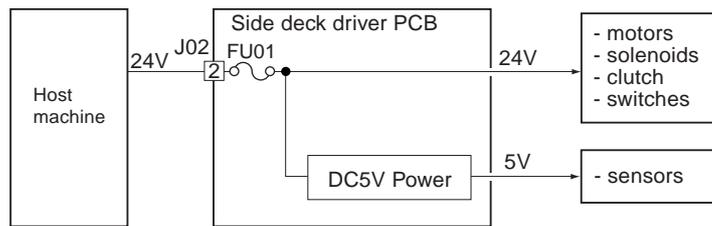
2.7 Power Supply

2.7.1 Outline

0009-2058

The following is a diagram of the machine's power supply system. The side deck is supplied with power by its host machine (24 V). The 24 V power is converted by the side deck driver PCB into for output to sensor and the side deck driver PCB.

The 5 V power is generated by side deck driver PCB based on 24V power and supplied for driving sensors and the side deck driver PCB.



F-2-16

2.7.2 Protection Function

0009-4775

The 24 V power supply is equipped with a fuse (FU01) designed to blow when an overcurrent flows.

Chapter 3 Parts

Replacement Procedure

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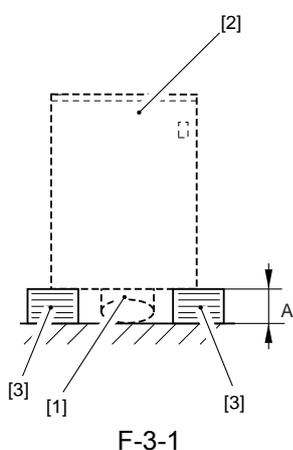
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3.1 Removing from the Host Machine

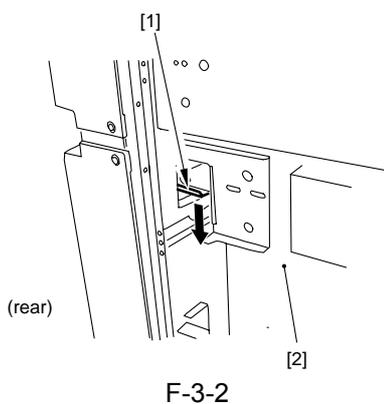
3.1.1 Compartment

3.1.1.1 Removing the Compartment 0009-2060

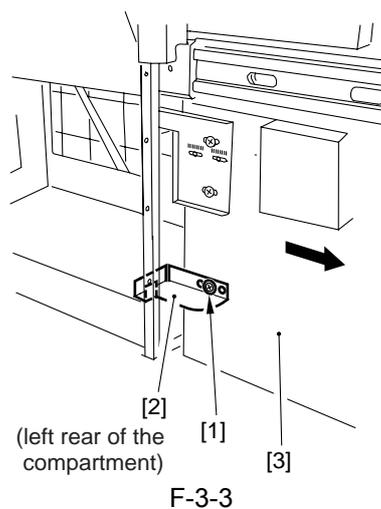
1) Place a stack of paper [3] (A: about 8 cm in height) on the floor on which to place the deck [2], thus preventing damage to the roll support plate [1].



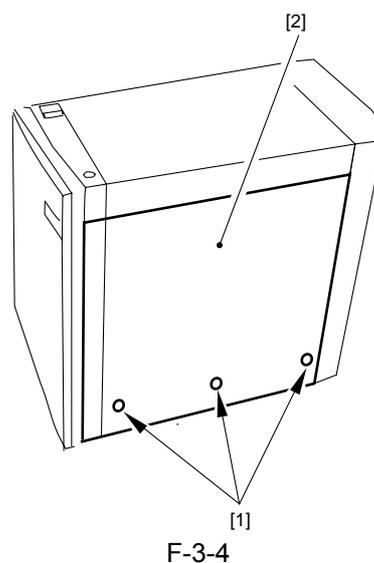
2) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].



3) Remove the screw [1] and the stopper plate [2], and pull out the compartment [3] to the front.

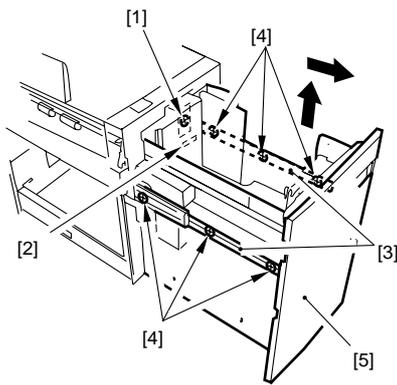


4) Remove the 3 screws [1], and detach the right cover [2].

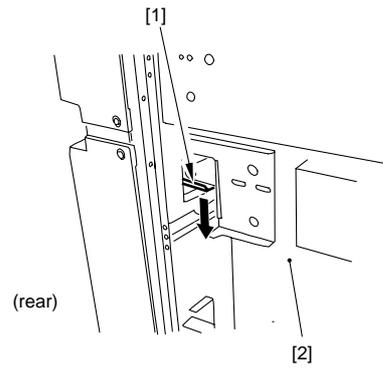


5) Remove the screw [1] of the harness guide, disconnect the connector [2], and remove the 3 screws [4] each on the right and left of the compartment rail [3]; then, lift the compartment [5] slightly to detach it toward the front.

6) Place the compartment [5] on the base you prepared in step 1)



F-3-5



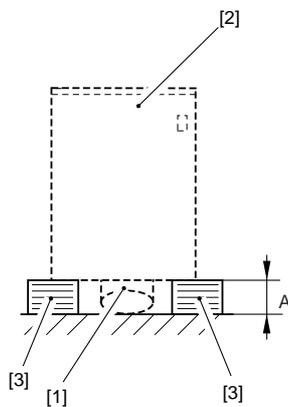
F-3-7

3.1.2 Paper Deck

3.1.2.1 Detaching from the Host Machine

0009-2061

- 1) Place a stack of sheets [3] (A: about 8 cm in height) on the floor on which to place the deck [2], thus preventing the deformation of the roll support plate [1].



F-3-6

3.1.2.2 Opening the Compartment

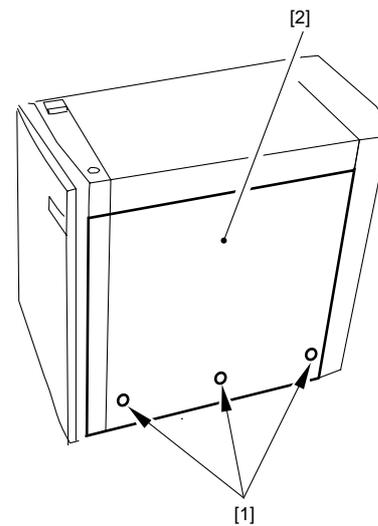
0009-2067

- 1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].

3.1.2.3 Removing the Right Cover

0009-2068

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

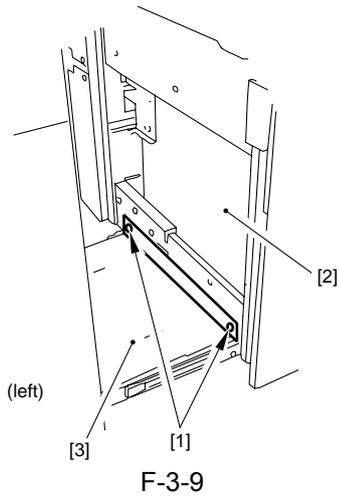


F-3-8

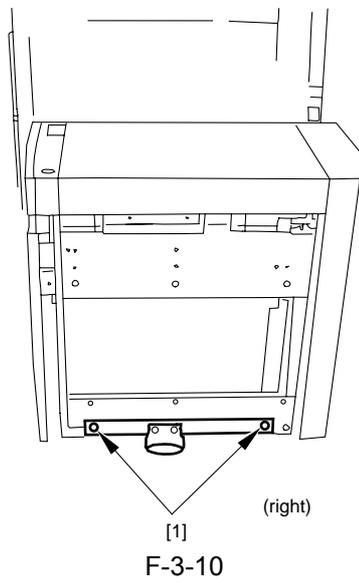
3.1.2.4 Detaching the Deck from the Host Machine

0009-2063

- 1) Remove the 4 screws [1], and detach the deck [2] from the deck base [3].

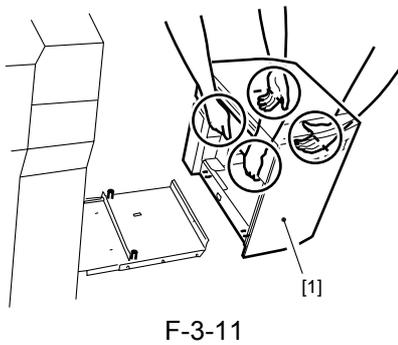


F-3-9



F-3-10

2) Hold the deck by the locations indicated in the figure; then, lift the deck [4], and place it on the base you prepared in "Detaching from the Host Machine".



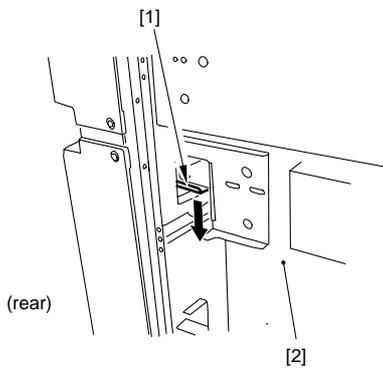
F-3-11

3.2 External Covers

3.2.1 Front Cover

3.2.1.1 Opening the Compartment 0009-2064

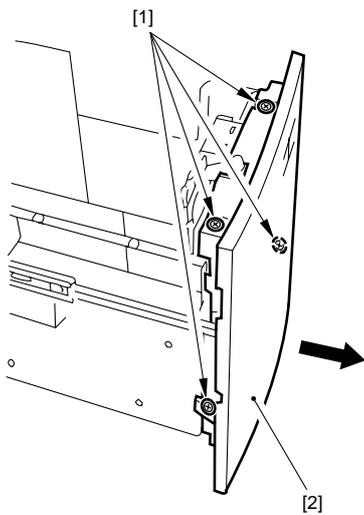
- 1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].



F-3-12

3.2.1.2 Removing the Front Cover 0009-2069

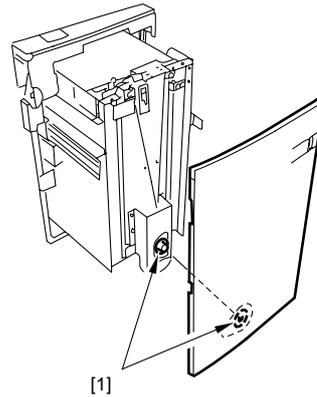
- 1) Loosen the 4 screws [1], and detach the front cover [2] of the deck toward the front.



