



DP-110

SERVICE MANUAL



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3LJSM061
Rev.1

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

It may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for proper disposal.

ATTENTION

IL Y A UN RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UN MODÈLE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES UTILISÉES SELON LES INSTRUCTIONS DONNÉES.

Il peut être illégal de jeter les batteries dans des eaux d'égout municipales. Vérifiez avec les fonctionnaires municipaux de votre région pour les détails concernant des déchets solides et une mise au rebut appropriée.

Revision history

Revision	Date	Replaced pages	Remarks
1	25 June 2009	1-1-1, 1-3-1 to 1-3-14, 1-5-2, 2-2-1	


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Safety precautions


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

Original feed method	Automatic feed
Supported original types	Sheet originals
Original sizes	Maximum: Legal/A4
	Minimum: Statement/A5
Original weights	Simplex: 50 to 120 g/m ²
	Duplex: 50 to 110 g/m ²
Loading capacity	50 sheets (50 to 80 g/m ²) maximum
Power source	Electrically connected to the main machine.
Dimensions	490 (W) × 339 (D) × 104 (H) mm
	19 5/16 (W) × 13 3/8 (D) × 4 1/8" (H)
Weight.....	3 kg or less/6.6 lbs. or less

NOTE: These specifications are subject to change without notice.

1-1-2 Parts names

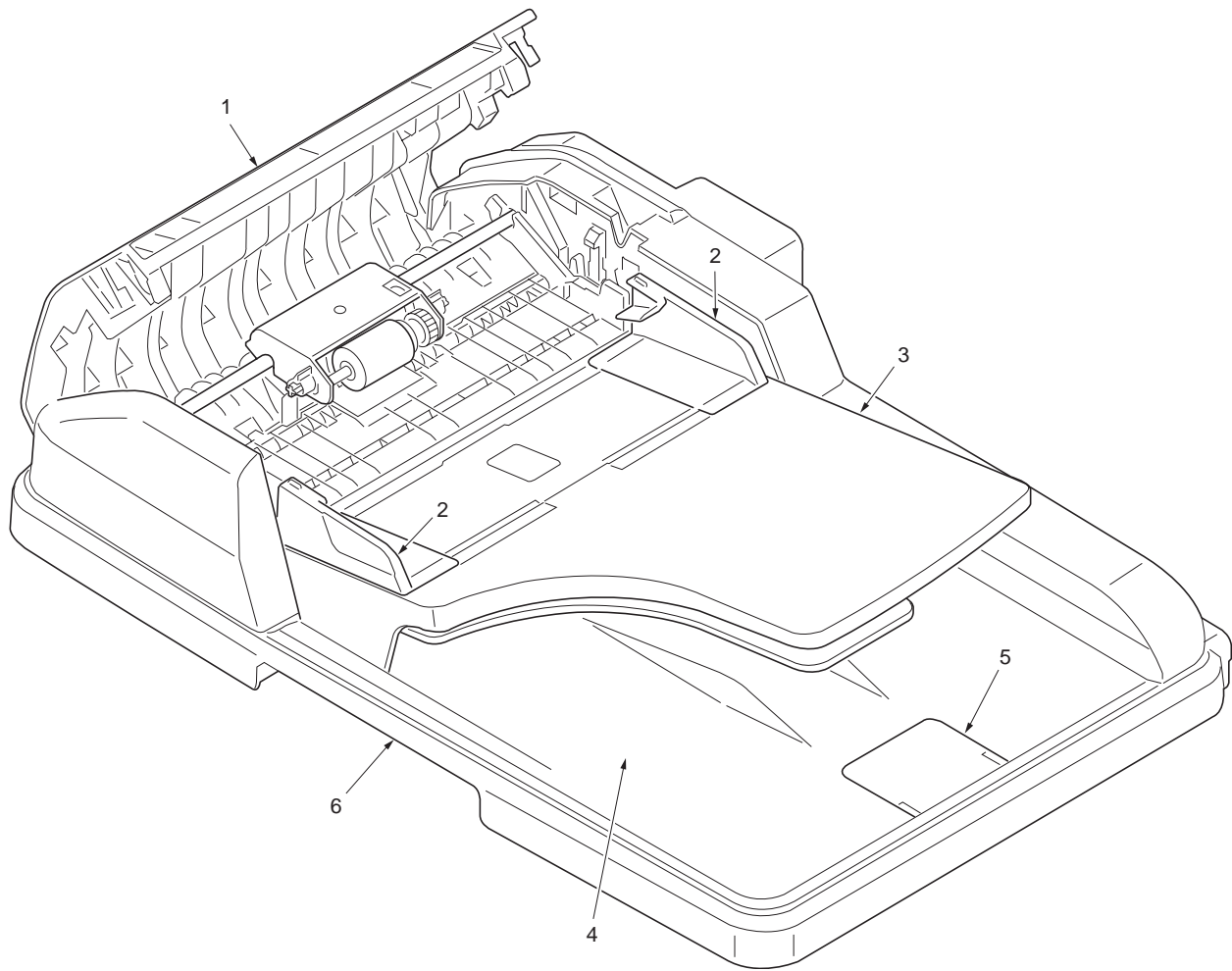
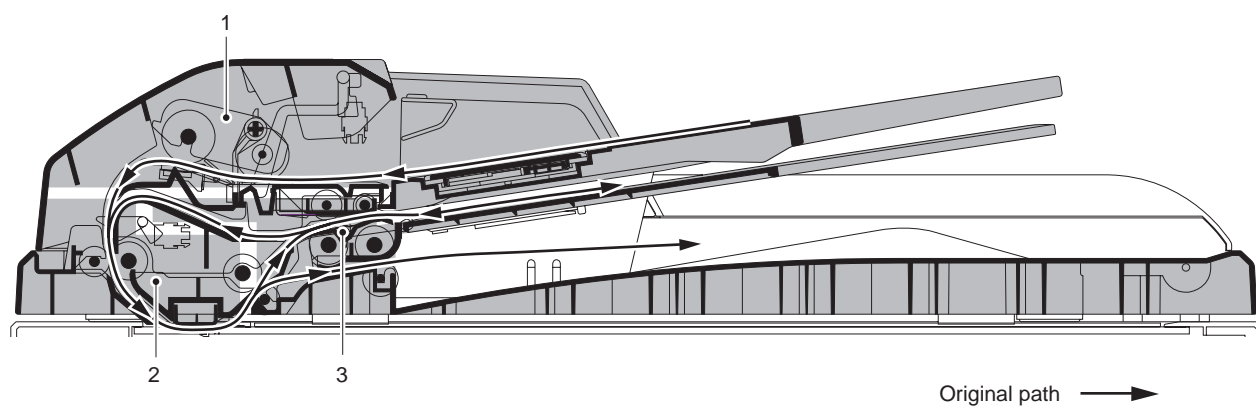


Figure 1-1-1

1. Top cover
2. Original width guides
3. Original table
4. Original eject table
5. Original stopper
6. Opening handle

1-1-3 Machine cross section**Figure 1-1-2 Machine cross section**

1. Original feed section
2. Original conveying section
3. Original switchback section

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1-2-1 Installation environment

Installation location (Be based on the machine establishment place.)

Avoid direct sunlight or bright lighting. Ensure that the photo-conductor will not be exposed to direct sunlight or other strong light when removing paper jams.

Avoid locations subject to high temperature and high humidity or low temperature and low humidity; an abrupt change in the environmental temperature; and cool or hot, direct air.

Avoid places subject to dust and vibrations.

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 well-ventilated location.

