RICOH	Technical Bulletin	No. RTB-001
SUBJECT: Service Manual Correction		DATE: 15 Oct. '96 PAGE: 1 of 7
PREPARED BY: M. Furusawa (FCP) CHECKED BY: T. Inoue	FROM: 1st Field Information Dept. QAC	
CLASSIFICATION: ☐ Action Required ■ Revision of service manual ☐ Troubleshooting ☐ Information only ☐ Retrofit Information ☐ Other		MODEL: LILY (A172 / A199)

Please correct your service manual as follows, referring to the attached pages already corrected.
(Corrected or added portions are indicated by thick rectangles.)

Page 1-6

Image Creation : Image Overlay

Basic type does not have this function.

Page 4-31

Dev. Sleeve Cleaning Condition in ACS Mode

The condition "Black mode" should be added to the functional explanation.

Page 4-59

Copier Special Mode

The following remarks have been added:

1. Change the setting from "0" to "4" for "Thick 2nd Feed" in SP <1>-2 By-pass Feed in order to ensure feeding of very thick paper in Special Mode 1.
2. Printer γ correction data in this mode is independent from that in the standard mode. (ACC results will not be reflected.)

Page 5-12

Step 10 (and 11)

Printer Free Run must be used instead of System Free Run.

- Reason -

In System Free Run mode, the test pattern will not be written on the drum surface but the actual scanned image will be written. If we use the System Free Run mode in this step, a blank image (= image of white paper) will made on the drum surface, causing too much friction between drum and drum cleaning blade.

Page 5-22

The following procedure should be added to the transfer roller unit:

A Printer Free Run should be performed after replacing the roller lubricant bar and/or the transfer roller.

Film Projector Unit Page 1

The weight in the Specifications section should be corrected.

2.2 FUNCTIONS: BASIC MODEL VS EDIT MODEL

This machine comes in two versions. Refer to the following table for features available on your machine.

Functions		Edit type	Basic type
Copy Image Density Adjustment (Auto/Manual)		✓	✓
Auto Color Selection		✓	✓
Full Color		✓	✓
Back		✓	✓
Single Color		✓	✓
Twin Color		✓	✓
Original Image Type Selection		✓	✓
Paper Selection (Auto/Manual)		✓	✓
Reducing/ Enlarging	Preset R/E	✓	✓
	Zoom	✓	✓
	Size Magnification	✓	✓
	Directional Size Magnification	✓	✓
	Poster Mode	✓	✓
Shift/Book	Centering/Cornering	✓	✓
	Margin Adjustment	✓	✓
	Erase	✓	✓
	Single Copies	✓	✓
Color Creation	Color Conversion	✓	✓
	Color Erase	✓	✓
	Color Background	✓	✓
Image Creation	Outline	✓	✓
	Positive/Negative	✓	✓
	Shadow	✓	✓
	Mirror	✓	✓
	Slanted	✓	✓
	Image Repeat	✓	✓
	Image Overlay	✓	----
Color Adjustment/ Memory	User Color Memory	✓	✓
	Single Color Adjustment	✓	✓
	Color Balance Adjustment	✓	✓
	Color Balance Sample	✓	✓
	Image Adjustment	✓	✓
Area Editing		✓	----
Interrupt Copying		✓	✓
Recall		✓	✓
Auto Reduce/Enlarge		✓	✓
Bypass Feed Copying		✓	✓
Duplex Copying		✓	✓
Default Setting		✓	✓
User Tools		✓	✓
Display Color		Full color	Black & white

Page	Item	Function	Note
<4> -1	Auto Process Control Self check	Factory use only	**"PID" setting must be used.**
	Toner Supply Control Mode Selection	Selects toner supply mode.	Default: Fuzzy **"Fuzzy" setting must be used.**
	Transfer Bias Humidity Selection	Selects the output voltage for the transfer belt and the transfer roller bias that are used if the humidity sensor is not working properly. Use the setting that best approximates the machine's location.	Default: Normal This function is effective under the following conditions: 1. Humidity sensor is not working well: • Output is 0. • Temperature output is over 49°C or below 2°C. • Humidity output is over 98% or below 2%. 2. Humidity sensor is disconnected. 3. Humidity sensor function is disabled: SP<1>P.16 Other SP #13=1
	Auto γ Correction Mode	Enable or disable the autoγ correction mode.	Default: ON
	Dev. Sleeve Cleaning Condition in ACS Mode	Selects the interval of the development sleeve cleaning mode in ACS&DJF mode and Black mode.	Default: 40 copies
	TC Correction	Selects the TC correction (Vcnt correction) on or off.	Default: ON **Do not change the setting in the field.**
	TC Correction Threshold	Selects to use or not to use the threshold set in the SP "<1>-4 TC Correction Threshold".	Default: Reset **Do not change the setting in the field.**
	Wire Cleaner Operation	Enables/disables the automatic charge corona wire/grid cleaning operation.	Default: Set (Enabled)

Service Tables

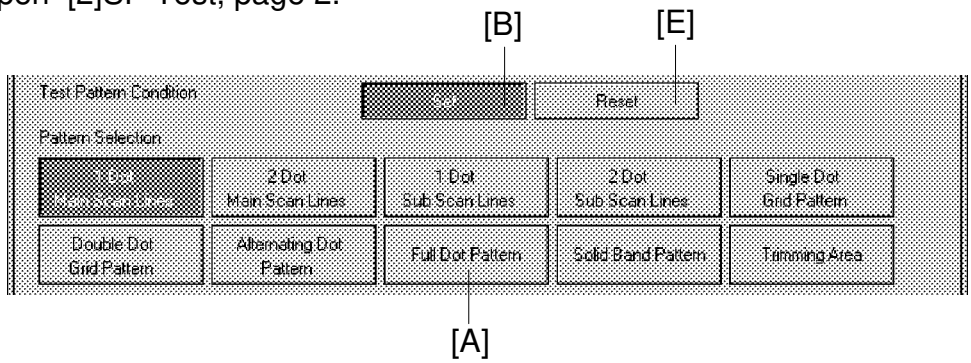
Page	Item	Function	Note
<10> -1	***Copier Special Mode***	Sets the following items for Copier Special Mode 1 and 2. **<1>SP Adjustment** -1: Lead Edge Registration (Printing) -1: Paper Feed Timing -2: Paper Feed Timing: By-pass -3: Face side Fusing Temp. -3: Back side Fusing Temp. -7: Transfer Roller Bias (Normal Humidity) -8: Transfer Roller Coefficient by Humidity Range *1 **<4>SP Special Features** -2: Printer γ Correction Data Rough Adjustment =Letter= -3: Printer γ Correction Data Rough Adjustment =Photo= -4: Printer γ Correction Data Fine Adjustment =Printed Photo= -5: Printer γ Correction Data Fine Adjustment =Glossy Photo= -6: Printer γ Correction Data Fine Adjustment =Letter= *2	This special mode should be used for user's special application paper which does not have good copy quality with standard settings. "<4>-5: Printer γ Correction Data Fine Adjustment = Glossy Photo=" is not effective (indication only). Special Mode 1 has the following default for very thick paper (about 200 g/m²): <1>-7:Transfer Roller Bias (Normal Humidity) Normal Paper 1C: 1200 2C: 1500 3C: 1800 4C-L&P: 1500 ***Thick Paper*** ***1C: 1360 2C: 1500*** ***3C: 1800 4C-L&P: 1500*** OHP: S&L 1C: 2020 2C: 2080 3C: 2370 4C-L&P: 2080 Normal: Back 1C: 1200 2C: 1700 3C: 1980 4C-L&P: 1700 ***Thick: Back*** ***1C: 1600 2C: 1830*** ***3C: 2130 4C-L&P: 1830***
	Printer Special Mode	Sets the following items for Printer Special Mode 3. **<1>SP Adjustment** -1: Lead Edge Registration (Printing) -1: Paper Feed Timing -2: Paper Feed Timing: By-pass -3: Face side Fusing Temp. -3: Back side Fusing Temp. -7: Transfer Roller Bias (Normal Humidity) -8: Transfer Roller Coefficient by Humidity Range	This special mode should be used for user's special application paper (Printer mode) which does not have good copy quality with standard settings.

Service Tables

*1 Change the setting from "0" to "4" for "Thick 2nd Feed" in SP <1>-2 By-pass Feed in order to ensure feeding of very thick paper in Special Mode 1.

*2 Printer γ correction data in this mode is independent from that in the standard mode. (ACC results will not be reflected.)

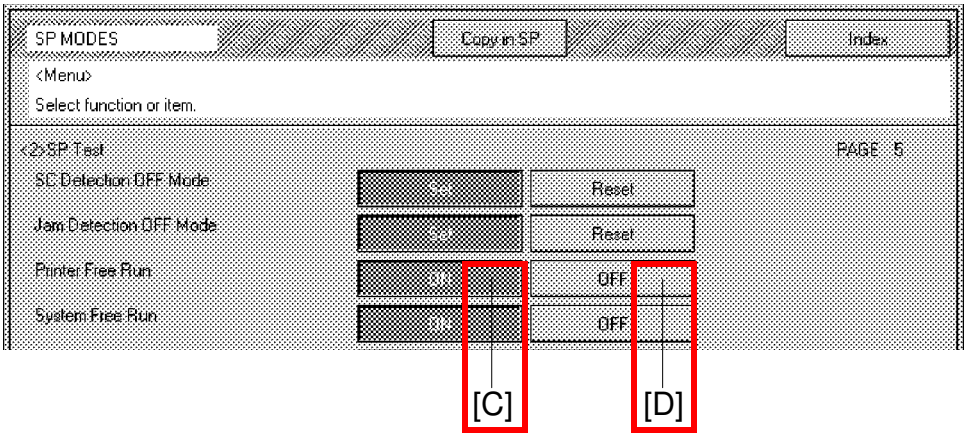
6. Open [2]SP Test, page 2.



7. Select "*Full Dot Pattern*" [A] in **Pattern selection** and select "*Set*" [B] in **Test Pattern Condition**.

8. Touch the "Copy in SP" key and select "*Black*" copy mode.

9. Touch the "SP MODES" key and open [2]SP Test, page 5.



10. Start the **Printer Free Run** by touching "*ON*" [C] and wait for 6 to 7 minutes.

11. Stop the Printer Free Run by touching "*OFF*" [D].

12. Open [2]SP Test, page 2 and select "*Reset*" [E] for **Test Pattern Condition**.

13. **Wait for 5 minutes** and open [2]SP Test, page 4.

14. Perform **Process Control Selfcheck** by touching "*Start*".

15. Check the result of Process Control Selfcheck referring to the installation procedure and exit the SP mode.

16. Perform Auto Color Calibration.

6. TRANSFER ROLLER UNIT

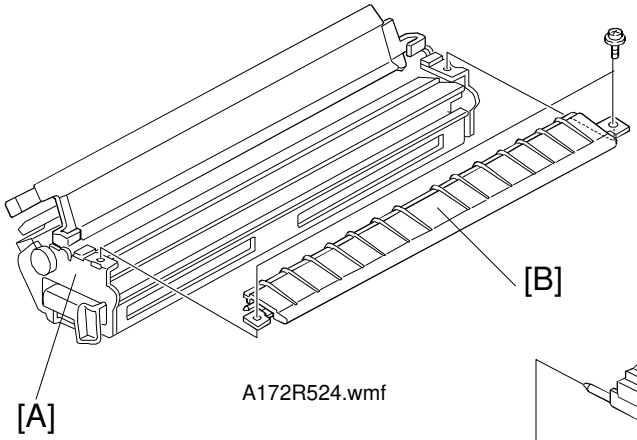
When completing machine assembly, after changing the ***roller lubricant bar*** and/or the ***transfer roller***, perform steps 3 to 12 of "3.4 INSTALLING A NEW DRUM". This will cause the new lubricant bar to fully contact the roller. And also applies the lubricant to the roller surface evenly.

NOTE: 1) If these steps have been done for the new drum, it is unnecessary to repeat them.

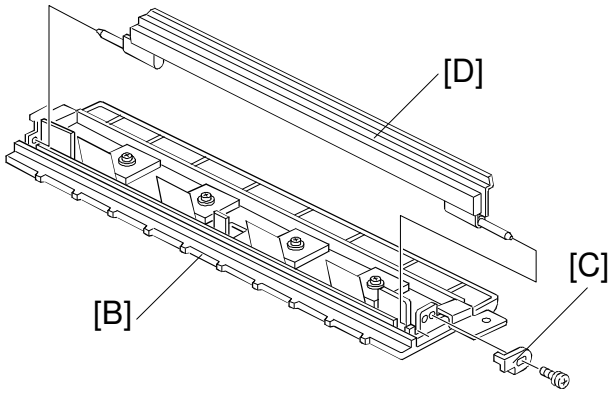
2) If the developer is replaced together with the roller lubricant bar and/or the transfer roller, the above steps are unnecessary. (Lubricant is applied to the transfer roller surface during the developer initialization.)

