



**PF-647**

**SERVICE  
MANUAL**

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## **CAUTION**

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

## **CAUTION**

Double-pole/neutral fusing.



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# Safety precautions

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This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

## Safety warnings and precautions

Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:

 **DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

 **WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

 **CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

### Symbols

The triangle () symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.



General warning.



Warning of risk of electric shock.



Warning of high temperature.

 indicates a prohibited action. The specific prohibition is shown inside the symbol.



General prohibited action.



Disassembly prohibited.

 indicates that action is required. The specific action required is shown inside the symbol.



General action required.



Remove the power plug from the wall outlet.



Always ground the copier.

# 1. Installation Precautions

## WARNING

- Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current. .... 
- Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities. .... 

## CAUTION:

- Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury. .... 
- Do not install the copier in a humid or dusty place. This may cause fire or electric shock. .... 
- Do not install the copier near a radiator, heater, other heat source or near flammable material.  
  
This may cause fire. .... 
- Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance. .... 
- Always handle the machine by the correct locations when moving it. .... 
- Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury. .... 
- Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention. .... 
- Advise customers that they must always follow the safety warnings and precautions in the copier's instruction handbook. .... 

## 2.Precautions for Maintenance

### WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly. .... 
- Always follow the procedures for maintenance described in the service manual and other related brochures. .... 
- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits. .... 
- Always use parts having the correct specifications. .... 
- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident. .... 
- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully. .... 
- Always check that the copier is correctly connected to an outlet with a ground connection. .... 
- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock. .... 
- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight. .... 
- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. .... 

### CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections. .... 
- Use utmost caution when working on a powered machine. Keep away from chains and belts. .... 
- Handle the fixing section with care to avoid burns as it can be extremely hot. .... 
- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures. .... 

- Do not remove the ozone filter, if any, from the copier except for routine replacement. ....
- Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself. ....
- Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item. ....



- Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks. ...



- Remove toner completely from electronic components. ....



- Run wire harnesses carefully so that wires will not be trapped or damaged. ....
- After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. ....
- Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary. ....



- Handle greases and solvents with care by following the instructions below: .....
  - Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
  - Ventilate the room well while using grease or solvents.
  - Allow applied solvents to evaporate completely before refitting the covers or turning the power switch on.
  - Always wash hands afterwards.



- Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc. ....



- Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately. ....



### 3. Miscellaneous

#### WARNING

- Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas. ....



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**1-1-1 Specifications**

Type .....	Desk type
Paper feed system.....	Friction retard system
Paper capacity.....	3000 sheets (500 sheets cassette + 1000 Sheets deck + 1500 Sheets deck) (80 g/m <sup>2</sup> , 110 μ thick)
Copy paper .....	Plain paper, recycled paper and colored paper (60 to 105 g/m <sup>2</sup> )
Paper sizes .....	A4 (210 x 297 mm) A3 (297 x 420 mm) B4 (257 x 364 mm) B5 (182 x 257 mm) A5 (148 x 210 mm) Letter (8 <sup>1</sup> / <sub>2</sub> " x 11") Legal (8 <sup>1</sup> / <sub>2</sub> " x 14") Non-standard size (148 to 297 mm x 210 to 420 mm)
Power source.....	Electrically connected to the machine
Dimensions .....	679 (W) x 641.6 (D) x 434.2 (H) mm 26 <sup>3</sup> / <sub>4</sub> " (W) x 25 <sup>1</sup> / <sub>4</sub> " (D) x 17 <sup>1</sup> / <sub>16</sub> " (H)
Weight.....	Approx. 49 kg/107.8 lbs

1-1-2 Parts names

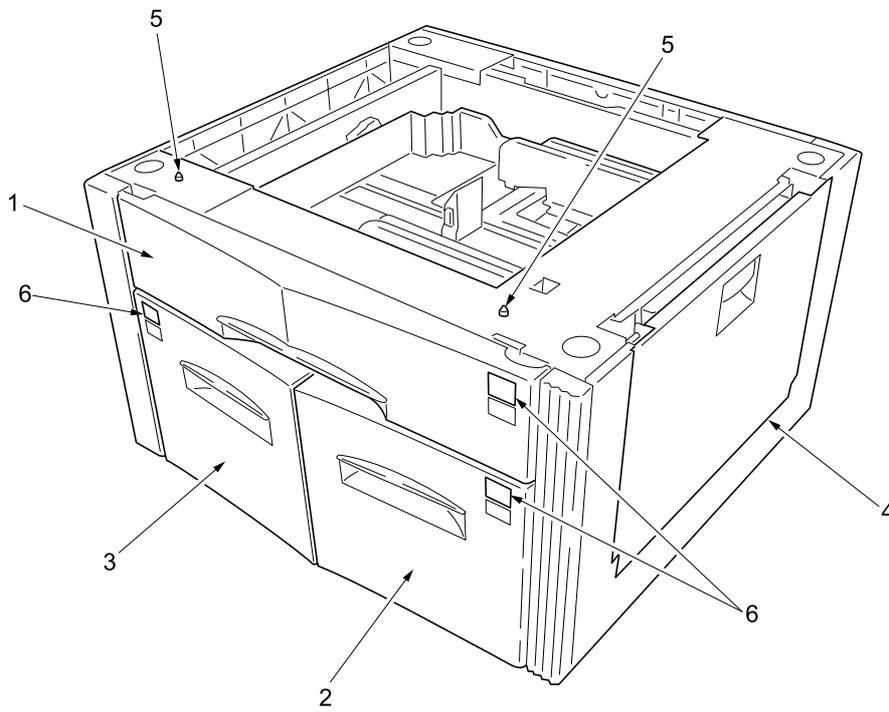


Figure 1-1-1

- 1. Paper cassette
- 2. Right deck
- 3. Left deck
- 4. Paper feeder right cover
- 5. Positioning pins
- 6. Paper size indications

## 1-1-3 Cross section view

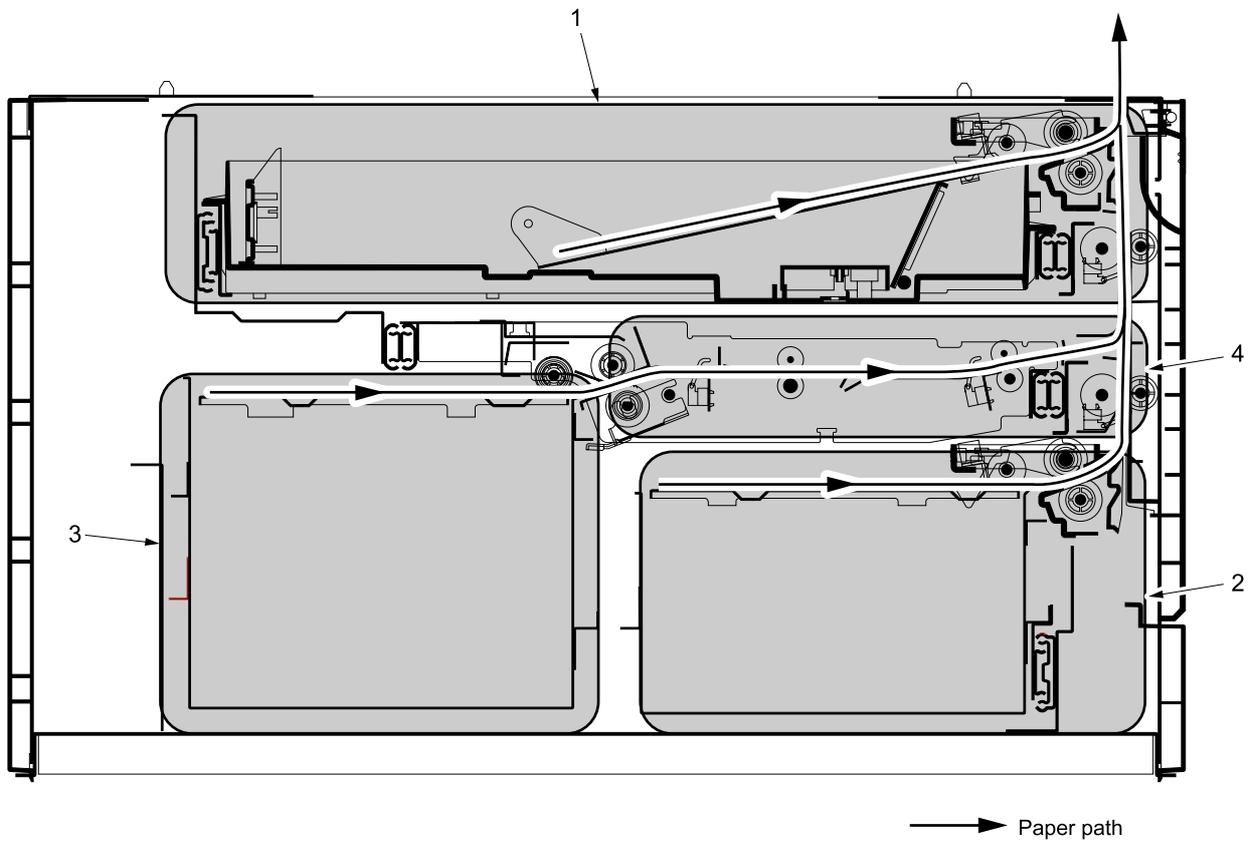


Figure 1-1-2

1. Paper cassette
2. Right deck
3. Left deck
4. Deck conveying unit

3CZ

## 1-1-4 Drive system

### (1) Drive system 1 (primary paper feed unit)

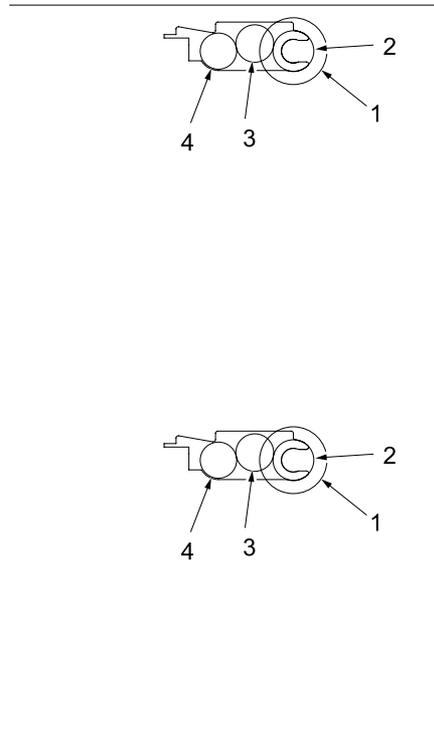


Figure 1-1-3 Drive system 1 (primary paper feed unit)

1. Feed gear Z33S
2. Paper feed gear
3. Retard gear 18
4. Retard gear 18

## (2) Drive system 2 (drive unit)

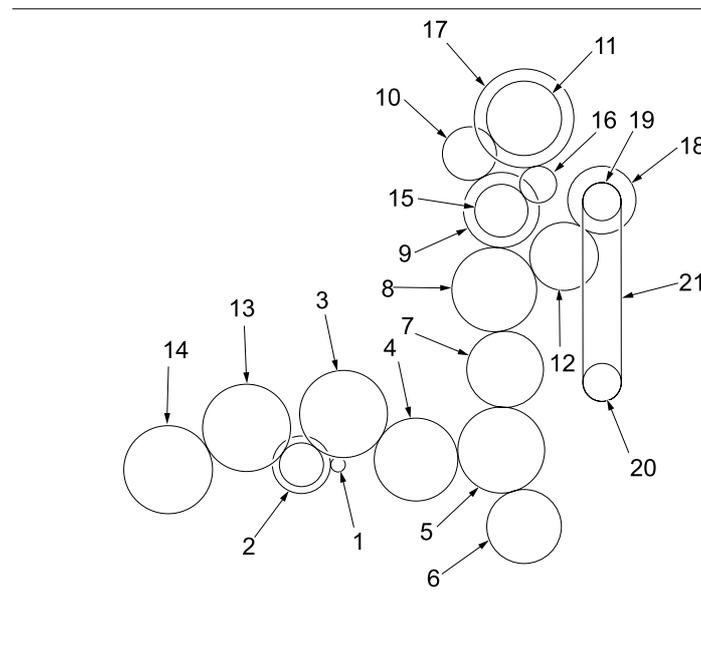


Figure 1-1-4 Drive system 2 (drive unit)

- |   |  |
|---|--|
| 1. Paper feeder main motor (gear)                             | 11. Paper feeder upper feed H clutch (gear)/<br>Feed gear Z33S |
| 2. Gear 20/53   | 12. Idle gear 30   |
| 3. Joint gear 41  | 13. Joint gear 41  |
| 4. Joint gear 41  | 14. Joint gear 41  |
| 5. Joint gear 41  | 15. Gear 23D   |
| 6. Right deck feed clutch (gear)/Feed gear<br>Z33S            | 16. Idle gear 19   |
| 7. Drive gear   | 17. Gear 40D   |
| 8. Joint gear 41  | 18. Paper feeder conveying H clutch (gear)                     |
| 9. Paper feeder upper feed L clutch (gear)/<br>Feed gear Z33S | 19. Pulley 20S3M   |
| 10. Feed gear 27  | 20. Pulley 20S3M   |
|   | 21. Belt 231   |

(3) Drive system 3 (deck conveying unit)

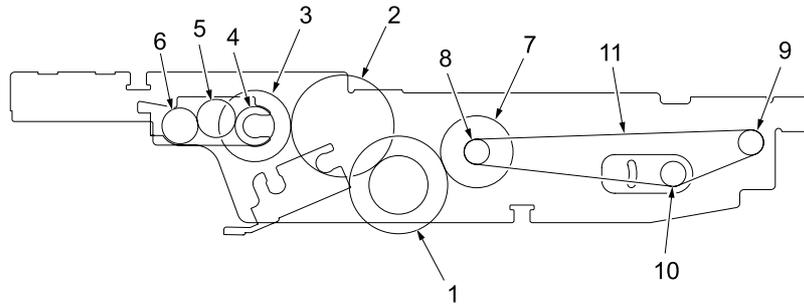


Figure 1-1-5 Drive system 3 (deck conveying unit)

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| 1. Deck gear 27/25              | 7. Left deck conveying clutch (gear) |
| 2. Gear 48                      | 8. Feed pulley 20                    |
| 3. Left deck feed clutch (gear) | 9. Feed pulley 20                    |
| 4. Upper paper feed gear        | 10. Feed pulley 20                   |
| 5. Retard gear 18               | 11. Deck conveying belt              |
| 6. Retard gear 18               |                                      |