1-2-2 Unpacking

(1) Unpacking

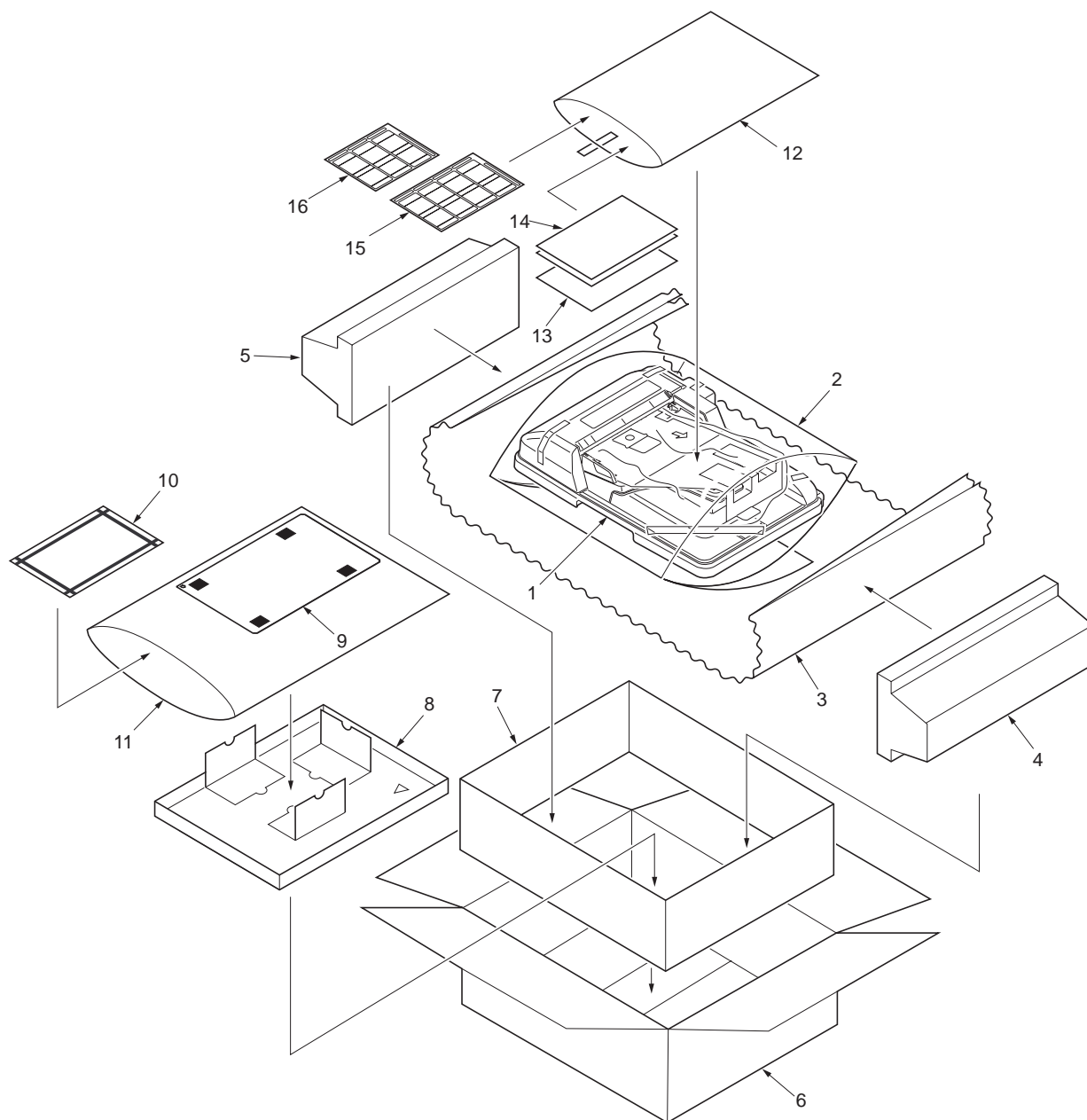


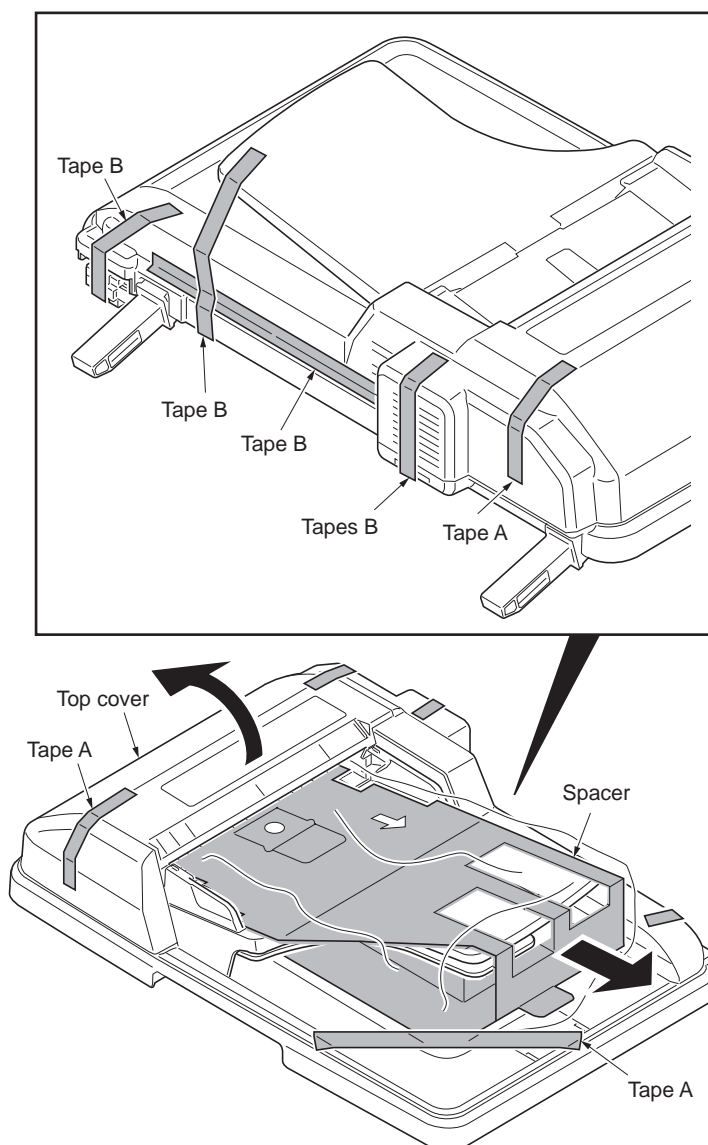
Figure 1-2-1 Unpacking

- | | |
|----------------------------|---------------------------|
| 1. Document processor (DP) | 9. Original mat |
| 2. Plastic bag 300 × 800 | 10. Adjustment original |
| 3. Plastic sheet 800 × 800 | 11. Plastic bag 300 × 500 |
| 4. Side pad R | 12. Plastic bag 240 × 350 |
| 5. Side pad L | 13. Installation guide |
| 6. Outer case | 14. Leaflets |
| 7. Inner case | 15. Caution label (A) |
| 8. Spacer tray | 16. Caution label (E) |

Caution: See the Installation Guide for installation.

(2) Removing the tapes and the spacer**Procedure**

1. Remove three tapes A.
2. Open the top cover and then remove the spacer.
3. Remove four tapes B.

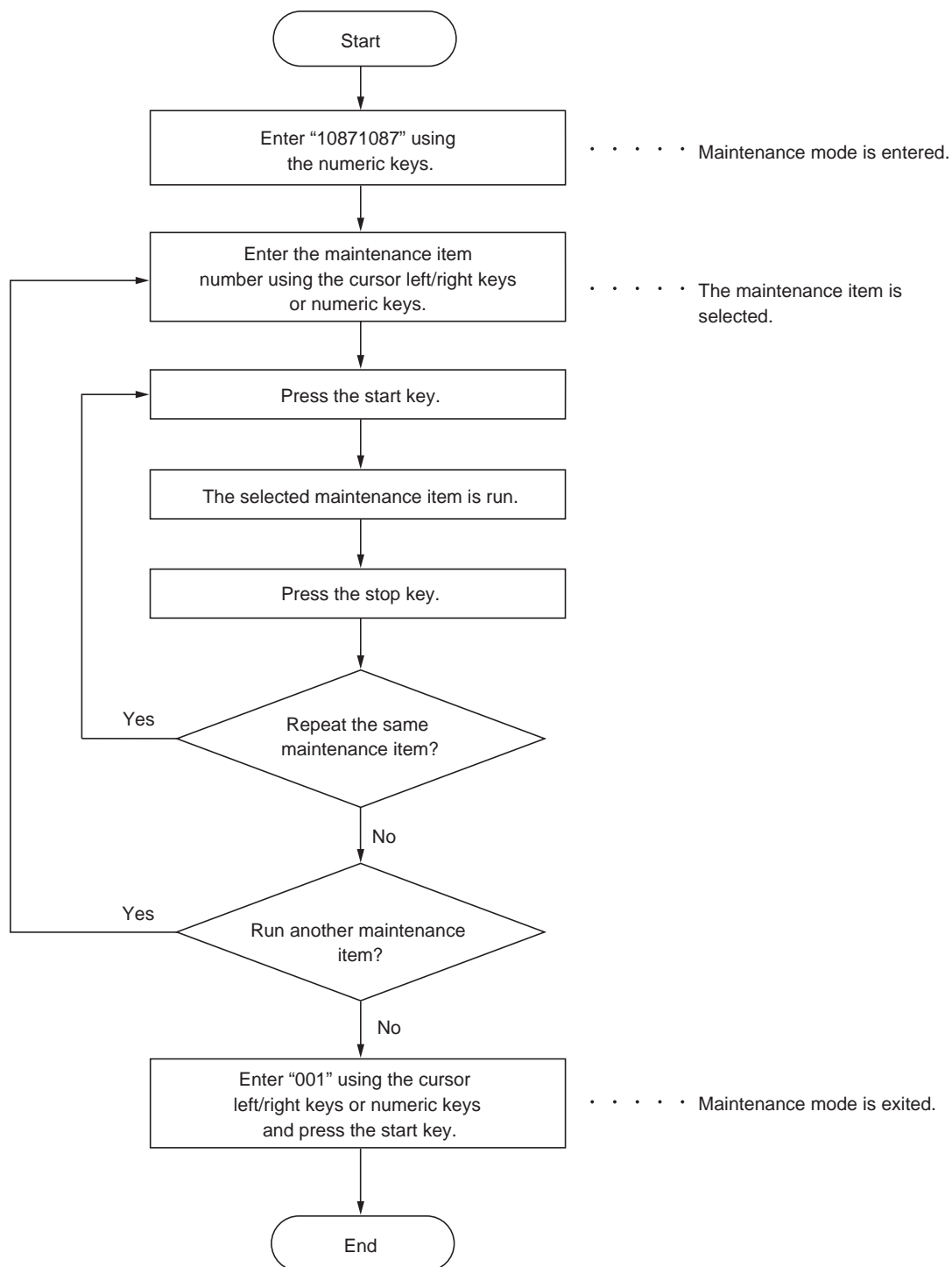
**Figure 1-2-2**

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1-3-1 Maintenance mode

The machine is equipped with a maintenance function which can be used to maintain and service the machine.

(1) Executing a maintenance item



(2) Maintenance modes item list




Section	Item No.	Content of maintenance item	Initial setting
General	U001	Exiting the maintenance mode	-
Optical	U068	Adjusting the scanning position for originals from the DP	0/0
	U070	Adjusting the DP magnification	0
	U071	Adjusting the DP scanning timing	0/0/0/0/0
	U072	Adjusting the DP center line	0/0
	U087	Setting DP reading position modification operation	125/125/120
DP	U203	Checking DP operation	-
	U243	Checking the operation of the DP motor solenoids and clutch	-
	U244	Checking the DP sensors	-
Image processing	U404	Adjusting margins for scanning an original from the DP	3.0/2.5/3.0/4.0
	U411	Adjusting the scanner automatically	-
Others	U905	Checking/clearing counts by optional devices	-
	U942	Setting of deflection for feeding from DP	0/0




(3) Contents of the maintenance mode items




Maintenance item No.	Description															
U001	<p>Exiting the maintenance mode</p> <p>Description Exits the maintenance mode and returns to the normal copy mode.</p> <p>Purpose To exit the maintenance mode.</p> <p>Method Press the start key. The normal copy mode is entered.</p>															
U068	<p>Adjusting the scanning position for originals from the DP</p> <p>Description Adjusts the position for scanning originals from the DP. Performs the test copy at the four scanning positions after adjusting.</p> <p>Purpose Used when the image fogging occurs because the scanning position is not proper when the DP is used. Run U071 to adjust the timing of DP leading edge when the scanning position is changed.</p> <p>Setting</p> <div><div>1. Press the start key.</div><table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>DP READ</td><td>Starting position adjustment for scanning originals</td><td>-33 to 33</td><td>0</td><td>0.086 mm</td></tr><tr><td>BLACK LINE</td><td>Scanning position for the test copy originals</td><td>0 to 3</td><td>0</td><td>0.22 mm</td></tr></table></div> <div><div>2. Select [DP READ].</div><div>3. Change the setting using the cursor left/right keys or numeric keys. When the setting value is increased, the scanning position moves to the right and it moves to the left when the setting value is decreased.</div><div>4. Press the start key. The value is set.</div><div>5. Select [BLACK LINE] using the cursor up/down keys.</div><div>6. Select the scanning position using the cursor left/right keys or numeric keys.</div><div>7. Press the start key. The value is set.</div><div>8. Set the original (the one which density is known) in the DP and press the system menu/counter key. The screen for the test copy mode is displayed.</div><div>9. Press the start key. Test copy is executed.</div><div>10. Perform the test copy at each scanning position with the setting value from 0 to 3 and check that no black line appears and the image is normally scanned.</div></div> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	Change in value per step	DP READ	Starting position adjustment for scanning originals	-33 to 33	0	0.086 mm	BLACK LINE	Scanning position for the test copy originals	0 to 3	0	0.22 mm
Display	Description	Setting range	Initial setting	Change in value per step												
DP READ	Starting position adjustment for scanning originals	-33 to 33	0	0.086 mm												
BLACK LINE	Scanning position for the test copy originals	0 to 3	0	0.22 mm												

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Maintenance item No.	Description										
U070	<p>Adjusting the DP magnification</p> <p>Description Adjusts the DP original scanning speed.</p> <p>Purpose Make the adjustment if the magnification is incorrect in the auxiliary scanning direction when the DP is used.</p> <p>Method 1. Press the start key.</p> <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>CONVEY SPEED</td><td>Magnification in the auxiliary scanning direction</td><td>-25 to 25</td><td>0</td><td>0.1%</td></tr></table> <p>Adjustment 1. Press the system menu/counter key. 2. Place an original on the DP and press the start key to make a test copy. 3. Press the system menu/counter key. 4. Change the setting value using the cursor left/right keys or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value.</p> <div><div><p>Original</p></div><div><p>Copy example 1</p></div><div><p>Copy example 2</p></div></div> <p>Figure 1-3-1</p> <p>5. Press the start key. The value is set.</p> <p>Caution Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.</p> <div><div>U070</div><div>→</div><div>U071 (P.1-3-5)</div><div>→</div><div>U404 (P.1-3-11)</div></div> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	Change in value per step	CONVEY SPEED	Magnification in the auxiliary scanning direction	-25 to 25	0	0.1%
Display	Description	Setting range	Initial setting	Change in value per step							
CONVEY SPEED	Magnification in the auxiliary scanning direction	-25 to 25	0	0.1%							

Maintenance item No.	Description																														
U071	<p>Adjusting the DP scanning timing</p> <p>Description Adjusts the DP original scanning timing.</p> <p>Purpose Make the adjustment if there is a regular error between the leading or trailing edges of the original and the copy image when the optional DP is used.</p> <p>Method</p> <ol style="list-style-type: none">1. Press the start key.2. Select the item to be adjusted using the cursor up/down keys. <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>FRONT HEAD</td><td>Leading edge registration (first page)</td><td>-32 to 32</td><td>0</td><td>0.196 mm</td></tr><tr><td>FRONT TAIL</td><td>Trailing edge registration (first page)</td><td>-32 to 32</td><td>0</td><td>0.196 mm</td></tr><tr><td>BACK HEAD</td><td>Leading edge registration (second page)</td><td>-45 to 45</td><td>0</td><td>0.196 mm</td></tr><tr><td>BACK TAIL</td><td>Trailing edge registration (second page)</td><td>-45 to 45</td><td>0</td><td>0.196 mm</td></tr><tr><td>ROTATE</td><td>Leading edge registration (rotate copying)</td><td>-128 to 127</td><td>0</td><td>0.196 mm</td></tr></table> <p>Adjustment: Leading edge registration</p> <ol style="list-style-type: none">1. Press the system menu/counter key.2. Place an original on the DP and press the start key to make a test copy.3. Press the system menu/counter key.4. Change the setting value using the cursor left/right keys or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value. <div><div></div><div>Original</div><div></div><div>Copy example 1</div><div></div><div>Copy example 2</div></div> <p>Figure 1-3-2</p> <ol style="list-style-type: none">5. Press the start key. The value is set. <p>Caution Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.</p> <div><div>U071</div><div>→</div><div>U404 (P.1-3-11)</div></div>	Display	Description	Setting range	Initial setting	Change in value per step	FRONT HEAD	Leading edge registration (first page)	-32 to 32	0	0.196 mm	FRONT TAIL	Trailing edge registration (first page)	-32 to 32	0	0.196 mm	BACK HEAD	Leading edge registration (second page)	-45 to 45	0	0.196 mm	BACK TAIL	Trailing edge registration (second page)	-45 to 45	0	0.196 mm	ROTATE	Leading edge registration (rotate copying)	-128 to 127	0	0.196 mm
Display	Description	Setting range	Initial setting	Change in value per step																											
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BACK TAIL	Trailing edge registration (second page)	-45 to 45	0	0.196 mm																											
ROTATE	Leading edge registration (rotate copying)	-128 to 127	0	0.196 mm																											

