

**Paper Feed Unit Type TK1110**  
**Machine Code: J307**

**Field Service Manual**

29 December, 2009



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# Safety and Symbols

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## Replacement Procedure Safety


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### **CAUTION**

- Turn off the main power switch and unplug the machine before beginning any of the replacement procedures in this manual.

#### Symbols Used in this Manual

This manual uses the following symbols.


: See or Refer to

: Screws

: Connector

: Clamp

: Clip ring

: E-ring

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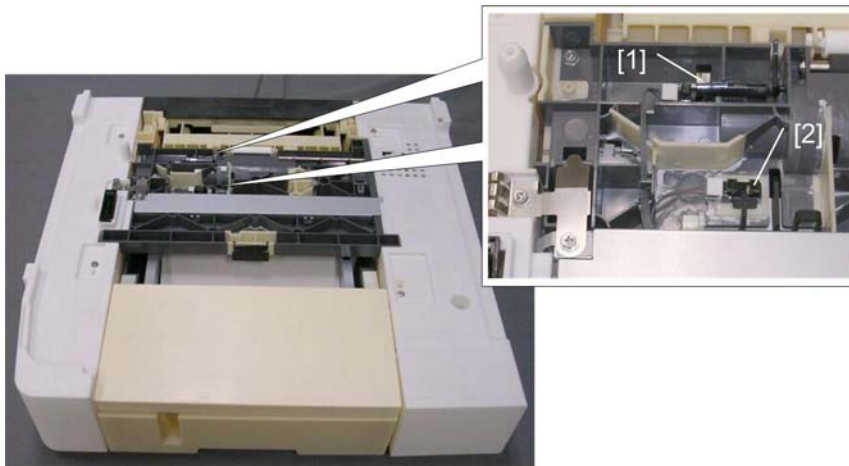
# 1. Replacement and Adjustment

## Common Procedures

1

### Cassette Tray, Rear Unit Removal

1. Switch the main machine off and disconnect the power cord from the machine and power outlet.
2. Lift the machine off the PFU and set it aside.
3. Place the PFU on a flat clean surface.



j307r001

Two sensors are visible:

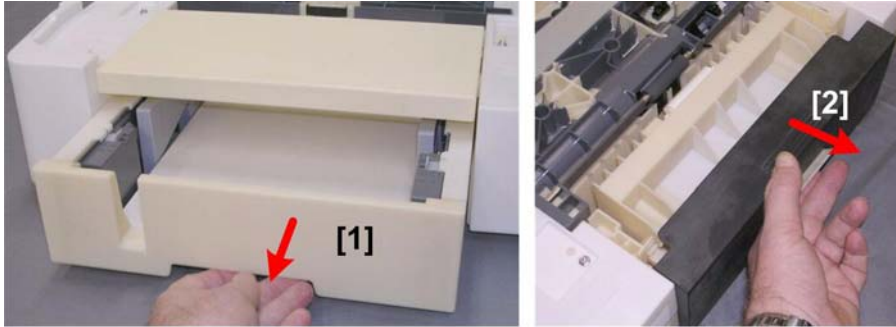
[1] Relay sensor

[2] Paper end sensor



j307r002

4. Use a blower brush to clean the relay sensor [1] and paper end sensor [2].



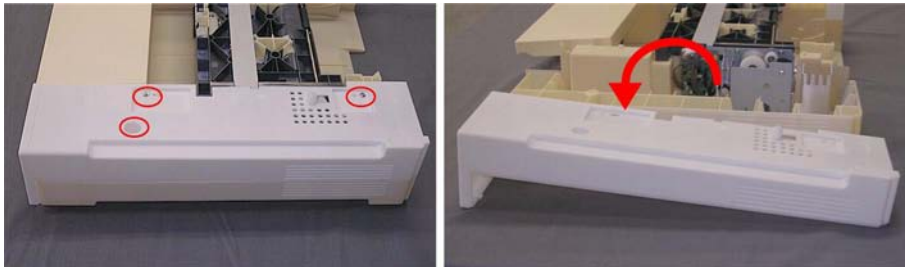
j307r003

5. Remove paper cassette [1].

6. Remove rear unit [2].

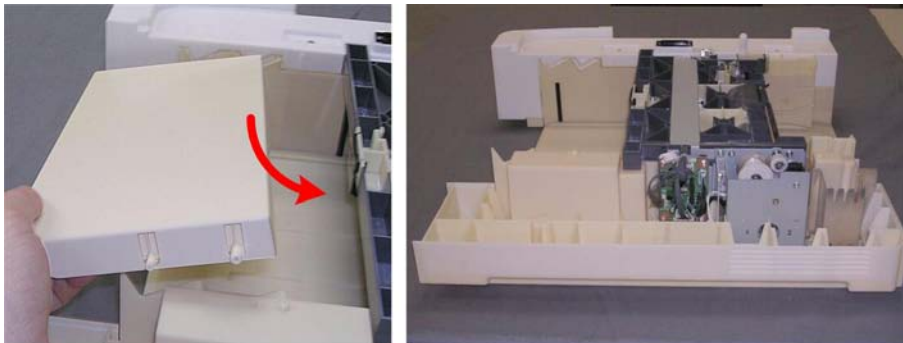
## Covers

### Right Cover, Cross-Piece



j307r004

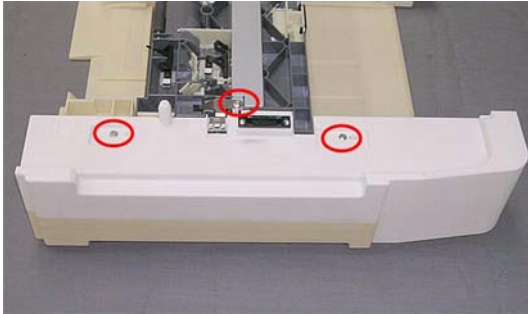
1. Remove the right cover (⚙ x3).



