Model: General (GW Models)	Date: 20-Dec-01	No.: RGene010

Subject: Series Print Mode	Prepared by: K. Misugi
From: Technical Services Dept., GTS Division	

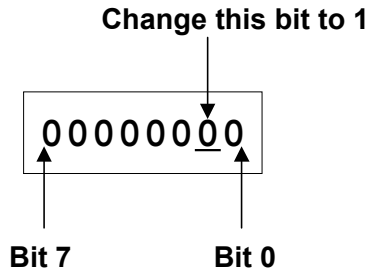
Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

In response to complaints from customers that the intervals between jobs are too long when sent in series, a new service switch has been added to improve performance.

New service switch:
Controller SP mode bit switch 2, bit 1
Series print mode On/Off
0: Off (default setting)
1: On

This switch has been added to the following GW models:
K-P1 (Kir-P1), J-P1, A-P3 (Adonis-P3), and R-C2 (Russian-C2).

Enter the printer controller service mode, access the bit switch settings display, then change bit 1 of bit switch 2 to “1.”



Important: Do not change any other settings. (The default setting is “0.”)

Descriptions:
Series print mode Off (default):
The machine starts to feed paper for the next job after the last sheet of the previous job has fed out from the machine.

Series print mode On:
The machine starts to feed paper for the next job before the last sheet of the previous job is fed out.

Conditions for use:
For the Series Print mode to become effective, jobs must be sent from the same PC, using the same PDL and interface (Ethernet, IEEE1284, IEEE1394).

Limitations:
Series Print mode cannot be used when:
- The above conditions are not met
- Stapling or punching is used
- A user code is used
- Color and black-and-white jobs are mixed (only for color machines)

Remarks:
When enabled, the machine handles the jobs waiting to be printed as a single job.
When the Job Reset key on the operation panel is pressed, all jobs combined by this feature are cancelled.

Applied from the following software versions:

K-P1: Controller Ver. 1.11
J-P1: 1st mass production of P1b
A-P3: 1st mass production
U-P1: 1st mass production
R-C2: 1st mass production

Model: General RTB	Date: 8-Nov-02	No.: RGene011

Subject: Euro symbol not printed with PS driver	Prepared by: T. Itoh
From: Technical Services sec. Service Planning Dept.	

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

SYMPTOM

When printing with the PS driver, the Euro currency symbol is not printed out with 112 of 136 fonts, which are stored in the font ROM in GW-based products.

The following are GW-based products:

Model-K3, Model-K P2, Russian-C2, Adonis- C2, Model-A P3, Model-J P1b, Model-J CF Model-U P1, Model-U C1, Martini-C1.

CAUSE

The Euro currency symbol was not included in the font ROM.

SOLUTION

Temporary Solution (1)

A workaround for each operating system has been previously released on the FAQ page, and is included on pp. 5-8 below.

Temporary Solution (2)

Although the font ROM will be modified as a permanent solution (details below), before this can be applied, the controller firmware has been modified on the following GW-based products:

Product	Firmware Version	Product	Firmware Version
Model-K3	1.01 (Controller)	Model-J P1b	2.18 (Controller)
Model-K P2	1.06.1 (Controller)	Model-J CF	1.11 (Printer Application)
Russian-C2	2.03 (Printer Application)	Model-U P1	2.20 (Printer Application)
Adonis-C2	3.09 (Printer Application)	Model-U C1	1.22 (Printer Application)
Model-A P3	1.08 (Controller)	Martini-C1	1.01 (Printer Application)

Specifically, the Euro currency symbol has been added along with the “PS fonts download” feature, which allows the symbol to be downloaded to machine RAM. Enable this feature by changing the setting of Bit SW#3-0 to “1 (ON)” in SP mode (default: OFF).

Remarks for Temporary Solution 2:

1. Switching PDL to PS takes approximate 7 to 10 seconds.

   When PS fonts download is enabled, the Euro symbol is temporarily downloaded to the machine RAM at the first PS printing job, and whenever the PDL is switched from RPCS or PCL to PS. The total download time is approximately 7 to 10 seconds. This is because once the data is downloaded, it will remain in the RAM until the PDL is switched or the power turned off.

2. Printing high image area documents at 1200 dpi may cause a memory overflow error in machines equipped only with 32MB of memory (ex. Model-K P2).

   This is because the PS fonts download feature uses approximately 800kB, which can bring the amount of available memory close to capacity with the above printing conditions.

   Workaround:

   - Printing at 600dpi may prevent an overflow, even with just the 32MB memory installed.
   - Changing the memory usage setting from “Frame Priority” to “Font Priority” may prevent an overflow.

Permanent Solution

Modification of the font ROM on the ROM DIMM or the Controller Board, from October ’02, production or later (details differ depending on the model). Specifically, the Euro currency symbol has been added to the 112 fonts mentioned above.

Note:

1. When the new ROM DIMM or Controller Board is installed, it is <u>not</u> necessary to disable the PS fonts download feature (temporary solution).
2. An MB will be issued separately announcing the P/N change for the ROMM DIMM and Controller Boards, and cut-in serial number.

ROM DIMM and Controller Board P/N:

Model	Where the font ROM is soldered	Current P/N	Model	Where the font ROM is soldered	Current P/N
Model-K P2	Controller	G0735712	Model-J CF	ROM DIMM	G5706687
		G0745712	Model-U P1	ROM DIMM	G0705851
Adonis-C2	ROM DIMM	B3615117	Model-U C1	ROM DIMM	B5295117
		B3625118			B4635117
Model-A P3	Controller	G0656022	Martini-C1	ROM DIMM	G3395117
		G0656023			G3385117
Russian-C2	ROM DIMM	B4615117	Model-K3	Controller	B5165750
		B4535117			
Model-J P1b	ROM DIMM	G0776120			

Font Table

	Euro symbol is printed correctly.
	This is a symbol font, so no countermeasure is applied.
	Both temporary and permanent solutions work to print out the Euro currency symbol correctly.

AlbertusMT	Helvetica	Univers
AlbertusMT-Italic	Helvetica-Bold	Univers-Bold
AlbertusMT-Light	Helvetica-BoldOblique	Univers-BoldExt
AntiqueOlive-Bold	Helvetica-Condensed	Univers-BoldExtObl
AntiqueOlive-Compact	Helvetica-Condensed-Bold	Univers-BoldOblique
AntiqueOlive-Italic	Helvetica-Condensed-BoldObl	Univers-Condensed
AntiqueOlive-Roman	Helvetica-Condensed-Oblique	Univers-CondensedBold
Apple-Chancery	Helvetica-Narrow	Univers-CondensedBoldOblique
Arial-BoldItalicMT	Helvetica-Narrow-Bold	Univers-CondensedOblique
Arial-BoldMT	Helvetica-Narrow-BoldOblique	Univers-Extended
Arial-ItalicMT	Helvetica-Narrow-Oblique	Univers-ExtendedObl
ArialMT	Helvetica-Oblique	Univers-Light
AvantGarde-Book	HoeflerText-Black	Univers-LightOblique
AvantGarde-BookOblique	HoeflerText-BlackItalic	Univers-Oblique
AvantGarde-Demi	HoeflerText-Italic	Wingdings-Regular
AvantGarde-DemiOblique	HoeflerText-Ornaments	ZapfChancery-MediumItalic
Bodoni	HoeflerText-Regular	ZapfDingbats
Bodoni-Bold	JoannaMT	
Bodoni-BoldItalic	JoannaMT-Bold	
Bodoni-Italic	JoannaMT-BoldItalic	
Bodoni-Poster	JoannaMT-Italic	
Bodoni-PosterCompressed	LetterGothic	
Bookman-Demi	LetterGothic-Bold	
Bookman-DemiItalic	LetterGothic-BoldSlanted	
Bookman-Light	LetterGothic-Slanted	
Bookman-LightItalic	LubalinGraph-Book	
Carta	LubalinGraph-BookOblique	
Chicago	LubalinGraph-Demi	
Clarendon	LubalinGraph-DemiOblique	
Clarendon-Bold	Marigold	
Clarendon-Light	MonaLisa-Recut	
CooperBlack	Monaco	
CooperBlack-Italic	NewCenturySchlbk-Bold	
Copperplate-ThirtyThreeBC	NewCenturySchlbk-BoldItalic	
Copperplate-ThirtyTwoBC	NewCenturySchlbk-Italic	
Coronet-Regular	NewCenturySchlbk-Roman	
Courier	NewYork	
Courier-Bold	Optima	
Courier-BoldOblique	Optima-Bold	
Courier-Oblique	Optima-BoldItalic	
Eurostile	Optima-Italic	
Eurostile-Bold	Oxford	
Eurostile-BoldExtendedTwo	Palatino-Bold	
Eurostile-ExtendedTwo	Palatino-BoldItalic	

Geneva	Palatino-Italic
GillSans	Palatino-Roman
GillSans-Bold	StempelGaramond-Bold
GillSans-BoldCondensed	StempelGaramond-BoldItalic
GillSans-BoldItalic	StempelGaramond-Italic
GillSans-Condensed	StempelGaramond-Roman
GillSans-ExtraBold	Symbol
GillSans-Italic	Tekton
GillSans-Light	Times-Bold
GillSans-LightItalic	Times-BoldItalic
Goudy	Times-Italic
Goudy-Bold	Times-Roman
Goudy-BoldItalic	TimesNewRomanPS-BoldItalicMT
Goudy-ExtraBold	TimesNewRomanPS-BoldMT
Goudy-Italic	TimesNewRomanPS-ItalicMT
	TimesNewRomanPSMT

Workaround Announced on the FAQ Page

Question:

Euro Fonts printing problem

Answer:

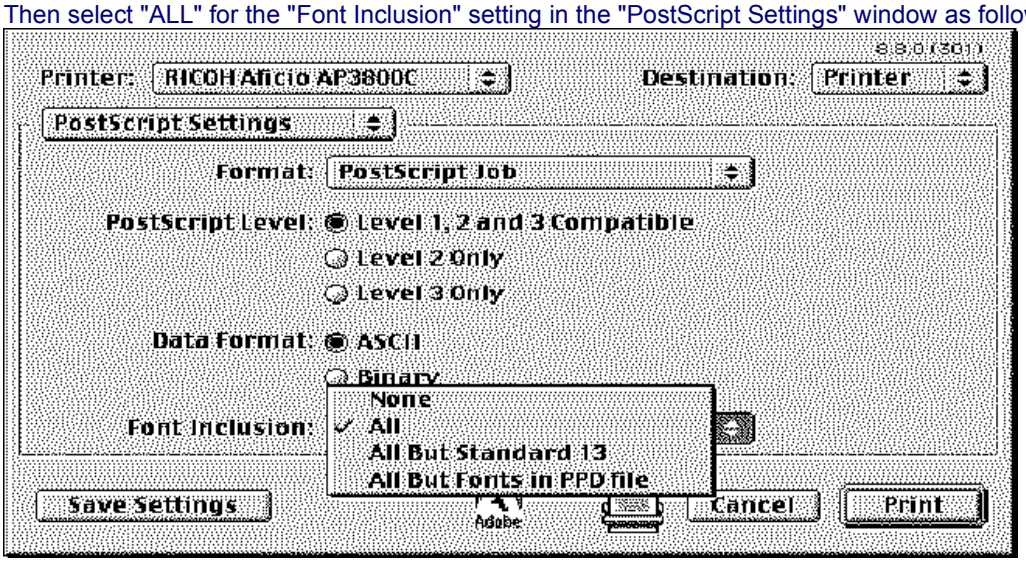
If Euro Fonts can't be printed by the PS driver, the following solutions may be effective.

Solution

MacOS 9.x / 8.x

Use the AdobePS 8.8 printer driver.
Get the printer driver from the Adobe site on the web.
http://www.adobe.com/support/downloads/product.jsp?product=44&platform=Macintosh

Then select "ALL" for the "Font Inclusion" setting in the "PostScript Settings" window as follows.



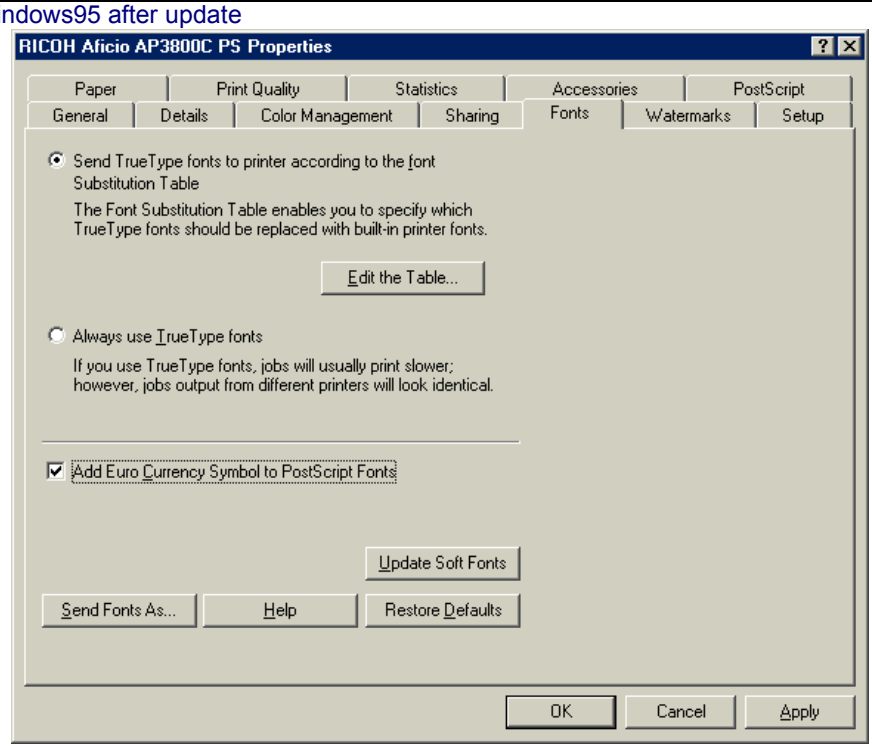
Windows 95

Update Windows95 to "Euro Currency Support for Windows95".
You can get it from the following URL.

http://www.microsoft.com/windows95/downloads/contents/WURecommended/S_WUFeatured/W95EuroPatch/Default.asp

Then the "Add Euro Currency Symbol to PostScript Fonts" check box is available.
Check "Add Euro Currency Symbol to PostScript Fonts". (Before update, the check box doesn't work.)

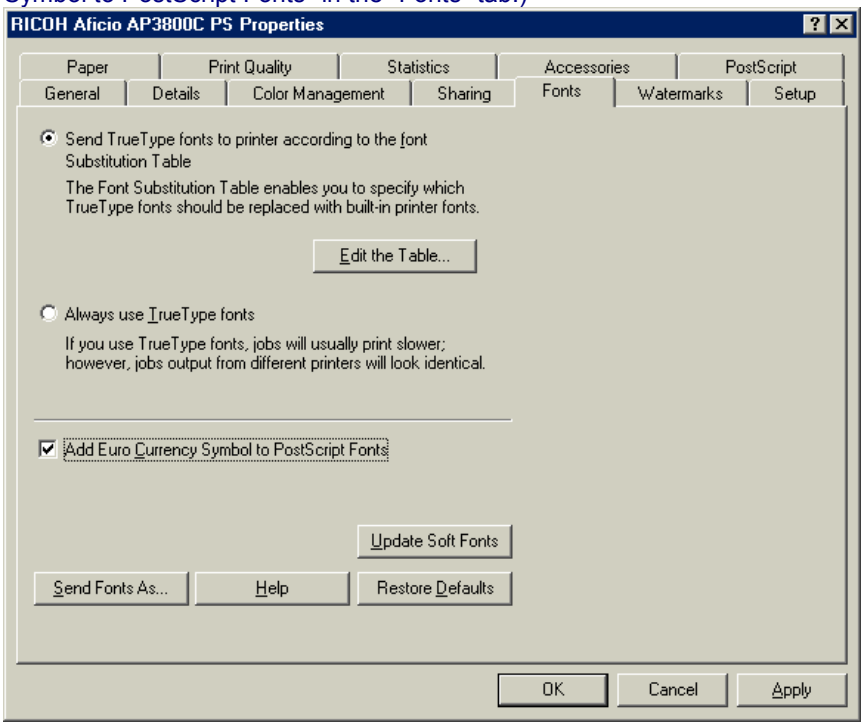
Windows95 after update



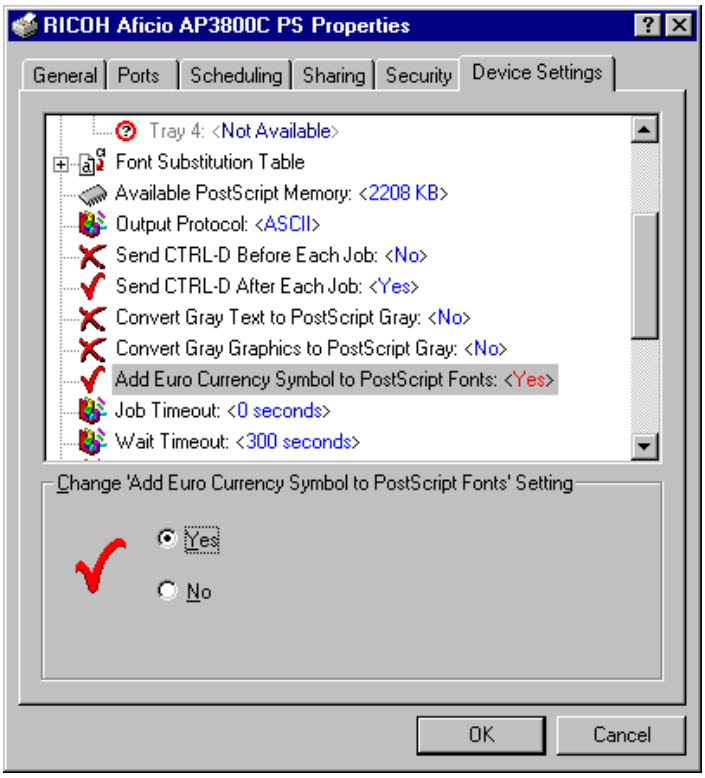
Windows 98 / ME / NT4.0 / XP

Check "Add Euro Currency Symbol to PostScript Fonts" .

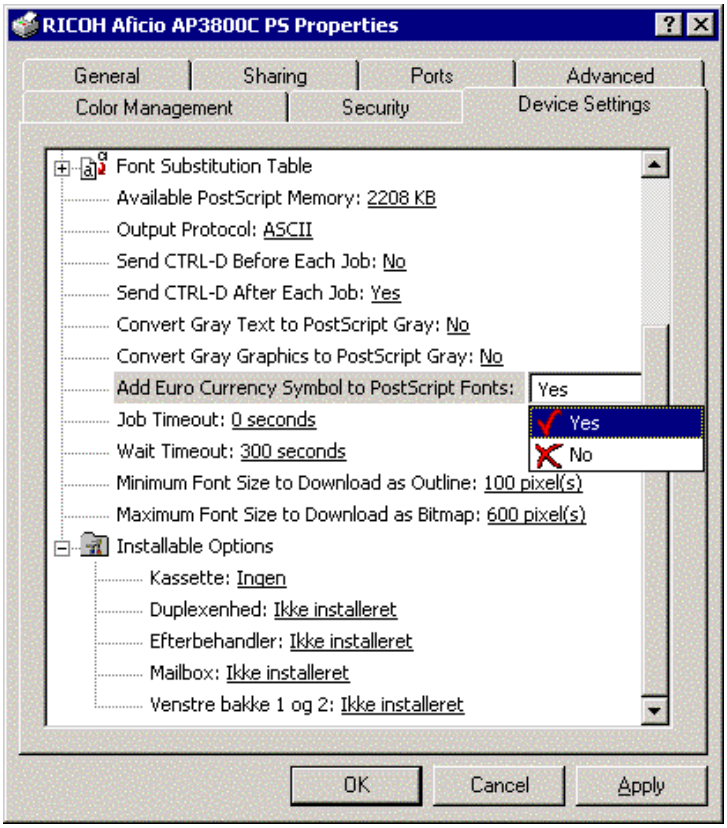
Windows 98 / ME (Note: The AdobePS driver version 4.3.1 or later has "Add Euro Currency Symbol to PostScript Fonts" in the "Fonts" tab.)



Windows NT4.0



Windows XP



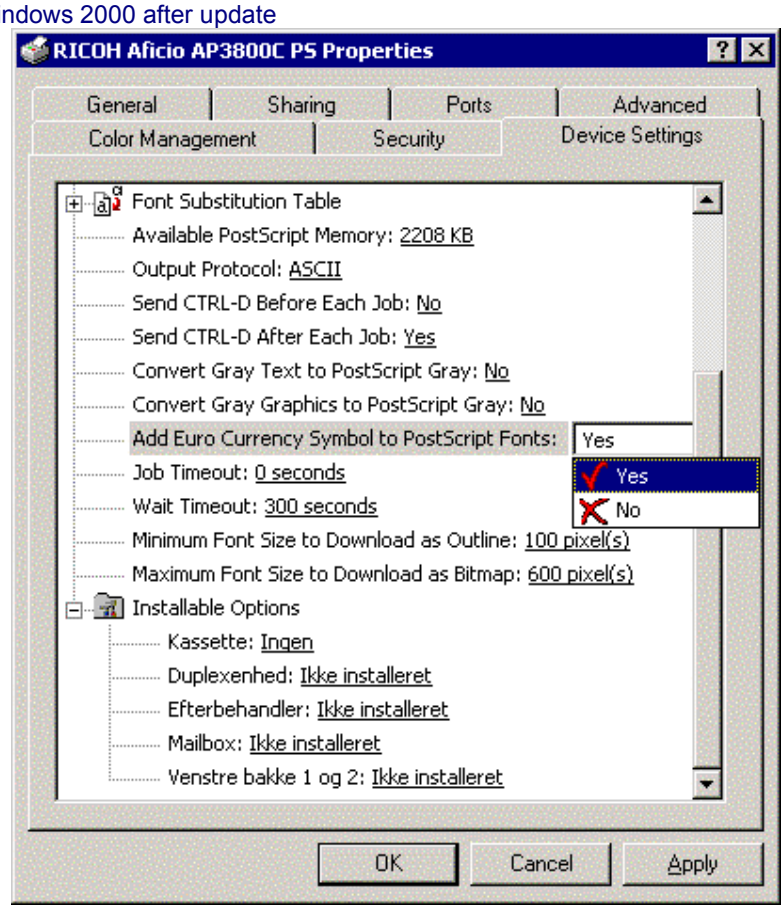
Windows 2000

Update the printer driver to v5.5.2 or later.
You can get it from the printer driver v1.0.6 on the Adobe web site that includes the W2000 driver v 5.5.2.

http://www.adobe.com/support/downloads/product.jsp?product=44&platform=Windows

Then the "Add Euro Currency Symbol to PostScript Fonts" check box is displayed.
Check "Add Euro Currency Symbol to PostScript Fonts".

Windows 2000 after update



Model: Model U-P1	Date: 20-Dec-02	No.: RG071001

Subject: Image Skew	Prepared by: H.K.
From: Technical Services sec. Service Planning Dept.	

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

SYMPTOM

Image skew when feeding from mainframe Tray 1.

Cause

The operator does not set the side fence flush against the paper stack.

Field Action 1

Advise customers that the side fence should be set flush against the loaded paper stack, or in cases where the customer gives approval, secure the side fences in place with two screws.
Note: The level of skew will increase twofold if there is a 1mm gap between the paper and side fence.

Field Action 2

As a supplement, the level of skew can be further minimized by increasing the paper buckle with SP1-003. Try adjusting this value several times while checking the level of skew on the printouts, keeping in mind that a higher value tends to cause Z-folds and a lower value tends to cause paper jams.

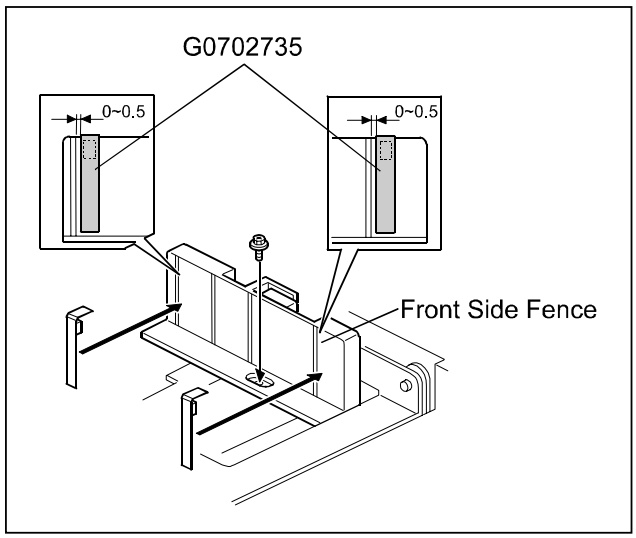
Field Action 3

The following sheets of Mylar have been added to the side fence from the September production machines. For the field machines, please refer to the procedure below.

Part number	Quantity	Description
G0702735	2/Tray	Guide Plate - Side Fence

Procedure

1. Clean the attachment surface on the Front Side Fence (AF016097) with alcohol.
2. Attach the Mylar (G0702735) to the Front Side Fence as shown in the illustration.



The following field machines require the Mylar to be attached:

August '02 production serial numbers are as follows.

G071-17: P75268xxxxx

11 units were shipped to US market as test marketing machines (PMO).

G071-27: P75268xxxxx

11 units were shipped to RDG fields as test marketing machines (PMO).

Model: General RTB	Date: 27-Dec-02	No.: RGene012

Subject: GW Products - Hardware Ethernet Problem	Prepared by: T. Itoh
From: Technical Services Sec. Service Planning Dept.	

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

SYMPTOM

When the main switch is turned on, the error message “Hardware Ethernet Problem” may be displayed under the following condition on the GW-based products.

Conditions:

- Network speed on the hub has been set to 100Mbps fixed with full duplex, and
- Length of network cable is too long (60 m or more) or the cable quality is not good enough

CAUSE

When the main switch is turned on, the machine performs a loop-back test. If the cable length is too long or its quality is not good enough, the damping factor for the data transmission becomes worse, and the machine incorrectly detects an error during this test. This happens only when the network speed is set to 100Mbps fixed with full duplex. The PHY chip used on the controller board causes this.

SOLUTION

- Temporary Solution -

- Set the network speed on the hub to Auto-sensing,
- Use a shorter cable or a cable with a lower damping factor, or
- Disconnect the network cable and power on the printer; then, set the cable after the printer comes to the ready condition.

- Permanent Solution -

The controller firmware will be modified to avoid the incorrect detection of this error message. The schedule of firmware modification is as follows.

Product Type	Product	Firmware Modification Cut-in Schedule
Fax	Kaiser 3	at next modification
Printer	Model-K P1	
	Model-K P2	
	Model-J P1b	
	Model-J CF	
	Model-U P1e	’03 January production run
	Model-A P3	’03 March production run
MFP	Model-R C2	at next modification run
	Model-A C2	
	Model-M C1	
	Model-U C1	’03 February production run

NOTE:
Firmware will be posted in the usual manner when it is released.

Model: Model U-P1	Date: 20-Jan-03	No.: RG071002

Subject: Service Manual — Prepared by: Y.Urushihara

From: Technical Services Sec. Service Planning Dept.

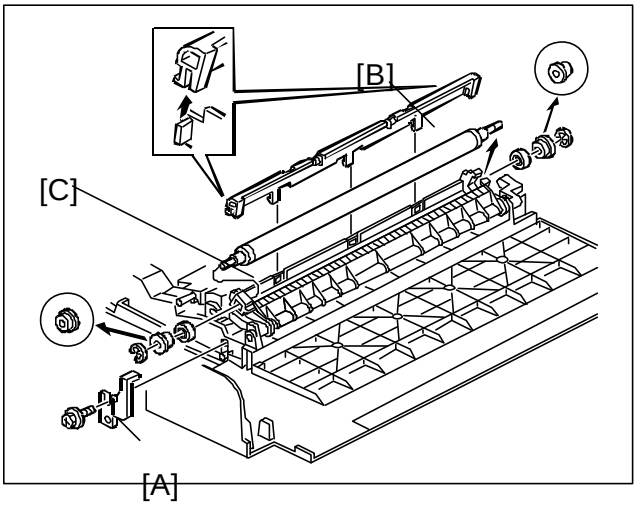
Classification:

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

Please apply the following correction to your Model U-P1 Service Manuals.