Maintenance item No.	Description
U071	<p>Adjustment: Trailing edge registration</p> <ol style="list-style-type: none">1. Press the system menu/counter key.2. Place an original on the DP and press the start key to make a test copy.3. Press the system menu/counter key.4. Change the setting value using the cursor left/right keys or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value. <div><div><p>Original</p></div><div><p>Copy example 1</p></div><div><p>Copy example 2</p></div></div> <p>Figure 1-3-3</p> <ol style="list-style-type: none">5. Press the start key. The value is set. <p>Caution Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.</p> <div><div>U071</div><div>→</div><div>U404 (P.1-3-11)</div></div> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>

Maintenance item No.	Description																				
U072	<p>Adjusting the DP center line</p> <p>Description Adjusts the scanning start position for the DP original.</p> <p>Purpose Make the adjustment if there is a regular error between the centers of the original and the copy image when the optional DP is used.</p> <p>Adjustment</p> <div><div><div>1. Press the start key.</div><div>2. Select the item to be adjusted using the cursor up/down keys.</div></div><table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>FRONT</td><td>Center line (first page)</td><td>-39 to 39</td><td>0</td><td>0.086 mm</td></tr><tr><td>BACK</td><td>Center line (second page)</td><td>-39 to 39</td><td>0</td><td>0.086 mm</td></tr><tr><td>ROTATE</td><td>Center line (rotate copying)</td><td>-128 to 127</td><td>0</td><td>0.086 mm</td></tr></table><div><div><div>3. Press the system menu/counter key.</div><div>4. Place an original on the DP and press the start key to make a test copy.</div><div>5. Press the system menu/counter key.</div><div>6. Change the setting value using the cursor left/right keys or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value.</div></div><div><div><div>Reference</div><div><div><div></div><div></div></div><div>Original</div></div><div><div><div></div><div></div></div><div>Copy example 1</div></div><div><div><div></div><div></div></div><div>Copy example 2</div></div></div></div></div><p>7. Press the start key. The value is set.</p><p>Caution Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.</p><div><div>U072</div><div>→</div><div>U404 (P.1-3-11)</div></div><p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p></div>	Display	Description	Setting range	Initial setting	Change in value per step	FRONT	Center line (first page)	-39 to 39	0	0.086 mm	BACK	Center line (second page)	-39 to 39	0	0.086 mm	ROTATE	Center line (rotate copying)	-128 to 127	0	0.086 mm
Display	Description	Setting range	Initial setting	Change in value per step																	
FRONT	Center line (first page)	-39 to 39	0	0.086 mm																	
BACK	Center line (second page)	-39 to 39	0	0.086 mm																	
ROTATE	Center line (rotate copying)	-128 to 127	0	0.086 mm																	

Maintenance item No.	Description																						
U087	<p>Setting DP reading position modification operation</p> <p>Description</p> <p>The presence or absence of dust is determined by comparing the scan data of the original trailing edge and that taken after the original is conveyed past the DP original scanning position. If dust is identified, the DP original scanning position is adjusted for the following originals.</p> <p>Purpose</p> <p>When using DP, to solve the problem when black lines occurs due to the dust with respect to original reading position.</p> <p>Method</p> <ol style="list-style-type: none">1. Press the start key.2. Select the item to be set using the cursor up/down keys. <table><tr><th>Display</th><th>Description</th></tr><tr><td>CCD</td><td>Setting of standard data when dust is detected.</td></tr><tr><td>BLACK LINE</td><td>Initialization of original reading position.</td></tr></table> <p>Setting: Standard data when dust is detected</p> <ol style="list-style-type: none">1. Select the item to be set using the cursor up/down keys.2. Change the value using the cursor left/right keys or numeric keys. <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>CCD R</td><td>Lowest density of the R regard as the dust</td><td>0 to 255</td><td>125</td></tr><tr><td>CCD G</td><td>Lowest density of the G regard as the dust</td><td>0 to 255</td><td>125</td></tr><tr><td>CCD B</td><td>Lowest density of the B regard as the dust</td><td>0 to 255</td><td>120</td></tr></table> <ol style="list-style-type: none">3. Press the start key. The value is set. <p>Setting: Initialization of original reading position</p> <ol style="list-style-type: none">1. Select [CLEAR] using the cursor up/down keys.2. Press the start key. The setting is cleared. <p>Completion</p> <p>Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	CCD	Setting of standard data when dust is detected.	BLACK LINE	Initialization of original reading position.	Display	Description	Setting range	Initial setting	CCD R	Lowest density of the R regard as the dust	0 to 255	125	CCD G	Lowest density of the G regard as the dust	0 to 255	125	CCD B	Lowest density of the B regard as the dust	0 to 255	120
Display	Description																						
CCD	Setting of standard data when dust is detected.																						
BLACK LINE	Initialization of original reading position.																						
Display	Description	Setting range	Initial setting																				
CCD R	Lowest density of the R regard as the dust	0 to 255	125																				
CCD G	Lowest density of the G regard as the dust	0 to 255	125																				
CCD B	Lowest density of the B regard as the dust	0 to 255	120																				

Maintenance item No.	Description																
U203	<p>Checking DP operation</p> <p>Description Simulates the original conveying operation separately in the DP.</p> <p>Purpose To check the DP operation.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Place an original in the DP if running this simulation with paper. 3. Select the speed to be operated using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>NORMAL SPEED</td><td>Normal reading (600 dpi)</td></tr> <tr> <td>HIGH SPEED</td><td>High-speed reading</td></tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the start key. 5. Select the item to be operated using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>CCD ADP (NON P)</td><td>Without paper, single-sided original of CCD (continuous operation)</td></tr> <tr> <td>CCD ADP</td><td>With paper, single-sided original of CCD</td></tr> <tr> <td>CCD RADP (NON P)</td><td>Without paper, double-sided original of CCD (continuous operation)</td></tr> <tr> <td>CCD RADP</td><td>With paper, double-sided original of CCD</td></tr> </tbody> </table> <ol style="list-style-type: none"> 6. Press the start key. The operation starts. 7. To stop continuous operation, press the stop key. <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	NORMAL SPEED	Normal reading (600 dpi)	HIGH SPEED	High-speed reading	Display	Description	CCD ADP (NON P)	Without paper, single-sided original of CCD (continuous operation)	CCD ADP	With paper, single-sided original of CCD	CCD RADP (NON P)	Without paper, double-sided original of CCD (continuous operation)	CCD RADP	With paper, double-sided original of CCD
Display	Description																
NORMAL SPEED	Normal reading (600 dpi)																
HIGH SPEED	High-speed reading																
Display	Description																
CCD ADP (NON P)	Without paper, single-sided original of CCD (continuous operation)																
CCD ADP	With paper, single-sided original of CCD																
CCD RADP (NON P)	Without paper, double-sided original of CCD (continuous operation)																
CCD RADP	With paper, double-sided original of CCD																
U243	<p>Checking the operation of the DP motor solenoids and clutch</p> <p>Description Turns the motor, solenoids and clutch in the DP on.</p> <p>Purpose To check the operation of the DP motor, solenoids and clutch.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Select the item to be operated using the cursor up/down keys. 3. Press the start key. The operation starts. <table border="1"> <thead> <tr> <th>Display</th><th>Motor, solenoids and clutch</th></tr> </thead> <tbody> <tr> <td>DP FEED MOT</td><td>DP paper feed motor is turned on.</td></tr> <tr> <td>DP REV PRS SOL</td><td>DP switchback pressure solenoid is turned on.</td></tr> <tr> <td>DP REV BRCH SOL</td><td>DP switchback feedshift solenoid is turned on.</td></tr> <tr> <td>DP FEED CL</td><td>DP paper feed clutch is turned on.</td></tr> </tbody> </table> <ol style="list-style-type: none"> 4. To stop operation, press the stop key. <p>Completion Press the stop key when operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Motor, solenoids and clutch	DP FEED MOT	DP paper feed motor is turned on.	DP REV PRS SOL	DP switchback pressure solenoid is turned on.	DP REV BRCH SOL	DP switchback feedshift solenoid is turned on.	DP FEED CL	DP paper feed clutch is turned on.						
Display	Motor, solenoids and clutch																
DP FEED MOT	DP paper feed motor is turned on.																
DP REV PRS SOL	DP switchback pressure solenoid is turned on.																
DP REV BRCH SOL	DP switchback feedshift solenoid is turned on.																
DP FEED CL	DP paper feed clutch is turned on.																

Maintenance item No.	Description								
U244	<p>Checking the DP sensors</p> <p>Description Displays the status of the respective sensors in the DP.</p> <p>Purpose To check if respective sensors in the DP operate correctly.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Turn the respective sensors on and off manually to check the status. <p>When a sensor is detected to be in the ON position, the display for that sensor will be highlighted.</p> <table border="1" data-bbox="331 533 1399 701"> <thead> <tr> <th>Display</th><th>Sensors</th></tr> </thead> <tbody> <tr> <td>TMG SW</td><td>DP timing sensor</td></tr> <tr> <td>SET SW</td><td>DP original sensor</td></tr> <tr> <td>DP OP SW</td><td>DP open/close sensor</td></tr> </tbody> </table> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Sensors	TMG SW	DP timing sensor	SET SW	DP original sensor	DP OP SW	DP open/close sensor
Display	Sensors								
TMG SW	DP timing sensor								
SET SW	DP original sensor								
DP OP SW	DP open/close sensor								

Maintenance item No.	Description																									
U404	<p>Adjusting margins for scanning an original from the DP</p> <p>Description Adjusts margins for scanning the original from the DP.</p> <p>Purpose Make the adjustment if margins are incorrect when the optional DP is used.</p> <p>Caution Before making this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <div><div>U402 (See the service manual for the machine.)</div><div>→</div><div>U403 (See the service manual for the machine.)</div><div>→</div><div>U404</div></div> <p>Adjustment</p> <div><div>1. Press the start key.</div><div>2. Select the item to be adjusted using the cursor up/down keys.</div></div> <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>A MARGIN</td><td>Left margin</td><td>0 to 10.0</td><td>3.0</td><td>0.5 mm</td></tr><tr><td>B MARGIN</td><td>Leading edge margin</td><td>0 to 10.0</td><td>2.5</td><td>0.5 mm</td></tr><tr><td>C MARGIN</td><td>Right margin</td><td>0 to 10.0</td><td>3.0</td><td>0.5 mm</td></tr><tr><td>D MARGIN</td><td>Trailing edge margin</td><td>0 to 10.0</td><td>4.0</td><td>0.5 mm</td></tr></table> <div><div>3. Press the system menu/counter key.</div><div>4. Place an original on the DP and press the start key to make a test copy.</div><div>5. Press the system menu/counter key.</div><div>6. Change the setting value using the cursor left/right keys.</div><div>Increasing the value makes the margin wider, and decreasing it makes the margin narrower.</div></div> <div><div><div><div>DP left margin (2.0±1.0 mm)</div><div>DP leading edge margin (3.0±1.5 mm)</div><div>DP trailing edge margin (2.0±1.0 mm)</div><div>DP right margin (2.0±1.0 mm)</div></div></div></div> <p>Figure 1-3-5</p> <div><div>7. Press the start key. The value is set.</div></div> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	Change in value per step	A MARGIN	Left margin	0 to 10.0	3.0	0.5 mm	B MARGIN	Leading edge margin	0 to 10.0	2.5	0.5 mm	C MARGIN	Right margin	0 to 10.0	3.0	0.5 mm	D MARGIN	Trailing edge margin	0 to 10.0	4.0	0.5 mm
Display	Description	Setting range	Initial setting	Change in value per step																						
A MARGIN	Left margin	0 to 10.0	3.0	0.5 mm																						
B MARGIN	Leading edge margin	0 to 10.0	2.5	0.5 mm																						
C MARGIN	Right margin	0 to 10.0	3.0	0.5 mm																						
D MARGIN	Trailing edge margin	0 to 10.0	4.0	0.5 mm																						