j307r005

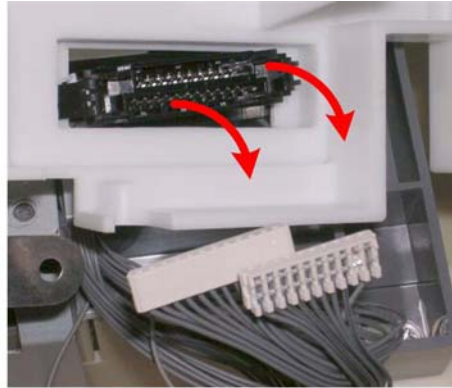
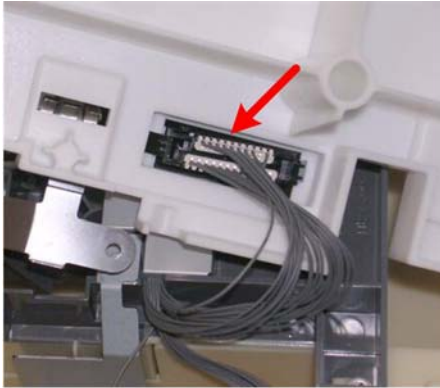
2. Remove the cross-piece.

## Left Cover



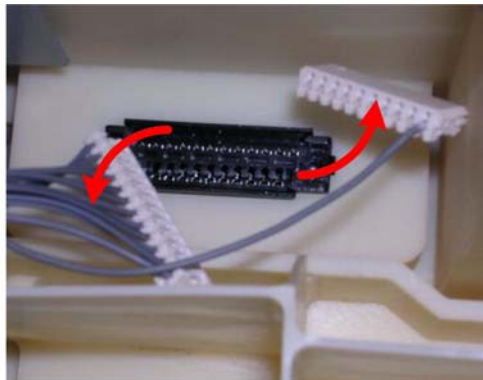
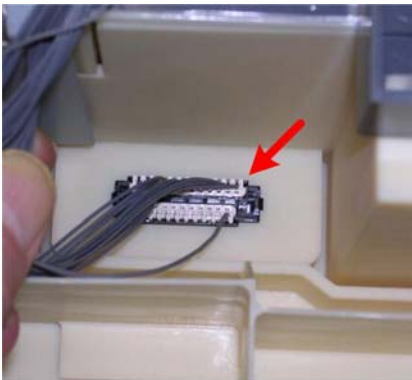
j307r006

1. Remove the left cover (🔧 x3).



j307r007

2. Lift the left cover up and disconnect the top connectors (🔧 x2).



j307r008

3. Disconnect the connectors below (🔧 x2).

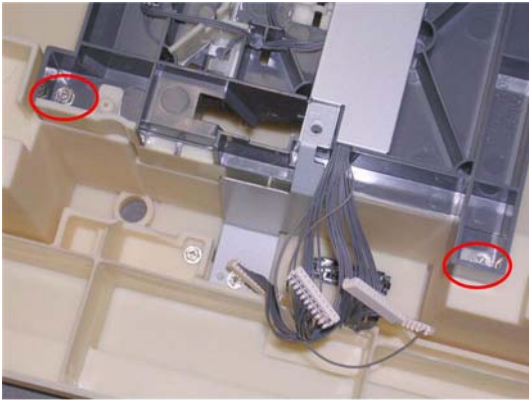
## Chassis Removal

The chassis must be removed to service the electrical components and rollers.

### Preparation

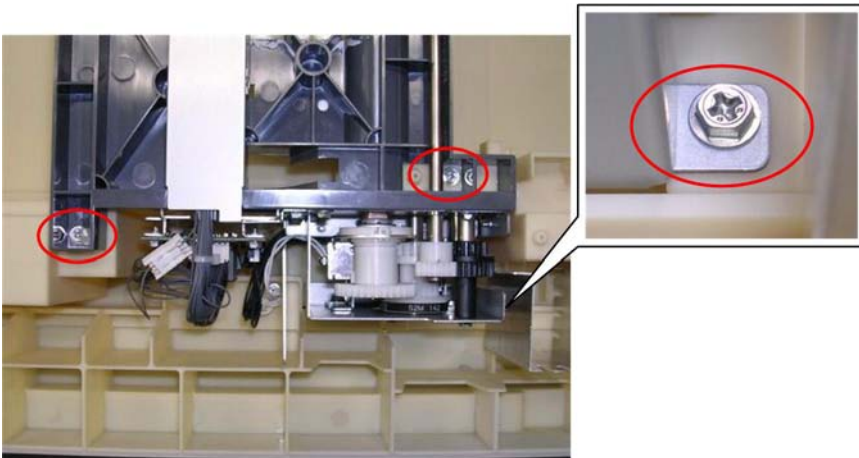
Remove:

- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover



j307r009

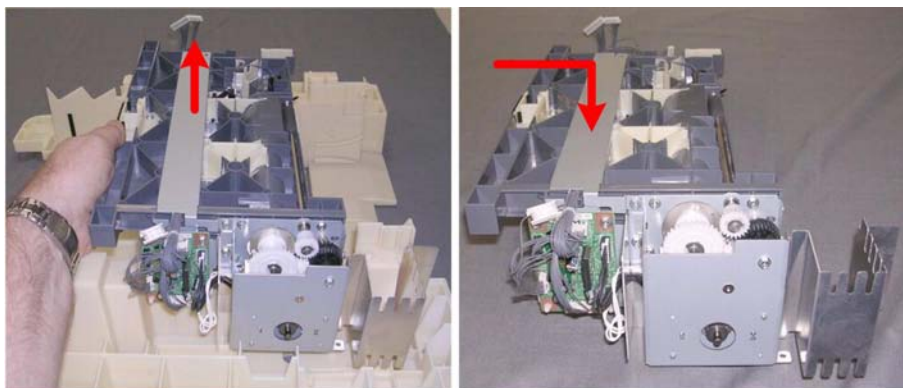
1. Disconnect the chassis on the left side (⚙️ x2).



j307r010

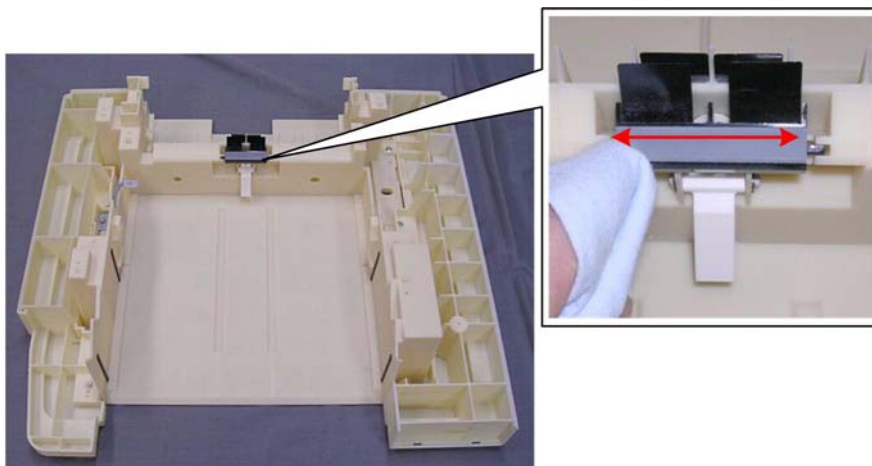
2. Disconnect the chassis on the right side (⚙️ x3).





j307r011

3. Lift the chassis off the frame of the PFU.
4. Place the chassis on a clean, flat surface.



j307r012

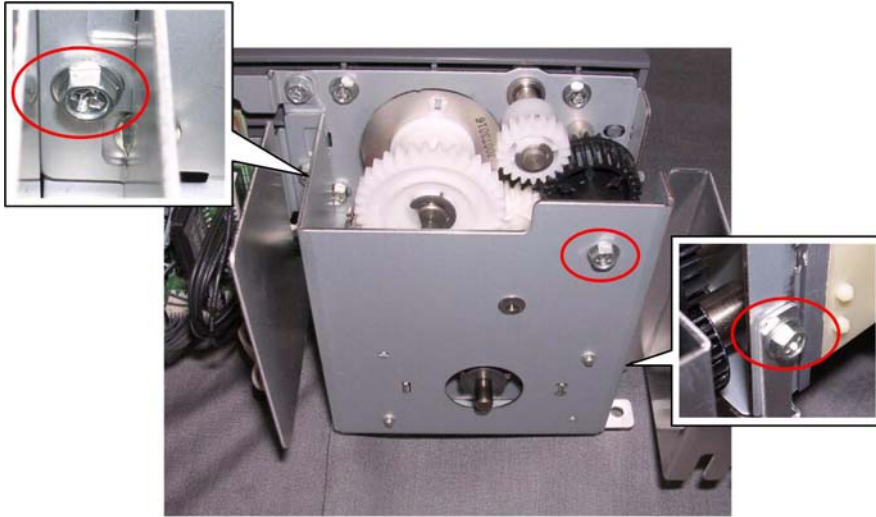
5. With the chassis removed you can see the friction pad that prevents double-feeding from the paper cassette. Clean this pad with a damp cloth to prevent double-feeding.

## Paper Feed Motor Mount

### Preparation

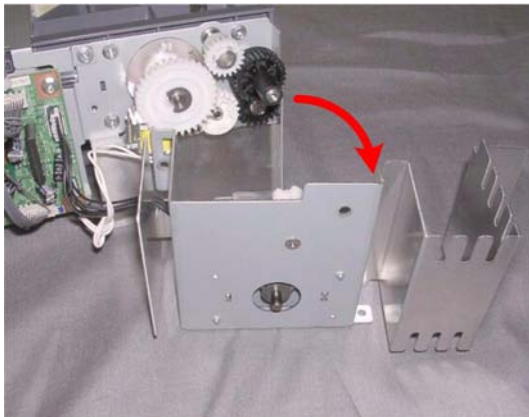
Remove:

- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis



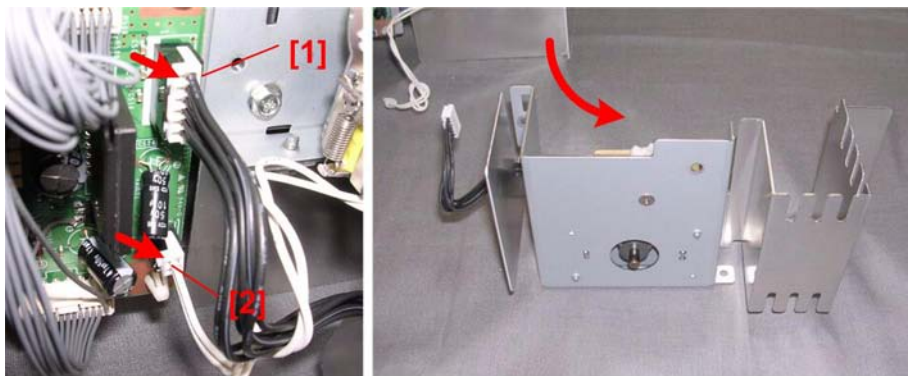
j307r013

1. Disconnect the motor mount (⚙ x3).



j307r014

2. Pull the motor mount slightly away from the chassis.



j307r015

3. Disconnect the paper feed motor [1] and paper feed clutch [2].
4. Remove the motor mount.

# Sensors, Switch

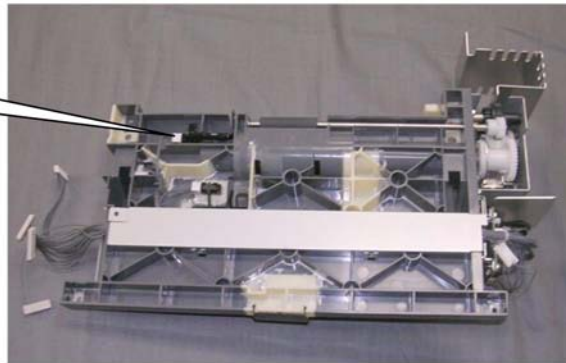
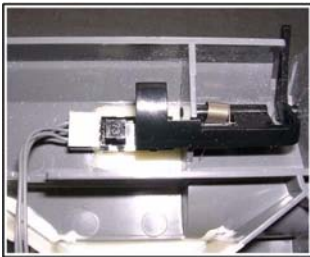
## 1

### Relay Sensor

#### Preparation

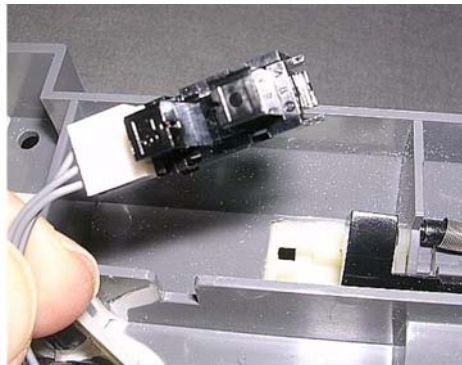
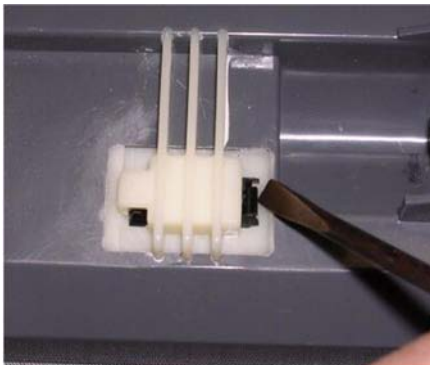
Remove:

- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis



j307r016

With the chassis top side up, you can see the relay sensor.



j307r017

1. Turn the chassis over (bottom side up).
2. Use the tip of a small screwdriver to release the sensor tabs.
3. Turn the chassis over (top side up).

4. Disconnect and remove the sensor (🔌 x1).

### Re-installation



j307r018

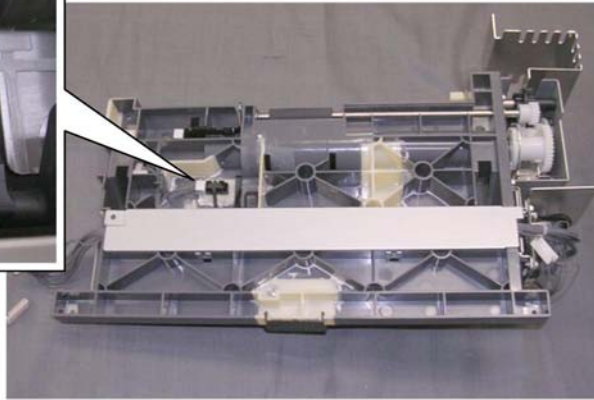
- After re-attaching the relay sensor, make sure that the feeler moves freely up and down.

## Paper End Sensor

### Preparation

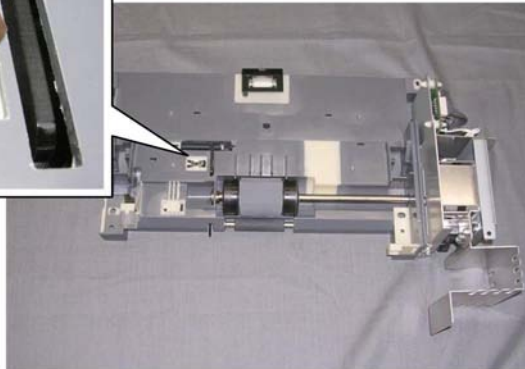
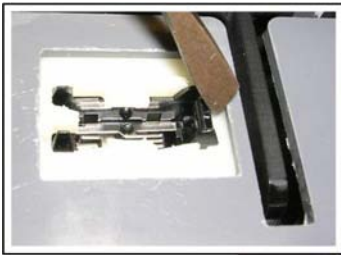
Remove:

- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis



j307r019

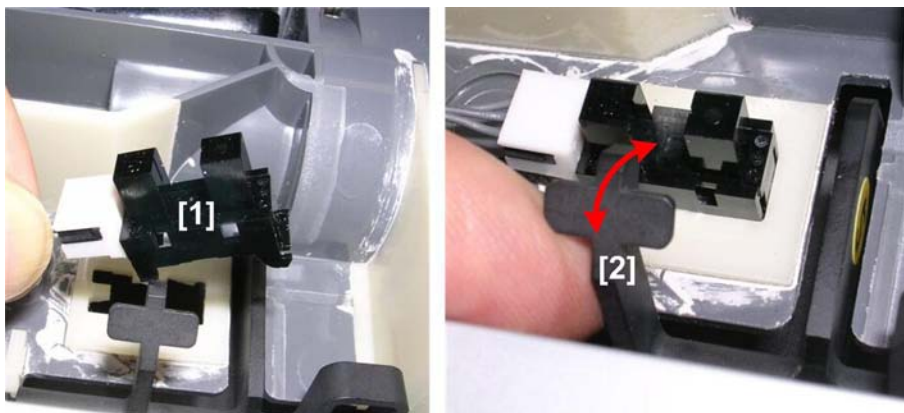
With the chassis top side up, you can see the paper end sensor.



j307r020

1. Turn the chassis over (bottom side up).
2. Use the tip of a small screwdriver to release the sensor tabs.





j307r021

3. Turn the chassis over (top side up).
4. Disconnect and remove the sensor [1] (🔌 x1)

#### ★ Important

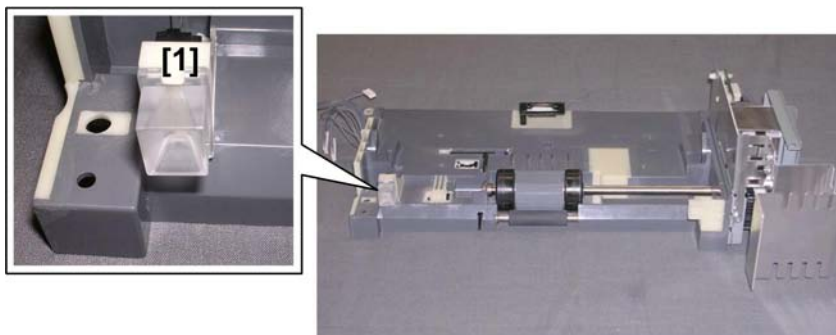
- After re-attaching the relay sensor, make sure that the feeler [2] moves freely up and down.

## Rear Unit Switch

### Preparation

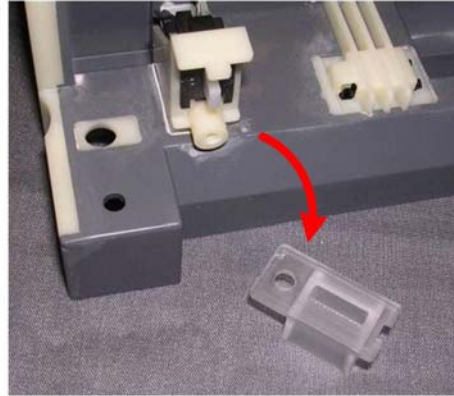
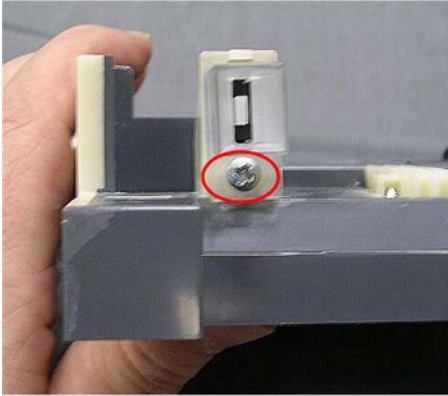
Remove:

- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis



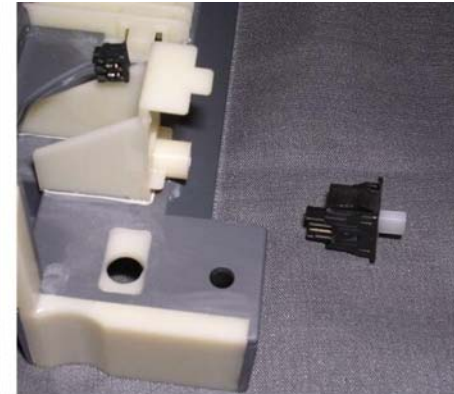
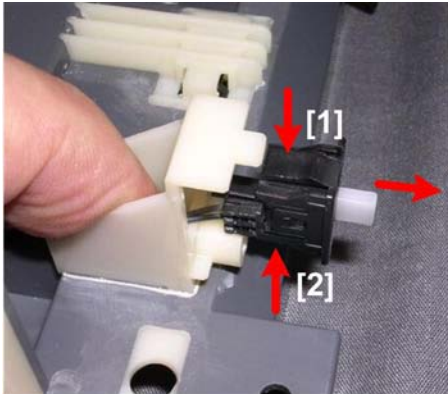
j307r022

With the chassis bottom side up, you can see the rear unit switch [1].