Page 3.23

The orientation of both bearings in the illustration below should be reversed.
Note: This is an illustration correction only. The procedure itself is unchanged.



3.8.2 TRANSFER ROLLER

1. Brace [A] (Screwx1)
2. Guide [B]
   Note: To remove the screws, turn the roller unit on its pivot.

3. Transfer roller [C]
   (E-ringx2, Bushing x2, Bearingx2)

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003

Subject: Firmware History - Main Unit Controller Prepared by: H.K.

From: Technical Services Sec. Service Planning Dept.

Classification:

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

This is to inform you of the Main Unit Controller firmware history.

Part No. G0705940	Program name	Version	C.SUM	Production
K	G0705941K.bin G0705940K.bin	V2.24	6E31 EF54	February Production '03
J		V2.22.1	-	January Production '03
H	-	V2.22	-	November Production '02
G	-	V2.21	-	Not applied to the production machines
F	-	V2.20	-	Not applied to the production machines
E	-	V2.19	-	Not applied to the production machines
D	-	V2.18	-	August production '02

Note for updating test marketing machines (PMO) firmware:

Default values of the fusing temperature (SP1-105), paper transfer currents (SP2-310-001 to SP2-314-032), and paper transfer adjustment (SP2-903-01) have been reviewed. When firmware is updated to V2.20 or later for the first time, please check these settings. If the settings are still old ones, please set the type to 0 and press the # key in SP2-905-01 and SP1-905-01. For details, please refer to the corrected symptom explanations in V2.20 and V2.18 (pp. 2, 3 below).

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating main unit controller firmware:

Whenever updating main unit controller firmware from v2.22.1 or earlier to v2.24 or later, please be sure to update the BICU firmware at the same time to v1.38 or later. The BICU firmware history is described in RTB No. RG071004.

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003

Main Unit Controller

Symptom Corrected	Version
SP1-105-01 (Fusing Temperature): Default for idling start changed from 145 to 140 (see SP mode table below).	V2.24
SP2-801-02 (Additional Value of the charge corona cleaning interval) has been newly added. The cleaning interval for the additional charge corona unit has been adjusted as shown. [0 ~ 5000 / **100** / 100 counts/step] With this new SP, it is possible to adjust the interval for charge corona cleaning in the middle of a job: Old: The charge corona cleaning is carried out after 600 (SP2-801-1) development counts, at job end or after 700 (no adjustment) development counts (stops in the middle of the job). After The charge corona cleaning is carried out after 600 (SP2-801-1) development counts, at job end or after 700 (= the sum of the settings in SP2-801-1 and -2) development counts (stops in the middle of the job).	
Hardware Ethernet Problem: For details, please refer to General RTB #RGene012.	V2.22.1
Selecting a HDD font or DIMM font may sometimes reduce available memory.	
Printing speed is sometimes low when printing an AutoCAD file.	
The machine may freeze during printing when using a certain application w/HDD font or DIMM font selection.	V2.22
Text characters may appear darker with a certain raster image.	
Graphics objects may appear darker when available memory is low.	
The wireless LAN card sometimes cannot communicate with the printer when the WEP key is ON.	
Translation corrections for some words in Polish and German.	V2.21
● SP1-905-01 (pressure roller type) has been newly added. **0 : new pressure roller type (2.1mm)**, 1 : old pressure roller type (1.5mm) This has been added due to the pressure roller modification applied to prevent fusing jams (wrapping around the pressure roller), whereby the layer thickness of the pressure roller was changed from 1.5 mm to 2.1mm from first production. **NOTE :** When updating from v2.19 or former to v2.20 or later, it is necessary to manually enter a value of 0 into this SP mode and then press #, which instructs the machine to use the new data for fusing control. ● Some default values of SP1-105 (Fusing Temperature) have been changed. See new default table below. (new settings input from August '02 production).	V2.20

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003

Symptom Corrected	Version
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** (old : 20) / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** (old : 40) / 1sheet/step]	
Euro symbol not printed with PS driver (for details, see General RTB No. RGene011).	
Minor bug corrections.	V2.19
First release.	V2.18
Display for SP5-945 (MidThickPaper) deleted, as this setting can be performed in User Tools.	
SP1-920-1 to 3 (PFMtrDelayTime) has been newly added (see table below).	
SP2-310 to 2-314: Some defaults have been changed (see table below).	
Default value of SP2-903 (PaperTrans_Low) has been changed from 8.0 to 1.0 to improve image quality in low-temperature and low-humidity conditions: Adjusts the paper transfer current applied when the machine is at low temperature. [0.0 ~ 70.0 / **1.0** / 0.1 µA/step]	
● SP2-905-01 (paper transfer roller type) has been newly added due to a shape modification to the paper transfer roller to increase transferability (from 1st production). **0: New paper transfer roller type** (Drum type), 1: Old paper transfer roller type (straight type) **NOTE:** When updating from v2.18 to v2.19 or later, please check to see that the new defaults for the following SPs have been applied (new default table below). <u>If they have not, set SP2-905-01 to a value of 0 and press #.</u> August production machines have the drum type installed, therefore it is not necessary to set this to 0 on these machines. ● Due to the paper transfer roller modification above, defaults have been changed for SP2-310-001 to SP2-314-032 (paper transfer current SPs), and SP2-903-01 (paper transfer adjustment).	
Default for SP2-943 (Discharge Threshold) has been changed from 17.0 to 15.0, and the minimum setting changed from 13.0 to 9.0. **Note:** As with all DFU SP modes, please do not adjust the setting. Adjusts the threshold of discharge. **DFU** [9.0 ~ 22.0 / **15.0** / 1.0 g/m^3/step]	

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003

SP1

New defaults (Old default)

920	PFMtrDelayTime		
	1	Tray:Plain	Adjusts the timing of the paper feed motor when the registration roller feeds the paper by the fusing motor. This adjusts the paper buckle at the registration by the start timing of the paper feed motor. Normally, the paper buckle is adjusted by SP1-003. It is not necessary to adjust in the the field. (The copier version has a clutch to control the timing. This adjustment is only for the printer model.) [0 ~ 50 / **15** / 5/step] **DFU**
	2	By-pass:Plain	
	3	Tray:SmallSize	[0 ~ 50 / **0** / 5/step] **DFU** (Small size: A4/LT or narrower)
105*	Fusing_Temp.		
	1	H: Pre	Sets the temperature at which the heating roller starts idling. [100 ~ 180 / **140** (145) / 1°C/step]
	2	H: _Ready	Sets the temperature at which the heating roller enters the print ready condition. [100 ~ 180 / **155** (165) / 1°C/step]
105*	3	H: _Standby	Sets the heating roller temperature for the ready (standby) condition. After the main switch has been turned on, the machine enters this condition when the heating roller temperature reaches the temperature specified in this SP mode. When the machine is recovering from energy saver or auto off mode, the machine becomes ready when both heat and pressure roller temperatures reach the specified temperature. Pressure roller: SP1-105-16 [100 ~ 180 / **160** (175) / 1°C/step]
	4	H: Plain/1C	Sets the heating roller temperature for plain paper in single-color mode. [120 ~ 190 / **155** (160) / 1°C/step]
	5	H: Plain/FC	Sets the heating roller temperature for plain paper in full-color mode. [120 ~ 190 / **160** (170) / 1°C/step]
	6	H: M-Thick/1C	Sets the heating roller temperature for medium thickness paper in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	7	H: M-Thick/FC	Sets the heating roller temperature for medium thickness paper in full-color mode. [120 ~ 190 / **170** (180) / 1°C/step]
	8	H: Thick/1C	Sets the heating roller temperature for thick paper in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	9	H: Thick/FC	Sets the heating roller temperature for thick paper in full-color mode. [120 ~ 190 / **170** (175) / 1°C/step]

	10	H:OHP/1C	Sets the heating roller temperature for OHP sheets in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	11	H: OHP/FC	Sets the heating roller temperature for OHP sheets in full-color mode. [120 ~ 190 / **175** (180) / 1°C/step]
	12	H: Duplex/1C	Sets the heating roller temperature for duplex printing (both sides) in single-color mode. [120 ~ 190 / **150** (155) / 1°C/step]
	13	H: Duplex/FC	Sets the heating roller temperature for duplex printing (both sides) in full-color mode. [120 ~ 190 / **155** (165) / 1°C/step]
	14	P: Pre	Sets the temperature at which the pressure roller starts idling. [**10** (30) ~ 100 / **10** (30) / 1°C/step]
	15	P: _Ready	Sets the temperature at which the pressure roller becomes ready for printing. [60 ~ 150 / **65** (80) / 1°C/step]
105*	16	P: _Standby	Sets the pressure roller temperature for the ready (standby) condition. After the main switch has been turned on, the machine enters this condition when the pressure roller temperature reaches the temperature specified in this SP mode. When the machine is recovering from energy saver or auto off mode, the machine becomes ready when both heat and pressure roller temperatures reach the specified temperature. Heating roller: SP1-105-3 [60 ~ 150 / **110** (120) / 1°C/step]
	27	H: OFFSET+	Sets the heating roller temperature correction for when room temperature is 15°C or lower. [0 ~ 20 / **5** / 1°C/step]
	28	P: OFFSET+	Sets the pressure roller temperature correction for when room temperature is 15°C or lower. [0 ~ 20 / **0** / 1°C/step]
	29	H: OFFSET–	Sets the heating roller temperature correction for when room temperature is 30°C or higher. [0 ~ 20 / **5** / 1°C/step]
	30	P: OFFSET–	Sets the pressure roller temperature correction for when room temperature is 30°C or higher. [0 ~ 20 / **0** / 1°C/step]

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003

SP2

New defaults (Old default)

310*	PaperTrans_LL1 (Paper Transfer LL1) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 0 < AH ≤ 3.5 (this is the 'LL1' humidity range) Adjust only if there are problems with insufficient transfer in the image area of the copy for a particular paper type or mode, or in response to field problems as directed by technical support staff. [0 ~ 70.0 / **25.0** (32.0) / 0.2 µA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **25.0** (34.0) / 0.2 µA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **25.0** (36.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **25.0** (39.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **25.0** (42.0 / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **26.0** (33.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **26.0** (35.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **26.0** (37.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **26.0** (40.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **26.0** (43.0) / 0.2 µA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **14.0** (16.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (19.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **16.0** (21.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **18.0** (24.0) / 0.2 µA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **20.0** (27.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **28.0** (38.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **30.0** (40.0**)** / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **28.0** (42.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **28.0** (43.0) / 0.2 µA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **28.0** (44.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **29.0** (39.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **31.0** (41.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **29.0** (44.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **29.0** (45.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **12.0** (16.0) / 0.2 µA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (19.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **20.0** (21.0) / 0.2 µA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **24.0** / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **28.0** (26.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **16.0** / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **20.0** (22.0) / 0.2 µA/step]
311*	PaperTrans_LL2 (Paper Transfer LL2) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 3.5 < AH ≤ 8.0 (this is the 'LL2' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **27.0** (36.0) / 0.2 µA/step]
311*	2	Nrml/1st/257-296	[0 ~ 70.0 / **28.0** (38.0) / 0.2 µA/step]

	3	Nrml/1st/210-256	[0 ~ 70.0 / **29.0** (40.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **28.0** (43.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **27.0** (46.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **28.0** (37.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **29.0** (39.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **30.0** (41.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **29.0** (44.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **28.0** (47.0) / 0.2 µA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **15.0** (20.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (21.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (23.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **16.0** (24.0) / 0.2 µA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **17.0** (26.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **28.0** (40.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **29.0** (45.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **29.0** (47.0) / 0.2 µA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **29.0** (50.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **29.0** (41.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **30.0** (44.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **30.0** (46.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **30.0** (48.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **30.0** (51.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **13.0** (20.0) / 0.2 µA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (24.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **19.0** (27.0) / 0.2 µA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (31.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **29.0** (34.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **17.0** (19.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **21.0** (26.0) / 0.2 µA/step]
312*	PaperTrans_NN1 (Paper Transfer NN1) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $80 < AH \leq 14$ (this is the 'NN1' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **28.0** (40.0) / 0.2 µA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (42.0) / 0.2 µA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **32.0** (44.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **31.0** (47.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **30.0** (50.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **29.0** (41.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (43.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **33.0** (45.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **32.0** (47.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **31.0** (51.0) / 0.2 µA/step]
312*	11	Thk/1st/-297	[0 ~ 70.0 / **15.0** (23.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (23.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]

	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **27.0** (42.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **28.0** (45.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **30.0** (48.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **30.0** (51.0) / 0.2 µA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **30.0** (55.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **28.0** (43.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **29.0** (46.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **31.0** (49.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **31.0** (52.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **31.0** (56.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (23.0) / 0.2 µA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (28.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **17.0** (32.0) / 0.2 µA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (37.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **30.0** (42.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **17.0** (22.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **21.0** (30.0) / 0.2 µA/step]
313*	PaperTrans_NN2 (Paper Transfer NN2) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $14 < AH \leq 19$ (this is the 'NN2' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **29.0** (36.0) / 0.2 µA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (38.0) / 0.2 µA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **31.0** (39.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **30.0** (40.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **28.0** (42.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **30.0** (37.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (39.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **32.0** (40.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **31.0** (41.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **16.0** (25.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (25.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (24.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **31.0** (45.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **33.0** (46.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **32.0** (48.0) / 0.2 µA/step]
313*	20	Nrml/2nd/-128	[0 ~ 70.0 / **31.0** (50.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **30.0** (44.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **32.0** (46.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **34.0** (47.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **33.0** (49.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **32.0** (51.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (28.0) / 0.2 µA/step]

	27	Thk/2nd/257-296	[0 ~ 70.0 / **15.0** (32.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **17.0** (36.0) / 0.2 µA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (41.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **29.0** (45.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **18.0** (23.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **22.0** (33.0) / 0.2 µA/step]
314*	PaperTrans_HH (Paper Transfer HH). The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 19 < AH (this is the 'HH' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **30.0** (32.0) / 0.2 µA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (33.0) / 0.2 µA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **30.0** (33.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **28.0** (34.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **26.0** (34.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **31.0** (33.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (34.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **31.0** (34.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **29.0** (35.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **27.0** (35.0) / 0.2 µA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **16.0** (26.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (25.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (25.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **30.0** (44.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **33.0** (44.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **36.0** (44.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **34.0** (44.0) / 0.2 µA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **32.0** (44.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **31.0** (45.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **34.0** (45.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **37.0** (45.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **35.0** (45.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **33.0** (45.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (28.0) / 0.2 µA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **15.0** (32.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **16.0** (36.0) / 0.2 µA/step]
314*	29	Thk/2nd/129-209	[0 ~ 70.0 / **22.0** (40.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **28.0** (44.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **18.0** (24.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **22.0** (36.0) / 0.2 µA/step]

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004
Subject: Firmware History - BCU (Engine)	Prepared by: H.K.	
From: Technical Services Sec. Service Planning Dept.		

Classification:

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

This is to inform you of the BCU firmware history.

Part No.	Program name			
G0705150		Version	C.SUM	Production
V	G0705150V.bin	V1.38	F699	February Production '03
T	-	V1.37		December Production '02
S	-	V1.36	-	November Production '02
R	-	V1.35	-	Not applied to the production machines
Q	-	V1.33	-	Not applied to the production machines
P	-	V1.32	-	August production '02

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating BCU firmware

Whenever updating BCU firmware from v1.37 or earlier to v1.38 or later, please be sure to update the main unit controller firmware at the same time to v2.24 or later. The main unit controller firmware history is described in RTB No. RG071003.

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004

BICU

Symptom Corrected	Version
Software changed so that oil end detection is not performed while the fusing unit is in operation, in order to prevent oil end misdetections caused by winter humidity (humidification).	V1.38
SP mode newly added: SP2-801-02 (Additional Value of the charge corona cleaning interval). Refer to RTB No. RG071003 for the main unit controller firmware history.	
SC687 misdetections sometimes occur when paper is loaded into the bypass tray after the bypass tray reaches paper end.	
The detection conditions for SC412 (2nd transfer disconnection) have been changed from 60ms to 240ms to prevent misdetections that can sometimes occur in low-temperature conditions.	
Minor bugs corrected.	V1.37
Misdetection of toner end and/or toner near end even when the toner cartridge still contains enough toner to continue printing.	V1.36
The paper end condition may not be detected even when the paper in the optional tray has run out.	
SP1-905-01 (pressure roller type) newly added. For details, please refer to the main unit controller firmware history (RTB No. RG071003).	V1.35
Detection conditions for SC560 (Zero cross error) have been changed as follows (upper limits eliminated, as they are unnecessary): Old: 50Hz: Machine detects less than 45Hz or greater than 54Hz. 60Hz: Machine detects less than 55Hz or greater than 64Hz. New: 50Hz: Machine detects less than 45Hz. 60Hz: Machine detects less than 55Hz.	
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** / 1sheet/step]	
Paper end is sometimes not detected even when the paper in the standard tray runs out.	
Minor bug corrections.	V1.33
First release.	V1.32

Model: Model U-P1	Date: 3-Feb-03	No.: RG071005

Subject: Firmware History - NIB	Prepared by: H.K.
From: Technical Services Sec. Service Planning Dept.	

Classification:

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

This is to inform you of the NIB firmware history.

Part No.	Program name			
G0705911	Network Support	Version	C.SUM	Production
J	G0705911J.bin	V3.74	6EB6	January Production 03'
I	-	V3.73	-	October Production '02
H	-	V3.72	-	August production '02

Symptom Corrected	Version
SC990 (Software perfomance error) may occur if continuous print jobs are sent using the LPR port when network traffic is very heavy.	V3.74
Software changed to support the new IC chip on the new wireless LAN option (old chip discontinued). Note: This version works with both the old and new IC chips.	V3.73
First release	V3.72

Reissued: 19-Mar-03

Model: General RTB	Date: 4-Feb-03	No.: RGene013b

RTB Reissue

The items in ***bold italics*** have been corrected or updated.

Subject: Service remarks at installation			Prepared by: T. Itoh
From: Technical Service Sec. Service Planning Dept.			
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other (Specification change)		

Please note the following change in counter specification. Although a production line modification will not be applied to some products, the action described in *4. Important Notes for Installation* below must be taken for **all products** at installation.

Overview:

Electronic counters will now be set to **0** when released from the factory, instead of being set to a negative value.

Background:

Previously, counters were set to a negative value when shipped from the factory, and later set to "0" at installation, following installation test copies/prints. However this may cause confusion among some customers as to why the counter value at the commencement of the contract is "0", even though some installation test copies have already been made.

Details:

1. Specification Change

	Specification
Current	• The initial value of the electrical counter is **negative** when products are shipped from the factory. **Note:** After making test samples at installation, the negative counter value can be set to "0" with SP mode.
New	• The initial value of the electrical counter is **"0"** when products are shipped from the factory. **Note:** After making test samples at installation, the (positive) counter value cannot be set back to "0" with SP mode.

2. Firmware Modification

Due to the counter modification, SP5-849 has also been changed as follows for products that have this SP mode (listed below).

	SP mode name:	Specification:
Current	Counter Clear Day	• When the electrical counter is changed **from a negative value to 0**, the machine recognizes this as the counter clear day and stores this date in the NVRAM.
New	Installation Date	• When the electrical counter **reaches a value of 20**, the machine recognizes this as the installation date and stores this date in the NVRAM.

NOTE: The following products have SP5-849. The new firmware for these products has not yet been released. However the release notes for each will clearly mention the new firmware version.

New products: Bellini-C2, Adonis C3
Current products: Martini C1, Model-U C1

3. Schedule for the Counter Modification

The following is the current schedule for when the counter modification will be applied. Please note that there are some models to which the change will not be applied (marked as "---"), due to production schedules, production lot quantities and sales figures.

NOTE: The actual cut-in months that have been confirmed appear in the "Cut-in production month" column below. This RTB will be reissued when these dates have been confirmed for the remaining products.

(1) New products

Product Name	Product Code	Target cut-in production month	Cut-in production month
Bellini C2	B070	2003.03	***April '03 production***
Adonis C3	B079/82	2003.03	First mass production lot
Model J-P2	G080	2003.03	***March '03 production***
Model J-P2 CF	G367	2003.03	***March '03 production***
Model AR- P1	G081/92	2003.03	***March '03 production***
Model K-C1a	B120	2003.03	***March '03 production***

Model: General RTB	Date: 4-Feb-03	No.: RGene013b

(2) Current products

Product Name	Product Code	Target cut-in production month	Cut-in production month
Digital B&W Copiers			
Bellini C1	A294	---	***---***
Martini C1	B064/65	2003.03	***April '03 production (see Note)***
Model M-C2b	B098	2003.03	***March '03 production***
Adonis C2	B003/04/06/07	---	***---***
Russian C2	B022/27/31	2003.03	February ***'03*** production
Model K-C1	B039/40/43	2003.03	***March '03 production***
Stella C1	B044/45/46/49	2003.03	***March '03 production***
Digital WF Copiers			
Dolphin	B010	2003.03	***March '03 production***
Analog Copiers			
All products	-	---	***---***
J2SS-C3	***B047/48***	***(See Note)***	***March '03 production***
Whale	***A174***		***March '03 production***
Color Copiers			
Model I2	B018	---	***---***
Model L2	B017	---	***---***
Model C2	B023	2003.02	February ***'03*** production
Model U-C1	B051/52	2003.03	***April '03 production***
Color Printers			
Model J-P1	G060	---	***---***
Model J-P1 CF	G570	---	***---***
Model U-P1	G071	2003.03	***March '03 production***
Pomelo P3	G063	2003.03	***March '03 production***

NOTE: The counter change will be applied as a running change to production units only. For machines already shipped out or in the field, please be sure to take the action described below in Section 4.

NOTE: ***For Martini-C1 mainframes assembled in Japan, the counter change will be applied from the first unit of April '03 production. For mainframes assembled at REI, the change will be applied midway through April production. These cut-in serial numbers will be announced as soon as they have been confirmed.***

NOTE: ***The change will also be applied to analog models J2SS-C3 and Whale, as production will continue for a while. However, as these models use only mechanical counters, the initial value when shipped from the factory will be 1 or 2 (not 0), following the 1 or 2 factory test copies.***

Model: General RTB	Date: 4-Feb-03	No.: RGene013b

4. Important Notes for Machine Installation – All Products

Please be sure to perform the following at machine installation:

1. If the product is from before the counter modification, i.e. the counter is at a negative value, be sure to set the counter value to 0 **first**, then make the installation test samples.

Digital products	Set the electrical counter to 0 with SP mode.
Analog products	Set the mechanical counter to 0 with a reset key (tool).

2. If the product is modified, i.e. the counter is already at 0 (or above 0 following pre-installation at a service depot), simply make the installation test samples.

3. After completing the installation, make sure to **record the counter value**. This is very important, as this value will be used for billing with Meter Click contracts. Also, inform the customer of the value along with the reason why the counter does not start from "0".

Reissued: 2-May-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004a

RTB Reissue

The items in bold italics have been added.

Subject: Firmware History - BCU (Engine)			Prepared by: H.K.
From: Technical Services Sec. Service Planning Dept.			
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other (Firmware History)		

BCU firmware history.

Part No.	Program name	Version	C.SUM	Production
G0705151				
	G0705151.bin	***V1.40***	***5FBA***	***April Production '03***
G0705150				
V	G0705150V.bin	V1.38	F699	February Production '03
T	-	V1.37		December Production '02
S	-	V1.36	-	November Production '02
R	-	V1.35	-	Not applied to the production machines
Q	-	V1.33	-	Not applied to the production machines
P	-	V1.32	-	August production '02

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to the US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating BCU firmware

Whenever updating BCU firmware from v1.37 or earlier to v1.38 or later, please be sure to update the main unit controller firmware at the same time to v2.24 or later. The main unit controller firmware history is described in RTB No. RG071003.

Reissued: 2-May-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004a

BICU

Symptom Corrected	Version
Minor bugs corrected.	***V1.40***
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). ***Note: These SP modes are not yet operational.***	
Software changed so that oil end detection is not performed while the fusing unit is in operation, in order to prevent oil end misdetections caused by winter humidity (humidification).	V1.38
SP mode newly added: SP2-801-02 (Additional Value of the charge corona cleaning interval). Refer to RTB No. RG071003 for the main unit controller firmware history.	
SC687 misdetections sometimes occur when paper is loaded into the bypass tray after the bypass tray reaches paper end.	
The detection conditions for SC412 (2nd transfer disconnection) have been changed from 60ms to 240ms to prevent misdetections that can sometimes occur in low-temperature conditions.	
Minor bugs corrected.	V1.37
Misdetection of toner end and/or toner near end even when the toner cartridge still contains enough toner to continue printing.	V1.36
The paper end condition may not be detected even when the paper in the optional tray has run out.	
SP1-905-01 (pressure roller type) newly added. For details, please refer to the main unit controller firmware history (RTB No. RG071003).	V1.35
Detection conditions for SC560 (Zero cross error) have been changed as follows (upper limits eliminated, as they are unnecessary): Old: 50Hz: Machine detects less than 45Hz or greater than 54Hz. 60Hz: Machine detects less than 55Hz or greater than 64Hz. New: 50Hz: Machine detects less than 45Hz. 60Hz: Machine detects less than 55Hz.	
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** / 1sheet/step]	
Paper end is sometimes not detected even when the paper in the standard tray runs out.	
Minor bug corrections.	V1.33
First release.	V1.32

Reissued: 7-May-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003a

RTB Reissue

The items in bold italics have been added or changed.

Subject: Firmware History - Main Unit Controller			Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.			
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other (Firmware History)		

Main Unit Controller firmware history.

Part No. G0705940	Program name	Version	C.SUM	Production
M	***G0705941M.bin G0705940M.bin***	***V2.26***	***211D FD70***	***April Production '03***
L	***G0705941L.bin G0705940L.bin***	***V2.25***	***FCB9 A00C***	***March Production '03***
K	G0705941K.bin G0705940K.bin	V2.24	6E31 EF54	February Production '03
J		V2.22.1	-	January Production '03
H	-	V2.22	-	November Production '02
G	-	V2.21	-	Not applied to the production machines
F	-	V2.20	-	Not applied to the production machines
E	-	V2.19	-	Not applied to the production machines
D	-	V2.18	-	August production '02

Note for updating test marketing machines (PMO) firmware:

Default values of the fusing temperature (SP1-105), paper transfer currents (SP2-310-001 to SP2-314-032), and paper transfer adjustment (SP2-903-01) have been reviewed. When firmware is updated to V2.20 or later for the first time, please check these settings. If the settings are still the old ones, please set the type to 0 and press the # key in SP2-905-01 and SP1-905-01. For details, please refer to the corrected symptom explanations in V2.20 and V2.18 (pp. 2, 3 below).

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to the US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003a

Note for updating main unit controller firmware:

Whenever updating main unit controller firmware from v2.22.1 or earlier to v2.24 or later, please be sure to update the BICU firmware at the same time to v1.38 or later. The BICU firmware history is in RTB No. RG071004.

Whenever updating the main unit controller firmware from v2.25 or earlier to v2.26 or later, please be sure to update the BICU firmware at the same time to v1.40 or later. The BICU firmware history is in RTB No. RG071004a.

