



Technical Bulletin No. CFO-001

SUBJECT: Service Manual Correction

DATE:
Sep. 21st, 1992

PREPARED BY: Mihara
CHECKED BY:

FROM: FAX T.S. Section

CLASSIFICATION:

- | | |
|---|--|
| <input type="checkbox"/> Action Required | <input checked="" type="checkbox"/> Revision of service manual |
| <input type="checkbox"/> Troubleshooting | <input type="checkbox"/> Information only |
| <input type="checkbox"/> Retrofit Information | <input type="checkbox"/> Other |

MODEL: CFO

The following are corrections for the CFO service manual.

- Service Manual for G3 -

1. Section 1.1. Specifications

Maximum Scan Width
256mm [10.1 ins] → 296mm [11.7 ins]

2. Section 4.2. Bit Switches (Europe only)

Bitswitch 05 bit 6.7

Bit 76	Method
10	Not used → Ground Start

3. Section 6.2. Error Codes

Additional Codes

Code	Meaning	Suggested Causal Action
0-30	No response to NSS(A) when using AI short protocol	1. Check the other terminal 2. Replace the FCU
5-00	DCR failure (RX)	Replace the FCU

SUBJECT: Service Manual Correction**DATE:**

Sep. 21st, 1992

- Service Manual for the ISDN G4 kit -

1. Section 2.3. Dedicated Transmission Parameters.

- Byte 5 is not used
- Byte 5 (Data rate) → Byte 6 (Data rate)
- Byte 6 (Link modulus) → Byte 7 (Link modulus)
- Byte 7 (Layer 3 protocol, Packet modulus) → Byte 8 (Layer 3 protocol, Packet modulus)

2. Section 3.1. Error Codes

Additional codes for ISDN

Code	Meaning	Suggested cause/Action
3-00	CIG4 reset CIG4 did not send response to FCU	<ul style="list-style-type: none">• Replace the CIG4 or FCU• Check the ISDN line
3-10	Disconnect during ISDN G3 communication	<ul style="list-style-type: none">• Check the other terminal• Check the ISDN line• The other party dialed the wrong number
3-11	Disconnect during ISDN G4 communication	<ul style="list-style-type: none">• Check the other terminal• Check the ISDN line
3-20	A'CSA' Signal was received during ISDN G4 communication	<ul style="list-style-type: none">• Check the other terminal• Check the ISDN line
3-21	A'CSA' Signal was sent out after pressing the stop key was pressed during ISDN G4 communication	<ul style="list-style-type: none">• The stop key was pressed
3-30	Mismatched specifications (rx capability)	<ul style="list-style-type: none">• Check the specifications of the other terminal

SUBJECT: Service manual correction No.2**DATE:**

November 11, 1992

PREPARED BY: N. Mihara

CHECKED BY:

FROM: FAX T.S. Section

CLASSIFICATION:

 Action Required Troubleshooting Retrofit Information Revision of service manual Information only Other

MODEL: CFO

The following are corrections for the CFO service manual.

— Service manual for G3 —

1. Section 2.3.2. NCU. (Europe only)

TB 10

Ä TB1

TB 11

Ä TB2

TP 2-TP 3

Ä TP1-TP2

2. Section 4.3. NCU parameters

Address 3F2 Modem Tx level on the ISDN.

This cannot be changed by Function 09 (parameter 20) (Parameter 20 is not used.)

3. Section 4.5. Service RAM address

Address 00014A (Service switch 0A)

Bit 2: This should be inch - to - mm conversion

Bit 3: This should be inch - to - mm conversion

— Service Manual for G4 —

1. Section 2.2.

Bit SW11: Action in reply to a link release request.

bit 0 USA: There is no need to set this to 1. keep it at 0.

Bit SW17: Fallback from ISDN G4 to ISDN G3.

bit 7: 0: Fallback occurs on receipt of any of the following CPS codes

UK - # 3, 63, 65, and 88

Germany - # 53

Other - # 3, 65, and 88.