Maintenance item No.	Description									
U411	<p>Adjusting the scanner automatically</p> <p>Description Uses the adjustment original supplied with DP and automatically adjusts the following items in the scanner and the DP scanning sections.</p> <p>Purpose To perform automatic adjustment of various items in the scanner and the DP scanning sections.</p> <p>Method 1. Press the start key.</p> <table><tr><th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr><tr><td>ADJUST TABLE</td><td>Automatic adjustment in the scanner section: Original size magnification, leading edge timing, center line, input gamma, input gamma in mono-chrome mode and matrix</td><td>302FZ56990</td></tr><tr><td>ADJUST DP</td><td>Automatic adjustment in the DP scanning section: Original size magnification, leading edge timing, center line</td><td>303LJ57010 (Adjustment original supplied with DP)</td></tr></table> <p>Method: TABLE</p> <ol style="list-style-type: none">Enter the target values which are shown on the specified original (P/N: 302FZ56990) executing maintenance item U425.Set a specified original (P/N: 302FZ56990) on the platen.Enter maintenance item U411.Select [ADJUST TABLE] using the cursor up/down keys.Press the start key. Auto adjustment starts. When automatic adjustment has normally completed, [OK] is displayed. If a problem occurs during auto adjustment, [NG XX] (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.To return to the screen for selecting an item, press the stop key. <p>Method: DP</p> <ol style="list-style-type: none">Select [ADJUST DP] using the cursor up/down keys.Set a specified original (P/N: 303LJ57010) in the DP.Press the start key. Auto adjustment starts. When automatic adjustment has normally completed, [OK] is displayed. If a problem occurs during auto adjustment, [NG XX] (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.To return to the screen for selecting an item, press the stop key. <p>Completion Press the stop key. The screen for selecting a maintenance item is displayed.</p>	Display	Description	Original to be used for adjustment (P/N)	ADJUST TABLE	Automatic adjustment in the scanner section: Original size magnification, leading edge timing, center line, input gamma, input gamma in mono-chrome mode and matrix	302FZ56990	ADJUST DP	Automatic adjustment in the DP scanning section: Original size magnification, leading edge timing, center line	303LJ57010 (Adjustment original supplied with DP)
Display	Description	Original to be used for adjustment (P/N)								
ADJUST TABLE	Automatic adjustment in the scanner section: Original size magnification, leading edge timing, center line, input gamma, input gamma in mono-chrome mode and matrix	302FZ56990								
ADJUST DP	Automatic adjustment in the DP scanning section: Original size magnification, leading edge timing, center line	303LJ57010 (Adjustment original supplied with DP)								

Maintenance item No.	Description															
U905	<p>Checking/clearing counts by optional devices</p> <p>Description Displays or clears the counts of DP.</p> <p>Purpose To check the use of DP. Also to clear the counts after replacing consumable parts.</p> <p>Method</p> <p>1. Press the start key.</p> <table><tr><th>Display</th><th>Description</th></tr><tr><td>ADP</td><td>No. of single-sided originals that has passed through the DP</td></tr><tr><td>RADP</td><td>No. of double-sided originals that has passed through the DP</td></tr></table> <p>Clearing</p> <p>1. Select the item to be cleared using the cursor up/down keys. To clear the counts for all, select [ALL CLEAR].</p> <p>2. Press the start key. The count is cleared.</p> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ADP	No. of single-sided originals that has passed through the DP	RADP	No. of double-sided originals that has passed through the DP									
Display	Description															
ADP	No. of single-sided originals that has passed through the DP															
RADP	No. of double-sided originals that has passed through the DP															
U942	<p>Setting of deflection for feeding from DP</p> <p>Description Adjusts the deflection generated when the DP is used.</p> <p>Purpose Use this mode if an original non-feed jam, oblique feed or wrinkling of original occurs when the DP is used.</p> <p>Setting</p> <p>1. Press the start key.</p> <p>2. Select the item to be adjusted using the cursor up/down keys.</p> <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr><tr><td>REGIST TOP</td><td>Deflection of single-sided original</td><td>-31 to 31</td><td>0</td><td>0.098 mm</td></tr><tr><td>REGIST BACK</td><td>Deflection of double-sided original</td><td>-31 to 31</td><td>0</td><td>0.098 mm</td></tr></table> <p>3. Press the system menu/counter key.</p> <p>4. Place an original on the DP and press the start key to make a test copy.</p> <p>5. Press the system menu/counter key.</p> <p>6. Change the setting value using the cursor left/right keys or numeric keys. The greater the value, the larger the deflection; the smaller the value, the smaller the deflection. If an original non-feed jam or oblique feed occurs, increase the setting value. If wrinkling of original occurs, decrease the value.</p> <p>7. Press the start key. The setting is set.</p> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	Change in value per step	REGIST TOP	Deflection of single-sided original	-31 to 31	0	0.098 mm	REGIST BACK	Deflection of double-sided original	-31 to 31	0	0.098 mm
Display	Description	Setting range	Initial setting	Change in value per step												
REGIST TOP	Deflection of single-sided original	-31 to 31	0	0.098 mm												
REGIST BACK	Deflection of double-sided original	-31 to 31	0	0.098 mm												

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1-4-1 Original misfeed detection

(1) Original misfeed indication

When an original jams, the machine immediately stops operation and a message is shown on the machine operation panel.

To remove the jammed original, open the top cover.

To reset the original misfeed detection, open and close the top cover.

(2) Original misfeed detection conditions

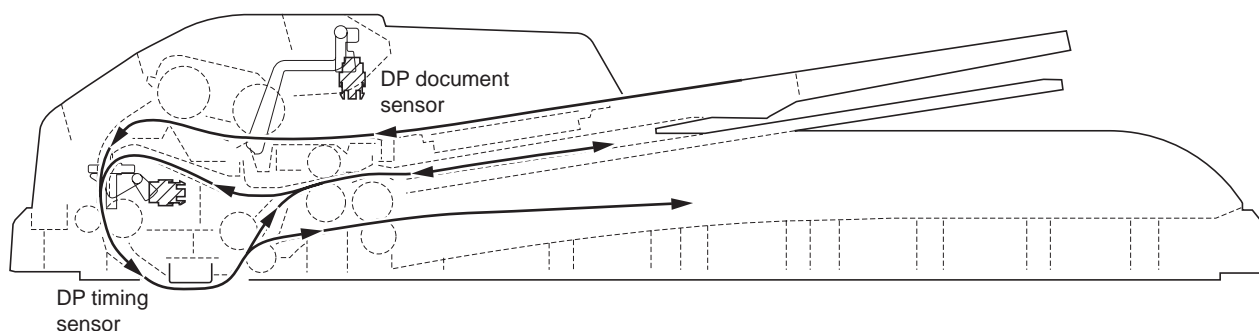


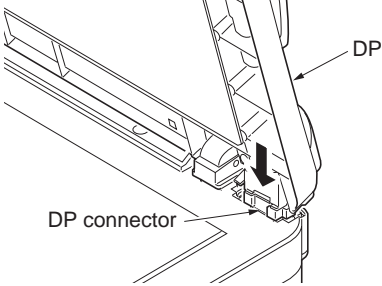
Figure 1-4-1

Section	Jam code	Conditions	Specified time
DP	70 No original feed	The DP timing sensor does not turn on within specified time during the first sheet feeding (Retry 5 times).	647 pulses
		The DP timing sensor does not turn on within specified time during the second sheet feeding (Retry 5 times).	647 pulses
	71 An original jam in the original conveying section 1	The DP timing sensor does not turn off within specified time of the DP paper feed motor turning on.	7487 pulses
	72 An original jam in the original conveying section 2	The DP timing sensor turns off within the specified time of period of the DP paper feed motor turning on.	1456 pulses
	73 An original jam in the original switchback section	During original switchback operation, DP timing sensor does not turn off within specified time of the DP paper feed motor turning on.	7487 pulses
	74 An original jam in the original switchback/feed section	The DP timing sensor does not turn on within specified time of the DP timing sensor turning off.	4511 pulses
	78 Top cover open	The top cover is opened during original feeding. The DP timing sensor turns on when starting the original paper feed.	-

(3) Paper misfeeds

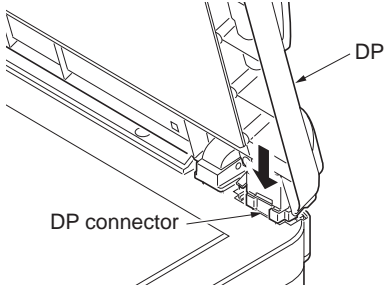
Problem	Causes/check procedures	Corrective measures
(1) An original jams in DP is indicated during copying (no original feed). Jam code 70	Defective DP timing sensor.	Run maintenance item U244 and turn the DP timing sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the operation panel is not displayed in reverse.
	Check if the DP paper feed motor malfunctions.	Run maintenance item U243 and select the DP paper feed motor on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Check if the DP paper feed clutch malfunctions.	Run maintenance item U243 and select the DP paper feed clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
(2) An original jams in DP is indicated during copying (a jam in the original conveying section 1). Jam code 71	Defective DP timing sensor.	Run maintenance item U244 and turn the DP timing sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the operation panel is not displayed in reverse.
	Check if the DP paper feed motor malfunctions.	Run maintenance item U243 and select the DP paper feed motor on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Check if the DP paper feed clutch malfunctions.	Run maintenance item U243 and select the DP paper feed clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
(3) An original jams in DP is indicated during copying (a jam in the original conveying section 2). Jam code 72	Defective DP timing sensor.	Run maintenance item U244 and turn the DP timing sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the operation panel is not displayed in reverse.
	Check if the DP paper feed motor malfunctions.	Run maintenance item U243 and select the DP paper feed motor on the operation panel to be turned on and off. Check the status and remedy if necessary.
	Check if the DP paper feed clutch malfunctions.	Run maintenance item U243 and select the DP paper feed clutch on the operation panel to be turned on and off. Check the status and remedy if necessary.
(4) An original jams when the main power switch is turned on.	A piece of paper torn from an original is caught around the DP timing sensor.	Remove any found.
	Defective DP timing sensor.	Run maintenance item U244 and turn the DP timing sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the operation panel is not displayed in reverse.

1-4-2 Electric problems

Problem	Causes	Check procedures/corrective measures
(1) The DP paper feed motor does not operate.	Connection failure with DP connector.	Turn the main power switch off, investigate the DP connector connection, and firmly connect the DP connector. 
	Defective harness between DP paper feed motor and DP driver PWB (YC3), or improper connector insertion.	Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness.
	Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
	Defective DP paper feed motor.	Run maintenance item U243 and check if the DP paper feed motor operates. If not, replace the DP paper feed motor.
	Defective DP driver PWB.	Run maintenance item U243 and check if the motor operates. If not, replace the DP driver PWB (see page 1-5-3).
	Defective scanner PWB (Main machine).	Run maintenance item U243 and check if the motor operates. If not, replace the scanner PWB (Refer to the main machine's service manual).
(2) The switchback pressure solenoid does not operate.	Defective harness between switchback pressure solenoid and DP driver PWB (YC5), or improper connector insertion.	Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness.
	Defective switchback pressure solenoid.	Run maintenance item U243 and check if the switchback pressure solenoid operates. If not, replace the switchback pressure solenoid.
	Defective DP driver PWB.	Run maintenance item U243 and check if the switchback pressure solenoid operates. If not, replace the DP driver PWB (see page 1-5-3).
	Defective scanner PWB (Main machine).	Run maintenance item U243 and check if the motor operates. If not, replace the scanner PWB (Refer to the main machine's service manual).