3) Note that "***Printer Free Run***" must be used at step 10 of "3.4 INSTALLING A NEW DRUM".

6.1 ROLLER LUBRICANT BAR REPLACEMENT



A172R524.wmf



A172R525.wmf

1. Remove the transfer roller unit [A]. (See A109 Transfer Roller Unit Removal).
2. Remove the transfer roller guide [B] (2 screws).
3. Remove the hook [C] (1 screw) and replace the roller lubricant bar [D].

1. SPECIFICATION

Acceptable Film Types:

- Type: Positive film/Negative film
- Size: 35 mm - Approx. 140 x 210 mm
  Others: 45 x 60 mm, 60 x 60 mm, 60 x 70 mm, 60 x 80 mm, 60 x 90 mm, 4" x 5"
  Max: 142 x 210 mm or 5.6" x 8.2"
- Mount: Yes (Up to 5 frames can be set in the film holder.)
- Strip: Yes (A series of 6 frames can be set in the film holder.)

Focusing: Fixed/Manual

Effective Film Area:

- 35 mm: Approx. 21.5 x 33.0 mm
- Other Sizes: Full Size

Projection Ratio

- 35 mm: Approx. x 6
- Other Sizes: x 1

Copy Image Size

- 35 mm mount: 120.8 x 192.7 mm
- 35 mm strip: 129.3 x 198.6 mm
- Other Sizes: Full Size

All the reproduction features of the copier are available.

Power Source: 115 V 60 Hz, more than 1.0 A
220 ~ 240 V 50/60 Hz, more than 0.6 A

Power Consumption: Maximum: less than 185 VA

Dimensions (W x D x H): Projector: 300 x 442 x 212 mm
11.8" x 17.4" x 8.35"

Mirror Unit: 298 x 232 x 50 mm
11.73" x 9.13" x 1.97"

Weight: Less than 15 kg or 31.9 lb

Remarks: The holder is required for installation.

RICOH

Technical Bulletin No. RTB-002

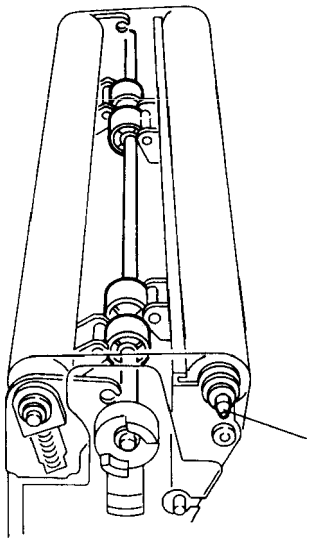
SUBJECT: Grease for Transfer Belt Unit and Transfer Roller Unit	DATE:Oct. 31, '96 PAGE: 1 of 1
PREPARED BY: N. Kaiya CHECKED BY: T. Inoue	FROM: 1st Field Information Dept. QAC

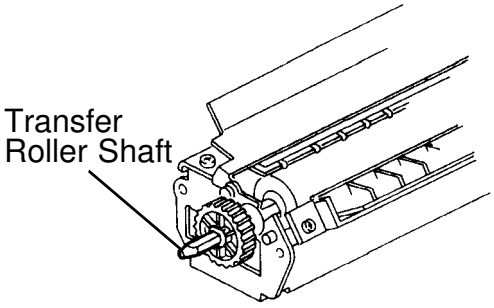
CLASSIFICATION:

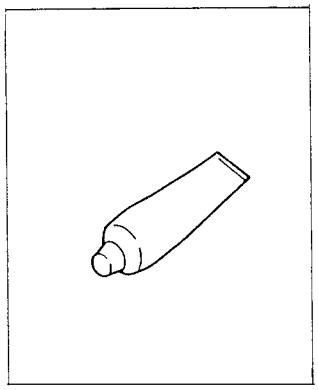
- ☐ Action Required
- ☐ Troubleshooting
- ☐ Retrofit Information
- ■ Revision of service manual
- ☐ Information only
- ☐ Other

MODEL: Lily

Please use the KS660 grease (P/N G0049668) for lubricating the end of the bias roller shaft and the end of the transfer roller shaft. The KS660 grease is more conductive than the 40M grease currently recommended.







P/N G004 9668
Grease KS660

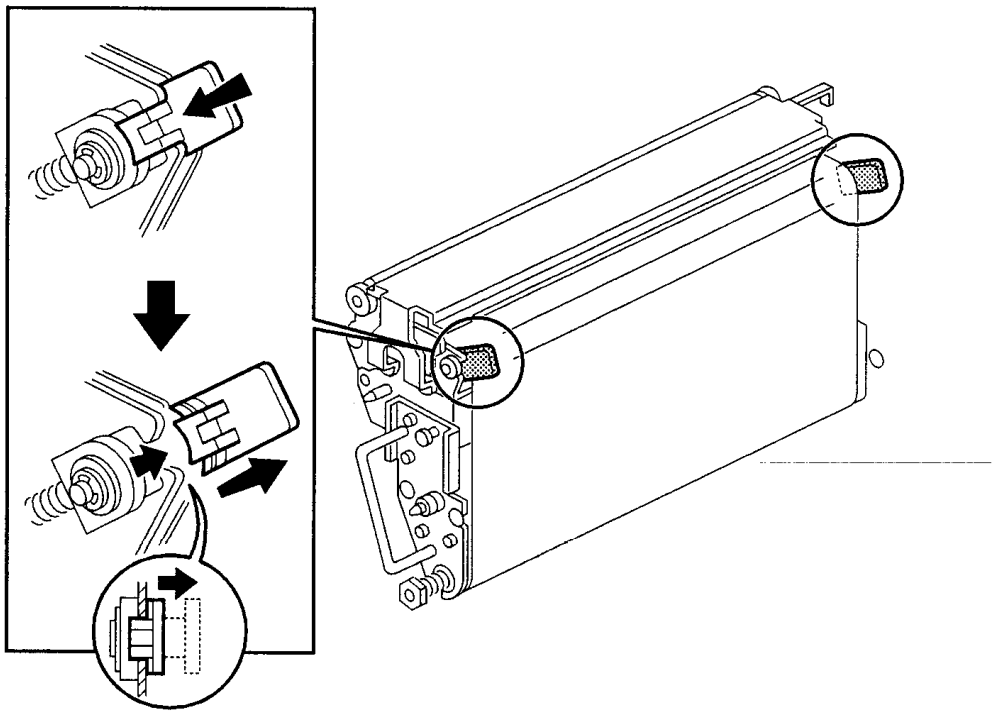
RICOH Technical Bulletin

Model: Lily	Date: 28-Feb-97	No: 003	1/2
Subject: Transfer Belt Tension Release Wedge		Prepared by: N. Kaiya	
From: QAC 1st Field Information Dept.		Checked by: T. Inoue	

Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

In order to release the tension of the transfer belt during transportation, the Transfer Belt Release Wedges are installed on the front and rear belt tension roller bearing holders. Please do not forget to remove the wedges when installing the machine.

To remove the wedge, push the wedge toward the bearing holder and slide it inside slightly.



MODEL NAME	V/ Hz	Destination	CODE	SERIAL NUMBER
Nashuatec C606e Gestetner 2606e	115V/ 60Hz	USA, Canada	A172 - 10	AB67020001
Savin SDC206E	115V/ 60Hz	USA, Canada	A172 - 15	5A87010001
Aficio Color 5206	115V/ 60Hz	USA, Canada	A172 - 17	A7127010001
Nashuatec C606e Gestetner 2606e Rex Rotary CC8606E	220- 240V/ 50Hz	Europe, etc.	A172 - 22	AB77010001
Infotec 7316E	220- 240V/ 50Hz	Europe, etc.	A172 - 26	3J80170001
Aficio Color 5206	220- 240V/ 50Hz	Europe, etc.	A172 - 27	A7127010110
Aficio Color 5206	220- 240V/ 50Hz, 60Hz	Asia, Middle East	A172 - 29	A7127010184
Lanier 5606 DC	120V60Hz	USA	A172 - 55	L006070001
Sharp AR-C862	120V60Hz	USA	A172 - 57	From first production
Sharp AR-C862	120V60Hz	Europe	A172 - 67	From first production
Nashuatec C606 Gestetner 2606	115V/ 60Hz	USA, Canada	A199 - 10	AB4702XXXX
Savin SDC206	120V/ 60Hz	USA, Canada	A199 - 15	5A97010001
Aficio Color 5106	120V/ 60Hz	USA, Canada	A199 - 17	A7137020001
Nashuatec C606 Gestetner 2606 Rex Rotary CC8606	220- 240V/ 50Hz	Europe, etc.	A199 - 22	AB57010001
Infotec 7316	220- 240V/ 50Hz	Europe etc.	A199 - 26	3J70170001
Aficio Color 5106	220- 240V/ 50Hz	Europe etc.	A199 - 27	A7137010001
Aficio Color 5106	220- 240V/ 50Hz, 60Hz	Asia, Middle East	A199 - 29	A713702XXXX
Lanier 5606 DC	120V60Hz	USA	A199 - 55	From first production
Sharp AR-C861	120V60Hz	USA	A199 - 57	From first production
Sharp AR-C861	220- 240V/ 50Hz	Europe	A199 - 67	From first production

Model: Lily	Date: 15-Mar-97	No: 4
Subject: Fusing Unit	Prepared by: N. Kaiya	
From: QAC 1st Field Information Dept.	Checked by: T. Inoue	

Classification:			
	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☒ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

This RTB explains the countermeasure for the OHP offset problem which was found in our test with paper containing calcium carbonate (Aussedat Rey AR Color). In addition, the modification related to the countermeasure is explained.

PROBLEM

OHP sheets get calcium carbonate on the reverse side in the fusing unit. The problem is evident under the following conditions.

1. When Folex X-356 OHP film is used.
2. Paper containing a large amount of calcium carbonate is used prior to making copies with OHP film.
3. After a continuous single-color copy run using paper with calcium carbonate (according to our test, the problem is evident on the OHP film copied after more than 20 single-color A3 copies are made).

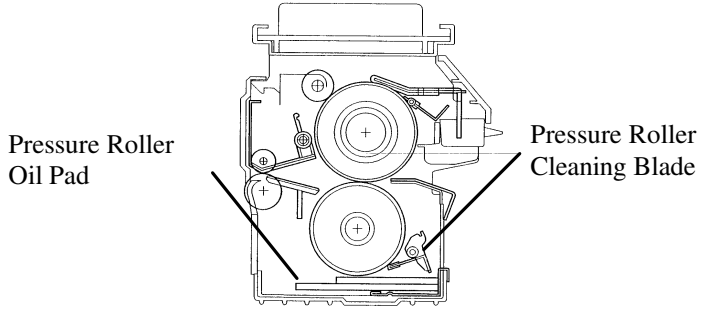
CAUSE

The calcium carbonate from the paper is deposited on the surface of the pressure roller and offset to the back side of the OHP sheet.

The calcium carbonate deposits on the surface of the pressure roller when there is less silicone oil on the surface of the pressure roller than usual. This condition only exists after a long series of single-color copies. This is because when making single-color copies, the sheets of copy paper are fed to the fusing unit with only a small interval between them. When making full-color copies, the fusing unit idles during four development cycles, so the pressure roller has sufficient time to receive silicone oil on its surface.

COUNTERMEASURE

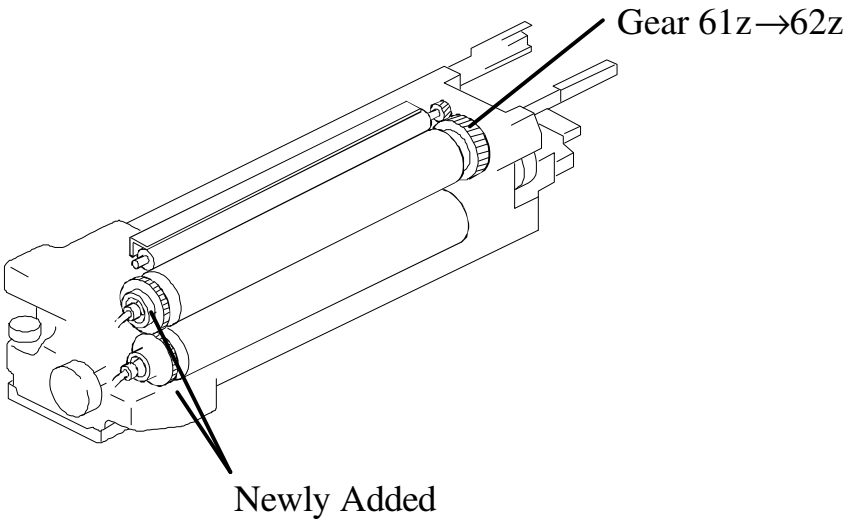
A pressure roller cleaning blade and a pressure roller oil pad will be added in place of the pressure roller cleaning roller. The pressure roller cleaning roller will be removed. The pressure roller cleaning blade removes calcium carbonate on the pressure roller. It also removes excess silicone oil from the pressure roller. The silicone oil applied on the pressure roller surface prevents the pressure roller cleaning blade from making vibration noise.



