



DP-700

SERVICE MANUAL



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843JX110
First Edition

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.

Revision history

Revision	Date	Replaced pages	Remarks

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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.



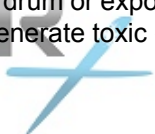
• Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately.



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 system	Automatic feed
Original type.....	Sheet originals
Original sizes	A3/Ledger to A5R/StatementR
Original weights	45 to 160 g/m ²
No. of originals.....	100 sheets or less (50 to 80 g/m ²)
Power source	Electrically connected to the machine.
Dimensions	569 (W) x 525 (D) x 149 (H) mm
	22 3/8" (W) x 20 11/16" (D) x 5 7/8" (H)
Weight.....	Approx. 13 kg/28.6 lbs

NOTE: These specifications are subject to change without notice.

1-1-2 Parts names

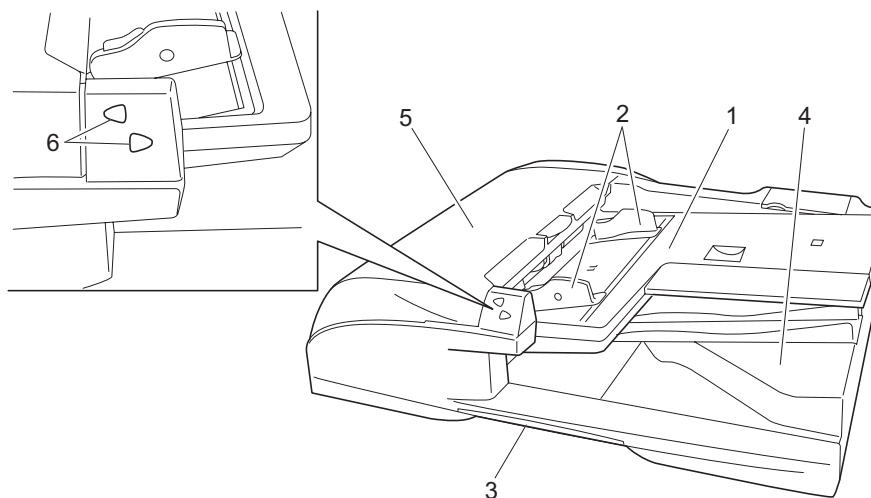
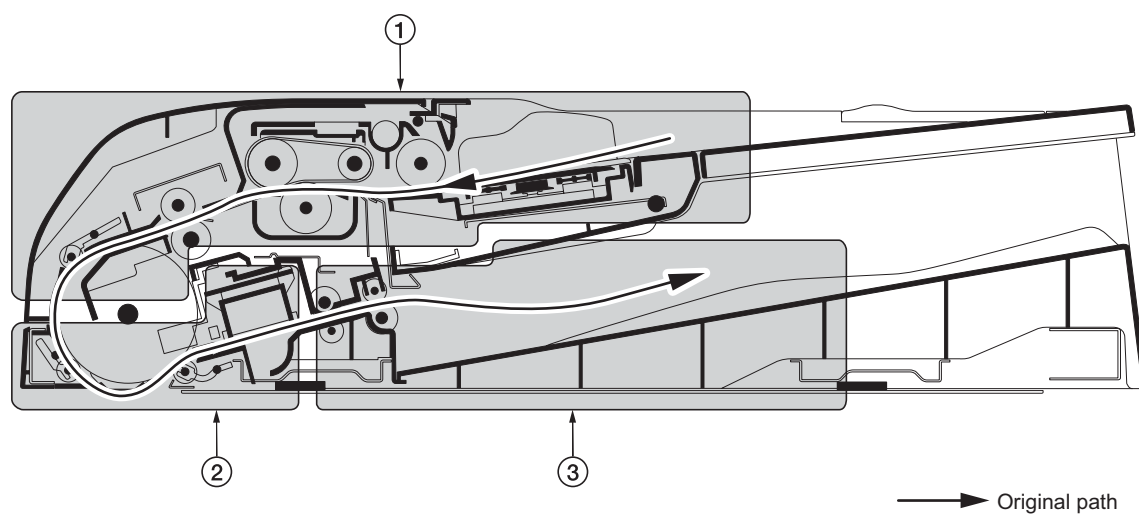


Figure 1-1-1

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

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

1. Original feeding/conveying section
2. Original scanning section
3. Original eject section

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1-2-1 Installation environment

1. 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 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.

1-2-2 Unpacking

(1) Unpacking

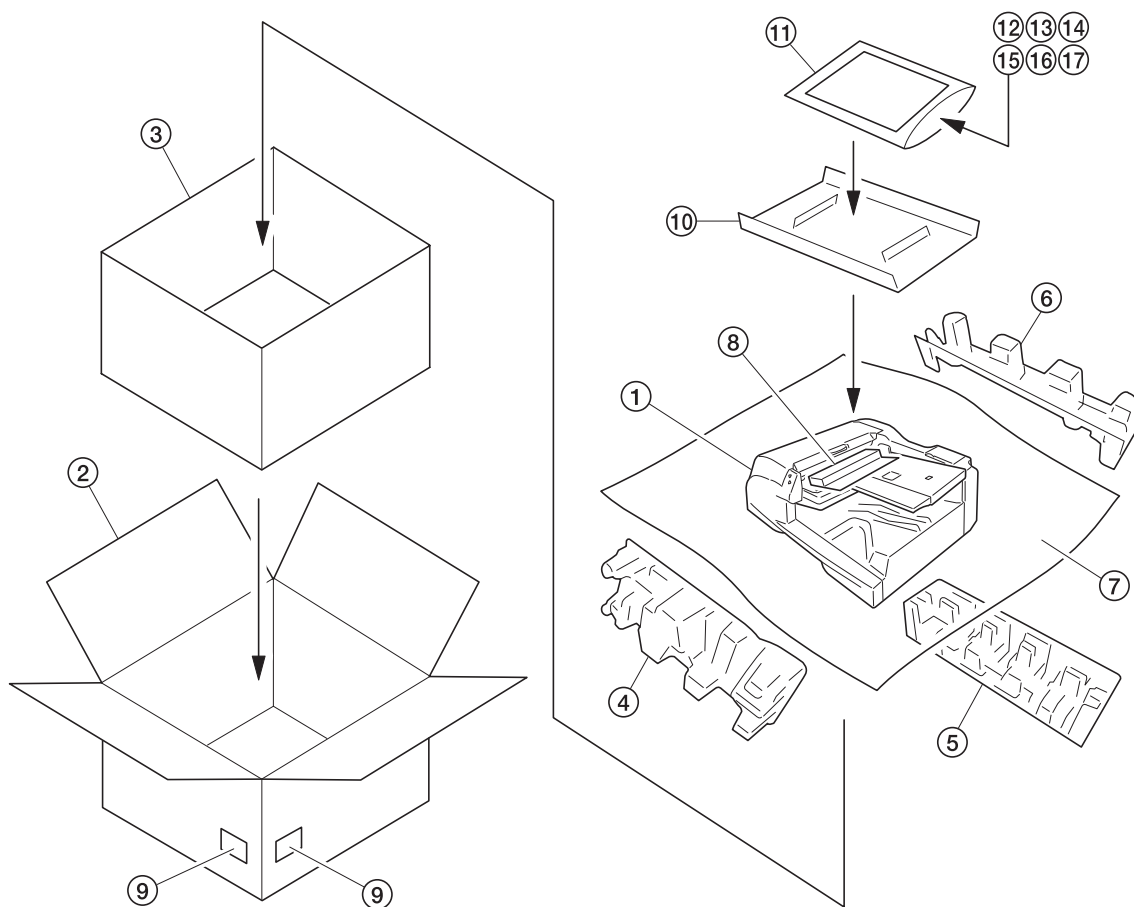


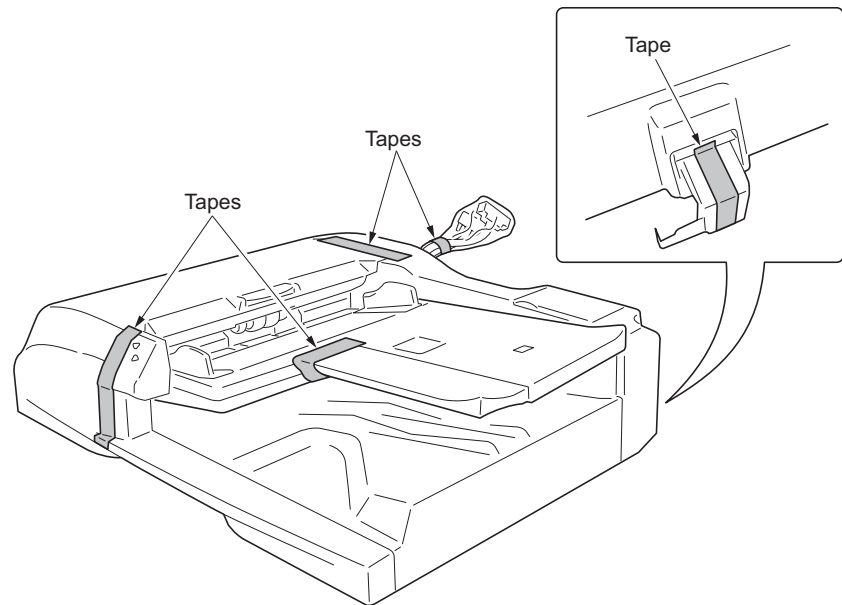
Figure 1-2-1 Unpacking

- | | |
|-----------------------|---------------------------|
| 1. Document processor | 10. Spacer |
| 2. Outer case | 11. Plastic bag |
| 3. Inner frame | 12. Original mat |
| 4. Front pad | 13. Fixing fittings |
| 5. Rear bottom pad | 14. Angle control fitting |
| 6. Rear top pad | 15. Pins |
| 7. Sheet | 16. M4 x 14 TP screws |
| 8. Pad | 17. Installation guide |
| 9. Bar code labels | |

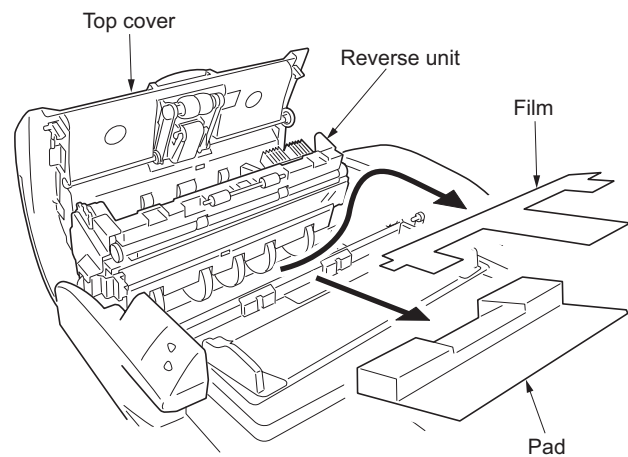
Caution: Place the machine on a level surface.

(2) Remove the tapes and pad**Procedure**

1. Remove five tapes.

**Figure 1-2-2**

2. Open the top cover and the reverse unit.
3. Remove the film and pad.

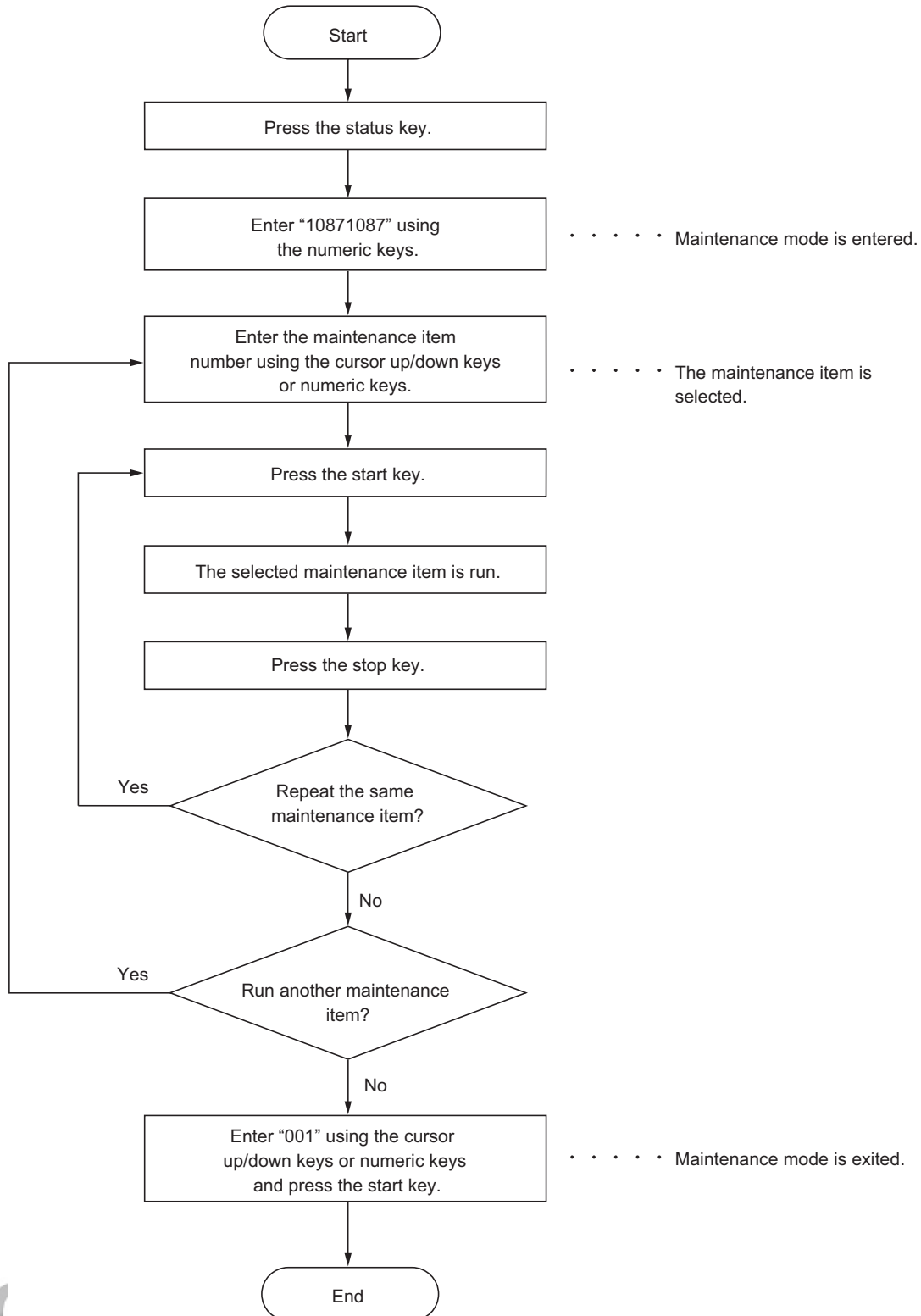
**Figure 1-2-3**

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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 mode item list

Section	Item No.	Content of maintenance item	Initial setting*
General	U019	Displaying the ROM version	-
Optical	U061	Turning the exposure lamp on	-
	U068	Adjusting the scanning position for originals from the DP	0/0*1
	U070	Adjusting the DP magnification	0/0/0*1
	U071	Adjusting the DP scanning timing	0/0/0/0/0*1
	U072	Adjusting the DP center line	0/0/0*1
	U074	Adjusting the DP input light luminosity	0/0/0*1
	U087	Setting DP reading position modification operation	175/170/160*1
Operation panel and support	U203	Checking DP operation	-
	U243	Checking the operation of the DP motors	-
	U244	Checking the DP switches	-
Mode setting	U326	Setting the black line cleaning indication	ON/8*1,*2
Image processing	U404	Adjusting margins for scanning an original from the DP	3.0/2.5/3.0/4.0*1 3.0/2.5/3.0/4.0*1
	U411	Adjusting the scanner automatically	-
	U425	Setting the target	-
Other	U905	Checking/clearing counts by optional devices	-
	U942	Setting of amount of slack for feeding from DP	0/0*1
	U990	Checking/clearing the time for the exposure lamp to light	-







*Initial setting for executing U020, *1: The item initialized for executing U020, *2: The item initialized for executing U021




(3) Contents of maintenance mode items

Maintenance item No.	Description																																														
U019	<p>Displaying the ROM version</p> <p>Description Displays the part number of the ROM fitted to each PWB.</p> <p>Purpose To check the part number or to decide, if the newest version of ROM is installed.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The ROM version are displayed. 2. Change the screen using the cursor up/down keys <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr><td>MAIN</td><td>Main PWB ROM IC</td></tr> <tr><td>MMI</td><td>Operation PWB ROM IC</td></tr> <tr><td>ENGINE</td><td>Engine PWB ROM IC</td></tr> <tr><td>ENGINE BOOT</td><td>Engine PWB booting</td></tr> <tr><td>SCANNER</td><td>Scanner PWB ROM IC</td></tr> <tr><td>OPTION LANGUAGE</td><td>Optional language ROM IC</td></tr> <tr><td>DICTIONARY</td><td>-</td></tr> <tr><td>DP</td><td>DP main PWB ROM IC</td></tr> <tr><td>LCF</td><td>Optional 3000-sheet paper feeder main PWB ROM IC</td></tr> <tr><td>OPTION CASSETTE</td><td>Optional paper feeder main PWB ROM IC</td></tr> <tr><td>DF MAIN</td><td>Optional 3000-sheet document finisher main PWB ROM IC</td></tr> <tr><td>DF MTRAY</td><td>Optional 3000-sheet document finisher internal tray PWB ROM IC</td></tr> <tr><td>DF SADDLE</td><td>Optional centerfold main PWB ROM IC</td></tr> <tr><td>DF MAILBOX</td><td>Optional mail box main PWB ROM IC</td></tr> <tr><td>INNER DF</td><td>Optional built-in finisher main PWB ROM IC</td></tr> <tr><td>SIMPLE DF MAIN</td><td>Optional document sheet finisher main PWB ROM IC</td></tr> <tr><td>FAX BOOT1</td><td>Optional fax control PWB booting</td></tr> <tr><td>FAX APL1</td><td>Optional fax control PWB APL</td></tr> <tr><td>FAX IPL1</td><td>Optional fax control PWB IPL</td></tr> <tr><td>FAX BOOT2</td><td>-</td></tr> <tr><td>FAX APL2</td><td>-</td></tr> <tr><td>FAX IPL2</td><td>-</td></tr> </tbody> </table> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	MAIN	Main PWB ROM IC	MMI	Operation PWB ROM IC	ENGINE	Engine PWB ROM IC	ENGINE BOOT	Engine PWB booting	SCANNER	Scanner PWB ROM IC	OPTION LANGUAGE	Optional language ROM IC	DICTIONARY	-	DP	DP main PWB ROM IC	LCF	Optional 3000-sheet paper feeder main PWB ROM IC	OPTION CASSETTE	Optional paper feeder main PWB ROM IC	DF MAIN	Optional 3000-sheet document finisher main PWB ROM IC	DF MTRAY	Optional 3000-sheet document finisher internal tray PWB ROM IC	DF SADDLE	Optional centerfold main PWB ROM IC	DF MAILBOX	Optional mail box main PWB ROM IC	INNER DF	Optional built-in finisher main PWB ROM IC	SIMPLE DF MAIN	Optional document sheet finisher main PWB ROM IC	FAX BOOT1	Optional fax control PWB booting	FAX APL1	Optional fax control PWB APL	FAX IPL1	Optional fax control PWB IPL	FAX BOOT2	-	FAX APL2	-	FAX IPL2	-
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Maintenance item No.	Description															
U061	<p>Turning the exposure lamp on</p> <p>Description Turns the exposure lamp on.</p> <p>Purpose To check the exposure lamp.</p> <p>Method</p> <ol style="list-style-type: none">1. Press the start key.2. Select the item. <table><tr><th>Display</th><th>Description</th></tr><tr><td>CCD</td><td>Exposure lamp</td></tr><tr><td>CIS</td><td>CIS (DP exposure lamp)</td></tr></table> <ol style="list-style-type: none">3. Press the start key. The selected lamp lights.4. To turn the exposure lamp off, press the stop key. <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	CCD	Exposure lamp	CIS	CIS (DP exposure lamp)									
Display	Description															
CCD	Exposure lamp															
CIS	CIS (DP exposure lamp)															
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 five 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> <ol style="list-style-type: none">1. Press the start key. <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>ADJUST DATA</td><td>Starting position adjustment for scanning originals</td><td>-55 to 55</td><td>0</td><td>0.11 mm</td></tr><tr><td>TEST POSITION</td><td>Scanning position for the test copy originals</td><td>0 to 3</td><td>0</td><td>0.71 mm</td></tr></table> <ol style="list-style-type: none">2. Select [ADJUST DATA] of the screen for selecting an item.3. Change the setting using the +/- 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.4. Press the start key. The value is set.5. Select [TEST POSITION] of the screen for selecting an item.6. Select the Scanning position using the +/- or numeric keys.7. Press the start key. The value is set.8. Set the original (the one which density is known) in the DP and press the system menu key. The screen for the test copy mode is displayed.9. Press the start key. Test copy is executed.10. Perform the test copy at each scanning position with the setting value from 0 to 4 and check that no black line appears and the image is normally scanned. <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	ADJUST DATA	Starting position adjustment for scanning originals	-55 to 55	0	0.11 mm	TEST POSITION	Scanning position for the test copy originals	0 to 3	0	0.71 mm
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ADJUST DATA	Starting position adjustment for scanning originals	-55 to 55	0	0.11 mm												
TEST POSITION	Scanning position for the test copy originals	0 to 3	0	0.71 mm												