F-3-13

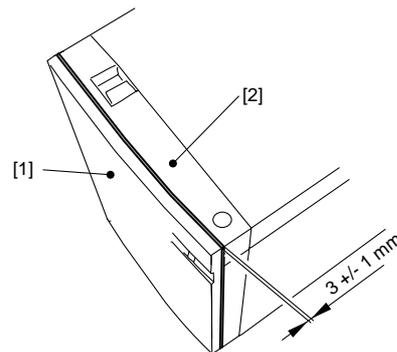
3.2.1.3 Points to Note When Mounting the Front Cover 0009-4819

- ⚠** When mounting the front cover to the deck, be sure to match it against the coupling for the paper level indicator.



F-3-14

- ⚠** Be sure to mount the front cover [1] so that the gap between the front over [1] and the upper front cover [2] is 3 +/- 1 mm.

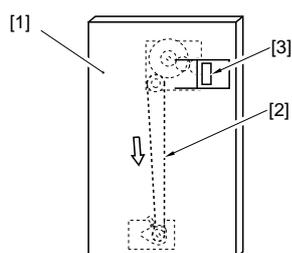


F-3-15

- ⚠** If you inadvertently moved the paper level indicator belt [2] behind the front cover [1] when removing the front cover, or moved the deck lifter,

move the deck lifter to its lower limit, and then move the arrow (shown in the figure to the right) until it stops so that the area [3] of white increase; then, mount the front cover.

(If the deck is operated without matching the paper level indicator and the deck lifter position, the drive mechanisms of the paper level indicator can suffer damage.)



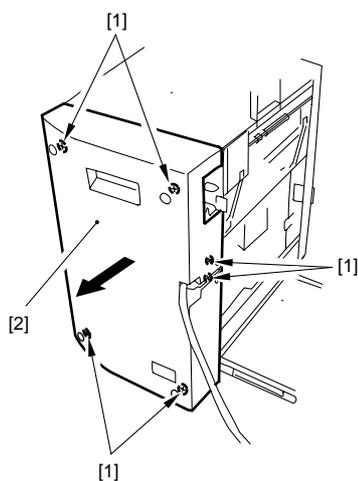
F-3-16

3.2.2 Rear Cover

3.2.2.1 Removing the Rear Cover

0009-2070

1) Detach the deck from its host machine; then, remove the 6 screws [1], and detach the rear cover [2].



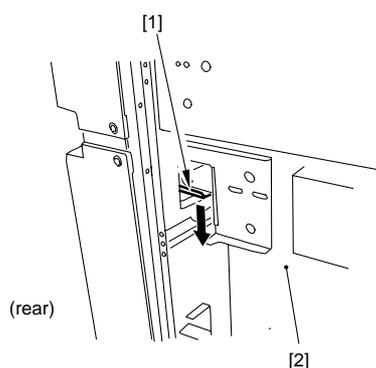
F-3-17

3.2.3 Right Cover

3.2.3.1 Opening the Compartment

0009-2071

1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].

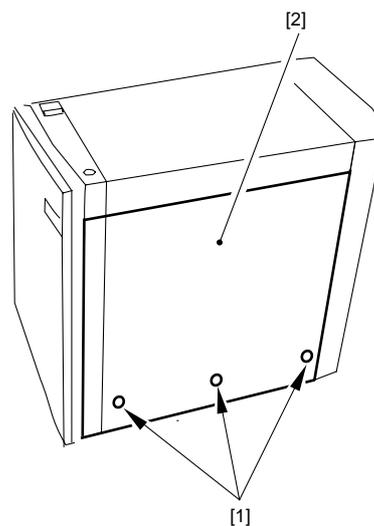


F-3-18

3.2.3.2 Removing the Right Cover

0009-2065

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



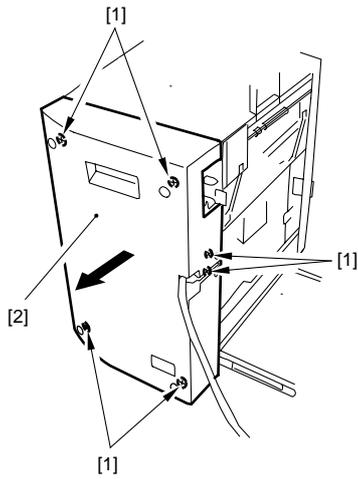
F-3-19

3.2.4 Upper Cover

3.2.4.1 Removing the Rear Cover

0009-2072

1) Detach the deck from its host machine; then, remove the 6 screws [1], and detach the rear cover [2].

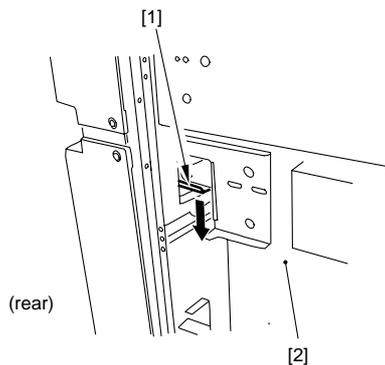


F-3-20

3.2.4.2 Opening the Compartment

0009-2073

1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].

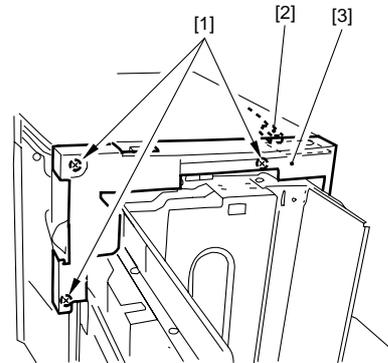


F-3-21

3.2.4.3 Removing the Front Upper Cover

0009-2074

1) Remove the 3 screws [1], and disconnect the connector [2]; then, detach the front upper cover [3].

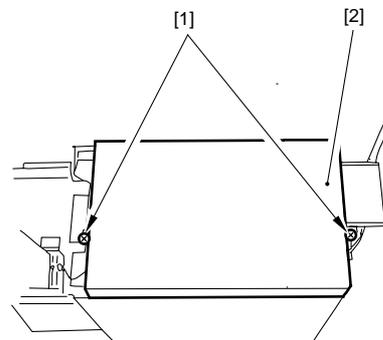


F-3-22

3.2.4.4 Removing the Upper Cover

0009-2075

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



F-3-23

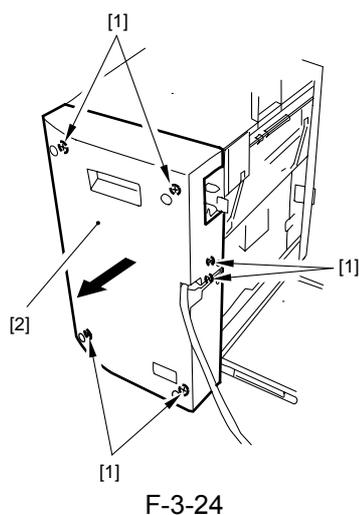
3.3 Drive System

3.3.1 Deck Pickup Clutch

3.3.1.1 Removing the Rear

Cover [0009-2076](#)

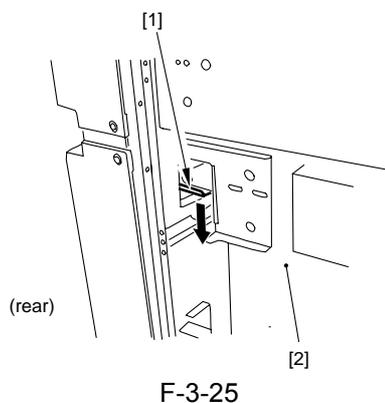
- 1) Detach the deck from its host machine; then, remove the 6 screws [1], and detach the rear cover [2].



3.3.1.2 Opening the Compartment

[0009-2077](#)

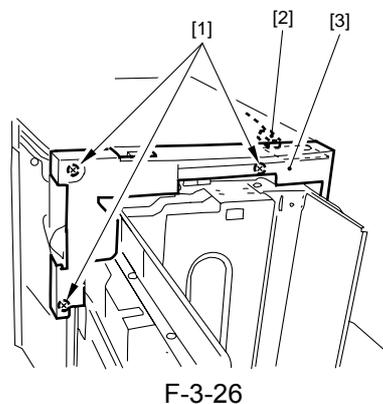
- 1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].



3.3.1.3 Removing the Front Upper Cover

[0009-2078](#)

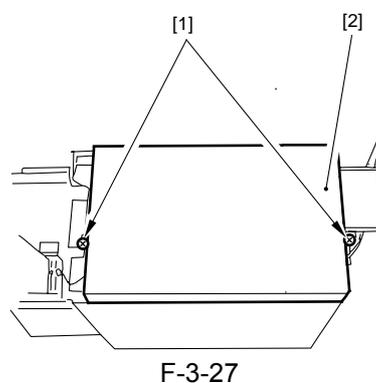
- 1) Remove the 3 screws [1], and disconnect the connector [2]; then, detach the front upper cover [3].



3.3.1.4 Removing the Upper Cover

[0009-2079](#)

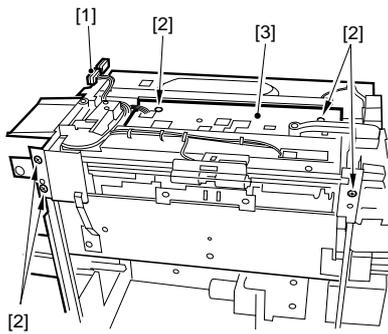
- 1) Remove the 2 screws [1], and detach the upper cover [2].



3.3.1.5 Removing the Deck Pickup Unit

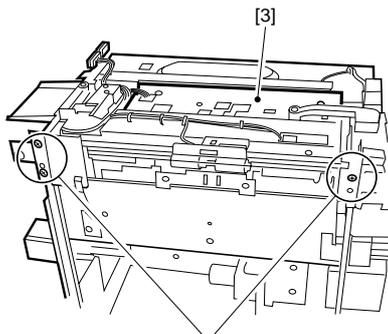
[0009-2083](#)

- 1) Disconnect the 2 connectors [1], and remove the 5 screws [2]; then, detach the deck pickup unit [3].



F-3-28

⚠ When mounting the deck pickup unit [3], be sure to tighten the 3 screws shown in the figure first.



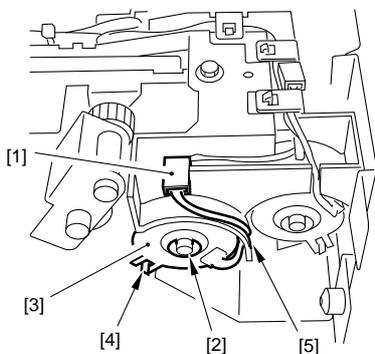
Screws
F-3-29

3.3.1.6 Removing the Pickup

Clutch

0009-2084

1) Disconnect the connector [1], and remove the E-ring [2]; then, detach the deck pickup clutch [3].