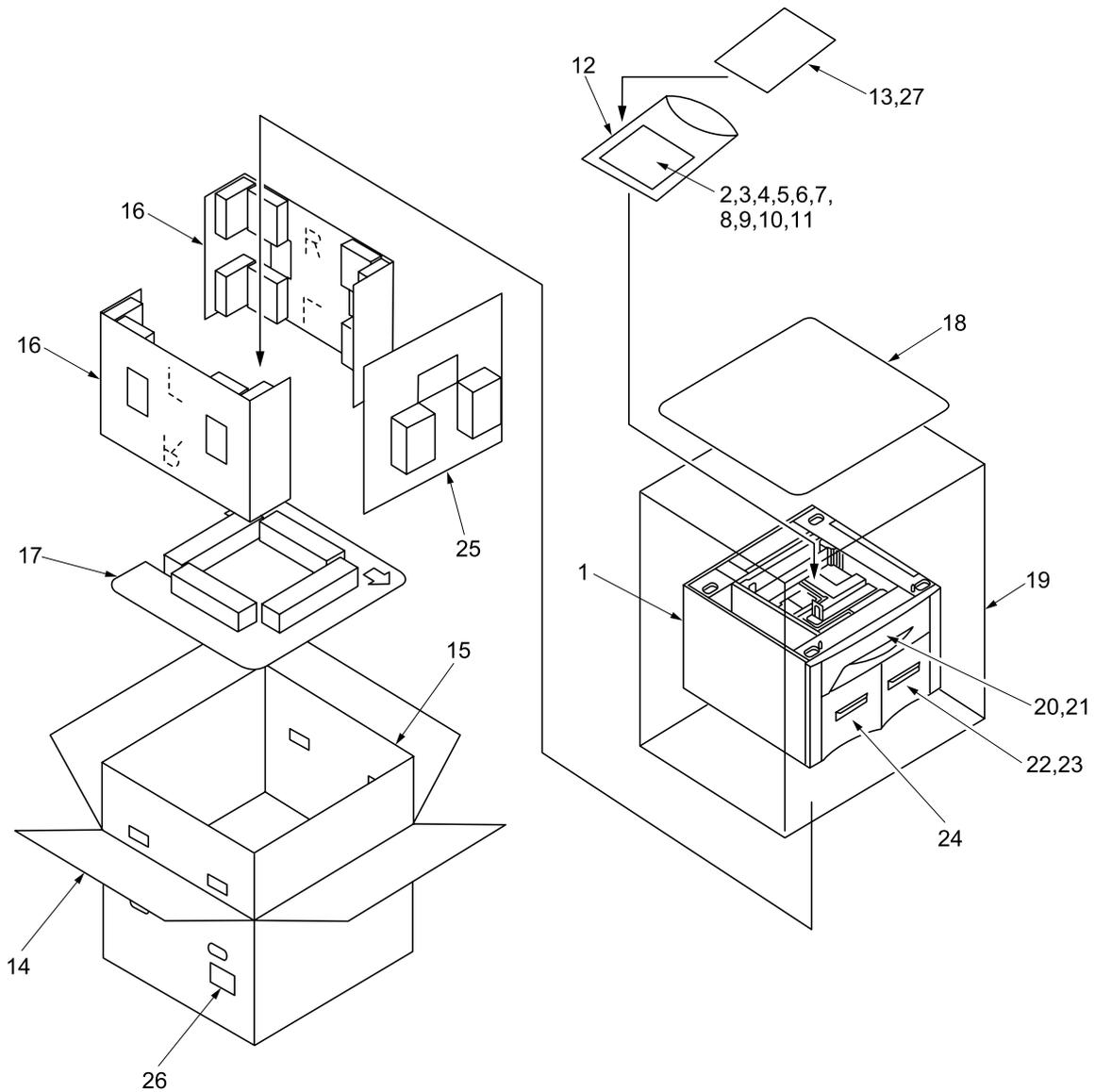
**1-2-1 Installation environment**

1. Temperature: 10 - 32.5 °C/50 - 90.5 °F
2. Humidity: 15 - 80%RH
3. Power supply: Electrically connected to the machine
4. Installation location
  - Avoid extremes of temperature and humidity, abrupt ambient temperature changes, and hot or cold air directed onto the machine.
  - Avoid dust and vibration.
  - Choose a surface capable of supporting the weight of the machine.
  - Place the machine on a level surface (maximum allowance inclination: 1°).
  - Avoid air-borne substances that may adversely affect the machine or degrade the photo-conductor, such as mercury, acidic or alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
  - Select a room with good ventilation.

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**1-3-1 Unpacking and installation**

**(1) Unpacking**



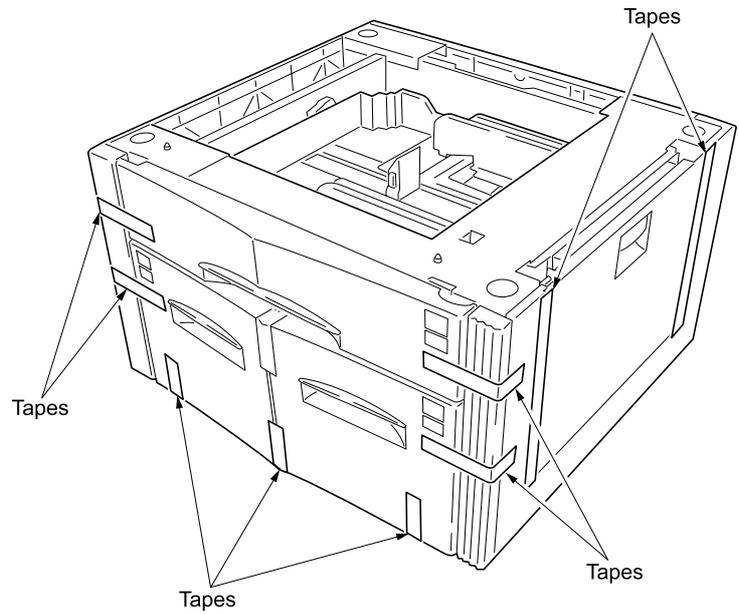
**Figure 1-3-1 Unpacking**

- |                               |                               |
|-------------------------------|-------------------------------|
| 1. Paper feeder               | 15. Inner case                |
| 2. Lift plate films           | 16. Side pads                 |
| 3. Size plates                | 17. Bottom pad                |
| 4. Label 2                    | 18. Upper pad                 |
| 5. Label 3                    | 19. Machine cover             |
| 6. Label 4                    | 20. Cassette spacer           |
| 7. Label 5                    | 21. Fixed tape spacer         |
| 8. Display instruction plates | 22. Cassette 1000 spacer      |
| 9. Screws (M3 x 10)           | 23. Rear cassette 1000 spacer |
| 10. Plastic bag               | 24. Rear cassette 1500 spacer |
| 11. Installation guide        | 25. Front pad                 |
| 12. Plastic bag               | 26. Bar code labels           |
| 13. Leaflet for notes         | 27. Leaflet for cassette note |
| 14. Outer case                |                               |

**(2) Remove the tapes and spacers**

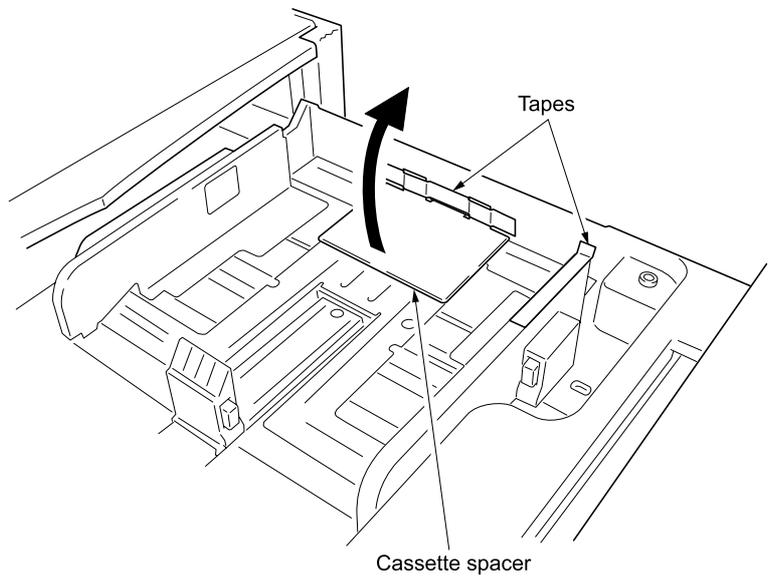
**<Procedure>**

1. Remove the nine tapes from the paper feeder.



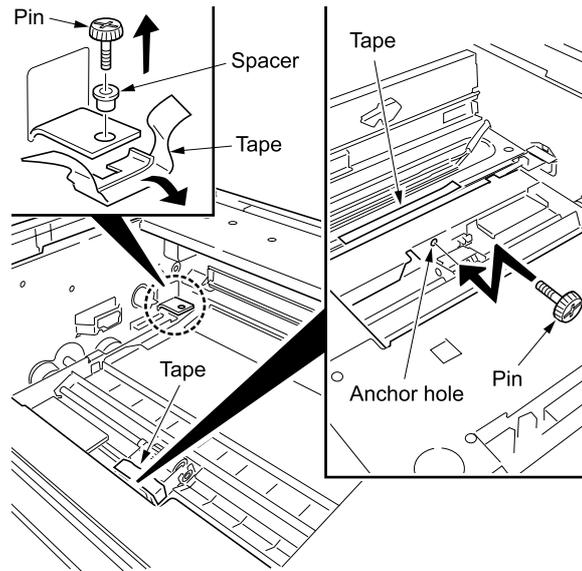
**Figure 1-3-2**

2. Pull out the paper cassette and remove the two tapes and the cassette spacer.



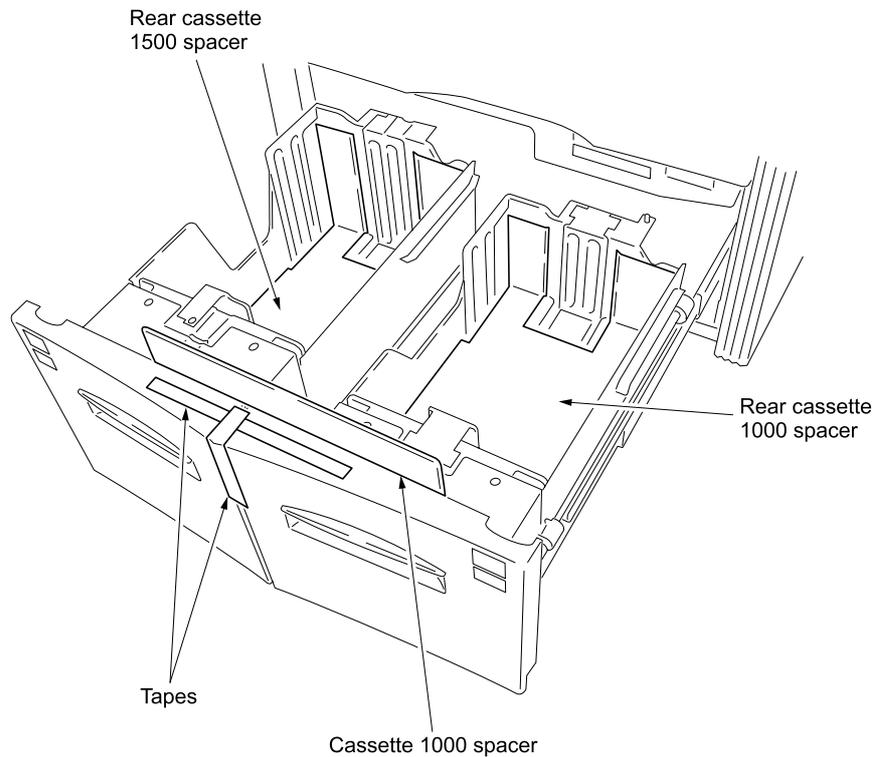
**Figure 1-3-3**

3. Remove the one tape and the pin from rear frame of the paper feeder.
4. Remove the spacer from the pin and discard the spacer.
5. Remove the two tapes from the deck conveying unit.
6. Install the pin in the anchor hole.



**Figure 1-3-4**

7. Pull out the right and left deck.
8. Remove the two tapes, cassette 1000 spacer, rear cassette 1000 spacer and rear cassette 1500 spacer.



**Figure 1-3-5**

### 1-3-2 Installing the dehumidifier heater

Dehumidifier heater installation requires the following parts:

- Set, dehumidifier heater 120 (P/N 3CY68020) for 120 V specifications
- Set, dehumidifier heater 240 (P/N 3CY68030) for 220-240 V specifications

#### <Procedure>

1. Pull out each of the paper cassettes.
2. Remove the rear cover.
3. Pass each dehumidifier heater cable into the hole (rear plate).
4. Hang the two dehumidifier heaters on their respective hooks and then secure them with a screw for each.
5. Attach a snap-on band to each dehumidifier heater cable and insert it into the hole.
6. Stick the three caution labels.

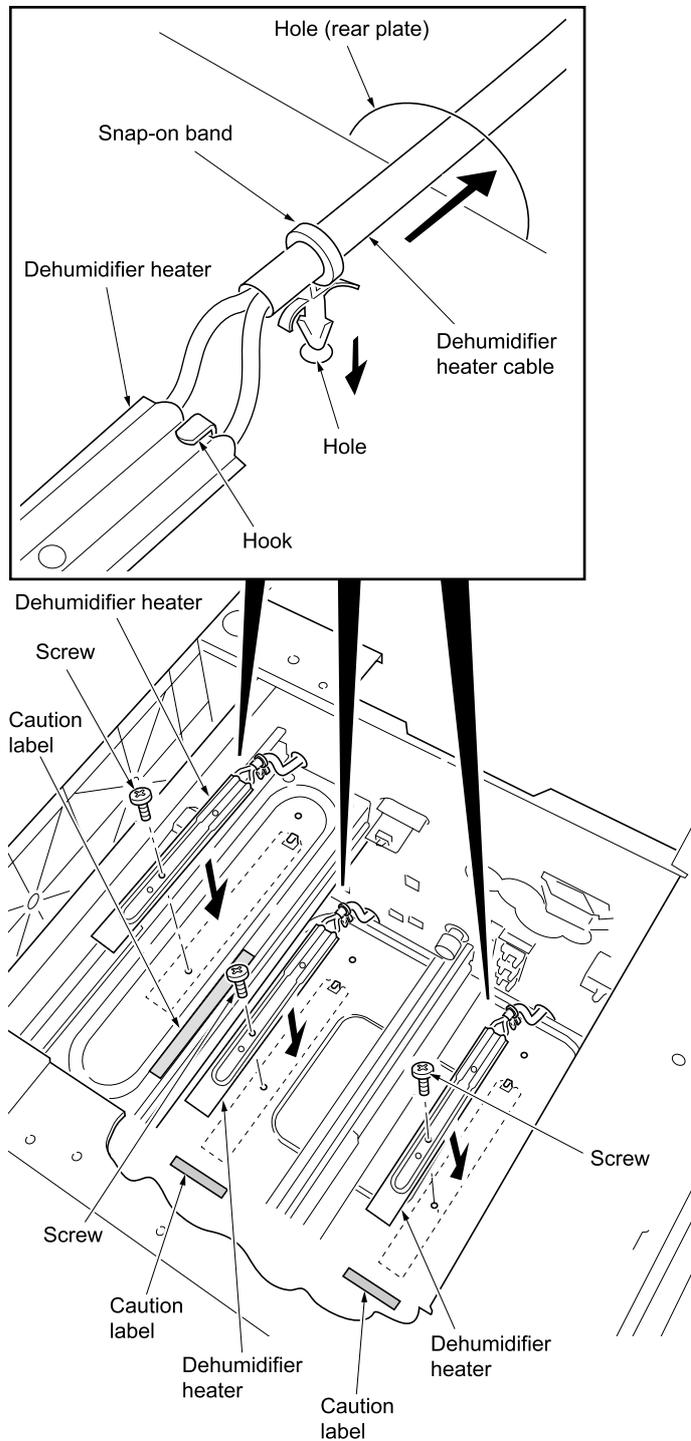
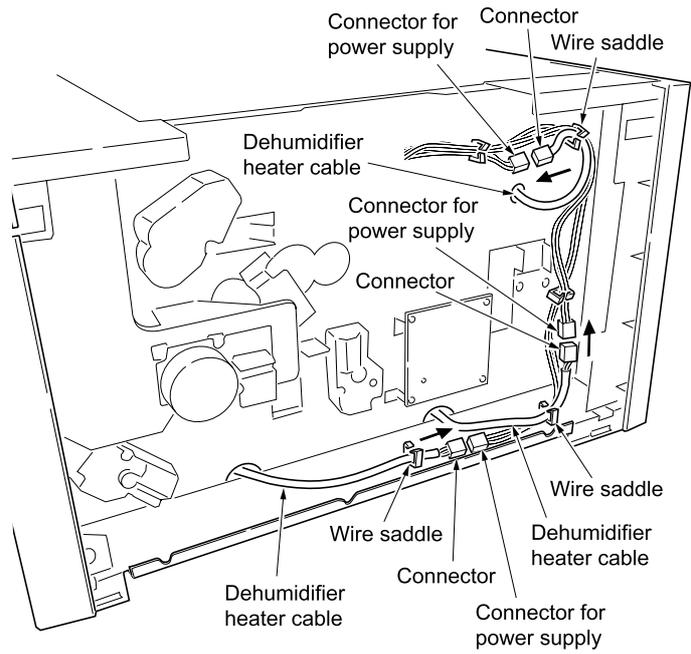


Figure 1-3-6

- 7 Pass each of the dehumidifier heater cables through the wire saddles.
8. Connect each of the connectors of dehumidifier heater cable to the connectors for power supply.
- 9 Refit all the removed parts.