Reissued: 7-May-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003a

Main Unit Controller

Symptom Corrected	Version
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). ***Note: These SP modes are not yet operational.***	***V2.26***
New SP mode added: SP2-803-01 (Charge Cleaning Off time). ***[0 ~ 200 / 60 / 10 seconds/step]*** ***Although a 60-second interval already exists for performing an idle discharge after corona wire cleaning, this new SP mode allows the interval to be adjusted. The idle discharge is to maintain an even charge wire surface, ensuring proper charging.***	
The new Wireless LAN card (produced from Dec '02) is sometimes unable to communicate with the PC after a certain interval when using 802.11adhoc mode. ***Note: This does not occur with 1) adhoc or infrastructure modes, or 2) previous Wireless LAN cards (produced up until Nov '02).***	***V2.25***

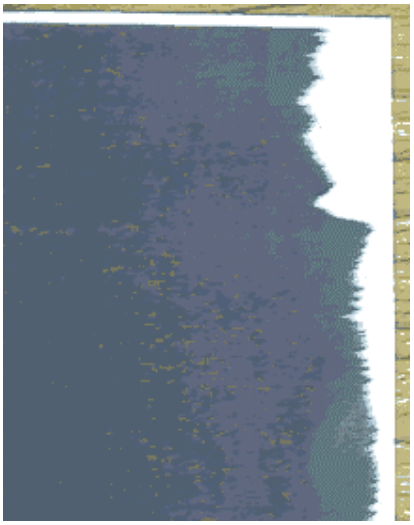
Model: Model U-P1	Date: 21-May-03	No.: RG071006

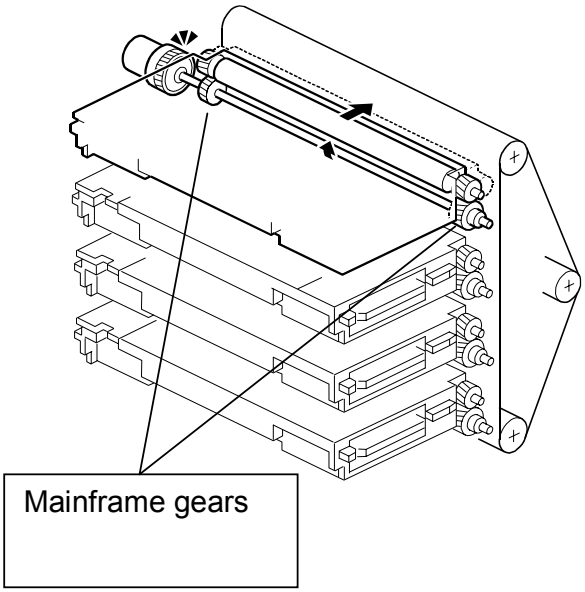
Subject: Blank area at the one side of the development unit	Prepared by: Y.Urushihara
From: 1st Tech. Support Sec. Service Support Dept.	

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

SYMPTOM

A blank area may appear on one side of the image (development unit front or rear).





CAUSE

The development unit front gears engage their mainframe counterparts slightly differently than the rear gears.

SOLUTION

Rotate the mainframe gears manually, removing the development unit(s) on which the symptom occurs, then reinstall the development unit(s).

Reissued: 17-Jun-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003b

RTB Reissue

The items in bold italics have been added or changed.

Subject: Firmware History - Main Unit Controller Prepared by: H.K.

From: 1st Tech. Support Sec. Service Support Dept.

Classification:

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

This is to inform you of the Main Unit Controller firmware history.

Part No. G0705940	Program name	Version	C.SUM	Production
N	***G0705941N.bin G0705940N.bin***	***V2.27***	***E37C 2774***	***April Production '03***
M	G0705941M.bin G0705940M.bin	V2.26	211D FD70	April Production '03
L	G0705941L.bin G0705940L.bin	V2.25	FCB9 A00C	March Production '03
K	G0705941K.bin G0705940K.bin	V2.24	6E31 EF54	February Production '03
J		V2.22.1	-	January Production '03
H	-	V2.22	-	November Production '02
G	-	V2.21	-	Not applied to the production machines
F	-	V2.20	-	Not applied to the production machines
E	-	V2.19	-	Not applied to the production machines
D	-	V2.18	-	August production '02

Note for updating test marketing machines (PMO) firmware:

Default values of the fusing temperature (SP1-105), paper transfer currents (SP2-310-001 to SP2-314-032), and paper transfer adjustment (SP2-903-01) have been reviewed. When firmware is updated to V2.20 or later for the first time, please confirm these settings. If the settings are still old ones, please set the type to 0 and press # key in SP2-905-01 and SP1-905-01. For details, please refer to the corrected symptom explanations in V2.20 and V2.18 (pp. 2, 3 below).

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Reissued: 17-Jun-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003b

Note for updating main unit controller firmware:

Whenever updating main unit controller firmware from v2.22.1 or earlier to v2.24 or later, please be sure to update the BICU firmware at the same time to v1.38 or later. The BICU firmware history is described in RTB No. RG071004.

Whenever updating the main unit controller firmware from v2.25 or earlier to v2.26 or later, please be sure to update the BICU firmware at the same time to v1.40 or later. The BICU firmware history is described in RTB No. RG071004a.

Reissued: 17-Jun-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003b

Main Unit Controller

Symptom Corrected	Version
To ensure proper printing quality, the default values for the following SP modes have been reviewed and some SP modes newly added. ***-SP3-920-001 (Lubrication Cleaning Time) ( ): old default*** ***[0 ~ 100 / 50 (100) / 1% /step]*** ***-SP2-941-001(OPC Lubricant Time – job end)*** ***[0 ~ 30 / 14 (20) / 1s /step]*** ***-SP3-921-001 (Lubricant Clutch OFF: 1C): Newly added*** ***-SP3-921-002 (Lubricant Clutch OFF: 2C/3C/4C): Newly added*** ***[0 ~ 11 / 6 / 1s /step]*** ***Allows the image transfer belt cleaning clutch off timing to be adjusted. The setting determines the number of seconds after image transfer belt cleaning roller charging that the clutch is turned off. With previous versions, the clutch is always running while the development roller motor rotates.*** ***-SP2-938-001 (OPC Reverse Interval): Newly added*** ***[0 ~ 100 / 10 / 10 counts /step]*** ***The main motor rotates the OPC belt backwards for 500 ms at the end of every job, in order to remove foreign particles between the OPC belt and OPC cleaning blade. However, this does not need to be performed so often. In addition, reducing the frequency of OPC belt reverse rotation improves the cleaning blade performance.*** ***This SP adjusts the counter for the OPC belt reverse rotation, and is incremented as follows:*** ***LT/A4 LEF or smaller: 1, larger than LT/A4 LEF: 2.*** ***When this SP reaches its set maximum, reverse rotation is performed for 500ms at job end.*** ***NOTE : Along with this main unit controller version, be sure to update the BICU firmware to v1.42 or later. For fetails, please refer to RTB #RG071007 (black faint images).***	***V2.27***
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). Note: These SP modes are not yet operational.	V2.26
New SP mode added: SP2-803-01 (Charge Cleaning Off time). [0 ~ 200 / 60 / 10 seconds/step] Although a 60-second interval already exists for performing an idle discharge after corona wire cleaning, this new SP mode allows the interval to be adjusted. The idle discharge is to maintain an even charge wire surface, ensuring proper charging.	
The new Wireless LAN card (produced from Dec '02) is sometimes unable to communicate with the PC after a certain interval when using 802.11adhoc mode. Note: This does not occur with 1) adhoc or infrastructurer modes, or 2) previous Wireless LAN cards (produced up until Nov '02).	V2.25

Reissued: 17-Jun-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003b

Symptom Corrected	Version
SP1-105-01 (Fusing Temperature): Default for idling start changed from 145 to 140 (see SP mode table below).	V2.24
SP2-801-02 (Additional Value of the charge corona cleaning interval) has been newly added. The cleaning interval for the additional charge corona unit has been adjusted as shown. [0 ~ 5000 / **100** / 100 counts/step] With this new SP, it is possible to adjust the interval for charge corona cleaning in the middle of a job: Old: The charge corona cleaning is carried out after 600 (SP2-801-1) development counts, at job end or after 700 (no adjustment) development counts (stops in the middle of the job). After The charge corona cleaning is carried out after 600 (SP2-801-1) development counts, at job end or after 700 (= the sum of the settings in SP2-801-1 and -2) development counts (stops in the middle of the job).	
Hardware Ethernet Problem: For details, please refer to General RTB #RGene012.	V2.22.1
Selecting HDD font or DIMM font may sometimes reduce available memory.	
Printing speed is sometimes low when printing an AutoCAD file.	
Machine may freeze during printing when using a certain application w/HDD font or DIMM font selection.	V2.22
Text characters may appear darker with a certain raster image.	
Graphics objects may appear darker when available memory is low.	
Wireless LAN card sometimes cannot communicate with the printer when the WEP key is ON.	
Translation corrections for some words in Polish and German.	V2.21
● SP1-905-01 (pressure roller type) has been newly added. **0 : new pressure roller type (2.1mm)**, 1 : old pressure roller type (1.5mm) This has been added due to the pressure roller modification applied to prevent fusing jams (wrapping around the pressure roller), whereby the layer thickness of the pressure roller was changed from 1.5 mm to 2.1mm from first production. **NOTE :** When updating from v2.19 or former to v2.20 or later, it is necessary to manually enter a value of 0 into this SP mode and then press #, which instructs the machine to use the new data for fusing control. ● Some default values of SP1-105 (Fusing Temperature) have been changed. See new default table below. (new settings input from August '02 production).	V2.20

Reissued: 17-Jun-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003b

Symptom Corrected	Version
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** (old : 20) / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** (old : 40) / 1sheet/step]	
Euro symbol not printed with PS driver (for details, see General RTB No. RGene011).	
Minor bug corrections.	V2.19
First release.	V2.18
Display for SP5-945 (MidThickPaper) deleted, as this setting can be performed in User Tools.	
SP1-920-1 to 3 (PFMtrDelayTime) has been newly added (see table below).	
SP2-310 to 2-314: Some defaults have been changed (see table below).	
Default value of SP2-903 (PaperTrans_Low) has been changed from 8.0 to 1.0 to improve image quality in low-temperature and low-humidity conditions: Adjusts the paper transfer current applied when the machine is at low temperature. [0.0 ~ 70.0 / **1.0** / 0.1 µA/step]	
● SP2-905-01 (paper transfer roller type) has been newly added due to a shape modification to the paper transfer roller to increase transferability (from 1st production). **0: New paper transfer roller type** (Drum type), 1: Old paper transfer roller type (straight type) **NOTE:** When updating from v2.18 to v2.19 or later, please check to see that the new defaults for the following SPs have been applied (new default table below). If they have not, set SP2-905-01 to a value of 0 and press #. August production machines have the drum type installed, therefore it is not necessary to set this to 0 on these machines. ● Due to the paper transfer roller modification above, defaults have been changed for SP2-310-001 to SP2-314-032 (paper transfer current SPs), and SP2-903-01 (paper transfer adjustment).	
Default for SP2-943 (Discharge Threshold) has been changed from 17.0 to 15.0, and the minimum setting changed from 13.0 to 9.0. **Note:** As with all DFU SP modes, please do not adjust the setting. Adjusts the threshold of discharge. **DFU** [9.0 ~ 22.0 / **15.0** / 1.0 g/m^3/step]	

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003b

SP1

New defaults (Old default)

920	PFMtrDelayTime		
	1	Tray:Plain	Adjust the timing of the paper feed motor when the registration roller feeds the paper by the fusing motor. This adjusts the paper backle at the registration by the start timing of the paper feed motor. Normally, the paper backle is adjusted by SP1-003. It is not necessary to adjust in the the field. (The copier version has clutch to controll the timing. This adjustment is only for printer model.) [0 ~ 50 / **15** / 5/step] **DFU**
	2	By-pass:Plain	
	3	Tray:SmallSize	[0 ~ 50 / **0** / 5/step] **DFU** (Small size: A4/LT or narrower)
105*	Fusing_Temp.		
	1	H: Pre	Sets the temperature at which the heating roller starts idling. [100 ~ 180 / **140** (145) / 1°C/step]
	2	H: _Ready	Sets the temperature at which the heating roller enters the print ready condition. [100 ~ 180 / **155** (165) / 1°C/step]
105*	3	H: _Standby	Sets the heating roller temperature for the ready (standby) condition. After the main switch has been turned on, the machine enters this condition when the heating roller temperature reaches the temperature specified in this SP mode. When the machine is recovering from energy saver or auto off mode, the machine becomes ready when both heat and pressure roller temperatures reach the specified temperature. Pressure roller: SP1-105-16 [100 ~ 180 / **160** (175) / 1°C/step]
	4	H: Plain/1C	Sets the heating roller temperature for plain paper in single-color mode. [120 ~ 190 / **155** (160) / 1°C/step]
	5	H: Plain/FC	Sets the heating roller temperature for plain paper in full-color mode. [120 ~ 190 / **160** (170) / 1°C/step]
	6	H: M-Thick/1C	Sets the heating roller temperature for medium thickness paper in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	7	H: M-Thick/FC	Sets the heating roller temperature for medium thickness paper in full-color mode. [120 ~ 190 / **170** (180) / 1°C/step]
	8	H: Thick/1C	Sets the heating roller temperature for thick paper in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	9	H: Thick/FC	Sets the heating roller temperature for thick paper in full-color mode. [120 ~ 190 / **170** (175) / 1°C/step]

	10	H:OHP/1C	Sets the heating roller temperature for OHP sheets in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	11	H: OHP/FC	Sets the heating roller temperature for the OHP sheets in full-color mode. [120 ~ 190 / **175** (180) / 1°C/step]
	12	H: Duplex/1C	Sets the heating roller temperature for duplex printing (both sides) in single-color mode. [120 ~ 190 / **150** (155) / 1°C/step]
	13	H: Duplex/FC	Sets the heating roller temperature for duplex printing (both sides) in full-color mode. [120 ~ 190 / **155** (165) / 1°C/step]
	14	P: Pre	Sets the temperature at which the pressure roller starts idling. [**10** (30) ~ 100 / **10** (30) / 1°C/step]
	15	P: _Ready	Sets the temperature at which the pressure roller becomes ready for printing. [60 ~ 150 / **65** (80) / 1°C/step]
105*	16	P: _Standby	Sets the pressure roller temperature for the ready (standby) condition. After the main switch has been turned on, the machine enters this condition when the pressure roller temperature reaches the temperature specified in this SP mode. When the machine is recovering from energy saver or auto off mode, the machine becomes ready when both heat and pressure roller temperatures reach the specified temperature. Heating roller: SP1-105-3 [60 ~ 150 / **110** (120) / 1°C/step]
	27	H: OFFSET+	Sets the heating roller temperature correction for when room temperature is 15°C or lower. [0 ~ 20 / **5** / 1°C/step]
	28	P: OFFSET+	Sets the pressure roller temperature correction for when room temperature is 15°C or lower. [0 ~ 20 / **0** / 1°C/step]
	29	H: OFFSET–	Sets the heating roller temperature correction for when room temperature is 30°C or higher. [0 ~ 20 / **5** / 1°C/step]
	30	P: OFFSET–	Sets the pressure roller temperature correction for when room temperature is 30°C or higher. [0 ~ 20 / **0** / 1°C/step]

Reissued: 17-Jun-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003b

SP2

New defaults (Old default)

310*	PaperTrans_LL1 (Paper Transfer LL1) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $0 < AH \leq 3.5$ (this is the 'LL1' humidity range) Adjust only if there are problems with insufficient transfer in the image area of the copy for a particular paper type or mode, or in response to field problems as directed by technical support staff. [0 ~ 70.0 / **25.0** (32.0) / 0.2 μA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **25.0** (34.0) / 0.2 μA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **25.0** (36.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **25.0** (39.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **25.0** (42.0 / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **26.0** (33.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **26.0** (35.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **26.0** (37.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **26.0** (40.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **26.0** (43.0) / 0.2 μA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **14.0** (16.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (19.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **16.0** (21.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **18.0** (24.0) / 0.2 μA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **20.0** (27.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **28.0** (38.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **30.0** (40.0**)** / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **28.0** (42.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **28.0** (43.0) / 0.2 μA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **28.0** (44.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **29.0** (39.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **31.0** (41.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **29.0** (43.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **29.0** (44.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **29.0** (45.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **12.0** (16.0) / 0.2 μA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (19.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **20.0** (21.0) / 0.2 μA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **24.0** / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **28.0** (26.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **16.0** / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **20.0** (22.0) / 0.2 μA/step]
311*	PaperTrans_LL2 (Paper Transfer LL2) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $3.5 < AH \leq 8.0$ (this is the 'LL2' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **27.0** (36.0) / 0.2 μA/step]
311*	2	Nrml/1st/257-296	[0 ~ 70.0 / **28.0** (38.0) / 0.2 μA/step]

	3	Nrml/1st/210-256	[0 ~ 70.0 / **29.0** (40.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **28.0** (43.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **27.0** (46.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **28.0** (37.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **29.0** (39.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **30.0** (41.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **29.0** (44.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **28.0** (47.0) / 0.2 µA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **15.0** (20.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (21.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (23.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **16.0** (24.0) / 0.2 µA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **17.0** (26.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **28.0** (40.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **29.0** (45.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **29.0** (47.0) / 0.2 µA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **29.0** (50.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **29.0** (41.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **30.0** (44.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **30.0** (46.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **30.0** (48.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **30.0** (51.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **13.0** (20.0) / 0.2 µA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (24.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **19.0** (27.0) / 0.2 µA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (31.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **29.0** (34.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **17.0** (19.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **21.0** (26.0) / 0.2 µA/step]
312*	PaperTrans_NN1 (Paper Transfer NN1) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $80 < AH \leq 14$ (this is the 'NN1' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **28.0** (40.0) / 0.2 µA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (42.0) / 0.2 µA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **32.0** (44.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **31.0** (47.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **30.0** (50.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **29.0** (41.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (43.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **33.0** (45.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **32.0** (47.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **31.0** (51.0) / 0.2 µA/step]
312*	11	Thk/1st/-297	[0 ~ 70.0 / **15.0** (23.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (23.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]

	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **27.0** (42.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **28.0** (45.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **30.0** (48.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **30.0** (51.0) / 0.2 µA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **30.0** (55.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **28.0** (43.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **29.0** (46.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **31.0** (49.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **31.0** (52.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **31.0** (56.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (23.0) / 0.2 µA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (28.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **17.0** (32.0) / 0.2 µA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (37.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **30.0** (42.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **17.0** (22.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **21.0** (30.0) / 0.2 µA/step]
313*	PaperTrans_NN2 (Paper Transfer NN2) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $14 < AH \leq 19$ (this is the 'NN2' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **29.0** (36.0) / 0.2 µA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (38.0) / 0.2 µA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **31.0** (39.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **30.0** (40.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **28.0** (42.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **30.0** (37.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (39.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **32.0** (40.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **31.0** (41.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **16.0** (25.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (25.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (24.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **31.0** (45.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **33.0** (46.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **32.0** (48.0) / 0.2 µA/step]
313*	20	Nrml/2nd/-128	[0 ~ 70.0 / **31.0** (50.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **30.0** (44.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **32.0** (46.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **34.0** (47.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **33.0** (49.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **32.0** (51.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (28.0) / 0.2 µA/step]

	27	Thk/2nd/257-296	[0 ~ 70.0 / **15.0** (32.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **17.0** (36.0) / 0.2 µA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (41.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **29.0** (45.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **18.0** (23.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **22.0** (33.0) / 0.2 µA/step]
314*	PaperTrans_HH (Paper Transfer HH). The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 19 < AH (this is the 'HH' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **30.0** (32.0) / 0.2 µA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (33.0) / 0.2 µA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **30.0** (33.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **28.0** (34.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **26.0** (34.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **31.0** (33.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (34.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **31.0** (34.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **29.0** (35.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **27.0** (35.0) / 0.2 µA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **16.0** (26.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (25.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (25.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **30.0** (44.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **33.0** (44.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **36.0** (44.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **34.0** (44.0) / 0.2 µA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **32.0** (44.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **31.0** (45.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **34.0** (45.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **37.0** (45.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **35.0** (45.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **33.0** (45.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (28.0) / 0.2 µA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **15.0** (32.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **16.0** (36.0) / 0.2 µA/step]
314*	29	Thk/2nd/129-209	[0 ~ 70.0 / **22.0** (40.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **28.0** (44.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **18.0** (24.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **22.0** (36.0) / 0.2 µA/step]

Reissued: 17-Jun-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004b

RTB Reissue

The items in bold italics have been added.

Subject: Firmware History - BCU (Engine) Prepared by: H.K.

From: Technical Services Sec. Service Planning Dept.

Classification:

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

This is to inform you of the BCU firmware history.

Part No.	Program name	Version	C.SUM	Production
G0705151				
	G0705151B.bin	***V1.42***	***D6E3***	***April Production '03***
	G0705151.bin	V1.40	5FBA	April Production '03
G0705150				
V T	G0705150V.bin -	V1.38 V1.37	F699	February Production '03 December Production '02
S	-	V1.36	-	November Production '02
R	-	V1.35	-	Not applied to the production machines
Q	-	V1.33	-	Not applied to the production machines
P	-	V1.32	-	August production '02

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating BCU firmware

Whenever updating BCU firmware from v1.37 or earlier to v1.38 or later, please be sure to update the main unit controller firmware at the same time to v2.24 or later. The main unit controller firmware history is described in RTB No. RG071003.

Reissued: 17-Jun-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004b

BICU

Symptom Corrected	Version
Modified in accordance with main unit controller v2.27 modificaiton. For details, please see RTB #RG071003b. ***NOTE : Along with this BICU version, be sure to update the main unit controller firmware to v2.27 or later. For details, please see RTB #RG071007 (black faint Images).***	***V1.42***
Minor bugs corrected.	V1.40
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). Note: These SP modes are not yet operational.	
Software changed so that oil end detection is not performed while the fusing unit is in operation, in order to prevent oil end misdetections caused by winter humidity (humidification).	V1.38
SP mode newly added: SP2-801-02 (Additional Value of the charge corona cleaning interval). Refer to RTB No. RG071003 for the main unit controller firmware history.	
SC687 misdetections sometimes occur when paper is loaded into the bypass tray after the bypass tray reaches paper end.	
The detection conditions for SC412 (2nd transfer disconnection) have been changed from 60ms to 240ms to prevent misdetections that can sometimes occur in low-temperature conditions.	
Minor bugs corrected.	V1.37
Misdetection of toner end and/or toner near end even when the toner cartridge still contains enough toner to continue printing.	V1.36
The paper end condition may not be detected even when the paper in the optional tray has run out.	
SP1-905-01 (pressure roller type) newly added. For details, please refer to the main unit controller firmware history (RTB No. RG071003).	V1.35
Detection conditions for SC560 (Zero cross error) have been changed as follows (upper limits eliminated, as they are unnecessary): Old: 50Hz: Machine detects less than 45Hz or greater than 54Hz. 60Hz: Machine detects less than 55Hz or greater than 64Hz. New: 50Hz: Machine detects less than 45Hz. 60Hz: Machine detects less than 55Hz.	
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** / 1sheet/step]	
Paper end is sometimes not detected even when the paper in the standard tray runs out.	
Minor bug corrections.	V1.33
First release.	V1.32

Model: Model U-P1	Date: 17-Jun-03	No.: RG071007

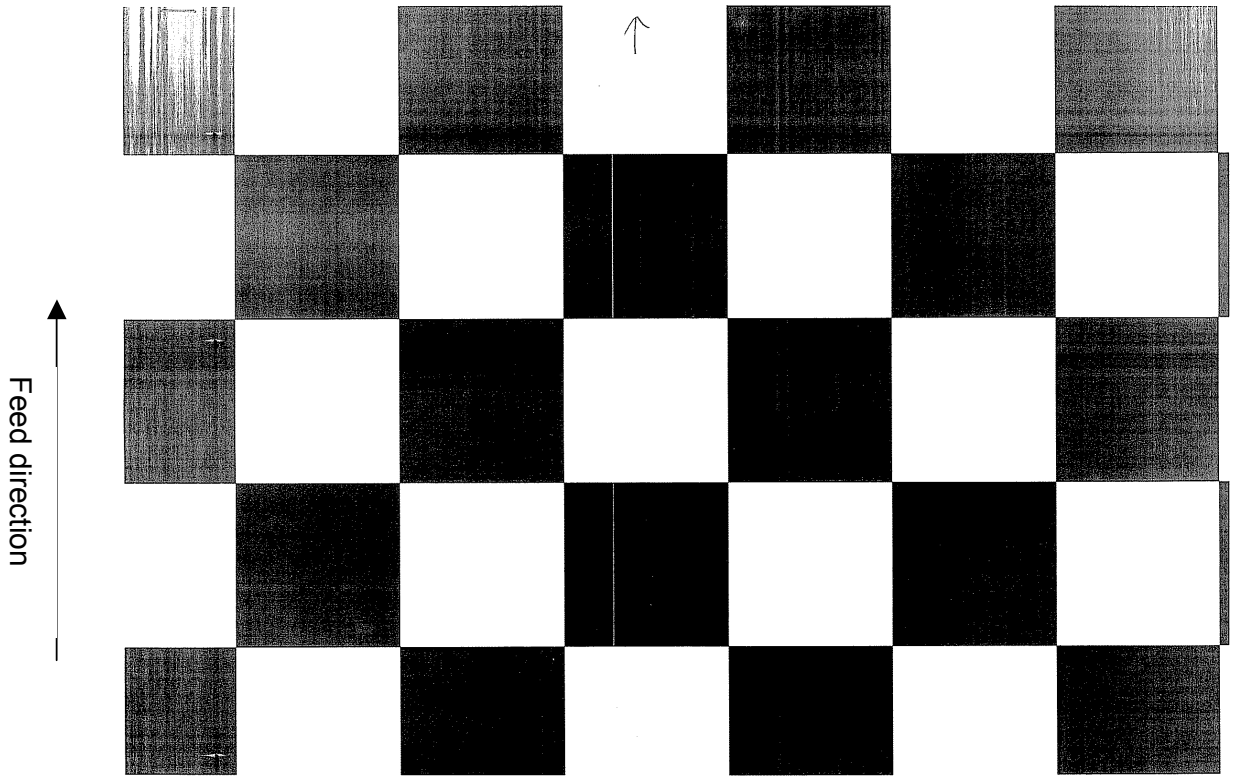
Subject: Black Faint Image	Prepared by: S. Tomoe
From: 1st Tech. Support Sec. Service Support Dept.	

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

1. SYMPTOM

Image density becomes lighter across the image, beginning from the leading edge and both sides. This is visible in solid image and halftone areas, and occurs more easily with:
1) B/W image areas
2) Originals with low image coverage ratios and
3) Jobs with a low quantity of sets (e.g. 1 or 2P/J)

Sample:



2. CAUSE

The lubricant applied to the OPC belt gets inside the black development unit via the development roller, causing the friction level on the roller surface to decrease. This makes it more difficult for the toner to be transferred onto the roller surface, causing the image to gradually get lighter.

Note: The symptom temporarily subsides when the toner cartridge is replaced and new toner is supplied to the hopper (concentration of lubricant in the unit is minimized). However it will recur when the above process repeats.

3. SOLUTION

1. When the symptom is reported:
   Please perform the following update and replacements, which will minimize the chances of symptom occurrence. The modified firmware reduces the amount of lubrication used on the OPC, which in effect minimizes the amount of lubrication that can get inside the development unit and toner cartridge.

   1) Update to the following modified firmware
      Note: These versions were applied from April '03 production (S/N list below).

      - Main Unit Controller ver**2.27** or later.
      - BCU ver**1.42** or later

      After updating the firmware, input the following default values manually.

SP No.	Description	Value
2-938-001 (New SP)	**OPC Reverse Interval**	**10**
2-941-001	**OPC Lubricant Time – Interrupt**	**14**
3-920-001	**Lubrication Cleaning Time**	**50**
3-921-001	**Lubricant Clutch OFF: 1C**	**6**
3-921-002	**Lubricant Clutch OFF: 2C/3C/4C**	**6**

   2) Replace the black development unit.