F-3-30

⚠ When mounting the pickup clutch, be sure that the clutch is fitted in the stop [4].

Moreover, be sure that the harness is hooked on the U-groove [5] of the guide.

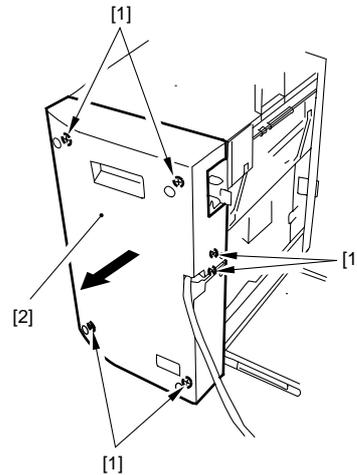
3.3.2 Deck Main Motor

3.3.2.1 Removing the Rear

Cover

0009-2094

1) Detach the deck from its host machine; then, remove the 6 screws [1], and detach the rear cover [2].



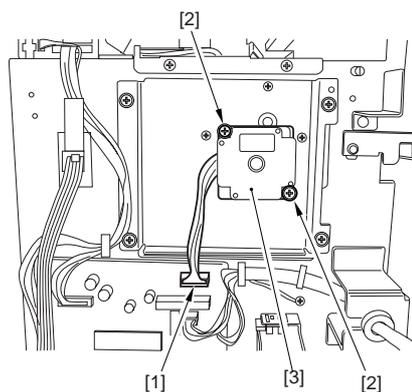
F-3-31

3.3.2.2 Removing the Deck

Main Motor (M101)

0009-2095

1) Disconnect the connector [1], and remove the 2 screws [2]; then, detach the deck main motor [3]. At this time, be sure to take care not to damage the gear found at the tip of the motor spindle.



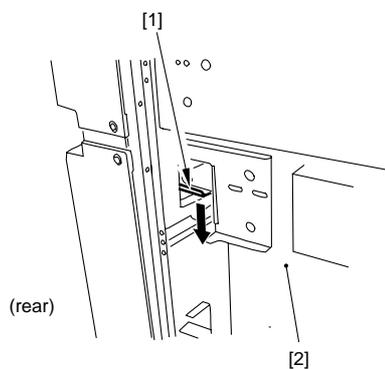
F-3-32

3.3.3 Deck Lifter Motor

3.3.3.1 Opening the

Compartment [0009-2097](#)

- 1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].



F-3-33

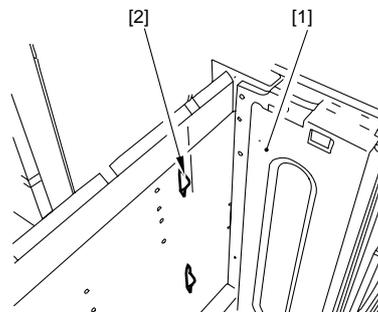
3.3.3.2 Positioning the Deck Lifter

[0009-2099](#)

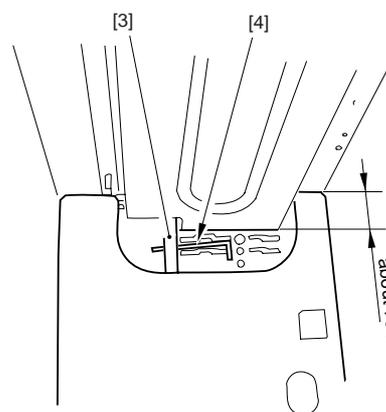
- 1) If there is any paper, remove all.
- 2) Turn on the host machine's power switch.
- 3) If the deck lifter is in its up position, move it so that the distance from the bottom plate of the compartment of the deck lifter is about 7 cm. Push the sensor flag [2] of the paper supply position sensor found inside the compartment [1] so that the

deck lifter moves down. (The deck lifter will stop as soon as you release the flag.)

Insert a hex wrench [4] into the hole of the lifter drive shaft [3] to fix it in place (against turning).



F-3-34



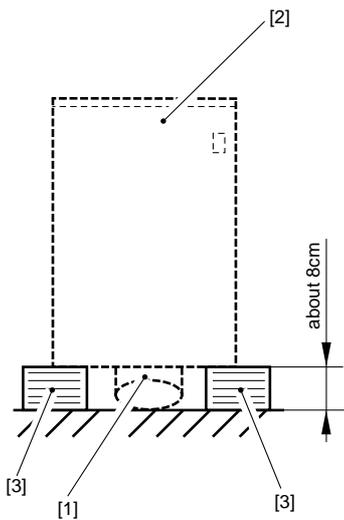
F-3-35

- 4) Disconnect the power plug, and turn off the host machine's power switch.

3.3.3.3 Removing the Compartment

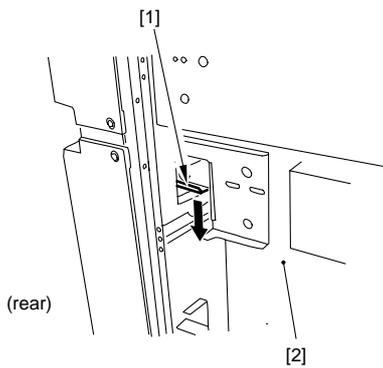
[0009-2100](#)

- 1) Place a stack of paper [3] (about 8 cm in height) on the floor on which to place the deck [2], thus preventing damage to the roll support plate [1].



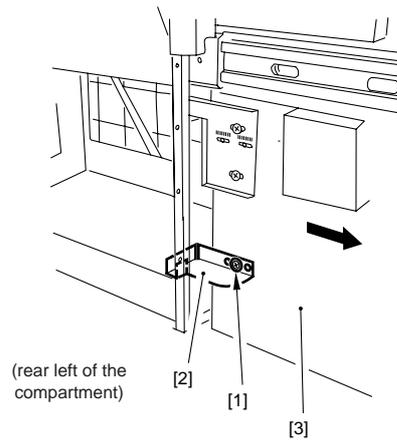
F-3-36

2) Push the deck release grip to detach the deck from its host machine; then, push down the latch plate [1] found at the rear left to open the compartment [2].



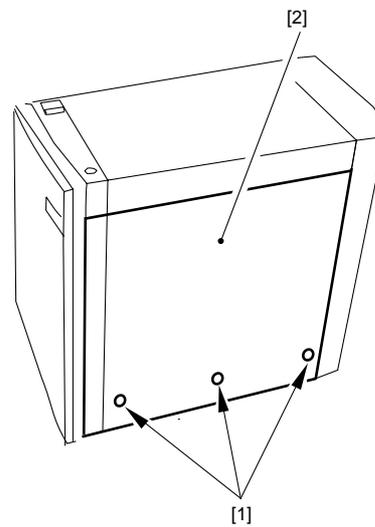
F-3-37

3) Remove the screw [1] and the stopper plate [2]; then, slide father out the compartment [3].



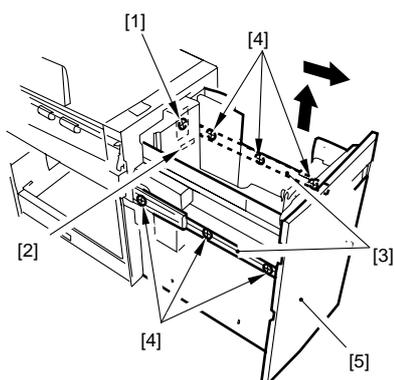
F-3-38

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



F-3-39

5) Remove the screw [1] of the harness guide, disconnect the connector [2], and remove the 3 screws [4] each on the right and left of the compartment rail [3]; then, lift the compartment [5] slightly to detach it toward the front.



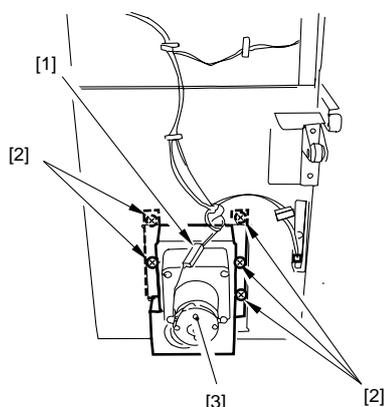
F-3-40

6) Place the compartment [5] on the base you prepared in step 1).

3.3.3.4 Removing the Deck

Lifter Motor (M102) 0009-2101

1) Disconnect the connector [1], and remove the 5 screws [2]; then, detach the deck lifter motor unit [3].



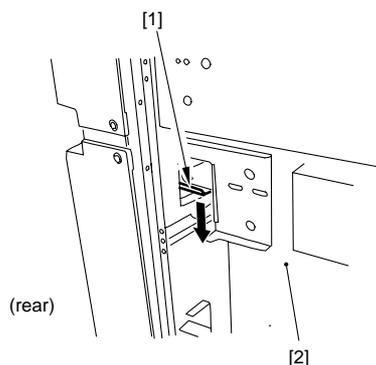
F-3-41

3.3.4 Lifter Cable (Front)

3.3.4.1 Opening the

Compartment 0009-2102

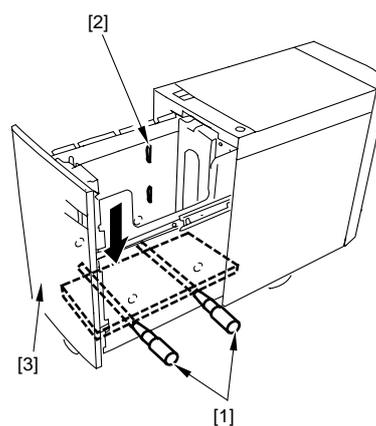
1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].



F-3-42

3.3.4.2 Removing the Lifter Cable (deck front) 0009-2104

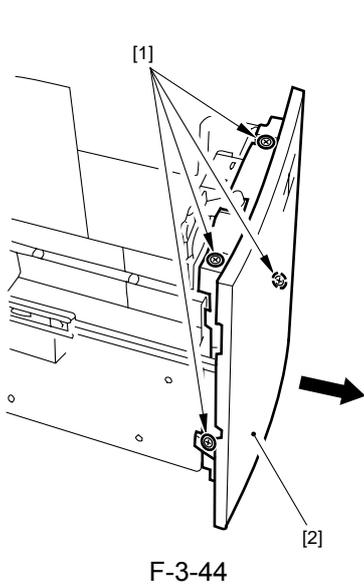
- 1) If there is any paper, remove all.
 - 2) Insert 2 long screwdrivers [1] to keep the lifter in position.
 - 3) So that the left and right holes of the compartment side plate and the left and right holes of the lifter will match, move down the lifter by pushing the flag [2] of the paper supply position sensor.
 - Connect the power plug, and turn on the host machine's power switch.
 - Push the flag [2] of the paper position sensor found inside the compartment [3] until the deck lifter comes into contact with the screwdrivers.
- (The deck lifter will stop when you let go of the flag.)