Problem	Causes	Check procedures/corrective measures
(3) The switchback feedshift solenoid does not operate.	Defective harness between switchback feedshift solenoid and DP driver PWB (YC6), or improper connector insertion.	Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness.
	Defective switchback feedshift solenoid.	Run maintenance item U243 and check if the switchback feedshift solenoid operates. If not, replace the switchback feedshift solenoid.
	Defective DP driver PWB.	Run maintenance item U243 and check if the switchback feedshift solenoid operates. If not, replace the DP driver PWB (see page 1-5-3).
	Defective scanner PWB (Main machine).	Run maintenance item U243 and check if the motor operates. If not, replace the scanner PWB (Refer to the main machine's service manual).
(4) A message indicating cover open is displayed when the top cover is closed correctly.	Defective harness between DP open/close sensor and DP driver PWB (YC2), or improper connector insertion.	Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness.
	Defective DP open/close sensor.	Run maintenance item U244 and turn the DP open/close sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the operation panel is not displayed in reverse.
(5) An original jams when the main power switch is turned on.	A piece of paper torn from an original is caught around the DP timing sensor.	Remove any found.
	Defective DP timing sensor.	Run maintenance item U244 and turn the DP timing sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the operation panel is not displayed in reverse.

1-4-3 Mechanical problems

Problem	Causes/check procedures	Corrective measures
(1) No primary original feed.	Connection failure with DP connector.	Turn the main power switch off, investigate the DP connector connection, and firmly connect the DP connector. 
	The surfaces of the forwarding pulley, feed pulley or separation pad are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty (see page 1-5-4 or page 1-5-7).
	Check if the forwarding pulley or the feed pulley is deformed.	If so, replace (see page 1-5-4).
	Electrical problem with the DP paper feed motor.	See page 1-4-4.
(2) Originals jam.	Originals outside the specifications are used.	Use only originals conforming to the specifications.
	The surfaces of the forwarding pulley, feed pulley or separation pad are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty (see page 1-5-4 or page 1-5-7).
	Check if the contact between the eject roller and exit pulley is correct.	Check visually and remedy if necessary.
	Check if the contact between the switchback roller and switchback pulley is correct.	Check visually and remedy if necessary.

1-5-1 Precautions for assembly and disassembly

(1) Precautions

Before starting disassembly, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the main power switch. And then unplug the power cable from the wall outlet.

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.

When removing the hook of the connector, be sure to release the hook.

Take care not to get the cables caught.

To reassemble the parts, use the original screws. If the types and the sizes of screws are not known, refer to the PARTS LIST.

1-5-2 Outer covers

(1) Detaching and refitting the DP rear cover and DP front cover

Procedure

1. Open the top cover.
2. Remove two screws.
3. Unhook the hook and then remove the DP rear cover.

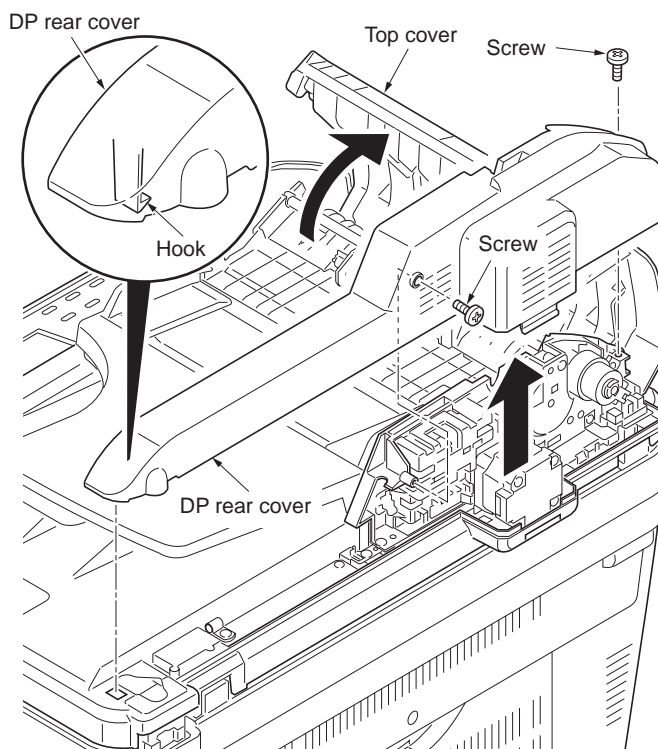


Figure 1-5-1

4. Unhook two hooks and then remove the DP front cover.

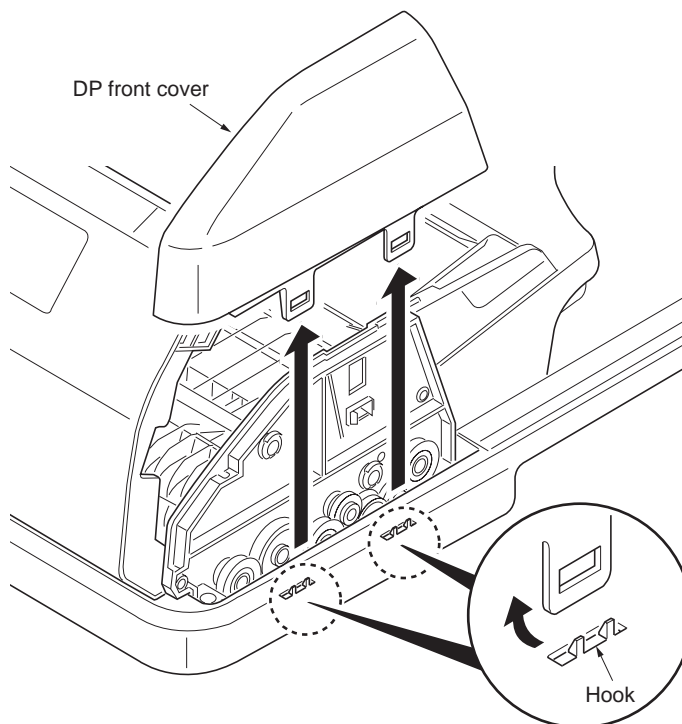


Figure 1-5-2

1-5-3 PWBs

(1) Detaching and refitting the DP driver PWB

Follow the procedure below to check or replace the DP driver PWB.

Procedure

1. Remove the DP rear cover (See page 1-5-2).
2. Remove eight connectors from the DP driver PWB.
3. Remove the screw and then remove the DP driver PWB.
4. Check or replace the DP driver PWB.
Refit all the removed parts.

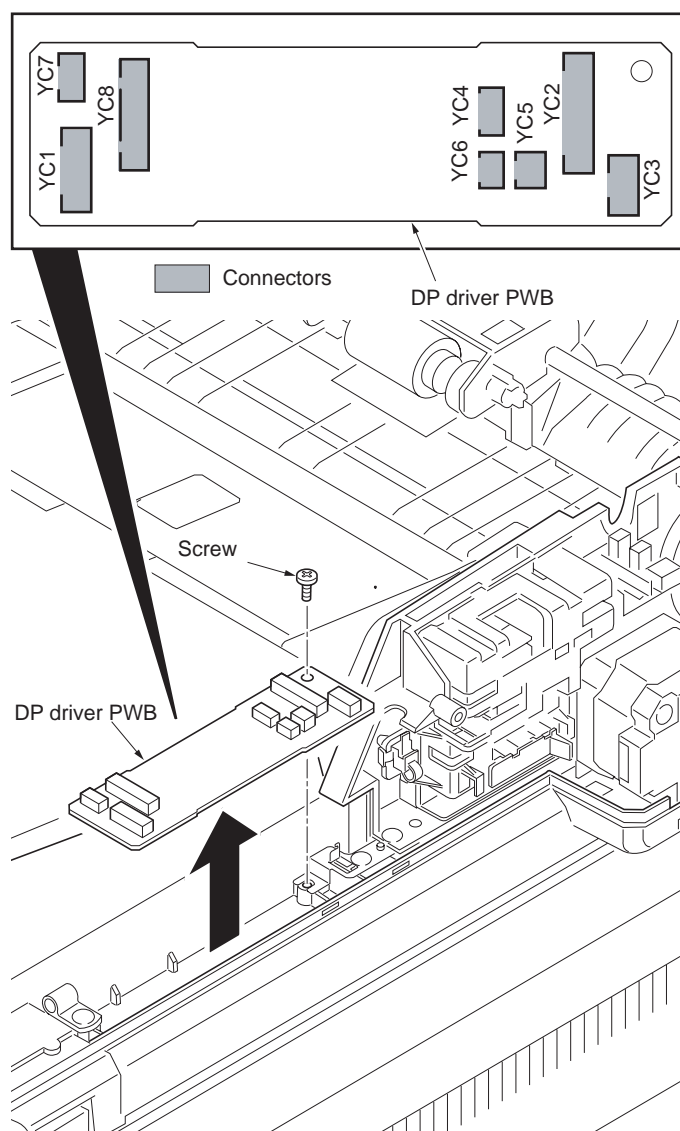


Figure 1-5-3

1-5-4 Feed section

(1) Detaching and refitting the feed pulley and forwarding pulley

Follow the procedure below to clean or replace the feed pulley or forwarding pulley.

Procedure

1. Remove the DP rear cover and DP front cover (See page 1-5-2).
2. Remove the stopper.
3. Remove the bush.

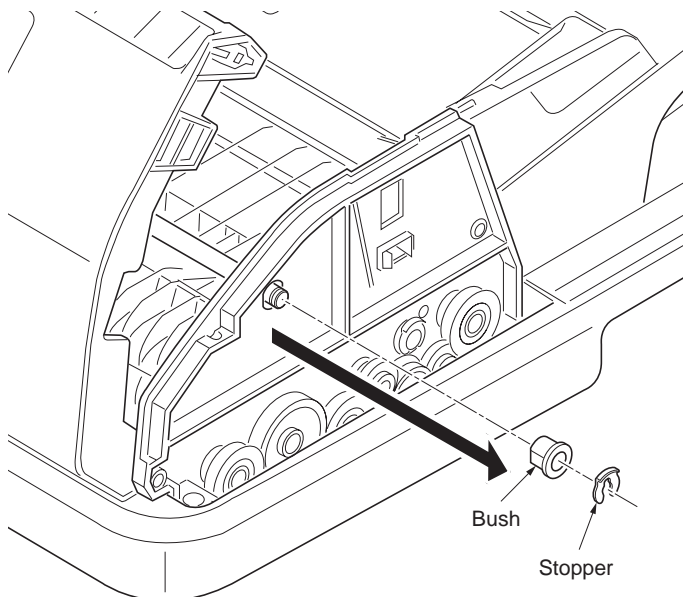


Figure 1-5-4

4. Remove the stopper A and then remove the DP paper feed clutch.
5. Remove the stopper B and then remove the PF collar, spring, spring collar S, pin and bush from the PF shaft.