   3) Replace the black toner cartridge.
      Note: It is necessary to replace the toner cartridge since the lubricant also gets into the cartridge.

2. At EM visits made for another reason
   Update to the software listed above.

4. Cut-in Serial Numbers

Code	Serial Numbers
G071-17	P7536400358~
G071-22	P7536300073, P75364000236~0239, 0241~
G071-24	L104384001~
G071-27	P7536300185, 0256~0258, 0260~0272, 0276, 0279, 0285, 0290, 0292~0298, 0300~0305, 0307~0311, 0313, 0316, 0319, 0320, 0322, 0323, 0325, 0326, 0328, 0330~0335, 0339~0343, 0345, 0346, 0348~0352, 0355~0359, 0361, P7536400007, 0012, 0013, 0017, 0034, 0036, 0041, 0044, 0046, 0056, 0059, 0070, 0080~

Reissued: 7-Aug-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003c

RTB Reissue

The items in bold italics have been added or changed.

Subject: Firmware History - Main Unit Controller			Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.			
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other (Firmware History)		

This is to inform you of the Main Unit Controller firmware history.

Part No. G0705940	Program name	Version	C.SUM	Production
Q	***G0705941Q.bin G0705940Q.bin***	***V2.28.2***	***798D 3423***	***August Production '03***
P	***G0705941P.bin G0705940P.bin***	***V2.28***	***7B7C 80AF***	***June Production '03***
N	G0705941N.bin G0705940N.bin	V2.27	E37C 2774	April Production '03
M	G0705941M.bin G0705940M.bin	V2.26	211D FD70	April Production '03
L	G0705941L.bin G0705940L.bin	V2.25	FCB9 A00C	March Production '03
K	G0705941K.bin G0705940K.bin	V2.24	6E31 EF54	February Production '03
J		V2.22.1	-	January Production '03
H	-	V2.22	-	November Production '02
G	-	V2.21	-	Not applied to the production machines
F	-	V2.20	-	Not applied to the production machines
E	-	V2.19	-	Not applied to the production machines
D	-	V2.18	-	August production '02

Note for updating test marketing machines (PMO) firmware:

Default values of the fusing temperature (SP1-105), paper transfer currents (SP2-310-001 to SP2-314-032), and paper transfer adjustment (SP2-903-01) have been reviewed. When firmware is updated to V2.20 or later for the first time, please confirm these settings. If the settings are still old ones, please set the type to 0 and press # key in SP2-905-01 and SP1-905-01. For details, please refer to the corrected symptom explanations in V2.20 and V2.18 (pp. 2, 3 below).

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003c

Note for updating main unit controller firmware:

Whenever updating main unit controller firmware from v2.22.1 or earlier to v2.24 or later, please be sure to update the BICU firmware at the same time to v1.38 or later. The BICU firmware history is described in RTB No. RG071004.

Whenever updating the main unit controller firmware from v2.25 or earlier to v2.26 or later, please be sure to update the BICU firmware at the same time to v1.40 or later. The BICU firmware history is described in RTB No. RG071004a.

Reissued: 7-Aug-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003c

Main Unit Controller

Symptom Corrected	Version
Merged PCL job cannot print (TechMail#TS030100).	***V2.28.2***
1. The following SP modes have been added. ***For details, please refer to BICU firmware release note RB051004c: BICU v1.44A.*** ***SP2-400-008: Cleaning Bias LL1: OPC lubrication time*** ***SP2-401-008: Cleaning Bias LL2: OPC lubrication time*** ***SP2-402-008: Cleaning Bias NN1: OPC lubrication time*** ***SP2-403-008: Cleaning Bias NN2: OPC lubrication time*** ***SP2-404-008: Cleaning Bias HH: OPC lubrication time*** ***[0 to 2000/ 1400 / 10 Volt/step]*** ***2. Minimum value changed for SP2-941-01, -02 (OPC lubrication time).*** ***Minimum increased from 0 to 6:*** ***SP2-941-01: Job End: [6 ~ 30 / 14 / 1 s/step]*** ***SP2-941-02: OPC Lubrication Interval: [6 ~ 60 / 10 / 1 s/step]*** ***NOTE: Along with this main unit controller version, be sure to update the BICU firmware to v1.44A or later.***	***V2.28***

Reissued: 7-Aug-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004c

RTB Reissue

The items in bold italics have been added.

Subject: Firmware History - BCU (Engine)	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

This is to inform you of the BCU firmware history.

Part No.	Program name	Version	C.SUM	Production
G0705151				
	G0705151D.bin	***V1.45***	***A657***	***August Production '03***
	G0705151C.bin	***V1.44A***	***0C47***	***July Production '03***
	G0705151B.bin	V1.42	D6E3	April Production '03
	G0705151.bin	V1.40	5FBA	April Production '03
G0705150				
V	G0705150V.bin	V1.38	F699	February Production '03
T	-	V1.37		December Production '02
S	-	V1.36	-	November Production '02
R	-	V1.35	-	Not applied to the production machines
Q	-	V1.33	-	Not applied to the production machines
P	-	V1.32	-	August production '02

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating BCU firmware

Whenever updating BCU firmware from v1.37 or earlier to v1.38 or later, please be sure to update the main unit controller firmware at the same time to v2.24 or later. The main unit controller firmware history is described in RTB No. RG071003.

Reissued: 7-Aug-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004c

BCU

Symptom Corrected	Version
Eliminated unnecessary occurrences of SC420 (Fusing bias discharge error): ***SC420 will not be triggered when a leak occurs as a result of a small hole on the fusing belt surface, since from field experience it has been confirmed that belt lifetime is actually longer when the SC is not triggered in these conditions. If the leak should occur, instead of the SC the machine turns SP2-510 OFF (fusing bias SW), and the fusing bias is not applied until the fusing counter is cleared when the user replaces the unit or the SP is set back to ON.***	***V1.45***
1. Eliminated unnecessary occurrences of SC410 (2nd transfer electric leakage): ***SC410 tends to frequently occur when using paper with a high moisture content under high-temperature, high-humidity conditions when the resistance on the paper transfer roller is low. The roller current was previously lowered for mono-color mode (45% that of full color), which lowered the resistance and caused frequent occurrences. This version uses the color mode current for mono-color until job end to eliminate unecessary occurrences under the conditions described above.*** ***2. SP modes newly added (listed below).*** ***These SPs have been added to ensure proper (higher) transfer belt cleaning by applying the following bias voltages at job end (OPC lubrication time):*** ***SP2-400-008: Cleaning Bias LL1: OPC lubrication time*** ***SP2-401-008: Cleaning Bias LL2: OPC lubrication time*** ***SP2-402-008: Cleaning Bias NN1: OPC lubrication time*** ***SP2-403-008: Cleaning Bias NN2: OPC lubrication time*** ***SP2-404-008: Cleaning Bias HH: OPC lubrication time*** ***[0 to 2000/ 1400 / 10 Volt/step]*** ***3. Minimum value changed for SP2-941-01, -02 (OPC lubrication time). Minimum increased from 0 to 6:*** ***SP2-941-01: Job End: [6 ~ 30 / 20 / 1 s/step]*** ***SP2-941-02: OPC Lubrication Interval: [6 ~ 60 / 10 / 1 s/step]*** ***NOTE : Along with this BCU version, be sure to update the main unit controller firmware to v2.28 or later.***	***V1.44A***

Model: Model U-P1	Date: 25-Sep-03	No.: RG071008

Subject: Dirty spots on the prints	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

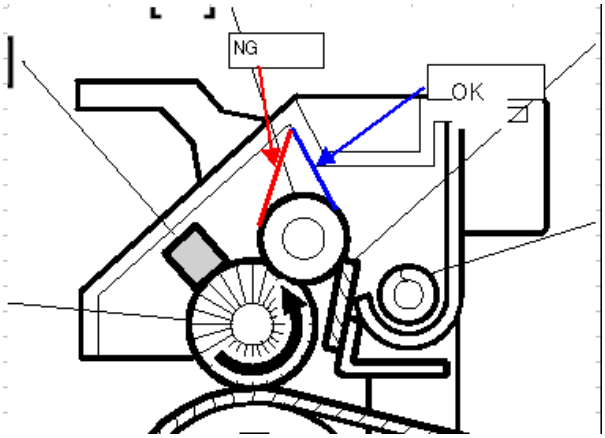
Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

SYMPTOM

Dirty spots appear during early stages of printing after installation (around 200 prints or so).

CAUSE

The Mylar next to the cleaning roller in the image transfer belt cleaning unit was placed in the opposite position. Refer to the following illustration. (Incorrect position: red, correct position: blue)



These machines were picked up for the QA sample check after they were produced in the production line. After the QA check, the cleaning unit was cleaned in the line. It is likely that the mylars were moved to the opposite position during cleaning the ITB cleaning unit. If the cleaning roller is rotated by turning the gear incorrectly during the cleaning stage, the mylar is then in the opposite position.

SOLUTION

In the production line

The instruction of the correct gear rotation has been added and an inspection process has been added to the cleaning procedure from February 12 production machines.

In the field

Replace the image transfer belt cleaning unit (G0706300: Belt Cleaning Assembly).

Model: Model U-P1	Date: 25-Sep-03	No.: RG071009

Subject: Gears on the Development Shaft	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

SYMPTOM

Almost all white copies & prints, or light image for one or more of YMCK colors.

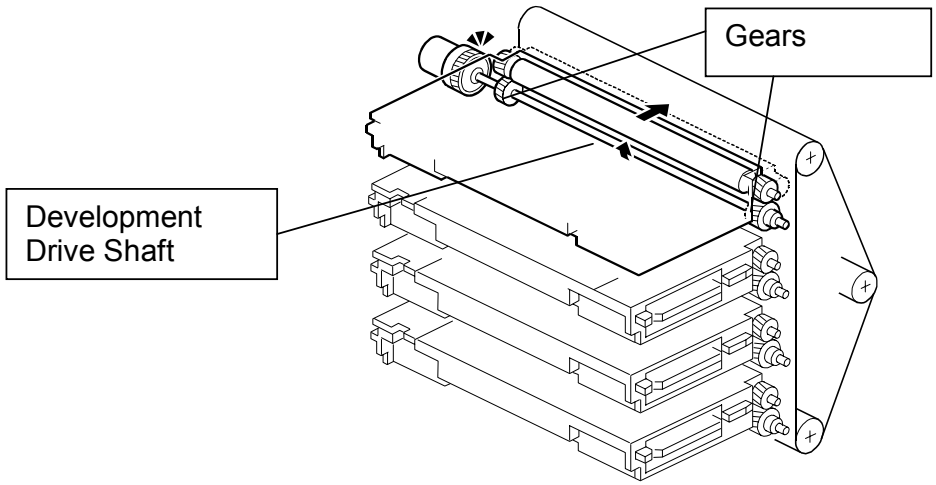
CAUSE

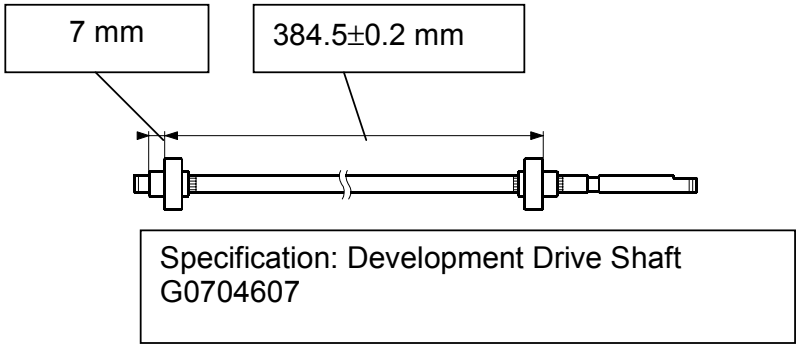
The gear on development drive shaft shifts due to production line errors. Specifically:

- Diameter of the gear shafts 0.04mm smaller than specification minimum.
- Gear rotational torque (0.5kgf) much lower than specification minimum (10kgf)

The gear on the development shaft shifts when the development drive is supplied.

The manufacturer reported that they normally perform surface grinding if dirt or other materials or scratches are detected on the shaft. This can cause the diameter to be reduced to below spec minimum.





Specification: Development Drive Shaft
G0704607

SOLUTION

In the field

Replace the development shaft with the spare part (G0704607: Development Shaft - FC).

Note: We estimate the occurrence ratio is very low according to the investigation results in the factory and by the manufacturer.

In the production line

Temporary solution: From July 17 production

1. Shaft diameters checked to make sure only those within specification are used.

2. Gear rotational torque measured to make sure only those within specification are used.

Permanent:

1) When materials or scratches are detected on the surface, the shaft is not used (no grinding/polishing).

2) The factory continues to check the parts produced with the temporary countermeasure above.

Model: Model U-P1	Date: 28-Oct-03	No.: RG071010

Subject: Skew Image Adjustment Procedure	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

Please use this RTB as a troubleshooting guide for skewed, trapezoid and parallelogram images.

Correcting Skewed, Parallelogram, and Trapezoid Images

Model U-P1

Contents

1. VISUAL DIFFERENCES BETWEEN SKEWED, TRAPEZOID AND PARALLELOGRAM IMAGES 1
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1.3 PARALLELOGRAM IMAGES 2

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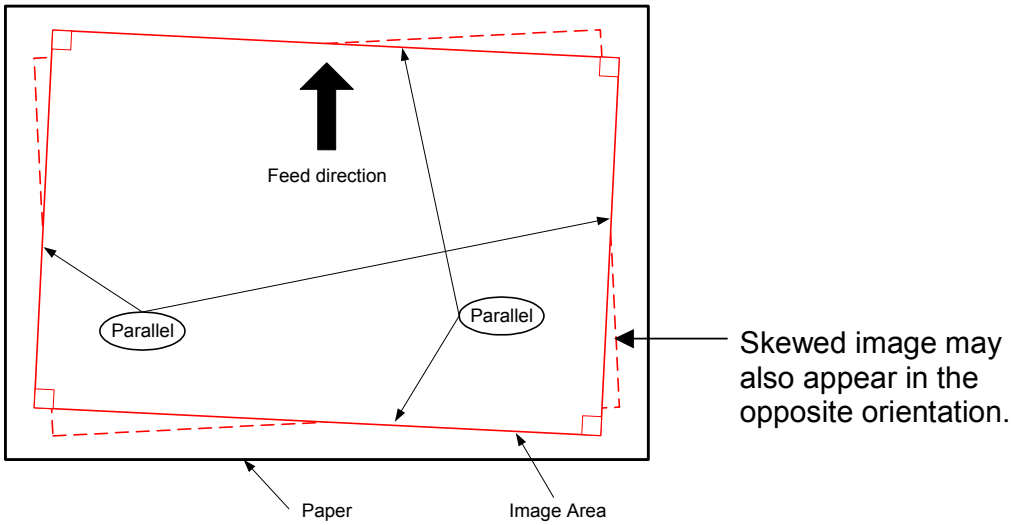
1. VISUAL DIFFERENCES BETWEEN SKEWED, TRAPEZOID AND PARALLELOGRAM IMAGES

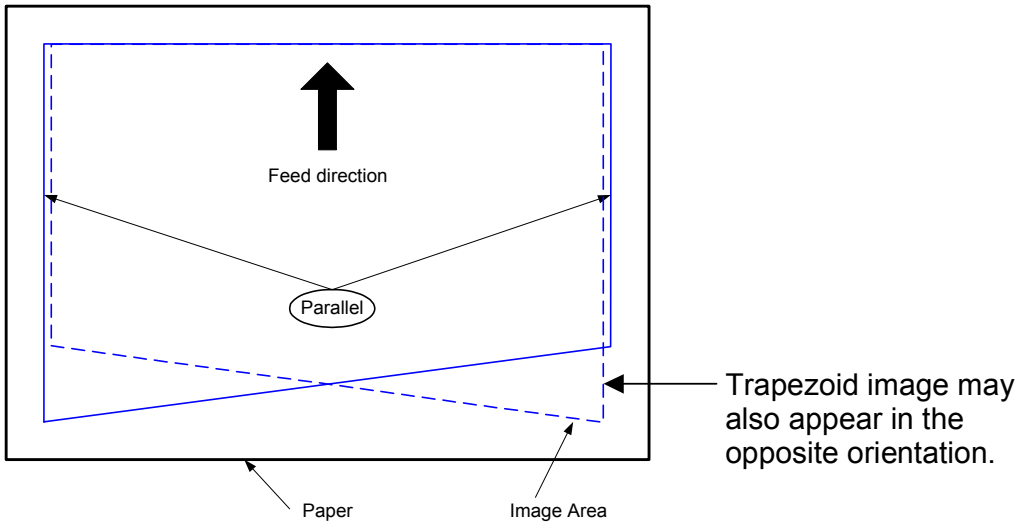
1.1 SKEWED IMAGES

- The image's leading and trailing edges are parallel to one another.
- The image's left and right edges are also parallel.
- However, **all four sides** are slanted with respect to the paper's edge.



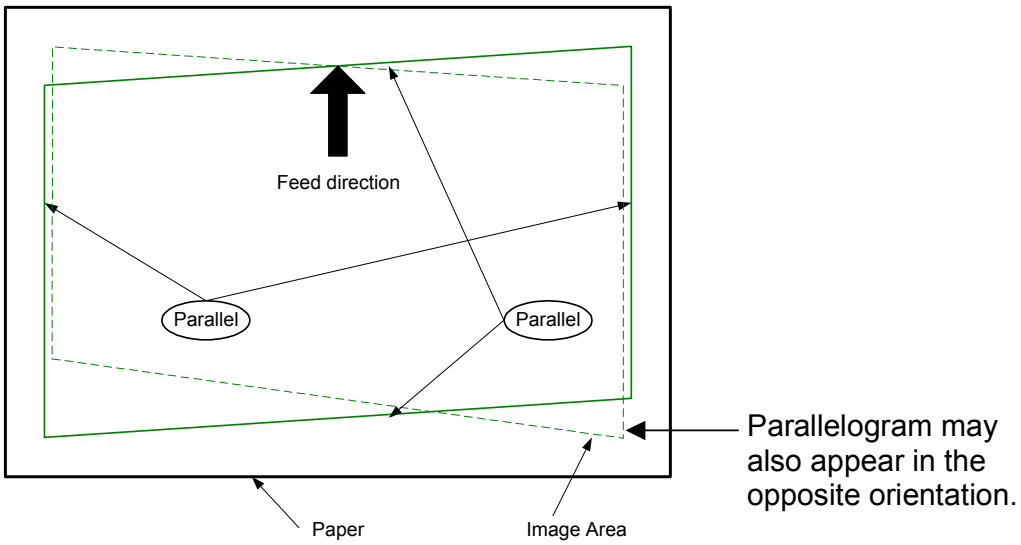
1.2 TRAPEZOID IMAGES

- Only the image's **trailing edge** is slanted with respect to the paper. The remaining 3 sides are parallel to the paper's edges.



1.3 PARALLELOGRAM IMAGES

- Like skewed images, the leading/trailing edges and left/right edges are parallel to each other, but here, the **leading and trailing edges** are both slanted with respect to the paper's edge.



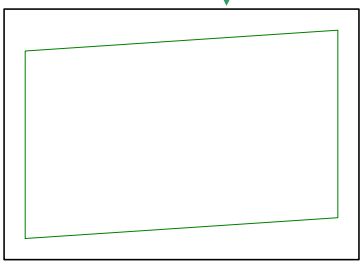
2. CHECKING THE IMAGE WITH THE TRIMMING PATTERN

Print out 5, A3 Trimming Patterns from SP5-955 (value: 11)

Skewed

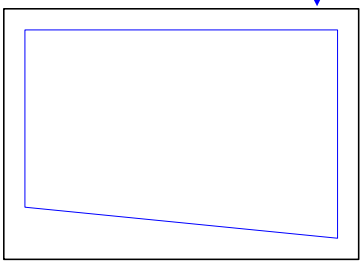
See *Adjusting Skewed Images*, **page 4** below.

Parallelogram



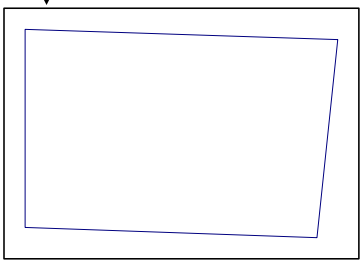
See adjusting *Parallelogram Image Adjustment,* page 9 below.

Trapezoid



See *Adjusting Trapezoid Images*, **page 4** below.

Combination skewed and trapezoid image

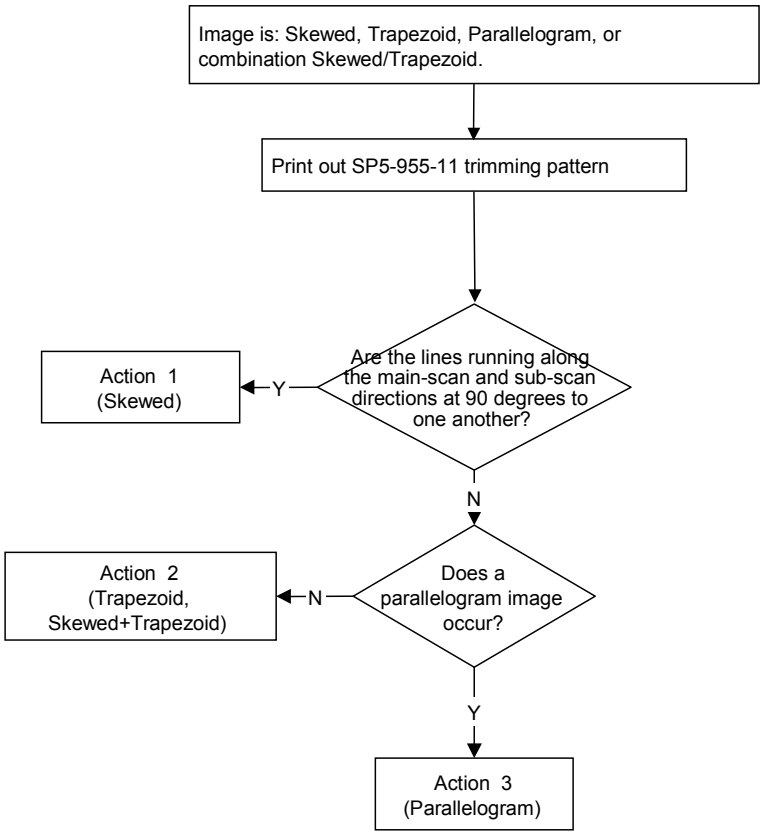


Perform *Adjusting Trapezoid Images* first, then *Adjusting Skewed Images.*

3. CORRECTING THE IMAGES

3.1 FLOWCHART

Please use the following flowchart to correct skewed, parallelogram, and trapezoid images as described on page 3.



ACTION

Action 1 (skewed image of trimming pattern)

Perform the Solution described in RTB No. RG071001.

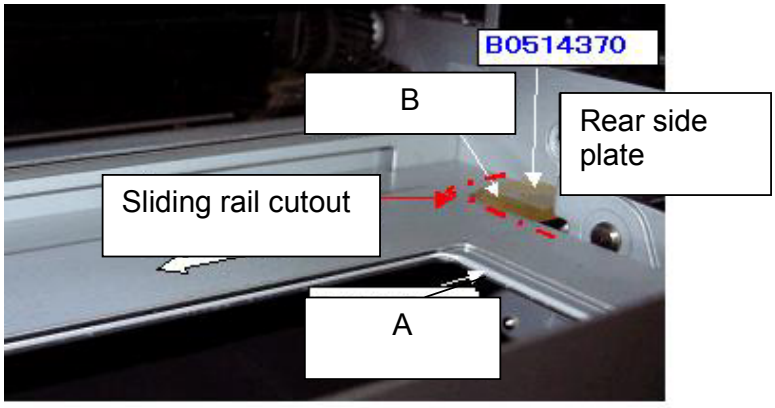
Action 2 (trapezoid image or skewed + trapezoid image of trimming pattern)

Attach the following two spacers to the fusing rail and fusing unit as shown below.
Applied from: May 2003 production.

Part number	Description	Attachment Location	Remarks
B0514370	Rail spacer - 18.5X19.5X3.3	Fusing rail	
B0514371	Lower pressure spacer	Fusing unit	

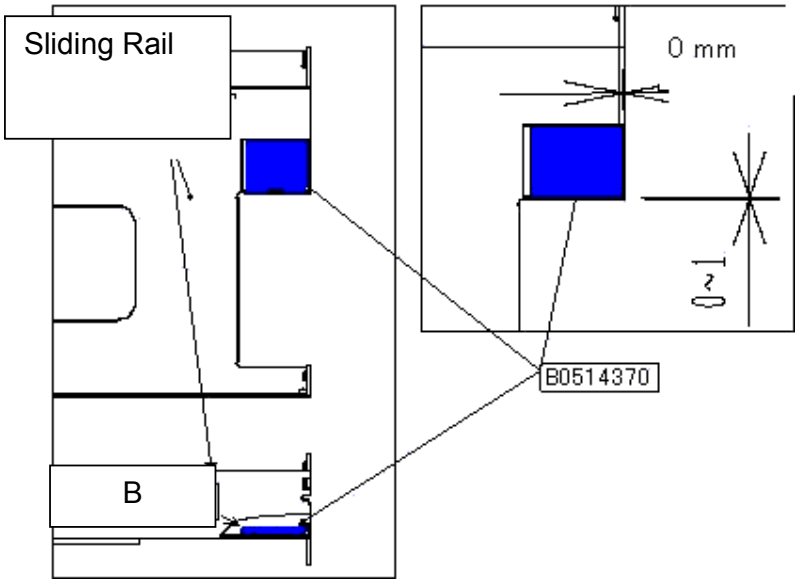
Attaching the Spacer to the Fusing Rail

1. Remove the fusing unit.
2. Clean the attachment area for the rail spacer with alcohol.
3. Attach the rail spacer (B0514370) to the rear of the non-sliding fusing rail [A] so that the tapered side [B] is facing the front.



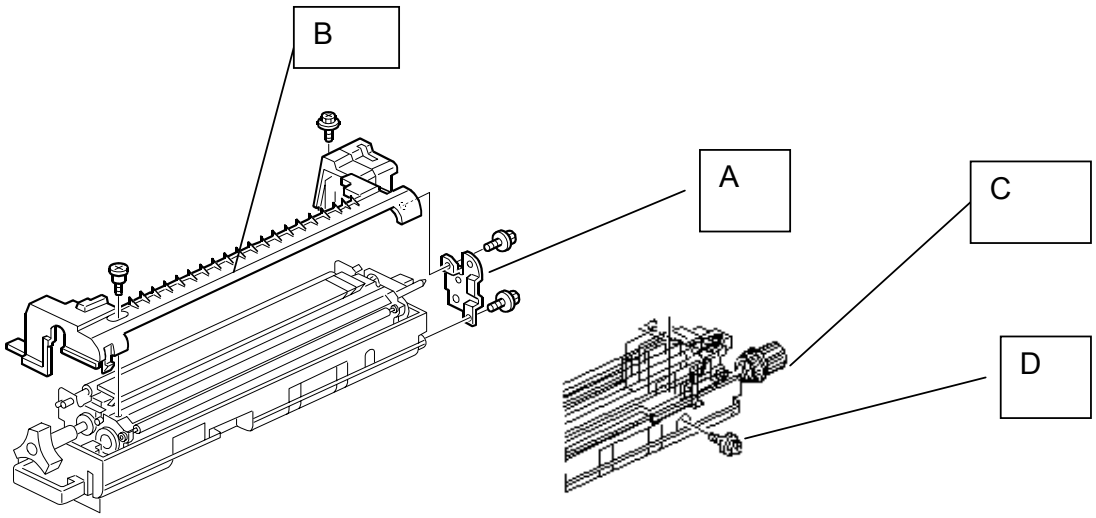
Note:

1. The actual color of the B0514370 service part rail spacer is black.
2. After attaching the spacer, move the fusing unit along the rail to make sure the spacer does not interfere with the rail.