**Figure 1-3-7**

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## 1-4-1 Paper misfeed detection

### (1) Paper misfeed indication

When a paper jam occurs, the machine stops immediately and paper jam display appears on the operation panel of the machine.

The paper jam can be reset by opening and closing the paper feeder right cover (turning off and on the paper feeder right cover open/close switch).

### (2) Paper misfeed detection conditions

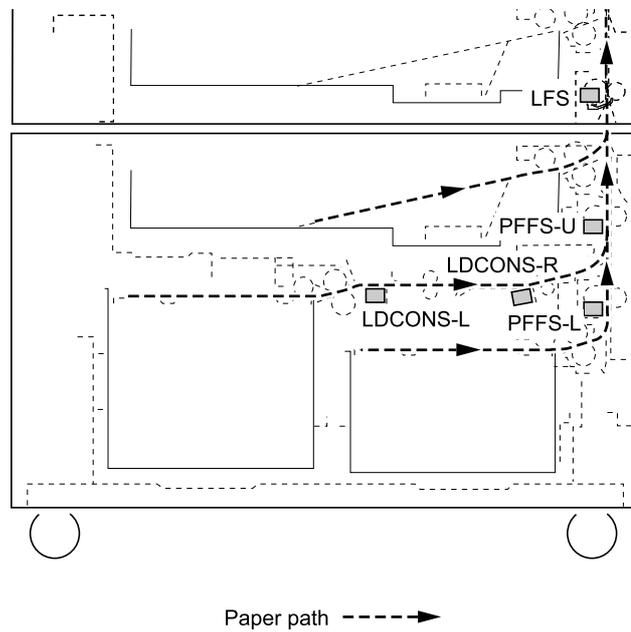


Figure 1-4-1

Section	Jam code	Description	Conditions
Paper feed section	11	No paper feed from cassette 2	Lower feed sensor (LFS) does not turn on within 3358 ms of the paper feeder upper feed H clutch (PFFHCL-U) turning on (when paper is fed from paper cassette).
	15	No paper feed from right deck	Paper feeder lower feed sensor (PFFS-L) does not turn on within 3376 ms of the right deck feed clutch (RDFCL) turning on (when paper is fed from right deck).
	16	No paper feed from left deck	Left deck left conveying sensor (LDCONS-L) does not turn on within 3316 ms of the left deck feed clutch (LDFCL) turning on (when paper is fed from left deck).
	18	Misfeed in deck paper conveying section 1	Left deck right conveying sensor (LDCONS-R) does not turn off within 1134 ms of the left deck left conveying sensor (LDCONS-L) turning on. Left deck right conveying sensor (LDCONS-R) does not turn on within 1134 ms of the left deck left conveying sensor (LDCONS-L) turning on. Left deck right conveying sensor (LDCONS-R) does not turn off within 1050 ms of the left deck left conveying sensor (LDCONS-L) turning off.
	19	Misfeed in deck paper conveying section 2	Paper feeder upper feed sensor (PFFS-U) does not turn on within 808 ms of the left deck right conveying sensor (LDCONS-R) turning off (when paper is fed from left deck). Paper feeder upper feed sensor (PFFS-U) does not turn on within 808 ms of the left deck right conveying sensor (LDCONS-R) turning on (when paper is fed from left deck). Paper feeder upper feed sensor (PFFS-U) does not turn on within 808 ms of the left deck conveying clutch (LDCONCL) turning off (when paper is fed from left deck). Paper feeder upper feed sensor (PFFS-U) does not turn off within 770 ms of the paper feeder lower feed sensor (PFFS-L) turning on (when paper is fed from right deck). Paper feeder upper feed sensor (PFFS-U) does not turn on within 770 ms of the paper feeder lower feed sensor (PFFS-L) turning on (when paper is fed from right deck). Paper feeder upper feed sensor (PFFS-U) does not turn off within 666 ms of the paper feeder lower feed sensor (PFFS-L) turning off (when paper is fed from right deck).
	26	Multiple sheets in cassette 2 paper feed section	Lower feed sensor (LFS) does not turn off within 862 ms of the paper feeder upper feed H clutch (PFFHCL-U) turning on. Lower feed sensor (LFS) does not turn off within 1033 ms of the paper feeder upper feed sensor (PFFS-U) turning on. Lower feed sensor (LFS) does not turn off within a specified time of the paper feeder upper feed H clutch (PFFHCL-U) and paper feeder upper feed L clutch (PFFLCL-U) turning off.
	30	Multiple sheets in right deck paper feed section	Paper feeder lower feed sensor (PFFS-L) does not turn off within 770 ms of the right deck feed clutch (RDFCL) turning on. Paper feeder lower feed sensor (PFFS-L) does not turn off within a specified time of the right deck feed clutch (RDFCL) turning off.
	31	Multiple sheets in left deck paper feed section	Left deck left conveying sensor (LDCONS-L) does not turn off within 741 ms of the left deck feed clutch (LDFCL) turning on. Left deck left conveying sensor (LDCONS-L) does not turn off within a specified time of the left deck feed clutch (LDFCL) turning off.

**(3) Paper misfeeds**

<b>Problem</b>	<b>Causes/check procedures</b>	<b>Corrective measures</b>
(1) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 2). Jam code 11	Paper in the paper cassette is extremely curled.	Change the paper.
	Check if the lower paper feed pulley, forwarding roller or paper feed roller of the paper cassette are deformed.	Check visually and replace any deformed pulleys.
	Broken lower feed sensor actuator.	Check visually and replace the lower feed sensor if its actuator is broken.
	Defective lower feed sensor.	Run maintenance mode U031, check the operation of the lower feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Check if the paper feeder upper feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder upper feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feeder upper feed H clutch.	Check (see page 1-4-8).
	Check if the paper feeder feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
(2) A paper jam in the paper feed section is indicated during copying (no paper feed from right deck). Jam code 15	Electrical problem with the paper feeder feed H clutch.	Check.
	Paper in the right deck is extremely curled.	Change the paper.
	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance mode U031, check the operation of the paper feeder lower feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Check if the right deck feed clutch malfunctions.	Run maintenance item U032 and select the right deck feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
(3) A paper jam in the paper feed section is indicated during copying (no paper feed from right deck). Jam code 16	Electrical problem with the right deck feed clutch.	Check (see page 1-4-9).
	Paper in the left deck is extremely curled.	Change the paper.
	Broken left deck left feed sensor actuator.	Check visually and replace the left deck left feed sensor if its actuator is broken.
	Defective left deck left feed sensor.	Run maintenance mode U031, check the operation of the left deck left feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Check if the left deck feed clutch malfunctions.	Run maintenance item U032 and select the left deck feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the left deck feed clutch.	Check (see page 1-4-9).	

Problem	Causes/check procedures	Corrective measures
(4) A paper jam in the paper feed section is indicated during copying (iam 1 in deck paper conveying section). Jam code 18	Broken left deck left feed sensor actuator.	Check visually and replace the left deck left feed sensor if its actuator is broken.
	Defective left deck left feed sensor.	Run maintenance mode U031, check the operation of the left deck left feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Broken left deck right feed sensor actuator.	Check visually and replace the left deck right feed sensor if its actuator is broken.
	Defective left deck right feed sensor.	Run maintenance mode U031, check the operation of the left deck right feed sensor caused by turning it on and off manually, and replace it if any problem is found.
(5) A paper jam in the paper feed section is indicated during copying (iam 2 in deck paper conveying section). Jam code 19	Broken left deck right feed sensor actuator.	Check visually and replace the left deck right feed sensor if its actuator is broken.
	Defective left deck right feed sensor.	Run maintenance mode U031, check the operation of the left deck right feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance mode U031, check the operation of the paper feeder lower feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Broken paper feeder upper feed sensor actuator.	Check visually and replace the paper feeder upper feed sensor if its actuator is broken.
	Defective paper feeder upper feed sensor.	Run maintenance mode U031, check the operation of the paper feeder upper feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Check if the left deck conveying clutch malfunctions.	Run maintenance item U032 and select the left deck conveying clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the left deck conveying clutch.	Check (see page 1-4-9).	
(6) A paper jam in the paper feed section is indicated during copying (multiple sheets in cassette 2 paper feed section). Jam code 26	Broken lower feed sensor actuator.	Check visually and replace the lower feed sensor if its actuator is broken.
	Defective lower feed sensor.	Run maintenance mode U031, check the operation of the lower feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Broken paper feeder upper feed sensor actuator.	Check visually and replace the paper feeder upper feed sensor if its actuator is broken.
	Defective paper feeder upper feed sensor.	Run maintenance mode U031, check the operation of the paper feeder upper feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Check if the paper feeder upper feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder upper feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feeder upper feed H clutch.	Check (see page 1-4-8).

Problem	Causes/check procedures	Corrective measures
(6) A paper jam in the paper feed section is indicated during copying (multiple sheets in cassette 2 paper feed section). Jam code 26	Check if the paper feeder upper feed L clutch malfunctions.	Run maintenance item U032 and select the paper feeder upper feed L clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feeder upper feed L clutch.	Check (see page 1-4-8).
(7) A paper jam in the paper feed section is indicated during copying (multiple sheets in right deck paper feed section). Jam code 30	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance mode U031, check the operation of the paper feeder lower feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Check if the right deck feed clutch malfunctions.	Run maintenance item U032 and select the right deck feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the right deck feed clutch.	Check (see page 1-4-9).
(8) A paper jam in the paper feed section is indicated during copying (multiple sheets in left deck paper feed section). Jam code 31	Broken left deck left conveying sensor actuator.	Check visually and replace the left deck left conveying sensor if its actuator is broken.
	Defective left deck left conveying sensor.	Run maintenance mode U031, check the operation of the left deck left conveying sensor caused by turning it on and off manually, and replace it if any problem is found.
	Check if the left deck feed clutch malfunctions.	Run maintenance item U032 and select the left deck feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the left deck feed clutch.	Check (see page 1-4-9).

## **1-4-2 Self-diagnosis**

### **(1) Self-diagnostic function**

If a machine error is detected, the machine disables operation and character "C" and a four-digit number (1130 to 2600) that indicate the result of self-diagnosis are displayed on the operation panel of the machine. A message is also displayed requesting the user to call for service.

The detected status is cleared by opening and closing the paper feeder right cover (turning off and on the paper feeder right cover open/close switch) after taking measures against the cause of the trouble.

## (2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1130	<b>Paper feeder lift motor error (paper cassette of paper feeder)</b> <ul style="list-style-type: none"> <li>The paper feeder limit detection sensor is not turned on within 10,000 ms after the cassette is inserted and the sensor is not turned on within 500 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective paper feeder lift motor.	Replace the paper feeder lift motor.
		Defective engine controller PWB or paper feeder main PWB.	Replace the engine controller PWB or paper feeder main PWB.
C1140	<b>Right deck lift motor error (right deck of paper feeder)</b> <ul style="list-style-type: none"> <li>The right deck limit detection sensor is not turned on within 60,000 ms after the right deck is inserted and the sensor is not turned on within 1,000 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective right deck lift motor.	Replace the right deck lift motor.
		Defective engine controller PWB or paper feeder main PWB.	Replace the engine controller PWB or paper feeder main PWB.
C1150	<b>Left deck lift motor error (left deck of paper feeder)</b> <ul style="list-style-type: none"> <li>The left deck limit detection sensor is not turned on within 60,000 ms after the left deck is inserted and the sensor is not turned on within 1,000 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective left deck lift motor.	Replace the left deck lift motor.
		Defective engine controller PWB or paper feeder main PWB.	Replace the engine controller PWB or paper feeder main PWB.
C2600	<b>Paper feeder main motor error</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 2 s elapse, paper feed motor error communication data is transmitted continuously for 1 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC27 on the engine controller PWB. Repair or replace if necessary.
		Defective paper feeder main motor.	Replace the paper feeder main motor.
		Defective engine controller PWB or paper feeder main PWB.	Replace the engine controller PWB or paper feeder main PWB.

## 1-4-3 Electric problems

Problem	Causes	Check procedures/corrective measures
(1) The paper feeder main motor does not operate.	Poor contact in the paper feeder main motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken paper feeder main motor gear.	Check visually and replace the paper feeder main motor if necessary.
	Defective paper feeder main motor.	Run maintenance item U030 and check if the paper feeder main motor operates when YC3-5 on the paper feeder main PWB goes low. If not, replace the paper feeder main motor.
	Defective paper feeder main PWB.	Run maintenance item U030 and check if YC3-5 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(2) The paper feeder lift motor does not operate.	Poor contact in the paper feeder lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken paper feeder lift motor gear.	Check visually and replace the paper feeder lift motor if necessary.
(3) The right deck lift motor does not operate.	Poor contact in the right deck lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken right deck lift motor gear.	Check visually and replace the right deck lift motor if necessary.
(4) The left deck lift motor does not operate.	Poor contact in the left deck lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken left deck lift motor gear.	Check visually and replace the left deck lift motor if necessary.
(5) The paper feeder upper feed H clutch does not operate.	Broken paper feeder upper feed H clutch coil.	Check for continuity across the coil. If none, replace the paper feeder upper feed H clutch.
	Poor contact in the paper feeder upper feed H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-2 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(6) The paper feeder upper feed L clutch does not operate.	Broken paper feeder upper feed L clutch coil.	Check for continuity across the coil. If none, replace the paper feeder upper feed L clutch.
	Poor contact in the paper feeder upper feed L clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-4 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.