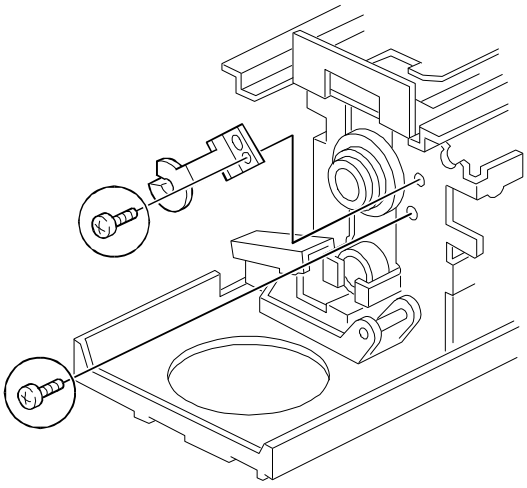
Model: Lily	Date: 15-Mar-97	No: 4

Gear

The addition of cleaning blade and oil pad applies excess load to the pressure roller which may result in copy quality problems such as mimizu image. To prevent this problem, gears are added to the front of the hot roller and pressure roller, which provide drive to the pressure roller. At the same time, the 61Z Gear has been changed to a 62Z Gear to compensate for the slight increase in the paper speed caused by providing drive to the pressure roller. To install the gears, the hot roller and the pressure roller have been modified with interchangeability x/o.



The screw holding the front fusing lamp holder has been changed to a shorter (M4 x 5) screw to prevent contact with the hot roller gear. The same screw type has been added to secure the ball bearing at the front of the hot roller. This is necessary to maintain the position of the hot roller gear and to ensure meshing with the pressure roller gear.



Model: Lily	Date: 15-Mar-97	No: 4

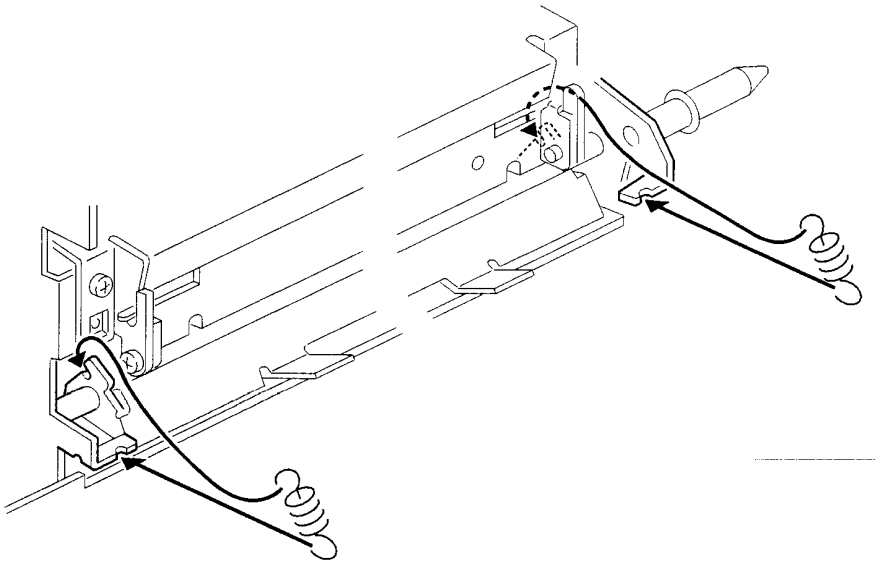
Modification Cut-in

This modification has been made to the February production run of machines destined for the European market, since paper with high calcium carbonate content is seen mostly in the European market. The modification to apply drive to the pressure roller has been made to all models to minimize the possibility of copy quality problems such as mimizu image. For the cut-in serial number, please refer to MB No.6.

Replacement Procedure

Pressure Roller Cleaning Blade

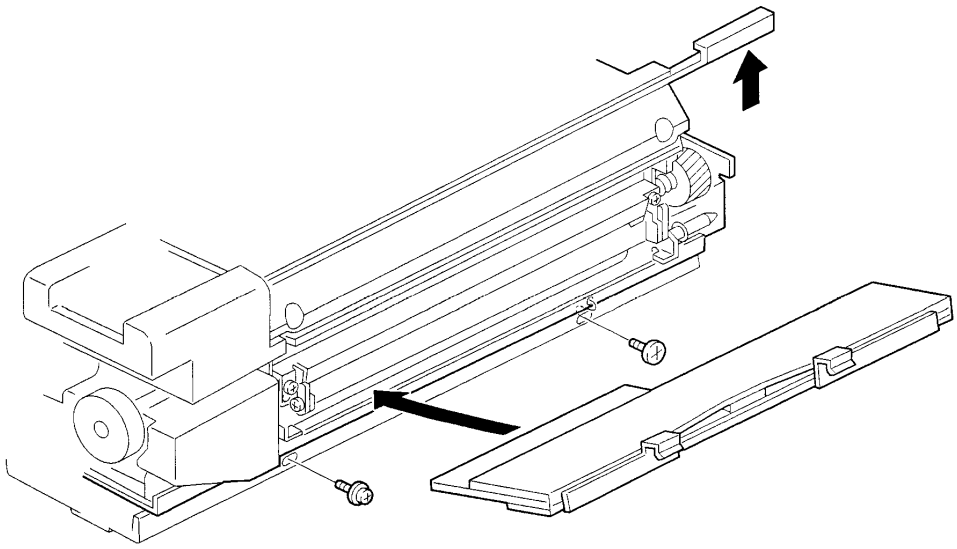
1. Remove the two pressure roller cleaning blade springs.
2. Remove the cleaning blade by sliding it out from the pins on the front and rear fusing unit side frames.



Pressure Roller Oil Pad

1. Remove the pressure roller cleaning blade.
2. Lift the two hooks of the oil pad and pull out the oil pad.

Note
When installing the new oil pad, the oil pan may be removed for easier installation



Hot Roller

Please change step no. 11 in the hot roller replacement procedure (DFC-α Service Manual page 5-101) as follows;

11. Remove the hot roller gear - 60Z, hot roller drive gear [I], heat isolating bushings [J], and ball bearings [K] (2 screws).

Pressure Roller

Please change step no.4 in the pressure roller replacement procedure (Page 5-103 in the DFC-α Service Manual) as follows.

4. Slide the pressure roller [A] toward the rear of the fusing unit and pull it out of the rear bearing. Lift the pressure roller from the front side and pull off the front bearing [B].

PM Table

The pressure roller and the pressure roller oil pad pads are PM parts. Please add them to the PM table in your Service Manual.

ITEM	EM	40 K	80 K	120 K	160 K	200 K	NOTE
Pressure Roller Cleaning Blade		C	R	C	R	C	Suitable Solvent Apply silicone oil to the edge after cleaning or replacement.
Pressure Roller Oil Pad		R	R	R	R	R	

Troubleshooting Procedure for Machines before Modification

If the problem is found with machines manufactured before the modification, please advise the customer to:

- Wipe off the calcium carbonate from the OHP sheet
- Use 3M OHP sheets.

Model: Lily	Date: 15-Apr-97	No: 5
Subject: Nip Band Width	Prepared by: N.Kaiya	
From: QAC 1st Field Information Dept.	Checked by: T. Inoue T. Inoue	

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☒ Service manual revision
☐ Paper path	☐ Transmit/receive	☐ Retrofit information
☐ Other ( )		

The nip band width of the fusing unit has been changed as follows. This is to minimize the possibility of mimizu image.

Location	New Standard	Old Standard
Both Edges (20 mm from the edges)	9.25±0.25 mm	9.5±0.5 mm
Center (confirmation reference)	9.0±2.5 mm	9.0±0.5 mm

To facilitate this adjustment on the production line, the pressure spring has been changed to a weaker type as follows. To distinguish the new and the old spring, its color has been changed from black to silver.

Old part number	New part number	Description	Qty	Int	Destination	Page	Index
AA063355	AA063562	Pressure Spring	2-2	X/O		85	21

It is not necessary to readjust the nip band width of the machines in the field. If any problem related to the nip band is found, please check it against the new standard and adjust if necessary. However, it may not be possible to achieve the new adjustment standard with the old pressure spring.

Please refer to the following table for the cut in serial number.

MODEL NAME	V/ Hz	DESTINATION	CODE	SERIAL NUMBER
Nashuatec C606e Gestetner 2606e	120V/ 60Hz	USA, Canada	A172 - 10	AB67020001
Savin SDC206E	120V/ 60Hz	USA, Canada	A172 - 15	5A86110001
Aficio Color 5206	120V/ 60Hz	USA, Canada	A172 - 17	A7126110001
Nashuatec C606e Gestetner 2606e Rex Rotary CC8606E	220- 240V/ 50Hz	Europe, etc.	A172 - 22	AB76110001
Infotec 7316E	220- 240V/ 50Hz	Europe, etc.	A172 - 26	3J81160001
Aficio Color 5206	220- 240V/ 50Hz	Europe, etc.	A172 - 27	A7126110046
Aficio Color 5206	220- 240V/ 50Hz, 60Hz	Asia, Middle East	A172 - 29	A7126110091
Lanier 5606 DC	120V60Hz	USA	A172 - 55	L006110001
Sharp AR-C862	120V60Hz	USA	A172 - 57	S167030001
Sharp AR-C862	120V60Hz	Europe	A172 - 67	S167020001
Nashuatec C606 Gestetner 2606	115V/ 60Hz	USA, Canada	A199 - 10	AB4612xxxx
Savin SDC206	120V/ 60Hz	USA, Canada	A199 - 15	5A96110001
Aficio Color 5106	120V/ 60Hz	USA, Canada	A199 - 17	A7136110001
Nashuatec C606 Gestetner 2606 Rex Rotary CC8606	220- 240V/ 50Hz	Europe, etc.	A199 - 22	AB56110001
Infotec 7316	220- 240V/ 50Hz	Europe etc.	A199 - 26	3J71160001
Aficio Color 5106	220- 240V/ 50Hz	Europe etc.	A199 - 27	A7136110041
Aficio Color 5106	220- 240V/ 50Hz, 60Hz	Asia, Middle East	A199 - 29	A713612xxxx
Lanier 5606 DC	120V60Hz	USA	A199 - 55	L0077010001
Sharp AR-C861	120V60Hz	USA	A199 - 57	S167030046
Sharp AR-C861	220- 240V/ 50Hz	Europe	A199 - 67	S167020023

Model: Lily	Date: 31-Aug-97	No: 6
Subject: Cyan Toner Scattering in Printer Mode	Prepared by: N.Kaiya	
From: QAC 1st Field Information Dept.		

Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other ( )		

This RTB is to explain the countermeasure to the cyan toner scattering in print mode.

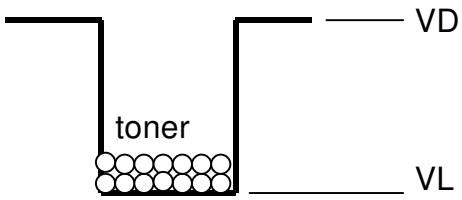
Problem

Cyan toner scattered around the text and edges of solid image areas in print mode.

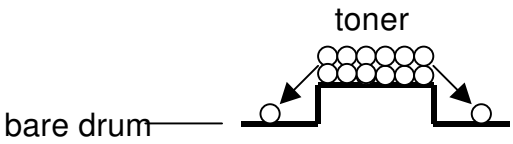
Cause

The PTL light (red light) is blocked by the cyan toner. The electrical potential of the image area does not drop, while the potential on the bare drum surface drops. As a result, some toner is attracted to the bare drum surface. See the following diagram.

<u>Before PTL Emission</u>



<u>After PTL Emission</u>



(VD drops to the bare drum potential level, but VL does not drop to the same level since PTL light is blocked by cyan toner.)

The problem is evident when the amount of toner on the drum (M/A) is large. The problem is seen only in the print mode, since the maximum amount of toner on the drum is higher compared to that of copy mode.

Compared to the DFC-α, Lily has higher M/A for cyan. This caused the level of cyan toner scattering to become worse than in the DFCα.