F-3-43

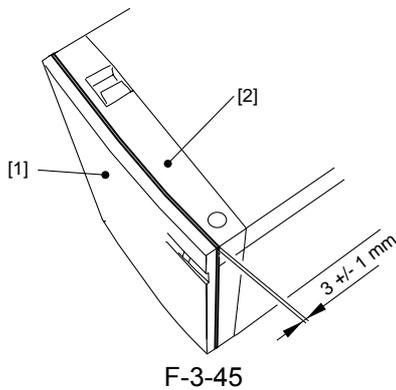
- 4) Loosen the 4 screws [1], and detach the front cover [2].

Do not remove the screws.



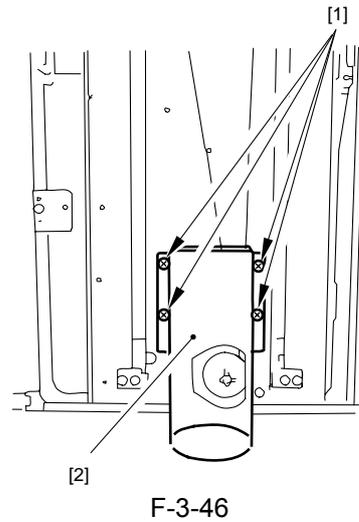
F-3-44

⚠ Use the 4 screws used to keep the front cover in place when adjusting the position of the front cover so that the gap A between the front cover and the upper front cover is 3 +/- 1 mm.



F-3-45

5) Remove the 4 screws [1], and detach the roll support plate [2].



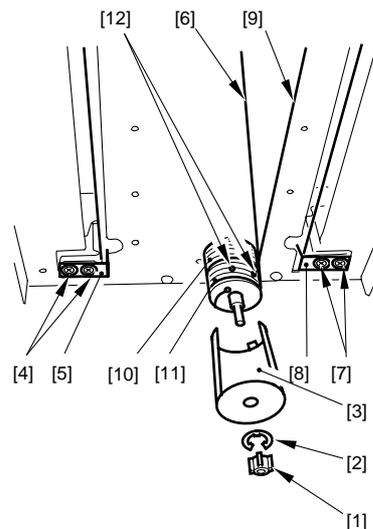
F-3-46

6) Remove the coupling shaft [1] and the E-ring [2]; then, detach the pulley cover [3].

7) Remove the 2 screws [4], and detach the left cable fixing plate [5]; then, detach the outside lifter cable [6].

8) Remove the 2 screws [7], and detach the right cable fixing plate [8]; then, detach the inside lifter cable [9].

9) Remove the 2 set screws [12] and detach the outside pulley [11] to detach the inside lifter cable [9] from the inside pulley [10].



F-3-47

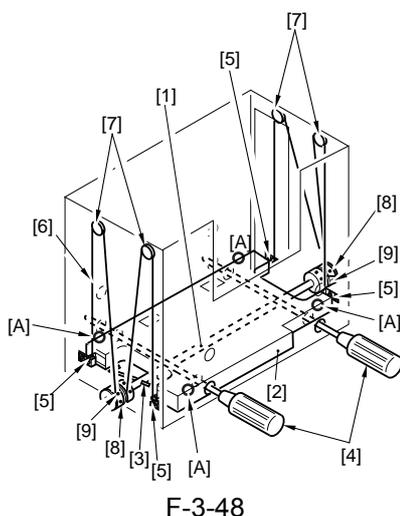
3.3.4.3 Stringing the Lifter

Cable 0009-2105

- 1) Check to make sure that the lifter drive shaft [1] and the lifter [2] are fixed in place using a hex wrench [3] and 2 long screwdrivers [4], respectively.
- 2) Fix the 4 cable fixing plates [5] in place to the lifter using 2 screws each.
- 3) Hook the lifer cable [6] on the 4 pulleys [7] above.
- 4) Hook the ball of the lifter cable on the 2 front/rear pulleys [8] of the lifter drive shaft; then, wind it about 1.5 times along the groove of the pulley.

At this time, be sure to keep the lifter cable taut so that the long drivers used to keep the lifter are slightly lifted by the cable.

- 5) Fix the 2 pulleys [5] in place to the lifter drive shaft with a set screw [9] (1 pc. each).
- 6) Fit all removed pulleys to the lifter shaft; then, measure the height A from the base plate of the compartment to the top face of the lifter, thus making sure that the lifter is level.



F-3-48

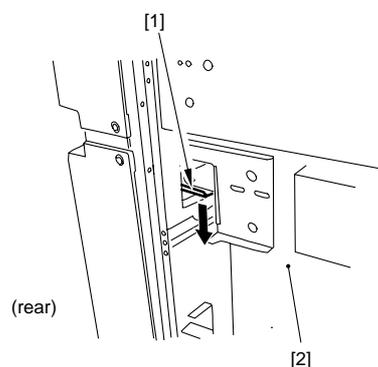
3.3.5 Lifter Cable

3.3.5.1 Opening the

Compartment 0009-2106

- 1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate

[1] found at the rear left to open the compartment [2].

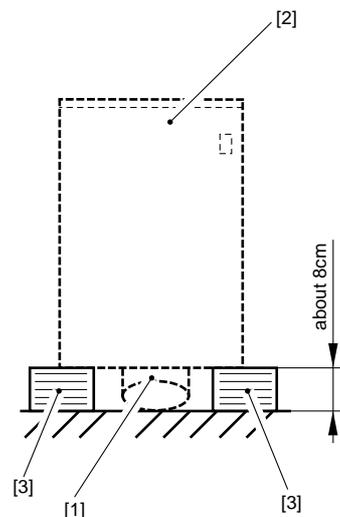


F-3-49

3.3.5.2 Removing the Compartment

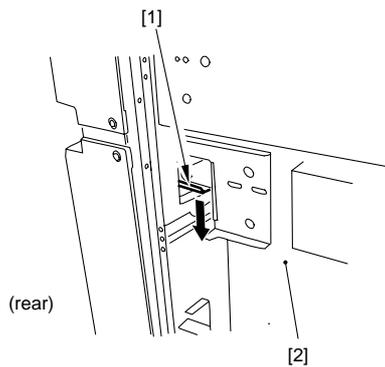
0009-2107

- 1) Place a stack of paper [3] (about 8 cm in height) on the floor on which to place the deck [2], thus preventing damage to the roll support plate [1].



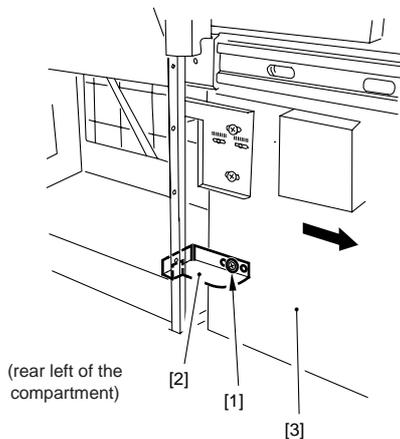
F-3-50

- 2) Push the deck release grip to detach the deck from its host machine; then, push down the latch plate [1] found at the rear left to open the compartment [2].



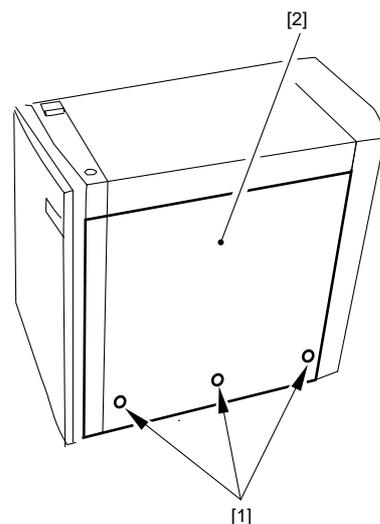
F-3-51

3) Remove the screw [1] and the stopper plate [2]; then, slide father out the compartment [3].



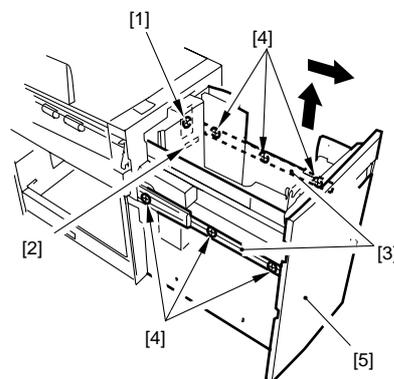
F-3-52

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



F-3-53

5) Remove the screw [1] of the harness guide, disconnect the connector [2], and remove the 3 screws [4] each on the right and left of the compartment rail [3]; then, lift the compartment [5] slightly to detach it toward the front.



F-3-54

6) Place the compartment [5] on the base you prepared in step 1).

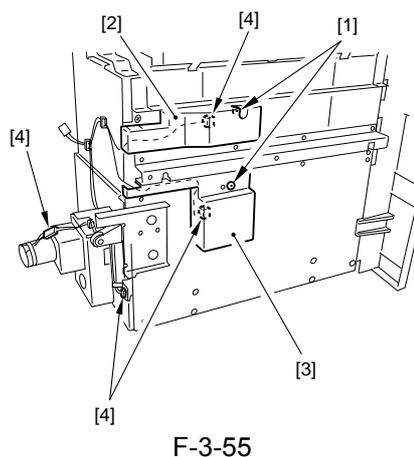
3.3.5.3 Removing the Lifter

Cable (deck rear)

0009-2108

1) Remove the screw [1] (1 pc. each), and remove the upper sensor cover [2] and the lower sensor cover [3].

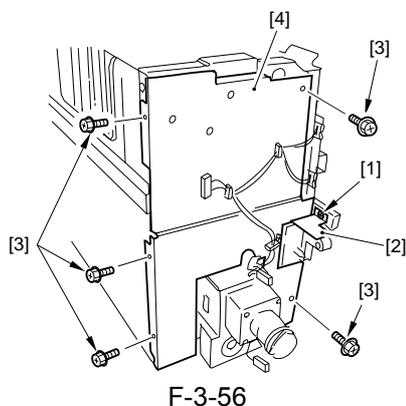
2) Disconnect the 4 connectors [4].



F-3-55

⚠ There are 2 claws on the upper sensor cover. Be sure to take care not to break the claws when detaching it.

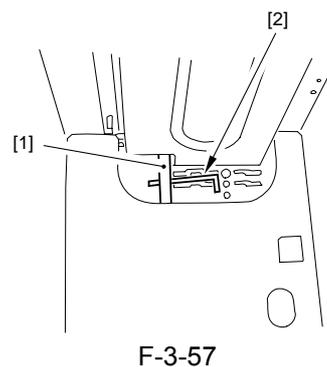
- 3) Remove the screw [1], and detach the sensor plate [2].
- 4) Remove the 5 screws [3], and detach the plate [4].