<b>Problem</b>	<b>Causes</b>	<b>Check procedures/corrective measures</b>
(7) The paper feeder conveying H clutch does not operate.	Broken paper feeder conveying H clutch coil.	Check for continuity across the coil. If none, replace the paper feeder conveying H clutch.
	Poor contact in the paper feeder conveying H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-8 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(8) The right deck feed clutch does not operate.	Broken right deck feed clutch coil.	Check for continuity across the coil. If none, replace the right deck feed clutch.
	Poor contact in the right deck feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-14 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(9) The left deck feed clutch does not operate.	Broken left deck feed clutch coil.	Check for continuity across the coil. If none, replace the left deck feed clutch.
	Poor contact in the left deck feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC11-8 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(10) The left deck conveying clutch does not operate.	Broken left deck conveying clutch coil.	Check for continuity across the coil. If none, replace the left deck conveying clutch.
	Poor contact in the left deck conveying clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC11-6 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(11) A paper jam in the paper feeder is indicated when the power switch is turned on.	A piece of paper torn from paper is caught around paper feeder upper/lower feed sensor or left deck right/left conveying sensor.	Check and remove if any.
	Defective paper feeder upper feed sensor.	Run maintenance mode U031, check the operation of the paper feeder upper feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Defective paper feeder lower feed sensor.	Run maintenance mode U031, check the operation of the paper feeder lower feed sensor caused by turning it on and off manually, and replace it if any problem is found.
	Defective left deck right conveying sensor.	Run maintenance mode U031, check the operation of the left deck right conveying sensor caused by turning it on and off manually, and replace it if any problem is found.
	Defective left deck left conveying sensor.	Run maintenance mode U031, check the operation of the left deck left conveying sensor caused by turning it on and off manually, and replace it if any problem is found.

<b>Problem</b>	<b>Causes</b>	<b>Check procedures/corrective measures</b>
(12) The message requesting cover to be closed is displayed when the paper feeder right cover is closed.	Poor contact in the connector terminals of paper feeder right cover open/close switch.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder right cover open/close switch.	Check for continuity across switch. If there is no continuity when the paper feeder right cover open/close switch is on, replace it.
(13) Others.	Wiring is broken, shorted or makes poor contact.	Check for continuity. If none, repair.
	Noise.	Locate the source of noise and remove.

## 1-4-4 Mechanical problems

Problem	Causes/check procedures	Corrective measures
(1) No primary paper feed.	Check if the surfaces of the following rollers or pulleys are dirty with paper powder: lower paper feed pulley, forwarding roller, paper feed roller, deck lower paper feed pulley, deck forwarding roller and deck paper feed roller.	Clean with isopropyl alcohol.
	Check if the lower paper feed pulley or deck lower paper feed pulley is deformed.	Check visually and replace any deformed pulley (see pages 1-5-6 and 1-5-10).
	Electrical problem with the following electromagnetic clutches: paper feeder upper feed H clutch, paper feeder upper feed L clutch, paper feeder conveying H clutch, right deck feed clutch, left deck feed clutch and left deck conveying clutch.	See pages 1-4-8 and 1-4-9.
(2) Skewed paper feed.	Width guide in a cassette installed incorrectly.	Check the width guide visually and correct or replace if necessary.
	Deformed width guide in a cassette.	Repair or replace if necessary.
(3) Multiple sheets of paper are fed at one time.	Check if the lower paper feed pulley or deck lower paper feed pulley is worn.	Replace the lower paper feed pulley or deck lower paper feed pulley if it is worn (see pages 1-5-6 and 1-5-10).
	Check if the paper is curled.	Change the paper.
(4) Paper jams.	Check if the paper is excessively curled.	Change the paper.
	Deformed guides along the paper conveying path.	Repair or replace if necessary.
(5) Abnormal noise is heard.	Check if the pulleys, rollers and gears operate smoothly.	Grease the bearings and gears.
	Check if the following electromagnetic clutches are installed correctly: paper feeder upper feed H clutch, paper feeder upper feed L clutch, paper feeder conveying H clutch, right deck feed clutch, left deck feed clutch and left deck conveying clutch.	Check visually and remedy if necessary.

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## 1-5-1 Precautions for assembly and disassembly

### (1) Precautions

Be sure to turn the power switch off and disconnect the power plug before starting disassembly.

When handling PWBs (printed wiring boards), do not touch parts with bare hands. The PWBs are susceptible to static charge.

Do not touch any PWB containing ICs with bare hands or any object prone to static charge.

Use the following circuit testers when measuring voltages:

- Hioki 3200
- Sanwa MD-180C
- Sanwa YX-360TR
- Beckman TECH300
- Beckman DM45
- Beckman 330 (Capable of measuring RMS values.)
- Beckman 3030 (Capable of measuring RMS values.)
- Beckman DM850 (Capable of measuring RMS values.)
- Fluke 8060A (Capable of measuring RMS values.)
- Arlec DMM1050
- Arlec YF1030C

## 1-5-2 Primary paper feed unit

### (1) Detaching and refitting the primary paper feed unit

<Procedure>

1. Pull out the paper cassette and right deck.
2. Open the paper feeder right cover.
3. Remove the band.
4. Remove the paper feeder right cover.

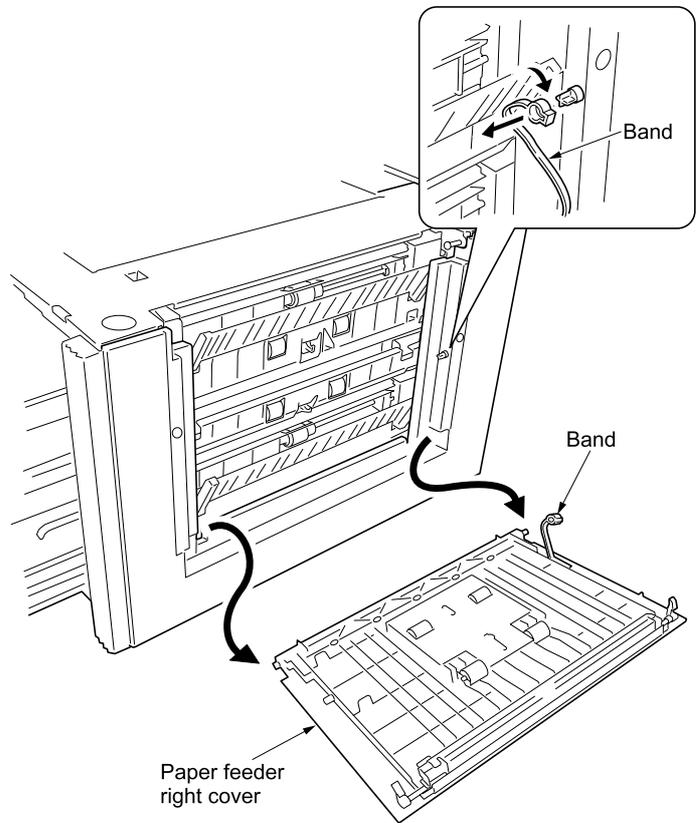


Figure 1-5-1

5. Remove the three screws and then the paper feeder lower right cover.
- \* When refitting the paper feeder lower right cover, lift the lower guide plate.

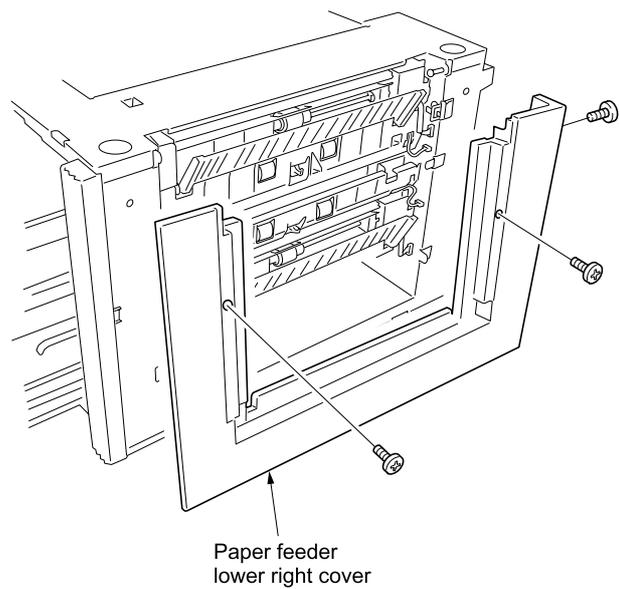
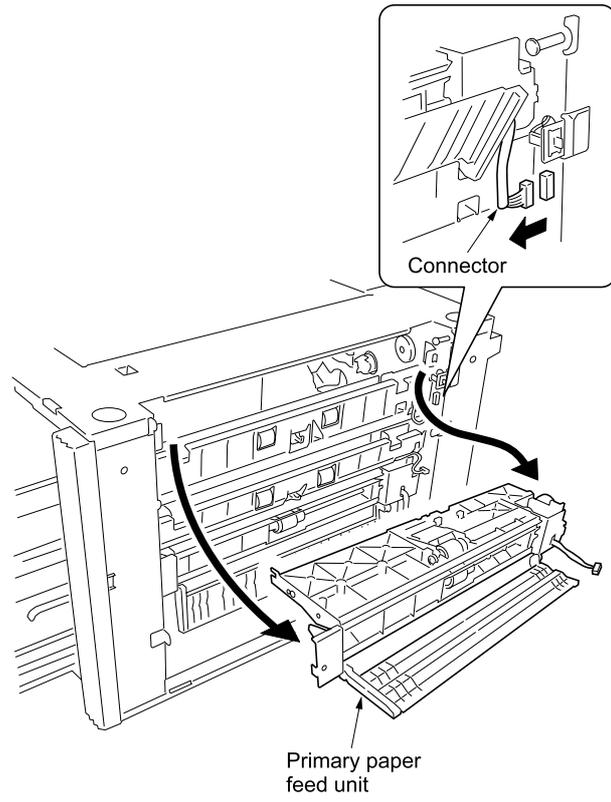


Figure 1-5-2

- 6. Remove the one connector.
- 7. Remove the primary paper feed unit.
- \* To remove the lower primary paper feed unit, perform similar procedure.

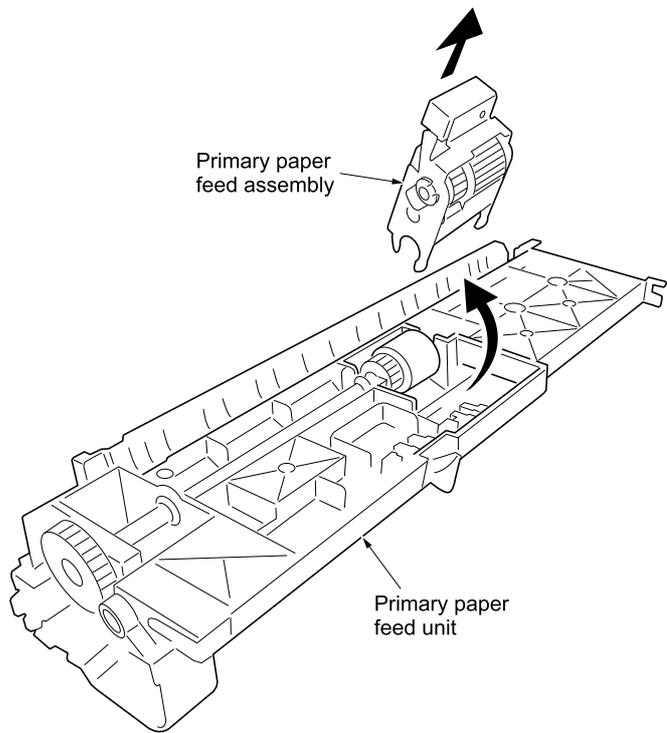


**Figure 1-5-3**

**(2) Detaching and refitting the forwarding roller and paper feed roller**

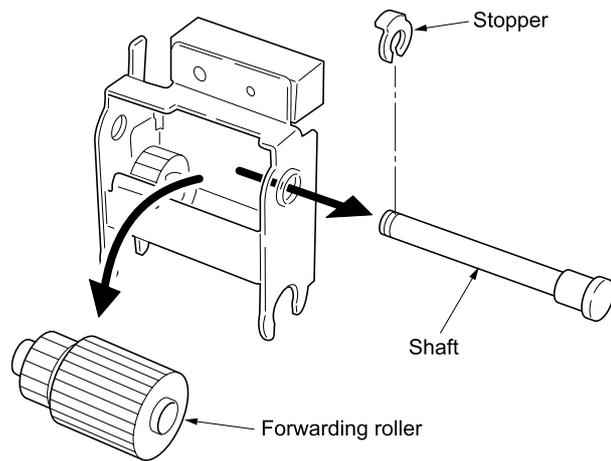
<Procedure>

1. Remove the primary paper feed unit (see page 1-5-2).
2. Pull up the primary paper feed assembly and remove the assembly from the bearing.



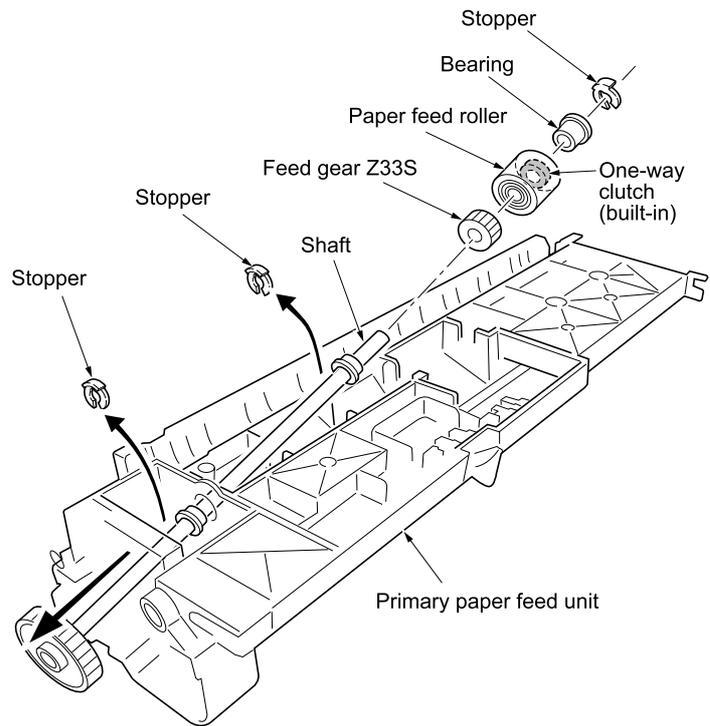
**Figure 1-5-4**

3. Remove one stopper and pull out the shaft, and then remove the forwarding roller.



**Figure 1-5-5**

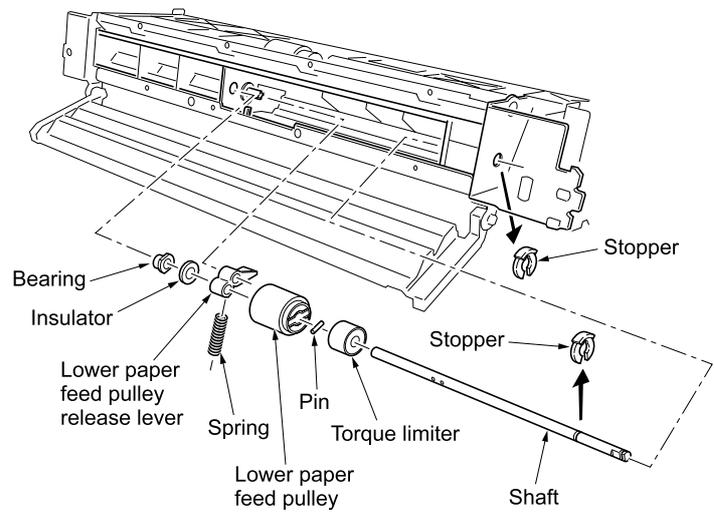
4. Remove three stoppers and slide the shaft, to remove the bearing and paper feed roller.
5. Check or replace the forwarding roller and paper feed roller, and refit all the removed parts.

**Figure 1-5-6**

**(3) Detaching and refitting the lower paper feed pulley**

## &lt;Procedure&gt;

1. Remove the paper feed roller (see page 1-5-4).
2. Remove two stoppers and slide the shaft to remove the bearing, insulator, lower paper feed pulley release lever, spring, lower paper feed pulley, pin and torque limiter.
3. Check or replace the lower paper feed pulley, and refit all the removed parts.