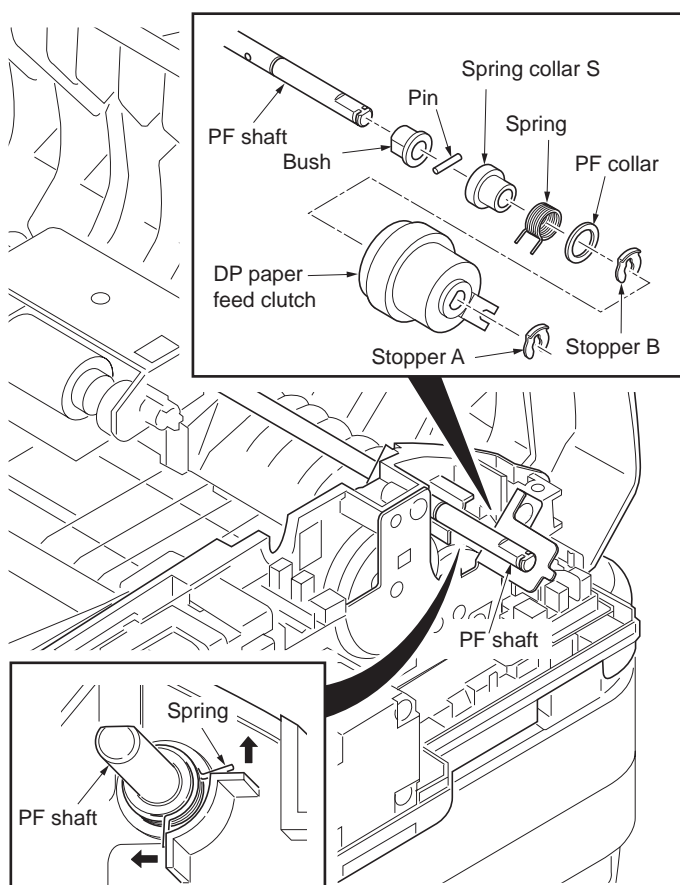


Figure 1-5-5

6. Remove the forwarding pulley assembly.

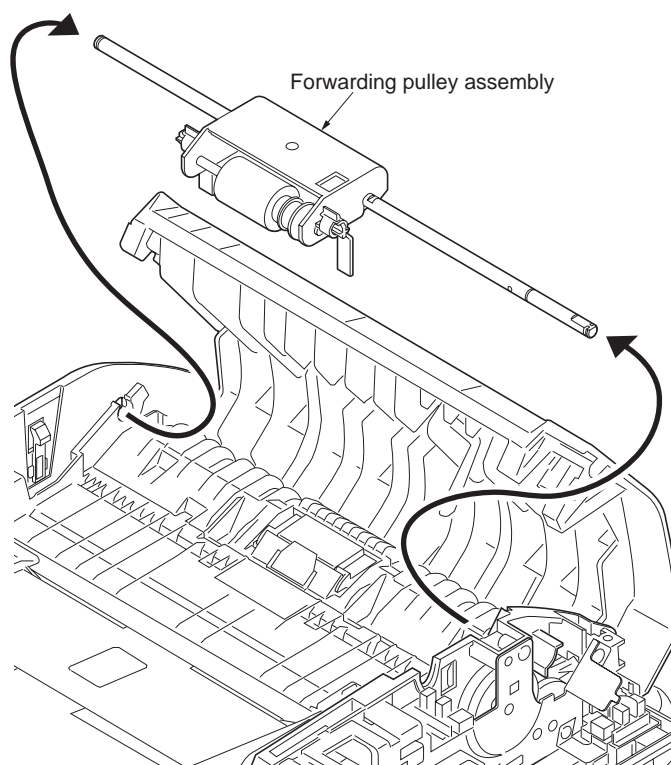


Figure 1-5-6

Detaching the feed pulley

7. Remove the stopper A.
8. Remove the feed pulley assembly from the LF holder.
9. Remove the stopper B.
10. Remove the PF collar, spring, spring collar S and pin from the PF shaft.
11. Remove the feed pulley, one-way clutch, PF pulley gear and pin from the PF shaft.

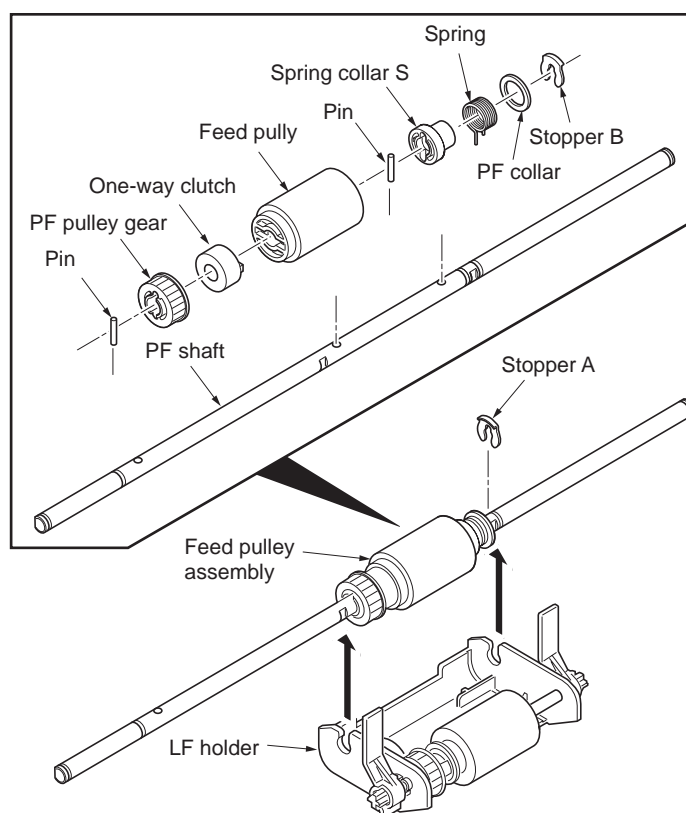
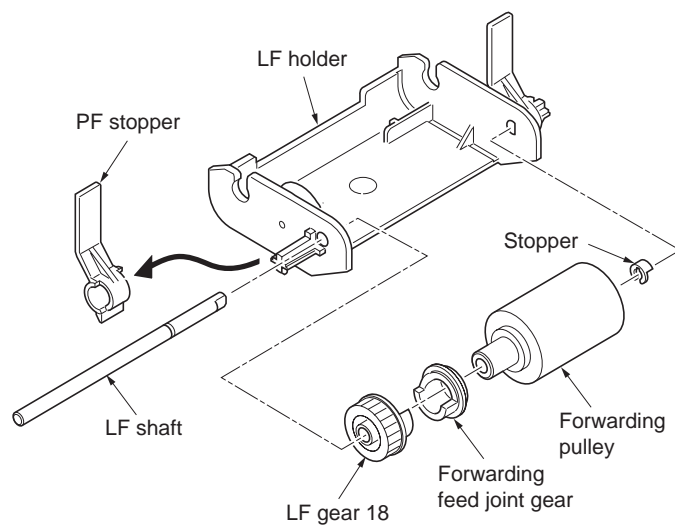


Figure 1-5-7

Detaching the forwarding pulley

12. Remove the PF stopper from the LF holder.
 13. Remove the stopper.
 14. Pull out the LF shaft and then remove the LF gear 18, forwarding feed joint gear and forwarding pulley.
 15. Clean or replace the feed pulley and forwarding pulley.
- Refit all the removed parts.

**Figure 1-5-8**

(2) Detaching and refitting the separation pad assembly

Follow the procedure below to clean or replace the separation pad assembly.

Procedure

1. Remove the forwarding pulley assembly
(See page 1-5-4).
2. Remove the separation pad assembly.
3. Clean or replace the separation pad assembly.
Refit all the removed parts.

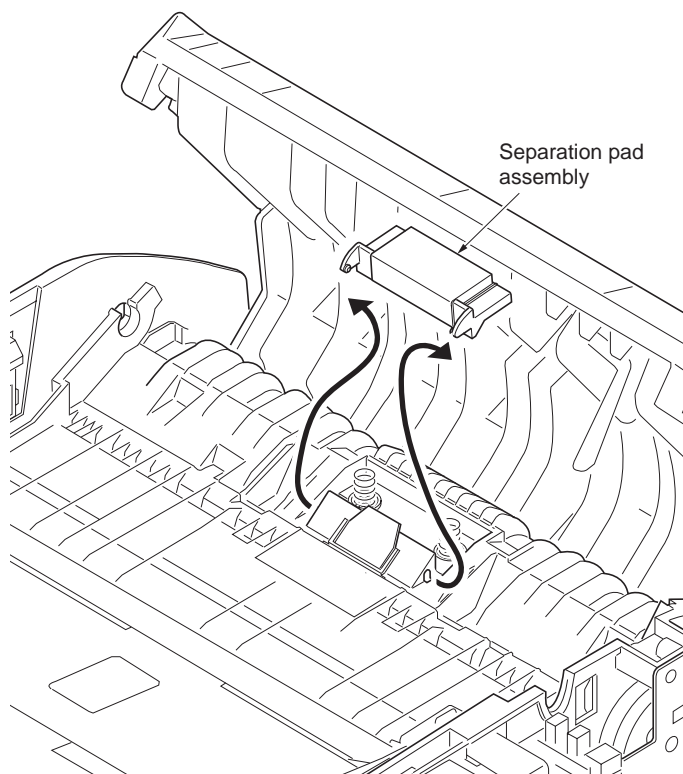


Figure 1-5-9

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2-1-1 Original feed section

The original feed section consists of the parts shown in figure. An original placed on the original table is conveyed to the original conveying section. Original is fed by the rotation of the forwarding pulley and feed pulley.

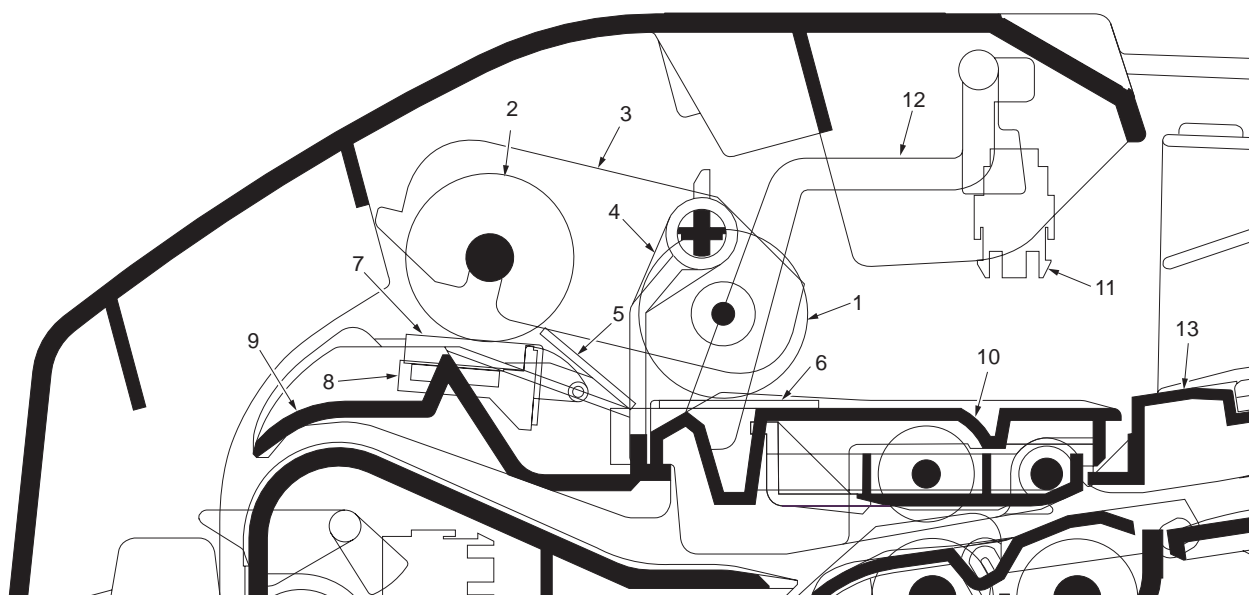


Figure 2-1-1 Original feed section

- | | |
|--------------------------|---------------------------------|
| (1) Forwarding pulley | (8) Separation mount |
| (2) Feed pulley | (9) Upper guide |
| (3) LF holder | (10) Loop guide |
| (4) PF stopper | (11) Original sensor |
| (5) Front separation pad | (12) Actuator (Original sensor) |
| (6) LF friction plate | (13) Original table |
| (7) Separation pad | |

]

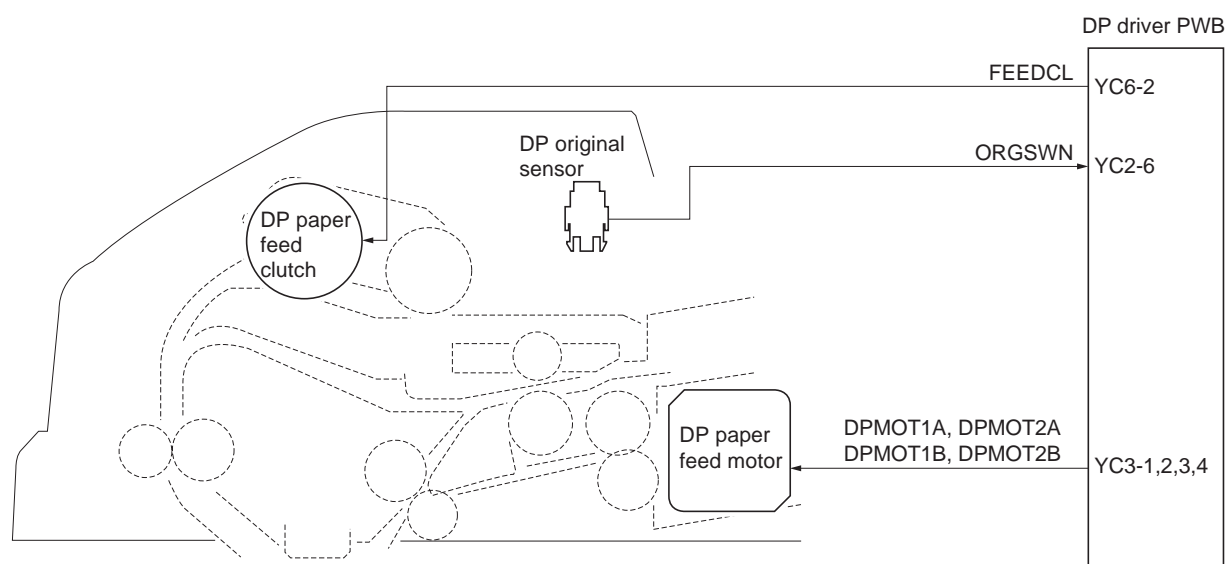


Figure 2-1-2 Original feed section block diagram

(1) Original conveying section

The original conveying section consists of the parts shown in figure. A conveyed original is scanned by the optical section (CCD) of main machine when it passes through the DP contact glass of main machine.