Countermeasure

1. The PTL has been changed to emit stronger light.

Part Number A0305243→ A3995243

2. The ACC target for the printer mode has been modified to decrease the maximum amount of toner on the drum. (IPU ROM revision G)

Model	V/Hz	Destination	Code	Serial Number
Nashuatec C606e Gestetner 2606e	120V/60Hz	USA,Canada	A172-10	AB67030001
Savin SDC206E	120V/60Hz	USA,Canada	A172-15	5A87030001
Aficio Color 5206	120V/60Hz	USA,Canada	A172-17	A7127030001
Nashuatec C606e Gestetner 2606e Rex Rotary CC8606E	220-240V/50Hz	Europe,etc.	A172-22	AB77030001
Infotec 7316E	220-240V/50Hz	Europe,etc.	A172-26	3J80370001
Aficio Color 5206	220-240V/50Hz	Europe,etc.	A172-27	A7127030266
Aficio Color 5206	220-240V/50Hz,60Hz	Asia,Middle East	A172-29	A7127030356
Lanier 5606 DC	120V/60Hz	USA	A172-55	L0067030136
Sharp AR-C862	120V/60Hz	USA	A172-57	S167030001
Sharp AR-C862	220-240V/50Hz	Europe	A172-67	S167030041
Nashutec C606 Gestetner 2606	120V/60Hz	USA,Canada	A199-10	AB4703xxxx
Savin SDC206	120V/60Hz	USA,Canada	A199-15	5A97030001
Aficio Color 5106	120V/60Hz	USA,Canada	A199-17	A7137030001
Nashuatec C606 Gestetner 2606 Rex Rotary CC8606	220-240V/50Hz	Europe,etc.	A199-22	AB57030001
Infotec 7316	220-240V/50Hz	Europe,etc.	A199-26	3J70370001
Aficio Color 5106	220-240V/50Hz	Europe,etc.	A199-27	A7137030066
Aficio Color 5106	220-240V/50Hz,60Hz	Asia, Middle East	A199-29	A7137080121
Lanier 5606 DC	120V/60Hz	USA	A199-55	L0077030036
Sharp AR-C861	120V/60Hz	USA	A199-57	S167030046
Sharp AR-C861	220-240V/50Hz	Europe	A199-67	S167030076

Note

This problem can be eliminated by disconnecting the PTL, but in this case, magenta toner blasting in 2C mode may occur. This is because the intention of the PTL is to cause a little cyan toner scattering which will repel the scattered magenta toner.

MB Correction

Reissue date: **15-Sep-97**

The items in bold italic have been corrected or added.

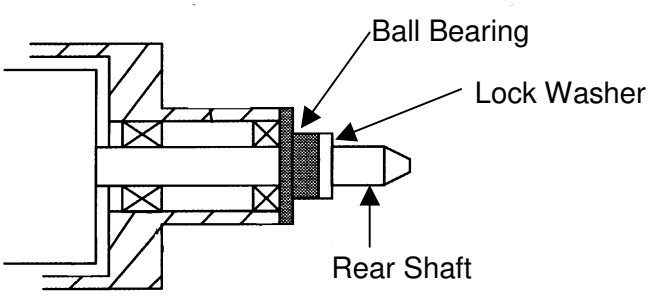
Model: Lily		Date: 31-Aug-97	No: 7
Subject: Magenta Banding		Prepared by: N.Kaiya	
From: QAC 1st Field Information Dept.			
Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Problem

Horizontal lines (banding) occur at random pitches, most noticeably in half-tone images. Removal/reinstallation of the development unit or replacement of the development sleeve have been effective but recurrences have been reported.

Countermeasures

Install the side sleeve shaft gear of the magenta sleeve assembly into the ball bearing (08053596) as shown below. Set the lock washer (H0014219) to secure the ball bearing.



The part number of the magenta development sleeve has been changed as follows.

A1723214 → A1723213

For the field units, please add the ball bearing and the lock washer when the problem is found. Please refer to the Modification Bulletin for cut-in serial number of the modification to the production.

Cause

A sudden drop in conductivity between the development sleeve and the sleeve surface during the rotation of the magenta development sleeve may result in horizontal lines appearing at random pitches. The most likely reason why this only occurs with magenta is that it is the furthest from the core of the drum shaft and thus the thrust play is proportionately larger.

Model: Lily	Date: 31-Aug-97	No: 8
Subject: High Toner Density in Low Humidity Environment	Prepared by: N.Kaiya	
From: QAC 1st Field Information Dept.		

Classification:

☒ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☐ Retrofit information
☐ Other ( )		

Problem

Under low humidity conditions such as during winter in continental areas, the toner density rises quickly within 1K copies after developer replacement, and image density is high and dirty background appears. This is particularly noticeable with black and cyan.

Cause

Due to the drop in the charge of the developer over time, it is necessary to change Vcnt if the developer gamma surpasses a certain value, to prevent the image density from increasing. However, the charge for this type of toner has a tendency to plummet in high-temperature/low-humidity environments, so this problem occurs more frequently indoors during the winter. Since Vcnt cannot keep up with the speed with which the charge drops, the image density rises over short periods of time.

Countermeasures

1. Replace the developer (all colors).
2. Adjust the toner density sensor initial setting until the image density is correct.
3. Access SP Mode; SP Adjustment: P. 16: Other SP Adjustments, and set No1 from 00000 to 00001.

Reason for Alteration

The above SP Mode turns on Vcnt (Correction by number of scans) for toner density control. When this correction is turned on, Vcnt decreases by 1 every 100 scans and ends after 600 scans (-6). However, for cyan the correction is only up to 500 scans (-5). All colours are controlled separately.

Notes

1. It does not matter when Vcnt is turned on after the developer has been changed. The result will be the same if it is done within 100 scans after the toner density sensor initial setting.
2. At the time of the toner density sensor initial setting, the correction counter is reset to 0.
3. If the Vcnt correction is turned on without developer replacement, there is the possibility that the image density will gradually become lighter.
4. In a high-humidity environment, there is a possibility of over-correction (low toner density leads to low image density) so please turn this Vcnt correction off.

Model: Lily	Date: 31-Aug-97	No: 9
Subject: Firefly Spots due to Carrier	Prepared by: N.Kaiya	
From: QAC 1st Field Information Dept.		

Classification:			
	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Problem

Firefly spots (light spots) in solid or halftone image areas.

Cause

Unstable carrier particles attracted to the drum surface prevent toner around it from being transferred to the transfer belt, resulting in light spots on the copy.

Note

Similar image problems may occur with condensed toner attracted to the drum surface. The cause of this problem is differrentand cannot be corrected with the following procedure. In most cases, the problem can be distinguished by the presence of condensed toner at the center of the light spot.

Solution

Follow the steps below to remove the unstable carrier in the developer.

1. Open SP mode 2-2 (Test Pattern Condition), set the test pattern condition and select the full dot pattern.
2. Make an A3 single color copy(s) using the color(s) which has light spots.
3. Open SP mode 3-3 (Drum Potential Control Output) and note the actual VB value of the color which has light spots.
4. Open SP mode 1-4 (Setting for P-con Off Mode) and input the actual VB value + 200 to the VB for the color(s) which has light spots. Input actual VB value + 355 to the VG of the color(s) which has light spots.
   Example: If VB actual is –300V, input –500V to VB and –655V to VG.
5. Open SP mode 4-1 (Auto Process Control Selfcheck) and select reset.

6. Make 10 A3 single color copies with the color(s) which has light spots.

7. Open SP mode 4-1 (Auto Process Control Selfcheck) and select PID. Open SP mode 2-2 (Test Pattern Condition), and reset the test pattern condition.

8. Open SP mode 3-1 (Toner Density). Make 10 A3 full color copies while observing the Vt of the color(s) which has light spots. When Vt is within ±0.2 of Vref, cancel the remaining copies.

9. Open SP mode 1-4 (Setting for P-con Off Mode) and lower the VB and VG settings by 100 for the color(s) which has light spots.

10. Open SP mode 4-1 (Auto Process Control Selfcheck) and select reset.

11. Open SP mode 2-2 (Test Pattern Condition), set the test pattern condition and select the full dot pattern.

12. Make an A3 single color copy(s) using the color(s) which has light spots. If copy quality is improved to an acceptable level, open SP mode 1-4 (Setting for P-con Off Mode) and return VB and VG to the default settings.

13. Open SP mode 4-1 (Auto Process Control Selfcheck) and select PID. Make one A3 single color copy with the color(s) which has light spots. Open SP mode 2-2 (Test Pattern Condition), and reset the test pattern condition.

14. If some light spots still remain on the copy made in step 12, open SP mode 1-5 (Transfer Belt Bias) and increase the transfer belt bias by 200. (Transfer belt bias can be increased further, but not bymore than 400.)

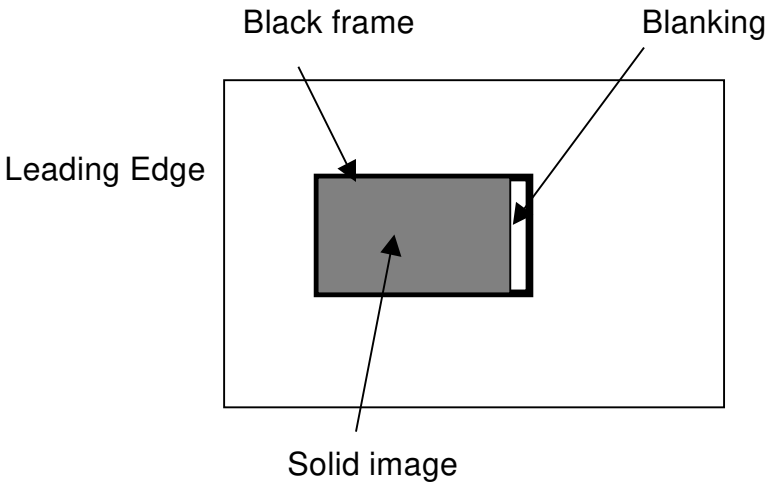
15. If the copy quality is not acceptable with the sample made in step 12, repeat the procedure from step 4.

Model: Lily	Date: 31-Aug-97	No: 10
Subject: Blanking at the Trailing Edge of Solid Image Areas	Prepared by: N.Kaiya	
From: QAC 1st Field Information Dept.		

Classification:			
	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Problem

Blanking occurs at the trailing edge of a solid image area when there is a black frame.The problem does not happen with the grid pattern from the copier. The width of the blanking is about 0.1 to 0.2 mm.



Countermeasures

1. Adjust the tension of the transfer belt timing belt and the drum drive timing belt.
2. SP Adjustment: P. 1: Transfer Belt Speed Adjustment (Default: 0)
   Increase the setting by +1~+2.
3. Check the copy quality.

Cause

In machines in which the relative speed difference between the drum and the transfer belt is quite large, the electrostatic absorption at the time of belt transfer causes partial shifting of the image. The difference in the position shift of the grid pattern and the controller image is probably a result of direct contact area difference between the drum and the belt of the toner image.

Model: Lily	Date: 31-Aug-97	No: 11
Subject: Jagged Image in Printer Mode	Prepared by: N.Kaiya	
From: QAC 1st Field Information Dept.		

Classification:			
	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Problem

The outline of characters is not straight (jagged) in printer mode. The problem does not happen with the prints made in letter mode.

Cause

In photo mode, 2x1 dot dither processing is applied to all images including text. If the copier's condition is tending to output high (dark) image density, it will be adjusted by 2x1 dot dither processing, resulting in a jagged image. The problem is noticeable especially when calibration targets with low IDmax are used.

Solution

Lower the copier's image density by the following procedure

1. Open SP Mode 8-4 (Printerγ Correction Data Fine Adjustment =Contone=). Check IDmax of the color showing jagged image.
2. Open SP Mode 1-4 (Toner Max M/A Target). Input 0.800 if the IDmax checked above is 4. Input 0.700 if the IDmax checked above is 3 or below.
3. Wait 5 minutes. Open SP Mode 2-4 and perform the Process Control Self Check.
4. Open SP Mode 3-2 and confirm that the pointer table is not 00.

   Note:If the pointer table is 00, the machine selected the default pointer table since the Toner Max M/A Target is lowered too much. Try with a higher Toner Max M/A Target.
5. Perform printer ACC.
6. Check the print quality and if it is not satisfactory, go back to step 1.

   Note : For SP Mode 1-4 (Toner Max M/A Target), you may input a lower value than those described above, but please make sure that the selected pointer table is not 00.

Modification of Software for Easier Adjustment

With the current main board ROM, the SP Mode 1-4 (Toner Max M/A Target) adjusts the M/A target for all colors at the same time. The ROM will be modified to make this adjustment independent for each color. With the new software, the toner maximum M/A target for each color is allocated in the SP Mode as follows.

Black	SP Mode 1-4 Toner Max M/A Target (same as now)
Cyan	SP Mode 1-16 Other SP Mode No.15
Magenta	SP Mode 1-16 Other SP Mode No.16
Yellow	SP Mode 1-16 Other SP Mode No.17

Model: Lily	Date: 31-Aug-97	No: 12
Subject: Sorter Roller Mark	Prepared by: N.Kaiya	
From: QAC 1st Field Information Dept.		

Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Problem

After installating the sorter, roller marks may appear on the backside of the copy during the copy run test. This problem cannot be solved by cleaning the rollers but will disappear after approximately 1K copies.

Cause

The line velocity of the copier and the sorter sometimes do not match.

Action

1. Remove the rear cover of the sorter.
2. Turn on #2 of DPS100 and adjust VR101 until LED102 is lit. Then slowly turn VR101 clockwise until LED102 is no longer lit. Now turn VR101 clockwise one notch.
3. Turn off #2 of DPS100 and perform another copy run test. Check for the roller marks. If the marks remain, turn VR101 clockwise one more notch.

Note

1. It is not necessary to adjust the high motor speed.
2. Since the reaction time of LED102 in response to the rotation of the VR is slow, wait for 2~3 seconds before checking to see if it is lit.
3. If the motor make a strange noise as it rotates, this may lead to unstable control. If this happens, turn VR101 counterclockwise to the original position.

Model: Lily	Date: 15-Dec-97	No: 13
Subject: Hot Roller Damage	Prepared by: N.Kaiya	
From: QAC Field Information Dept.		

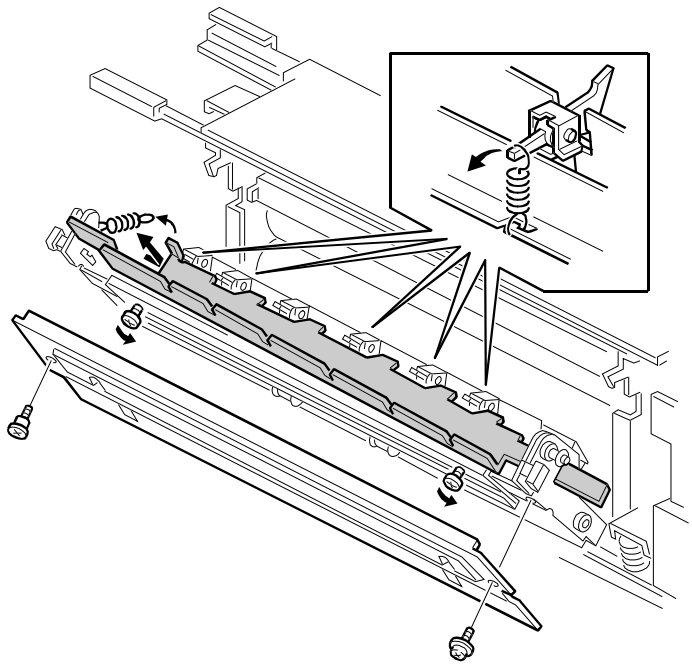
Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☒ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

The following modification has been made to the fusing unit to reduce hot roller damage by the stripper pawls when a paper jam occurs in the fusing unit. These improvements are made from October '97 production machines. For the cut-in serial number, please refer to the Modification Bulletins.

Hot Roller Stripper Slider

The hot roller stripper slider has been modified to prevent the stripper from being pushed too hard into the hot roller by jammed paper. The part number has been changed from A1094204 to A1724205.

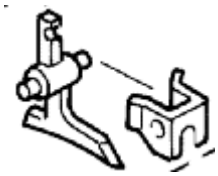
When replacing the slider, loosen the two screws and remove the hot roller stripper springs as shown below. Apply some grease to the slider in the area where it contacts the front and rear frame of the paper exit unit.



Model: Lily	Date: 15-Dec-97	No: 13

Stripper Holder

Stripper holders are newly added to prevent the hot roller strippers from coming off of their bracket because of jammed paper.



Part Number A1724203

Model: Lily	Date: 15-Dec-97	No: 14
Subject: Main Board ROM Revision E	Prepared by: N.Kaiya	
From: QAC Field Information Dept.		

Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other ( )		

This RTB explains the modification of Lily main board ROMs.

The Main board ROMs have been modified as follows.

IC Main Control 10 : A1725114**D** → A1725114**E** (Total Sum 0A94)

IC Main Control 20 : A1725115**D** → A1725115**E** (Total Sum 3293)

IC Main Control 30 : A1725129**D** → A1725124**E** (Total Sum A90D)

Contents of the Modification

1. Countermeasure for SC130 (Scanner Start Abnormal)

SC130 is indicated for the second or subsequent copies of a multicopy run only when 11 x 8-½ sideways, single color, and 210% enlargement are selected.

The CPU is controlling the scanner start timing to achieve the specified copy speed. If for some reason, return of the scanner to home position is delayed, the scanner control PCB receives a scanner start signal from the main control PCB before it receives the scanner home position signal. In this case, SC130 is generated.

In enlargement mode, the scanner requires more time for scanning. To compensate, the copy speed for single color, 11 x 8 1/2 is reduced to 29 cpm at 211% enlargement and higher. This problem happens only at this enlargement because it is the largest ratio before cpm is reduced to 29. To solve this problem, the copy speed will be reduced to 29 cpm at 151% enlargement and above.

This problem is found with a few users in the US market.

2. Jagged Image in Printer Mode

To solve the jagged image problem, sometimes it is necessary to adjust the Toner Maximum M/A Target. (Please refer to RTB No.11)

With the old main board ROM, the SP Mode 1-4 Toner Max M/A Target adjusts the M/A target for all colors at the same time. The ROM has been modified to make this adjustment independent for each color. With the new software, the toner maximum M/A target for each color is allocated in the SP Mode as follows.

Black	SP Mode 1-4 Toner Max M/A Target
Cyan	SP Mode 1-16 Other SP Mode No.15
Magenta	SP Mode 1-16 Other SP Mode No.17
Yellow	SP Mode 1-16 Other SP Mode No.18

NOTE: Please correct the table in RTB 11. The SP Mode No. for Magenta is No.17 and SP Mode No. for Yellow is No.18 as shown in the above table.

3. Countermeasure for SC353 (Cyan TD Sensor initial setting error)

This problem was reported from the production line.

The detection timing for SC353 was sometimes too early, so that the TD sensor output might not be stabilized yet, resulting in SC353. To prevent this problem, detection timing has been delayed.

4. Countermeasure for SC321 in Printer Mode

A software problem related to signal exchange between the main board and the IPU resulting in SC321 generation has been corrected.

Model: Lily	Date: 15-Dec-97	No: 14

Modification cut-in

The modification will be made from the December '97 production machines.

Model	V/Hz	Destination	Code	Serial Number
Nashuatec C606e Gestetner 2606e	120V/60Hz	USA,Canada	A172-10	
Savin SDC206E	120V/60Hz	USA,Canada	A172-15	
Aficio Color 5206	120V/60Hz	USA,Canada	A172-17	
Aficio Color 5206	220V/60Hz	Taiwan	A172-19	
Nashuatec C606e Gestetner 2606e Rex Rotary CC8606E	220-240V/50Hz	Europe,etc.	A172-22	
Infotec 7316E	220-240V/50Hz	Europe,etc.	A172-26	
Aficio Color 5206	220-240V/50Hz	Europe,etc.	A172-27	
Aficio Color 5206	220-240V/50Hz,60Hz	Asia,Middle East	A172-29	
Lanier 5606 DC	120V/60Hz	USA	A172-55	
Sharp AR-C862	120V/60Hz	USA	A172-57	
Sharp AR-C862	220-240V/50Hz	Europe	A172-67	
Nashutec C606 Gestetner 2606	120V/60Hz	USA,Canada	A199-10	
Savin SDC206	120V/60Hz	USA,Canada	A199-15	
Aficio Color 5106	120V/60Hz	USA,Canada	A199-17	
Nashuatec C606 Gestetner 2606 Rex Rotary CC8606	220-240V/50Hz	Europe,etc.	A199-22	
Infotec 7316	220-240V/50Hz	Europe,etc.	A199-26	
Aficio Color 5106	220-240V/50Hz	Europe,etc.	A199-27	
Aficio Color 5106	220-240V/50Hz,60Hz	Asia, Middle East	A199-29	
Lanier 5606 DC	120V/60Hz	USA	A199-55	
Sharp AR-C861	120V/60Hz	USA	A199-57	
Sharp AR-C861	220-240V/50Hz	Europe	A199-67	

Model: Lily	Date: 15-Dec-97	No: 15
Subject: SC321 in Printer Mode	Prepared by: N.Kaiya	
From: QAC Field Information Dept.		

Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

This RTB explains the troubleshooting procedures for the problem of intermittent SC321 indication in printer mode.

Problem

Intermittent SC321 indication in printer mode.

Cause

1. Power condition problems such as spikes, noise, low voltage, voltage fluctuation, etc.
2. Software problem related to signal exchange between the main board and the IPU.

Countermeasure

For production units

1. The software problem is corrected with revision E of the main board ROMs (A1725114E, A1725115E, A1725129E). Please refer to RTB No.14 for the details.
2. The IPU board has been modified to protect it from electrical noise (A1725242 → A1725252). For details, please refer to MB No.20.

NOTE: The above two modifications cannot prevent all SC321 indications if the condition of the users mains supply is not good.

For field units

1. Check that the copier and the Fiery controller are connected to a power source meeting the specifications given in the service manual and operating instructions. Use a line conditioner to filter spikes and noise and to stabilize the voltage. Such equipment should be available locally.
2. Replace the main board ROMs with Revision E.
3. Using the above two measures, the frequency of SC321 indication should be reduced substantially. If the customer is still not satisfied, replace the IPU Board with a new type.

Model: Lily	Date: 31-Mar-98	No: 16
Subject: Main board ROM Revision F	Prepared by: N.Kaiya	
From: QAC Field Information Dept.		

Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other ( )		

This RTB explains the modification of Lily main board ROMs.

The main board ROMs have been modified as follows.

IC Main Control 10 : A1725114**E** → A1725114**F** (Total Sum 0A94)

IC Main Control 20 : A1725115**E** → A1725115**F** (Total Sum 3295)

IC Main Control 30 : A1725129**E** → A1725129**F** (Total Sum C199)

Modifications

1. Countermeasure for paper misfeed in bypass mode

Problem

Paper misfeed from the bypass table with A3 paper, ACS mode, and second side of duplex copies.

Cause

The paper buckle made at registration becomes smaller because of the stiffness of the paper. The longer the copy paper waits at registration, the smaller the buckle becomes.

The problem occurs only with the ACS mode, bypass feed, A3 paper, and the second side of duplex copies, for the following reasons.

1. ACS mode and bypass feed
   In the ACS mode, copy paper starts to be fed toward the registration rollers when developing starts. This is because the paper from the bypass table must meet the earlier registration start timing for black and white copies. The waiting time of the paper at registration for a full color copy is longer than that for a black and white copy.

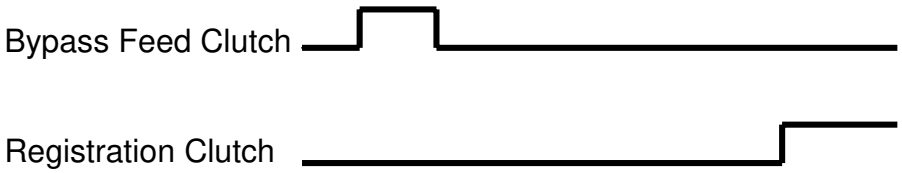
2. Paper
   The developing time with A3 paper becomes longer than for A4 sideways paper. This means that the waiting time for A3 paper is longer than for A4.

3. Second Side of Duplex Copies
   When the second side is copied, the paper has already passed the fusing section. The paper has silicone oil from the fusing section, and this reduces the friction between the feed and reverse roller. This means that the paper slips between the two rollers more easily than paper without silicone oil.

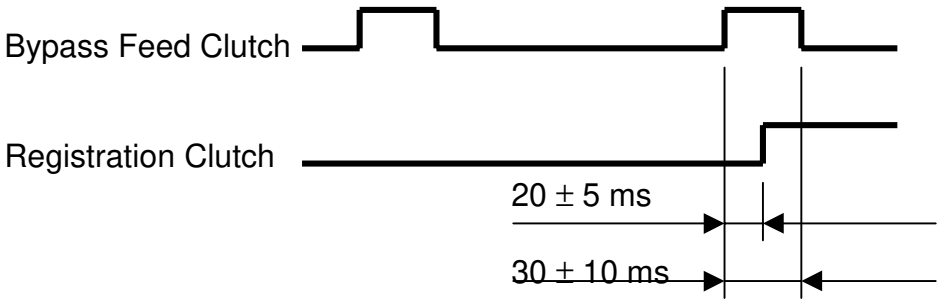
Countermeasure

The software has been changed as follows to make sure that the paper is fed through the registration area even if the paper buckle is small.

Present



Modified



2. Vcnt correction by number of scans

The amount of Vcnt correction for number of scans will be reduced to -1step/200scans. (Refer to RTB 8 for the purpose of the Vcnt correction) This is to optimize the amount of Vcnt correction and to obtain consistent image density in low humidity environments.