**Figure 1-5-7**

### 1-5-3 Deck conveying unit

#### (1) Detaching and refitting the deck forwarding roller and deck paper feed roller

<Procedure>

1. Pull out the right and left deck and pull out the deck conveying unit.
2. Remove the pin.

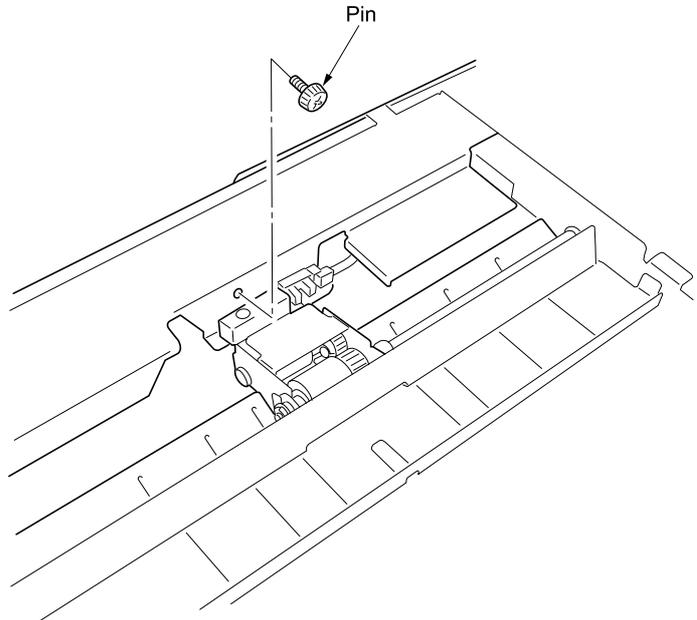


Figure 1-5-8

3. Pull up the primary paper feed assembly and remove the assembly from the bearing.

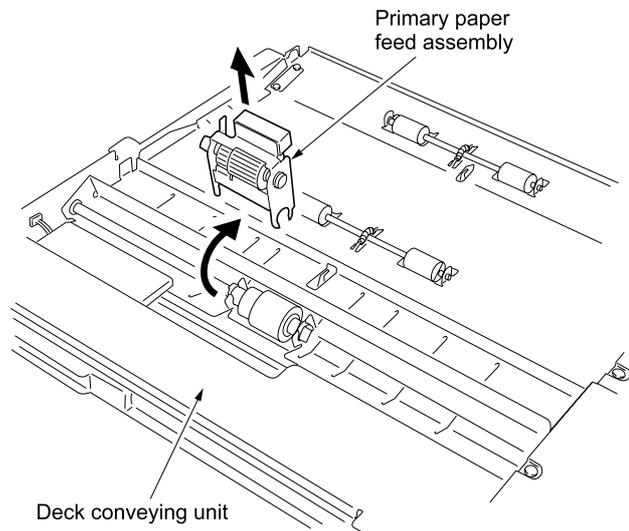
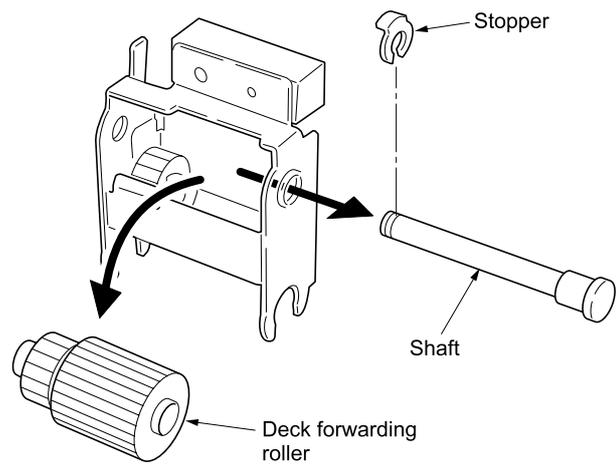


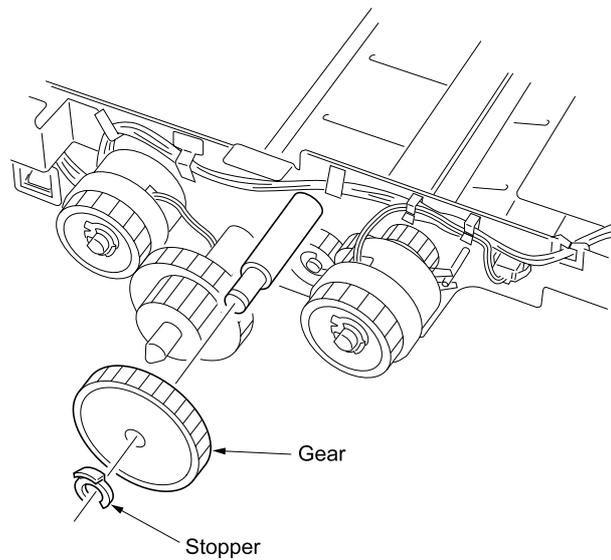
Figure 1-5-9

4. Remove one stopper and pull out the shaft, and then remove the deck forwarding roller.



**Figure 1-5-10**

5. Remove one stopper and the gear from rear side of the deck conveying unit.



**Figure 1-5-11**

6. Remove two stoppers and slide the shaft, to remove the bearing and deck paper feed roller.
7. Check or replace the deck forwarding roller and deck paper feed roller, and refit all the removed parts.

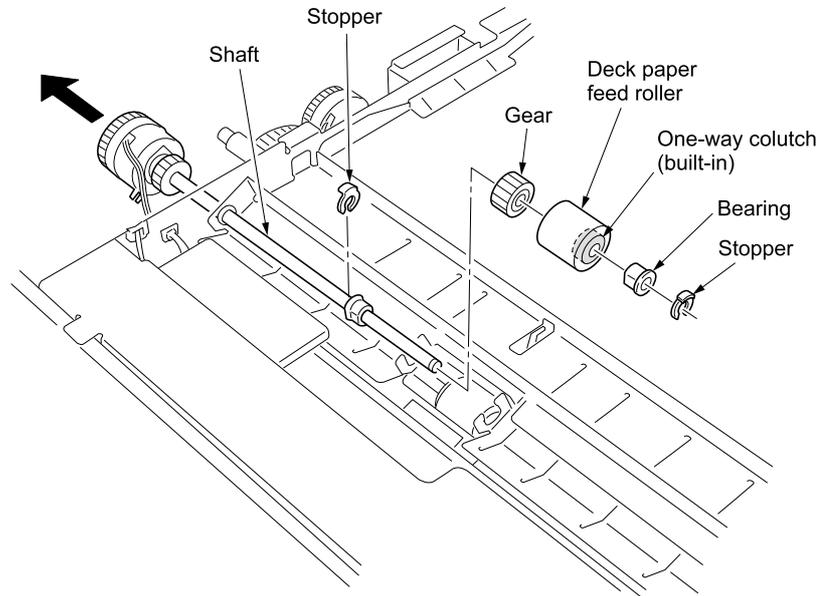
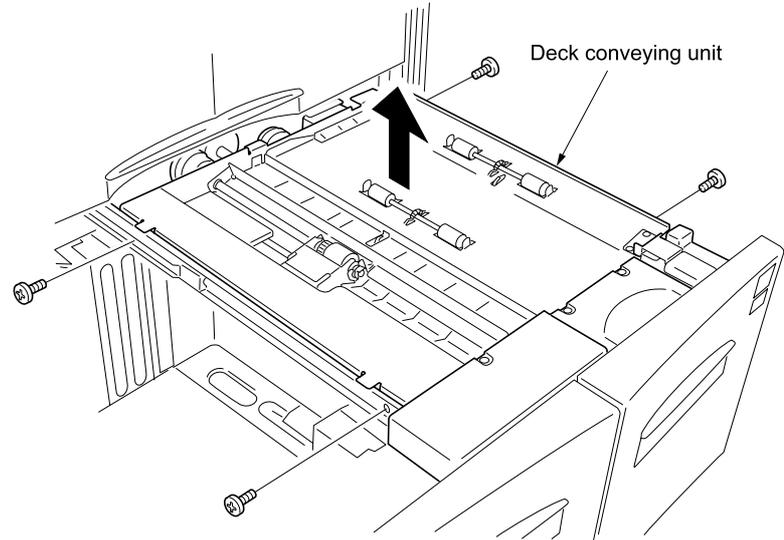


Figure 1-5-12

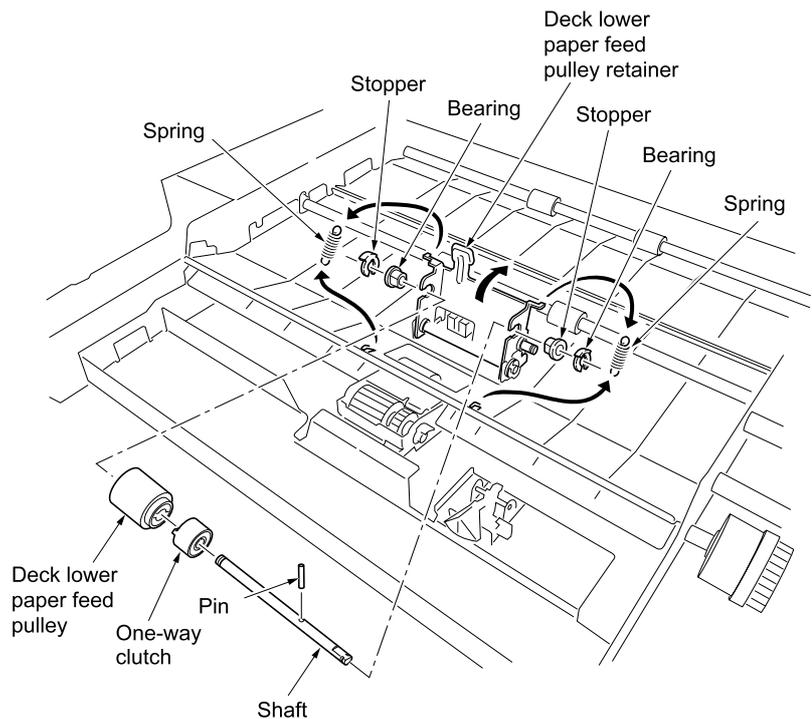
**(2) Detaching and refitting the deck lower paper feed pulley**

&lt;Procedure&gt;

1. Pull out the right and left deck and pull out the deck conveying unit.
2. Remove the four screws and then the deck conveying unit.

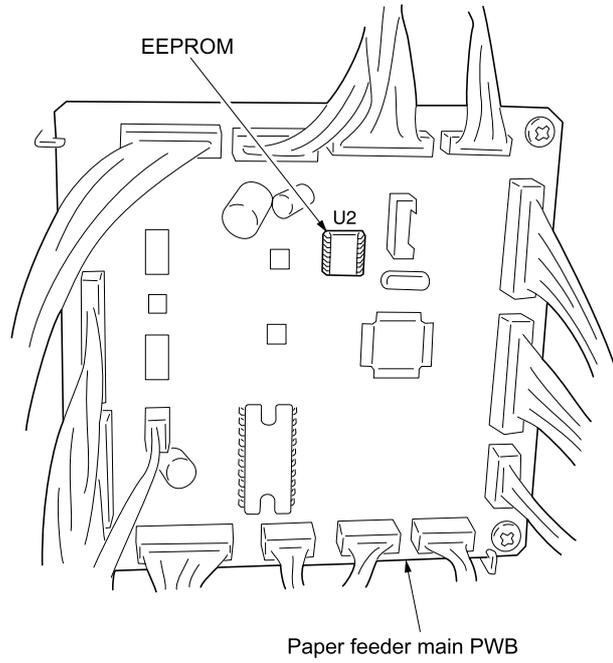
**Figure 1-5-13**

3. Turn the deck conveying unit over.
4. Remove two springs and then pull up the deck lower paper feed pulley retainer.
5. Remove one stopper and two bearings and then deck lower paper feed pulley from the shaft.
6. Check or replace the deck lower paper feed pulley, and refit all the removed parts.

**Figure 1-5-14**

**1-6-1 Remarks on paper feeder main PWB replacement**

When replacing the paper feeder main PWB, remove the EEPROM from the paper feeder main PWB that has been removed and then reattach it to the new paper feeder main PWB.



**Figure 1-6-1**

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## 2-1-1 Mechanical construction

This paper feeder includes a paper cassette that holds 500 sheets of paper, a right deck that holds 1,000 sheets of paper, and a left deck that holds 1,500 sheets of paper. The paper feeder is installed at the lower part of a copier or a printer and has a mechanism that feeds paper from the paper cassette, right or left deck to the copier or the printer.

### (1) Paper feed from paper cassette

The paper cassette is fit underneath the primary paper feed unit. The paper stored in the paper cassette is lifted up so that it is contacted against the forwarding roller as the bottom plate in the paper cassette is raised by the lifter mechanism. The sheet at top is rewound to the forwarding roller and sent to the paper feed roller which forward the paper in the copier or printer. In order to prevent paper misfeed during feeding, the lower paper feed pulley which is positioned face-to-face with the paper feed roller acts to prevent feeding more than one sheet at a turn of the forwarding roller.