TONER

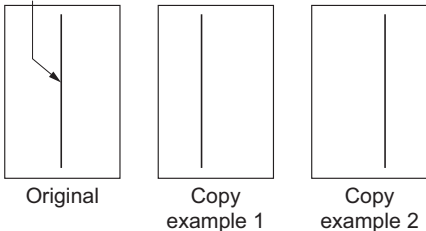
Maintenance item No.	Description																				
U070	<p>Adjusting the DP magnification</p> <p>Description Adjusts the DP original scanning speed.</p> <p>Purpose Make the adjustment if the magnification is incorrect in the main scanning direction or auxiliary scanning direction when the DP is used.</p> <p>Method</p> <ol style="list-style-type: none">1. Press the start key.2. Select the item to be adjusted. <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>CIS MAIN ADJ</td><td>Magnification in the main scanning direction of CIS</td><td>-25 to 25</td><td>0</td><td>0.1 %</td></tr><tr><td>CONVEY SPEED</td><td>Magnification in the auxiliary scanning direction of CCD</td><td>-25 to 25</td><td>0</td><td>0.1 %</td></tr><tr><td>CIS SUB ADJ</td><td>Magnification in the auxiliary scanning direction of CIS</td><td>-15 to 10</td><td>0</td><td>0.05 %</td></tr></table> <p>Adjustment: main scanning direction of CIS</p> <ol style="list-style-type: none">1. Press the system menu key.2. Place an original on the DP and press the start key to make a test copy.3. Press the system menu key.4. Change the setting value using the +/- 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></div><div>Copy example 1</div></div> <div><div></div><div>Copy example 2</div></div> <p>Figure 1-3-1</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>U070</div><div>→</div><div>U071 (P.1-3-6)</div><div>→</div><div>U404 (P.1-3-12)</div></div> <p>Adjustment: auxiliary scanning direction of CCD/CIS</p> <ol style="list-style-type: none">1. Press the system menu key.2. Place an original on the DP and press the start key to make a test copy.3. Press the system menu key.4. Change the setting value using the +/- 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></div><div>Copy example 1</div></div> <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.	Display	Description	Setting range	Initial setting	Change in value per step	CIS MAIN ADJ	Magnification in the main scanning direction of CIS	-25 to 25	0	0.1 %	CONVEY SPEED	Magnification in the auxiliary scanning direction of CCD	-25 to 25	0	0.1 %	CIS SUB ADJ	Magnification in the auxiliary scanning direction of CIS	-15 to 10	0	0.05 %
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Maintenance item No.	Description																														
U070	<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>U071 (P.1-3-6)</div>→<div>U404 (P.1-3-12)</div></div> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>																														
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 DP is used.</p> <p>Method</p> <ol style="list-style-type: none">Press the start key.Select the item to be adjusted. <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>ADJUST DATA1</td><td>Leading edge registration (first page)</td><td>-32 to 32</td><td>0</td><td>0.09 mm</td></tr><tr><td>ADJUST DATA2</td><td>Trailing edge registration (first page)</td><td>-32 to 32</td><td>0</td><td>0.09 mm</td></tr><tr><td>ADJUST DATA3</td><td>Leading edge registration (second page)</td><td>-45 to 45</td><td>0</td><td>0.09 mm</td></tr><tr><td>ADJUST DATA4</td><td>Trailing edge registration (second page)</td><td>-45 to 45</td><td>0</td><td>0.09 mm</td></tr><tr><td>ADJUST DATA5</td><td>Leading edge registration (rotate copying)</td><td>-20 to 20</td><td>0</td><td>0.17 mm</td></tr></table> <p>Adjustment: leading edge registration</p> <ol style="list-style-type: none">Press the system menu key.Place an original on the DP and press the start key to make a test copy.Press the system menu key.Change the setting value using the +/- or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value. <div><div> Original</div><div> Copy example 1</div><div> Copy example 2</div></div> <p>Figure 1-3-3</p> <ol style="list-style-type: none">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>U404 (P.1-3-12)</div></div>	Display	Description	Setting range	Initial setting	Change in value per step	ADJUST DATA1	Leading edge registration (first page)	-32 to 32	0	0.09 mm	ADJUST DATA2	Trailing edge registration (first page)	-32 to 32	0	0.09 mm	ADJUST DATA3	Leading edge registration (second page)	-45 to 45	0	0.09 mm	ADJUST DATA4	Trailing edge registration (second page)	-45 to 45	0	0.09 mm	ADJUST DATA5	Leading edge registration (rotate copying)	-20 to 20	0	0.17 mm
Display	Description	Setting range	Initial setting	Change in value per step																											
ADJUST DATA1	Leading edge registration (first page)	-32 to 32	0	0.09 mm																											
ADJUST DATA2	Trailing edge registration (first page)	-32 to 32	0	0.09 mm																											
ADJUST DATA3	Leading edge registration (second page)	-45 to 45	0	0.09 mm																											
ADJUST DATA4	Trailing edge registration (second page)	-45 to 45	0	0.09 mm																											
ADJUST DATA5	Leading edge registration (rotate copying)	-20 to 20	0	0.17 mm																											

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Maintenance item No.	Description
U071	<p>Adjustment: trailing edge registration</p> <ol style="list-style-type: none"> 1. Press the system menu key. 2. Place an original on the DP and press the start key to make a test copy. 3. Press the system menu key. 4. Change the setting value using the +/- or numeric keys. For copy example 1, increase the value. For copy example 3, decrease the value. <div data-bbox="608 459 1098 694" data-label="Image"> </div> <p style="text-align: center;">Figure 1-3-4</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 data-bbox="285 869 624 943" data-label="Diagram"> <pre> graph LR U071[U071] --> U404[U404 (P.1-3-12)] </pre> </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 DP is used.</p> <p>Adjustment</p> <ol style="list-style-type: none">1. Press the start key.2. Select the item to be adjusted. <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>ADJUST DATA1</td><td>Center line for the simplex copy mode</td><td>-39 to 39</td><td>0</td><td>0.17 mm</td></tr><tr><td>ADJUST DATA2</td><td>Center line for the duplex copy mode</td><td>-39 to 39</td><td>0</td><td>0.17 mm</td></tr><tr><td>ADJUST DATA3</td><td>Center line for rotate copying</td><td>-7 to 7</td><td>0</td><td>0.17 mm</td></tr></table> <ol style="list-style-type: none">3. Press the system menu key.4. Place an original on the DP and press the start key to make a test copy.5. Press the system menu key.6. Change the setting value using the +/- or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value. <div><p>Reference</p><p>Original Copy example 1 Copy example 2</p></div> <p>Figure 1-3-5</p> <ol style="list-style-type: none">7. 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>U072</div><div>→</div><div>U404 (P.1-3-12)</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	ADJUST DATA1	Center line for the simplex copy mode	-39 to 39	0	0.17 mm	ADJUST DATA2	Center line for the duplex copy mode	-39 to 39	0	0.17 mm	ADJUST DATA3	Center line for rotate copying	-7 to 7	0	0.17 mm
Display	Description	Setting range	Initial setting	Change in value per step																	
ADJUST DATA1	Center line for the simplex copy mode	-39 to 39	0	0.17 mm																	
ADJUST DATA2	Center line for the duplex copy mode	-39 to 39	0	0.17 mm																	
ADJUST DATA3	Center line for rotate copying	-7 to 7	0	0.17 mm																	

Maintenance item No.	Description																						
U074	<p>Adjusting the DP input light luminosity</p> <p>Description Adjusts the luminosity of the exposure lamp for scanning originals from the DP.</p> <p>Purpose Used if the exposure amount differs significantly between when scanning an original on the contact glass and when scanning an original from the DP.</p> <p>Setting</p> <ol style="list-style-type: none">1. Press the start key.2. Select the item to be set. <table><tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>R</td><td>DP input light luminosity of R image</td><td>-12 to 12</td><td>0</td></tr><tr><td>G</td><td>DP input light luminosity of G image</td><td>-12 to 12</td><td>0</td></tr><tr><td>B</td><td>DP input light luminosity of B image</td><td>-12 to 12</td><td>0</td></tr></table> <ol style="list-style-type: none">3. Change the setting using the +/- or numeric keys. Increasing the setting makes the luminosity higher, and decreasing it makes the luminosity lower.4. Press the start key. The value is set. <p>Supplement While this maintenance item is being executed, copying from an original is available in the interrupt copying mode.</p> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	R	DP input light luminosity of R image	-12 to 12	0	G	DP input light luminosity of G image	-12 to 12	0	B	DP input light luminosity of B image	-12 to 12	0						
Display	Description	Setting range	Initial setting																				
R	DP input light luminosity of R image	-12 to 12	0																				
G	DP input light luminosity of G image	-12 to 12	0																				
B	DP input light luminosity of B image	-12 to 12	0																				
U087	<p>Setting DP reading position modification operation</p> <p>Description 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 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. The setting screen for the selected item is displayed. <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</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.2. Change the value using the +/- 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>175</td></tr><tr><td>CCD G</td><td>Lowest density of the G regard as the dust.</td><td>0 to 255</td><td>170</td></tr><tr><td>CCD B</td><td>Lowest density of the B regard as the dust.</td><td>0 to 255</td><td>160</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].2. Press the start key. The setting is cleared. <p>Completion 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	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	175	CCD G	Lowest density of the G regard as the dust.	0 to 255	170	CCD B	Lowest density of the B regard as the dust.	0 to 255	160
Display	Description																						
CCD	Setting of standard data when dust is detected.																						
BLACK	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	175																				
CCD G	Lowest density of the G regard as the dust.	0 to 255	170																				
CCD B	Lowest density of the B regard as the dust.	0 to 255	160																				

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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 item to be operated.4. When selecting [TEST2], to set the magnification using the +/- keys. <table><tr><th>Display</th><th>Operation</th><th>Setting range</th><th>Initial setting</th></tr><tr><td>TEST 1(NON P)</td><td>Without paper</td><td>-</td><td>-</td></tr><tr><td>TEST 2</td><td>With paper</td><td>100 to 200 (%)</td><td>100</td></tr></table> <ol style="list-style-type: none">5. Press the start key. The operation starts.6. 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	Operation	Setting range	Initial setting	TEST 1(NON P)	Without paper	-	-	TEST 2	With paper	100 to 200 (%)	100		
Display	Operation	Setting range	Initial setting												
TEST 1(NON P)	Without paper	-	-												
TEST 2	With paper	100 to 200 (%)	100												
U243	<p>Checking the operation of the DP motors</p> <p>Description Turns the motors in the DP on.</p> <p>Purpose To check the operation of the DP motors.</p> <p>Method</p> <ol style="list-style-type: none">1. Press the start key.2. Select the item to be operated.3. Press the start key. The operation starts. <table><tr><th>Display</th><th>Motors</th></tr><tr><td>DP FEED MOTOR</td><td>Original feed motor (OFM) is turned on.</td></tr><tr><td>DP REG MOTOR</td><td>Original registration motor (ORM) is turned on.</td></tr><tr><td>DP CONV MOTOR</td><td>Original conveying motor (OCM) is turned on.</td></tr><tr><td>DP LIFT MOTOR</td><td>DP lift motor (DPLM) is turned on.</td></tr><tr><td>CIS FAN MOTOR</td><td>DP fan motor 1,2,3 (DPFM1,2,3) is turned on.</td></tr><tr><td>DP FEED MOT REV</td><td>Original feed motor (OFM) is turned on reversing.</td></tr></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	Motors	DP FEED MOTOR	Original feed motor (OFM) is turned on.	DP REG MOTOR	Original registration motor (ORM) is turned on.	DP CONV MOTOR	Original conveying motor (OCM) is turned on.	DP LIFT MOTOR	DP lift motor (DPLM) is turned on.	CIS FAN MOTOR	DP fan motor 1,2,3 (DPFM1,2,3) is turned on.	DP FEED MOT REV	Original feed motor (OFM) is turned on reversing.
Display	Motors														
DP FEED MOTOR	Original feed motor (OFM) is turned on.														
DP REG MOTOR	Original registration motor (ORM) is turned on.														
DP CONV MOTOR	Original conveying motor (OCM) is turned on.														
DP LIFT MOTOR	DP lift motor (DPLM) is turned on.														
CIS FAN MOTOR	DP fan motor 1,2,3 (DPFM1,2,3) is turned on.														
DP FEED MOT REV	Original feed motor (OFM) is turned on reversing.														

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Maintenance item No.	Description																						
U244	<p>Checking the DP switches</p> <p>Description Displays the status of the respective switches in the DP.</p> <p>Purpose To check if respective switches in the DP operate correctly.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Turn the respective switches on and off manually to check the status. <p>When a switch is detected to be in the ON position, the display for that switch will be highlighted.</p> <table border="1"> <thead> <tr> <th>Display</th><th>Switches</th></tr> </thead> <tbody> <tr> <td>LIFT LOW LIM SW</td><td>DP lift upper limit switch (DPLULSW)</td></tr> <tr> <td>LIFT UP LIM SW</td><td>DP lift lower limit switch (DPLLLSW)</td></tr> <tr> <td>DP SET SW</td><td>Original set switch (OSSW)</td></tr> <tr> <td>DP PSD SW</td><td>Original size length switch (OLSW)</td></tr> <tr> <td>DP FEED SW</td><td>Original feed switch (OFSW)</td></tr> <tr> <td>DP REG SW</td><td>Original registration switch (ORSW)</td></tr> <tr> <td>CCD TMING SW</td><td>DP timing switch 1 (DPTSW1)</td></tr> <tr> <td>CIS TMING SW</td><td>DP timing switch 2 (DPTSW2)</td></tr> <tr> <td>DP COVER SW</td><td>DP safety switch 2 (DPSSW2)</td></tr> <tr> <td>DP OPEN SW</td><td>DP safety switch 1 (DPSSW1)</td></tr> </tbody> </table> <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Switches	LIFT LOW LIM SW	DP lift upper limit switch (DPLULSW)	LIFT UP LIM SW	DP lift lower limit switch (DPLLLSW)	DP SET SW	Original set switch (OSSW)	DP PSD SW	Original size length switch (OLSW)	DP FEED SW	Original feed switch (OFSW)	DP REG SW	Original registration switch (ORSW)	CCD TMING SW	DP timing switch 1 (DPTSW1)	CIS TMING SW	DP timing switch 2 (DPTSW2)	DP COVER SW	DP safety switch 2 (DPSSW2)	DP OPEN SW	DP safety switch 1 (DPSSW1)
Display	Switches																						
LIFT LOW LIM SW	DP lift upper limit switch (DPLULSW)																						
LIFT UP LIM SW	DP lift lower limit switch (DPLLLSW)																						
DP SET SW	Original set switch (OSSW)																						
DP PSD SW	Original size length switch (OLSW)																						
DP FEED SW	Original feed switch (OFSW)																						
DP REG SW	Original registration switch (ORSW)																						
CCD TMING SW	DP timing switch 1 (DPTSW1)																						
CIS TMING SW	DP timing switch 2 (DPTSW2)																						
DP COVER SW	DP safety switch 2 (DPSSW2)																						
DP OPEN SW	DP safety switch 1 (DPSSW1)																						
U326	<p>Setting the black line cleaning indication</p> <p>Description Sets whether to display the cleaning guidance when detecting the black line.</p> <p>Purpose Displays the cleaning guidance in order to make the call for service with the black line decrease by the rubbish on the platen when scanning from the DP.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Select ON or OFF. <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>ON</td><td>Displays the cleaning guidance</td></tr> <tr> <td>OFF</td><td>Not to display the cleaning guidance</td></tr> <tr> <td>COUNT</td><td>Setting counts of the cleaning guidance indication</td></tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> 3. Press the start key. The setting is set. <p>Setting the count value</p> <ol style="list-style-type: none"> 1. Select [COUNT]. 2. Enter a count using the +/- or numeric keys. Setting range: 0 to 999 Initial setting: 8 When setting is 0, the black line cleaning indication is displayed only if the black line is detected. 3. Press the start key. The count is set. <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Displays the cleaning guidance	OFF	Not to display the cleaning guidance	COUNT	Setting counts of the cleaning guidance indication														
Display	Description																						
ON	Displays the cleaning guidance																						
OFF	Not to display the cleaning guidance																						
COUNT	Setting counts of the cleaning guidance indication																						