Modification cut-in

The modification has been made from the following serial numbers.

Model	V/Hz	Destination	Code	Serial Number
Nashuatec C606e Gestetner 2606e	120V/60Hz	USA,Canada	A172-10	AB6803XXXX
Savin SDC206E	120V/60Hz	USA,Canada	A172-15	5A88020001
Aficio Color 5206	120V/60Hz	USA,Canada	A172-17	A712803XXXX
Aficio Color 5206	220V/60Hz	Taiwan	A172-19	A712803XXXX
Nashuatec C606e Gestetner 2606e Rex Rotary CC8606E	220-240V/50Hz	Europe,etc.	A172-22	AB78020001
Infotec 7316E	220-240V/50Hz	Europe,etc.	A172-26	3J8028001
Aficio Color 5206	220-240V/50Hz	Europe,etc.	A172-27	A7128020001
Aficio Color 5206	220-240V/50Hz,60Hz	Asia,Middle East	A172-29	A7128020058
Lanier 5606 DC	120V/60Hz	USA	A172-55	L0068020371
Sharp AR-C862	120V/60Hz	USA	A172-57	S16803XXXX
Sharp AR-C862	220-240V/50Hz	Europe	A172-67	S168030001
Nashutec C606 Gestetner 2606	120V/60Hz	USA,Canada	A199-10	AB4803XXXX
Savin SDC206	120V/60Hz	USA,Canada	A199-15	5A98030001
Aficio Color 5106	120V/60Hz	USA,Canada	A199-17	A7138020001
Nashuatec C606 Gestetner 2606 Rex Rotary CC8606	220-240V/50Hz	Europe,etc.	A199-22	AB58020001
Infotec 7316	220-240V/50Hz	Europe,etc.	A199-26	3J70280001
Aficio Color 5106	220-240V/50Hz	Europe,etc.	A199-27	A7138020157
Aficio Color 5106	220-240V/50Hz,60Hz	Asia, Middle East	A199-29	A7138020278
Lanier 5606 DC	120V/60Hz	USA	A199-55	L0078020141
Sharp AR-C861	120V/60Hz	USA	A199-57	S16803XXXX
Sharp AR-C861	220-240V/50Hz	Europe	A199-67	S168020010

Model: Lily	Date: 30-Apr-98	No: 17
Subject: Modification of IPU ROM	Prepared by: N.Kaiya	
From: QAC Field Information Dept.		

Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other ( )		

The IPU board ROM has been modified as follows.

A1725207**G** → A1725207**H** (Total Sum : B512)

Content of the modification

The dither processing method for printer mode has been modified to improve jagged edges in the image (the outline of characters is not straight) and to improve reproduction of fine straight vertical lines.

Current dither processing in printer mode

In printer mode, 2 x 1 dot dither processing is always used. This dither processing is originally designed to attach importance to gradation rather than resolution. It evaluates the video signal level of two adjacent pixels and converts the data as follows.

	Original pixel value	Printed pixel value
Value of the left pixel	Any	The value of the pixel is doubled
Value of the right pixel	≤ 128	Blank (white) pixel
	> 128	(Pixel value – 128) x 2 is printed

*Maximum printed pixel value: 255

With the current dither processing method, it is possible that the data in the right-hand pixels are lost, resulting in jagged edges in the image or fine vertical lines not being reproduced.

Model: Lily	Date: 30-Apr-98	No: 17

New dither processing in printer mode

With the new IPU ROM, dither processing in printer mode has been changed as follows.

	Original pixel value	Printed pixel value
Value of the left pixel	≤ 32	The value of the pixel is doubled
	> 32	Original pixel value + 32
Value of the right pixel	≤ 32	Blank (white) pixel
	> 32	Original pixel value –32 is printed

* Maximum printed pixel value: 255

Example

Video data before dither processing

120	115	110	118	125	130	
125	118	113	120	130	135	
128	120	117	123	132	139	

Video data after the current dither processing

240	0	220	0	250	4	
250	0	226	0	255	14	
255	0	234	0	255	22	

Video data after the new dither processing

152	83	142	86	157	98	
157	86	145	88	162	103	
160	88	149	91	164	107	

Model: Lily	Date: 30-Apr-98	No: 17

Cut in Serial Numbers

Model	V/Hz	Destination	Code	Serial Number
Nashuatec C606e Gestetner 2606e	120V/60Hz	USA,Canada	A172-10	AB6805xxxx
Savin SDC206E	120V/60Hz	USA,Canada	A172-15	5A88040001
Aficio Color 5206	120V/60Hz	USA,Canada	A172-17	A712804xxxx
Aficio Color 5206	220V/60Hz	Taiwan	A172-19	A7128040011
Nashuatec C606e Gestetner 2606e Rex Rotary CC8606E	220-240V/50Hz	Europe,etc.	A172-22	AB78040001
Infotec 7316E	220-240V/50Hz	Europe,etc.	A172-26	3J80480001
Aficio Color 5206	220-240V/50Hz	Europe,etc.	A172-27	A7128040016
Aficio Color 5206	220-240V/50Hz,60Hz	Asia,Middle East	A172-29	A712805xxxx
Lanier 5606 DC	120V/60Hz	USA	A172-55	L0068040507
Sharp AR-C862	120V/60Hz	USA	A172-57	S16805xxxx
Sharp AR-C862	220-240V/50Hz	Europe	A172-67	S168040001
Nashutec C606 Gestetner 2606	120V/60Hz	USA,Canada	A199-10	AB4805xxxx
Savin SDC206	120V/60Hz	USA,Canada	A199-15	5A9805xxxx
Aficio Color 5106	120V/60Hz	USA,Canada	A199-17	A713805xxxx
Nashuatec C606 Gestetner 2606 Rex Rotary CC8606	220-240V/50Hz	Europe,etc.	A199-22	AB58040001
Infotec 7316	220-240V/50Hz	Europe,etc.	A199-26	3J70480001
Aficio Color 5106	220-240V/50Hz	Europe,etc.	A199-27	A7138040004
Aficio Color 5106	220-240V/50Hz,60Hz	Asia, Middle East	A199-29	A7138040023
Lanier 5606 DC	120V/60Hz	USA	A199-55	L0078040161
Sharp AR-C861	120V/60Hz	USA	A199-57	S16805xxxx
Sharp AR-C861	220-240V/50Hz	Europe	A199-67	S168040003

Model: Lily	Date: 15-May-98	No: 18
Subject: Improvement of Toner	Prepared by: N.Kaiya	
From: QAC Field Information Dept.		

Classification:	☒ Troubleshooting	☐ Part information	☒ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

This RTB explains about the new toner for Lily and necessary action to be taken when the toner is switched from the old type to the new type.

1. Purpose of the new toner

The chargeability has been stabilized to reduce toner scattering inside the machine and to reducee image density fluctuation.

2. Necessary action when replacing the developer

For the machines which have Vcnt correction by number of scans turned on to compensate for drop in chargeability (see RTB 8), the image density may become lower with the new toner since chargeability will be stabilized.

Depending on the type of toner in the toner tank, and setting of Vcnt correction by number of scans, the following action will be required when replacing the developer. Vcnt correction by number of scans can be switched off with SP Adjustment P.16 Other Adjustment No.1. The default setting is off (SP Mode setting: 00000)

1. When installing a new machine using new toner, do not turn on Vcnt correction by number of scans.
2. When all the toner in the toner tank unit is the new type, Vcnt correction by number of scans must be off.
3. When all the toner in the toner tank unit is the old type, do not change the setting of Vcnt correction by number of scans.
4. When some of the toner in the toner tank unit is the new, do not change the setting of Vcnt correction by number of scans.
5. When the type of toner in the toner tank unit is unknown, do not change the setting of Vcnt correction by number of scans.

3. Troubleshooting procedure for insufficient ID max (or excessive ID max)

As the old toner in the developer is replaced with the new toner, the history of the Vcnt correction for the old toner remains, so the toner density correction may be slightly excessive, resulting in toner density slightly less than that originally with the old toner. (The opposite may occur if the toner is switched from the new type to the old type.)

In most cases, such changes in image density can be corrected by performing ACC or printer calibration, but it may result in a service call depending on the customer's requirements.

When a customer calls because of insufficient or excessive ID max, and if it seems to be due to changing the toner type, please use the following procedures.

Insufficient ID max

1. Check the following items.
   - 1.1. Even if the ACC or calibration is done, the image density remains light if ID max is insufficient.
   - 1.2. Check that Process Control Self Check is set to PID (SP Special Feature page1 Auto Process Control Self Check), and has been succeessful. If the self check has not been successful, find and fix the cause.
   - 1.3. Check that Vt (TD Sensor Output) does not vary greatly from Vref (standard $|Vt - Vref| \leq 0.2V$). If Vt varies greatly from Vref, make copies of a C4 test chart until Vt falls within the standard.
   - 1.4. Check that the TC Correction Threshold (SP Special Feature page1) is Reset.
   - 1.5. Check that the ACC Pattern 10th level is equally as low as the areas that the customer is complaining about. (There is no need to run the ACC.)
   - 1.6. Even if IDmax and the Shadow setting in the printer gamma correction are adjusted, the image density remains light if the ID max is insufficient.
2. If Vcnt correction is on (SP Adjustment page 16 No. 1: 00001), turn it off (00000).
3. Reduce the current Vref for the colors with low density by 0.35V. (*1)
   (For SP Adjustment page 12, input Vref - 0.35 for the Toner Sensor Control Target.)
4. After inputting the value, confirm that the setting has been changed by looking at the SP Data Output page 1 on the display. (*2)
5. After the adjustment, watch Vt on the SP Data Output page 1 display and make copies of the C-4 test chart (A3/FC mode, about 10 copies) until Vt stabilizes at $|Vref - Vt| \leq 0.2V$. (*3)
6. If necessary, perform the ACC and the printer gamma adjustment.

Excessive ID max

1. Check the following items.
   1.1. Even if the ACC or calibration is done, the image density remains dark if there is excessive ID max.
   1.2. Check that Process Control Self Check is set, and has been succeessful. If the self check has not been successful, find and fix the cause.
   1.3. Check that the TD Sensor Output Vt does not vary greatly from the Vref (standard $|Vt - Vref| \leq 0.2V$). If Vt varies greatly from Vref, make copies of a C4 test chart until Vt falls within the standard.
   1.4. Check that the density of the ACC Pattern 10^{th} level is equally as dark as the areas that the customer is complaining about. (There is no need to run the ACC.)
   1.5. Even if IDmax and the Shadow setting in the printer gamma correction are adjusted, the image density remains dark if there is excessive ID max.
2. Increase the current Vref for the colors with high density by 0.35V. (For SP Adjustment P. 12, input Vref + 0.35V for the Toner Sensor Control Target.) (*1)
3. After inputting the value, confirm that the setting has been changed by looking at the SP Data Output P. 1 on the display. (*2)
4. For these colors, make five A3 sky shot copies (ten copies for A4). (*3)
5. After the adjustment, watch Vt on the SP Data Output P.1 display and make copies of the C-4 chart (A3/FC mode, about 10 copies) until Vt stabilizes at $|Vref - Vt| \leq 0.2V$.
6. Wait 5 minutes, then perform the process control self check.
7. If necessary, perform the ACC and the printer gamma adjustment.

Note

(*1) In the unusual case that the input value is the same as the Toner Sensor Control Target, please raise or lower the input value by 0.01V. (If the value input is the same as that indicated, then the adjustment is not recognized.)

(*2) The value displayed may be 0.01~0.02 V less than the input value, but this is not a problem. If the Vref value is lower than 2.15V or higher than 2.85V, it will automatically be adjusted to 2.15V (lower level) or 2.85V (higher level) after copies have been made, so this also does not pose a problem.

(*3) The machine may enter the forced toner supply mode when copies are being made but please just wait until it automatically finishes.

Remarks

(1) If the machine condition is poor (For example, process control does not succeed or the developer gamma is more than 5), replace the developer and do the steps in section 2 of this RTB 'Necessary Action for Replacing the Developer'.
(2) For machines connected to a controller, perform calibration as necessary.
(3) If the toner max M/A target (SP Adjustment page 4) is changed, reset it to the default (1.0 mg/cm^2) before using the above procedures.