Attaching the Spacer to the Fusing Unit

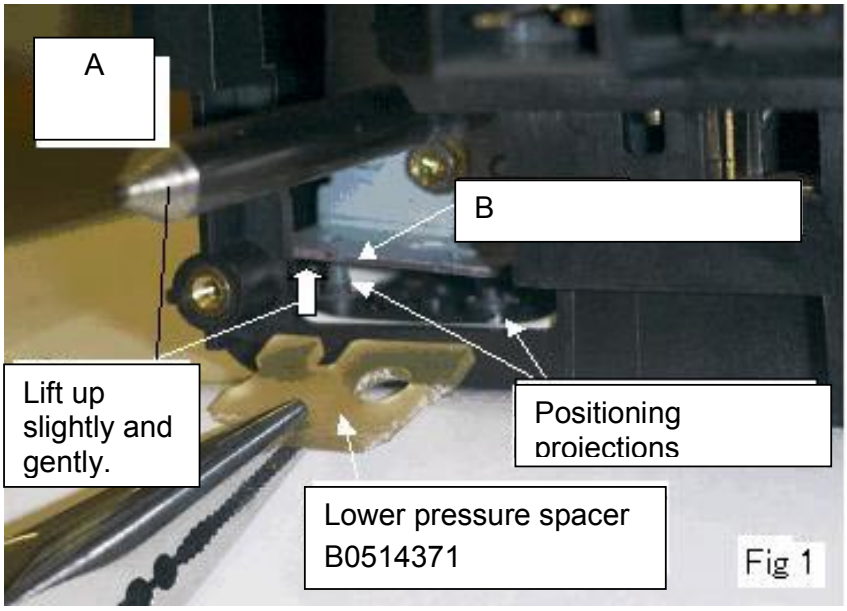
1. Remove the fusing unit. Then, remove the oil supply unit.
2. Remove the gear bracket [A] (2 screws).
3. Remove the upper cover [B] (2 screws, 1 shoulder screw).
4. Remove the drive gear [C].
5. Remove the pressure side plate securing screw (rear side only) [D].



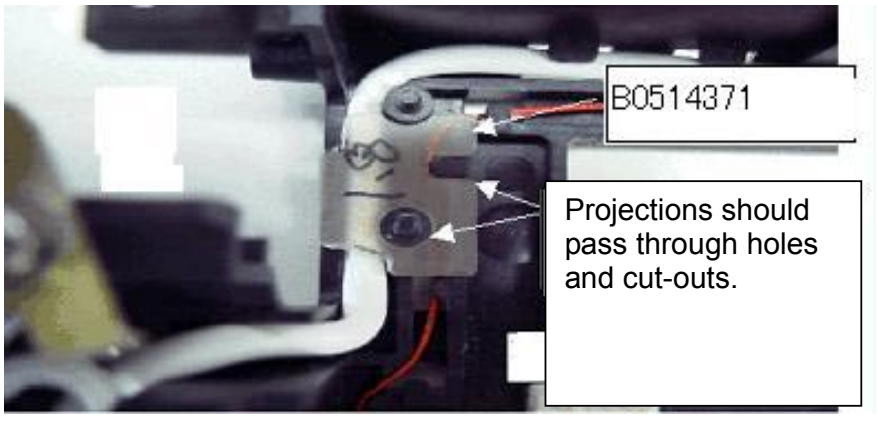
Important: In the next step, be sure and lift up the shaft **slowly and gently**. If it is lifted up too quickly or with too much force, the fusing lamp will be damaged.

6. Lift up the shaft [A] very gently, just enough so that the lower pressure spacer can be inserted. While holding the shaft up, insert the lower pressure spacer (B0514371) between the pressure side plate [B] and lower cover.

   Note: Insert the spacer so that the positioning projections can pass through the hole and cut-outs in the spacer (see the illustrations below).



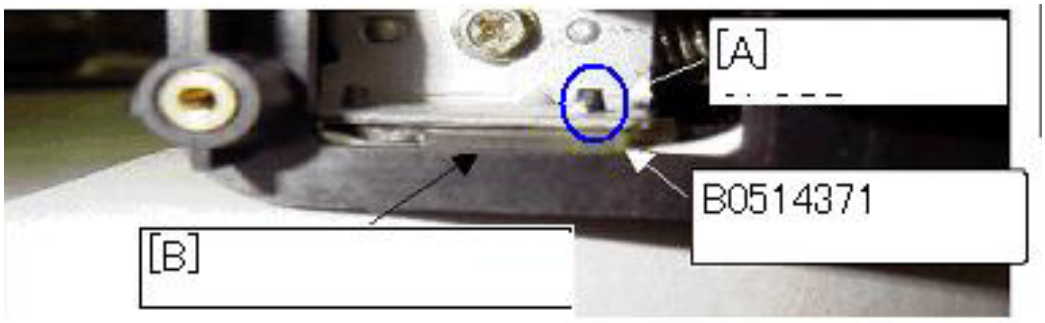
Bird's eye view of Fig.1 above:



Important: Confirm the following after attachment

Make sure that:

- Positioning projection [A] is visible
- The edge of the lower pressure spacer (B0514371) is aligned with the lower cover edge [B], i.e. not positioned inside or projecting out from the cover edge.

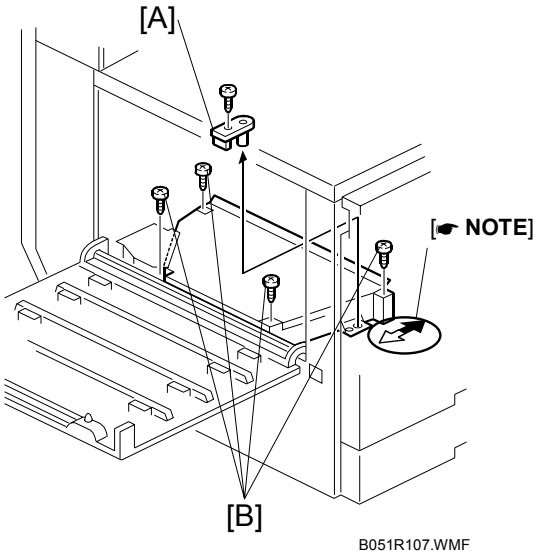


Action 3 (parallelogram image of trimming pattern)

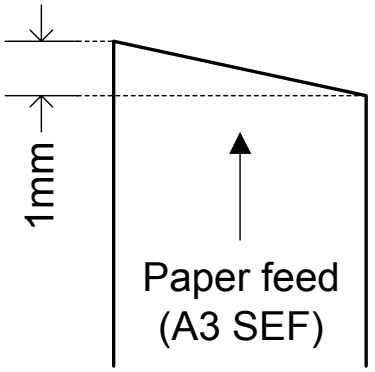
Adjust the position of the laser optics-housing unit as described in the Service Manual, pg. 3-11 to 3-14.

Adjusting for Image Skew

1. Positioning pin [A] (☞ x 1)
2. Loosen ☞ (x 4) [B].
3. Adjust the position of the laser optics housing unit (☛ Adjustment).
4. Fasten ☞ (x 4) [B].
   NOTE: After changing the position of the laser optics housing unit, do not reinstall the positioning pin. Keep the pin in a safe place.



NOTE: When the image skews as shown on the right, move the unit 1 mm in the direction of the black arrow as shown in the diagram **above and to the right**.



B051R901.WMF

Model: Model U-P1	Date: 27-Nov-03	No.: RG071011

Subject: No Indication on the LCD Display	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

SYMPTOM

No display on the operation panel LCD, some characters on the LCD are displayed garbled, or the power LED does not light when the main switch is turned on.

CAUSE

Some controller boxes were attached on the production line slightly higher than their optimal position, resulting in poor connection between the controller board and BCU board connectors.

SOLUTION

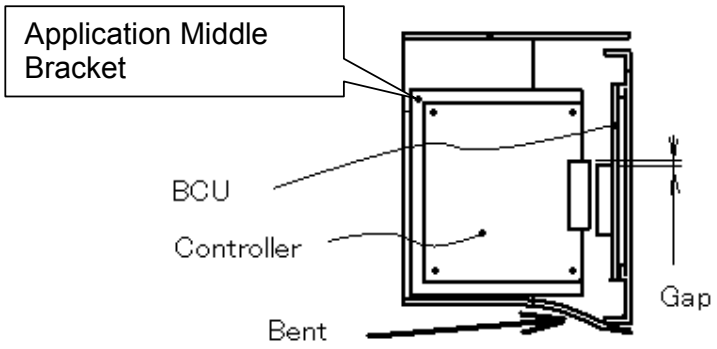
Temporary (from mid-October 2003 production):

The screws for the controller box are secured while the controller box is held in the proper position.

Permanent (from November 2003 production):

The height of the application middle bracket has been reduced by 0.6 mm to ensure the controller is always attached in the optimal position.

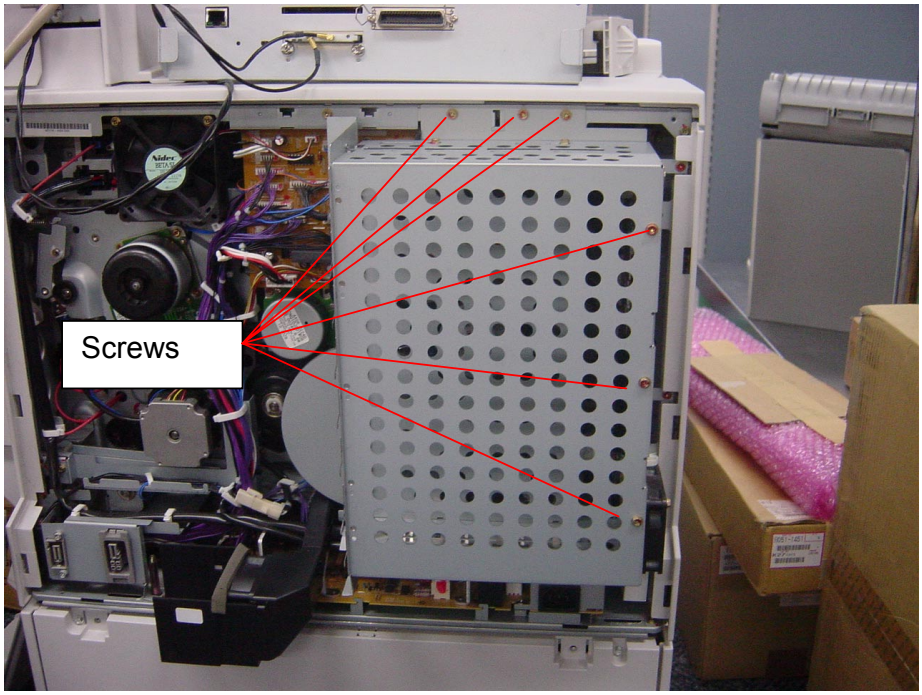
P/N change for this part: G0705523 → G0705520

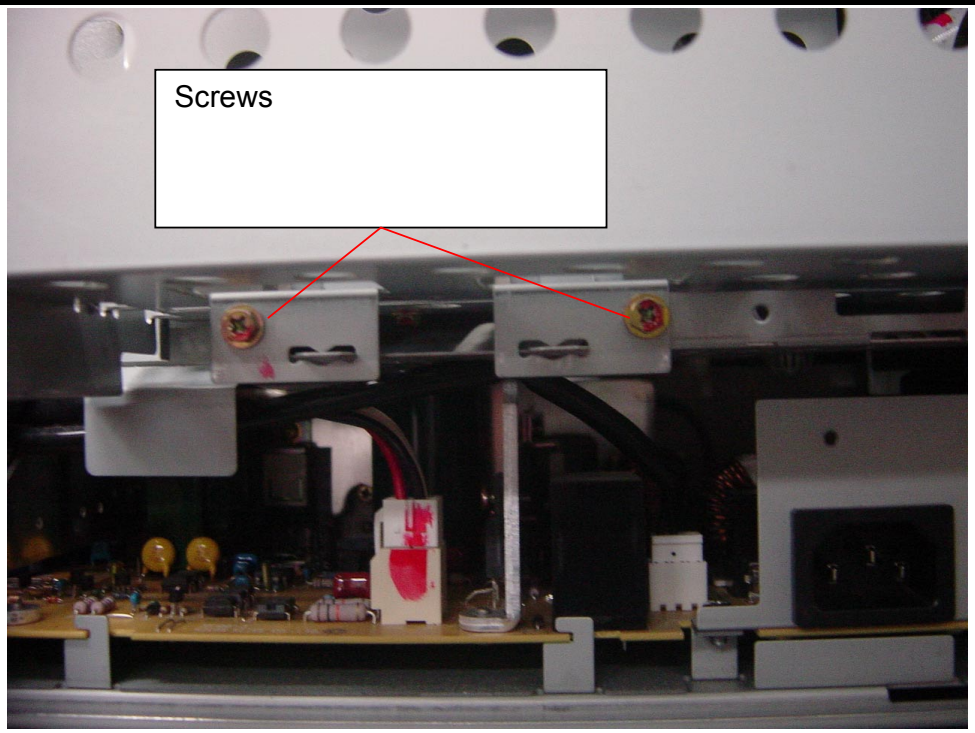


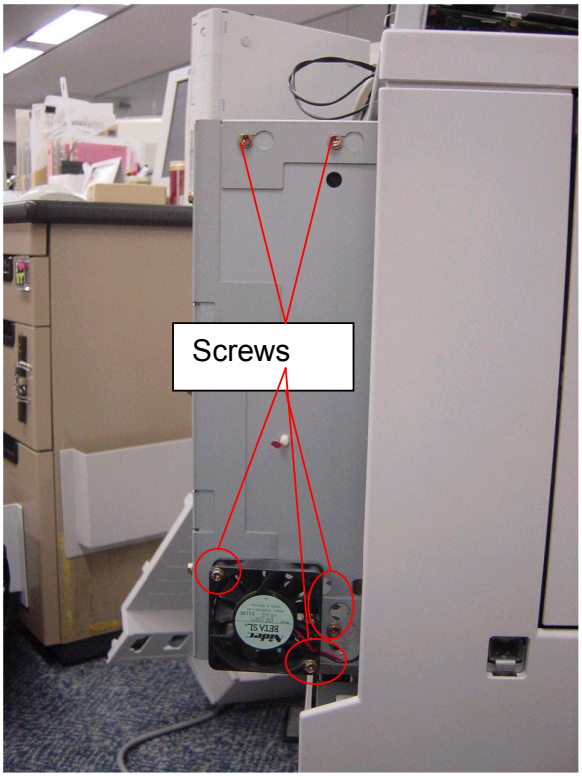
In the field:

If the above symptom occurs, reattach the controller box as shown below to ensure a proper connection between the controller box and BCU board.

1. Turn off the main switch and remove the duct cover, ozone filter, printer controller, and rear cover.
2. Loosen the 13 screws that secure the controller box and cooling fan.



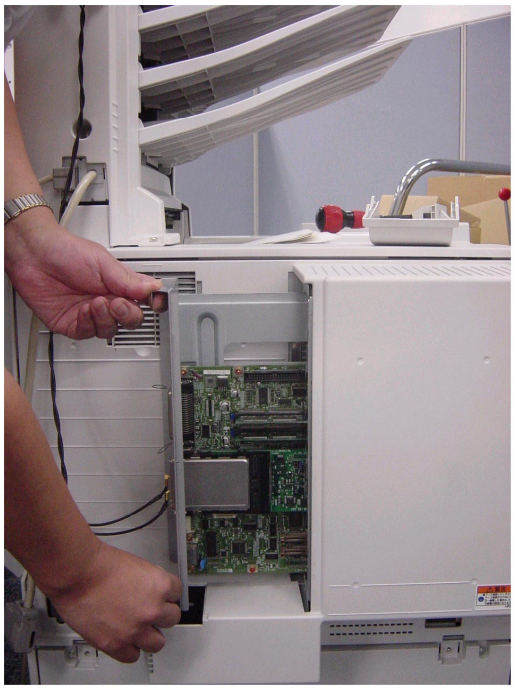




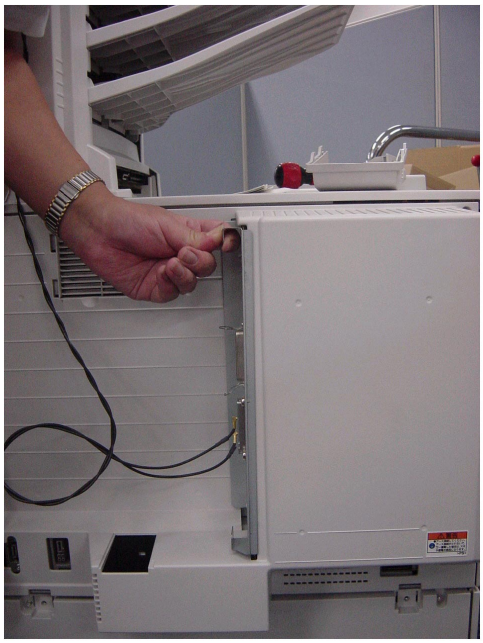
3. <u>While holding the controller box in its lower position</u>, secure the 13 screws.

   Point: The controller box is attached in this lower position to prevent poor connection between the BCU and controller. If the controller box is assembled in the upper position, a poor connection may occur.

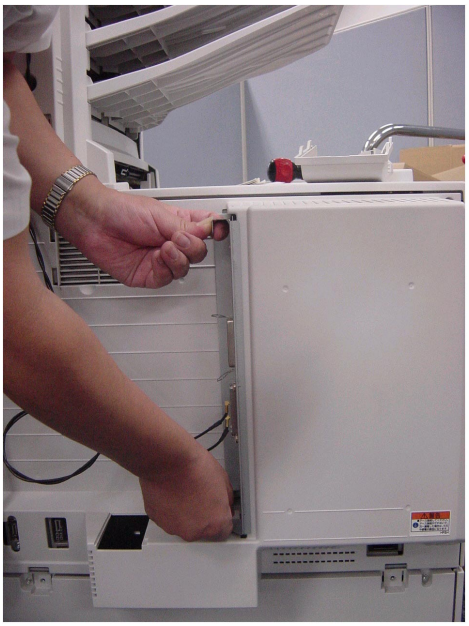
4. Slide the printer controller in slowly until the connecters connect with those on the BCU board.



5. Push in the top portion of the controller as shown.



6. While holding the top portion in place, push in the bottom portion of the controller flat against the surface shown.



7. Reattach the rear cover (2 screws).
8. Secure the 2 screws for the printer controller.
9. Reattach the duct cover and ozone filter.
10. Turn on the main switch and confirm that the LCD display is correct.

Reissued: 3-Dec-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003d

RTB Reissue

The items in bold italics have been added or changed.

Subject: Firmware History - Main Unit Controller	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

This is to inform you of the Main Unit Controller firmware history.

Part No. G0705940	Program name	Version	C.SUM	Production
R	***G0705941R.bin G0705940R.bin***	***V2.29***	***253A DF67***	***October Production '03***
Q	G0705941Q.bin G0705940Q.bin	V2.28.2	798D 3423	August Production '03
P	G0705941P.bin G0705940P.bin	V2.28	7B7C 80AF	June Production '03
N	G0705941N.bin G0705940N.bin	V2.27	E37C 2774	April Production '03
M	G0705941M.bin G0705940M.bin	V2.26	211D FD70	April Production '03
L	G0705941L.bin G0705940L.bin	V2.25	FCB9 A00C	March Production '03
K	G0705941K.bin G0705940K.bin	V2.24	6E31 EF54	February Production '03
J		V2.22.1	-	January Production '03
H	-	V2.22	-	November Production '02
G	-	V2.21	-	Not applied to the production machines
F	-	V2.20	-	Not applied to the production machines
E	-	V2.19	-	Not applied to the production machines
D	-	V2.18	-	August production '02

Note for updating test marketing machines (PMO) firmware:

Default values of the fusing temperature (SP1-105), paper transfer currents (SP2-310-001 to SP2-314-032), and paper transfer adjustment (SP2-903-01) have been reviewed. When firmware is updated to V2.20 or later for the first time, please confirm these settings. If the settings are still old ones, please set the type to 0 and press # key in SP2-905-01 and SP1-905-01. For details, please refer to the corrected symptom explanations in V2.20 and V2.18 (pp. 2, 3 below).

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003d

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating main unit controller firmware:

Whenever updating main unit controller firmware from v2.22.1 or earlier to v2.24 or later, please be sure to update the BICU firmware at the same time to v1.38 or later. The BICU firmware history is described in RTB No. RG071004.

Whenever updating the main unit controller firmware from v2.25 or earlier to v2.26 or later, please be sure to update the BICU firmware at the same time to v1.40 or later. The BICU firmware history is described in RTB No. RG071004a.

Reissued: 3-Dec-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003d

Main Unit Controller

Symptom Corrected	Version
1. ***SC687 occurs with multi-prints onto B4 (B/W).*** 2. ***Modified in accordance with BCU v1.47a modification. For details, please see RTB #RG071004d.*** ***NOTE: Along with this main unit controller version, be sure to update the BICU firmware to v1.47a or later.***	***V2.29***
Merged PCL job cannot print (TechMail#TS030100).	V2.28.2
1. The following SP modes have been added. For details, please refer to BICU firmware release note RB051004c: BICU v1.44A. SP2-400-008: Cleaning Bias LL1: OPC lubrication time SP2-401-008: Cleaning Bias LL2: OPC lubrication time SP2-402-008: Cleaning Bias NN1: OPC lubrication time SP2-403-008: Cleaning Bias NN2: OPC lubrication time SP2-404-008: Cleaning Bias HH: OPC lubrication time [0 to 2000/ 1400 / 10 Volt/step] 2. Minimum value changed for SP2-941-01, -02 (OPC lubrication time). Minimum increased from 0 to 6: SP2-941-01: Job End: [6 ~ 30 / 14 / 1 s/step] SP2-941-02: OPC Lubrication Interval: [6 ~ 60 / 10 / 1 s/step] NOTE: Along with this main unit controller version, be sure to update the BICU firmware to v1.44A or later.	V2.28

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003d

Symptom Corrected	Version
To ensure proper printing quality, the default values for the following SP modes have been reviewed and some SP modes newly added. -SP3-920-001 (Lubrication Cleaning Time) ( ): old default [0 ~ 100 / 50 (100) / 1% /step] -SP2-941-001(OPC Lubricant Time – job end) [0 ~ 30 / 14 (20) / 1s /step] -SP3-921-001 (Lubricant Clutch OFF: 1C): Newly added -SP3-921-002 (Lubricant Clutch OFF: 2C/3C/4C): Newly added [0 ~ 11 / 6 / 1s /step] Allows the image transfer belt cleaning clutch off timing to be adjusted. The setting determines the number of seconds after image transfer belt cleaning roller charging that the clutch is turned off. With previous versions, the clutch is always running while the development roller motor rotates. -SP2-938-001 (OPC Reverse Interval): Newly added [0 ~ 100 / 10 / 10 counts /step] The Main motor rotates the OPC belt backwards for 500 ms at the end of every job, in order to remove foreign particles between the OPC belt and OPC cleaning blade. However, this does not need to be performed so often. In addition, reducing the frequency of OPC belt reverse rotation improves the cleaning blade performance. This SP adjusts the counter for the OPC belt reverse rotation, and is incremented as follows: LT/A4 LEF or smaller: 1, larger than LT/A4 LEF: 2. When this SP reaches its set maximum, reverse rotation is performed for 500ms at job end. NOTE : Along with this main unit controller version, be sure to update the BICU firmware to v1.42 or later. For fetails, please refer to RTB #RG071007 (black faint images).	V2.27
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). Note: These SP modes are not yet operational.	V2.26
New SP mode added: SP2-803-01 (Charge Cleaning Off time). [0 ~ 200 / 60 / 10 seconds/step] Although a 60-second interval already exists for performing an idle discharge after corona wire cleaning, this new SP mode allows the interval to be adjusted. The idle discharge is to maintain an even charge wire surface, ensuring proper charging.	
The new Wireless LAN card (produced from Dec '02) is sometimes unable to communicate with the PC after a certain interval when using 802.11adhoc mode. Note: This does not occur with 1) adhoc or infrastructurer modes, or 2) previous Wireless LAN cards (produced up until Nov '02).	V2.25
SP1-105-01 (Fusing Temperature): Default for idling start changed from 145 to 140 (see SP mode table below).	V2.24

Reissued: 3-Dec-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003d

Symptom Corrected	Version
SP2-801-02 (Additional Value of the charge corona cleaning interval) has been newly added. The cleaning interval for the additional charge corona unit has been adjusted as shown. [0 ~ 5000 / **100** / 100 counts/step] With this new SP, it is possible to adjust the interval for charge corona cleaning in the middle of a job: Old: The charge corona cleaning is carried out after 600 (SP2-801-1) development counts, at job end or after 700 (no adjustment) development counts (stops in the middle of the job). After The charge corona cleaning is carried out after 600 (SP2-801-1) development counts, at job end or after 700 (= the sum of the settings in SP2-801-1 and -2) development counts (stops in the middle of the job).	
Hardware Ethernet Problem: For details, please refer to General RTB #RGene012.	V2.22.1
Selecting HDD font or DIMM font may sometimes reduce available memory.	
Printing speed is sometimes low when printing an AutoCAD file.	
Machine may freeze during printing when using a certain application w/HDD font or DIMM font selection.	V2.22
Text characters may appear darker with a certain raster image.	
Graphics objects may appear darker when available memory is low.	
Wireless LAN card sometimes cannot communicate with the printer when the WEP key is ON.	
Translation corrections for some words in Polish and German.	V2.21
● SP1-905-01 (pressure roller type) has been newly added. **0 : new pressure roller type (2.1mm)**, 1 : old pressure roller type (1.5mm) This has been added due to the pressure roller modification applied to prevent fusing jams (wrapping around the pressure roller), whereby the layer thickness of the pressure roller was changed from 1.5 mm to 2.1mm from first production. **NOTE :** When updating from v2.19 or former to v2.20 or later, it is necessary to manually enter a value of 0 into this SP mode and then press #, which instructs the machine to use the new data for fusing control. ● Some default values of SP1-105 (Fusing Temperature) have been changed. See new default table below. (new settings input from August '02 production).	V2.20

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003d

Symptom Corrected	Version
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** (old : 20) / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** (old : 40) / 1sheet/step]	
Euro symbol not printed with PS driver (for details, see General RTB No. RGene011).	
Minor bug corrections.	V2.19
First release.	V2.18
Display for SP5-945 (MidThickPaper) deleted, as this setting can be performed in User Tools.	
SP1-920-1 to 3 (PFMtrDelayTime) has been newly added (see table below).	
SP2-310 to 2-314: Some defaults have been changed (see table below).	
Default value of SP2-903 (PaperTrans_Low) has been changed from 8.0 to 1.0 to improve image quality in low-temperature and low-humidity conditions: Adjusts the paper transfer current applied when the machine is at low temperature. [0.0 ~ 70.0 / **1.0** / 0.1 μA/step]	
● SP2-905-01 (paper transfer roller type) has been newly added due to a shape modification to the paper transfer roller to increase transferability (from 1st production). **0: New paper transfer roller type** (Drum type), 1: Old paper transfer roller type (straight type) **NOTE:** When updating from v2.18 to v2.19 or later, please check to see that the new defaults for the following SPs have been applied (new default table below). <u>If they have not, set SP2-905-01 to a value of 0 and press #.</u> August production machines have the drum type installed, therefore it is not necessary to set this to 0 on these machines. ● Due to the paper transfer roller modification above, defaults have been changed for SP2-310-001 to SP2-314-032 (paper transfer current SPs), and SP2-903-01 (paper transfer adjustment).	
Default for SP2-943 (Discharge Threshold) has been changed from 17.0 to 15.0, and the minimum setting changed from 13.0 to 9.0. **Note:** As with all DFU SP modes, please do not adjust the setting. Adjusts the threshold of discharge. **DFU** [9.0 ~ 22.0 / **15.0** / 1.0 g/m^3/step]	