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 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.</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 (first page)</td><td>0 to 10.0</td><td>3.0</td><td>0.1 mm</td></tr><tr><td>B MARGIN</td><td>Leading edge margin (first page)</td><td>0 to 10.0</td><td>2.5</td><td>0.1 mm</td></tr><tr><td>C MARGIN</td><td>Right margin (first page)</td><td>0 to 10.0</td><td>3.0</td><td>0.1 mm</td></tr><tr><td>D MARGIN</td><td>Trailing edge margin (first page)</td><td>0 to 10.0</td><td>4.0</td><td>0.1 mm</td></tr><tr><td>A MARGIN(BACK)</td><td>Left margin (second page)</td><td>0 to 10.0</td><td>3.0</td><td>0.1 mm</td></tr><tr><td>B MARGIN(BACK)</td><td>Leading edge margin (second page)</td><td>0 to 10.0</td><td>2.5</td><td>0.1 mm</td></tr><tr><td>C MARGIN(BACK)</td><td>Right margin (second page)</td><td>0 to 10.0</td><td>3.0</td><td>0.1 mm</td></tr><tr><td>D MARGIN(BACK)</td><td>Trailing edge margin (second page)</td><td>0 to 10.0</td><td>4.0</td><td>0.1 mm</td></tr></table> <div><div>3. Press the system menu 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 key.</div><div>6. Change the setting value using the +/- or numeric keys. Increasing the value makes the margin wider, and decreasing it makes the margin narrower.</div></div> <div><div><div>Ejection direction (reference)</div><div>↑</div></div><div><div>Leading edge margin (3±1.5mm)</div><div>Left margin (2±1.0mm)</div><div>Right margin (2±1.0mm)</div><div>Trailing edge margin (2±1.0mm)</div></div></div> <p>Figure 1-3-6</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 (first page)	0 to 10.0	3.0	0.1 mm	B MARGIN	Leading edge margin (first page)	0 to 10.0	2.5	0.1 mm	C MARGIN	Right margin (first page)	0 to 10.0	3.0	0.1 mm	D MARGIN	Trailing edge margin (first page)	0 to 10.0	4.0	0.1 mm	A MARGIN(BACK)	Left margin (second page)	0 to 10.0	3.0	0.1 mm	B MARGIN(BACK)	Leading edge margin (second page)	0 to 10.0	2.5	0.1 mm	C MARGIN(BACK)	Right margin (second page)	0 to 10.0	3.0	0.1 mm	D MARGIN(BACK)	Trailing edge margin (second page)	0 to 10.0	4.0	0.1 mm
Display	Description	Setting range	Initial setting	Change in value per step																																										
A MARGIN	Left margin (first page)	0 to 10.0	3.0	0.1 mm																																										
B MARGIN	Leading edge margin (first page)	0 to 10.0	2.5	0.1 mm																																										
C MARGIN	Right margin (first page)	0 to 10.0	3.0	0.1 mm																																										
D MARGIN	Trailing edge margin (first page)	0 to 10.0	4.0	0.1 mm																																										
A MARGIN(BACK)	Left margin (second page)	0 to 10.0	3.0	0.1 mm																																										
B MARGIN(BACK)	Leading edge margin (second page)	0 to 10.0	2.5	0.1 mm																																										
C MARGIN(BACK)	Right margin (second page)	0 to 10.0	3.0	0.1 mm																																										
D MARGIN(BACK)	Trailing edge margin (second page)	0 to 10.0	4.0	0.1 mm																																										

Maintenance item No.	Description												
U411	<p>Adjusting the scanner automatically</p> <p>Description Uses a specified original 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</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Select the item. The screen for executing is displayed. <table> <tr> <th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr> <tr> <td>SCANNER</td><td>Automatic adjustment in the scanner section</td><td>302FZ56990</td></tr> <tr> <td>DP(FACE UP)</td><td>Automatic adjustment in the DP scanning section (first page)</td><td>2AC68241</td></tr> <tr> <td>DP(FACE DOWN)</td><td>Automatic adjustment in the DP scanning section (second page)</td><td>2AC68241/303JX57010/303JX57020</td></tr> </table>	Display	Description	Original to be used for adjustment (P/N)	SCANNER	Automatic adjustment in the scanner section	302FZ56990	DP(FACE UP)	Automatic adjustment in the DP scanning section (first page)	2AC68241	DP(FACE DOWN)	Automatic adjustment in the DP scanning section (second page)	2AC68241/303JX57010/303JX57020
Display	Description	Original to be used for adjustment (P/N)											
SCANNER	Automatic adjustment in the scanner section	302FZ56990											
DP(FACE UP)	Automatic adjustment in the DP scanning section (first page)	2AC68241											
DP(FACE DOWN)	Automatic adjustment in the DP scanning section (second page)	2AC68241/303JX57010/303JX57020											

Remarks
Cut the trailing edge of the original as shown when the specified original (P/N: 2AC68241) is used.

Figure 1-3-7

Method: SCANNER

1. Enter the target values which are shown on the specified original (P/N: 302FZ56990) executing maintenance item U425.
2. Set a specified original (P/N: 302FZ56990) on the platen.
3. Select the item.

Display	Description
ALL	Automatic adjustment using the platen for: original size magnification/leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.
INPUT	Automatic adjustment using the platen for: original size magnification/leading edge timing/center line.
GAMMA	Automatic adjustment using the platen for: input gamma.
C.A.	Automatic adjustment using the platen for: chromatic aberration filter.
MTF	Automatic adjustment using the platen for: MTF filter.
MATRIX	Automatic adjustment using the platen for: matrix.

4. Press the start key. Auto adjustment starts.
When automatic adjustment has normally completed, [RESULT OK 00] is displayed. If a problem occurs during auto adjustment, [ERROR 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.
5. To return to the screen for selecting an item, press the stop key.

Maintenance item No.	Description																									
U411	<p>Method: DP(FACE UP)</p> <ol style="list-style-type: none">Set a specified original (P/N: 2AC68241) in the DP.Select [INPUT]. <table><tr><th>Display</th><th>Description</th></tr><tr><td>INPUT</td><td>Automatic adjustment of first page using the DP for: original size magnification/leading edge timing/center line.</td></tr></table> <ol style="list-style-type: none">Press the start key. Auto adjustment starts. When automatic adjustment has normally completed, [RESULT OK 00] is displayed. If a problem occurs during auto adjustment, [ERROR 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(FACE DOWN)</p> <ol style="list-style-type: none">Select the item. The screen for executing is displayed. <table><tr><th>Display</th><th>Description</th></tr><tr><td>NORMAL TARGET</td><td>Uses the value determined using maintenance item U425 as the target data.</td></tr><tr><td>ORIGINAL TARGET</td><td>Uses the specified original for acquiring data as the target data.</td></tr></table> <p>Method: NORMAL TREGET</p> <ol style="list-style-type: none">Select the item. <table><tr><th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr><tr><td>ALL</td><td>Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.</td><td>2AC68241/303JX57010/303JX57020</td></tr><tr><td>INPUT</td><td>Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line.</td><td>2AC68241</td></tr><tr><td>GAMMA</td><td>Automatic adjustment of second page using the DP for: tolerance of input gamma.</td><td>303JX57010</td></tr><tr><td>MTF/MATRIX</td><td>Automatic adjustment of second page using the DP for: tolerance of MTF filter and matrix.</td><td>303JX57020</td></tr></table> <p>[ALL]</p> <ol style="list-style-type: none">Enter the target values which are shown on the specified original (P/N: 2AC68241/303JX57010/303JX57020) executing maintenance item U425.Set specified originals (P/N: 2AC68241/303JX57010/303JX57020) in the DP. Stack the originals in the order of 2AC68241, 303JX57010, and 303JX57020.Press the start key. Auto adjustment starts. <p>[INPUT]</p> <ol style="list-style-type: none">Enter the target values which are shown on the specified original (P/N: 2AC68241) executing maintenance item U425.Set a specified original (P/N: 2AC24681) in the DP.Press the start key. Auto adjustment starts. <p>[GAMMA]</p> <ol style="list-style-type: none">Enter the target values which are shown on the specified original (P/N: 303JX57010) executing maintenance item U425.Set a specified original (P/N: 303JX57010) in the DP.Press the start key. Auto adjustment starts. <p>[MTF/MATRIX]</p> <ol style="list-style-type: none">Enter the target values which are shown on the specified original (P/N: 303JX57020) executing maintenance item U425.Set a specified original (P/N: 303JX57020) in the DP.Press the start key. Auto adjustment starts.	Display	Description	INPUT	Automatic adjustment of first page using the DP for: original size magnification/leading edge timing/center line.	Display	Description	NORMAL TARGET	Uses the value determined using maintenance item U425 as the target data.	ORIGINAL TARGET	Uses the specified original for acquiring data as the target data.	Display	Description	Original to be used for adjustment (P/N)	ALL	Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.	2AC68241/303JX57010/303JX57020	INPUT	Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line.	2AC68241	GAMMA	Automatic adjustment of second page using the DP for: tolerance of input gamma.	303JX57010	MTF/MATRIX	Automatic adjustment of second page using the DP for: tolerance of MTF filter and matrix.	303JX57020
Display	Description																									
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Maintenance item No.	Description															
U411	<p>When automatic adjustment has normally completed, [RESULT OK 00] is displayed. If a problem occurs during auto adjustment, [ERROR 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.</p> <p>Method: ORIGINAL TARGET</p> <ol style="list-style-type: none">1. Place the specified original for acquiring gamma target data (P/N: 303JX57010) on the platen, and press the start key.2. Place the specified original for acquiring matrix target data (P/N: 303JX57010) on the platen, and press the start key.3. Select the item. <table><tr><th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr><tr><td>ALL</td><td>Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/ center line, input gamma, chromatic aberration filter, MTF filter and matrix.</td><td>2AC68241/303JX57010/ 303JX57020</td></tr><tr><td>INPUT</td><td>Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/ center line.</td><td>2AC68241</td></tr><tr><td>GAMMA</td><td>Automatic adjustment of second page using the DP for: input gamma.</td><td>303JX57010</td></tr><tr><td>MTF/MATRIX</td><td>Automatic adjustment of second page using the DP for: MTF filter and matrix.</td><td>303JX57020</td></tr></table> <p>[ALL]</p> <ol style="list-style-type: none">1. Set specified originals (P/N: 2AC68241/303JX57010/303JX57020) in the DP. Stack the originals in the order of 2AC68241, 303JX57010, and 303JX57020.2. Press the start key. Auto adjustment starts. <p>[INPUT]</p> <ol style="list-style-type: none">1. Set a specified original (P/N: 2AC24681) in the DP.2. Press the start key. Auto adjustment starts. <p>[GAMMA]</p> <ol style="list-style-type: none">1. Set a specified original (P/N: 303JX57010) in the DP.2. Press the start key. Auto adjustment starts. <p>[MTF/MATRIX]</p> <ol style="list-style-type: none">1. Set a specified original (P/N: 303JX57020) in the DP.2. Press the start key. Auto adjustment starts. <p>When automatic adjustment has normally completed, [RESULT OK 00] is displayed. If a problem occurs during auto adjustment, [ERROR 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.</p>	Display	Description	Original to be used for adjustment (P/N)	ALL	Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/ center line, input gamma, chromatic aberration filter, MTF filter and matrix.	2AC68241/303JX57010/ 303JX57020	INPUT	Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/ center line.	2AC68241	GAMMA	Automatic adjustment of second page using the DP for: input gamma.	303JX57010	MTF/MATRIX	Automatic adjustment of second page using the DP for: MTF filter and matrix.	303JX57020
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Maintenance item No.	Description																																																																																						
U411	Error Codes																																																																																						
	<table><tr><th>Codes</th><th>Description</th></tr><tr><td>ERROR 01</td><td>Black band detection error (scanner leading edge registration)</td></tr><tr><td>ERROR 02</td><td>Black band detection error (scanner center line)</td></tr><tr><td>ERROR 03</td><td>Black band detection error (scanner main scanning direction magnification)</td></tr><tr><td>ERROR 04</td><td>Black band is not detected (scanner leading edge registration)</td></tr><tr><td>ERROR 05</td><td>Black band is not detected (scanner center line)</td></tr><tr><td>ERROR 06</td><td>Black band is not detected (scanner main scanning direction magnification)</td></tr><tr><td>ERROR 07</td><td>Black band is not detected (scanner auxiliary scanning direction magnification)</td></tr><tr><td>ERROR 08</td><td>Black band is not detected (DP main scanning direction magnification far end)</td></tr><tr><td>ERROR 09</td><td>Black band is not detected (DP main scanning direction magnification near end)</td></tr><tr><td>ERROR 0a</td><td>Black band is not detected (DP auxiliary scanning direction magnification leading edge)</td></tr><tr><td>ERROR 0b</td><td>Black band is not detected (DP auxiliary scanning direction magnification leading edge original check)</td></tr><tr><td>ERROR 0c</td><td>Black band is not detected (DP auxiliary scanning direction trailing edge)</td></tr><tr><td>ERROR 0d</td><td>Black band is not detected (DP auxiliary scanning direction trailing edge 2)</td></tr><tr><td>ERROR 0e</td><td>DMA time out</td></tr><tr><td>ERROR 0f</td><td>Auxiliary scanning direction magnification error</td></tr><tr><td>ERROR 10</td><td>Auxiliary scanning direction leading edge detection error</td></tr><tr><td>ERROR 11</td><td>Auxiliary scanning direction trailing edge detection error</td></tr><tr><td>ERROR 12</td><td>Auxiliary scanning direction skew 1.5 error</td></tr><tr><td>ERROR 13</td><td>Maintenance request error</td></tr><tr><td>ERROR 14</td><td>Main scanning direction center line error</td></tr><tr><td>ERROR 15</td><td>Main scanning direction skew 1.5 error</td></tr><tr><td>ERROR 16</td><td>Main scanning direction magnification error</td></tr><tr><td>ERROR 17</td><td>Carriage error</td></tr><tr><td>ERROR 18</td><td>Service call error</td></tr><tr><td>ERROR 19</td><td>DP status error</td></tr><tr><td>ERROR 1a</td><td>DP open error</td></tr><tr><td>ERROR 1b</td><td>Original is not detected</td></tr><tr><td>ERROR 2X</td><td>N950 patch for the original error</td></tr><tr><td>ERROR 3X</td><td>N850 patch for the original error</td></tr><tr><td>ERROR 4X</td><td>N770 patch for the original error</td></tr><tr><td>ERROR 5X</td><td>N650 patch for the original error</td></tr><tr><td>ERROR 6X</td><td>N500 patch for the original error</td></tr><tr><td>ERROR 7X</td><td>N300 patch for the original error</td></tr><tr><td>ERROR 8X</td><td>N300 patch for the original error</td></tr><tr><td>ERROR 9X</td><td>N950 patch for the original error</td></tr><tr><td>ERROR aX</td><td>Cyan patch for the original error</td></tr><tr><td>ERROR bX</td><td>Magenta patch for the original error</td></tr><tr><td>ERROR cX</td><td>Yellow patch for the original error</td></tr><tr><td>ERROR dX</td><td>Red patch for the original error</td></tr><tr><td>ERROR eX</td><td>Green patch for the original error</td></tr><tr><td>ERROR fX</td><td>Blue patch for the original error</td></tr><tr><td>ERROR ff</td><td>Other error</td></tr></table>	Codes	Description	ERROR 01	Black band detection error (scanner leading edge registration)	ERROR 02	Black band detection error (scanner center line)	ERROR 03	Black band detection error (scanner main scanning direction magnification)	ERROR 04	Black band is not detected (scanner leading edge registration)	ERROR 05	Black band is not detected (scanner center line)	ERROR 06	Black band is not detected (scanner main scanning direction magnification)	ERROR 07	Black band is not detected (scanner auxiliary scanning direction magnification)	ERROR 08	Black band is not detected (DP main scanning direction magnification far end)	ERROR 09	Black band is not detected (DP main scanning direction magnification near end)	ERROR 0a	Black band is not detected (DP auxiliary scanning direction magnification leading edge)	ERROR 0b	Black band is not detected (DP auxiliary scanning direction magnification leading edge original check)	ERROR 0c	Black band is not detected (DP auxiliary scanning direction trailing edge)	ERROR 0d	Black band is not detected (DP auxiliary scanning direction trailing edge 2)	ERROR 0e	DMA time out	ERROR 0f	Auxiliary scanning direction magnification error	ERROR 10	Auxiliary scanning direction leading edge detection error	ERROR 11	Auxiliary scanning direction trailing edge detection error	ERROR 12	Auxiliary scanning direction skew 1.5 error	ERROR 13	Maintenance request error	ERROR 14	Main scanning direction center line error	ERROR 15	Main scanning direction skew 1.5 error	ERROR 16	Main scanning direction magnification error	ERROR 17	Carriage error	ERROR 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Maintenance item No.	Description																																											
U425	<p>Setting the target</p> <p>Description</p> <p>The value that is indicated on the back of the chart to be used for adjustment should be entered.</p> <p>Purpose</p> <p>Performs data input in order to correct for differences in originals during automatic adjustment.</p> <p>Method</p> <ol style="list-style-type: none">1. Press the start key.2. Select the item. The screen for executing is displayed. <table><tr><th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr><tr><td>CCD</td><td>Entering the target values for scanner automatic adjustment</td><td>302FZ56990</td></tr><tr><td>CIS</td><td>Entering the target values for DP automatic adjustment</td><td>2AC68241/303JX57010/ 303JX57020</td></tr></table> <p>Setting: CCD</p> <ol style="list-style-type: none">1. Select the item to be set. <table><tr><th>Display</th><th>Description</th></tr><tr><td>N850</td><td>Setting the N850 patch for the original for adjustment</td></tr><tr><td>N500</td><td>Setting the N500 patch for the original for adjustment</td></tr><tr><td>N200</td><td>Setting the N200 patch for the original for adjustment</td></tr><tr><td>CYAN</td><td>Setting the cyan patch for the original for adjustment</td></tr><tr><td>MAGENTA</td><td>Setting the magenta patch for the original for adjustment</td></tr><tr><td>YELLOW</td><td>Setting the yellow patch for the original for adjustment</td></tr><tr><td>RED</td><td>Setting the red patch for the original for adjustment</td></tr><tr><td>GREEN</td><td>Setting the green patch for the original for adjustment</td></tr><tr><td>BLUE</td><td>Setting the blue patch for the original for adjustment</td></tr><tr><td>ADJUST ORIGINAL</td><td>Setting the main and auxiliary scanning directions</td></tr></table> <ol style="list-style-type: none">2. Select the item to be set.3. Change the setting value using the +/- or numeric keys. <table><tr><th>Display</th><th>Description</th><th>Setting range</th></tr><tr><td>L</td><td>Setting the L value</td><td>0.0 to 100.0</td></tr><tr><td>a</td><td>Setting the a value</td><td>-200.0 to 200.0</td></tr><tr><td>b</td><td>Setting the b value</td><td>-200.0 to 200.0</td></tr></table> <ol style="list-style-type: none">4. Press the start key. The value is set.5. To return to the screen for selecting an item, press the stop key. <p>Setting: ADJUST ORIGINAL/MAIN</p> <ol style="list-style-type: none">1. Measure distance from the left edge of the original for adjustment to the black band in three points. Measurement procedure <ol style="list-style-type: none">1) Measure the distances A (50 mm), B (105 mm) and C (190 mm) along the auxiliary scanning direction.2) Apply the following formula for the values obtained: $((A + C) / 2 + B) / 2$ <ol style="list-style-type: none">2. Enter the values solved using the +/- or numeric keys in [MAIN ADJ].3. Press the start key. The value is set.4. To return to the screen for selecting an item, press the stop key. <p>Setting: ADJUST ORIGINAL/SUB</p> <ol style="list-style-type: none">1. Measure distance from the leading edge of the original for adjustment to the black band in three points. Measurement procedure <ol style="list-style-type: none">1) Measure the distances D (30 mm), E (148.5 mm) and C (267 mm) along the main scanning direction.2) Apply the following formula for the values obtained: $((D + F) / 2 + E) / 2$ <ol style="list-style-type: none">2. Enter the values solved using the +/- or numeric keys in [SUB ADJ].3. Press the start key. The value is set.4. To return to the screen for selecting an item, press the stop key.	Display	Description	Original to be used for adjustment (P/N)	CCD	Entering the target values for scanner automatic adjustment	302FZ56990	CIS	Entering the target values for DP automatic adjustment	2AC68241/303JX57010/ 303JX57020	Display	Description	N850	Setting the N850 patch for the original for adjustment	N500	Setting the N500 patch for the original for adjustment	N200	Setting the N200 patch for the original for adjustment	CYAN	Setting the cyan patch for the original for adjustment	MAGENTA	Setting the magenta patch for the original for adjustment	YELLOW	Setting the yellow patch for the original for adjustment	RED	Setting the red patch for the original for adjustment	GREEN	Setting the green patch for the original for adjustment	BLUE	Setting the blue patch for the original for adjustment	ADJUST ORIGINAL	Setting the main and auxiliary scanning directions	Display	Description	Setting range	L	Setting the L value	0.0 to 100.0	a	Setting the a value	-200.0 to 200.0	b	Setting the b value	-200.0 to 200.0
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U425	<p>Setting: CIS</p> <p>1. Select the item to be set.</p> <table><tr><th>Display</th><th>Description</th></tr><tr><td>N950</td><td>Setting the N950 patch for the original for adjustment</td></tr><tr><td>N850</td><td>Setting the N850 patch for the original for adjustment</td></tr><tr><td>N770</td><td>Setting the N770 patch for the original for adjustment</td></tr><tr><td>N650</td><td>Setting the N650 patch for the original for adjustment</td></tr><tr><td>N500</td><td>Setting the N500 patch for the original for adjustment</td></tr><tr><td>N300</td><td>Setting the N300 patch for the original for adjustment</td></tr><tr><td>CYAN</td><td>Setting the cyan patch for the original for adjustment</td></tr><tr><td>MAGENTA</td><td>Setting the magenta patch for the original for adjustment</td></tr><tr><td>YELLOW</td><td>Setting the yellow patch for the original for adjustment</td></tr><tr><td>RED</td><td>Setting the red patch for the original for adjustment</td></tr><tr><td>GREEN</td><td>Setting the green patch for the original for adjustment</td></tr><tr><td>BLUE</td><td>Setting the blue patch for the original for adjustment</td></tr></table> <p>2. Select the item to be set.</p> <p>3. Change the setting value using the +/- or numeric keys.</p> <table><tr><th>Display</th><th>Description</th><th>Setting range</th></tr><tr><td>L</td><td>Setting the L value</td><td>0.0 to 100.0</td></tr><tr><td>a</td><td>Setting the a value</td><td>-200.0 to 200.0</td></tr><tr><td>b</td><td>Setting the b value</td><td>-200.0 to 200.0</td></tr></table> <p>4. Press the start key. The value is set.</p> <p>5. To return to the screen for selecting an item, press the stop key.</p> <p>Completion</p> <p>Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	N950	Setting the N950 patch for the original for adjustment	N850	Setting the N850 patch for the original for adjustment	N770	Setting the N770 patch for the original for adjustment	N650	Setting the N650 patch for the original for adjustment	N500	Setting the N500 patch for the original for adjustment	N300	Setting the N300 patch for the original for adjustment	CYAN	Setting the cyan patch for the original for adjustment	MAGENTA	Setting the magenta patch for the original for adjustment	YELLOW	Setting the yellow patch for the original for adjustment	RED	Setting the red patch for the original for adjustment	GREEN	Setting the green patch for the original for adjustment	BLUE	Setting the blue patch for the original for adjustment	Display	Description	Setting range	L	Setting the L value	0.0 to 100.0	a	Setting the a value	-200.0 to 200.0	b	Setting the b value	-200.0 to 200.0
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MAGENTA	Setting the magenta patch for the original for adjustment																																						
YELLOW	Setting the yellow patch for the original for adjustment																																						
RED	Setting the red patch for the original for adjustment																																						
GREEN	Setting the green patch for the original for adjustment																																						
BLUE	Setting the blue patch for the original for adjustment																																						
Display	Description	Setting range																																					
L	Setting the L value	0.0 to 100.0																																					
a	Setting the a value	-200.0 to 200.0																																					
b	Setting the b value	-200.0 to 200.0																																					