4. Name of the new toner

Brand	Naming
Ricoh	Ricoh Color Toner Type J Black
	Ricoh Color Toner Type J Yellow
	Ricoh Color Toner Type J Magenta
	Ricoh Color Toner Type J Cyan
Savin	SVN SC106/SDC206 BLK Type J
	SVN SC106/SDC206 YLW Type J
	SVN SC106/SDC206 MAG Type J
	SVN SC106/SDC206 CYNType J
Nashutec	Nashuatec CT112 BLK
	Nashuatec CT112 YLW
	Nashuatec CT112 MGT
	Nashuatec CT112 CYN
Rex Rotary	Rex Rotary CT112 BLK
	Rex Rotary CT112 YLW
	Rex Rotary CT112 MGT
	Rex Rotary CT112 CYN
Gestetner	Gestetner CT112 BLK
	Gestetner CT112 YLW
	Gestetner CT112 MGT
	Gestetner CT112 CYN
Infotec	Infotec Type XX/3 Blk
	Infotec Type XX/3 Yel
	Infotec Type XX/3 Mag
	Infotec Type XX/3 Cyn
Lanier	Lanier 5506 BLK
	Lanier 5506 YLW
	Lanier 5506 MAG
	Lanier 5506 CYN

Model: Lily	Date: 31-May-98	No: 19
Subject: Software History	Prepared by: M.Kitajima	
From: QAC Field Information Dept.		

Classification:

- ☐ Troubleshooting
- ☐ Part information
- ☐ Action required
- ☐ Mechanical
- ☐ Electrical
- ☐ Service manual revision
- ☐ Paper path
- ☐ Transmit/receive
- ☐ Retrofit information
- ☒ Other ( )

Software history for the Lily

1.Main PCB

ROM P/N	File Name	Total Sum	Production	Remarks
A1725114 E A1725115 E A1725129 E	0A94 3293 A90D	a1725114e.x a1725114e.x a1725129e.x	December 1997	RTB No.14
A1725114 F A1725115 F A1725129 F	0A94 3295 C199	a1725114f.x a1725114f.x a1725129f.x	February 1998	RTB No.16

Version	Contents of Modification
E	1. Countermeasure for SC130 (Scanner Start Abnormal) 2. Jagged Image in Printer Mode (For details, refer to RTB No.11) 3. Countermeasure for SC353 (Cyan TD Sensor initial setting error) 4. Countermeasure for SC321 in Printer Mode
F	1. Countermeasure for paper misfeed in bypass mode 2. Vcnt correction by number of scans

Model: Lily	Date: 30-Sep-98	No.: 20

Subject: Mainboard ROM Revision G	Prepared by: N. Kaiya
From: QAC Field Information Dept.	

Classification:	☐ Troubleshooting	☒ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

The Mainboard ROMs have been modified as follows.

IC Main Control 10 : A1725114F • A1725114G (Total Sum : BE18)
IC Main Control 20: A1725115F • A1725115G (Total Sum : 3AF0)
IC Main Control 30 : A1725129F • A1725129G (Total Sum : 8DB1)

A software modification has been made to solve the following two problems found in the Japanese market

Problem
Smeared image on the first copy after turning on the main switch.
Cause
Condensation on the transfer belt surface. The problem is seen only in high humidity/high temperature environments.
Solution
Transfer belt idling is performed during the process control self check after turning on the main switch.

Problem
Noise from the transfer belt unit when making single color copies in poster mode.
Cause
In poster mode, the IPU requires a longer time to process the image data so the time between the copies will be longer than usual. The transfer roller is driven by the transport motor, which is stopped soon after the paper leaves the exit sensor. If the IPU cannot finish data processing for the next copy before the transport motor is stopped, the problem may occur.
Solution
The transport motor is not stopped when the next job is in process.
Note
The problem is found only in Japanese domestic models because of the difference in torque of the transfer roller. The same symptom is seen with the overseas models, but the transfer roller will be driven by friction and the noise will not be generated.

Model: Lily	Date: 30-Sep-98	No.: 20

Cut in Serial Numbers

Model	V/Hz	Destination	Code	Serial Number
Nashuatec C606e Gestetner 2606e	120V/60Hz	USA,Canada	A172-10	AB6808xxxx
Savin SDC206E	120V/60Hz	USA,Canada	A172-15	5A8808xxxx
Aficio Color 5206	120V/60Hz	USA,Canada	A172-17	A7128070001
Aficio Color 5206	220V/60Hz	Taiwan	A172-19	A7128070019
Nashuatec C606e Gestetner 2606e Rex Rotary CC8606E	220-240V/50Hz	Europe,etc.	A172-22	AB78080001
Infotec 7316E	220-240V/50Hz	Europe,etc.	A172-26	3J80880001
Aficio Color 5206	220-240V/50Hz	Europe,etc.	A172-27	A7128070026
Aficio Color 5206	220-240V/50Hz,60Hz	Asia,Middle East	A172-29	A7128070090
Lanier 5606 DC	120V/60Hz	USA	A172-55	L0068090540
Sharp AR-C862	120V/60Hz	USA	A172-57	S16808xxxx
Sharp AR-C862	220-240V/50Hz	Europe	A172-67	S168090001
Nashutec C606 Gestetner 2606	120V/60Hz	USA,Canada	A199-10	AB4808xxxx
Savin SDC206	120V/60Hz	USA,Canada	A199-15	5A98070001
Aficio Color 5106	120V/60Hz	USA,Canada	A199-17	A713808xxxx
Nashuatec C606 Gestetner 2606 Rex Rotary CC8606	220-240V/50Hz	Europe,etc.	A199-22	AB58080001
Infotec 7316	220-240V/50Hz	Europe,etc.	A199-26	3J70780006
Aficio Color 5106	220-240V/50Hz	Europe,etc.	A199-27	A7138070001
Aficio Color 5106	220-240V/50Hz,60Hz	Asia, Middle East	A199-29	A7138070044
Lanier 5606 DC	120V/60Hz	USA	A199-55	L07808xxxx
Sharp AR-C861	120V/60Hz	USA	A199-57	S16808xxxx
Sharp AR-C861	220-240V/50Hz	Europe	A199-67	S168090004

Model: Lily	Date: 30-Oct-98	No.: 21

Subject: Low Image Density	Prepared by: N.Kaiya
From: GTS and S Field Information Dept.	

Classification:			
	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Symptom

Light copies, especially in high image density areas, or poor solid fill at around 1K to a few thousand scans after developer replacement. One or more of the following may be observed at the same time.

1. Development gamma (SP Data Output page 3) is high (around 4 or more), although it may be lower at the time of the visit.
2. The Vcnt compensation value (difference between Vcnt0 and Vcnt on SP Data Output page1) is large.
3. Vt is not so different from Vref and does not look abnormal.
4. Vk is high (around 15V or more).

Cause

During the process control self check, depending on the variation in characteristics of the ID sensor, OPC drum, and other related parts, Vmin is detected high and the development gamma is calculated high. High development gamma increases the Vcnt compensation value, so after each process control self check, image density decreases.

Action in the field

Turn off the Vcnt correction system and manually input a fixed Vcnt compensation value. The optimum fixed Vcnt compensation value is 6.

Procedure

1. If Vref (SP Data Output page 1) was adjusted previously, return it to Vref0.
2. If Toner Max M/A Target (SP Adjustment page 4 and page 16) was adjusted previously, return it to the default (1.000), wait 5 minutes and perform the process control self check. Note: After the procedure in this RTB is finished, check the copy quality and adjust Toner Max M/A Target if necessary.
3. If Vcnt correction by number of scans is on, turn it off.
   (Open SP Adjustment page 16 and if the value in No.1 is 00001, input 00000.)
4. Turn off Vcnt correction by development gamma.
   (Open SP Special Feature page 1 and turn off TC Correction.)
5. Manually input a Vcnt compensation value. The value to input is Vcnt data at developer initial setting minus six.
   (Open SP Data Output page 1 and record Vcnt0 for each color. Open SP Adjustment page12 and input Vcnt0 – 6 for each color for the Toner Sensor Gain values.)

6. While checking Vt on the SP Data Output page 1, make copies of a C4 test chart (A3/FC mode) until Vt stabilizes at $|Vref - Vt| \leq 0.2V$.
7. Wait 5 minutes, then perform the process control self check.
8. If necessary, perform the ACC and the printer gamma adjustment.

NOTE: When replacing the developer for a machine with the above troubleshooting done, do not change the setting for Vcnt correction (keep Vcnt correction off). However, do not set the Vcnt compensation value manually. The Vcnt compensation value returns to 0 (no correction) when developer initial setting is performed. If the Vcnt compensation value is lowered after developer initial setting, image density will be too light.

Production Machines

The settings of the production machines will not change related to this problem. The troubleshooting procedure in this RTB is to be performed only when the problem is found in the field.

Model: F401/411/421/C-Bird	Date: 15-Apr-99	No.: RA175012

Subject: DJF Software Modification History	Prepared by: F. Noguchi
From: Technical Service Dept., GTS Division	

Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

DJF modifications and history are as follows.

Main ROM(A6105820) modification history

Suffix	Description	Cut-in Serial Number
C	This ROM was used from the first production run.	A610-15: A16060001 A610-17: A7146060001 A610-22: AB86060001 A610-26: J90660001
D	To prevent original jams: In the limitless mode, if a new original is fed while the paper trays are being switched, a jam will occur.	Not implemented
E	This version is the same as that of “C”. Notes A software change will not prevent original jams in the limitless mode if a new original is fed while the paper trays are being switched. Since the occurrence rate of this problem is extremely low, this is being treated as a product limitation.	A610-15: 6A16120001 A610-17: A7146110001 A610-22: AB87010001 A610-26: 3J90170001
F	Standardization with the Penguin series	A610-15: 6A18030001 A610-17: A714803000 A610-22: AB88030001 A610-26: 3J90680001
G	To prevent the following problems when the 2 in 1 mode is used: ● The machine stops (but the print key remains red) after the job if the number of originals and the number input on the main unit differ. ● After an odd number of originals is used, the image in the next copy job is elongated or a paper jam occurs.	A610-15: 6A18100001 A610-17: A7148100001 A610-22: AB88100001 A610-26: 3J91080001
H	To prevent original non-feed out in European version main frame machines: Due to the difference in the feed-in and feed-out timing for the B6Y size paper, three originals will be set on the exposure glass at the same time as opposed to two.	A610-15: 6A18100001 A610-17: A7148100001 A610-22: AB88100001 A610-26: 3J91080001

Model: Lily	Date: 31-May-99	No.: RA172022

Subject: Main Board ROM Revision J	Prepared by: N.Kaiya
From: Technical Service Dept., GTS Division	

Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

The main board ROMs have been modified as follows.

IC Main Control 10 : A1725114G • A1725114J (Total Sum : 506B)
IC Main Control 10 : A1725115G • A1725115J (Total Sum : 0B80)
IC Main Control 10 : A1725129G • A1725129J (Total Sum : 9B61)

NOTE : Revisions H and I do not exist.

The software has been modified to solve the following problems.

Problem 1

The operation counter goes wrong when upgrading the main board ROM from revision D or older to revisions E, F, or G.

Cause

The address to store the operation counter data was changed by a programming error.

Solution

An additonal program is installed to shift the operation counter data to the new address when replacing the main board ROM.

Note

When installing the ROM revision J on a machine which has the ROM revisions D or older, the following procedure is necessary to shift the operation counter data to the new address. The following procedure is not necessary when replacing the ROM revisions E or newer.

1. Turn off the main switch and replace the old ROMs (revision D or older) with the ROM revision J.
2. Turn on dip switch no.2 on the main board.
3. Turn on the main switch.
4. Turn off the main switch after the Please Wait screen has disappeared and the normal screen is displayed on the operation panel.
5. Turn off dip switch no.2 on the main control board.

Problem 2

Partial dirty background on copies with the main board ROM revisions E, F, and G.

Cause

The transfer belt cleaning blade on timing is delayed for 300 ms due to a programming error.

Solution

The transfer belt cleaning blade on timing is corrected.

Note

This problem does not exist with the main board ROM revisions D or older.

Problem 3

Blurred image on the leading edge when making a copy of a black and white original in ACS mode with the main board ROM revisions E, F, and G.

Cause

Transfer roller on timing is delayed for 300 ms due to a programming error.

Solution

The transfer roller on timing is corrected.

Note

This problem does not exist with the main board ROM revisions D or older.

Problem 4

Blank margin in the main scan direction when making a copy in black mode using a special program in the user tools after a print job.

Cause

The timing to send data to the IPU was incorrect.

Solution

The timing is corrected.