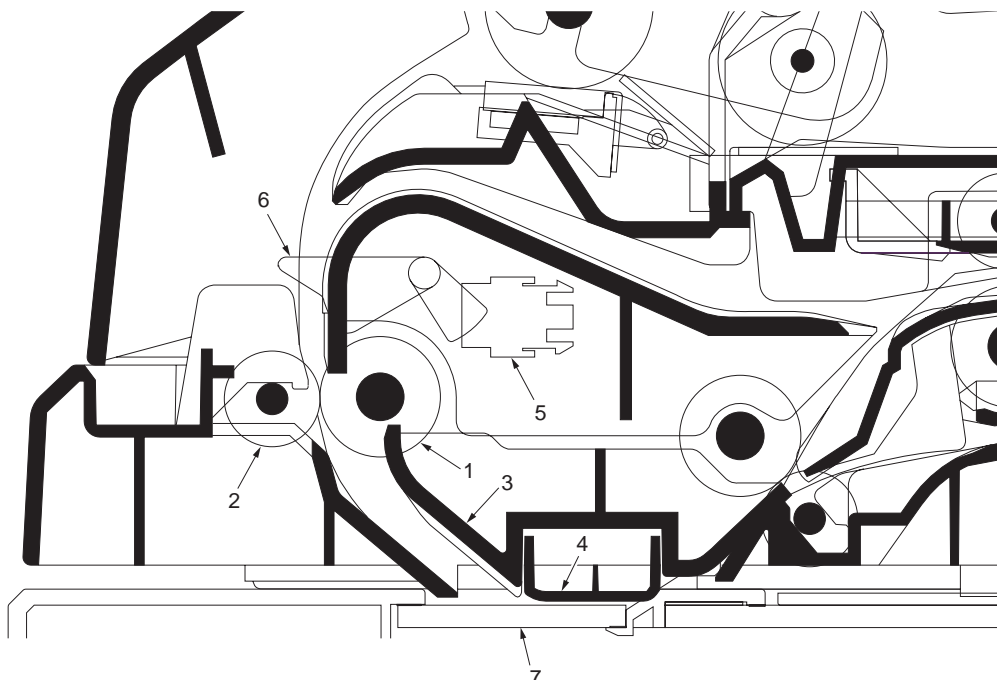


Figure 2-1-3 Original conveying section

- (1) Conveying roller A
- (2) Conveying pulley
- (3) Conveying bottom
- (4) Reading guide
- (5) DP timing sensor
- (6) Actuator (DP timing sensor)
- (7) DP contact glass (main machine)

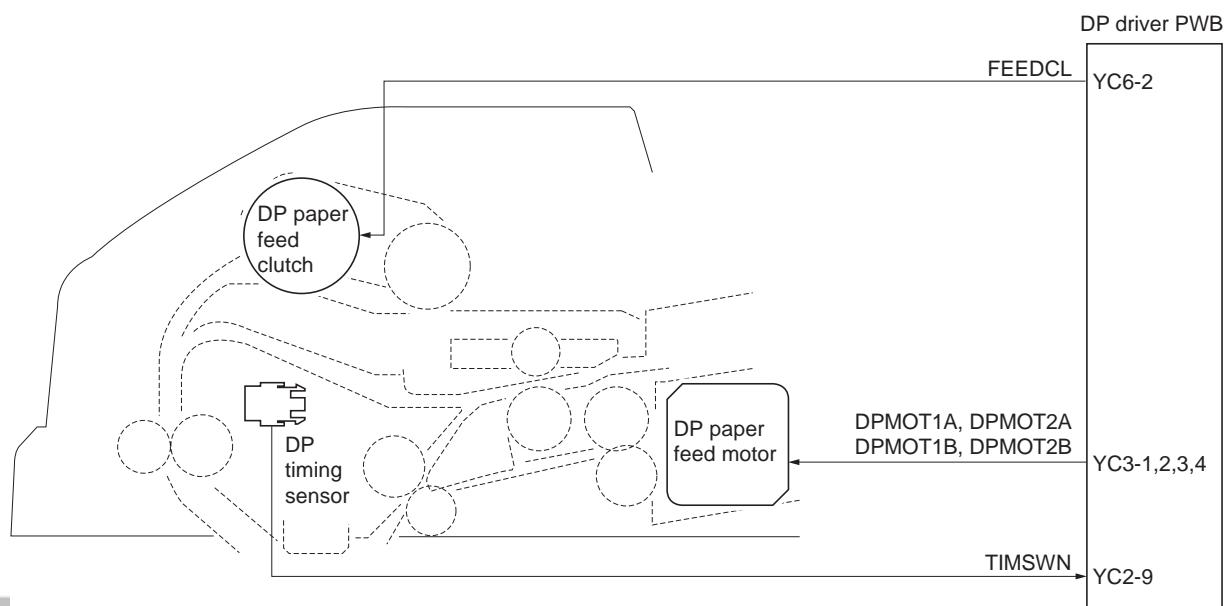


Figure 2-1-4 Original conveying section block diagram

2-1-2 Original switchback/eject sections

The original switchback/eject sections consists of the parts shown in figure. An original of which scanning is complete is ejected to the original eject table by the eject roller. In the case of duplex switchback scanning, an original is conveyed temporarily to the switchback tray and conveyed again to the original conveying section by the switchback roller.

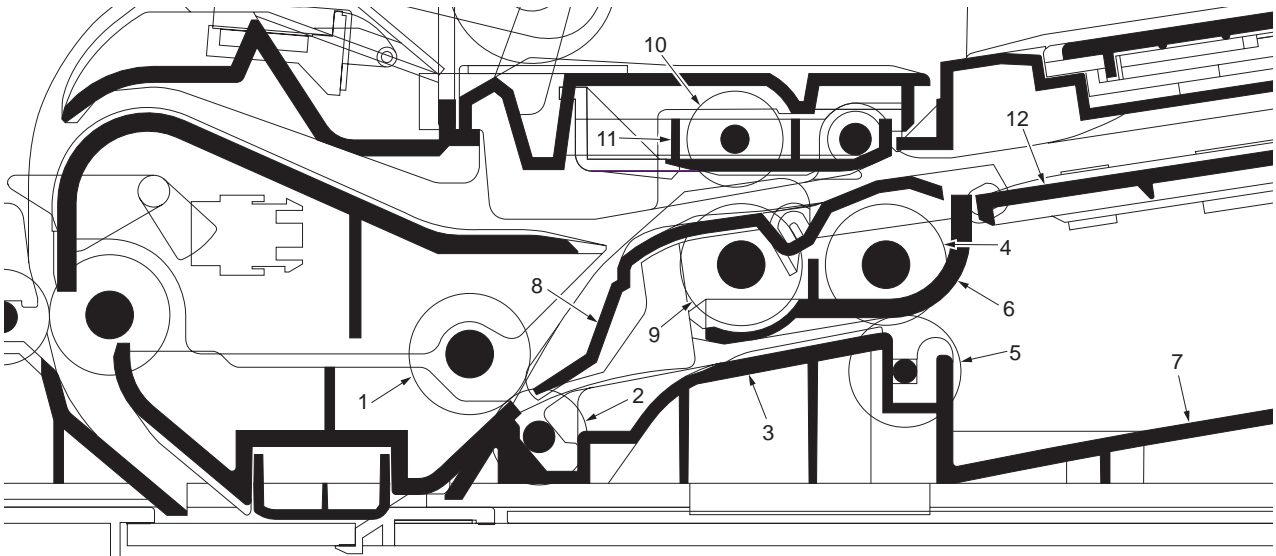


Figure 2-1-5 Original switchback/eject sections

- | | |
|------------------------|------------------------------|
| (1) Conveying roller B | (7) Original eject table |
| (2) Conveying pulley | (8) Switchback guide |
| (3) DP base | (9) Switchback roller |
| (4) Eject roller | (10) Switchback pulley |
| (5) Exit pulley | (11) Switchback pulley mount |
| (6) PF housing | (12) Switchback tray |

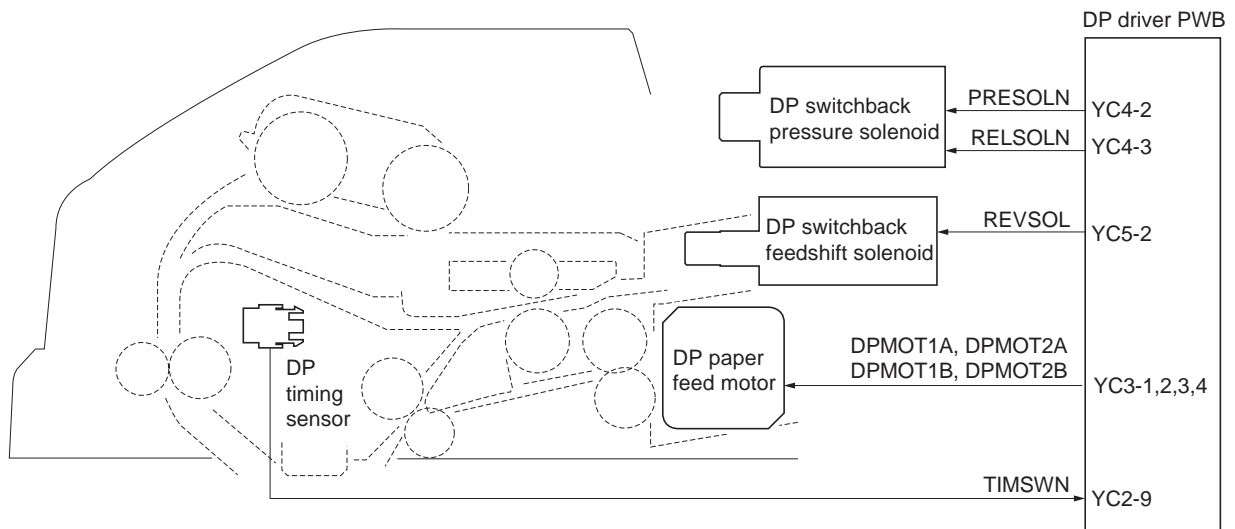


Figure 2-1-6 Original switchback/eject sections block diagram

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2-2-1 Electrical parts layout

(1) Electrical parts layout

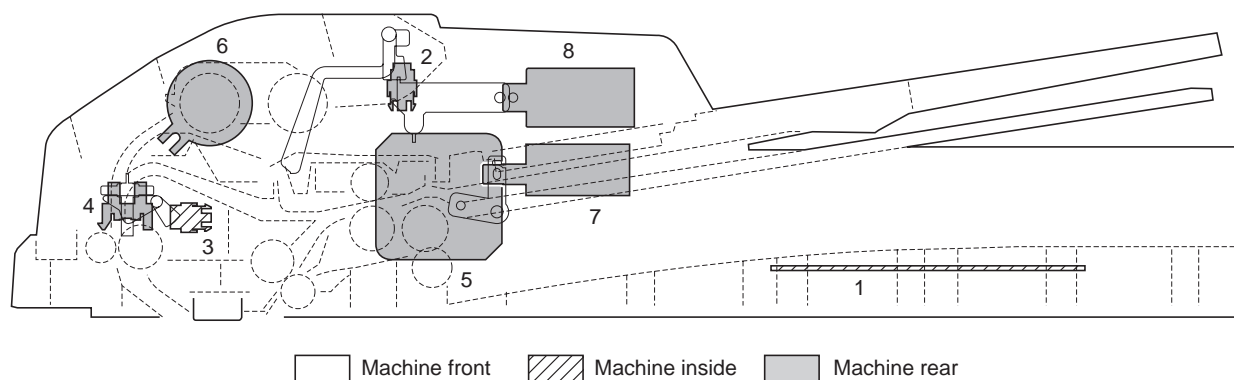


Figure 2-2-1 Electrical parts layout

1. DP driver PWB..... Consists the solenoids and clutch driver circuit and wiring relay circuit.
2. DP original sensor..... Detects the presence of an original.
3. DP timing sensor..... Detects the original scanning timing.
4. DP open/close sensor..... Detects the opening/closing of the DP.
5. DP paper feed motor..... Drives the original feed section.
6. DP paper feed clutch Controls the drive of the forwarding pulley and feed pulley.
7. DP switchback feedshift solenoid Operates the switchback guide.
8. DP switchback pressure solenoid Operates the switchback pulley.