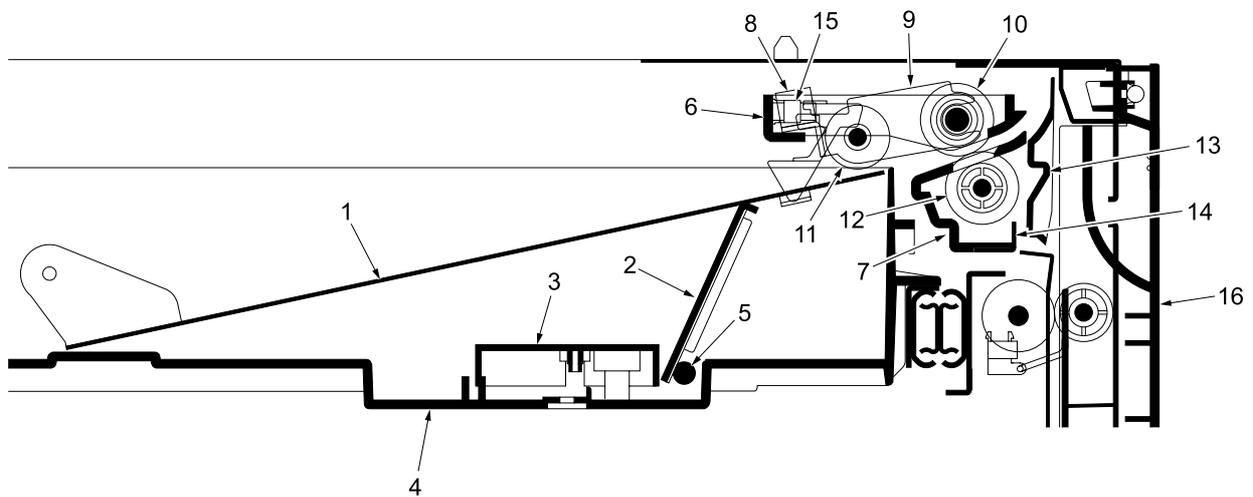


Figure 2-1-1 Paper feed from paper cassette

- |   |  |
|---|--|
| (1) Bottom plate                          | (9) Forwarding pulley support plate      |
| (2) Lift plate                            | (10) Paper feed roller                   |
| (3) Cursor rail A                         | (11) Forwarding roller                   |
| (4) Paper cassette                        | (12) Lower paper feed pulley             |
| (5) Cassette lift shaft                   | (13) Junction guide                      |
| (6) Upper primary paper feed unit housing | (14) Housing reinforcing plate           |
| (7) Lower primary paper feed unit housing | (15) Paper feeder limit detection sensor |
| (8) Forwarding pulley collar              | (16) Paper feeder right cover            |

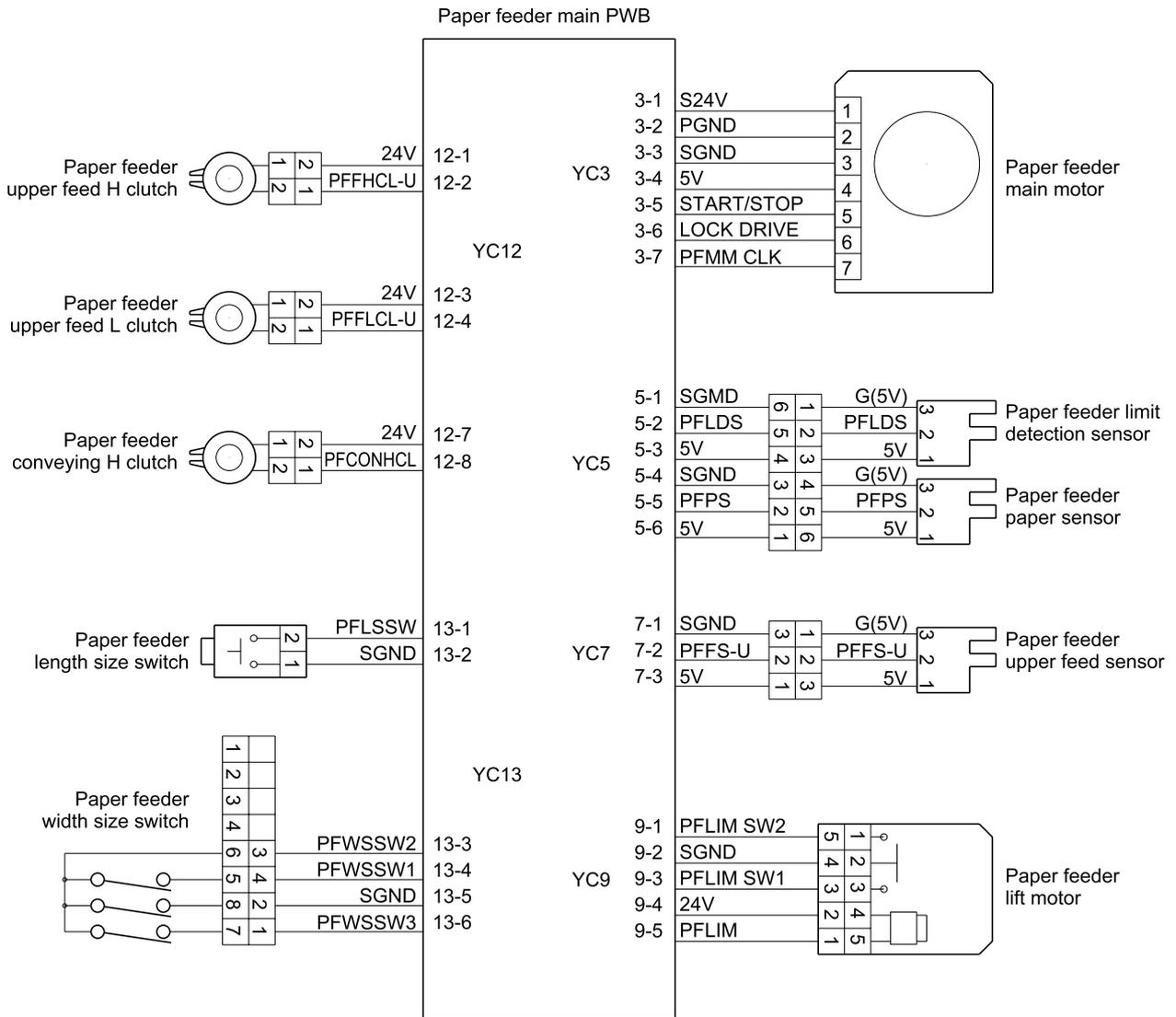


Figure 2-1-2 Paper feed from paper cassette block diagram

## (2) Paper feed from right or left deck

The right deck is fit underneath the primary paper feed unit. The paper stored in the right deck is lifted up so that it is contacted against the forwarding roller as the deck lift in the right deck is raised by the lifter mechanism. The sheet at top is rewound to the forwarding roller and sent to the paper feed roller which forward the paper in the vertical conveying section. In order to prevent paper misfeed during feeding, the lower paper feed pulley which is positioned face-to-face with the paper feed roller acts to prevent feeding more than one sheet at a turn of the forwarding roller.

The left deck is fit underneath the deck conveying unit. The paper stored in the left deck is lifted up so that it is contacted against the deck forwarding roller as the deck lift in the left deck is raised by the lifter mechanism. The sheet at top is rewound to the deck forwarding roller and sent to the deck paper feed roller which forward the paper in the deck conveying unit. Paper fed into the deck conveying unit is fed to the vertical conveying section with rotation of the deck conveying left roller and the deck conveying right roller. In order to prevent paper misfeed during feeding, the deck lower paper feed pulley which is positioned face-to-face with the deck paper feed roller acts to prevent feeding more than one sheet at a turn of the deck forwarding roller.

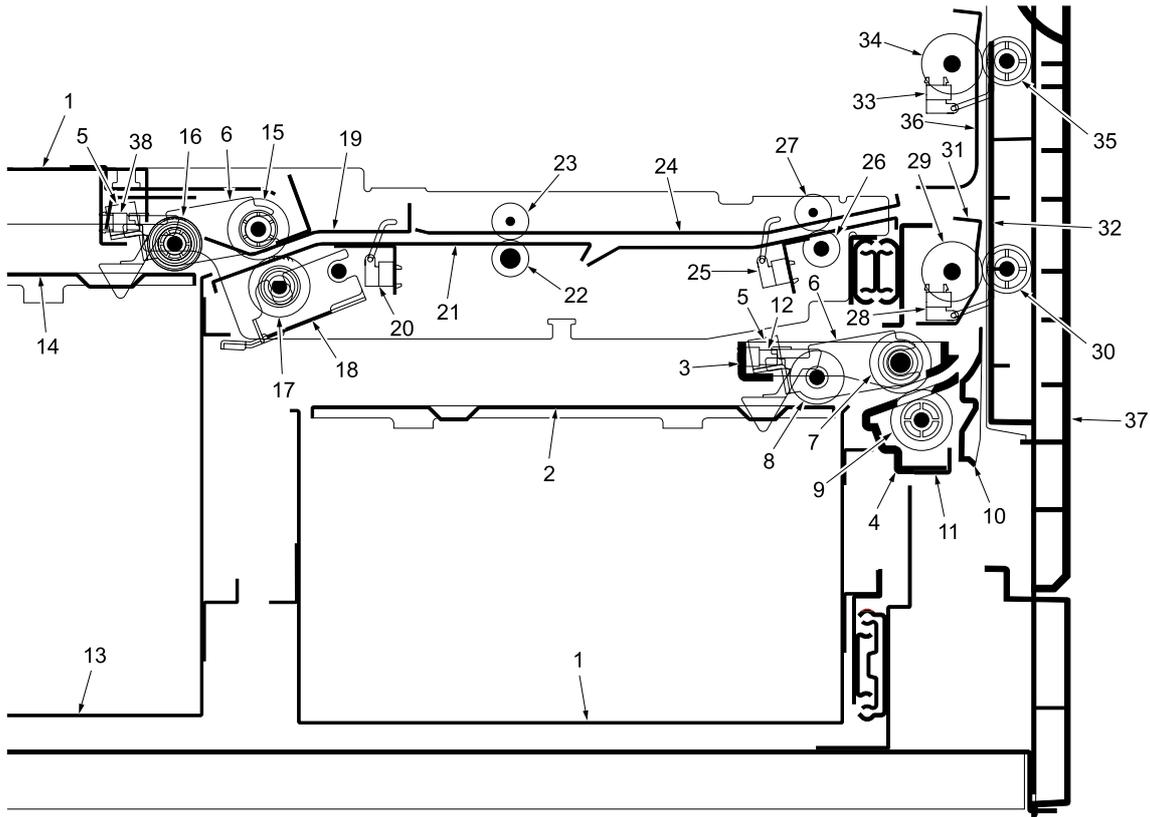


Figure 2-1-3 Paper feed from right or left deck

- |   |                                       |
|---|---------------------------------------|
| (1) Deck base A                           | (20) Left deck left conveying sensor  |
| (2) Deck lift                             | (21) Deck lower guide                 |
| (3) Upper primary paper feed unit housing | (22) Deck conveying left roller       |
| (4) Lower primary paper feed unit housing | (23) Deck conveying upper pulley      |
| (5) Forwarding pulley collar              | (24) Deck conveying upper guide       |
| (6) Forwarding pulley support plate       | (25) Left deck right conveying sensor |
| (7) Paper feed roller                     | (26) Deck conveying right roller      |
| (8) Forwarding roller                     | (27) Deck conveying upper pulley      |
| (9) Lower paper feed pulley               | (28) Paper feeder lower feed sensor   |
| (10) Junction guide                       | (29) Feed roller                      |
| (11) Housing reinforcing plate            | (30) Feed pulley                      |
| (12) Right deck limit detection sensor    | (31) Vertical conveying guide         |
| (13) Deck base B                          | (32) Conveying guide                  |
| (14) Deck lift                            | (33) Paper feeder upper feed sensor   |
| (15) Deck paper feed roller               | (34) Feed roller                      |
| (16) Deck forwarding roller               | (35) Feed pulley                      |
| (17) Deck lower paper feed pulley         | (36) Deck vertical conveying guide    |
| (18) Deck Retard pulley mount             | (37) paper feeder right cover         |
| (19) Deck upper paper feed guide          | (38) Left deck limit detection sensor |

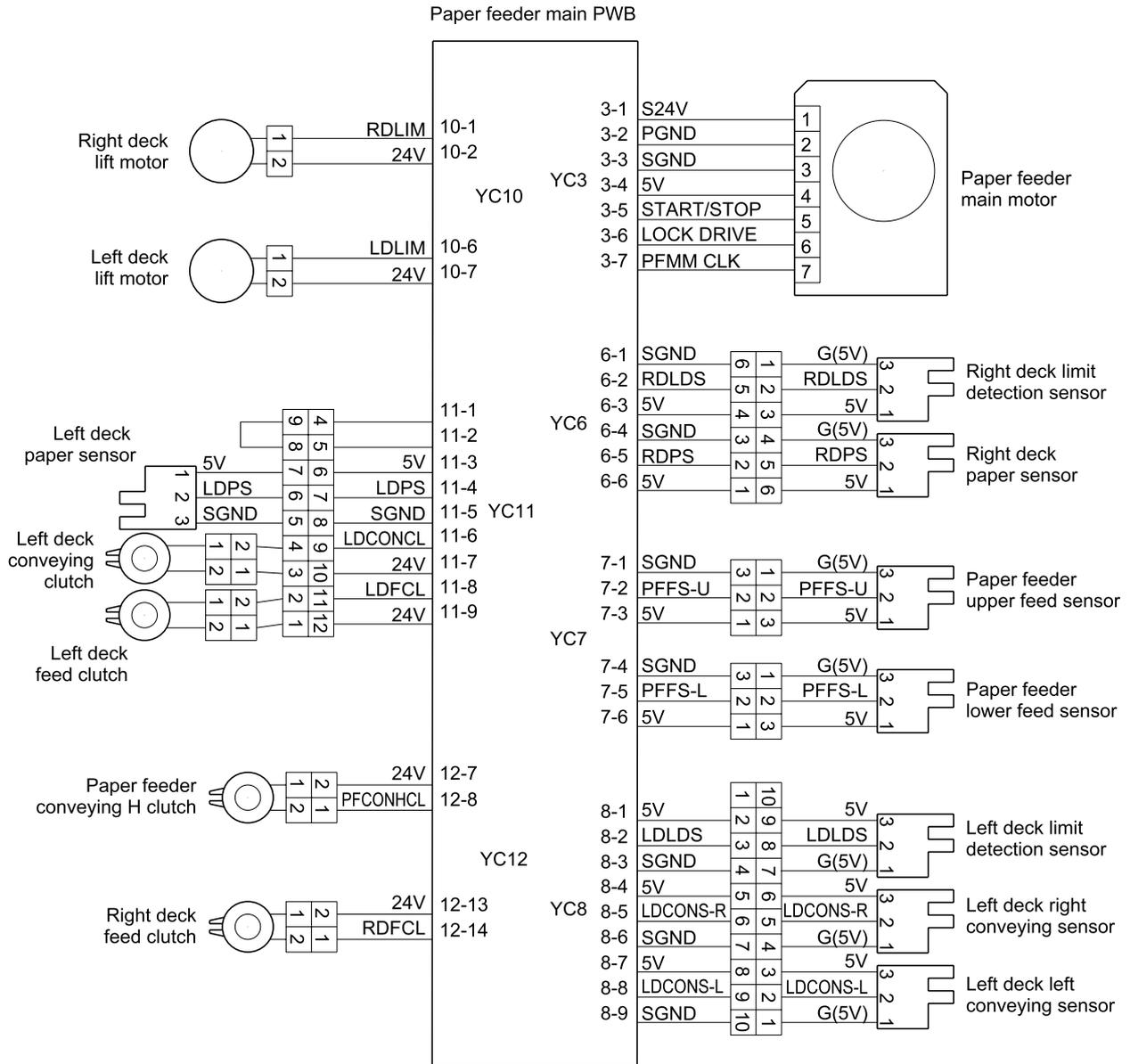


Figure 2-1-4 Paper feed from right or left deck block diagram

### (3) Raising and lowering the deck lift

The mechanism of paper lifting with the deck lift is same for right and left deck, so only right deck is explained here. The deck lift is suspended with wire at four points, and the right deck lift motor (RDLIM) drives the lift by winding up the wire. The stop control of the deck lift at the upper limit is performed with right deck limit detection sensor (RDLDS). When paper is loaded on the deck lift and the right deck is set in the paper feeder, the right deck lift motor (RDLIM) turns on to start winding up the wire. The deck lift rises until the leading edge of the paper turns right deck limit detection sensor (RDLDS) on and then stops. When right deck limit detection sensor (RDLDS) is turned off as the paper on the lift is used for copying, the deck lift is raised until the right deck lift motor (RDLIM) turns on again and the leading edge of the paper turns right deck limit detection sensor (RDLDS) on.

When the right deck is pulled out from the paper feeder for loading paper or other purposes, the lift drive shaft is released from the coupler of the right deck lift motor (RDLIM), allowing the lift to descend under its own weight. The damper mounted via a gear to the lift drive shaft buffers the impact of the descending lift.