F-3-56

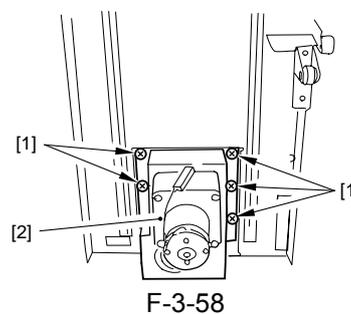
- 5) Insert a hex wrench [2] into the hole of the lifter drive shaft [1] to keep it from turning.

⚠ If you fail to keep it in place, the lifter cable will become slack when the lifter motor unit is removed.



F-3-57

- 6) Remove the 5 screws [1], and detach the lifter motor unit [2].



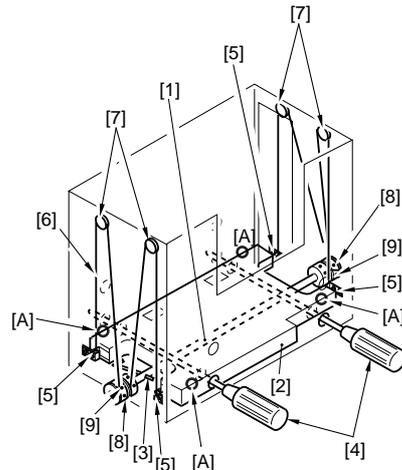
F-3-58

3.3.5.4 Stringing the Lifter Cable

0009-2110

- 1) Check to make sure that the lifter drive shaft [1] and the lifter [2] are fixed in place using a hex wrench [3] and 2 long screwdrivers [4], respectively.
- 2) Fix the 4 cable fixing plates [5] in place to the lifter using 2 screws each.
- 3) Hook the lifer cable [6] on the 4 pulleys [7] above.
- 4) Hook the ball of the lifter cable on the 2 front/rear pulleys [8] of the lifter drive shaft; then, wind it about 1.5 times along the groove of the pulley. At this time, be sure to keep the lifter cable taut so that the long drivers used to keep the lifter are slightly lifted by the cable.
- 5) Fix the 2 pulleys [5] in place to the lifter drive shaft with a set screw [9] (1 pc. each).
- 6) Fit all removed pulleys to the lifter shaft; then, measure the height A from the base plate of the compartment to the top face of the lifter, thus

making sure that the lifter is level.



F-3-59

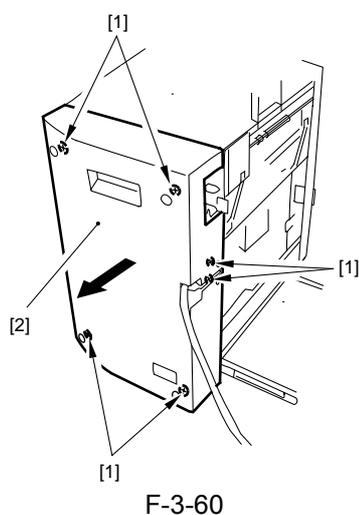
3.4 Document Feeding System

3.4.1 Deck Pickup Unit

3.4.1.1 Removing the Rear

Cover 0009-2112

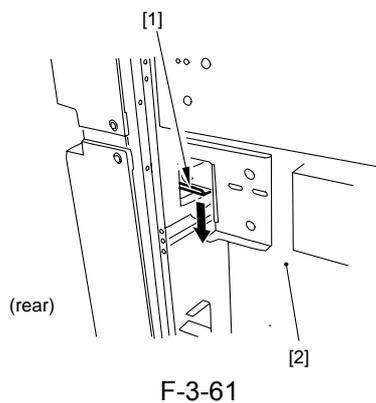
1) Detach the deck from its host machine; then, remove the 6 screws [1], and detach the rear cover [2].



3.4.1.2 Opening the

Compartment 0009-2113

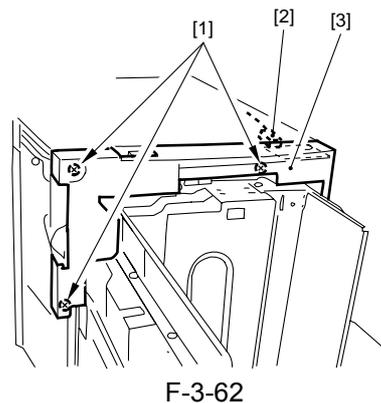
1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].



3.4.1.3 Removing the Front

Upper Cover 0009-2119

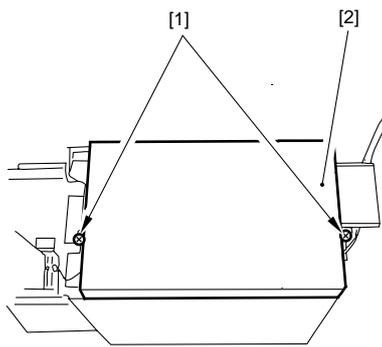
1) Remove the 3 screws [1], and disconnect the connector [2]; then, detach the front upper cover [3].



3.4.1.4 Removing the Upper

Cover 0009-2120

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



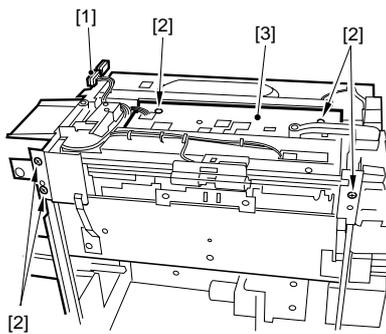
F-3-63

3.4.1.5 Removing the Deck

Pickup Unit

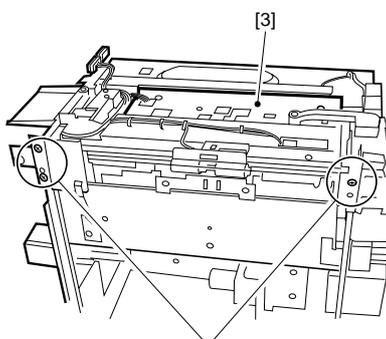
0009-2082

1) Disconnect the 2 connectors [1], and remove the 5 screws [2]; then, detach the deck pickup unit [3].



F-3-64

⚠ When mounting the deck pickup unit [3], be sure to tighten the 3 screws shown in the figure first.



Screws
F-3-65

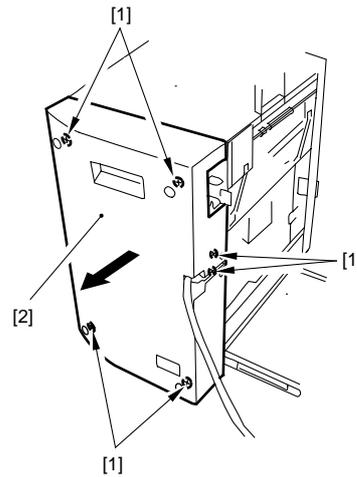
3.4.2 Deck Pickup Roller

3.4.2.1 Removing the Rear

Cover

0009-2121

1) Detach the deck from its host machine; then, remove the 6 screws [1], and detach the rear cover [2].



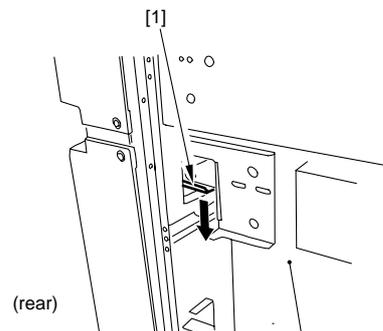
F-3-66

3.4.2.2 Opening the

Compartment

0009-2123

1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].



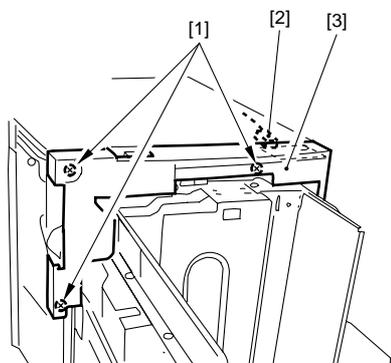
F-3-67

3.4.2.3 Removing the Front

Upper Cover

0009-2124

1) Remove the 3 screws [1], and disconnect the connector [2]; then, detach the front upper cover [3].



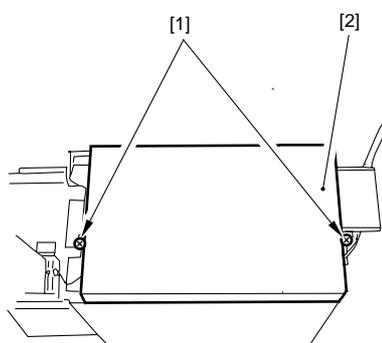
F-3-68

3.4.2.4 Removing the Upper

Cover

0009-2125

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



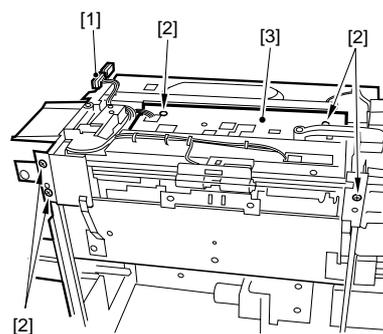
F-3-69

3.4.2.5 Removing the Deck

Pickup Unit

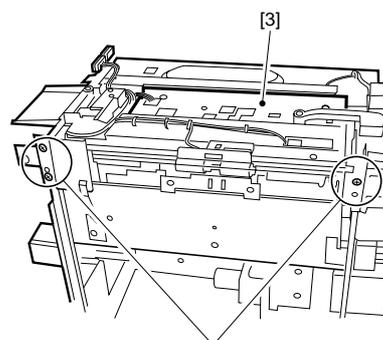
0009-2126

1) Disconnect the 2 connectors [1], and remove the 5 screws [2]; then, detach the deck pickup unit [3].



F-3-70

⚠ When mounting the deck pickup unit [3], be sure to tighten the 3 screws shown in the figure first.

Screws
F-3-71

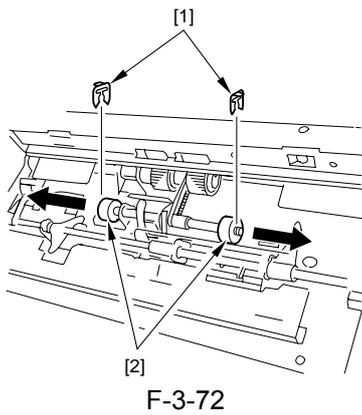
3.4.2.6 Removing the Deck

Pickup Roller

0009-2130

1) Turn over the deck pickup unit; then, remove the resin ring [1] (1 pc. each) and the 2 deck pickup rollers [2].