Model: Lily	Date: 31-May-99	No.: RA172022

Cut-in Serial Numbers

Model	V/Hz	Destination	Code	Serial Number
Nashuatec C606e Gestetner 2606e	120V/60Hz	USA, Canada	A172-10	AB69030001
Savin SDC206E	120V/60Hz	USA, Canada	A172-15	5A89010001
Aficio Color 5206	120V/60Hz	USA, Canada	A172-17	A7129010001
Aficio Color 5206	220V/60Hz	Taiwan	A172-19	A7129020017
Nashuatec C606e Gestetner 2606e Rex Rotary CC8606E	220-240V/50Hz	Europe, etc.	A172-22	AB79010001
Infotec 7316E	220-240V/50Hz	Europe, etc.	A172-26	3J80190001
Aficio Color 5206	220-240V/50Hz	Europe, etc.	A172-27	A7129010280
Aficio Color 5206	220-240V/50Hz,60Hz	Asia, Middle East	A172-29	A7129010290
Lanier 5606 DC	120V/60Hz	USA	A172-55	L006901xxxx
Sharp AR-C862	120V/60Hz	USA	A172-57	S16901xxxx
Sharp AR-C862	220-240V/50Hz	Europe	A172-67	S16901xxxx
Nashutec C606 Gestetner 2606	120V/60Hz	USA, Canada	A199-10	AB4901xxxx
Savin SDC206	120V/60Hz	USA, Canada	A199-15	5A99010001
Aficio Color 5106	120V/60Hz	USA, Canada	A199-17	A7139010001
Nashuatec C606 Gestetner 2606 Rex Rotary CC8606	220-240V/50Hz	Europe, etc.	A199-22	AB59010001
Infotec 7316	220-240V/50Hz	Europe, etc.	A199-26	3J70190001
Aficio Color 5106	220-240V/50Hz	Europe, etc.	A199-27	A7139010003
Aficio Color 5106	220-240V/50Hz,60Hz	Asia, Middle East	A199-29	A7139010043
Lanier 5606 DC	120V/60Hz	USA	A199-55	L07901xxxx
Sharp AR-C861	120V/60Hz	USA	A199-57	S16901xxxx
Sharp AR-C861	220-240V/50Hz	Europe	A199-67	S16901xxxx

Model: Lily	Date: 08-Mar-01	No.: RA172023

Subject: Dirty background in leading edge	Prepared by: H.Matsui
From: Technical Services Dept., GTS Division	

Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Symptom

- Yellow or orange dirty background in the leading edge area.
- Magenta dirty background in the trailing edge area.
- Toner film on the drum.

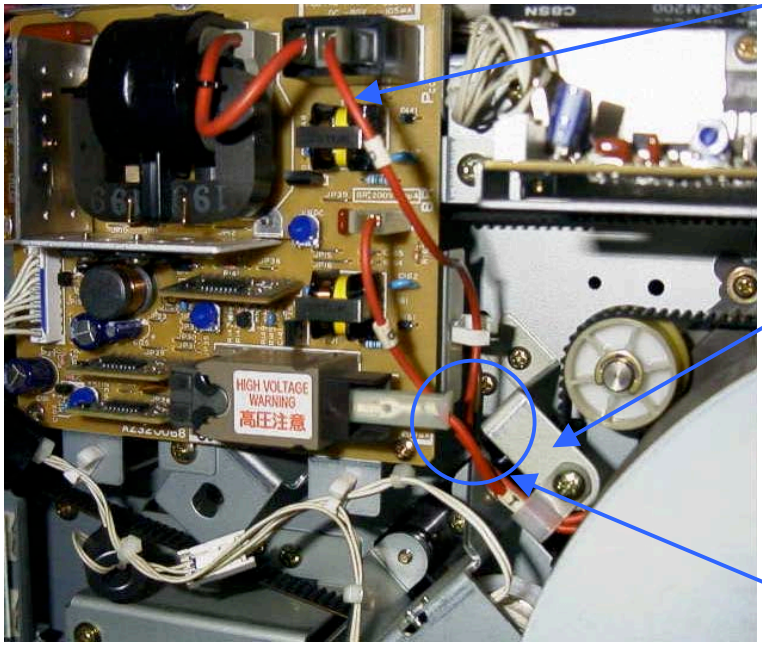
Cause

A high-voltage leak can occur if the harness [A] that runs between the power supply and PCC (pre-cleaning corona) wire touches the cable clamp bracket [B]. Although at first the leak is very minimal, over time this causes the electrical load on the harness to increase, which damages the harness and increases the leakage. The leaking point is white in many cases.

This leak can then affect the PCC, which markedly decreases the efficiency of the drum-cleaning unit. In addition, the charge applied across the drum will not be uniform, leading to density variations in the developed image that do not appear on the original.

Action in the field

Check to see if the PCC high-voltage harness is touching the cable clamp bracket [B]. If it is, position the harness at least 1mm away from the clamp as shown:



Reissued: 28-Mar-02

Model: Lily	Date: 28-Mar-02	No.: RA172024a

RTB Correction:
Parts in bold italics have been corrected or added.

Subject: Magenta toner scattering			Prepared by: H.Matsui
From: Technical Services Dept., GTS Division			
Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Symptom

- Excessive Magenta toner scattering inside the machine.
- Magenta dirty background on copy/print images.

Cause

1. Decrease in developer chargeability
2. Q/M of developer becomes too low
3. Toner wt% inside developer is too high (approx. 7%)

Action in the field

NOTE:

1. The purpose of this procedure is to minimize magenta scattering without replacing the developer.
2. This procedure is only for machines which currently show **excessive** Magenta toner scattering. This procedure should be limited to machines with excessive scattering to avoid unnecessary side effects such as low image density.

Preparation:

1. ***Clean the inside of the machine using a vacuum cleaner, soft cloth or blower brush. In particular, be sure to thoroughly clean components related to process control (ID sensor, corona wires, potential sensor, toner shield glass, etc.).***
2. Check if the exhaust fan motors (machine left side) are blocked with toner. If they are, clean the motors and their dust filters.

Step #	Procedure	Technical background
1	Pull out the toner tank unit.	This prevents toner from entering the development unit.

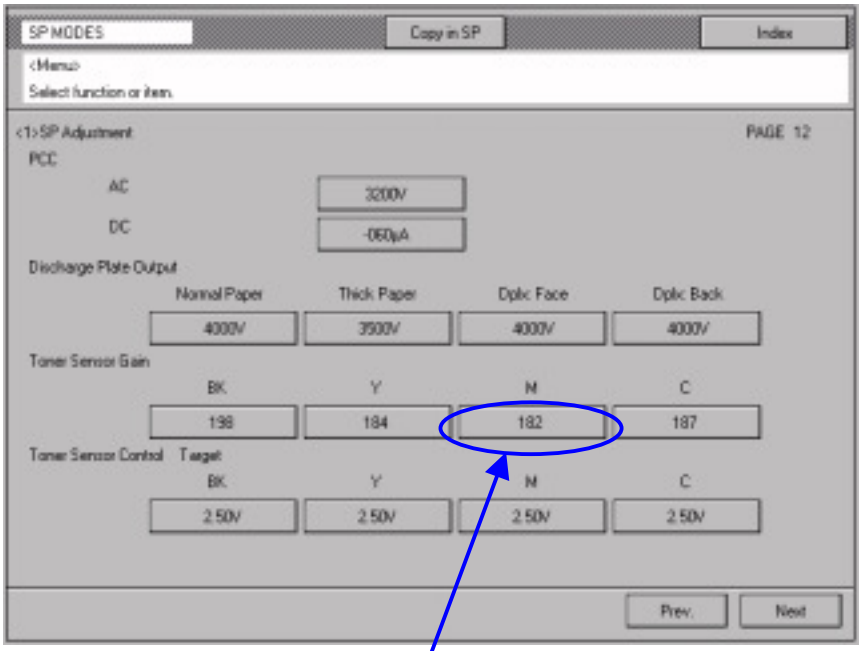
2	2-1. Enter PAGE 12 of "SP Adjustment". 2-2. Change the "Toner Sensor Gain" for Magenta to *the current value – 9.* For example, if the current value is 182, then change it to 173 (182-9=173). ***Refer to NOTES 1 and 2 below.***	This keeps the toner concentration low (approx. 4.5wt%).
3	Press the "Copy in SP" button to enter the operating display.	Performing forced toner consumption with several solid image copies helps achieve the desired toner density.
4	Take 13 A4/LT sideways or 6 A3/DLT skyshot copies (full solid image copy) in 1C/Magenta mode by opening the platen cover. NOTE: Never take more than the above number of copies.	
5	Close the platen cover.	Making blank copies agitates the toner in the development unit.
6	Take 5 A4/LT sideways or 3 A3/DLT blank copies in 1C/Magenta mode without any originals on the exposure glass. NOTE: Never take more than the above number of copies.	
7	Reinstall the toner tank unit in the machine.	
8	Make 10 copies of a C-4 test chart on A3/DLT paper.	This stabilizes the toner concentration.
9	***9-1: Perform MAGENTA TD Sensor Initialization in SP Test mode.*** ***9-2: Wait 5 minutes, then perform Forced Process Control Self Check in SP Test mode. While the machine is performing the Check, open the rear cover and observe the movements of the components from the rear of the machine. Use NOTE 3 below to confirm if the Self-Check is being performed successfully.*** ***If you find that it is not being performed successfully, repeat this procedure from Step 1 until the component movements are successful.***	***ACC calibrates the image by adjusting image processing parameters.***
10	Perform ACC.	

Model: Lily	Date: 28-Mar-02	No.: RA172024a

NOTES:

1. Never reduce the Toner Sensor Gain value more than –9. Doing so can cause side effects such as low image density.

2. Never perform this procedure for any color other than Magenta. This can also cause side effects to occur.



Decrease the *current value by –9.*
e.g. 182 → 173.

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3. How to confirm that Forced Process Control Self Check has been performed successfully:

- Correct movement of components -

A) At first, the Black development sleeve motor [B] rotates about 1 minute. The flywheel [A] rotates at the same time.
B) Then, the Black [B], Cyan [C], Magenta [D] and Yellow [E] development sleeve motors will rotate one by one (in this order) for 5 seconds each.
C) After the Yellow [E] development sleeve motor stops, the flywheel [A] will continue rotating for about <u>1 to 2 MINUTES</u>, then stop.

- Incorrect movement -

In C) above, the flywheel [A] will only continue rotating for about <u>5 or 6 SECONDS</u> after the Yellow sleeve motor stops. In other words, you can determine if successful or not by the flywheel rotation time described in step C)

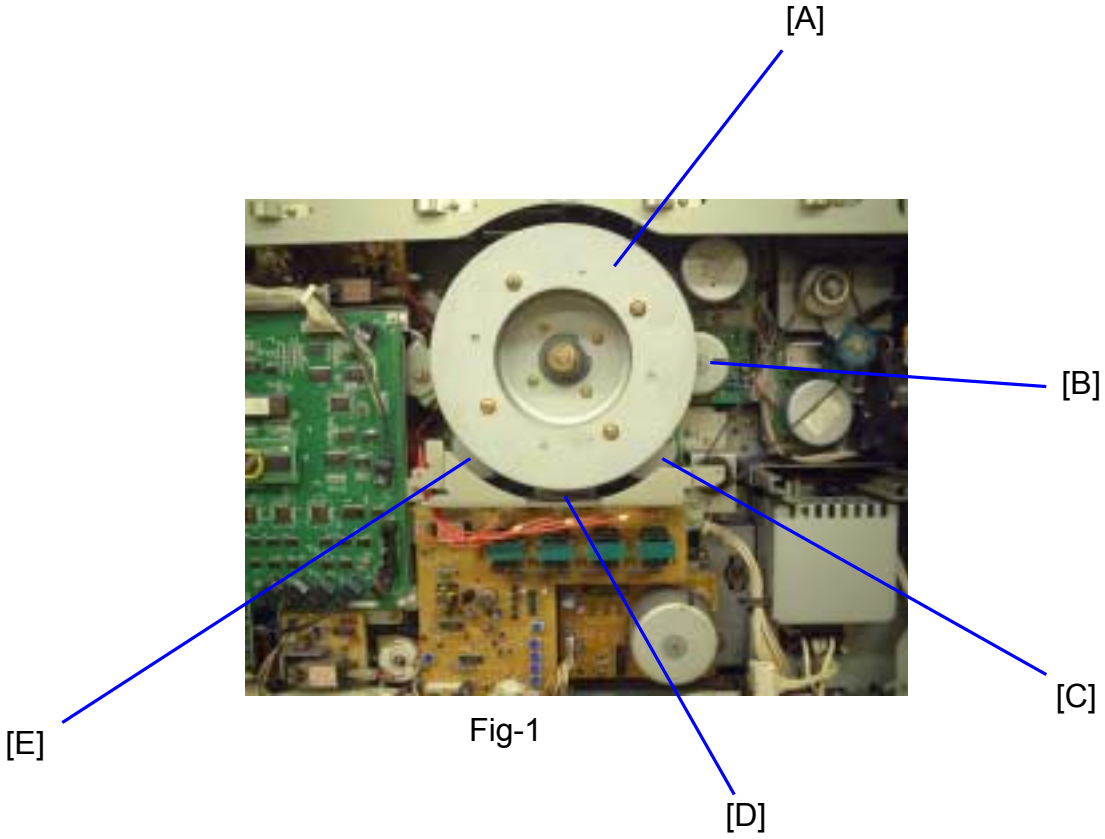

Fig-1