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003d

SP1

New defaults (Old default)

920	PFMtrDelayTime		
	1	Tray:Plain	Adjust the timing of the paper feed motor when the registration roller feeds the paper by the fusing motor. This adjusts the paper backle at the registration by the start timing of the paper feed motor. Normally, the paper backle is adjusted by SP1-003. It is not necessary to adjust in the the field. (The copier version has clutch to controll the timing. This adjustment is only for printer model.) [0 ~ 50 / **15** / 5/step] **DFU**
	2	By-pass:Plain	
	3	Tray:SmallSize	[0 ~ 50 / **0** / 5/step] **DFU** (Small size: A4/LT or narrower)
105*	Fusing_Temp.		
	1	H: Pre	Sets the temperature at which the heating roller starts idling. [100 ~ 180 / **140** (145) / 1°C/step]
	2	H: _Ready	Sets the temperature at which the heating roller enters the print ready condition. [100 ~ 180 / **155** (165) / 1°C/step]
105*	3	H: _Standby	Sets the heating roller temperature for the ready (standby) condition. After the main switch has been turned on, the machine enters this condition when the heating roller temperature reaches the temperature specified in this SP mode. When the machine is recovering from energy saver or auto off mode, the machine becomes ready when both heat and pressure roller temperatures reach the specified temperature. Pressure roller: SP1-105-16 [100 ~ 180 / **160** (175) / 1°C/step]
	4	H: Plain/1C	Sets the heating roller temperature for plain paper in single-color mode. [120 ~ 190 / **155** (160) / 1°C/step]
	5	H: Plain/FC	Sets the heating roller temperature for plain paper in full-color mode. [120 ~ 190 / **160** (170) / 1°C/step]
	6	H: M-Thick/1C	Sets the heating roller temperature for medium thickness paper in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	7	H: M-Thick/FC	Sets the heating roller temperature for medium thickness paper in full-color mode. [120 ~ 190 / **170** (180) / 1°C/step]
	8	H: Thick/1C	Sets the heating roller temperature for thick paper in single-color mode . [120 ~ 190 / **165** (170) / 1°C/step]
	9	H: Thick/FC	Sets the heating roller temperature for thick paper in full-color mode. [120 ~ 190 / **170** (175) / 1°C/step]

	10	H:OHP/1C	Sets the heating roller temperature for OHP sheets in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	11	H: OHP/FC	Sets the heating roller temperature for the OHP sheets in full-color mode. [120 ~ 190 / **175** (180) / 1°C/step]
	12	H: Duplex/1C	Sets the heating roller temperature for duplex printing (both sides) in single-color mode. [120 ~ 190 / **150** (155) / 1°C/step]
	13	H: Duplex/FC	Sets the heating roller temperature for duplex printing (both sides) in full-color mode. [120 ~ 190 / **155** (165) / 1°C/step]
	14	P: Pre	Sets the temperature at which the pressure roller starts idling. [**10** (30) ~ 100 / **10** (30) / 1°C/step]
	15	P: _Ready	Sets the temperature at which the pressure roller becomes ready for printing. [60 ~ 150 / **65** (80) / 1°C/step]
105*	16	P: _Standby	Sets the pressure roller temperature for the ready (standby) condition. After the main switch has been turned on, the machine enters this condition when the pressure roller temperature reaches the temperature specified in this SP mode. When the machine is recovering from energy saver or auto off mode, the machine becomes ready when both heat and pressure roller temperatures reach the specified temperature. Heating roller: SP1-105-3 [60 ~ 150 / **110** (120) / 1°C/step]
	27	H: OFFSET+	Sets the heating roller temperature correction for when room temperature is 15°C or lower. [0 ~ 20 / **5** / 1°C/step]
	28	P: OFFSET+	Sets the pressure roller temperature correction for when room temperature is 15°C or lower. [0 ~ 20 / **0** / 1°C/step]
	29	H: OFFSET–	Sets the heating roller temperature correction for when room temperature is 30°C or higher. [0 ~ 20 / **5** / 1°C/step]
	30	P: OFFSET–	Sets the pressure roller temperature correction for when room temperature is 30°C or higher. [0 ~ 20 / **0** / 1°C/step]

Reissued: 3-Dec-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003d

SP2

New defaults (Old default)

310*	PaperTrans_LL1 (Paper Transfer LL1) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 0 < AH ≤ 3.5 (this is the 'LL1' humidity range) Adjust only if there are problems with insufficient transfer in the image area of the copy for a particular paper type or mode, or in response to field problems as directed by technical support staff. [0 ~ 70.0 / **25.0** (32.0) / 0.2 μA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **25.0** (34.0) / 0.2 μA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **25.0** (36.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **25.0** (39.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **25.0** (42.0 / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **26.0** (33.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **26.0** (35.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **26.0** (37.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **26.0** (40.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **26.0** (43.0) / 0.2 μA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **14.0** (16.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (19.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **16.0** (21.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **18.0** (24.0) / 0.2 μA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **20.0** (27.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **28.0** (38.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **30.0** (40.0**)** / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **28.0** (42.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **28.0** (43.0) / 0.2 μA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **28.0** (44.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **29.0** (39.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **31.0** (41.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **29.0** (43.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **29.0** (44.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **29.0** (45.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **12.0** (16.0) / 0.2 μA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (19.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **20.0** (21.0) / 0.2 μA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **24.0** / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **28.0** (26.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **16.0** / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **20.0** (22.0) / 0.2 μA/step]
311*	PaperTrans_LL2 (Paper Transfer LL2) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 3.5 < AH ≤ 8.0 (this is the 'LL2' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **27.0** (36.0) / 0.2 μA/step]
311*	2	Nrml/1st/257-296	[0 ~ 70.0 / **28.0** (38.0) / 0.2 μA/step]

	3	Nrml/1st/210-256	[0 ~ 70.0 / **29.0** (40.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **28.0** (43.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **27.0** (46.0) / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **28.0** (37.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **29.0** (39.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **30.0** (41.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **29.0** (44.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **28.0** (47.0) / 0.2 μA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **15.0** (20.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (21.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (23.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **16.0** (24.0) / 0.2 μA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **17.0** (26.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **28.0** (40.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **29.0** (43.0) / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **29.0** (45.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **29.0** (47.0) / 0.2 μA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **29.0** (50.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **29.0** (41.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **30.0** (44.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **30.0** (46.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **30.0** (48.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **30.0** (51.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **13.0** (20.0) / 0.2 μA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (24.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **19.0** (27.0) / 0.2 μA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (31.0) / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **29.0** (34.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **17.0** (19.0) / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **21.0** (26.0) / 0.2 μA/step]
312*	PaperTrans_NN1 (Paper Transfer NN1) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $80 < AH \leq 14$ (this is the 'NN1' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **28.0** (40.0) / 0.2 μA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (42.0) / 0.2 μA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **32.0** (44.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **31.0** (47.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **30.0** (50.0) / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **29.0** (41.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (43.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **33.0** (45.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **32.0** (47.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **31.0** (51.0) / 0.2 μA/step]
312*	11	Thk/1st/-297	[0 ~ 70.0 / **15.0** (23.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (23.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]

	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **27.0** (42.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **28.0** (45.0) / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **30.0** (48.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **30.0** (51.0) / 0.2 μA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **30.0** (55.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **28.0** (43.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **29.0** (46.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **31.0** (49.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **31.0** (52.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **31.0** (56.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (23.0) / 0.2 μA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (28.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **17.0** (32.0) / 0.2 μA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (37.0) / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **30.0** (42.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **17.0** (22.0) / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **21.0** (30.0) / 0.2 μA/step]
313*	PaperTrans_NN2 (Paper Transfer NN2) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $14 < AH \leq 19$ (this is the 'NN2' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **29.0** (36.0) / 0.2 μA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (38.0) / 0.2 μA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **31.0** (39.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **30.0** (40.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **28.0** (42.0) / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **30.0** (37.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (39.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **32.0** (40.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **31.0** (41.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **29.0** (43.0) / 0.2 μA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **16.0** (25.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (25.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (24.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **29.0** (43.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **31.0** (45.0) / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **33.0** (46.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **32.0** (48.0) / 0.2 μA/step]
313*	20	Nrml/2nd/-128	[0 ~ 70.0 / **31.0** (50.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **30.0** (44.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **32.0** (46.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **34.0** (47.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **33.0** (49.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **32.0** (51.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (28.0) / 0.2 μA/step]

	27	Thk/2nd/257-296	[0 ~ 70.0 / **15.0** (32.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **17.0** (36.0) / 0.2 μA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (41.0) / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **29.0** (45.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **18.0** (23.0) / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **22.0** (33.0) / 0.2 μA/step]
314*	PaperTrans_HH (Paper Transfer HH). The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 19 < AH (this is the 'HH' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **30.0** (32.0) / 0.2 μA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (33.0) / 0.2 μA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **30.0** (33.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **28.0** (34.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **26.0** (34.0) / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **31.0** (33.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (34.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **31.0** (34.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **29.0** (35.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **27.0** (35.0) / 0.2 μA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **16.0** (26.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (25.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (25.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **30.0** (44.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **33.0** (44.0) / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **36.0** (44.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **34.0** (44.0) / 0.2 μA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **32.0** (44.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **31.0** (45.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **34.0** (45.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **37.0** (45.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **35.0** (45.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **33.0** (45.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (28.0) / 0.2 μA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **15.0** (32.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **16.0** (36.0) / 0.2 μA/step]
314*	29	Thk/2nd/129-209	[0 ~ 70.0 / **22.0** (40.0) / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **28.0** (44.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **18.0** (24.0) / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **22.0** (36.0) / 0.2 μA/step]

Reissued: 3-Dec-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004d

RTB Reissue

The items in bold italics have been added.

Subject: Firmware History - BCU (Engine)	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

This is to inform you of the BCU firmware history.

Part No.	Program name	Version	C.SUM	Production
G0705151				
	G0705151E.bin	***V1.47A***	***0B11***	***October Production '03***
	G0705151D.bin	V1.45	A657	August Production '03
	G0705151C.bin	V1.44A	0C47	July Production '03
	G0705151B.bin	V1.42	D6E3	April Production '03
	G0705151.bin	V1.40	5FBA	April Production '03
G0705150				
V	G0705150V.bin	V1.38	F699	February Production '03
T	-	V1.37		December Production '02
S	-	V1.36	-	November Production '02
R	-	V1.35	-	Not applied to the production machines
Q	-	V1.33	-	Not applied to the production machines
P	-	V1.32	-	August production '02

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating BCU firmware

Whenever updating BCU firmware from v1.37 or earlier to v1.38 or later, please be sure to update the main unit controller firmware at the same time to v2.24 or later. The main unit controller firmware history is described in RTB No. RG071003.

Reissued: 3-Dec-03

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004d

BICU

Symptom Corrected	Version
1. SP modes newly added: ***<u>SP2-922-001 (Development Clutch ON after Job End)</u>*** ***Determines whether or not a small amount of toner is applied to the OPC belt surface in order to ensure proper belt cleaning.*** ***0: OFF*** ***1: ON (Default)*** ***Note: Although the above is not a new SP mode, it has been made selectable.*** ***<u>SP2-923-001 (Lubricant after Toner End)</u>*** ***Sets whether or not lubrication is applied at Toner End recovery.*** ***0: OFF*** ***1: ON (Default)*** ***The following two SP modes control the interval for performing reverse rotation on the M and K doctor rollers at job end, in order to ensure toner clumps do not form.*** ***Note: Although the following are not new, the intervals for these existing operations have been made selectable.*** ***<u>SP3-913-001 (Doctor roller rotation interval M)</u>*** ***[1 ~ 50 / 1 / 1 /step]*** ***<u>SP3-913-002 (Doctor roller rotation interval K)</u>*** ***[1 ~ 50 / 1 / 1 /step]***	***V1.47A***

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004d

Symptom Corrected	Version
2. Existing SP mode subdivided: ***SP3-920 has been subdivided as follows to enable separate lubrication time control for 1C vs. 2C/3C/4C.*** ***SP3-920-001 (Lubrication Cleaning Time: - 1C)*** ***[0 ~ 100 / 50 / 1% /step]*** ***SP3-920-002 (Lubrication Cleaning Time: - 2C/3C/4C)*** ***[0 ~ 100 / 100/ 1% /step]*** ***3. Carryover SP modes from Copier firmware – Currently UNUSABLE*** ***The following are the SP modes carried over from the Copier firmware which will therefore appear on the display, as the printer firmware is created using the Copier firmware base. Please note that currently these SP modes should not be used on the printer, therefore please DO NOT CHANGE their values.*** ***SP2-951-001 (Image Position Adjustment): DFU*** ***0: New PCU: ITB cleaning blade:*** ***1: Old PCU: No ITB cleaning blade (Default):*** ***SP2-950 (Start Registration Adjustment):*** ***SP2-921-001 (ITB Cleaning Clutch OFF Mode): DFU*** ***0: New PCU: ITB cleaning blade*** ***1: Old PCU: No ITB cleaning blade (Default)*** ***SP2-920-001 (ITB Cleaning Clutch OFF Time)*** ***[-500 ~ 500 / 0 / 10 /step]*** ***SP2-924-001 (ITB Cleaning Clutch Off/On – Time)*** ***[100 ~ 500/ 300 / 10ms /step]*** ***SP2-924-002 (ITB Cleaning Clutch Off/On – Number)*** ***[0 ~ 5/ 0 / 1 /step]*** ***NOTE: Along with this BICU version, be sure to update the main unit controller firmware to v2.29 or later.***	***V1.47A***

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004d

Eliminated unnecessary occurrences of SC420 (Fusing bias discharge error): SC420 will not be triggered when a leak occurs as a result of a small hole on the fusing belt surface, since from field experience it has been confirmed that belt lifetime is actually longer when the SC is not triggered in these conditions. If the leak should occur, instead of the SC the machine turns SP2-510 OFF (fusing bias SW), and the fusing bias is not applied until the fusing counter is cleared when the user replaces the unit or the SP is set back to ON.	V1.45
1. Eliminated unnecessary occurrences of SC410 (2nd transfer electric leakage): SC410 tends to frequently occur when using paper with a high moisture content under high-temperature, high-humidity conditions when the resistance on the paper transfer roller is low. The roller current was previously lowered for mono-color mode (45% that of full color), which lowered the resistance and caused frequent occurrences. This version uses the color mode current for mono-color until job end to eliminate unecessary occurrences under the conditions described above. 2. SP modes newly added (listed below). These SPs have been added to ensure proper (higher) transfer belt cleaning by applying the following bias voltages at job end (OPC lubrication time): SP2-400-008: Cleaning Bias LL1: OPC lubrication time SP2-401-008: Cleaning Bias LL2: OPC lubrication time SP2-402-008: Cleaning Bias NN1: OPC lubrication time SP2-403-008: Cleaning Bias NN2: OPC lubrication time SP2-404-008: Cleaning Bias HH: OPC lubrication time [0 to 2000/ 1400 / 10 Volt/step] 2. Minimum value changed for SP2-941-01, -02 (OPC lubrication time). Minimum increased from 0 to 6: SP2-941-01: Job End: [6 ~ 30 / 20 / 1 s/step] SP2-941-02: OPC Lubrication Interval: [6 ~ 60 / 10 / 1 s/step] NOTE : Along with this BICU version, be sure to update the main unit controller firmware to v2.28 or later.	V1.44A
Modified in accordance with main unit controller v2.27 modificaiton. For details, please see RTB #RG071003b. NOTE : Along with this BICU version, be sure to update the main unit controller firmware to v2.27 or later. For details, please see RTB #RG071007 (black faint Images).	V1.42
Minor bugs corrected.	V1.40
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). Note: These SP modes are not yet operational.	
Software changed so that oil end detection is not performed while the fusing unit is in operation, in order to prevent oil end misdetections caused by winter humidity (humidification).	V1.38

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004d

SP mode newly added: SP2-801-02 (Additional Value of the charge corona cleaning interval). Refer to RTB No. RG071003 for the main unit controller firmware history.	
SC687 misdetections sometimes occur when paper is loaded into the bypass tray after the bypass tray reaches paper end.	
The detection conditions for SC412 (2nd transfer disconnection) have been changed from 60ms to 240ms to prevent misdetections that can sometimes occur in low-temperature conditions.	
Minor bugs corrected.	V1.37
Misdetection of toner end and/or toner near end even when the toner cartridge still contains enough toner to continue printing.	V1.36
The paper end condition may not be detected even when the paper in the optional tray has run out.	
SP1-905-01 (pressure roller type) newly added. For details, please refer to the main unit controller firmware history (RTB No. RG071003).	V1.35
Detection conditions for SC560 (Zero cross error) have been changed as follows (upper limits eliminated, as they are unnecessary): Old: 50Hz: Machine detects less than 45Hz or greater than 54Hz. 60Hz: Machine detects less than 55Hz or greater than 64Hz. New: 50Hz: Machine detects less than 45Hz. 60Hz: Machine detects less than 55Hz.	
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** / 1sheet/step]	
Paper end is sometimes not detected even when the paper in the standard tray runs out.	
Minor bug corrections.	V1.33
First release.	V1.32

2950	S_Reg._Adj.		
	1	M(2:P1b)	Colour registration adjustment: adjusts the start timing of imaging for each color. **DFU** [–3 ~ 3 / **–1** / 2 line/step] *2 lines = 0.047566 ms (about 85 μm)* *+: Delays the start timing.* *–: Advances the start timing.* *The start timing is adjusted only in plain paper mode, and when one of the following conditions is satisfied:* *1) Between the two images on the transfer belt (when two images are developed on the OPC at the same time (☛ 6.2))* *2) B4 SEF or larger (multi-print job)*
	2	C(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	3	Y(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	4	K(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	5	M(1:P1b)	[–3 ~ 3 / **–1** / 2 line/step]

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004d

	6	C(1:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	7	Y(1:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	8	K(1:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	9	M(2:P1a)	For use in Japan only.
	10	C(2:P1a)	
	11	Y(2:P1a)	
	12	K(2:P1a)	
	13	M(1:P1a)	
	14	C(1:P1a)	
	15	Y(1:P1a)	
	16	K(1:P1a)	

Model: Model U-P1	Date: 9-Dec-03	No.: RG071012

Subject: Cap for the O/B Waste Toner	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

SYMPTOM

Waste toner may sometimes leak from the maintenance kit PCU (G780-17) due to vibration during parts transport.

CAUSE

Cleaning was not performed on the maintenance kit PCU following final tests on the production line (only PCUs fitted in the mainframe were cleaned at this stage).

SOLUTION

- PCU cleaning was added to the production process for the maintenance kit PCU.
  Applied from: May 2003 production.
- A cap has been added to the maintenance kit PCU to seal the opening between the PCU and waste toner bottle during shipping.
  Applied from: B3173910025 (G780-17).

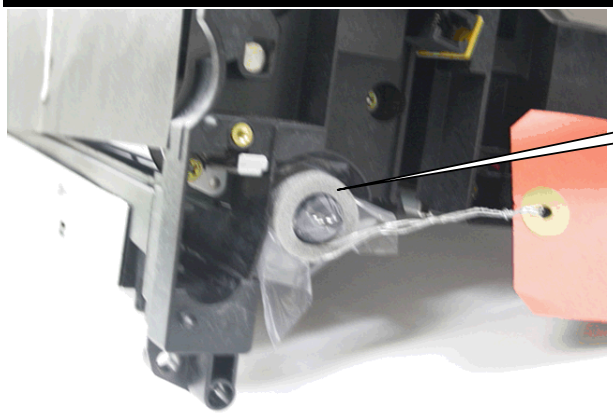
Note:

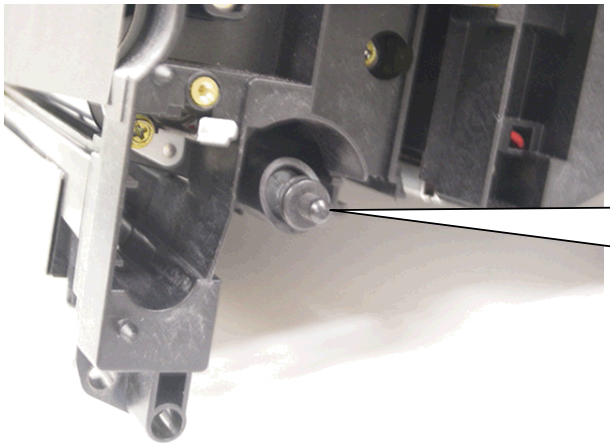
1. This cap is not necessary on mainframe PCUs since the O/B waste toner bottle already covers this opening (see **Important Note** below).
2. The Installation Procedure in the PCU Maintenance Kit has been modified to include the **Important Note** below. If any inquiries are received regarding the above symptom, please advise customers using this note.

Important note for when installing the PCU:

Please be sure to remove the cap [A] before installing the unit.

Model: Model U-P1	Date: 9-Dec-03	No.: RG071012





Reissued: 29-Jan-04

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003e

RTB Reissue

The items in bold italics have been added or changed.

Subject: Firmware History - Main Unit Controller			Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.			
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other (Firmware History)		

This is to inform you of the Main Unit Controller firmware history.

Part No. G0705940	Program name	Version	C.SUM	Production
S	***G0705941S.bin G0705940S.bin***	***V2.30***	***7138 C464***	***January Production '04***
R	G0705941R.bin G0705940R.bin	V2.29	253A DF67	October Production '03
Q	G0705941Q.bin G0705940Q.bin	V2.28.2	798D 3423	August Production '03
P	G0705941P.bin G0705940P.bin	V2.28	7B7C 80AF	June Production '03
N	G0705941N.bin G0705940N.bin	V2.27	E37C 2774	April Production '03
M	G0705941M.bin G0705940M.bin	V2.26	211D FD70	April Production '03
L	G0705941L.bin G0705940L.bin	V2.25	FCB9 A00C	March Production '03
K	G0705941K.bin G0705940K.bin	V2.24	6E31 EF54	February Production '03
J		V2.22.1	-	January Production '03
H	-	V2.22	-	November Production '02
G	-	V2.21	-	Not applied to the production machines
F	-	V2.20	-	Not applied to the production machines
E	-	V2.19	-	Not applied to the production machines
D	-	V2.18	-	August production '02

Note for updating test marketing machines (PMO) firmware:

Default values of the fusing temperature (SP1-105), paper transfer currents (SP2-310-001 to SP2-314-032), and paper transfer adjustment (SP2-903-01) have been reviewed. When firmware is updated to V2.20 or later for the first time, please confirm these settings. If the settings are still old ones, please set the type to 0 and press # key in SP2-905-01 and SP1-905-01. For details, please refer to the corrected symptom explanations in V2.20 and V2.18 (pp. 2, 3 below).

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003e

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating main unit controller firmware:

Whenever updating main unit controller firmware from v2.22.1 or earlier to v2.24 or later, please be sure to update the BICU firmware at the same time to v1.38 or later. The BICU firmware history is described in RTB No. RG071004.

Whenever updating the main unit controller firmware from v2.25 or earlier to v2.26 or later, please be sure to update the BICU firmware at the same time to v1.40 or later. The BICU firmware history is described in RTB No. RG071004a.

Reissued: 29-Jan-04

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003e

Main Unit Controller

Symptom Corrected	Version
1. "Paper End" is sometimes not displayed, or the machine sometimes freezes up with the display "Processing…" while in the Paper End condition if the operator has selected Custom Size and Auto Paper Tray Selection. ***2. Modified in accordance with BCU v1.48d modification. For details, please see RTB #RG071004e.*** ***Note: Along with this main unit controller version, be sure to update the BICU firmware to v1.48d or later.***	***V2.30***
1. SC687 occurs with multi-prints onto B4 (B/W). 2. Modified in accordance with BCU v1.47a modification. For details, please see RTB #RG071004d. NOTE: Along with this main unit controller version, be sure to update the BICU firmware to v1.47a or later.	V2.29
Merged PCL job cannot print (TechMail#TS030100).	V2.28.2
1. The following SP modes have been added. For details, please refer to BICU firmware release note RB051004c: BICU v1.44A. SP2-400-008: Cleaning Bias LL1: OPC lubrication time SP2-401-008: Cleaning Bias LL2: OPC lubrication time SP2-402-008: Cleaning Bias NN1: OPC lubrication time SP2-403-008: Cleaning Bias NN2: OPC lubrication time SP2-404-008: Cleaning Bias HH: OPC lubrication time [0 to 2000/ 1400 / 10 Volt/step] 2. Minimum value changed for SP2-941-01, -02 (OPC lubrication time). Minimum increased from 0 to 6: SP2-941-01: Job End: [6 ~ 30 / 14 / 1 s/step] SP2-941-02: OPC Lubrication Interval: [6 ~ 60 / 10 / 1 s/step] NOTE: Along with this main unit controller version, be sure to update the BICU firmware to v1.44A or later.	V2.28

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003e

Symptom Corrected	Version
To ensure proper printing quality, the default values for the following SP modes have been reviewed and some SP modes newly added. -SP3-920-001 (Lubrication Cleaning Time) ( ): old default [0 ~ 100 / 50 (100) / 1% /step] -SP2-941-001(OPC Lubricant Time – job end) [0 ~ 30 / 14 (20) / 1s /step] -SP3-921-001 (Lubricant Clutch OFF: 1C): Newly added -SP3-921-002 (Lubricant Clutch OFF: 2C/3C/4C): Newly added [0 ~ 11 / 6 / 1s /step] Allows the image transfer belt cleaning clutch off timing to be adjusted. The setting determines the number of seconds after image transfer belt cleaning roller charging that the clutch is turned off. With previous versions, the clutch is always running while the development roller motor rotates. -SP2-938-001 (OPC Reverse Interval): Newly added [0 ~ 100 / 10 / 10 counts /step] The Main motor rotates the OPC belt backwards for 500 ms at the end of every job, in order to remove foreign particles between the OPC belt and OPC cleaning blade. However, this does not need to be performed so often. In addition, reducing the frequency of OPC belt reverse rotation improves the cleaning blade performance. This SP adjusts the counter for the OPC belt reverse rotation, and is incremented as follows: LT/A4 LEF or smaller: 1, larger than LT/A4 LEF: 2. When this SP reaches its set maximum, reverse rotation is performed for 500ms at job end. NOTE : Along with this main unit controller version, be sure to update the BICU firmware to v1.42 or later. For fetails, please refer to RTB #RG071007 (black faint images).	V2.27
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). Note: These SP modes are not yet operational.	V2.26
New SP mode added: SP2-803-01 (Charge Cleaning Off time). [0 ~ 200 / 60 / 10 seconds/step] Although a 60-second interval already exists for performing an idle discharge after corona wire cleaning, this new SP mode allows the interval to be adjusted. The idle discharge is to maintain an even charge wire surface, ensuring proper charging.	
The new Wireless LAN card (produced from Dec '02) is sometimes unable to communicate with the PC after a certain interval when using 802.11adhoc mode. Note: This does not occur with 1) adhoc or infrastructurer modes, or 2) previous Wireless LAN cards (produced up until Nov '02).	V2.25
SP1-105-01 (Fusing Temperature): Default for idling start changed from 145 to 140 (see SP mode table below).	V2.24