Maintenance item No.	Description																								
U905	<p>Checking/clearing counts by optional devices</p> <p>Description Displays or clears the counts of DP or finisher.</p> <p>Purpose To check the use of DP and finisher. Also to clear the counts after replacing consumable parts.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Select the device, the count of which is to be checked. The count of the selected device is displayed. <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>DP</td><td>Counts of DP</td></tr> <tr> <td>FINISHER</td><td>Counts of finisher</td></tr> </tbody> </table> <p>DP</p> <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <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> </tbody> </table> <p>Finisher</p> <table border="1"> <thead> <tr> <th>Display</th><th>Description</th></tr> </thead> <tbody> <tr> <td>CP CNT</td><td>No. of copies that has passed</td></tr> <tr> <td>STAPLE</td><td>Frequency the stapler has been activated</td></tr> <tr> <td>PUNCH</td><td>Frequency the punch has been activated</td></tr> <tr> <td>STACK</td><td>Frequency the stacker has been activated</td></tr> <tr> <td>SADDLE</td><td>Frequency the center holding has been activated</td></tr> </tbody> </table> <p>Clearing</p> <ol style="list-style-type: none"> 1. Select the item to be cleared. To clear the counts for all, press the clear key. 2. Press the start key. The count is cleared. <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	DP	Counts of DP	FINISHER	Counts of finisher	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	CP CNT	No. of copies that has passed	STAPLE	Frequency the stapler has been activated	PUNCH	Frequency the punch has been activated	STACK	Frequency the stacker has been activated	SADDLE	Frequency the center holding has been activated
Display	Description																								
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PUNCH	Frequency the punch has been activated																								
STACK	Frequency the stacker has been activated																								
SADDLE	Frequency the center holding has been activated																								

Maintenance item No.	Description															
U942	<p>Setting of amount of slack for feeding from DP</p> <p>Description Adjusts the amount of slack 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> <ol style="list-style-type: none">1. Press the start key.2. Select the item to be adjusted. <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>REGST</td><td>Amount of slack in the reading original from the DP</td><td>-31 to 31</td><td>0</td><td>0.17 mm</td></tr><tr><td>REGST MIX</td><td>Amount of slack in the reading original from the DP in the auto selection mode</td><td>-31 to 31</td><td>0</td><td>0.17 mm</td></tr></table> <ol style="list-style-type: none">3. Press the system menu key.4. Place an original on the DP and press the start key to make a test copy.5. Press the system menu key.6. Change the setting value using the +/- or numeric keys. The greater the value, the larger the amount of slack; the smaller the value, the smaller the amount of slack. If an original non-feed jam or oblique feed occurs, increase the setting value. If wrinkling of original occurs, decrease the value.7. Press the start key. The setting is set. <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	REGST	Amount of slack in the reading original from the DP	-31 to 31	0	0.17 mm	REGST MIX	Amount of slack in the reading original from the DP in the auto selection mode	-31 to 31	0	0.17 mm
Display	Description	Setting range	Initial setting	Change in value per step												
REGST	Amount of slack in the reading original from the DP	-31 to 31	0	0.17 mm												
REGST MIX	Amount of slack in the reading original from the DP in the auto selection mode	-31 to 31	0	0.17 mm												
U990	<p>Checking/clearing the time for the exposure lamp to light</p> <p>Description Displays, clears or changes the accumulated time for the exposure lamp to light.</p> <p>Purpose To check duration of use of the exposure lamp. Also to clear the accumulated time for the lamp after replacement.</p> <p>Method Press the start key. The accumulated time of illumination for the exposure lamp is displayed in minutes.</p> <table><tr><th>Display</th><th>Description</th></tr><tr><td>CCD</td><td>Accumulated time for the exposure lamp</td></tr><tr><td>CIS</td><td>Accumulated time for CIS</td></tr></table> <p>Clearing</p> <ol style="list-style-type: none">1. Select the item to be cleared.2. Press the start key. The accumulated time is cleared. <p>Completion Press the stop key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	CCD	Accumulated time for the exposure lamp	CIS	Accumulated time for CIS									
Display	Description															
CCD	Accumulated time for the exposure lamp															
CIS	Accumulated time for CIS															

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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 or reverse unit.

Paper misfeed detection can be reset by opening and closing the respective covers to turn safety switch off and on.

(2) Original misfeed detection conditions

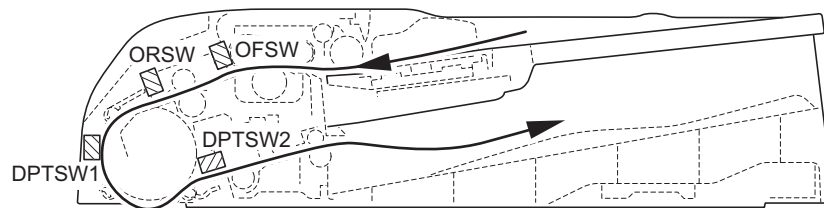


Figure 1-4-1

Section	Jam code	Conditions	Specified time
DP	70 No original feed	The original feed switch (OFSW) does not turn on within specified time during the first sheet feeding.	2436 pulse
		The original feed switch (OFSW) does not turn on within specified time during the second sheet feeding.	4430 pulse
	71 An original jam in the original feed/conveying section 1	DP timing switch 2 (DPTSW2) does not turn off within specified time.	2500 pulse
	72 An original jam in the original feed/conveying section 2	The original feed switch (OFSW) and original registration switch (ORSW) does not turn off within specified time.	16675 pulse
	73 An original jam in the original conveying section	DP timing switch 1 (DPTSW1) does not turn off within specified time.	4979 pulse
	74 An original jam in the original registration section	The original registration switch (ORSW) does not turn on within specified time and after 5 retries.	4979 pulse
	75 An original jam in the original registration section	The original registration switch (ORSW) does not turn off within specified time.	19533 pulse
		DP timing switch 1 (DPTSW1) does not turn on within specified time.	4979 pulse
	76 An original jam in the original feed/conveying section	DP timing switch 2 (DPTSW2) does not turn on within specified time.	2500 pulse
	78 Document processor top cover open	The top cover is opened during original feeding.	-

(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 original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original feed motor malfunctions.	Run maintenance item U243 and select the original feed motor on the touch 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 feed/conveying section). Jam code 71	Defective DP timing switch 2.	Run maintenance item U244 and turn the DP timing switch 2 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(3) An original jams in DP is indicated during copying (a jam in the original feed/conveying section). Jam code 72	Defective switch.	Run maintenance item U244 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original feed switch, original registration switch
(4) An original jams in DP is indicated during copying (a jam in the original conveying section). Jam code 73	Defective DP timing switch 1.	Run maintenance item U244 and turn the DP timing switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(5) An original jams in DP is indicated during copying (a jam in the original registration section). Jam code 74	Defective original registration switch.	Run maintenance item U244 and turn the original registration switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(6) An original jams in DP is indicated during copying (a jam in the original registration section). Jam code 75	Defective switch.	Run maintenance item U244 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original registration switch, DP timing switch 1
(7) An original jams in DP is indicated during copying (a jam in the original feed/conveying section). Jam code 76	Defective DP timing switch 2.	Run maintenance item U244 and turn the DP timing switch 2 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.

1-4-2 Self-diagnosis

(1) Self-diagnostic function

This unit is equipped with a self-diagnostic function. When a problem is detected, copying is disabled and the problem displayed as a code consisting of C followed by a number, indicating the nature of the problem.

A message is also displayed requesting the user to call for service.

After removing the problem, the self-diagnostic function can be reset by turning safety switches off and back on.

(2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3210	CIS lamp problem After the reading starting, when input value at the time of CIS illumination does not exceed the threshold value between 5 s.	Poor contact in the connector terminals.	Check the connection of connector on the main PWB and the connector on the DP main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
		Defective DP inverter PWB.	Replace the DP inverter PWB and check for correct operation.
		Defective CIS.	Replace the CIS and check for correct operation.
C3310	CIS AGC problem After AGC, correct input is not obtained at CIS.	Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
		CIS output problem.	Replace the CIS and check for correct operation.
		Defective DP inverter PWB.	Replace the DP inverter PWB and check for correct operation.
C9000	DP communication problem A communication error is detected.	Poor contact in the connector terminals.	Check the connection of connector YC7 on the scanner PWB and the connector of the DP, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
C9040	DP lift motor going up error The pulse count raised to 10000 at lifting, however, the DP lift switch could not be turned on. After one time retry, the DP lift limit switch could not be turned on.	Loose connection of the DP lift motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the DP lift motor.	Replace the DP lift motor and check for correct operation.
		Malfunction of the DP lift upper limit switch.	Replace the DP lift upper limit switch and check for correct operation.
		Loose connection of the DP lift upper limit switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective DP main PWB.	Replace the DP main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C9050	DP lift motor going down error The pulse count lowered to 10000 at lifting down, however, the DP bottom limit switch could not be turned on. After one time retry, the DP bottom limit switch could not be turned on.	Loose connection of the DP lift motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the DP lift motor.	Replace the DP lift motor and check for correct operation.
		Malfunction of the DP lift lower limit switch.	Replace the DP lift lower limit switch and check for correct operation.
		Loose connection of the DP lift lower limit switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
C9060	DP EEPROM error Read and write data does not match. Data in the specified area of the backup memory does not match the specified values.	Defective DP main PWB.	Replace the DP main PWB and check for correct operation.
		Device damage of EEPROM.	Contact the Service Administrative Division.
C9070	Communication problem between DP and SHD A communication error is detected.	Loose connection of the SHD PWB.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective SHD PWB.	Replace the SHD PWB and check for correct operation.
C9080	Communication problem between DP and CIS Reading cannot be performed correctly.	Loose connection of CIS.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective CIS.	Replace CIS and check for correct operation.

1-4-3 Electric problems

Troubleshooting to each failure must be in the order of the numbered symptoms.

Problem	Causes	Check procedures/corrective measures
(1) The original feed motor, original registration motor, original conveying motor or DP lift motor does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. 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.
	3. Defective motor.	Run maintenance item U243 and check if the motor operates. If not, replace the motor.
	4. Defective DP drive relay PWB.	Run maintenance item U243 and check if the motor operates. If not, replace the DP drive relay PWB.
(2) A message indicating cover open is displayed when the DP is closed correctly.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective DP safety switch 1.	Check for continuity across the contacts of the switch. If none when the switch is on, replace DP safety switch 1.
(3) An original jams when the main power switch is turned on.	1. A piece of paper torn from copy paper is caught around original feed switch, original registration switch or DP timing switch 1/2.	Remove any found.
	2. Defective original feed switch, original registration switch or DP timing switch 1/2.	Run maintenance item U244 and turn the switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.

1-4-4 Mechanical problems

Problem	Causes/check procedures	Corrective measures
(1) No primary original feed.	The surfaces of the DP original feed belt, DP forwarding pulley or DP separation pulley are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty.
	Check if the DP original feed belt, DP forwarding pulley or DP separation pulley is deformed.	If so, replace (see page 1-5-3).
(2) No secondary original feed.	The registration pulley and the registration roller do not contact each other correctly.	Check and clean them with isopropyl alcohol if they are dirty.
(3) Originals jam.	Originals outside the specifications are used.	Use only originals conforming to the specifications.
	The surfaces of the DP original feed belt, DP forwarding pulley or DP separation pulley are dirty with paper powder.	Check and clean them with isopropyl alcohol if they are dirty.
	The eject pulley and the eject roller do not contact each other correctly.	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 indicator and the Memory indicator are off before turning off the main power switch. And then unplug the power cable from the wall outlet.

Turning off the main power switch before pressing the Power key to off may cause damage to the equipped hard disk.

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.

1-5-2 Assembly and Disassembly

(1) Detaching and refitting the DP original feed belt and DP forwarding pulley

Follow the procedure below to replace the DP original feed belt and DP forwarding pulley.

Procedure

1. Open the top cover.
2. Remove two original feed belt shaft guides.

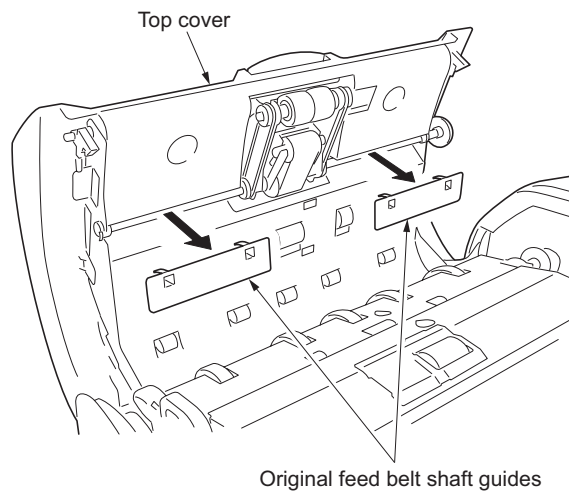


Figure 1-5-1

3. Remove the stop ring and then remove the original feed unit from the DP.

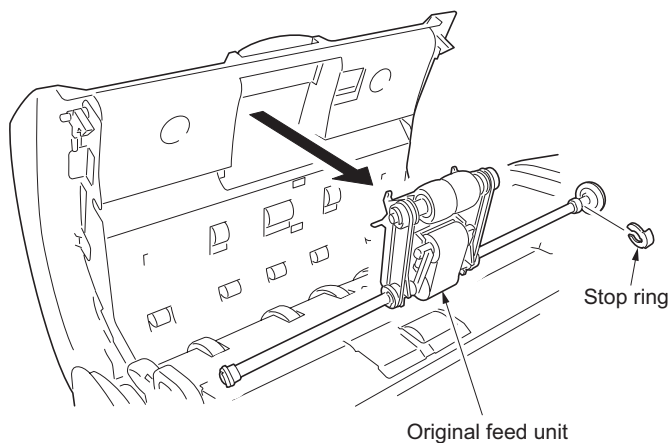


Figure 1-5-2

4. Remove the original feed belt unit from the inserted parts of the original feed unit.

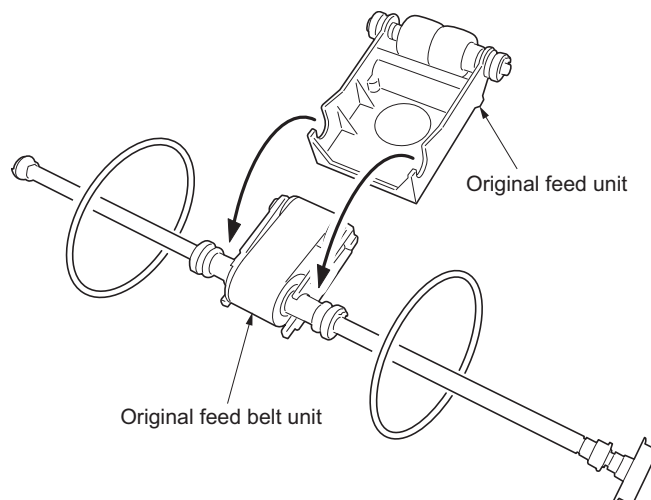


Figure 1-5-3

5. Remove two stop rings from the original feed belt shaft A and then remove the bushing, pulley, spring pin, original feed holder and original feed color A.
6. Remove the original feed belt shaft A from the original feed belt unit.
7. Remove the original feed belt shaft B from the original feed belt unit.
8. Remove the original feed color B and DP original feed belt from original feed belt shaft B.