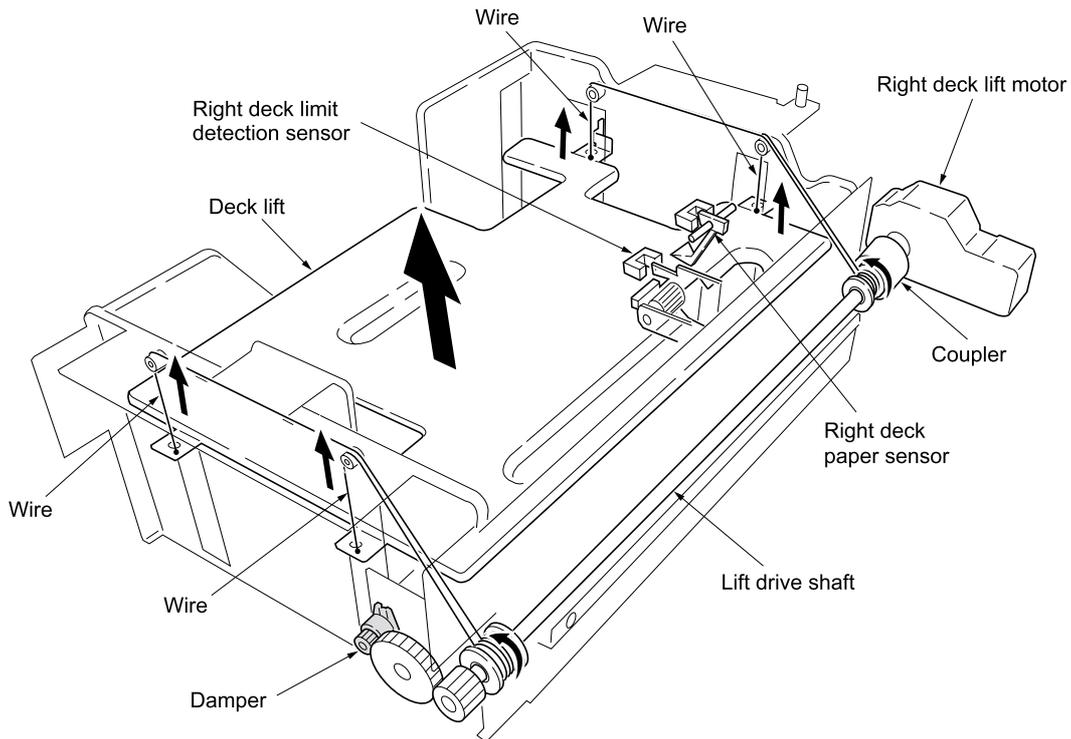
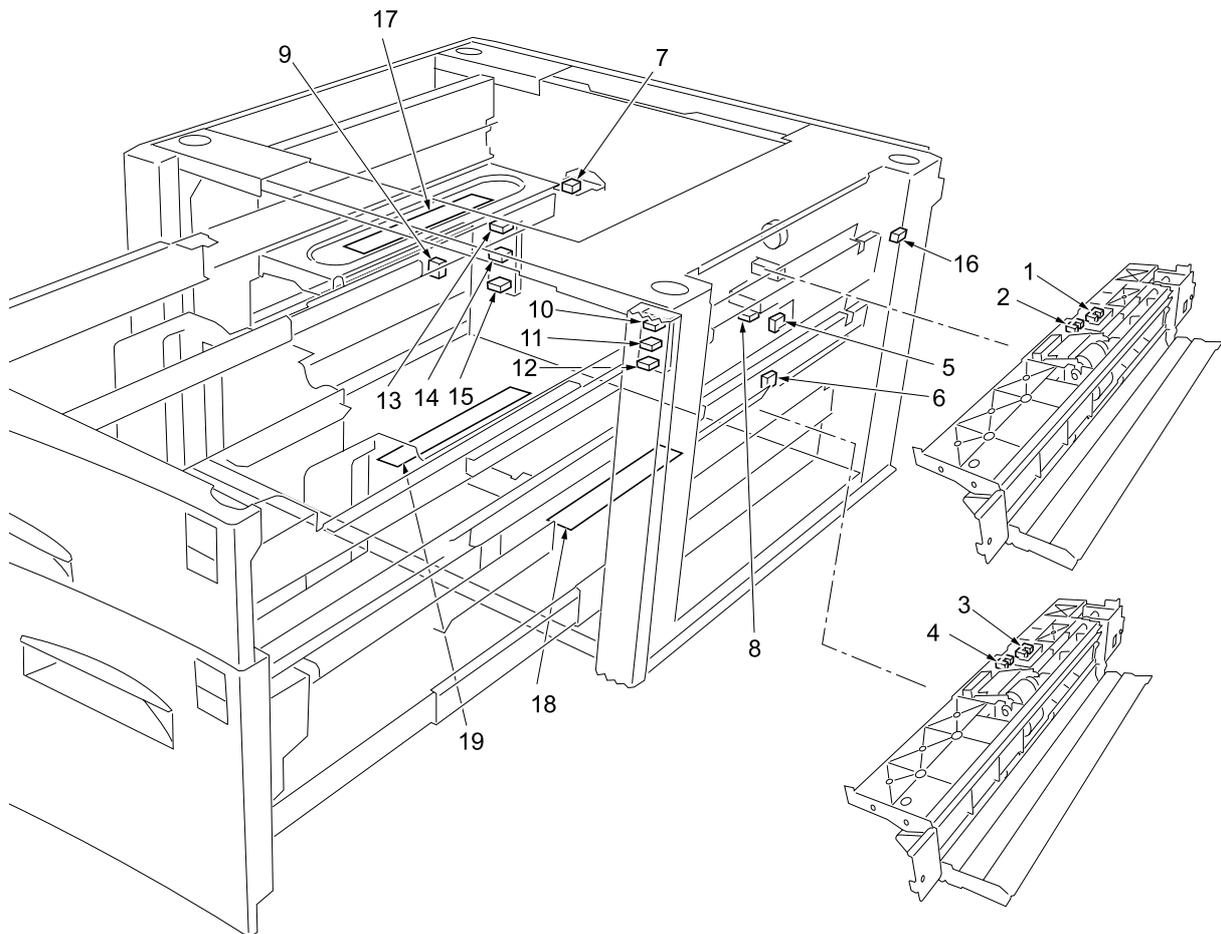


Figure 2-1-5 Raising and lowering the deck lift

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## 2-2-1 Electrical parts layout

### (1) Paper feeder inside and primary paper feed unit

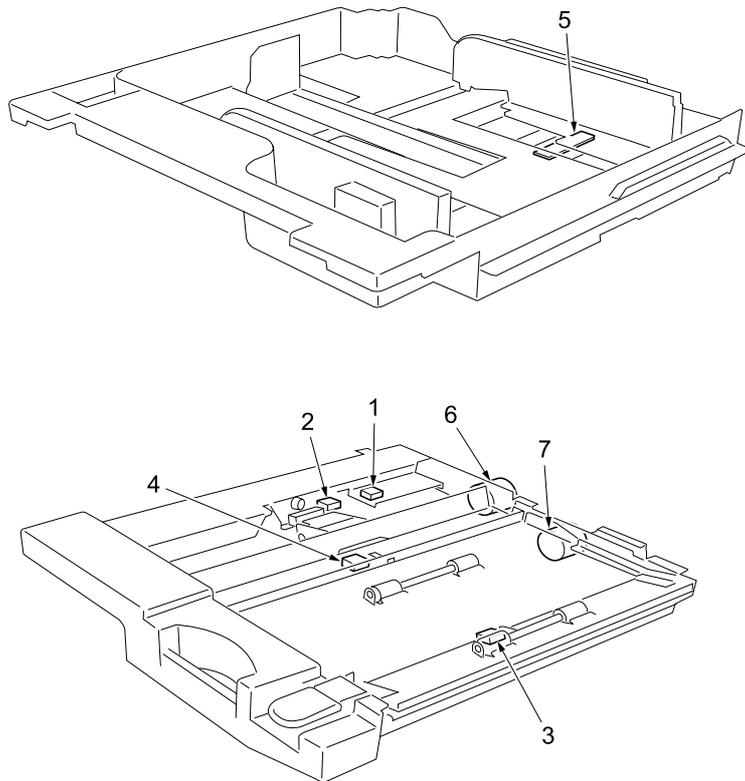


**Figure 2-2-1 Paper feeder inside and primary paper feed unit**

- |  |  |
|--|--|
| 1. Paper feeder paper sensor (PFPS) .....                      | Detects paper in the paper cassette.   |
| 2. Paper feeder limit detection sensor (PFLDS) .....           | Detects activation of upper limit of the bottom plate in the paper cassette. |
| 3. Right deck paper sensor (RDPS).....                         | Detects paper in the right deck.   |
| 4. Right deck limit detection sensor (RDLDS).....              | Detects activation of upper limit of the deck lift in the right deck.        |
| 5. Paper feeder upper feed sensor (PFFS-U).....                | Detects a paper misfeed.   |
| 6. Paper feeder lower feed sensor (PFFS-L) .....               | Detects a paper misfeed.   |
| 7. Paper feeder length size switch (PFLSSW).....               | Detects paper length in the paper cassette.                                  |
| 8. Right deck detection sensor (RDDS) .....                    | Detects the presence of right deck.  |
| 9. Left deck detection sensor (LDDS) .....                     | Detects the presence of left deck.   |
| 10. Right deck paper level sensor 1 (RDPLS1) .....             | Detects the paper level in the right deck.                                   |
| 11. Right deck paper level sensor 2 (RDPLS2) .....             | Detects the paper level in the right deck.                                   |
| 12. Right deck paper level sensor 3 (RDPLS3) .....             | Detects the paper level in the right deck.                                   |
| 13. Left deck paper level sensor 1 (LDPLS1) .....              | Detects the paper level in the left deck.                                    |
| 14. Left deck paper level sensor 2 (LDPLS2) .....              | Detects the paper level in the left deck.                                    |
| 15. Left deck paper level sensor 3 (LDPLS3) .....              | Detects the paper level in the left deck.                                    |
| 16. Paper feeder right cover open/close switch (PFRCOCSW)..... | Detects paper feeder right cover is open.                                    |
| 17. Dehumidify heater 1 (DH1)* .....                           | Dehumidifies the paper cassette.   |
| 18. Dehumidify heater 2 (DH2)* .....                           | Dehumidifies the right deck.   |
| 19. Dehumidify heater 3 (DH3)* .....                           | Dehumidifies the left deck.  |

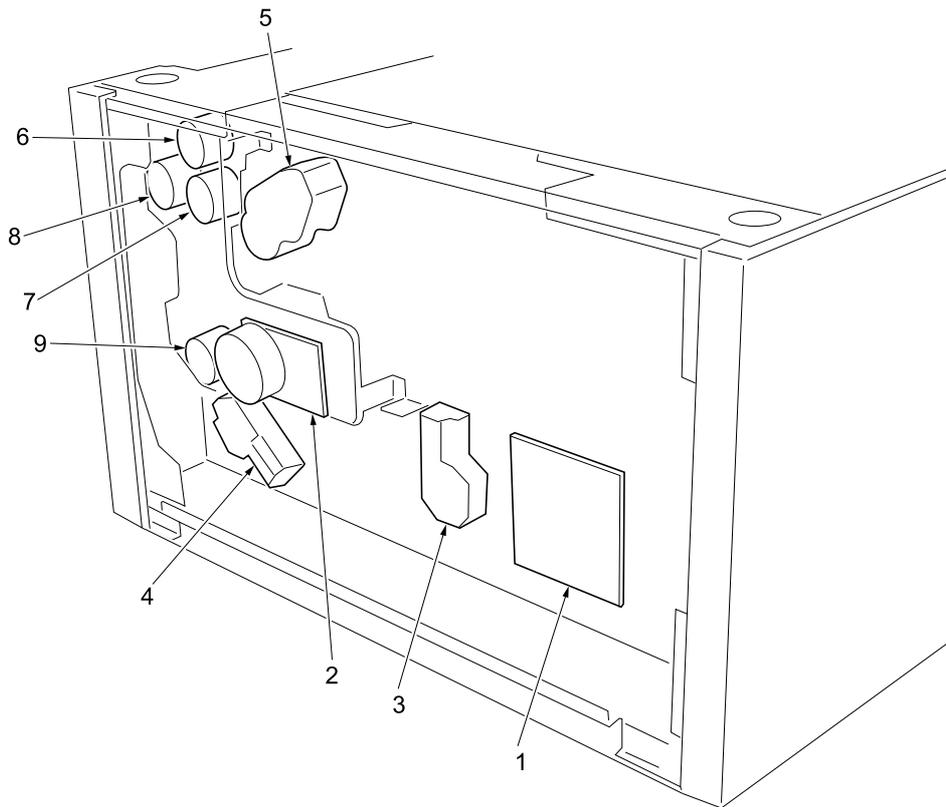
\*: Optional.

**(2) Paper cassette and deck conveying unit**



**Figure 2-2-2 Paper cassette and deck conveying unit**

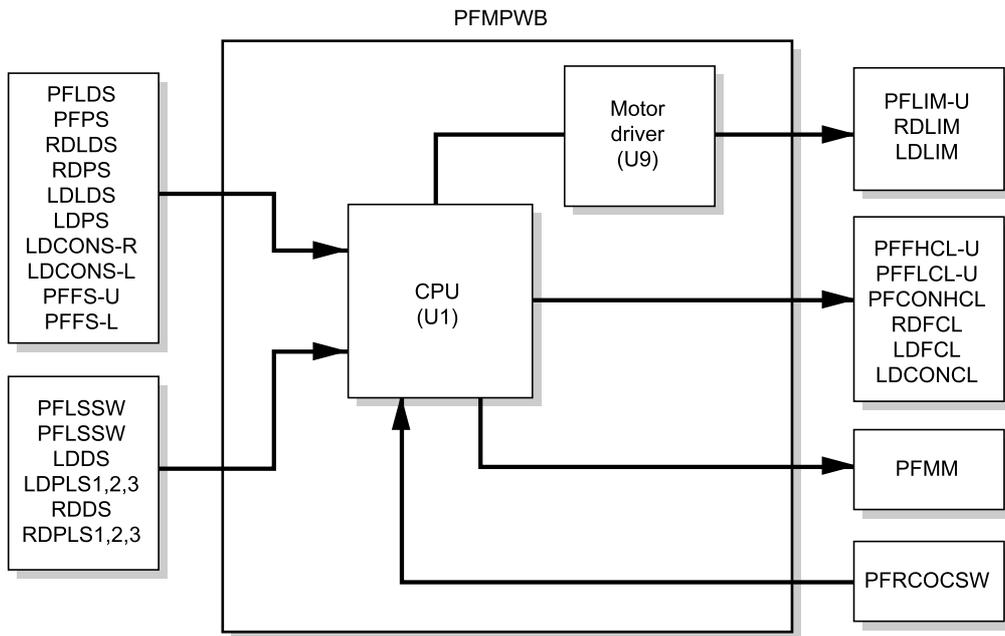
- 1. Left deck paper sensor (LDPS)..... Detects paper in the left deck.
- 2. Left deck limit detection sensor (LDLDS)..... Detects activation of upper limit of the deck lift in the left deck.
- 3. Left deck right conveying sensor (LDCONS-R) .... Detects a paper misfeed in the deck conveying section.
- 4. Left deck left conveying sensor (LDCONS-L) ..... Detects a paper misfeed in the deck conveying section.
- 5. Paper feeder width size switch (PFWSSW)..... Detects paper width in the paper cassette.
- 6. Left deck feed clutch (LDFCL) ..... Controls the drive of paper feed from the left deck.
- 7. Left deck conveying clutch (LDCONCL) ..... Controls the drive of the deck conveying unit.