⚠ The deck pickup roller has its own direction of rotation, requiring care when mounting it.



3.4.2.7 Points to Note When Mounting the Deck Pickup Roller

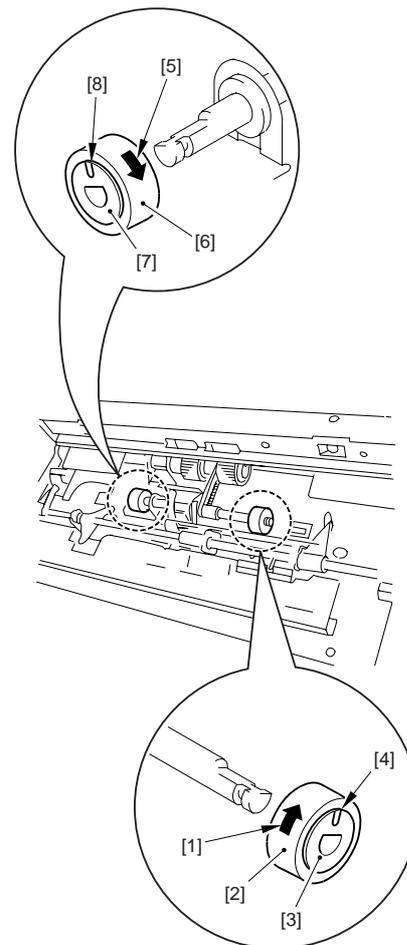
0009-2131

Front of the Machine (collar [3]; silver-colored)

It has its own direction of rotation [1]; when mounting the deck pickup roller [2] to the front of the machine, be sure that the marking [4] found on the collar [3] is to the front of the machine.

Rear of the Machine (collar [7]; gold-cover)

It has its own direction of rotation [6]; when mounting the deck pickup roller [6] to the rear of the machine, be sure that the marking [8] found on the collar [7] is to the rear of the machine.



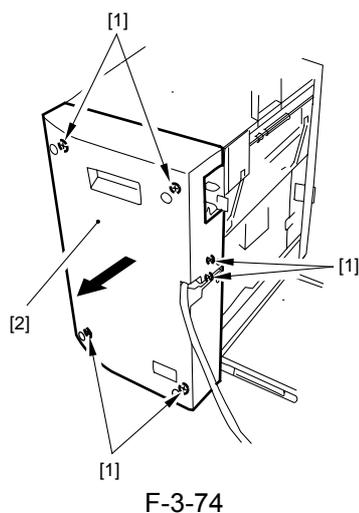
3.4.3 Deck Pickup/Feed Roller

3.4.3.1 Removing the Rear

Cover

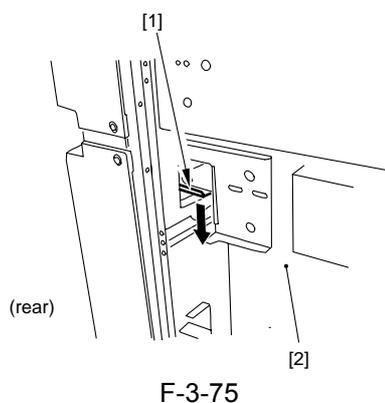
0009-2132

- 1) Detach the deck from its host machine; then, remove the 6 screws [1], and detach the rear cover [2].



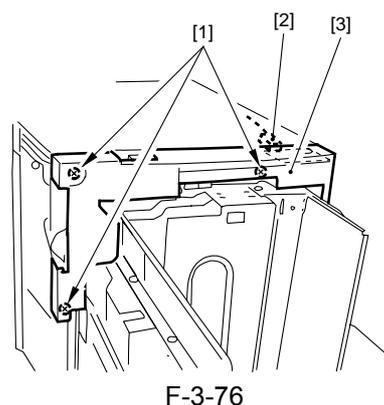
3.4.3.2 Opening the Compartment 0009-2133

- 1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].



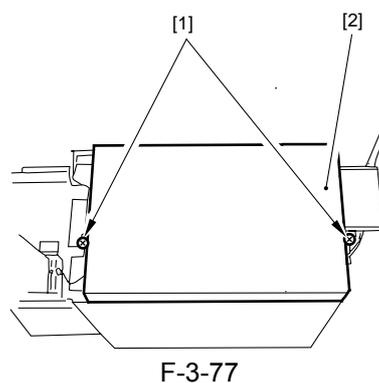
3.4.3.3 Removing the Front Upper Cover 0009-2134

- 1) Remove the 3 screws [1], and disconnect the connector [2]; then, detach the front upper cover [3].



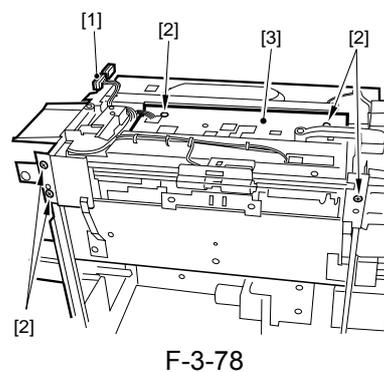
3.4.3.4 Removing the Upper Cover 0009-2135

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

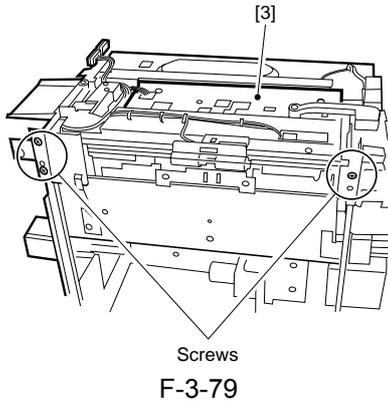


3.4.3.5 Removing the Deck Pickup Unit 0009-2136

- 1) Disconnect the 2 connectors [1], and remove the 5 screws [2]; then, detach the deck pickup unit [3].

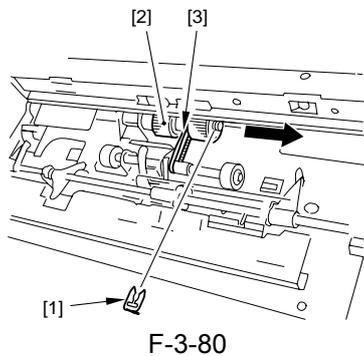


⚠ When mounting the deck pickup unit [3], be sure to tighten the 3 screws shown in the figure first.



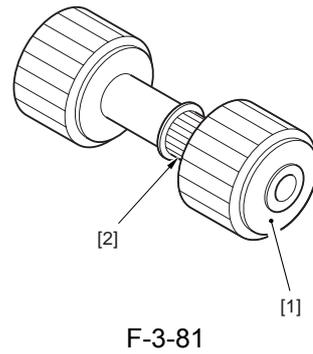
3.4.3.6 Removing the Deck Pickup/Feed Roller 0009-2137

1) Remove the resin ring [1], and detach the deck pickup/feed roller [2] and the drive belt [3] toward the front.



3.4.3.7 Points to Note When Mounting the Deck Pickup/Feed Roller 0009-2138

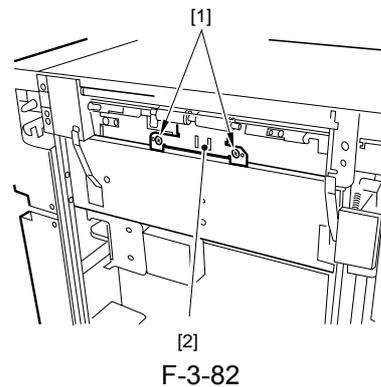
When mounting the deck pickup/feed roller [1], be sure so that the belt pulley [2] is to the front of the machine.



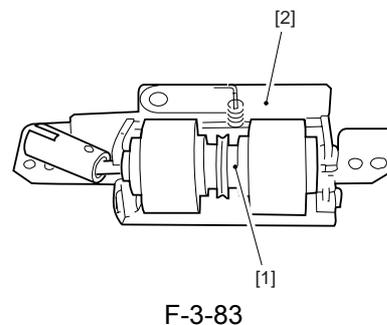
3.4.4 Deck Separation Roller

3.4.4.1 Removing the Deck Separation Roller 0009-2139

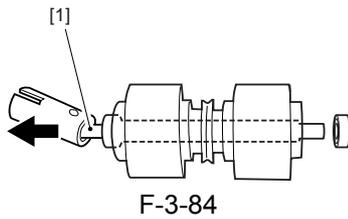
1) Detach the deck from its host machine; then, remove the 2 screws [1], and detach the separation roller support plate [2].



2) Detach the pickup roller [1] from the holder [2]. (snap-on)



3) Detach the shaft [1] in the direction of the arrow.



⚠ The urethane sponge used on the deck separation roller is pink in color immediately after foaming; changing the color to orange and then to yellow (accelerated if exposed to light).

This is a general characteristic of the urethane sponge, and there is no difference in performance because of discoloration. (The part does not come in different types, as according to color.)

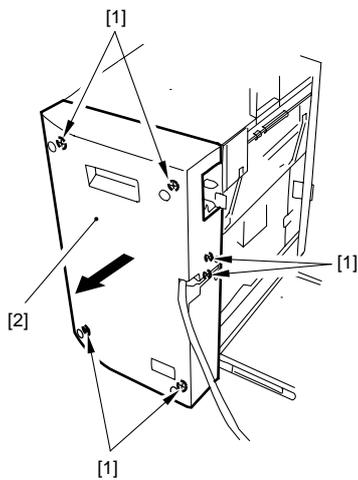
3.5 Electrical System

3.5.1 Deck Driver PCB

3.5.1.1 Removing the Rear Cover

0009-2141

1) Detach the deck from its host machine; then, remove the 6 screws [1], and detach the rear cover [2].

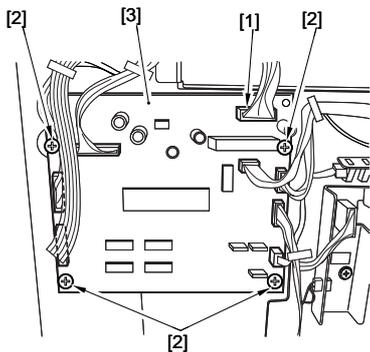


F-3-85

3.5.1.2 Removing the Deck Driver PCB

0009-2142

1) Disconnect the 9 connectors [1], and remove the 4 screws [2]; then, detach the deck driver PCB [3].