j307r023

1. Remove the push-switch collar (🔑 x1).



j307r024

2. Depress the top tab [1] and bottom tab [2] to release the switch.
3. Remove the switch (🔑 x1).

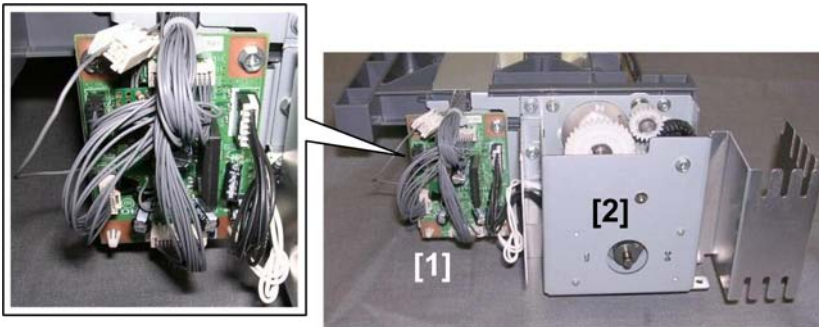


# PFU Control Board

## Preparation

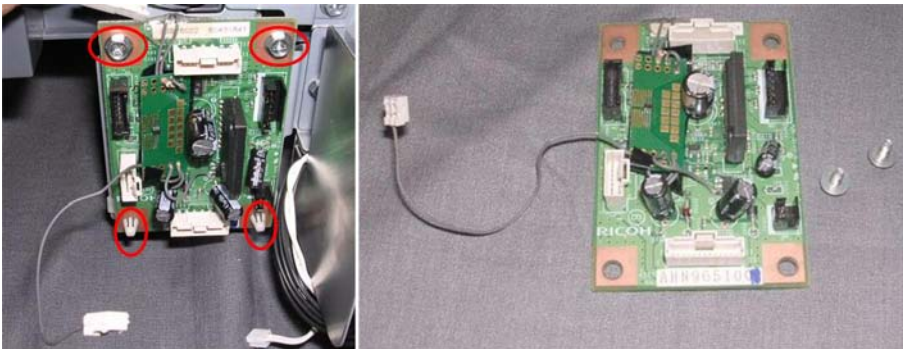
Remove:

- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis



j307r025

The PFU control board [1] is mounted next to the motor mount [2]



j307r026

1. Remove the PFU control board (⚙️ x All, 🔑 x2, Standoffs x2).

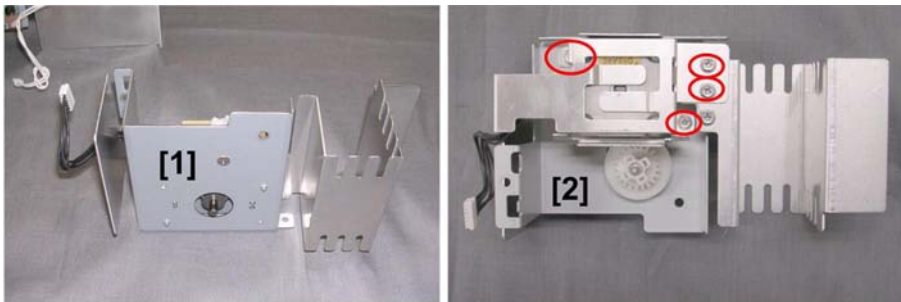
# Paper Feed Motor

1

## Preparation

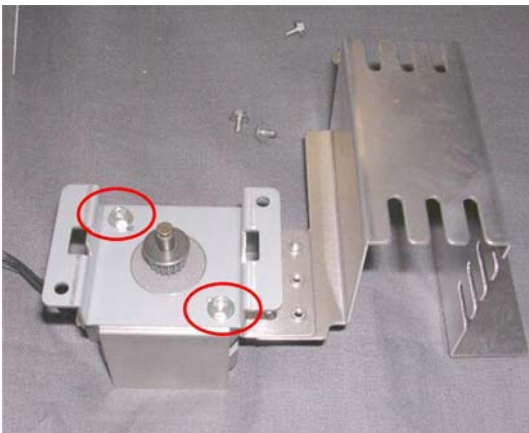
Remove:

- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis
- Motor mount



j307r027

1. Pull the motor mount [1] and heat sink away from the machine.
2. Place the motor mount face down [2] and disconnect it (⚙️ x4).



j307r028

3. Disconnect the motor (⚙️ x2).

# Paper Feed Clutch, Rollers

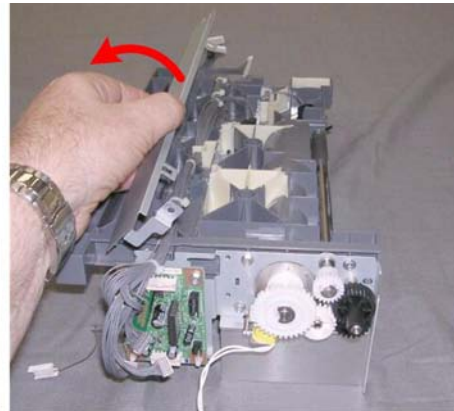
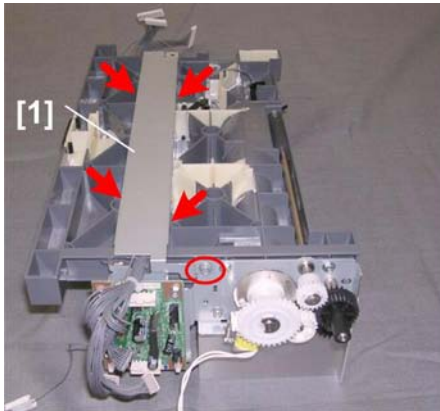
## Gears, Paper Feed Clutch

1

### Preparation

Remove:

- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis
- Motor mount

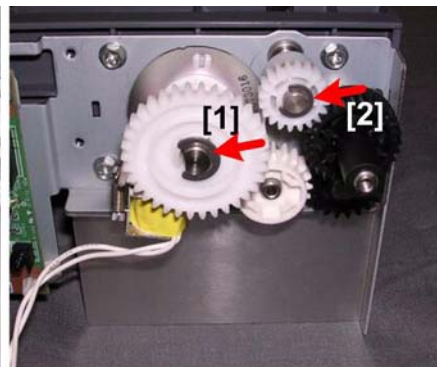


j307r029

1. Remove the harness cover plate [1] (⚙ x1, Tabs x4).

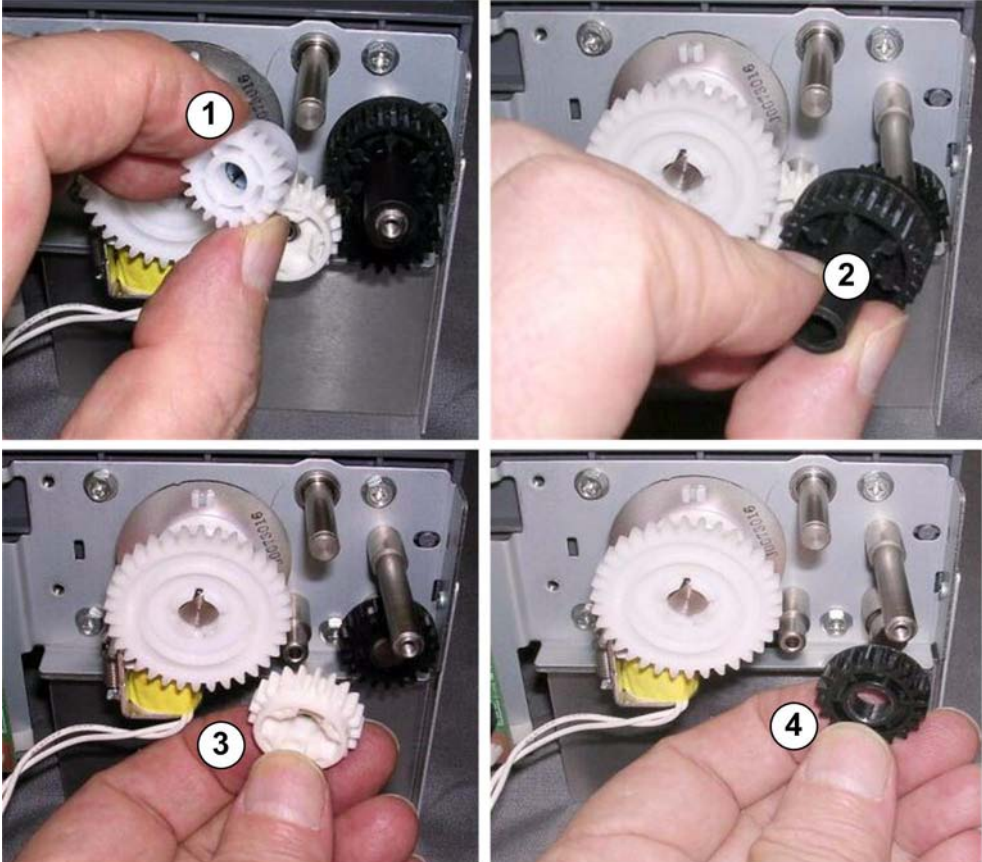
The harness cover plate is fastened by four tabs at the locations shown by the arrows.

2. Lift the cover plate off.



j307r030

3. Disconnect all harnesses from the PFU control board (🔌 x All).
4. Disconnect paper feed clutch [1] and gear [2] (🔌 x 2).



j307r031

5. Remove the gears in order as shown above.

**★ Important**

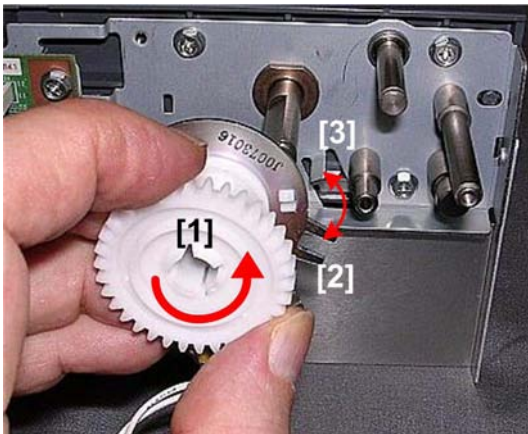
- Be sure to re-install them in reverse order.



j307r032

6. Remove the paper feed clutch.

### Re-installation



j307r032

When you re-install the paper feed clutch:

- Rotate the clutch until it slides over the end of the shaft.
- Make sure that the notch of the clutch arm [2] is locked onto the stud [3].

## Paper Feed Roller

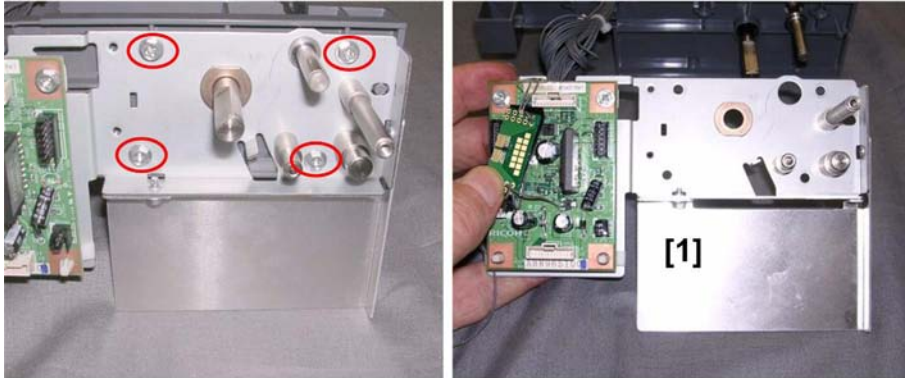
### Paper Feed Roller

#### Preparation

Remove:

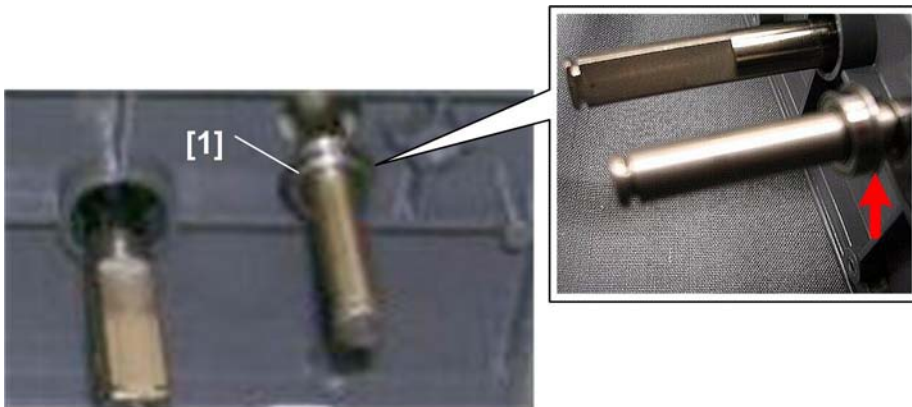


- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis
- Motor mount
- All gears, paper feed clutch



j307r033

1. Remove the shaft mount plate [1] (⚙ x4).

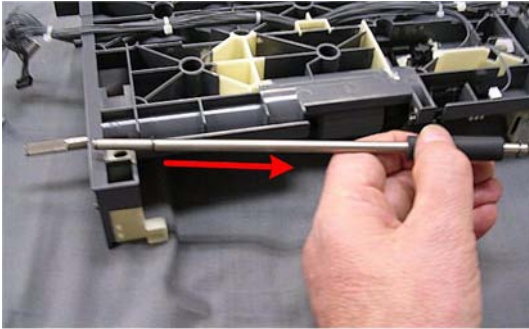


j307r034

2. Remove the bearing [1] from the shaft of the paper feed roller.

★ Important

- Note the position of the bearing and make sure that you mount it the same way at re-installation. If the direction of the bearing is reversed, the paper feed roller cannot be re-installed correctly.



j307r035

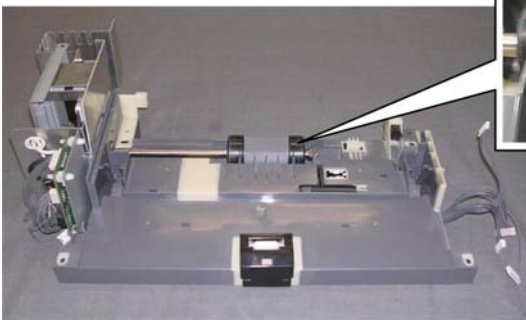
3. Remove the paper feed roller.

## Pick-up Roller

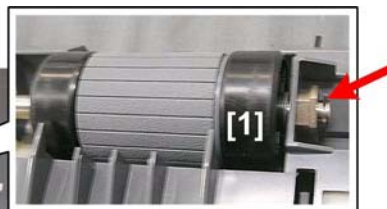
### Preparation

Remove:

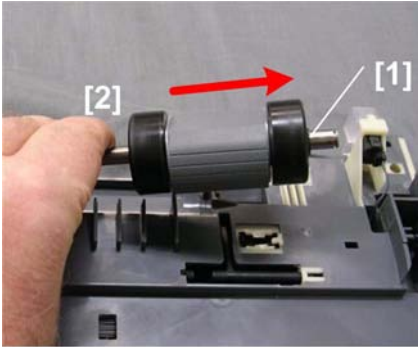
- Paper cassette, rear unit
- Right cover, cross-piece
- Left cover
- Chassis
- Motor mount
- All gears, paper feed clutch
- Shaft mount plate (see previous procedure)



j307r036

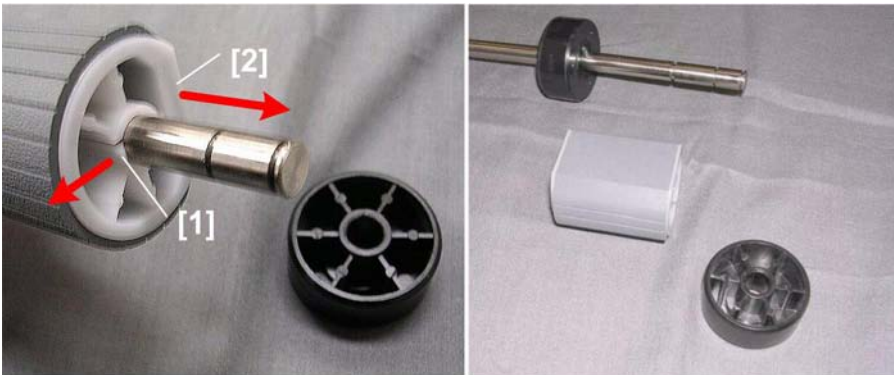


1. Turn the chassis over (bottom side up).
2. Disconnect the shaft of the pick-up roller [1] at the bushing (⌀ x1).



j307r037

3. Remove the bushing from the tip of the shaft [1].
4. Remove the pick-roller shaft [2].



j307r038

5. With the tip of your finger, pull the Teflon tab [1] to release the roller.
6. Pull the pick-up roller [2] off the shaft.