Reissued: 29-Jan-04

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003e

Symptom Corrected	Version
SP2-801-02 (Additional Value of the charge corona cleaning interval) has been newly added. The cleaning interval for the additional charge corona unit has been adjusted as shown. [0 ~ 5000 / **100** / 100 counts/step] With this new SP, it is possible to adjust the interval for charge corona cleaning in the middle of a job: Old: The charge corona cleaning is carried out after 600 (SP2-801-1) development counts, at job end or after 700 (no adjustment) development counts (stops in the middle of the job). After The charge corona cleaning is carried out after 600 (SP2-801-1) development counts, at job end or after 700 (= the sum of the settings in SP2-801-1 and -2) development counts (stops in the middle of the job).	
Hardware Ethernet Problem: For details, please refer to General RTB #RGene012.	V2.22.1
Selecting HDD font or DIMM font may sometimes reduce available memory.	
Printing speed is sometimes low when printing an AutoCAD file.	
Machine may freeze during printing when using a certain application w/HDD font or DIMM font selection.	V2.22
Text characters may appear darker with a certain raster image.	
Graphics objects may appear darker when available memory is low.	
Wireless LAN card sometimes cannot communicate with the printer when the WEP key is ON.	
Translation corrections for some words in Polish and German.	V2.21
● SP1-905-01 (pressure roller type) has been newly added. **0 : new pressure roller type (2.1mm)**, 1 : old pressure roller type (1.5mm) This has been added due to the pressure roller modification applied to prevent fusing jams (wrapping around the pressure roller), whereby the layer thickness of the pressure roller was changed from 1.5 mm to 2.1mm from first production. **NOTE :** When updating from v2.19 or former to v2.20 or later, it is necessary to manually enter a value of 0 into this SP mode and then press #, which instructs the machine to use the new data for fusing control. ● Some default values of SP1-105 (Fusing Temperature) have been changed. See new default table below. (new settings input from August '02 production).	V2.20

Reissued: 29-Jan-04

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003e

Symptom Corrected	Version
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** (old : 20) / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** (old : 40) / 1sheet/step]	
Euro symbol not printed with PS driver (for details, see General RTB No. RGene011).	
Minor bug corrections.	V2.19
First release.	V2.18
Display for SP5-945 (MidThickPaper) deleted, as this setting can be performed in User Tools.	
SP1-920-1 to 3 (PFMtrDelayTime) has been newly added (see table below).	
SP2-310 to 2-314: Some defaults have been changed (see table below).	
Default value of SP2-903 (PaperTrans_Low) has been changed from 8.0 to 1.0 to improve image quality in low-temperature and low-humidity conditions: Adjusts the paper transfer current applied when the machine is at low temperature. [0.0 ~ 70.0 / **1.0** / 0.1 μA/step]	
● SP2-905-01 (paper transfer roller type) has been newly added due to a shape modification to the paper transfer roller to increase transferability (from 1st production). **0: New paper transfer roller type** (Drum type), 1: Old paper transfer roller type (straight type) **NOTE:** When updating from v2.18 to v2.19 or later, please check to see that the new defaults for the following SPs have been applied (new default table below). <u>If they have not, set SP2-905-01 to a value of 0 and press #.</u> August production machines have the drum type installed, therefore it is not necessary to set this to 0 on these machines. ● Due to the paper transfer roller modification above, defaults have been changed for SP2-310-001 to SP2-314-032 (paper transfer current SPs), and SP2-903-01 (paper transfer adjustment).	
Default for SP2-943 (Discharge Threshold) has been changed from 17.0 to 15.0, and the minimum setting changed from 13.0 to 9.0. **Note:** As with all DFU SP modes, please do not adjust the setting. Adjusts the threshold of discharge. **DFU** [9.0 ~ 22.0 / **15.0** / 1.0 g/m^3/step]	

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003e

SP1

New defaults (Old default)

920	PFMtrDelayTime		
	1	Tray:Plain	Adjust the timing of the paper feed motor when the registration roller feeds the paper by the fusing motor. This adjusts the paper backle at the registration by the start timing of the paper feed motor. Normally, the paper backle is adjusted by SP1-003. It is not necessary to adjust in the the field. (The copier version has clutch to controll the timing. This adjustment is only for printer model.) [0 ~ 50 / **15** / 5/step] **DFU**
	2	By-pass:Plain	
	3	Tray:SmallSize	[0 ~ 50 / **0** / 5/step] **DFU** (Small size: A4/LT or narrower)
105*	Fusing_Temp.		
	1	H: Pre	Sets the temperature at which the heating roller starts idling. [100 ~ 180 / **140** (145) / 1°C/step]
	2	H: _Ready	Sets the temperature at which the heating roller enters the print ready condition. [100 ~ 180 / **155** (165) / 1°C/step]
105*	3	H: _Standby	Sets the heating roller temperature for the ready (standby) condition. After the main switch has been turned on, the machine enters this condition when the heating roller temperature reaches the temperature specified in this SP mode. When the machine is recovering from energy saver or auto off mode, the machine becomes ready when both heat and pressure roller temperatures reach the specified temperature. Pressure roller: SP1-105-16 [100 ~ 180 / **160** (175) / 1°C/step]
	4	H: Plain/1C	Sets the heating roller temperature for plain paper in single-color mode. [120 ~ 190 / **155** (160) / 1°C/step]
	5	H: Plain/FC	Sets the heating roller temperature for plain paper in full-color mode. [120 ~ 190 / **160** (170) / 1°C/step]
	6	H: M-Thick/1C	Sets the heating roller temperature for medium thickness paper in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	7	H: M-Thick/FC	Sets the heating roller temperature for medium thickness paper in full-color mode. [120 ~ 190 / **170** (180) / 1°C/step]
	8	H: Thick/1C	Sets the heating roller temperature for thick paper in single-color mode . [120 ~ 190 / **165** (170) / 1°C/step]
	9	H: Thick/FC	Sets the heating roller temperature for thick paper in full-color mode. [120 ~ 190 / **170** (175) / 1°C/step]

	10	H:OHP/1C	Sets the heating roller temperature for OHP sheets in single-color mode. [120 ~ 190 / **165** (170) / 1°C/step]
	11	H: OHP/FC	Sets the heating roller temperature for the OHP sheets in full-color mode. [120 ~ 190 / **175** (180) / 1°C/step]
	12	H: Duplex/1C	Sets the heating roller temperature for duplex printing (both sides) in single-color mode. [120 ~ 190 / **150** (155) / 1°C/step]
	13	H: Duplex/FC	Sets the heating roller temperature for duplex printing (both sides) in full-color mode. [120 ~ 190 / **155** (165) / 1°C/step]
	14	P: Pre	Sets the temperature at which the pressure roller starts idling. [**10** (30) ~ 100 / **10** (30) / 1°C/step]
	15	P: _Ready	Sets the temperature at which the pressure roller becomes ready for printing. [60 ~ 150 / **65** (80) / 1°C/step]
105*	16	P: _Standby	Sets the pressure roller temperature for the ready (standby) condition. After the main switch has been turned on, the machine enters this condition when the pressure roller temperature reaches the temperature specified in this SP mode. When the machine is recovering from energy saver or auto off mode, the machine becomes ready when both heat and pressure roller temperatures reach the specified temperature. Heating roller: SP1-105-3 [60 ~ 150 / **110** (120) / 1°C/step]
	27	H: OFFSET+	Sets the heating roller temperature correction for when room temperature is 15°C or lower. [0 ~ 20 / **5** / 1°C/step]
	28	P: OFFSET+	Sets the pressure roller temperature correction for when room temperature is 15°C or lower. [0 ~ 20 / **0** / 1°C/step]
	29	H: OFFSET–	Sets the heating roller temperature correction for when room temperature is 30°C or higher. [0 ~ 20 / **5** / 1°C/step]
	30	P: OFFSET–	Sets the pressure roller temperature correction for when room temperature is 30°C or higher. [0 ~ 20 / **0** / 1°C/step]

Reissued: 29-Jan-04

Model: Model U-P1	Date: 3-Feb-03	No.: RG071003e

SP2

New defaults (Old default)

310*	PaperTrans_LL1 (Paper Transfer LL1) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 0 < AH ≤ 3.5 (this is the 'LL1' humidity range) Adjust only if there are problems with insufficient transfer in the image area of the copy for a particular paper type or mode, or in response to field problems as directed by technical support staff. [0 ~ 70.0 / **25.0** (32.0) / 0.2 μA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **25.0** (34.0) / 0.2 μA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **25.0** (36.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **25.0** (39.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **25.0** (42.0 / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **26.0** (33.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **26.0** (35.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **26.0** (37.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **26.0** (40.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **26.0** (43.0) / 0.2 μA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **14.0** (16.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (19.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **16.0** (21.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **18.0** (24.0) / 0.2 μA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **20.0** (27.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **28.0** (38.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **30.0** (40.0**)** / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **28.0** (42.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **28.0** (43.0) / 0.2 μA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **28.0** (44.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **29.0** (39.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **31.0** (41.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **29.0** (43.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **29.0** (44.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **29.0** (45.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **12.0** (16.0) / 0.2 μA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (19.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **20.0** (21.0) / 0.2 μA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **24.0** / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **28.0** (26.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **16.0** / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **20.0** (22.0) / 0.2 μA/step]
311*	PaperTrans_LL2 (Paper Transfer LL2) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 3.5 < AH ≤ 8.0 (this is the 'LL2' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **27.0** (36.0) / 0.2 μA/step]
311*	2	Nrml/1st/257-296	[0 ~ 70.0 / **28.0** (38.0) / 0.2 μA/step]

	3	Nrml/1st/210-256	[0 ~ 70.0 / **29.0** (40.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **28.0** (43.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **27.0** (46.0) / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **28.0** (37.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **29.0** (39.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **30.0** (41.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **29.0** (44.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **28.0** (47.0) / 0.2 μA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **15.0** (20.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (21.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (23.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **16.0** (24.0) / 0.2 μA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **17.0** (26.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **28.0** (40.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **29.0** (43.0) / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **29.0** (45.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **29.0** (47.0) / 0.2 μA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **29.0** (50.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **29.0** (41.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **30.0** (44.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **30.0** (46.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **30.0** (48.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **30.0** (51.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **13.0** (20.0) / 0.2 μA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (24.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **19.0** (27.0) / 0.2 μA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (31.0) / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **29.0** (34.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **17.0** (19.0) / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **21.0** (26.0) / 0.2 μA/step]
312*	PaperTrans_NN1 (Paper Transfer NN1) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $80 < AH \leq 14$ (this is the 'NN1' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **28.0** (40.0) / 0.2 μA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (42.0) / 0.2 μA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **32.0** (44.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **31.0** (47.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **30.0** (50.0) / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **29.0** (41.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (43.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **33.0** (45.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **32.0** (47.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **31.0** (51.0) / 0.2 μA/step]
312*	11	Thk/1st/-297	[0 ~ 70.0 / **15.0** (23.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (23.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]

	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **27.0** (42.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **28.0** (45.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **30.0** (48.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **30.0** (51.0) / 0.2 µA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **30.0** (55.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **28.0** (43.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **29.0** (46.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **31.0** (49.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **31.0** (52.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **31.0** (56.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (23.0) / 0.2 µA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **16.0** (28.0) / 0.2 µA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **17.0** (32.0) / 0.2 µA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (37.0) / 0.2 µA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **30.0** (42.0) / 0.2 µA/step]
	31	OHP/297	[0 ~ 70.0 / **17.0** (22.0) / 0.2 µA/step]
	32	OHP/210	[0 ~ 70.0 / **21.0** (30.0) / 0.2 µA/step]
313*	PaperTrans_NN2 (Paper Transfer NN2) The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: $14 < AH \leq 19$ (this is the 'NN2' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **29.0** (36.0) / 0.2 µA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (38.0) / 0.2 µA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **31.0** (39.0) / 0.2 µA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **30.0** (40.0) / 0.2 µA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **28.0** (42.0) / 0.2 µA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **30.0** (37.0) / 0.2 µA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (39.0) / 0.2 µA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **32.0** (40.0) / 0.2 µA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **31.0** (41.0) / 0.2 µA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **16.0** (25.0) / 0.2 µA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (25.0) / 0.2 µA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (24.0) / 0.2 µA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 µA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **29.0** (43.0) / 0.2 µA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **31.0** (45.0) / 0.2 µA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **33.0** (46.0) / 0.2 µA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **32.0** (48.0) / 0.2 µA/step]
313*	20	Nrml/2nd/-128	[0 ~ 70.0 / **31.0** (50.0) / 0.2 µA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **30.0** (44.0) / 0.2 µA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **32.0** (46.0) / 0.2 µA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **34.0** (47.0) / 0.2 µA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **33.0** (49.0) / 0.2 µA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **32.0** (51.0) / 0.2 µA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (28.0) / 0.2 µA/step]

	27	Thk/2nd/257-296	[0 ~ 70.0 / **15.0** (32.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **17.0** (36.0) / 0.2 μA/step]
	29	Thk/2nd/129-209	[0 ~ 70.0 / **23.0** (41.0) / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **29.0** (45.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **18.0** (23.0) / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **22.0** (33.0) / 0.2 μA/step]
314*	PaperTrans_HH (Paper Transfer HH). The display indicates: Paper Weight/Side 1 or 2/Paper Width (mm)		
	1	Nrml/1st/-297	Sets the paper transfer current when absolute humidity AH (g/m^3) is in the following range: 19 < AH (this is the 'HH' humidity range) See SP2-310 for comments. [0 ~ 70.0 / **30.0** (32.0) / 0.2 μA/step]
	2	Nrml/1st/257-296	[0 ~ 70.0 / **30.0** (33.0) / 0.2 μA/step]
	3	Nrml/1st/210-256	[0 ~ 70.0 / **30.0** (33.0) / 0.2 μA/step]
	4	Nrml/1st/129-209	[0 ~ 70.0 / **28.0** (34.0) / 0.2 μA/step]
	5	Nrml/1st/-128	[0 ~ 70.0 / **26.0** (34.0) / 0.2 μA/step]
	6	Mid/1st/-297	[0 ~ 70.0 / **31.0** (33.0) / 0.2 μA/step]
	7	Mid/1st/257-296	[0 ~ 70.0 / **31.0** (34.0) / 0.2 μA/step]
	8	Mid/1st/210-256	[0 ~ 70.0 / **31.0** (34.0) / 0.2 μA/step]
	9	Mid/1st/129-209	[0 ~ 70.0 / **29.0** (35.0) / 0.2 μA/step]
	10	Mid/1st/-128	[0 ~ 70.0 / **27.0** (35.0) / 0.2 μA/step]
	11	Thk/1st/-297	[0 ~ 70.0 / **16.0** (26.0) / 0.2 μA/step]
	12	Thk/1st/257-296	[0 ~ 70.0 / **15.0** (25.0) / 0.2 μA/step]
	13	Thk/1st/210-256	[0 ~ 70.0 / **15.0** (25.0) / 0.2 μA/step]
	14	Thk/1st/129-209	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	15	Thk/1st/-128	[0 ~ 70.0 / **14.0** (24.0) / 0.2 μA/step]
	16	Nrml/2nd/-297	[0 ~ 70.0 / **30.0** (44.0) / 0.2 μA/step]
	17	Nrml/2nd/257-296	[0 ~ 70.0 / **33.0** (44.0) / 0.2 μA/step]
	18	Nrml/2nd/210-256	[0 ~ 70.0 / **36.0** (44.0) / 0.2 μA/step]
	19	Nrml/2nd/129-209	[0 ~ 70.0 / **34.0** (44.0) / 0.2 μA/step]
	20	Nrml/2nd/-128	[0 ~ 70.0 / **32.0** (44.0) / 0.2 μA/step]
	21	Mid/2nd/-297	[0 ~ 70.0 / **31.0** (45.0) / 0.2 μA/step]
	22	Mid/2nd/257-296	[0 ~ 70.0 / **34.0** (45.0) / 0.2 μA/step]
	23	Mid/2nd/210-256	[0 ~ 70.0 / **37.0** (45.0) / 0.2 μA/step]
	24	Mid/2nd/129-209	[0 ~ 70.0 / **35.0** (45.0) / 0.2 μA/step]
	25	Mid/2nd/-128	[0 ~ 70.0 / **33.0** (45.0) / 0.2 μA/step]
	26	Thk/2nd/-297	[0 ~ 70.0 / **14.0** (28.0) / 0.2 μA/step]
	27	Thk/2nd/257-296	[0 ~ 70.0 / **15.0** (32.0) / 0.2 μA/step]
	28	Thk/2nd/210-256	[0 ~ 70.0 / **16.0** (36.0) / 0.2 μA/step]
314*	29	Thk/2nd/129-209	[0 ~ 70.0 / **22.0** (40.0) / 0.2 μA/step]
	30	Thk/2nd/-128	[0 ~ 70.0 / **28.0** (44.0) / 0.2 μA/step]
	31	OHP/297	[0 ~ 70.0 / **18.0** (24.0) / 0.2 μA/step]
	32	OHP/210	[0 ~ 70.0 / **22.0** (36.0) / 0.2 μA/step]

Reissued: 29-Jan-04

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004e

RTB Reissue

The items in bold italics have been added.

Subject: Firmware History - BCU (Engine)	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

This is to inform you of the BCU firmware history.

Part No.	Program name	Version	C.SUM	Production
G0705151				
	G0705151F.bin	***V1.48D***	***3C0B***	***January production '04***
	G0705151E.bin	V1.47A	0B11	October Production '03
	G0705151D.bin	V1.45	A657	August Production '03
	G0705151C.bin	V1.44A	0C47	July Production '03
	G0705151B.bin	V1.42	D6E3	April Production '03
	G0705151.bin	V1.40	5FBA	April Production '03
G0705150				
V	G0705150V.bin	V1.38	F699	February Production '03
T	-	V1.37		December Production '02
S	-	V1.36	-	November Production '02
R	-	V1.35	-	Not applied to the production machines
Q	-	V1.33	-	Not applied to the production machines
P	-	V1.32	-	August production '02

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating BCU firmware

Whenever updating BCU firmware from v1.37 or earlier to v1.38 or later, please be sure to update the main unit controller firmware at the same time to v2.24 or later. The main unit controller firmware history is described in RTB No. RG071003.

Reissued: 29-Jan-04

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004e

BICU

Symptom Corrected	Version
1. Carryover SP modes from Copier firmware: Currently UNUSABLE. ***The following are the SP modes carried over from the Copier firmware which will therefore appear on the display, as the printer firmware is created using the Copier firmware base. Please note that <u>currently these SP modes should not be used on the printer</u>, therefore please DO NOT CHANGE their values.*** ***-SP2-927-001 (Disable Time (ITB Cleaning)*** ***[0 ~ 14 / 3 / 1 s/step] DFU*** ***-SP2-925-001 (ITB Cleaning Execution Variable)*** ***[0 ~ 100 / 20 / 1 sheet/step] DFU*** ***-SP2-926-001 (Cover Ratio Reference (MC)*** ***[0 ~ 10 / 1.7 / 0.1 %/step] DFU*** ***-SP2-926-002 (Cover Ratio Reference (FC)*** ***[0 ~ 10 / 1.7 / 0.1 %/step] DFU*** ***-SP2-970-05 (ITB Cleaning Clutch Off/On Number in Oil removal mode)*** ***[0 ~ 5 / 0 / 1/step] DFU*** ***-SP2-950-8 (Start registration Adjustment: K(1:P1b))*** ***The default setting of SP2-950-8 has been changed from 0 to 1.*** ***[–3 ~ 3 / 1 (0) / 2 line/step] DFU ( ): Old default*** ***2. Extra toner may sometimes stick to the transfer roller and then to the rear side of the next sheet (main motor off-timing has been optimized).*** ***3. An SC481 (Transfer belt mark detection error) or SC280 (Image transfer belt mark detection error) misdetection may occur when the main motor rotational direction is changed from backwards to forwards.*** ***4. The machine may freeze up with the display "Processing,,," when the timing of OPC lubricant interruption (SP2-939) conicides with oil removal mode (SP2-970).*** ***5. Finisher jam misdetection may occur while the sheet is moving inside the finisher.*** ***6. A black image area may appear blank on the next sheet if paper is loaded in the tray during Paper End before the printer engine comes to a stop.*** ***Note: Along with this BICU version, be sure to update the main unit controller firmware to v2.30 or later.***	***1.48D***

Reissued: 29-Jan-04

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004e

Symptom Corrected	Version
1. SP modes newly added: SP2-922-001 (Development Clutch ON after Job End) Determines whether or not a small amount of toner is applied to the OPC belt surface in order to ensure proper belt cleaning. 0: OFF 1: ON (Default) Note: Although the above is not a new SP mode, it has been made selectable. SP2-923-001 (Lubricant after Toner End) Sets whether or not lubrication is applied at Toner End recovery. 0: OFF 1: ON (Default) The following two SP modes control the interval for performing reverse rotation on the M and K doctor rollers at job end, in order to ensure toner clumps do not form. Note: Although the following are not new controll, the intervals for these existing operations have been made selectable. SP3-913-001 (Doctor roller rotation interval M) [1 ~ 50 / 1 / 1 /step] SP3-913-002 (Doctor roller rotation interval K) [1 ~ 50 / 1 / 1 /step]	V1.47A

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004e

Symptom Corrected	Version
2. Existing SP mode subdivided: SP3-920 has been subdivided as follows to enable separate lubrication time control for 1C vs. 2C/3C/4C. SP3-920-001 (Lubrication Cleaning Time: - 1C) [0 ~ 100 / 50 / 1% /step] SP3-920-002 (Lubrication Cleaning Time: - 2C/3C/4C) [0 ~ 100 / 100/ 1% /step] 3. Carryover SP modes from Copier firmware – Currently UNUSABLE The following are the SP modes carried over from the Copier firmware which will therefore appear on the display, as the printer firmware is created using the Copier firmware base. Please note that currently these SP modes should not be used on the printer, therefore please DO NOT CHANGE their values. SP2-951-001 (Image Position Adjustment): DFU 0: New PCU: ITB cleaning blade: 1: Old PCU: No ITB cleaning blade (Default): SP2-950 (Start Registration Adjustment): SP2-921-001 (ITB Cleaning Clutch OFF Mode): DFU 0: New PCU: ITB cleaning blade 1: Old PCU: No ITB cleaning blade (Default) SP2-920-001 (ITB Cleaning Clutch OFF Time) [-500 ~ 500 / 0 / 10 /step] SP2-924-001 (ITB Cleaning Clutch Off/On – Time) [100 ~ 500/ 300 / 10ms /step] SP2-924-002 (ITB Cleaning Clutch Off/On – Number) [0 ~ 5/ 0 / 1 /step] NOTE: Along with this BICU version, be sure to update the main unit controller firmware to v2.29 or later.	V1.47A

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004e

Eliminated unnecessary occurrences of SC420 (Fusing bias discharge error): SC420 will not be triggered when a leak occurs as a result of a small hole on the fusing belt surface, since from field experience it has been confirmed that belt lifetime is actually longer when the SC is not triggered in these conditions. If the leak should occur, instead of the SC the machine turns SP2-510 OFF (fusing bias SW), and the fusing bias is not applied until the fusing counter is cleared when the user replaces the unit or the SP is set back to ON.	V1.45
1. Eliminated unnecessary occurrences of SC410 (2nd transfer electric leakage): SC410 tends to frequently occur when using paper with a high moisture content under high-temperature, high-humidity conditions when the resistance on the paper transfer roller is low. The roller current was previously lowered for mono-color mode (45% that of full color), which lowered the resistance and caused frequent occurrences. This version uses the color mode current for mono-color until job end to eliminate unecessary occurrences under the conditions described above. 2. SP modes newly added (listed below). These SPs have been added to ensure proper (higher) transfer belt cleaning by applying the following bias voltages at job end (OPC lubrication time): SP2-400-008: Cleaning Bias LL1: OPC lubrication time SP2-401-008: Cleaning Bias LL2: OPC lubrication time SP2-402-008: Cleaning Bias NN1: OPC lubrication time SP2-403-008: Cleaning Bias NN2: OPC lubrication time SP2-404-008: Cleaning Bias HH: OPC lubrication time [0 to 2000/ 1400 / 10 Volt/step] 2. Minimum value changed for SP2-941-01, -02 (OPC lubrication time). Minimum increased from 0 to 6: SP2-941-01: Job End: [6 ~ 30 / 20 / 1 s/step] SP2-941-02: OPC Lubrication Interval: [6 ~ 60 / 10 / 1 s/step] NOTE : Along with this BICU version, be sure to update the main unit controller firmware to v2.28 or later.	V1.44A
Modified in accordance with main unit controller v2.27 modificaiton. For details, please see RTB #RG071003b. NOTE : Along with this BICU version, be sure to update the main unit controller firmware to v2.27 or later. For details, please see RTB #RG071007 (black faint Images).	V1.42
Minor bugs corrected.	V1.40
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). Note: These SP modes are not yet operational.	
Software changed so that oil end detection is not performed while the fusing unit is in operation, in order to prevent oil end misdetections caused by winter humidity (humidification).	V1.38

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004e

SP mode newly added: SP2-801-02 (Additional Value of the charge corona cleaning interval). Refer to RTB No. RG071003 for the main unit controller firmware history.	
SC687 misdetections sometimes occur when paper is loaded into the bypass tray after the bypass tray reaches paper end.	
The detection conditions for SC412 (2nd transfer disconnection) have been changed from 60ms to 240ms to prevent misdetections that can sometimes occur in low-temperature conditions.	
Minor bugs corrected.	V1.37
Misdetection of toner end and/or toner near end even when the toner cartridge still contains enough toner to continue printing.	V1.36
The paper end condition may not be detected even when the paper in the optional tray has run out.	
SP1-905-01 (pressure roller type) newly added. For details, please refer to the main unit controller firmware history (RTB No. RG071003).	V1.35
Detection conditions for SC560 (Zero cross error) have been changed as follows (upper limits eliminated, as they are unnecessary): Old: 50Hz: Machine detects less than 45Hz or greater than 54Hz. 60Hz: Machine detects less than 55Hz or greater than 64Hz. New: 50Hz: Machine detects less than 45Hz. 60Hz: Machine detects less than 55Hz.	
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** / 1sheet/step]	
Paper end is sometimes not detected even when the paper in the standard tray runs out.	
Minor bug corrections.	V1.33
First release.	V1.32

2950	S_Reg._Adj.		
	1	M(2:P1b)	Colour registration adjustment: adjusts the start timing of imaging for each color. **DFU** [–3 ~ 3 / **–1** / 2 line/step] *2 lines = 0.047566 ms (about 85 µm)* *+: Delays the start timing.* *–: Advances the start timing.* *The start timing is adjusted only in plain paper mode, and when one of the following conditions is satisfied:* *1) Between the two images on the transfer belt (when two images are developed on the OPC at the same time (☛6.2))* *2) B4 SEF or larger (multi-print job)*
	2	C(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	3	Y(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	4	K(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	5	M(1:P1b)	[–3 ~ 3 / **–1** / 2 line/step]

	6	C(1:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	7	Y(1:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	8	K(1:P1b)	[–3 ~ 3 / ***1 (0)*** / 2 line/step]
	9	M(2:P1a)	For use in Japan only.
	10	C(2:P1a)	
	11	Y(2:P1a)	
	12	K(2:P1a)	
	13	M(1:P1a)	
	14	C(1:P1a)	
	15	Y(1:P1a)	
	16	K(1:P1a)	

Model: Model U-P1	Date: 19-Feb-04	No.: RG071013

Subject: Jam At Registration Sensor Section	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

SYMPTOM

Continuous paper jams at the registration section (counted in SP7504-63). Although the paper is caught, there are no marks visible.