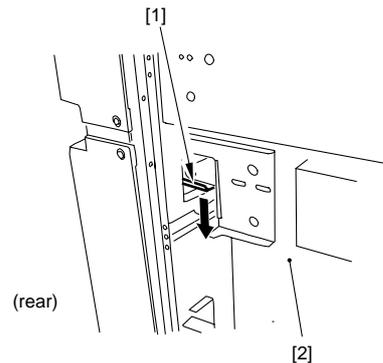
F-3-86

3.5.2 Open Switch PCB

3.5.2.1 Opening the Compartment

0009-2143

1) Push the deck release grip to detach the deck from its host machine. Then, push down the latch plate [1] found at the rear left to open the compartment [2].

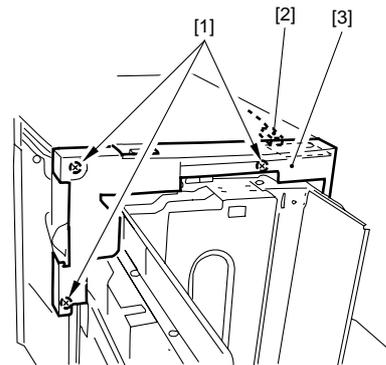


F-3-87

3.5.2.2 Removing the Front Upper Cover

0009-2144

1) Remove the 3 screws [1], and disconnect the connector [2]; then, detach the front upper cover [3].

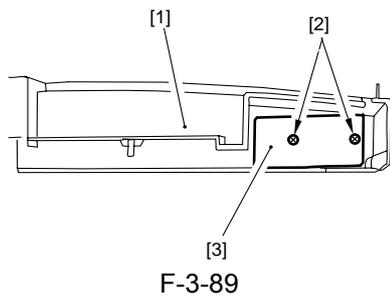


F-3-88

3.5.2.3 Removing the Open Switch PCB

0009-2145

1) Remove the 2 screws [2] from inside the front upper cover [1]; then, detach the open switch PCB [3].



⚠ When mounting the front upper cover, be sure not to trap the harness by the open switch PCB and not to forget connecting the connectors.

Chapter 4 Maintenance

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4.1 Maintenance and Inspection

4.1.1 Periodically Replaced Parts

4.1.1.1 Periodically Replaced Parts

0009-2147

The Side Paper Deck-V1 does not have parts that must be replaced on a periodical basis.

4.1.2 Durables

4.1.2.1 Durables

0009-2148

Some parts of the machine may need replacement once or more over the period of product warranty because of wear or damage. Replace them as necessary by referring to the following table.

T-4-1

No.	Parts name	Parts number	Q'ty	Life (sheets)	Remarks
[1]	Pickup roller (front)	FF5-1220-000	1	250,000	the actual number of copies made
[2]	Pickup roller (rear)	FF5-1221-000	1	250,000	the actual number of copies made
[3]	Pickup/feed roller	FF5-9779-000	1	250,000	the actual number of copies made
[4]	Separation roller	FB2-7777-020	1	250,000	the actual number of copies made

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

4.1.3 Periodical Servicing

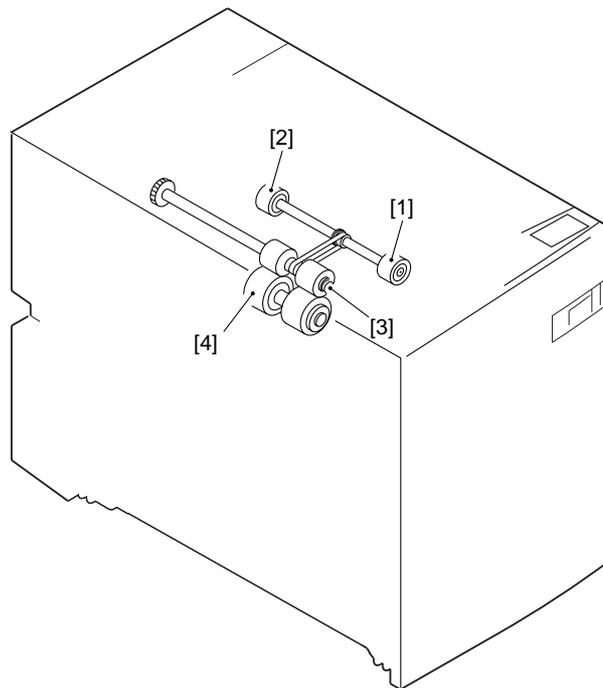
4.1.3.1 Periodical Servicing

0009-4668

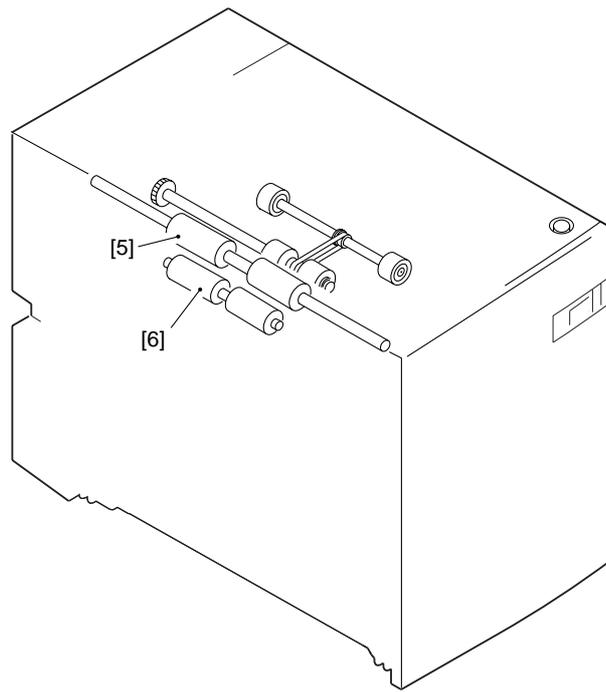
T-4-2

Ref.	Parts name	Periodical servicing	Remarks
250,000			
1	pickup roller (front)	replace	
2	pickup roller (rear)	replace	
3	pikcup/feed roller	replace	
4	separation roller	replace	
5	Vertical path roller	clean	
6	Vertical path collar	clean	

The following figure shows the locations of the parts that require scheduled servicing:



F-4-1



F-4-2

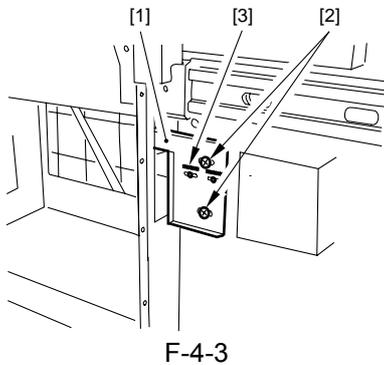
4.2 Adjustment

4.2.1 Basic Adjustment

4.2.1.1 Adjusting the Registration 0009-4816

If the left/right registration (0 +/- 1.5 mm) must be adjusted, perform the following:

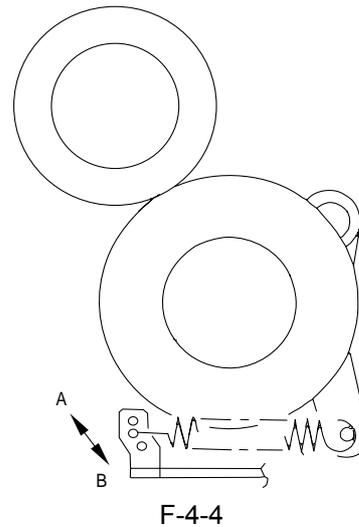
- Slide out the compartment, and adjust the position of the latch plate [1] of the deck open solenoid by turning the two screws [2]. (Use the scale [3] on the latch plate as a guide)



4.2.1.2 Adjusting the Pressure of the Deck Separation Roller 0009-4915

If pickup faults or double feeding occurs when the deck is used as the source of paper, relocate the pressure spring [2] of the deck separation roller [1]:

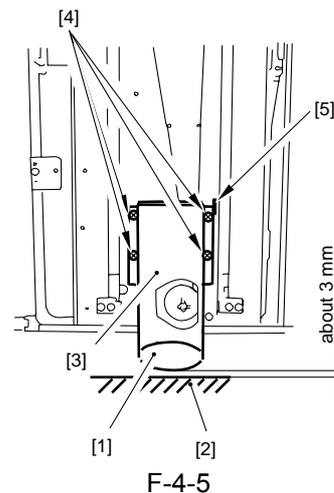
- if pickup faults occur, move the spring in the direction of arrow A.
- if double-feeding occurs, move the spring in the direction of arrow B.



4.2.1.3 Adjusting the Position of the Roll 0009-4916

If the compartment cannot be opened/closed smoothly, requiring adjustment of the roll located at the front of the deck, perform the following:

- Remove the front cover.
- Slide out the compartment fully to the front of the paper deck. Then, secure the roller support plate [3] in place with 4 screws [4] so that the roller [1] is about 3 mm (A) from the floor. (At this time, use the index [5] on the front side plate as a reference.)

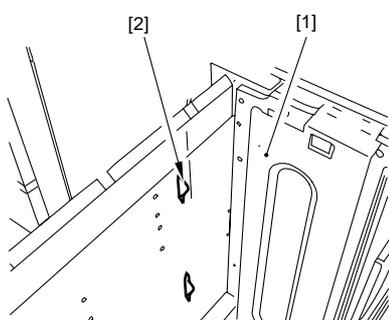


4.2.1.4 Switching the Paper

Size of the Deck 0009-4846

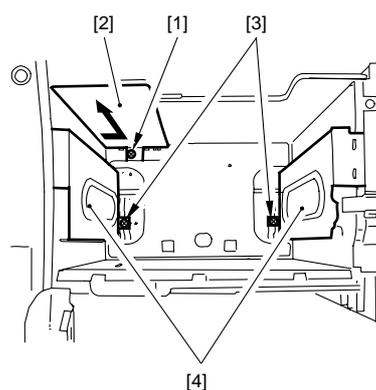
If the deck paper size configuration must be changed to suit the needs of the user, perform the following:

- 1) Open the compartment [1] of the paper deck, and remove all copy paper.
- 2) If the lifter of the paper deck is in up position, turn on the host machine's power switch, and push the lever of the paper supply level sensor [2] inside the compartment so that the lifter will move down to its lower limit.



F-4-6

- 3) Remove the screw [1], and move the paper trailing edge guide plate [2] to suit the new paper size; then secure it in place with a screw. (The rear end guide plate will not be used for LTR size. The paper sizes are marked on the bottom deck.)
- 4) Detach the front cover of the paper deck.
- 5) Remove the screws (one each) [3], and mount the left right guide plates [4] to suit the new paper size.
- 6) Mount the front cover of the paper deck.
- 7) Set COPIER>OPTION>ACC>DK-P in the host machine's service mode.(0:A4, 1:B5, 2:LTR)



F-4-7

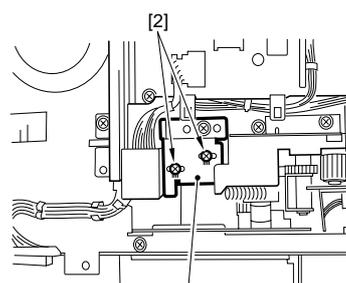
4.2.2 Adjustment at Time of Parts Replacement

4.2.2.1 Adjusting the Position of the Deck Pickup Roller

Releasing Solenoid (SL101) 0009-2155

Take note of the positions of the two fixing screws [2] of the solenoid with reference to the index on the support plate before removing the deck pickup roller releasing solenoid [1] from the support plate; or, mark the position of the solenoid on the support plate with a scribe.