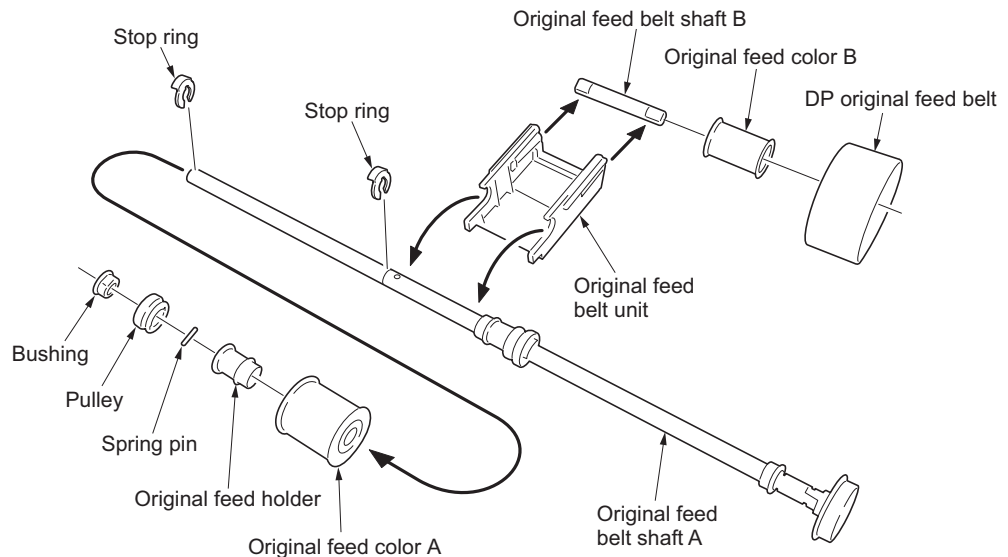


Figure 1-5-4

9. Remove two stop rings from the forwarding pulley shaft and then remove two pulleys, two spring pins and two bushings.
10. Pull out the forwarding pulley shaft and remove the DP forwarding pulley.

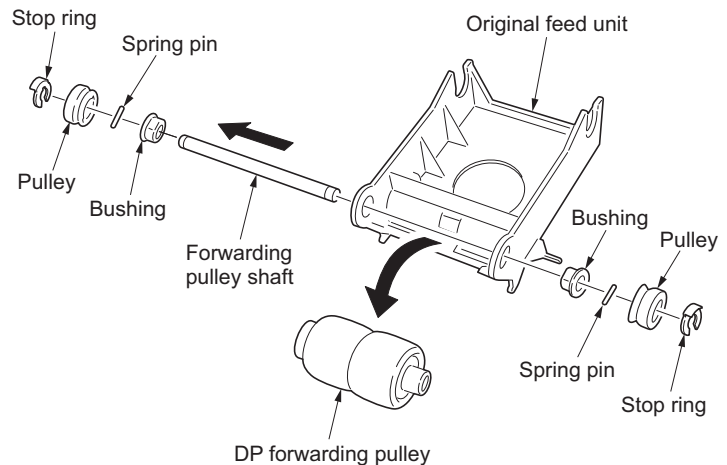


Figure 1-5-5

11. Replace the DP original feed belt and DP forwarding pulley.
12. Install the DP forwarding pulley to the original feed unit.
13. Install the DP original feed belt to the original feed belt unit.
14. Refit the original feed belt unit to the original feed unit.
15. Refit the original feed unit to the DP.

(2) Detaching and refitting the DP separation pulley

Follow the procedure below to replace the DP separation pulley.

Procedure

1. Open the top cover.
2. Release the inserted part and then remove the separation guide.

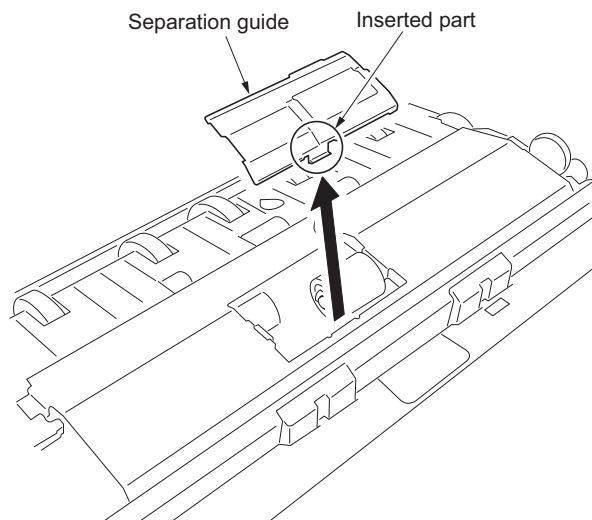


Figure 1-5-6

3. Remove the stop ring and then DP separation pulley and torque limiter.
4. Replace the DP separation pulley and install the pulley to the DP.

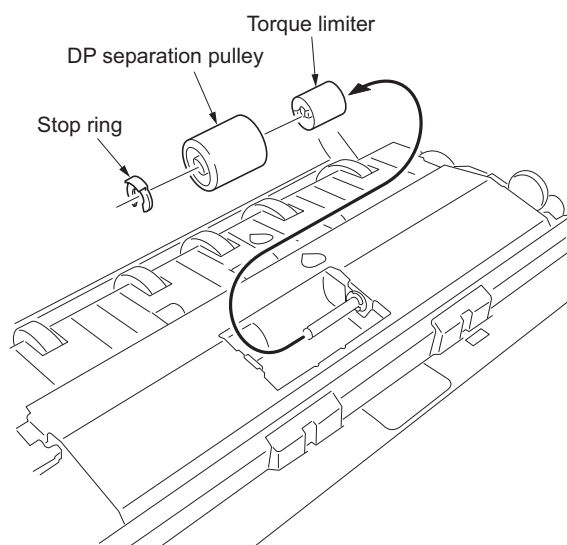


Figure 1-5-7

(3) Detaching and refitting the CIS

Follow the procedure below to replace the CIS.

Procedure

1. Open the top cover.
2. Release the screw and three inserted parts and then remove the DP front cover.

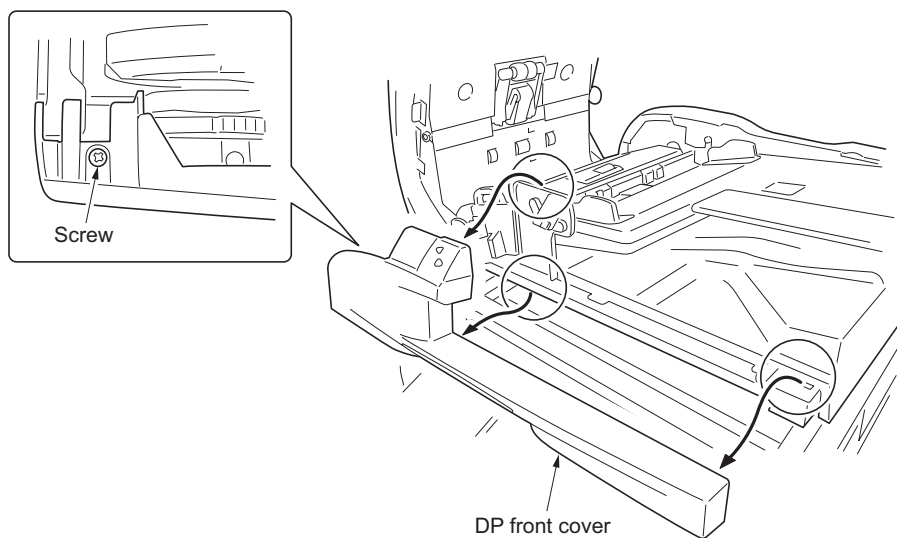


Figure 1-5-8

3. Remove two screws and then original feed guide.

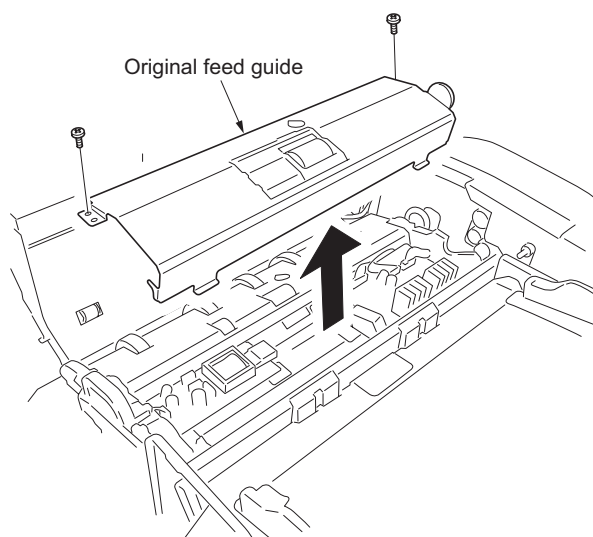


Figure 1-5-9

4. Remove the flexible flat cable from CIS relay PWB.
5. Remove the connector from the DP inverter PWB and release the wire from the wire saddle and edging.

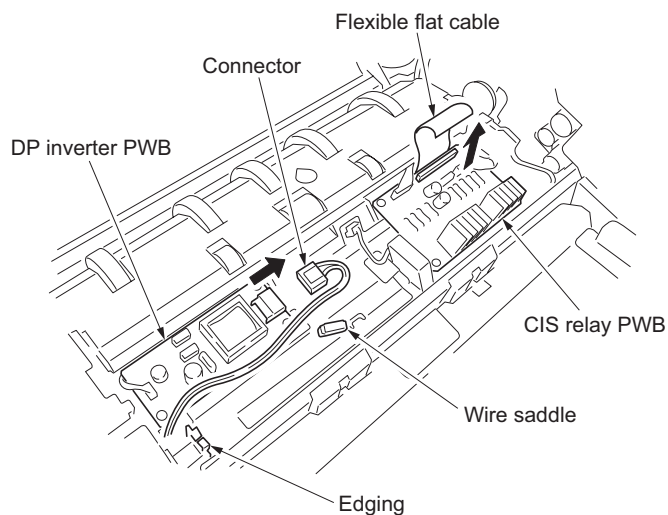


Figure 1-5-10

6. Open the reverse unit.
7. Remove the screw and then remove the original conveying guide.
8. Remove the connector of the DP timing switch 2.

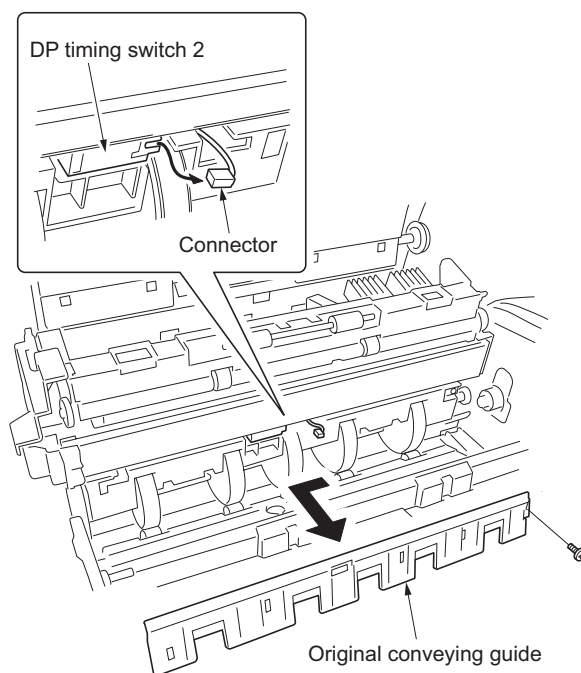


Figure 1-5-11

9. Remove two screws and then remove the reverse unit front cover.

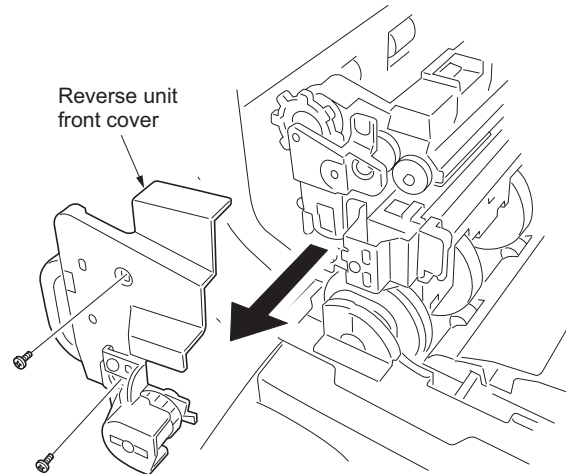


Figure 1-5-12

10. Remove the screw and then remove the CIS.
11. Replace the CIS. Install the CIS to the DP.
12. Refit the reverse unit front cover to the DP.
13. Connect the connector of the DP timing switch 2 and refit the original conveying guide to the DP.
14. Connect the connector to the DP inverter PWB and the flexible flat cable to the CIS relay PWB.
15. Refit the original feed guide and the DP front cover to the DP.

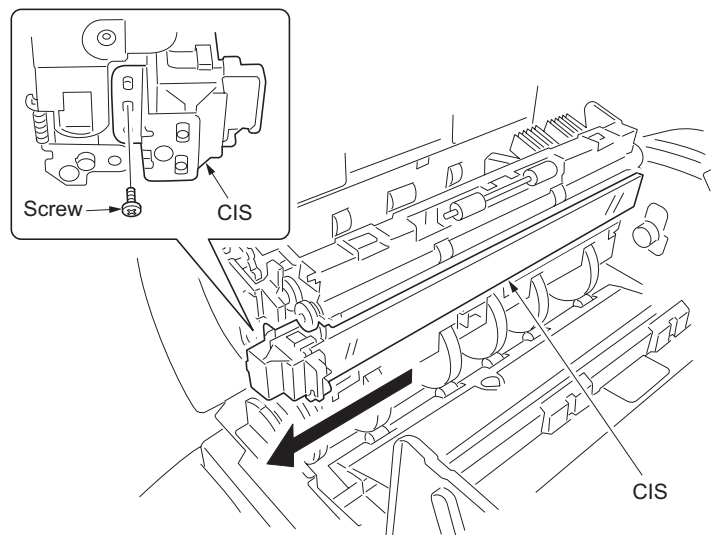


Figure 1-5-13

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2-1-1 Mechanical construction

The original placed on the original tray is fed sheet by sheet through the original feeding section and conveyed on the slit glass. Shortly after one side is scanned by the CCD over the slit glass, the original is scanned by the CIS. The original attached to the CIS is ejected to the original eject table after the second side is scanned by the CIS.

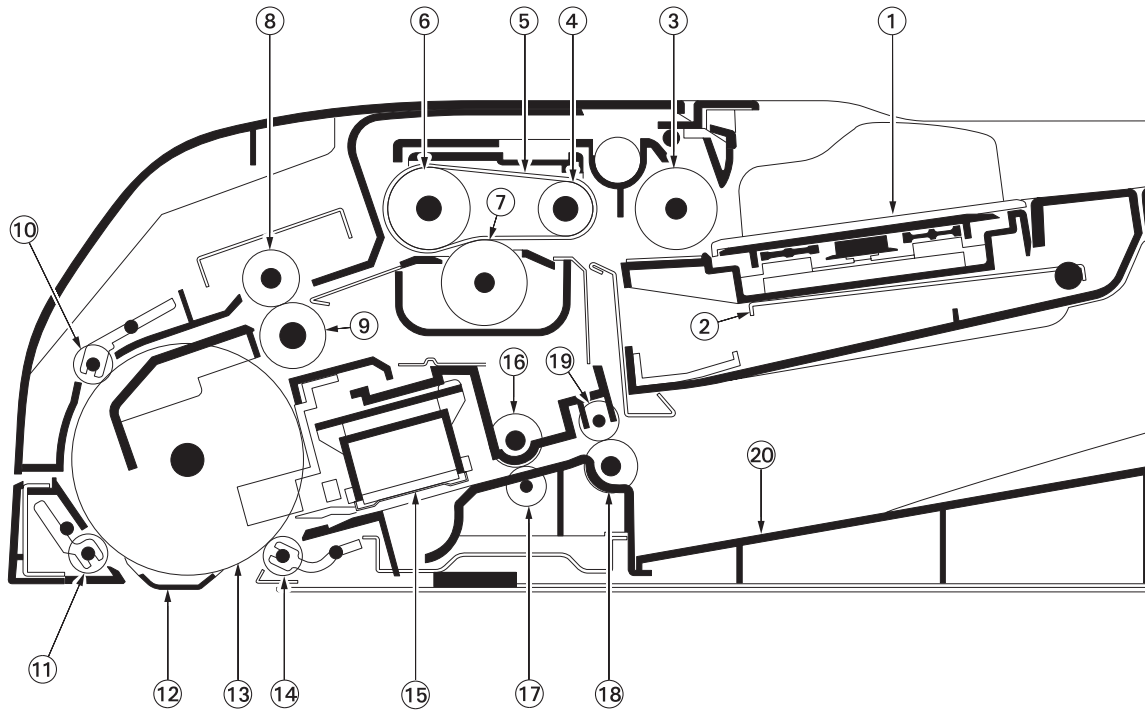


Figure 2-1-1 Document processor

- | | |
|--------------------------------|--------------------------------|
| (1) Original tray | (11) Original conveying pulley |
| (2) Lift lever | (12) Reading guide |
| (3) DP forwarding pulley | (13) Original conveying roller |
| (4) Original feed color | (14) Original conveying pulley |
| (5) DP original feed belt | (15) CIS |
| (6) Original feed color | (16) Eject roller |
| (7) DP separation pulley | (17) Original conveying pulley |
| (8) Registration pulley | (18) Eject roller |
| (9) Registration roller | (19) Eject pulley |
| (10) Original conveying pulley | (20) Original eject table |