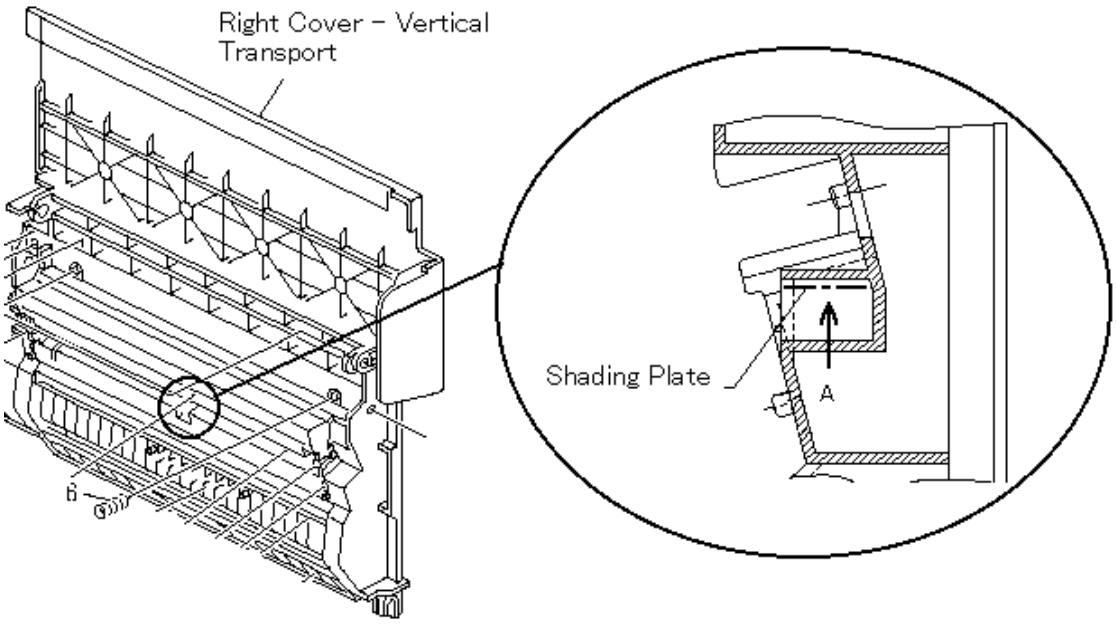
CAUSE

Paper dust in the machine reflects and diffuses light, which causes a registration sensor misdetection and the jam condition.

SOLUTION

Production line

A black seal (G0702136: Grid Shading Plate) has been added to the right cover from October 2002 production. For the cut-in serial numbers, please refer to MB #MG071022.



Machines in the field

Clean the area shown in the illustration, and remove any sheets of paper still left in the registration area.

Model: Model U-P1	Date: 20-Aug-04	No.: RG071014

Subject: New PCU / Development Unit Installation Procedure	Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.	

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

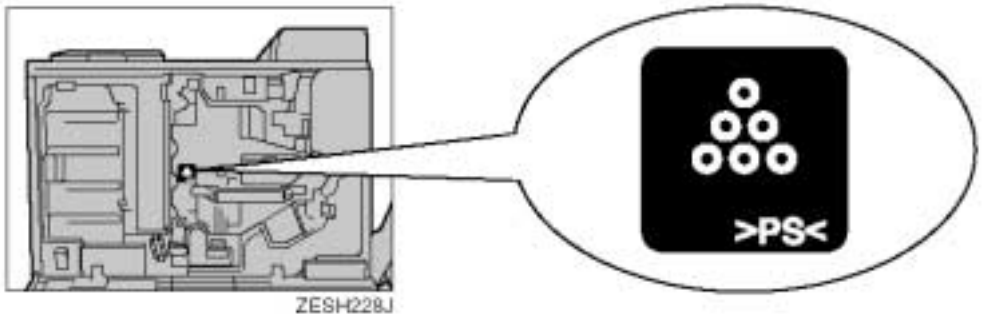
To ensure high cleaning performance from the ITB cleaning unit, a cleaning blade has been added to the Image transfer belt cleaning unit from June 2004 production of the machine and maintenance kit PCU. This is the same modification as the Model U-C machines produced from August 2003.

Due to this modification, the machine code and EDP code have been changed to distinguish the old maintenance kit PCU from the new one.

Machine codes: G780-17 to G780-18

EDP codes: 400721 to 402318

To notify the customer and service representatives of this modification, the following notification sheets (14 languages) have been added to the maintenance kit box.



ZESH228J

Notes to Users

Before replacing the photo conductor unit, open the printer's front cover to check that the seal is attached as shown. If it is, follow the replacement procedure that comes with the photo conductor unit. If the seal is not attached, printer adjustment is required. Contact your service representative before replacing.

Model: Model U-P1	Date: 20-Aug-04	No.: RG071014

The following modification has been applied to the production machines.

- A cleaning blade has been added to the ITB cleaning section.
- The material of the OPC-belt cleaning blade has been changed (This has already been applied to the production machine since 2003 October production.).
- Due to the additional cleaning blade in the ITB cleaning unit, an excessive load will be placed on the cam of the ITB cleaning contact mechanism at the rear of the machine. This can cause the cam to dislodge from the shaft. To correct this, a metal retaining ring was added to secure the cam (instead of a plastic snap ring) from the following cut-in serial numbers. (This has already been applied to the production machine since 2003 August).

Retaining ring modification from Plastic to metal (Refer to MB G071012 for details)

G071-17	P7536700688
G071-22	P7536800001
G071-24	L104389xxxx
G071-26	4K2893xxxx
G071-27	P7536800172

You must do these before you install either the new PCU or new development unit (or both) in machines with serial numbers prior to above cut-in numbers:

- Add the cam stopper to the ITB cleaning cam (The cam stopper is included in the New PCU box for new PCU settings only)
- Update the firmware to controller v2.30 or later and BCU v1.48d or later.
- Change SP mode settings (PCU settings or development unit settings)
- Perform color registration adjustment (SP2-950: for New PCU installation only)

To ensure good printing, the development unit has also been modified.

(K: Not supplied as spare part, M: G7823025 to G7823035 Refer to MB G071024 for details)

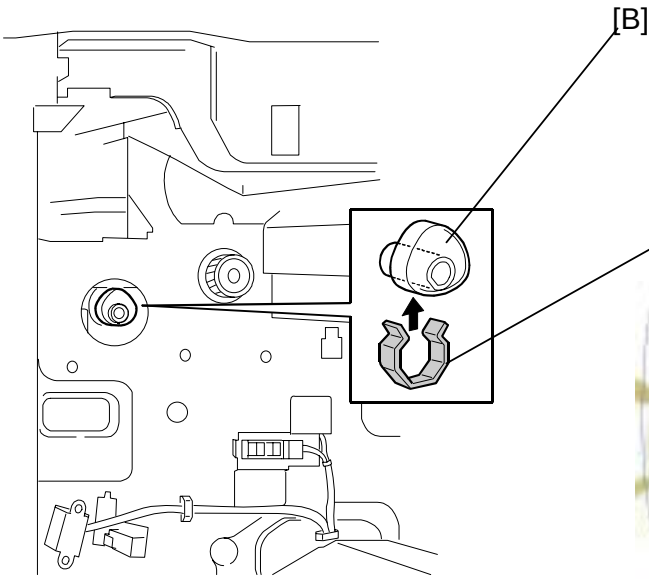
G071-17	P7536900304
G071-22	P7537000001
G071-24	L1043890001
G071-26	4K2913xxxx
G071-27	P7536900001

Procedures

Adding the Cam Stopper to the ITB Cleaning Cam

Note: If you have to install this new PCU in a mass-production unit from August 2003 production, you do not have to install this cam stopper.

1. Turn off the main switch.
2. Open the front cover.
3. Remove the old PCU.
4. Install the cam stopper [A] on the cam [B] so that the stopper does not stick out from the cam.
   Note: The straight edges of the cam stopper and cam are aligned with each other. The cam stopper will snap into position.
5. Install the new PCU.



NG: The stopper is sticking out from the cam.

Updating the Firmware

- **Update the firmware to <u>controller v2.30 or later</u> and <u>BCU v1.48d or later</u>.**

Note: These versions were applied from June '04 production.

Changing SP Mode Settings After Installing the New PCU or New Development unit or both.

Open the front cover. Then turn on the main switch. Then access the SP mode.

Note: It is necessary to input the settings to determine the SP settings even if the correct settings are indicated in the SP mode after the firmware is updated.

1. **Input the following SP modes as indicated in the following table:**
   Important:
   - **Development units**

   It is NOT NECESSARY to change the SP settings when you replace the Y and/or C development units. In other words, it is only necessary to change these SP mode settings when you replace the M and / or K development units.

   - **Magenta development unit replacement**

   When you install the old unit (G7823025): SP3-913-001: 1
   When you install the new unit (G7823035): SP3-913-001: 20

   - **K (black) development unit replacement**

   When you install the old unit: SP3-913-002: 1
   When you install the new unit: SP3-913-002: 20

   - **Specific combinations for K (Black) development unit / PCU replacement:**

   Note: Settings A-D are explained below.

PCU / K Development unit	New PCU	Old PCU
New Development unit	Setting C	Setting B
Old Development unit	Setting A	Setting D

SP mode table for specific combinations for K (Black) development unit / PCU replacement:

SP No.	Description	Setting A	Setting B	Setting C	Setting D
		Setting for New PCU (G780-18) + New Firmware (Old K Dev. Unit)	Setting for K New Dev. unit + New firmware (Old PCU: G780-17)	Setting for New PCU (G780-18)+ K New dev. unit + New Firmware	Setting for only new firmware (Old PCU: G780-17 & Old Dev. Unit)
2-921-001	ITB Cleaning CL OFF Mode	0 : New PCU	1 : Old PCU	0 : New PCU	1 : Old PCU
2-922-001	Dev CL ON after Job End	0 : OFF	*1* : ON	0 : OFF	1 : ON
2-951-001	Image Position Adjustment	0 : New PCU	1 : Old PCU	0 : New PCU	1 : Old PCU
3-913-001	Doc. Roller Rotation Interval:M Dev.	1 (See Note1 below)	1 (See Note1 below)	1 (See Note1 below)	1 (See Note1 below)
3-913-002	Doc. Roller Rotation Interval:K Dev.	1	20	20	1
2-970-05	ITB Cleaning Clutch Off/On Number in Oil removal mode	2	0	2	0

Note:

1. **Change this setting from 1 to 20 at the time you install the new M development unit (G7823035) at the same time.**
2. **It is recommended to use the <u>new</u> PCU and development unit when either is replaced on machines produced in June 2004 or later. This is because if either of the older units is installed in these machines, it is necessary to perform the SP setting changes explained in this section.**

- **If you perform the action for the black faint image (RTB RG071007), these SP mode settings would be input.**

RTB RG071007

SP No.	Description	Value
2-938-001 (New SP)	OPC Reverse Interval	10
2-941-001	OPC Lubricant Time – Interrupt	14
3-920-001	Lubrication Cleaning Time	50
3-921-001 (New SP)	Lubricant Clutch OFF: 1C	6
3-921-002 (New SP)	Lubricant Clutch OFF: 2C/3C/4C	6

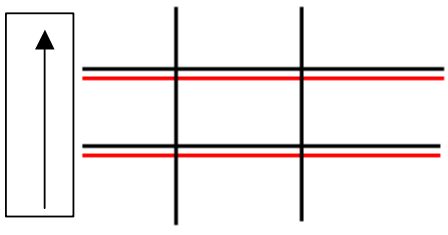
Sub-scan Color Registration Adjustment (SP2-951)

Perform the following only when you install the new PCU in machines produced up to and including May 2004. The adjustment is performed at the factory as of June 2004.

1. Print out the test pattern of SP5-955-5 (1 dot Grid Pattern 0-1: 2 pages of A3/DLT or 4 pages of A4/LT) in full color mode (SP2-917 test pattern on & send a color print job from the PC – see page 6)
2. Increase the settings of the following SPs by 1: SP2-950-4 and SP2-950-8.
3. Print out the same test pattern as in step 1.
4. Subtract 1 from the *initial* settings of SP2-950-4 and SP2-950-8.
5. Print out the same test pattern as in step 1.
6. A3/DLT printing:
   Compare the grid pattern in the center of the first sheet of each setting (initial, +1, -1). Then select the printout with the most closely aligned grid pattern. Then set SP2-950-8 to the value that produced that print.

   A4/LT printing:
   Compare the grid pattern near the trailing edge of the first sheet of each setting (initial, +1, -1). Then select the printout with the most closely aligned grid pattern. Then set SP2-950-8 to the value that produced that print.

1 dot Grid Pattern



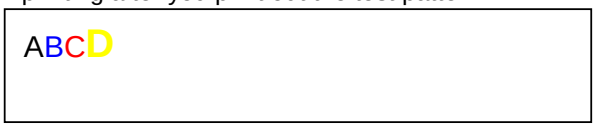
7. A3/DLT printing:
   Compare the grid pattern in the center of the second sheet of each setting (initial, +1, -1). Then

select the printout with the most closely aligned grid pattern. Then set SP2-950-4 to the value that produced that print.

A4/LT printing:
Compare the grid pattern near the trailing edge of the third sheet of each setting (initial, +1, -1). Then select the printout with the most closely aligned grid pattern. Then set SP2-950-4 to the value that produced that print.

Additional information for printing out the test pattern

1. Select SP5-955 to 5 and set SP2-917 to 1 (Enable test pattern).
2. Leave SP mode.
3. Press the on-line key to select “Online”.
4. Start an application that can let you print in colour, such as Microsoft Word.
5. Input 4 letters in each color (KCMY) as shown. The colours do dot have to be exactly cyan, yellow, and magenta; just use something that is as close as possible.
6. Print out 2 A3 / DLT pages (or 4 A4 / LT pages).
7. Return the setting of SP2-917 to 0 (or turn off the main switch) to reset the machine for normal printing after you print out the test pattern.

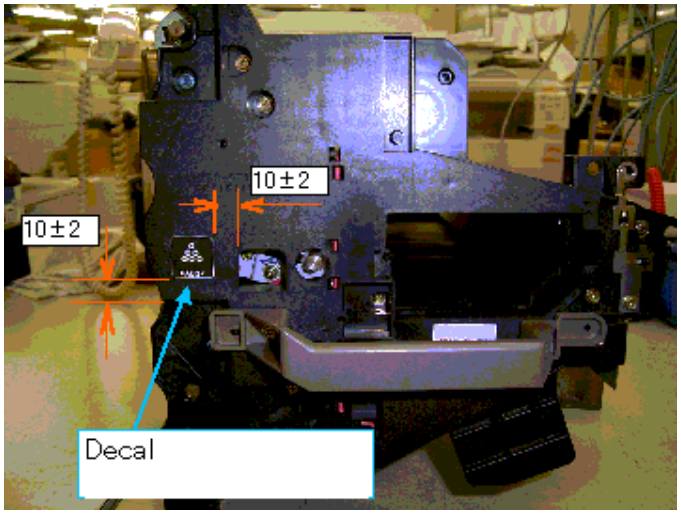


Distinguishing the old unit from the new one

These seals have been put on the new PCUs and new development units to distinguish the old unit from the new one.

New PCU

The new PCU unit has a seal as shown on the front side of the PCU.

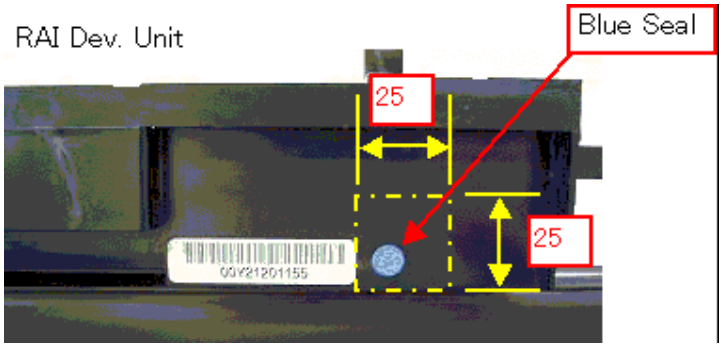


New Development unit

- The new development unit from 2003 September production has no mark on the left side of the development unit. They start at the following serial numbers.

G071-17	P7536900304
G071-22	P7537000001
G071-24	L1043890001
G071-26	4K2913xxxx
G071-27	P7536900001
G781-17	B4173890001 (BK development unit Kit)
G782-17	B517-3890001 (Color development unit kit)

- The new development unit from 2004 February production has a blue seal on the left side of the development unit.



Model: Model U-P1	Date: 20-Aug-04	No.: RG071014

The new development unit from 2004 June production has a “+” mark on the lot number decal as shown below.

Estimated side effects with incorrect combination of firmware/SP settings and old/new PCU

Firmware version / Type of PCU	May version or before	June or later	
		SP settings: Old	SP Settings: New
"Old PCU (no modification applied) May production or before"	---	---	• OPC lines (many) • Insufficient cleaning (many) • Color shift
"New PCU (modification applied) June production or later"	• Toner drop (horizontal line) • Color shift	• Toner drop (horizontal line) • Color shift	---

Reissued: 11-Jan-05

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004f

RTB Reissue

The items in bold italics have been added.

Subject: Firmware History - BCU (Engine)			Prepared by: H.K.
From: 1st Tech. Support Sec. Service Support Dept.			
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other (Firmware History)		

This is to inform you of the BCU firmware history.

Part No.	Program name	Version	C.SUM	Production
G0705151				
G	***G0705151G.bin***	***V1.49***	***CCD2***	***November production '04***
F	G0705151F.bin	V1.48D	3C0B	January production '04
E	G0705151E.bin	V1.47A	0B11	October Production '03
D	G0705151D.bin	V1.45	A657	August Production '03
C	G0705151C.bin	V1.44A	0C47	July Production '03
B	G0705151B.bin	V1.42	D6E3	April Production '03
	G0705151.bin	V1.40	5FBA	April Production '03
G0705150				
V	G0705150V.bin	V1.38	F699	February Production '03
T	-	V1.37		December Production '02
S	-	V1.36	-	November Production '02
R	-	V1.35	-	Not applied to the production machines
Q	-	V1.33	-	Not applied to the production machines
P	-	V1.32	-	August production '02

August '02 production serial numbers:

- G071-17: P75268xxxxx

11 units were shipped to US market as the test marketing machines (PMO).

- G071-27: P75268xxxxx

11 units were shipped to RDG fields as the test marketing machines (PMO).

Note for updating BCU firmware

Whenever updating BCU firmware from v1.37 or earlier to v1.38 or later, please be sure to update the main unit controller firmware at the same time to v2.24 or later. The main unit controller firmware history is described in RTB No. RG071003.

Reissued: 11-Jan-05

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004f

BICU

Symptom Corrected	Version
White lines. ***Note: The "Doctor roller reverse mode" was changed to decrease the amount of clogged toner in between the development roller and doctor roller.*** ***New: Reverse once*** ***Reverse/Forward*** ***Old: Reverse twice*** ***Reverse/Forward/Reverse/Forward*** ***Note: Along with this BICU version, be sure to update the main unit controller firmware to v2.30 or later.***	***1.49***

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004f

Symptom Corrected	Version
1. Carryover SP modes from Copier firmware: Currently UNUSABLE. The following are the SP modes carried over from the Copier firmware which will therefore appear on the display, as the printer firmware is created using the Copier firmware base. Please note that currently these SP modes should not be used on the printer, therefore please DO NOT CHANGE their values. -SP2-927-001 (Disable Time (ITB Cleaning) [0 ~ 14 / **3** / 1 s/step] DFU -SP2-925-001 (ITB Cleaning Execution Variable) [0 ~ 100 / **20** / 1 sheet/step] DFU -SP2-926-001 (Cover Ratio Reference (MC) [0 ~ 10 / **1.7** / 0.1 %/step] DFU -SP2-926-002 (Cover Ratio Reference (FC) [0 ~ 10 / **1.7** / 0.1 %/step] DFU -SP2-970-05 (ITB Cleaning Clutch Off/On Number in Oil removal mode) [0 ~ 5 / **0** / 1/step] DFU -SP2-950-8 (Start registration Adjustment: K(1:P1b)) The default setting of SP2-950-8 has been changed from 0 to 1. [–3 ~ 3 / **1** (0) / 2 line/step] DFU ( ): Old default 2. Extra toner may sometimes stick to the transfer roller and then to the rear side of the next sheet (main motor Off timing has been optimized). 3. An SC481 (Transfer belt mark detection error) or SC280 (Image transfer belt mark detection error) misdetection may occur when the main motor rotational direction is changed from backwards to forwards. 4. Machine may freeze up with the display “Processing,,,” when the timing of OPC lubricant interruption (SP2-939) conicides with oil removal mode (SP2-970). 5. Finisher jam misdetection may occur while the sheet is moving inside the finisher. 6. A black image area may appear blank on the next sheet if paper is loaded in the tray during Paper End before the printer engine comes to a stop. Note: Along with this BICU version, be sure to update the main unit controller firmware to v2.30 or later.	1.48D

Reissued: 11-Jan-05

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004f

Symptom Corrected	Version
1. SP modes newly added: SP2-922-001 (Development Clutch ON after Job End) Determines whether or not a small amount of toner is applied to the OPC belt surface in order to ensure proper belt cleaning. 0: OFF 1: ON (Default) Note: Although the above is not a new SP mode, it has been made selectable. SP2-923-001 (Lubricant after Toner End) Sets whether or not lubrication is applied at Toner End recovery. 0: OFF 1: ON (Default) The following two SP modes control the interval for performing reverse rotation on the M and K doctor rollers at job end, in order to ensure toner clumps do not form. Note: Although the following are not new controll, the intervals for these existing operations have been made selectable. SP3-913-001 (Doctor roller rotation interval M) [1 ~ 50 / 1 / 1 /step] SP3-913-002 (Doctor roller rotation interval K) [1 ~ 50 / 1 / 1 /step]	V1.47A

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004f

Symptom Corrected	Version
2. Existing SP mode subdivided: SP3-920 has been subdivided as follows to enable separate lubrication time control for 1C vs. 2C/3C/4C. SP3-920-001 (Lubrication Cleaning Time: - 1C) [0 ~ 100 / 50 / 1% /step] SP3-920-002 (Lubrication Cleaning Time: - 2C/3C/4C) [0 ~ 100 / 100/ 1% /step] 3. Carryover SP modes from Copier firmware – Currently UNUSABLE The following are the SP modes carried over from the Copier firmware which will therefore appear on the display, as the printer firmware is created using the Copier firmware base. Please note that currently these SP modes should not be used on the printer, therefore please DO NOT CHANGE their values. SP2-951-001 (Image Position Adjustment): DFU 0: New PCU: ITB cleaning blade: 1: Old PCU: No ITB cleaning blade (Default): SP2-950 (Start Registration Adjustment): SP2-921-001 (ITB Cleaning Clutch OFF Mode): DFU 0: New PCU: ITB cleaning blade 1: Old PCU: No ITB cleaning blade (Default) SP2-920-001 (ITB Cleaning Clutch OFF Time) [-500 ~ 500 / 0 / 10 /step] SP2-924-001 (ITB Cleaning Clutch Off/On – Time) [100 ~ 500/ 300 / 10ms /step] SP2-924-002 (ITB Cleaning Clutch Off/On – Number) [0 ~ 5/ 0 / 1 /step] NOTE: Along with this BICU version, be sure to update the main unit controller firmware to v2.29 or later.	V1.47A

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004f

Symptom Corrected	Version
Eliminated unnecessary occurrences of SC420 (Fusing bias discharge error): SC420 will not be triggered when a leak occurs as a result of a small hole on the fusing belt surface, since from field experience it has been confirmed that belt lifetime is actually longer when the SC is not triggered in these conditions. If the leak should occur, instead of the SC the machine turns SP2-510 OFF (fusing bias SW), and the fusing bias is not applied until the fusing counter is cleared when the user replaces the unit or the SP is set back to ON.	V1.45
1. Eliminated unnecessary occurrences of SC410 (2nd transfer electric leakage): SC410 tends to frequently occur when using paper with a high moisture content under high-temperature, high-humidity conditions when the resistance on the paper transfer roller is low. The roller current was previously lowered for mono-color mode (45% that of full color), which lowered the resistance and caused frequent occurrences. This version uses the color mode current for mono-color until job end to eliminate unecessary occurrences under the conditions described above. 2. SP modes newly added (listed below). These SPs have been added to ensure proper (higher) transfer belt cleaning by applying the following bias voltages at job end (OPC lubrication time): SP2-400-008: Cleaning Bias LL1: OPC lubrication time SP2-401-008: Cleaning Bias LL2: OPC lubrication time SP2-402-008: Cleaning Bias NN1: OPC lubrication time SP2-403-008: Cleaning Bias NN2: OPC lubrication time SP2-404-008: Cleaning Bias HH: OPC lubrication time [0 to 2000/ 1400 / 10 Volt/step] 2. Minimum value changed for SP2-941-01, -02 (OPC lubrication time). Minimum increased from 0 to 6: SP2-941-01: Job End: [6 ~ 30 / 20 / 1 s/step] SP2-941-02: OPC Lubrication Interval: [6 ~ 60 / 10 / 1 s/step] NOTE : Along with this BICU version, be sure to update the main unit controller firmware to v2.28 or later.	V1.44A
Modified in accordance with main unit controller v2.27 modificaiton. For details, please see RTB #RG071003b. NOTE : Along with this BICU version, be sure to update the main unit controller firmware to v2.27 or later. For details, please see RTB #RG071007 (black faint Images).	V1.42
Minor bugs corrected.	V1.40
Changes made in preparation for the addition of SP3-921-01/02 (from the next version). Note: These SP modes are not yet operational.	
Software changed so that oil end detection is not performed while the fusing unit is in operation, in order to prevent oil end misdetections caused by winter humidity (humidification).	V1.38

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004f

Symptom Corrected	Version
SP mode newly added: SP2-801-02 (Additional Value of the charge corona cleaning interval). Refer to RTB No. RG071003 for the main unit controller firmware history.	
SC687 misdetections sometimes occur when paper is loaded into the bypass tray after the bypass tray reaches paper end.	
The detection conditions for SC412 (2nd transfer disconnection) have been changed from 60ms to 240ms to prevent misdetections that can sometimes occur in low-temperature conditions.	
Minor bugs corrected.	V1.37
Misdetection of toner end and/or toner near end even when the toner cartridge still contains enough toner to continue printing.	V1.36
The paper end condition may not be detected even when the paper in the optional tray has run out.	
SP1-905-01 (pressure roller type) newly added. For details, please refer to the main unit controller firmware history (RTB No. RG071003).	V1.35
Detection conditions for SC560 (Zero cross error) have been changed as follows (upper limits eliminated, as they are unnecessary): Old: 50Hz: Machine detects less than 45Hz or greater than 54Hz. 60Hz: Machine detects less than 55Hz or greater than 64Hz. New: 50Hz: Machine detects less than 45Hz. 60Hz: Machine detects less than 55Hz.	
Default settings for SP2-944-4 and –5 have been changed to reduce the OPC lubrication mode cycle : SP2-944-4 : Sheets-1 : [10 to 80/ **30** / 1sheet/step] SP2-944-5 : Sheets-2 : [10 to 80/ **60** / 1sheet/step]	
Paper end is sometimes not detected even when the paper in the standard tray runs out.	
Minor bug corrections.	V1.33
First release.	V1.32

2950	S_Reg._Adj.		
	1	M(2:P1b)	Colour registration adjustment: adjusts the start timing of imaging for each color. **DFU** [–3 ~ 3 / **–1** / 2 line/step] *2 lines = 0.047566 ms (about 85 μm)* *+: Delays the start timing.* *–: Advances the start timing.* *The start timing is adjusted only in plain paper mode, and when one of the following conditions is satisfied:* *1) Between the two images on the transfer belt (when two images are developed on the OPC at the same time (☛ 6.2))* *2) B4 SEF or larger (multi-print job)*
	2	C(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	3	Y(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	4	K(2:P1b)	[–3 ~ 3 / **0** / 2 line/step]

Model: Model U-P1	Date: 3-Feb-03	No.: RG071004f

	5	M(1:P1b)	[–3 ~ 3 / **–1** / 2 line/step]
	6	C(1:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	7	Y(1:P1b)	[–3 ~ 3 / **0** / 2 line/step]
	8	K(1:P1b)	[–3 ~ 3 / ***1 (0)*** / 2 line/step]
	9	M(2:P1a)	For use in Japan only.
	10	C(2:P1a)	
	11	Y(2:P1a)	
	12	K(2:P1a)	
	13	M(1:P1a)	
	14	C(1:P1a)	
	15	Y(1:P1a)	
	16	K(1:P1a)	