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2-3-1 DP driver PWB

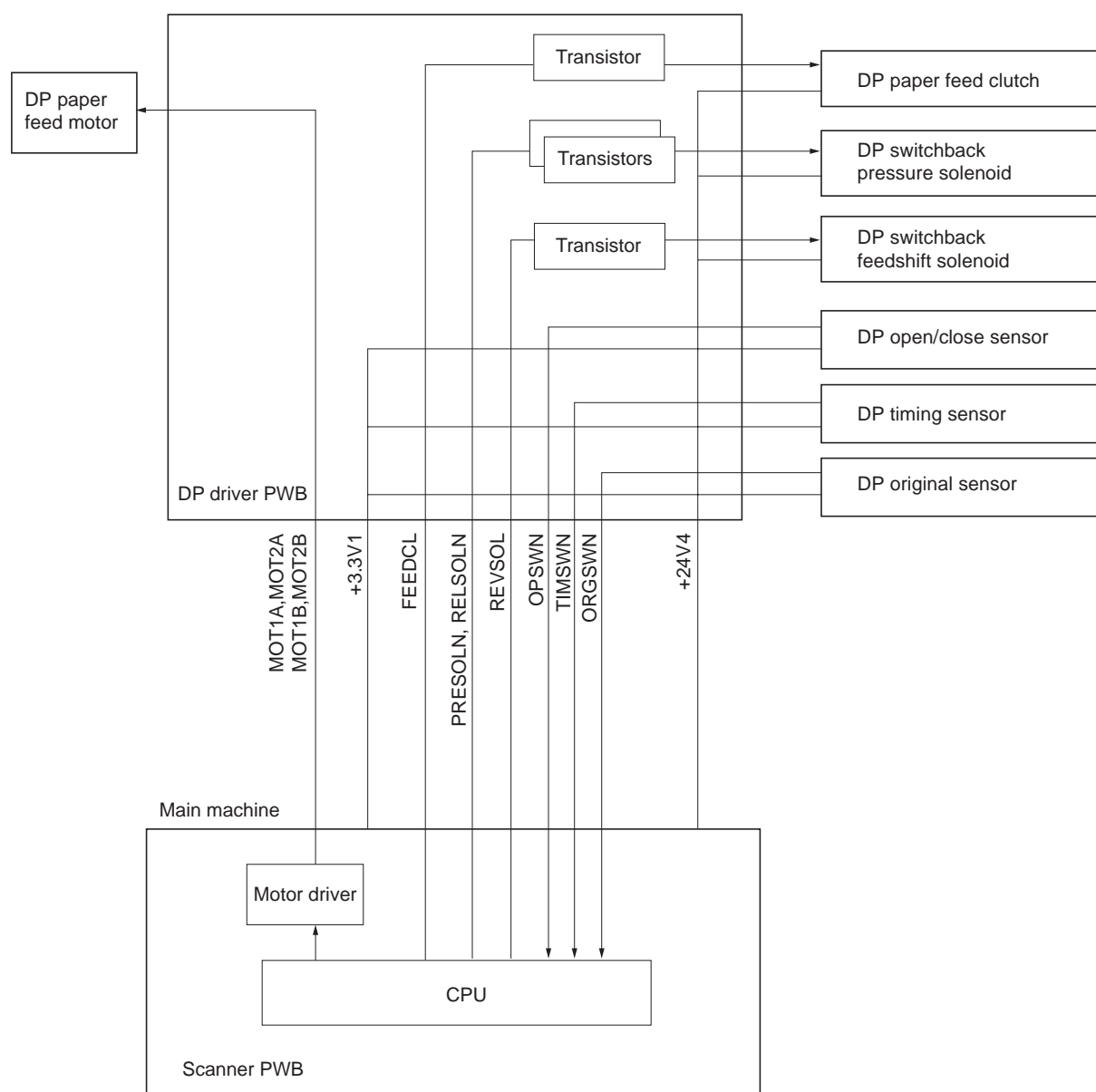


Figure 2-3-1 DP driver PWB block diagram

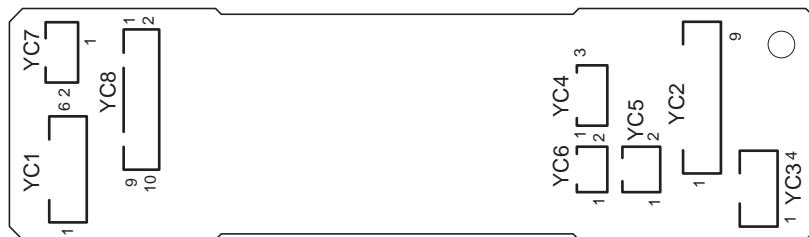


Figure 2-3-2DP driver PWB silk-screen diagram

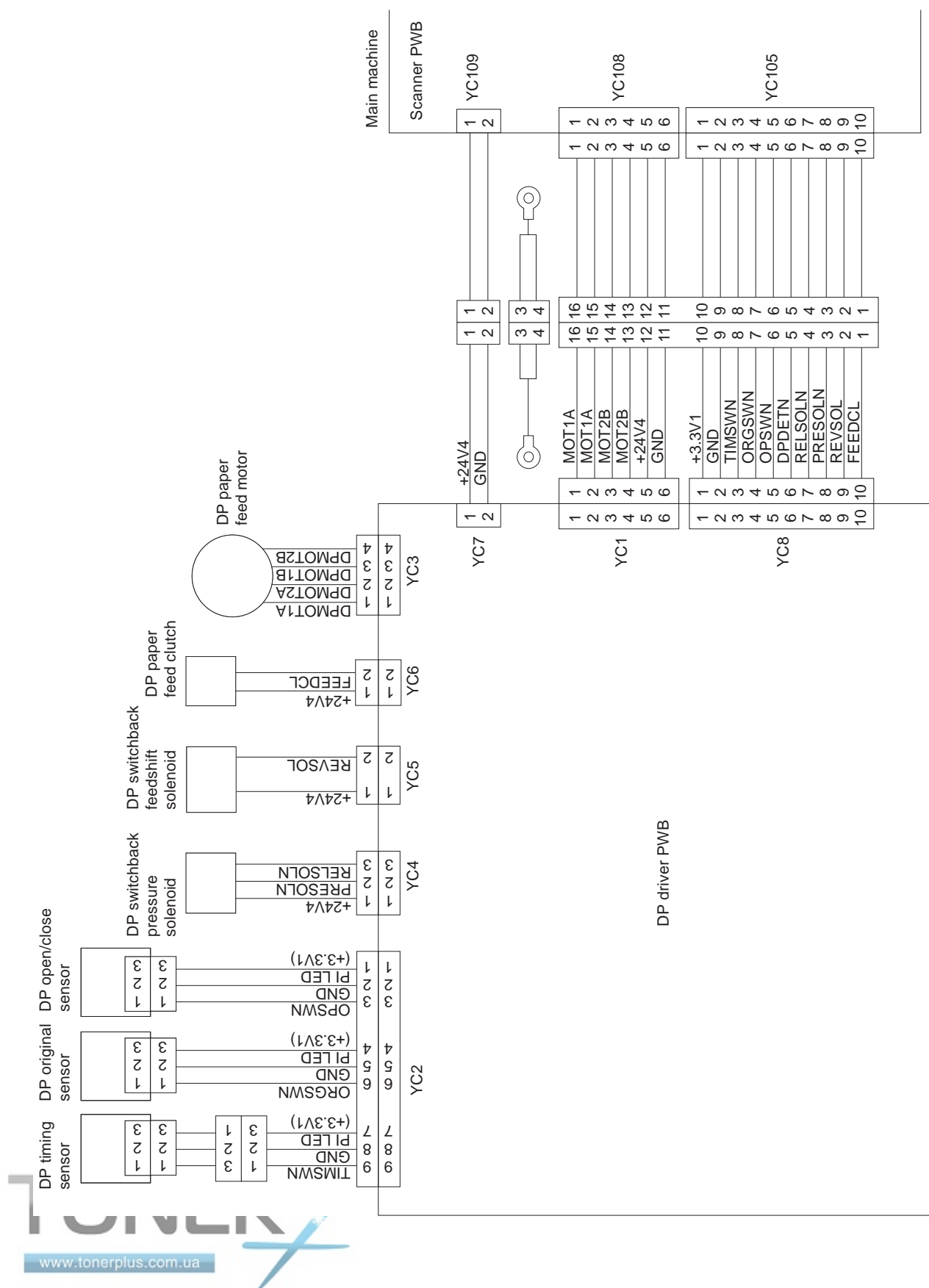
Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	MOT1A	I	0/24 V DC (pulse)	DP paper feed motor drive pulse
Connected to the scanner PWB (Machine)	2	MOT2B	I	0/24 V DC (pulse)	DP paper feed motor drive pulse
	3	MOT1B	I	0/24 V DC (pulse)	DP paper feed motor drive pulse
	4	MOT2A	I	0/24 V DC (pulse)	DP paper feed motor drive pulse
	5	+24V4	I	24 V DC	24 V DC power source
	6	GND	-	-	Ground
YC2	1	PILED	O	3.3 V DC	3.3 V DC power source
Connected to the DP open/close sensor, DP original sensor and DP timing sensor	2	GND	-	-	Ground
	3	OPSWN	I	0/3.3 V DC	DP open/close sensor: On/Off
	4	PILED	O	3.3 V DC	3.3 V DC power source
	5	GND	-	-	Ground
	6	ORGSWN	I	0/3.3 V DC	DP original sensor: On/Off
	7	PILED	O	3.3 V DC	3.3 V DC power source
	8	GND	-	-	Ground
	9	TIMSWN	I	0/3.3 V DC	DP timing sensor: On/Off
YC3	1	MOT1A	O	0/24 V DC (pulse)	DP paper feed motor drive pulse
Connected to the DP paper feed motor	2	MOT2B	O	0/24 V DC (pulse)	DP paper feed motor drive pulse
	3	MOT1B	O	0/24 V DC (pulse)	DP paper feed motor drive pulse
	4	MOT2A	O	0/24 V DC (pulse)	DP paper feed motor drive pulse
YC4	1	+24V4	O	24 V DC	24 V DC power source
Connected to the DP switchback pressure solenoid	2	PRESOLN	O	0/24 V DC	DP switchback pressure solenoid (Press): On/Off
	3	RELSOLN	O	0/24 V DC	DP switchback pressure solenoid: (Release) On/Off
YC5	1	+24V4	O	24 V DC	24 V DC power source
Connected to the DP switchback feedshift solenoid	2	REVSOL	O	0/24 V DC	DP switchback feedshift solenoid: On/Off
YC6	1	+24V4	O	24 V DC	24 V DC power source
Connected to the DP paper feed clutch	2	FEEDCL	O	0/24 V DC	DP paper feed clutch: On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC7	1	+24V4	I	24 V DC	24 V DC power source
Connected to the scanner PWB (Main machine)	2	GND	-	-	Ground
YC8	1	+3.3V1	I	3.3 V DC	3.3 V DC power source
Connected to the scanner PWB (Main machine)	2	GND	-	-	Ground
	3	TIMSWN	O	0/3.3 V DC	DP timing sensor: On/Off
	4	ORGSWN	O	0/3.3 V DC	DP original sensor: On/Off
	5	OPSWN	O	0/3.3 V DC	DP open/close sensor: On/Off
	6	DPDET N	O	0/3.3 V DC	DP installation detection signal
	7	RELSOLN	I	0/3.3 V DC	DP switchback pressure solenoid: (Release) On/Off
	8	PRESOLN	I	0/3.3 V DC	DP switchback pressure solenoid (Press): On/Off
	9	REVSOL	I	0/3.3 V DC	DP switchback feedshift solenoid: On/Off
	10	FEEDCL	I	0/3.3 V DC	DP paper feed clutch: On/Off

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2-4-1 Appendixes

(1) Wiring diagram



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