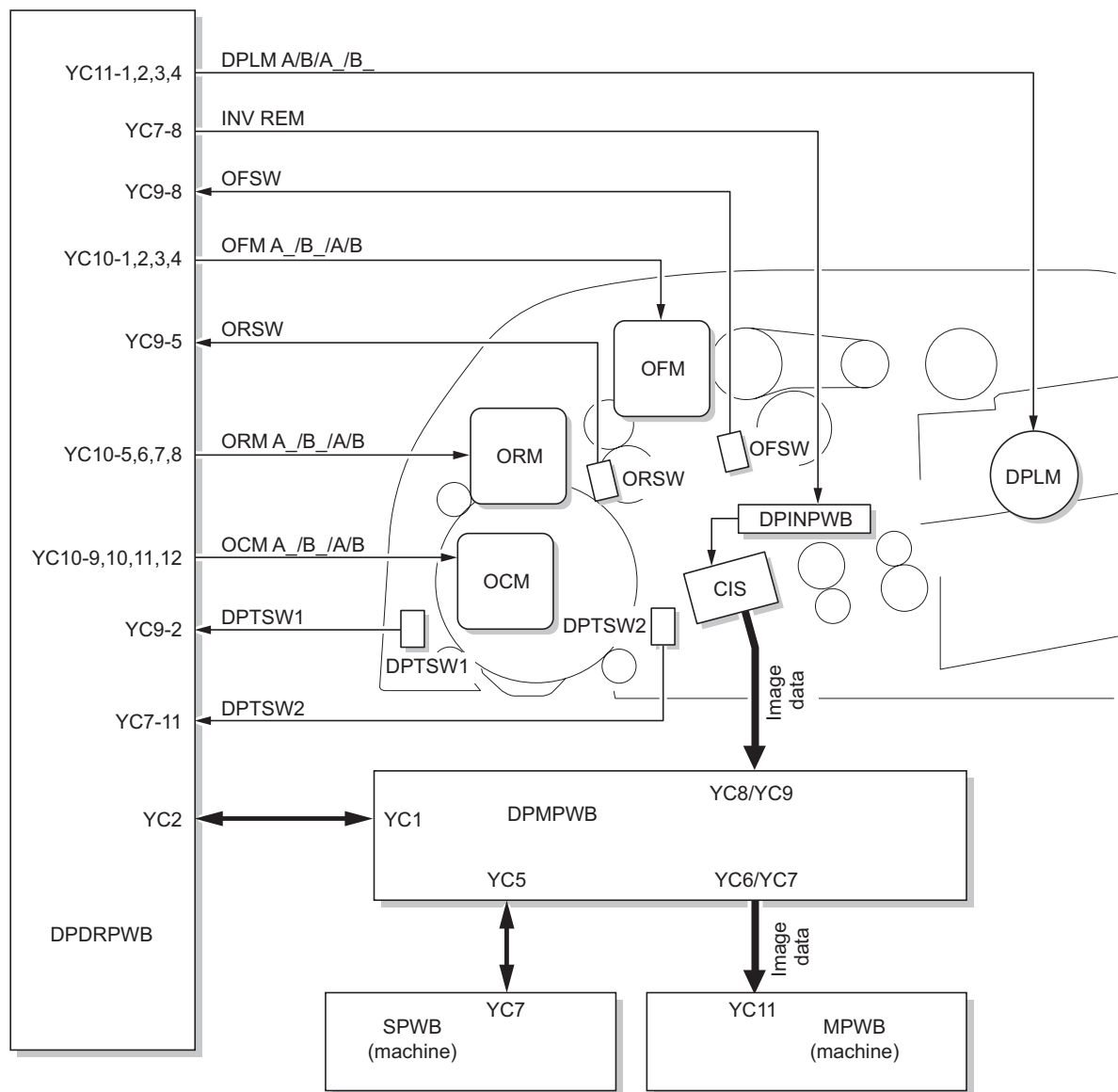


Figure 2-1-2 Document processor block diagram

2-2-1 Electrical parts layout

(1) PWBs

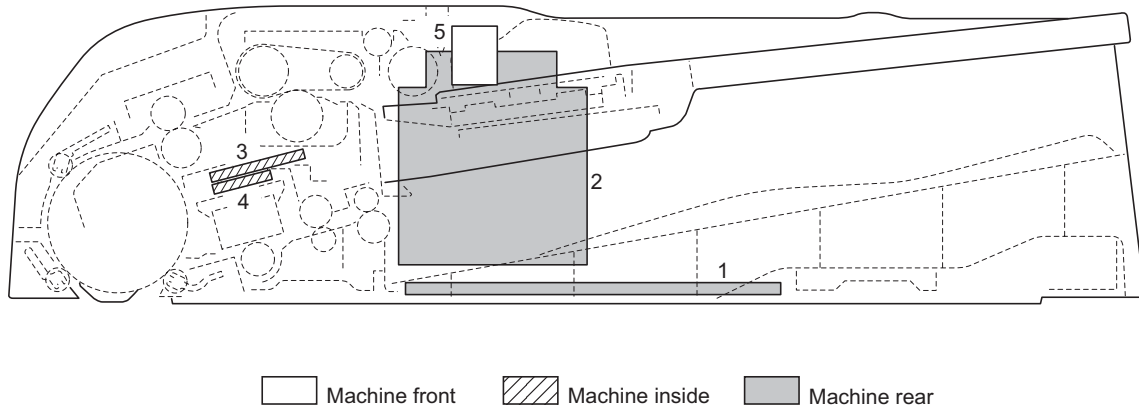
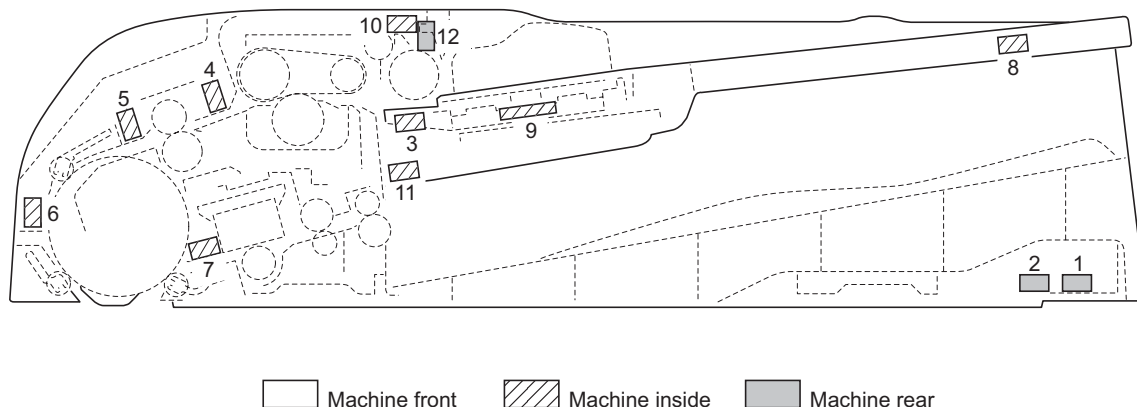
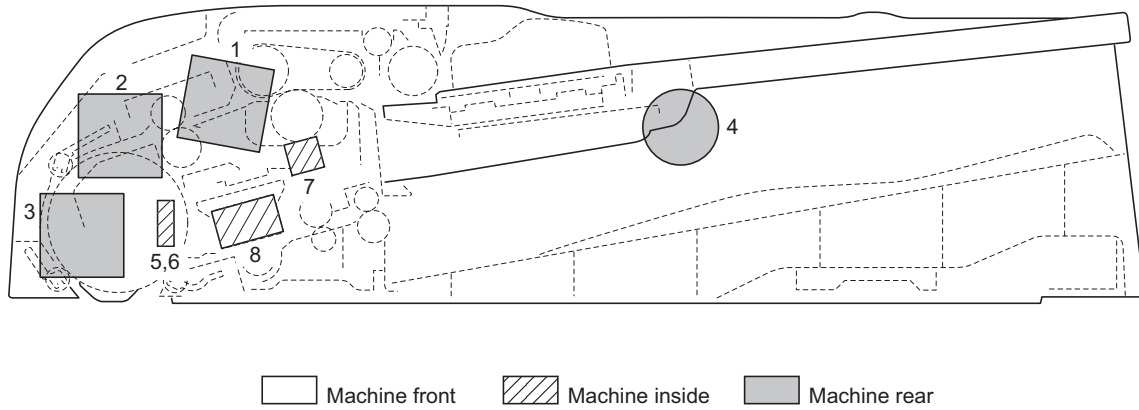


Figure 2-2-1 PWBs

1. DP main PWB (DPMPWB) Controls the image processing.
2. DP drive relay PWB (DPDRPWB) Controls electrical components.
3. CIS relay PWB (CISRPWB) Relay of image data.
4. DP inverter PWB (DPINPWB) Controls the light source of built-in CIS.
5. LED PWB (LEDPWB) Indicates presence of originals or an original jam.

(2) Switches and sensors**Figure 2-2-2 Switches and sensors**

1. DP safety switch 1 (DPSSW1)..... Breaks the safety circuit when the document processor is opened; resets original misfeed detection.
2. DP safety switch 2 (DPSSW2)..... Breaks the safety circuit when the top cover is opened; resets original misfeed detection.
3. Original set switch (OSSW) Detects the presence of an original.
4. Original feed switch (OFSW) Detects primary original feed end timing.
5. Original registration switch (ORSW) Detects the original conveying timing.
6. DP timing switch 1 (DPTSW1) Detects the original scanning timing.
7. DP timing switch 2 (DPTSW2) Detects the original scanning timing.
8. Original length size switch (OLSW) Detects the length of the original.
9. Original width size switch (OWSW) Detects the width of the original.
10. DP lift upper limit switch (DPLULSW) Detects the original tray reaching the upper limit.
11. DP lift lower limit switch (DPLLLSW) Detects the original tray reaching the lower limit.
12. CIS open/close switch (CISOCWSW) Detects the opening/closing of the top cover.

(3) Others**Figure 2-2-3 Others**

1. Original feed motor (OFM) Drives the DP original feed belt.
2. Original registration motor (ORM) Drives the registration roller.
3. Original conveying motor (OCM) Drives the original conveying sections.
4. DP lift motor (DPLM) Operates the original tray.
5. DP fan motor 1 (DPFM1) Cools the CIS.
6. DP fan motor 2 (DPFM2) Cools the CIS.
7. DP fan motor 3 (DPFM3) Cools the CIS.
8. CIS (CIS) Reads the image of originals.

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2-3-1 DP main PWB

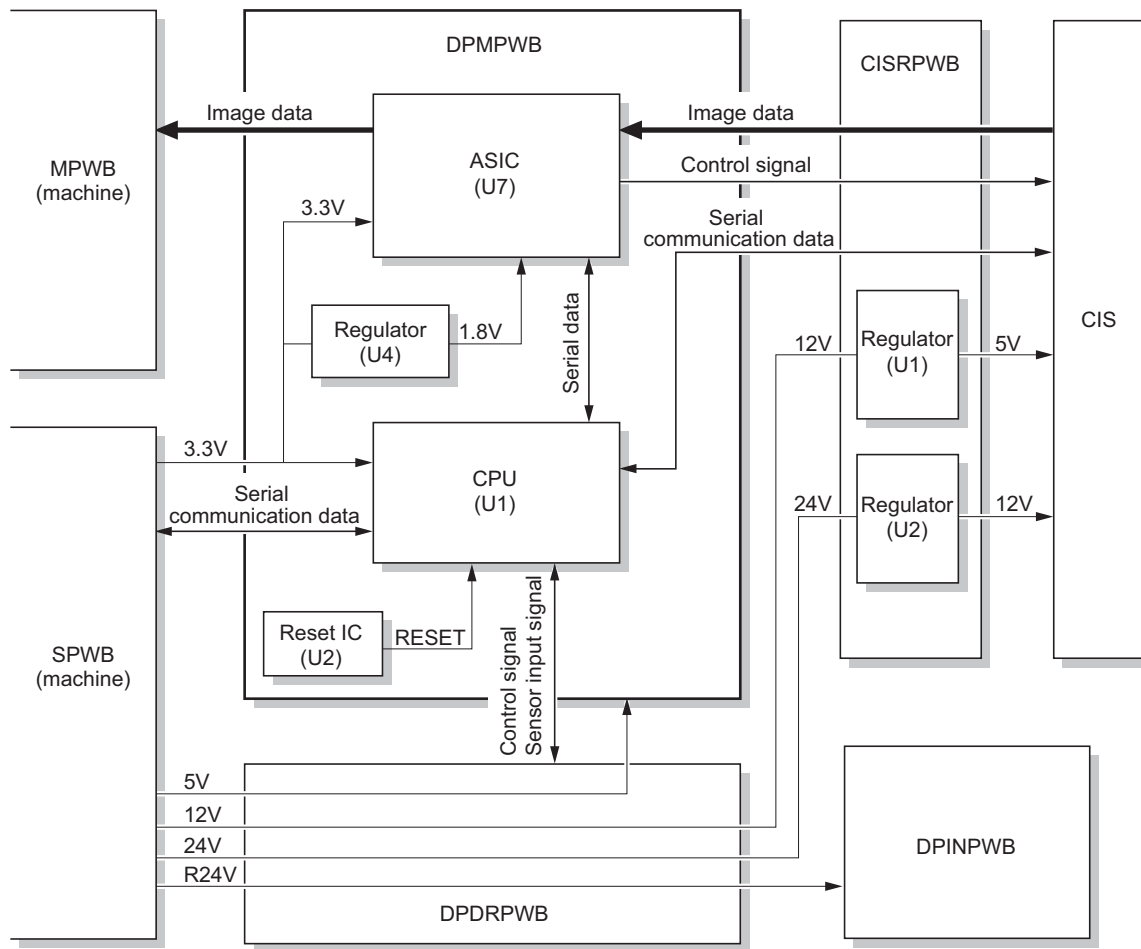


Figure 2-3-1 DP main PWB diagram

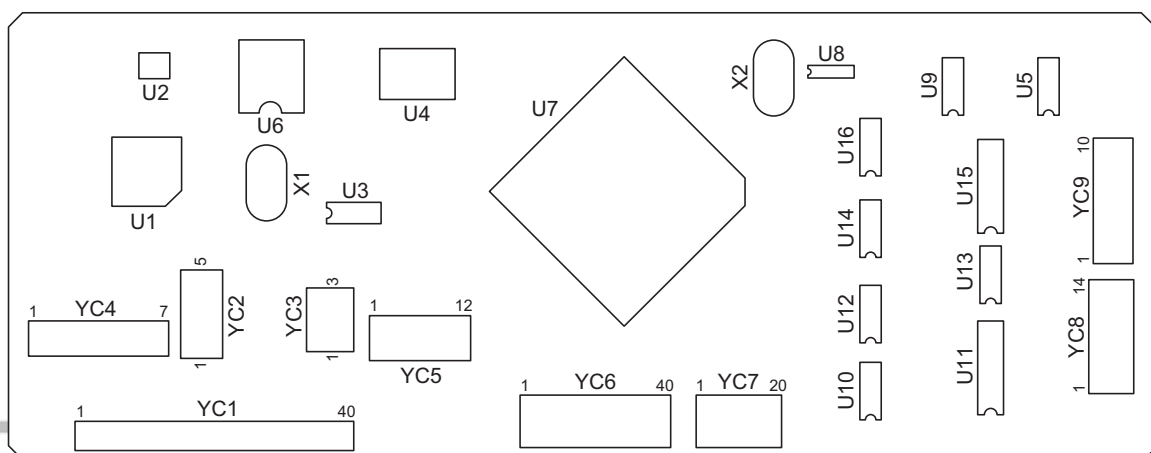


Figure 2-3-2 DP main PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1 Connected to the DP drive relay PWB	1	DPFM3	O	0/3.3 V DC	DPFM3 On/Off
	2	CISOCSW	I	0/3.3 V DC	CISOCSW On/Off
	3	LED RD	O	0/3.3 V DC	LED RED control signal
	4	LED GN	O	0/3.3 V DC	LED GREEN control signal
	5	DPFM1	O	0/3.3 V DC	DPFM1 On/Off
	6	INV REM	O	0/3.3 V DC	CIS control signal
	7	DPTSW2	I	0/3.3 V DC	DPTSW2 On/Off
	8	OWSW	I	0/3.3 V DC	OWSW On/Off
	9	OLSW	I	0/3.3 V DC	OLSW On/Off
	10	DPLLSW	I	0/3.3 V DC	DPLLSW On/Off
	11	OSSW	I	0/3.3 V DC	OSSW On/Off
	12	DPTSW1	I	0/3.3 V DC	DPTSW1 On/Off
	13	ORSW	I	0/3.3 V DC	ORSW On/Off
	14	OFSW	I	0/3.3 V DC	OFSW On/Off
	15	DPLULSW	I	0/3.3 V DC	DPLULSW On/Off
	16	DPLM 1	O	0/3.3 V DC (pulse)	DPLM drive control signal
	17	DPLM 0	O	0/3.3 V DC (pulse)	DPLM drive control signal
	18	DPLM B	O	0/3.3 V DC (pulse)	DPLM drive control signal
	19	DPLM A	O	0/3.3 V DC (pulse)	DPLM drive control signal
	20	OCM 1B	O	0/3.3 V DC (pulse)	OCM drive control signal
	21	OCM 0B	O	0/3.3 V DC (pulse)	OCM drive control signal
	22	OCM 1A	O	0/3.3 V DC (pulse)	OCM drive control signal
	23	OCM 0A	O	0/3.3 V DC (pulse)	OCM drive control signal
	24	OCM B	O	0/3.3 V DC (pulse)	OCM drive control signal
	25	OCM A	O	0/3.3 V DC (pulse)	OCM drive control signal
	26	ORM 1B	O	0/3.3 V DC (pulse)	ORM drive control signal
	27	ORM 0B	O	0/3.3 V DC (pulse)	ORM drive control signal
	28	ORM 1A	O	0/3.3 V DC (pulse)	ORM drive control signal
	29	ORM 0A	O	0/3.3 V DC (pulse)	ORM drive control signal
	30	ORM B	O	0/3.3 V DC (pulse)	ORM drive control signal
	31	ORM A	O	0/3.3 V DC (pulse)	ORM drive control signal
	32	OFM 1B	O	0/3.3 V DC (pulse)	OFM drive control signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	33	OFM 0B	O	0/3.3 V DC (pulse)	OFM drive control signal
Connected to the DP drive relay PWB	34	OFM 1A	O	0/3.3 V DC (pulse)	OFM drive control signal
	35	OFM 0A	O	0/3.3 V DC (pulse)	OFM drive control signal
	36	OFM B	O	0/3.3 V DC (pulse)	OFM drive control signal
	37	OFM A	O	0/3.3 V DC (pulse)	OFM drive control signal
	38	3.3V	O	3.3 V DC	3.3 V DC power output
	39	G(5V)	-	-	Signal ground
	40	5V	O	5 V DC	5 V DC power output
YC3	1	G(5V)	-	-	Signal ground
Connected to the DP Safety switch 2	2	DPSSW2	I	0/5 V DC	DPSSW2 On/Off
	3	5V	O	5 V DC	5 V DC power output
YC5	1	SSCLK	I	0/3.3 V DC (pulse)	CLOCK signal from the machine
Connected to the machine	2	SSDO	O	0/3.3 V DC (pulse)	Serial communication data signal to the machine
	3	SSDI	I	0/3.3 V DC (pulse)	Serial communication data signal from the machine
	4	SSEL	I	0/3.3 V DC (pulse)	SELECT signal from the machine
	5	SRDY	O	0/3.3 V DC (pulse)	READY signal to the machine
	6	OVSYN	O	0/3.3 V DC (pulse)	OVSYN signal to the machine
	7	FEED	O	0/3.3 V DC (pulse)	FEED signal to the machine
	8	NC	-	-	Not used
	9	3.3V	I	3.3 V DC	3.3 V DC power input
	10	3.3V	I	3.3 V DC	3.3 V DC power input
	11	G(5V)	-	-	Signal ground
	12	G(5V)	-	-	Signal ground
YC6	1	DOU7P	O	0/3.3 V DC (pulse)	Image data signal R7P
Connected to the machine	2	DOU3P	O	0/3.3 V DC (pulse)	Image data signal R3P
	3	DOU7N	O	0/3.3 V DC (pulse)	Image data signal R7N
	4	DOU3N	O	0/3.3 V DC (pulse)	Image data signal R3N
	5	DOU6P	O	0/3.3 V DC (pulse)	Image data signal R6P
	6	DOU2P	O	0/3.3 V DC (pulse)	Image data signal R2P
	7	DOU6N	O	0/3.3 V DC (pulse)	Image data signal R6N