If the solenoid is to be mounted on its own, be sure to locate it in its initial position.



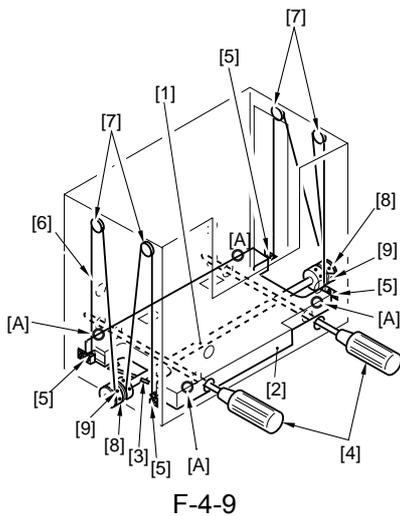
F-4-8

4.2.2.2 Stringing the Lifter

Cable 0009-4912

- 1) Check to make sure that the lifter drive shaft [1] and the lifter [2] are fixed in place using a hex wrench

- [3] and 2 long screwdrivers [4], respectively.
- 2) Fix the 4 cable fixing plates [5] in place to the lifter using 2 screws each.
 - 3) Hook the lifer cable [6] on the 4 pulleys [7] above.
 - 4) Hook the ball of the lifer cable on the 2 front/rear pulleys [8] of the lifter drive shaft; then, wind it about 1.5 times along the groove of the pulley.
- At this time, be sure to keep the lifter cable taut so that the long drivers used to keep the lifter are slightly lifted by the cable.
- 5) Fix the 2 pulleys [5] in place to the lifter drive shaft with a set screw [9] (1 pc. each).
 - 6) Fit all removed pulleys to the lifter shaft; then, measure the height A from the base plate of the compartment to the top face of the lifter, thus making sure that the lifter is level.



F-4-9

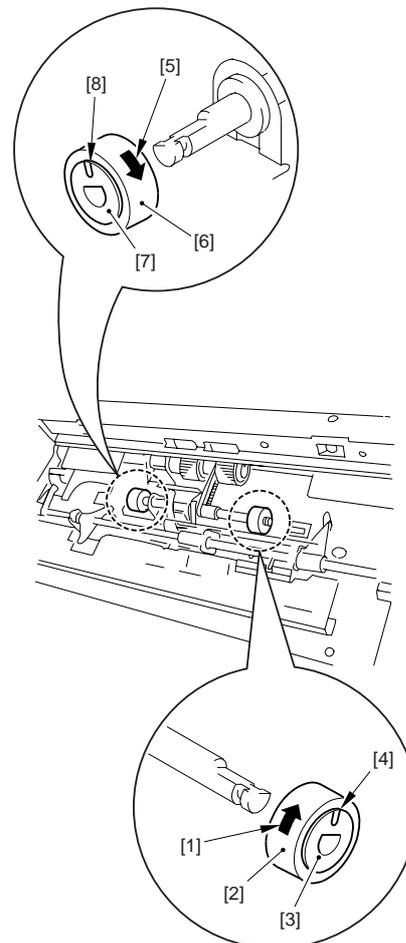
4.2.2.3 Points to Note When Mounting the Deck Pickup Roller

0009-4911

Front of the Machine (collar [3]; silver-colored)
It has its own direction of rotation [1]; when mounting the deck pickup roller [2] to the front of the machine, be sure that the marking [4] found on the collar [3] is to the front of the machine.

Rear of the Machine (collar [7]; gold-cover)
It has its own direction of rotation [6]; when mounting the deck pickup roller [6] to the rear of the machine,

be sure that the marking [8] found on the collar [7] is to the rear of the machine.

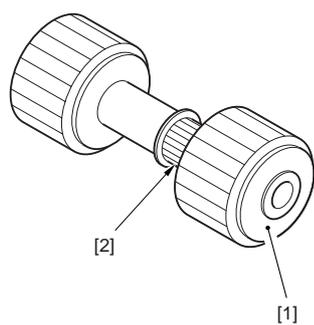


F-4-10

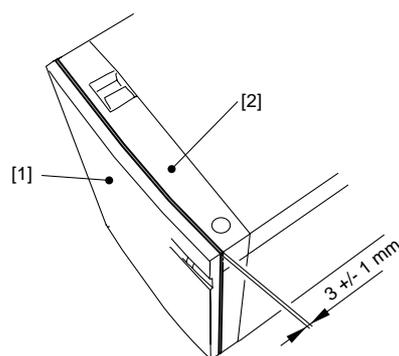
4.2.2.4 Points to Note When Mounting the Deck Pickup/Feed Roller

0009-4910

When mounting the deck pickup/feed roller [1], be sure so that the belt pulley [2] is to the front of the machine.



F-4-11

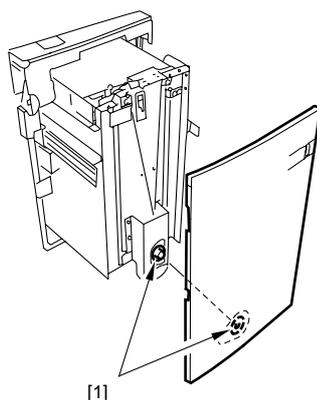


F-4-13

4.2.2.5 Points to Note When

Mounting the Front Cover 0009-4914

⚠ When mounting the front cover to the deck, be sure to match it against the coupling for the paper level indicator.

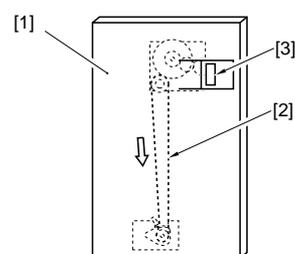


F-4-12

⚠ Be sure to mount the front cover [1] so that the gap between the front over [1] and the upper front cover [2] is 3 +/-1 mm.

⚠ If you inadvertently moved the paper level indicator belt [2] behind the front cover [1] when removing the front cover, or moved the deck lifter, move the deck lifter to its lower limit, and then move the arrow (shown in the figure to the right) until it stops so that the area [3] of white increase; then, mount the front cover.

(If the deck is operated without matching the paper level indicator and the deck lifter position, the drive mechanisms of the paper level indicator can suffer damage.)



F-4-14

4.3 Outline of Electrical Components

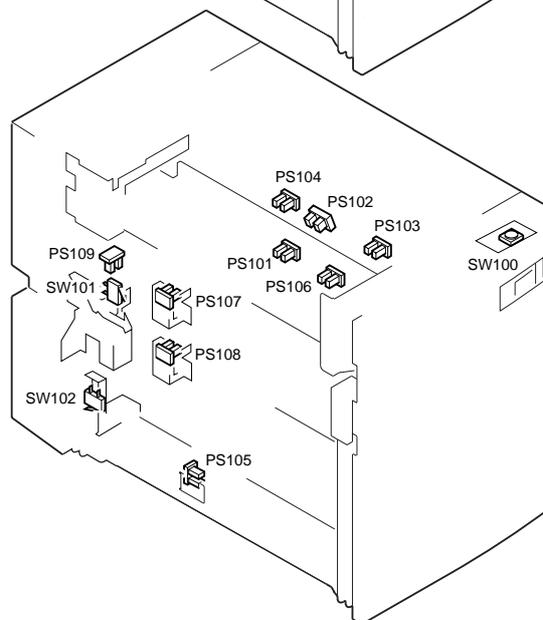
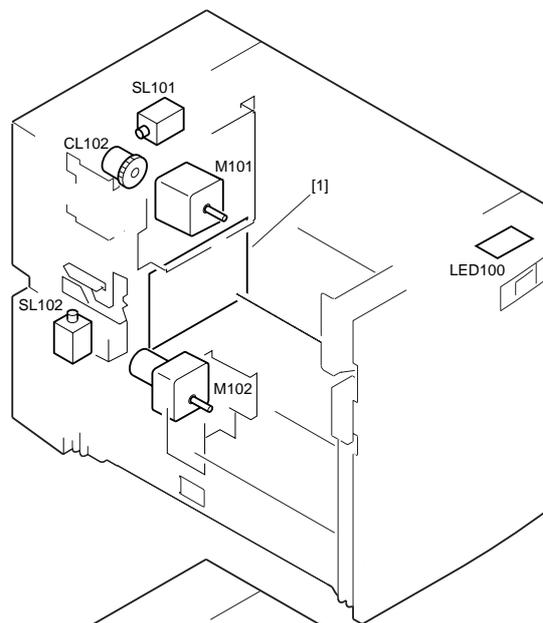
4.3.1 Sensor, Motor, Clutch, Solenoid, PCB, Others

0009-2156

T-4-3

Notation	Name	Parts No.	PART-CHK	Connector No.
M101	Deck main motor	FK2-1156	MTR>1 1	J01
M102	Deck lifter motor	FK2-0262	MTR>2 9	J08
CL102	Deck pickup clutch	FH7-5826	CL>3	J05
SL101	Deck pickup roller releasing solenoid	FK2-0126	SL>6	J05
SL102	Deck open solenoid	FK2-0127		J09
SW101	Deck open detecting switch	WC4-5153		J10
SW102	Deck lifter lower limit detecting switch	WC4-0153		J08
SW100	Deck open switch	FM2-0856		J04
LED100	Deck open indicator	FM2-0856		J04
PS101	Deck feed sensor	FK2-0149		J05
PS102	Deck paper sensor	FK2-0149		J04
PS103	Deck lifter upper limit sensor	FK2-0149		J04
PS104	Deck lifter position sensor	FK2-0149		J04
PS105	Deck set sensor	FK2-0149		J09
PS106	Deck pickup sensor	FK2-0149		J05

Notation	Name	Parts No.	PART-CHK	Connector No.
PS107	Deck paper supply position sensor	FK2-0149		J08
PS108	Deck paper level sensor	FK2-0149		J08
PS109	Deck open sensor	FK2-0149		J09
[1]	Deck driver PCB	FM2-4553		



Chapter 5 Error Code

Contents

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5.1.1 Error Code	5-1

5.1 Overview

5.1.1 Error Code

0009-2167

There is no error code that is unique to the paper deck, and all its error codes comply with those of its host machine.

Feb 21 2005

Canon