**(3) Paper feeder rear side****Figure 2-2-3 Paper feeder rear side**

1. Paper feeder main PWB (PFMPWB)..... Controls electrical components.
2. Paper feeder main motor (PFMM) ..... Drives the paper feed section.
3. Left deck lift motor (LDLIM)..... Operates the deck lift in the left deck.
4. Right deck lift motor (RDLIM)..... Operates the deck lift in the right deck.
5. Paper feeder lift motor (PFLIM) ..... Operates the bottom plate in the paper cassette.
6. Paper feeder upper feed H clutch (PFFHCL-U).... Controls the drive of paper feed from the paper cassette.
7. Paper feeder upper feed L clutch (PFFLCL-U)..... Controls the drive of paper feed from the paper cassette.
8. Paper feeder conveying H clutch (PFCONHCL)... Controls the drive of the feed roller.
9. Right deck feed clutch (RDFCL) ..... Controls the drive of paper feed from the right deck.

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**2-3-1 Paper feeder main PWB**



**Figure 2-3-1 Paper feeder main PWB**

The paper feeder main PWB (PFMPWB) is controlled by the engine PWB of the copier or printer and performs operation control of each motor and clutch in the paper feeder and input/output control of each sensor and switch through the CPU (U1) provided on the paper feeder main PWB (PFMPWB).

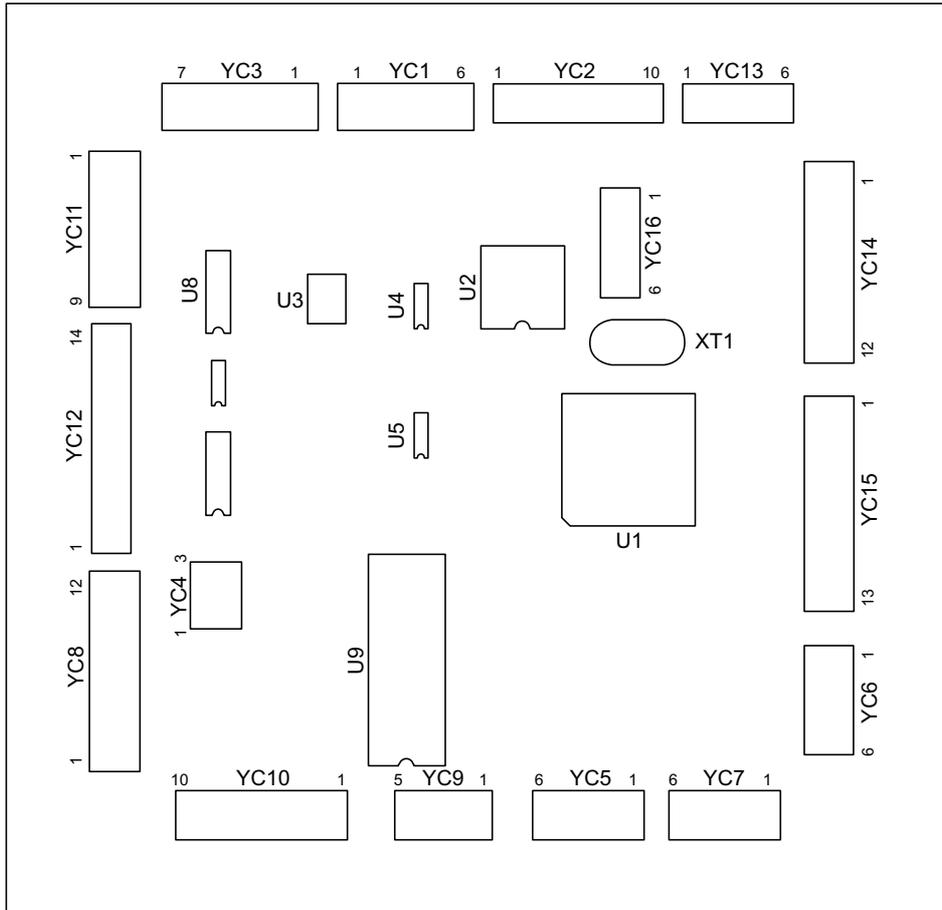


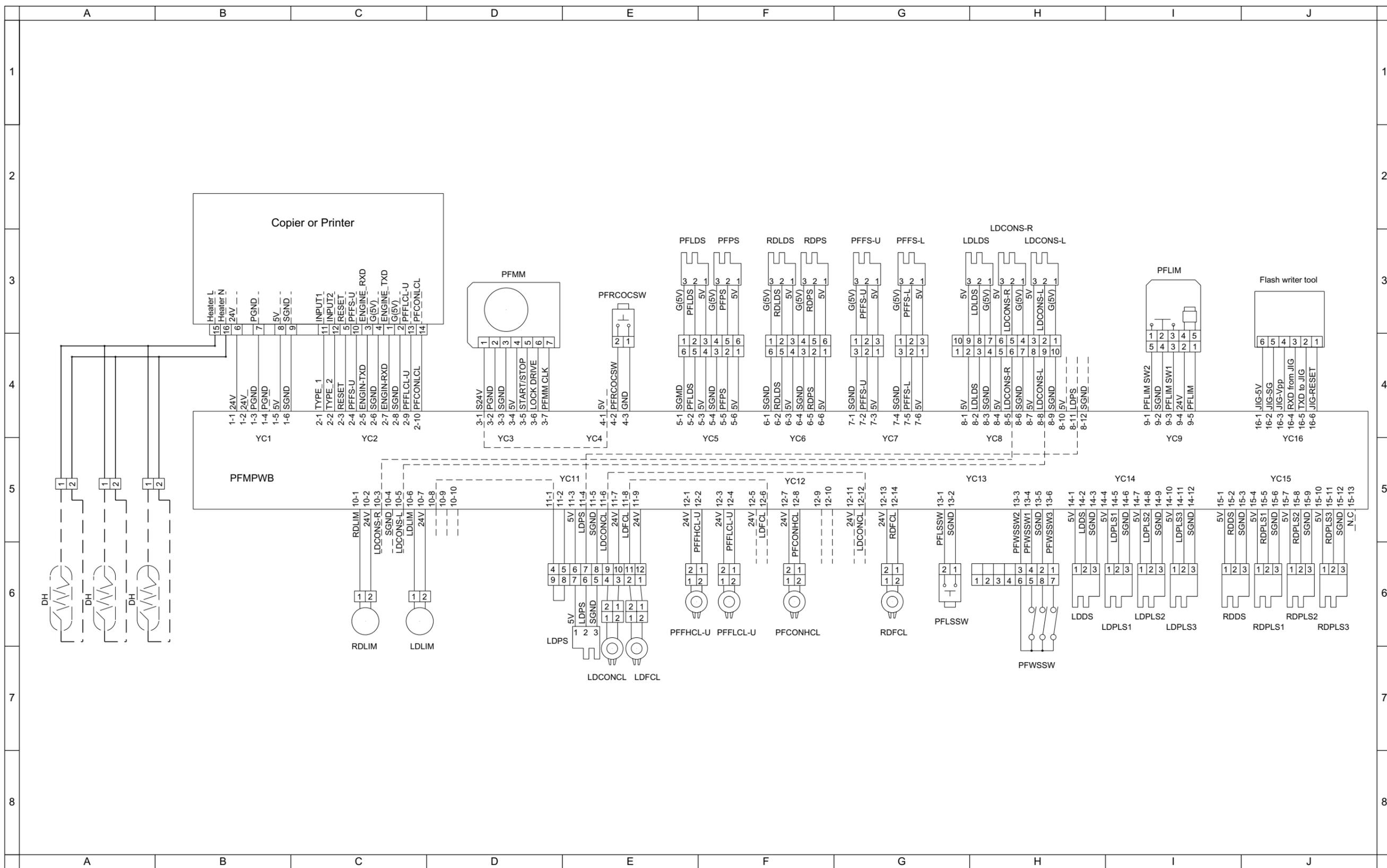
Figure 2-3-2 Paper feeder main PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1 Connected to the copier or printer	1	24V	I	24 V DC	24 V DC power input
	3	PGND	-	-	Ground (power)
	5	5V	I	5 V DC	5 V DC power input
	6	SGND	-	-	Ground (signal)
YC2 Connected to the copier or printer	1	TYPE_1	O	0 V (ground)	Paper feeder identification signal 1
	2	TYPE_2	O	-	Not used
	3	RESET	I	0/5 V DC	Paper feeder reset signal
	4	PFFS-U	I	0/5 V DC	Lower feed sensor: On/Off
	5	ENGINE-TXD	O	0/5 V D (pulse)	Paper feeder serial communication signal (transmit)
	6	SGND	-	-	Ground (signal)
	7	ENGINE-RXD	I	0/5 V D (pulse)	Paper feeder serial communication signal (receive)
	8	SGND	-	-	Ground (signal)
	9	PFFLCL-U	I	0/5 V DC	Paper feeder upper feed L clutch: On/Off
	10	PFFCONLCL	I	0/5 V DC	Paper feeder conveying L clutch: On/Off
YC3 Connected to the paper feeder main motor	1	S24V	O	24 V DC	24 V DC power output
	2	PGND	-	-	Ground (power)
	3	SGND	-	-	Ground (signal)
	4	5V	O	5 V DC	5 V DC power output
	5	START/STOP	O	0/24 V DC	Paper feeder main motor: On/Off
	6	LOCK/DRIVE	O	0/5 V DC	Paper feeder main motor drive lock signal
	7	PFM CLK	O	0/24 V DC (pulse)	Clock signal for paper feeder main motor
YC4 Connected to the paper feeder right cover open/ close switch	2	PFR0CSW	I	0/5 V DC	Paper feeder right cover open/close switch: On/Off
	3	SGND	-	-	Ground (signal)
YC5 Connected to the paper feeder limit detection sensor and paper feeder upper paper sensor	1	SGND	-	-	Ground (signal)
	2	PFLDS	I	0/5 V DC	Paper feeder limit detection sensor: On/Off
	3	5V	O	5 V DC	5 V DC power output
	4	SGND	-	-	Ground (signal)
	5	PFFS	I	0/5 V DC	Paper feeder upper paper sensor: On/Off
	6	5V	O	5 V DC	5 V DC power output
YC6 Connected to the right deck limit detection sensor and right deck paper sensor	1	SGND	-	-	Ground (signal)
	2	RDLDS	I	0/5 V DC	Right deck limit detection sensor: On/Off
	3	5V	O	5 V DC	5 V DC power output
	4	SGND	-	-	Ground (signal)
	5	RDPS	I	0/5 V DC	Right deck paper sensor: On/Off
	6	5V	O	5 V DC	5 V DC power output
YC7 Connected to the paper feeder upper/lower feed sensors	1	SGND	-	-	Ground (signal)
	2	PFFS-U	I	0/5 V DC	Paper feeder upper feed sensor: On/Off
	3	5V	O	5 V DC	5 V DC power output
	4	SGND	-	-	Ground (signal)
	5	PFFS-L	I	0/5 V DC	Paper feeder lower feed sensor: On/Off
	6	5V	O	5 V DC	5 V DC power output

Connector	Pin No.	Signal	I/O	Voltage	Description
YC8 Connected to the left deck limit detection sensor and left deck right/left conveying sensors	1	5V	O	5 V DC	5 V DC power output
	2	LDLDS	I	0/5 V DC	Left deck limit detection sensor: On/Off
	3	SGND	-	-	Ground (signal)
	4	5V	O	5 V DC	5 V DC power output
	5	LDCONS-R	I	0/5 V DC	Left deck right conveying sensor: On/Off
	6	SGND	-	-	Ground (signal)
	7	5V	O	5 V DC	5 V DC power output
	8	LDCONS-L	I	0/5 V DC	Left deck left conveying sensor: On/Off
	9	SGND	-	-	Ground (signal)
YC9 Connected to the paper feeder lift motor	1	PFLIM SW2	I	0/5 V DC	Paper feeder lift motor SW2 signal
	2	SGND	-	-	Ground (signal)
	3	PFLIM SW1	I	0/5 V DC	Paper feeder lift motor SW1 signal
	4	24V	O	24 V DC	24 V DC power output
	5	PFLIM	O	0/24 V DC	Paper feeder lift motor: On/Off
YC10 Connected to the right/left deck lift motors	1	RDLIM	O	0/24 V DC	Right deck lift motor: On/Off
	2	24V	O	24 V DC	24 V DC power output
	6	LDLIM	O	0/24 V DC	Left deck lift motor: On/Off
	7	24V	O	24 V DC	24 V DC power output
YC11 Connected to the left deck paper sensor, left deck conveying clutch, and left deck feed clutch	3	5V	O	5 V DC	5 V DC power output
	4	LDPS	I	0/5 V DC	Left deck paper sensor: On/Off
	5	SGND	-	-	Ground (signal)
	6	LDCONCKL	O	0/24 V DC	Left deck right conveying clutch: On/Off
	7	24V	O	24 V DC	24 V DC power output
	8	LDFCL	O	0/24 V DC	Left deck left feed clutch: On/Off
YC12 Connected to the paper feeder upper/ feed H/L clutches, paperfeeder conveying H clutch, and right deck feed clutch	1	24V	O	24 V DC	24 V DC power output
	2	PFFHCL-U	O	0/24 V DC	Paper feeder upper feed H clutch: On/Off
	3	24V	O	24 V DC	24 V DC power output
	4	PFFLCL-U	O	0/24 V DC	Paper feeder upper feed L clutch: On/Off
	7	24V	O	24 V DC	24 V DC power output
	8	PFCONHCL	O	0/24 V DC	Paper feeder conveying H clutch: On/Off
	13	24V	O	24 V DC	24 V DC power output
	14	RDFCL	O	0/24 V DC	Right deck feed clutch: On/Off
YC13 Connected to the paper feeder length size switch and paperfeeder width size switch	1	PFLSSW	I	0/5 V DC	Paper feeder length size switch: On/Off
	2	SGND	-	-	Ground (signal)
	3	PFWSSW2	I	0/5 V DC	Paper feeder width size switch: On/Off
	4	PFWSSW1	I	0/5 V DC	Paper feeder width size switch: On/Off
	5	SGND	-	-	Ground (signal)
	6	PFWSSW3	I	0/5 V DC	Paper feeder width size switch: On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC14	1	5V	O	5 V DC	5 V DC power output
Connected to the left deck detection sensor and left deck paper level sensors 1/2/3	2	LD DS	I	0/5 V DC	Left deck detection sensor: On/Off
	3	SGND	-	-	Ground (signal)
	4	5V	O	5 V DC	5 V DC power output
	5	LDPLS1	I	0/5 V DC	Left deck paper level sensor 1: On/Off
	6	SGND	-	-	Ground (signal)
	7	5V	O	5 V DC	5 V DC power output
	8	LDPLS2	I	0/5 V DC	Left deck paper level sensor 2: On/Off
	9	SGND	-	-	Ground (signal)
	10	5V	O	5 V DC	5 V DC power output
	11	LDPLS3	I	0/5 V DC	Left deck paper level sensor 3: On/Off
	12	SGND	-	-	Ground (signal)
YC15	1	5V	O	5 V DC	5 V DC power output
Connected to the right deck detection sensor and right deck paper level sensors 1/2/3	2	RD DS	I	0/5 V DC	Right deck detection sensor: On/Off
	3	SGND	-	-	Ground (signal)
	4	5V	O	5 V DC	5 V DC power output
	5	RDPLS1	I	0/5 V DC	Right deck paper level sensor 1: On/Off
	6	SGND	-	-	Ground (signal)
	7	5V	O	5 V DC	5 V DC power output
	8	RDPLS2	I	0/5 V DC	Right deck paper level sensor 2: On/Off
	9	SGND	-	-	Ground (signal)
	10	5V	O	5 V DC	5 V DC power output
	11	RDPLS3	I	0/5 V DC	Right deck paper level sensor 3: On/Off
	12	SGND	-	-	Ground (signal)

Wiring diagram



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