Connector	Pin No.	Signal	I/O	Voltage	Description
YC6	8	DOUTR2N	O	0/3.3 V DC (pulse)	Image data signal R2N
Connected to the machine	9	DOUTR5P	O	0/3.3 V DC (pulse)	Image data signal R5P
	10	DOUTR1P	O	0/3.3 V DC (pulse)	Image data signal R1P
	11	DOUTR5N	O	0/3.3 V DC (pulse)	Image data signal R5N
	12	DOUTR1N	O	0/3.3 V DC (pulse)	Image data signal R1N
	13	DOUTR4P	O	0/3.3 V DC (pulse)	Image data signal R4P
	14	DOUTR0P	O	0/3.3 V DC (pulse)	Image data signal R0P
	15	DOUTR4N	O	0/3.3 V DC (pulse)	Image data signal R4N
	16	DOUTR0N	O	0/3.3 V DC (pulse)	Image data signal R0N
	17	DOUTG7P	O	0/3.3 V DC (pulse)	Image data signal G7P
	18	DOUTG3P	O	0/3.3 V DC (pulse)	Image data signal G3P
	19	DOUTG7N	O	0/3.3 V DC (pulse)	Image data signal G7N
	20	DOUTG3N	O	0/3.3 V DC (pulse)	Image data signal G3N
	21	DOUTG6P	O	0/3.3 V DC (pulse)	Image data signal G6P
	22	DOUTG2P	O	0/3.3 V DC (pulse)	Image data signal G2P
	23	DOUTG6N	O	0/3.3 V DC (pulse)	Image data signal G6N
	24	DOUTG2N	O	0/3.3 V DC (pulse)	Image data signal G2N
	25	DOUTG5P	O	0/3.3 V DC (pulse)	Image data signal G5P
	26	DOUTG1P	O	0/3.3 V DC (pulse)	Image data signal G1P
	27	DOUTG5N	O	0/3.3 V DC (pulse)	Image data signal G5N
	28	DOUTG1N	O	0/3.3 V DC (pulse)	Image data signal G1N
	29	DOUTG4P	O	0/3.3 V DC (pulse)	Image data signal G4P
	30	DOUTG0P	O	0/3.3 V DC (pulse)	Image data signal G0P
	31	DOUTG4N	O	0/3.3 V DC (pulse)	Image data signal G4N
	32	DOUTG0N	O	0/3.3 V DC (pulse)	Image data signal G0N
	33	DOUTB7P	O	0/3.3 V DC (pulse)	Image data signal B7P

Connector	Pin No.	Signal	I/O	Voltage	Description
YC6	34	DOUTB3P	O	0/3.3 V DC (pulse)	Image data signal B3P
Connected to the machine	35	DOUTB7N	O	0/3.3 V DC (pulse)	Image data signal B7N
	36	DOUTB3N	O	0/3.3 V DC (pulse)	Image data signal B3N
	37	DOUTB6P	O	0/3.3 V DC (pulse)	Image data signal B6P
	38	DOUTB2P	O	0/3.3 V DC (pulse)	Image data signal B2P
	39	DOUTB6N	O	0/3.3 V DC (pulse)	Image data signal B6N
	40	DOUTB2N	O	0/3.3 V DC (pulse)	Image data signal B2N
YC7	1	DOUTB5P	O	0/3.3 V DC (pulse)	Image data signal B5P
Connected to the machine	2	DOUTB1P	O	0/3.3 V DC (pulse)	Image data signal B1P
	3	DOUTB5N	O	0/3.3 V DC (pulse)	Image data signal B5N
	4	DOUTB1N	O	0/3.3 V DC (pulse)	Image data signal B1N
	5	DOUTB4P	O	0/3.3 V DC (pulse)	Image data signal B4P
	6	DOUTB0P	O	0/3.3 V DC (pulse)	Image data signal B0P
	7	DOUTB4N	O	0/3.3 V DC (pulse)	Image data signal B4N
	8	DOUTB0N	O	0/3.3 V DC (pulse)	Image data signal B0N
	9	DOUTCLKP	O	0/3.3 V DC (pulse)	DOUTCLK signal
	10	3.3V	I	3.3 V DC	3.3 V DC power input
	11	DOUTCLKN	O	0/3.3 V DC (pulse)	DOUTCLKN signal
	12	DBCLK	O	0/3.3 V DC (pulse)	DBCLK signal
	13	HSYNCP	O	0/3.3 V DC (pulse)	HSYNCP signal
	14	SGND	-	-	Signal ground
	15	HSYNCN	O	0/3.3 V DC (pulse)	HSYNCN signal
	16	SGND	-	-	Signal ground
	17	MREP	O	0/3.3 V DC (pulse)	MREP signal
	18	VSYNC	O	0/3.3 V DC (pulse)	VSYNC signal
	19	MREN	O	0/3.3 V DC (pulse)	MREN signal
	20	SGND	-	-	Signal ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC8	1	SDA-	I	0/3.3 V DC (pulse)	Serial communication data signal
Connected to the CIS relay PWB	2	SDA+	I	0/3.3 V DC (pulse)	Serial communication data signal
	3	SDB-	I	0/3.3 V DC (pulse)	Serial communication data signal
	4	SDB+	I	0/3.3 V DC (pulse)	Serial communication data signal
	5	SDC-	I	0/3.3 V DC (pulse)	Serial communication data signal
	6	SDC+	I	0/3.3 V DC (pulse)	Serial communication data signal
	7	SCLK1-	I	0/3.3 V DC (pulse)	Serial data clock signal
	8	SCLK1+	I	0/3.3 V DC (pulse)	Serial data clock signal
	9	SDD-	I	0/3.3 V DC (pulse)	Serial communication data signal
	10	SDD+	I	0/3.3 V DC (pulse)	Serial communication data signal
	11	SDE-	I	0/3.3 V DC (pulse)	Serial communication data signal
	12	SDE+	I	0/3.3 V DC (pulse)	Serial communication data signal
	13	SCLK2-	I	0/3.3 V DC (pulse)	Serial data clock signal
	14	SCLK2+	I	0/3.3 V DC (pulse)	Serial data clock signal
YC9	1	LST	O	0/3.3 V DC (pulse)	LST signal
Connected to the CIS relay PWB	2	TINT	O	0/3.3 V DC (pulse)	TINT signal
	3	RGOUT	I	0/3.3 V DC (pulse)	RGOUT signal
	4	RGCLK	O	0/3.3 V DC (pulse)	RGCLK signal
	5	RGLD	O	0/3.3 V DC (pulse)	RGLD signal
	6	RGRDWR	O	0/3.3 V DC (pulse)	RGRDWR signal
	7	RGDATA	O	0/3.3 V DC (pulse)	RGDATA signal
	8	5VON	O	0/3.3 V DC	5VON signal
	9	12VON	O	0/3.3 V DC	12VON signal
	10	SGND	-	-	Signal ground

2-3-2 DP drive relay PWB

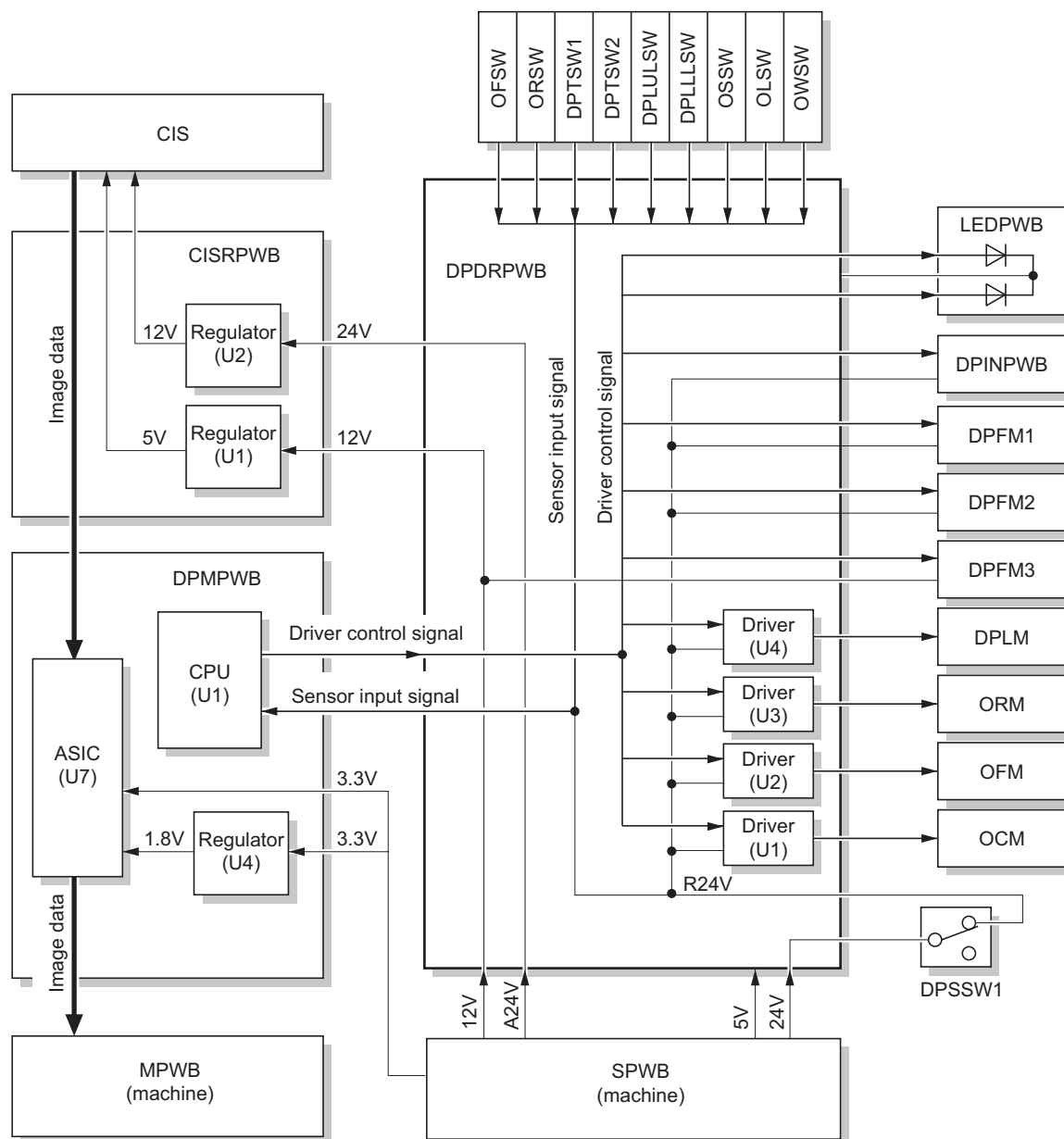


Figure 2-3-3 DP drive relay PWB diagram

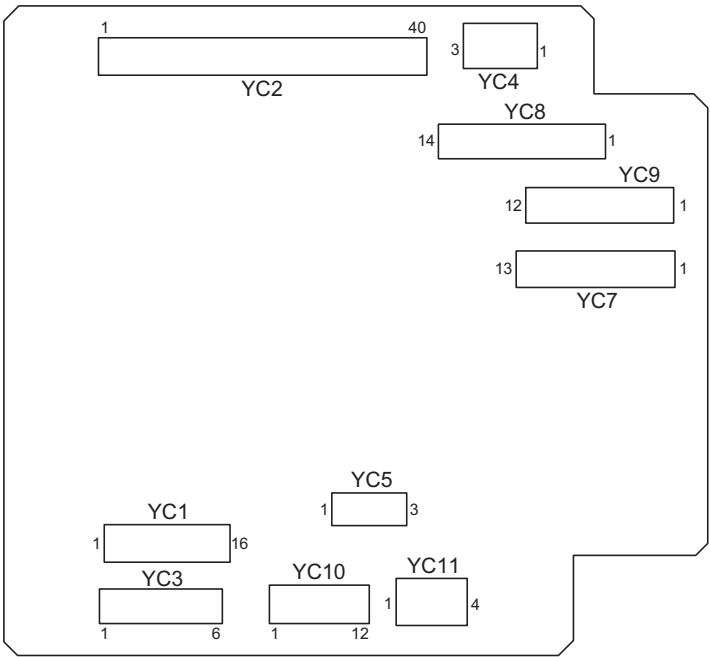


Figure 2-3-4 DP drive relay PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	24V	I	24 V DC	24 V DC power input
Connected to the machine	2	24V	I	24 V DC	24 V DC power input
	3	24V	I	24 V DC	24 V DC power input
	4	A24V	I	24 V DC	24 V DC power input
	5	12V	I	12 V DC	12 V DC power input
	6	5V	I	5 V DC	5 V DC power input
	7	5V	I	5 V DC	5 V DC power input
	8	G(24V)	-	-	Power ground
	9	G(24V)	-	-	Power ground
	10	G(24V)	-	-	Power ground
	11	G(Analog)	-	-	Analog ground
	12	G(Analog)	-	-	Analog ground
	13	G(5V)	-	-	Signal ground
	14	G(5V)	-	-	Signal ground
	15	NC	-	-	Not used
	16	NC	-	-	Not used
YC2	1	5V	I	5 V DC	5 V DC power input
Connected to the DP main PWB	2	G(5V)	-	-	Signal ground
	3	3.3V	I	3.3 V DC	3.3 V DC power input
	4	OFM A	I	0/3.3 V DC (pulse)	OFM drive control signal
	5	OFM B	I	0/3.3 V DC (pulse)	OFM drive control signal
	6	OFM 0A	I	0/3.3 V DC (pulse)	OFM drive control signal
	7	OFM 1A	I	0/3.3 V DC (pulse)	OFM drive control signal
	8	OFM 0B	I	0/3.3 V DC (pulse)	OFM drive control signal
	9	OFM 1B	I	0/3.3 V DC (pulse)	OFM drive control signal
	10	ORM A	I	0/3.3 V DC (pulse)	ORM drive control signal
	11	ORM B	I	0/3.3 V DC (pulse)	ORM drive control signal
	12	ORM 0A	I	0/3.3 V DC (pulse)	ORM drive control signal
	13	ORM 1A	I	0/3.3 V DC (pulse)	ORM drive control signal
	14	ORM 0B	I	0/3.3 V DC (pulse)	ORM drive control signal
	15	ORM 1B	I	0/3.3 V DC (pulse)	ORM drive control signal
	16	OCM A	I	0/3.3 V DC (pulse)	OCM drive control signal
	17	OCM B	I	0/3.3 V DC (pulse)	OCM drive control signal
	18	OCM 0A	I	0/3.3 V DC (pulse)	OCM drive control signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC2	19	OCM 1A	I	0/3.3 V DC (pulse)	OCM drive control signal
Connected to the DP main PWB	20	OCM 0B	I	0/3.3 V DC (pulse)	OCM drive control signal
	21	OCM 1B	I	0/3.3 V DC (pulse)	OCM drive control signal
	22	DPLM A	I	0/3.3 V DC (pulse)	DPLM drive control signal
	23	DPLM B	I	0/3.3 V DC (pulse)	DPLM drive control signal
	24	DPLM 0	I	0/3.3 V DC (pulse)	DPLM drive control signal
	25	DPLM 1	I	0/3.3 V DC (pulse)	DPLM drive control signal
	26	DPLULSW	O	0/3.3 V DC	DPLULSW On/Off
	27	OFSW	O	0/3.3 V DC	OFSW On/Off
	28	ORSW	O	0/3.3 V DC	ORSW On/Off
	29	DPTSW1	O	0/3.3 V DC	DPTSW1 On/Off
	30	OSSW	O	0/3.3 V DC	OSSW On/Off
	31	DPLLLSW	O	0/3.3 V DC	DPLLLSW On/Off
	32	OLSW	O	0/3.3 V DC	OLSW On/Off
	33	OWSW	O	0/3.3 V DC	OWSW On/Off
	34	DPTSW2	O	0/3.3 V DC	DPTSW2 On/Off
	35	INV REM	I	0/3.3 V DC	CIS control signal
	36	DPFM1	I	0/3.3 V DC	DPFM1 On/Off
	37	LED GN	I	0/3.3 V DC	LED GREEN control signal
	38	LED RD	I	0/3.3 V DC	LED RED control signal
	39	CISOCSW	O	0/3.3 V DC	CISOCSW On/Off
	40	DPFM3	I	0/3.3 V DC	DPFM3 On/Off
YC3	1	A24V	O	24 V DC	24 V DC power output
Connected to the CIS relay PWB	2	A24V	O	24 V DC	24 V DC power output
	3	A12V	O	12 V DC	12 V DC power output
	4	A12V	O	12 V DC	12 V DC power output
	5	G(Analog)	-	-	Analog ground
	6	G(Analog)	-	-	Analog ground
YC4	1	24V	O	24 V DC	24 V DC power output
Connected to the CIS open/close switch	2	NC	-	-	Not used
	3	R24V	I	0/24 V DC	CISOCSW On/Off
YC5	1	R24V	O	24 V DC	24 V DC power output
Connected to the DP safety switch 1	2	NC	-	-	Not used
	3	EJR24V	I	0/24 V DC	DPSSW1 On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC7 Connected to the DP fan motor 1/2/3, DP inverter PWB and DP timing switch 2	1	DPFM3	O	0/12 V DC	DPFM3 On/Off
	2	12V	O	12 V DC	12 V DC power output
	3	DPFM2	O	0/24 V DC	DPFM2 On/Off
	4	R24V	O	24 V DC	24 V DC power output
	5	DPFM1	O	0/24 V DC	DPFM1 On/Off
	6	R24V	O	24 V DC	24 V DC power output
	7	G(24V)	-	-	Power ground
	8	INV REM	O	0/24 V DC	CIS control signal
	9	R24V	O	24 V DC	24 V DC power output
	10	G(5V)	-	-	Signal ground
	11	DPTSW2	I	0/5 V DC	DPTSW2 On/Off
	12	5V	O	5 V DC	5 V DC power output
	13	NC	-	-	Not used
YC8 Connected to the original width size switch, original length size switch, DP lift lower limit switch, original set switch and LED PWB	1	OWSW	I	0/3.3 V DC	OWSW On/Off
	2	3.3V	O	3.3 V DC	3.3 V DC power output
	3	G(5V)	-	-	Signal ground
	4	OLSW	I	0/5 V DC	OLSW On/Off
	5	5V	O	5 V DC	5 V DC power output
	6	G(5V)	-	-	Signal ground
	7	DPLLSW	I	0/5 V DC	DPLLSW On/Off
	8	5V	O	5 V DC	5 V DC power output
	9	G(5V)	-	-	Signal ground
	10	OSSW	I	0/5 V DC	OSSW On/Off
	11	5V	O	5 V DC	5 V DC power output
	12	LED RD	O	0/5 V DC	LED RED control signal
	13	G(5V)	-	-	Signal ground
	14	LED GN	O	0/5 V DC	LED GREEN control signal
YC9 Connected to the DP timing switch 1, original registration switch, original feed switch and DP lift upper limit switch	1	G(5V)	-	-	Signal ground
	2	DPTSW1	I	0/5 V DC	DPTSW1 On/Off
	3	5V	O	5 V DC	5 V DC power output
	4	G(5V)	-	-	Signal ground
	5	ORSW	I	0/5 V DC	ORSW On/Off
	6	5V	O	5 V DC	5 V DC power output
	7	G(5V)	-	-	Signal ground
	8	OFSW	I	0/5 V DC	OFSW On/Off
	9	5V	O	5 V DC	5 V DC power output
	10	G(5V)	-	-	Signal ground
	11	DPLULSW	I	0/5 V DC	DPLULSW On/Off
	12	5V	O	5 V DC	5 V DC power output

Connector	Pin No.	Signal	I/O	Voltage	Description
YC10	1	OFM A_	O	0/5 V DC (pulse)	OFM drive control signal
Connected to the original feed motor, original registration motor and original conveying motor	2	OFM B_	O	0/5 V DC (pulse)	OFM drive control signal
	3	OFM A	O	0/5 V DC (pulse)	OFM drive control signal
	4	OFM B	O	0/5 V DC (pulse)	OFM drive control signal
	5	ORM A_	O	0/5 V DC (pulse)	ORM drive control signal
	6	ORM B_	O	0/5 V DC (pulse)	ORM drive control signal
	7	ORM A	O	0/5 V DC (pulse)	ORM drive control signal
	8	ORM B	O	0/5 V DC (pulse)	ORM drive control signal
	9	OCM A_	O	0/5 V DC (pulse)	OCM drive control signal
	10	OCM B_	O	0/5 V DC (pulse)	OCM drive control signal
	11	OCM A	O	0/5 V DC (pulse)	OCM drive control signal
	12	OCM B	O	0/5 V DC (pulse)	OCM drive control signal
YC11	1	DPLM A	O	0/5 V DC (pulse)	DPLM drive control signal
Connected to the DP lift motor	2	DPLM B	O	0/5 V DC (pulse)	DPLM drive control signal
	3	DPLM A_	O	0/5 V DC (pulse)	DPLM drive control signal
	4	DPLM B_	O	0/5 V DC (pulse)	DPLM drive control signal

2-3-3 CIS relay PWB

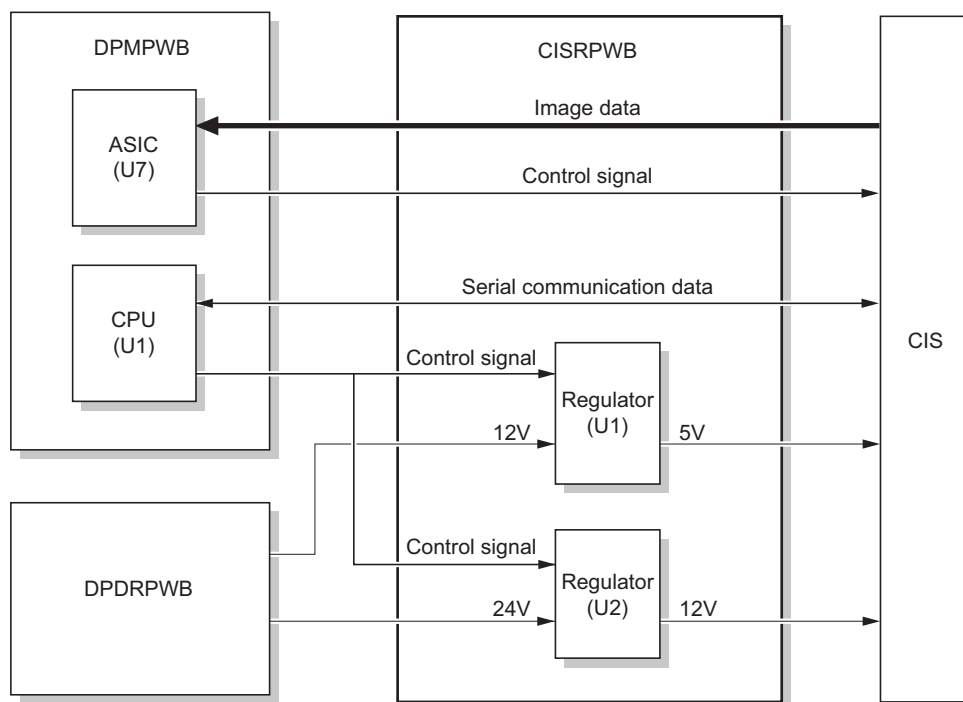


Figure 2-3-5 CIS relay PWB diagram

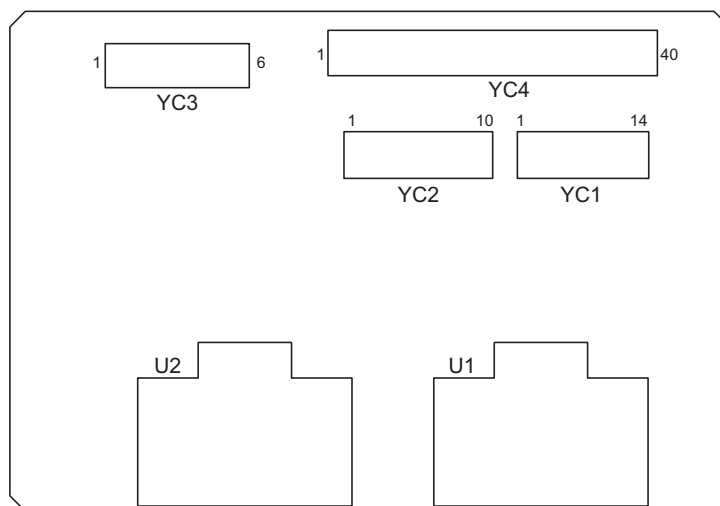


Figure 2-3-6 CIS relay PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	SCLK2+	O	0/3.3 V DC (pulse)	Serial data clock signal
Connected to the DP main PWB	2	SCLK2-	O	0/3.3 V DC (pulse)	Serial data clock signal
	3	SDE+	O	0/3.3 V DC (pulse)	Serial communication data signal
	4	SDE-	O	0/3.3 V DC (pulse)	Serial communication data signal
	5	SDD+	O	0/3.3 V DC (pulse)	Serial communication data signal
	6	SDD-	O	0/3.3 V DC (pulse)	Serial communication data signal
	7	SCLK1+	O	0/3.3 V DC (pulse)	Serial data clock signal
	8	SCLK1-	O	0/3.3 V DC (pulse)	Serial data clock signal
	9	SDC+	O	0/3.3 V DC (pulse)	Serial communication data signal
	10	SDC-	O	0/3.3 V DC (pulse)	Serial communication data signal
	11	SDB+	O	0/3.3 V DC (pulse)	Serial communication data signal
	12	SDB-	O	0/3.3 V DC (pulse)	Serial communication data signal
	13	SDA+	O	0/3.3 V DC (pulse)	Serial communication data signal
	14	SDA-	O	0/3.3 V DC (pulse)	Serial communication data signal
YC2	1	SGND	-	-	Signal ground
Connected to the DP main PWB	2	12VON	I	0/3.3 V DC	12VON signal
	3	5VON	I	0/3.3 V DC	5VON signal
	4	RGDATA	I	0/3.3 V DC (pulse)	RGDATA signal
	5	RGRDWR	I	0/3.3 V DC (pulse)	RGRDWR signal
	6	RGLD	I	0/3.3 V DC (pulse)	RGLD signal
	7	RGCLK	I	0/3.3 V DC (pulse)	RGCLK signal
	8	RGOUT	O	0/3.3 V DC (pulse)	RGOUT signal
	9	TINT	I	0/3.3 V DC (pulse)	TINT signal
	10	LST	I	0/3.3 V DC (pulse)	LST signal
YC3	1	A24V	I	24 V DC	24 V DC power input
Connected to the DP drive relay PWB	2	A24V	I	24 V DC	24 V DC power input
	3	A12V	I	12 V DC	12 V DC power input
	4	A12V	I	12 V DC	12 V DC power input
	5	G(Analog)	-	-	Analog ground
	6	G(Analog)	-	-	Analog ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC4	1	AVSS	-	-	Analog ground
Connected to the CIS	2	AVDD	O	12 V DC	12 V DC power output
	3	AVDD	O	12 V DC	12 V DC power output
	4	AVSS	-	-	Analog ground
	5	AVSS	-	-	Analog ground
	6	DVDD	O	5 V DC	5 V DC power output
	7	DVDD	O	5 V DC	5 V DC power output
	8	DVDD	O	5 V DC	5 V DC power output
	9	DVDD	O	5 V DC	5 V DC power output
	10	DVSS	-	-	Signal ground
	11	DVSS	-	-	Signal ground
	12	RGDATA	O	0/3.3 V DC (pulse)	RGDATA signal
	13	RGRDWR	O	0/3.3 V DC (pulse)	RGRDWR signal
	14	RGLD	O	0/3.3 V DC (pulse)	RGLD signal
	15	RGCLK	O	0/3.3 V DC (pulse)	RGCLK signal
	16	RGOUT	I	0/3.3 V DC (pulse)	RGOUT signal
	17	TINT	O	0/3.3 V DC (pulse)	TINT signal
	18	LST	O	0/3.3 V DC (pulse)	LST signal
	19	DVSS	-	-	Signal ground
	20	SCLK2+	I	0/3.3 V DC (pulse)	Serial data clock signal
	21	SCLK2-	I	0/3.3 V DC (pulse)	Serial data clock signal
	22	DVSS	-	-	Signal ground
	23	SDE+	I	0/3.3 V DC (pulse)	Serial communication data signal
	24	SDE-	I	0/3.3 V DC (pulse)	Serial communication data signal
	25	DVSS	-	-	Signal ground
	26	SDD+	I	0/3.3 V DC (pulse)	Serial communication data signal
	27	SDD-	I	0/3.3 V DC (pulse)	Serial communication data signal
	28	DVSS	-	-	Signal ground
	29	SCLK1+	I	0/3.3 V DC (pulse)	Serial data clock signal
	30	SCLK1-	I	0/3.3 V DC (pulse)	Serial data clock signal
	31	DVSS	-	-	Signal ground
	32	SDC+	I	0/3.3 V DC (pulse)	Serial communication data signal
	33	SDC-	I	0/3.3 V DC (pulse)	Serial communication data signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC4	34	DVSS	-	-	Signal ground
Connected to the CIS	35	SDB+	I	0/3.3 V DC (pulse)	Serial communication data signal
	36	SDB-	I	0/3.3 V DC (pulse)	Serial communication data signal
	37	DVSS	-	-	Signal ground
	38	SDA+	I	0/3.3 V DC (pulse)	Serial communication data signal
	39	SDA-	I	0/3.3 V DC (pulse)	Serial communication data signal
	40	DVSS	-	-	Signal ground

List of maintenance parts

Maintenance part name		Part No.	Alternative part No.	Fig. No.	Ref. No.
Name used in service manual	Name used in parts list				
DP original feed belt	BELT PF	303JX07330	3JX07330	5	12
DP forwarding pulley	PULLEY LF	3H607020	-	5	17
DP separation pulley	PULLEY SEPARATION	303JX07460	3JX07460	4	54
Original set switch	SENSOR, CONVEYING	3H327410	-	3	13
Original feed switch	SWITCH REGISTRATION	2FG27110	-	5	35
Original registration switch	SWITCH REGISTRATION	2FG27110	-	5	35
DP timing switch 1	SWITCH REGISTRATION	2FG27110	-	5	35
Felt	FELT PF COVER	303JX04150	3JX04150	5	49
Original conveying roller	ROLLER CONVEYING ASSY	303JX00020	3JX00020	4	24
Registration roller	ROLLER REGISTRATION	303JX24050	3JX24050	4	39
Registration pulley	PULLEY REGISTRATION	303JX07080	3JX07080	5	39
Registration pulley	PULLEY REG B	303JX07340	3JX07340	5	40
Original conveying pulley	PULLEY CONVEYING	303JX29160	3JX29160	2/5/6	18/31/2
Eject roller	ROLLER EXIT	303JX28040	3JX28040	6	15
Eject roller	ROLLER C MIDDLE	303JX24090	3JX24090	4	19
Eject pulley	PULLEY EXIT	303JX28030	3JX28030	4	5
Reading guide	GUIDE READING	303JX02120	3JX02120	2	10
DP timing switch 2	SENSOR FEED A	303H327490	3H327490	4	60
CIS sheet	SHEET CIS ASS'Y SP	303JX94100	3JX94100	6	5
CIS	SENSOR, A3 COLOR CIS SP	303JX94070	3JX94070	4	10
Original length size switch	SENSOR ORIGINAL	3H627240	-	3	20
Original mat	MAT ASS'Y SP	303JX94090	3JX94090	1	17

Periodic maintenance procedures

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Test copy and test print	Perform at the maximum copy size	Clean	Every service.		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Original feed section	DP original feed belt	Replace	200 K	Replace. (Clean with alcohol when user call occurs.)	P.1-5-2
	DP forwarding pulley	Replace	200 K	Replace. (Clean with alcohol when user call occurs.)	P.1-5-2
	DP separation pulley	Replace	200 K	Replace. (Clean with alcohol when user call occurs.)	P.1-5-4
	Original set switch	Clean	Every service.	Air blow or clean with a dry cloth.	
	Original feed switch	Clean	Every service.	Air blow or clean with a dry cloth.	
	Original registration switch	Clean	Every service.	Air blow or clean with a dry cloth.	
	DP timing switch 1	Clean	Every service.	Air blow or clean with a dry cloth.	
	Felt	Clean	Every service.	Air blow or clean with a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Original conveying section	Original conveying roller	Clean	Every service	Clean with a dry cloth or alcohol.	
	Registration roller	Clean	Every service	Clean with a dry cloth or alcohol.	
	Registration pulley	Clean	Every service	Clean with a dry cloth or alcohol.	
	Original conveying pulley	Clean	Every service	Clean with a dry cloth or alcohol.	
	Eject roller	Clean	Every service	Clean with a dry cloth or alcohol.	
	Eject pulley	Clean	Every service	Clean with a dry cloth or alcohol.	
	Reading guide	Clean	Every service	Clean with a dry cloth or alcohol.	
	DP timing switch 2	Clean	Every service	Clean with a dry cloth or alcohol.	

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
CIS section	CIS sheet	Clean	Every service	Clean with a dry cloth or alcohol.	
	CIS	Clean	Every service	Clean with a dry cloth or alcohol. (Do not clean with nor wet cloth)	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Original table	Original length size switch	Clean	Every service	Air blow or clean with a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Covers	Covers	Clean	Every service	Clean with alcohol.	
	Slit glass*	Check or clean	Every service	Clean with a dry cloth or alcohol. (Do not clean with nor wet cloth)	
	Original holder mat	Clean	Every service	Clean with a dry cloth or alcohol.	

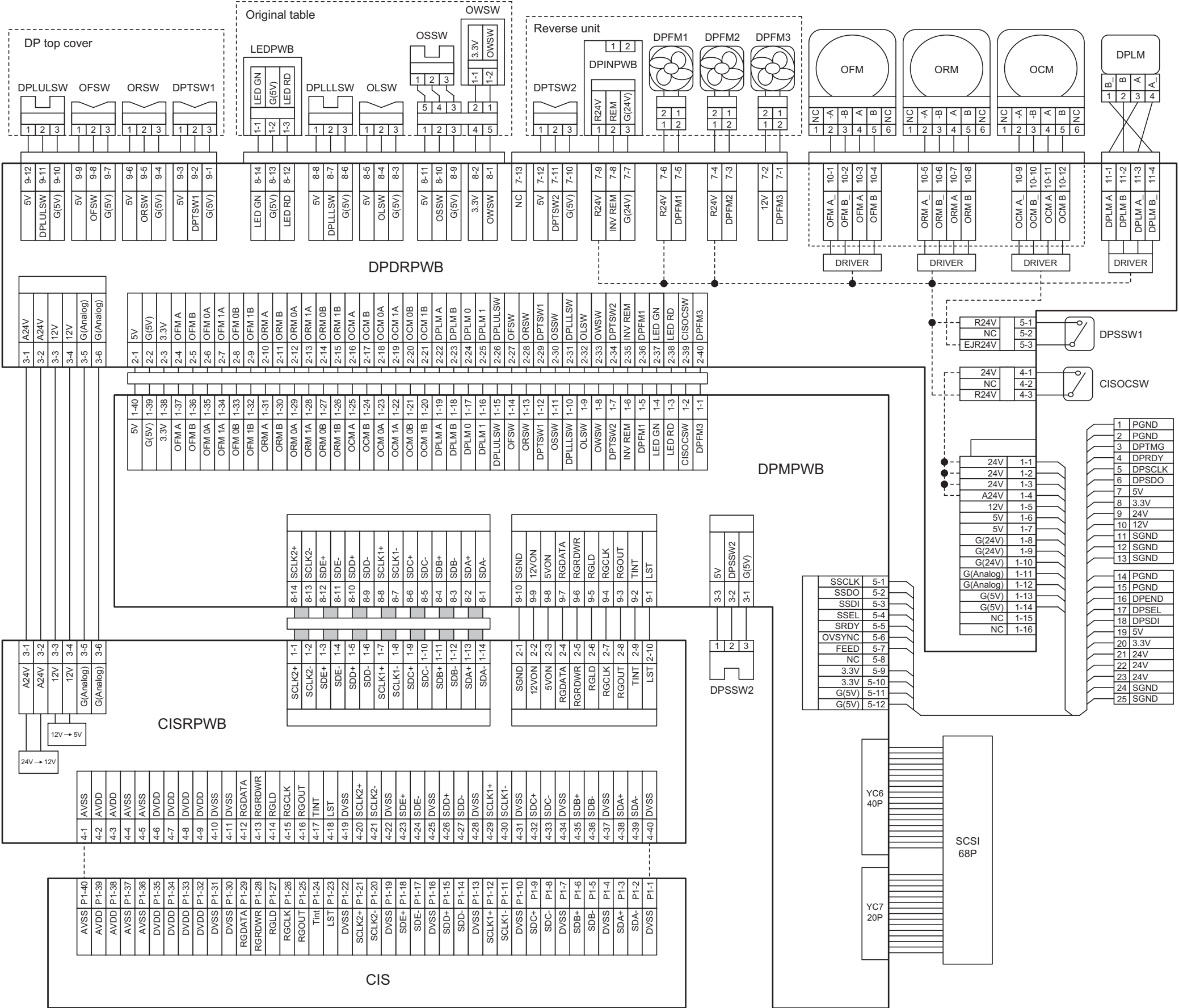
*Equipped with the machine.



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Other	Image quality	Check and adjust	Every service		

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Wiring diagram



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