SUBJECT: Hard Disk Trouble

DATE:

January 7th, 1992

PREPARED BY: N. MIHARA

FROM: FAX T.S. Section

CHECKED BY:

CLASSIFICATION:

Action Required

Troubleshooting

Retrofit Information

Revision of service manual

Information only

Other

MODEL: AII (FAX 90/95/105)

K105, CFO

— Problem —

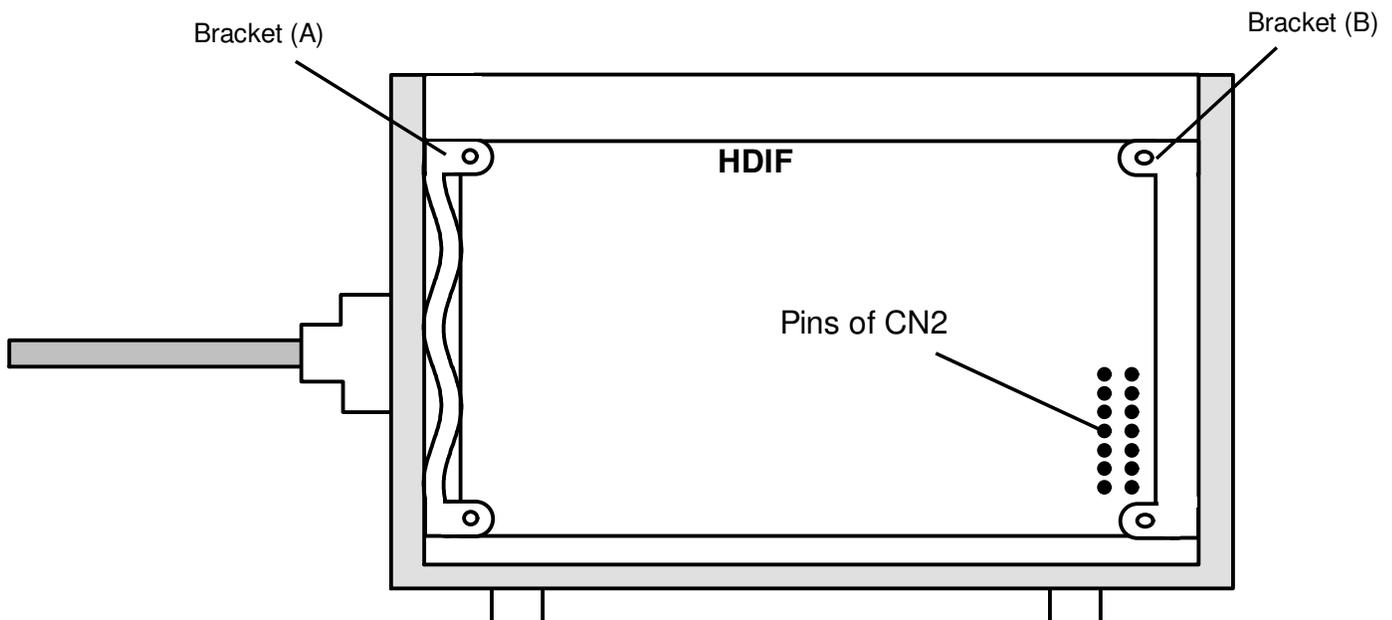
After replacing the HDIF board, the LCD may show "0%" instead of "100%" in the memory space field.

— Reason —

If the bracket (A) is bent, the pins of CN2 on the HDIF board may touch the bracket (B), then the HDIF board will be broken.

— Countermeasure —

- When replacing the HDIF board, make sure that the bracket (A) is not bent, and the pins of CN2 on the HDIF board do not touch the bracket (B).
- For the CFO, when replacing the ROM on the HDIF board at installation, replace the ROM after removing the PSU in accordance with the installation manual. Do not remove the HDIF board.



SUBJECT: NCU parameter setting for UK**DATE:**

January 14th, 1993

PREPARED BY: N. Mihara

CHECKED BY:

FROM: FAX T.S. Section

CLASSIFICATION:

 Action Required Troubleshooting Retrofit Information Revision of service manual Information only Other

MODEL: CFO

When installing the above model in UK, change the NCU parameter in accordance with the PTT requirement as follows.

1. Make sure that the country codes for NCU parameter and bitswitch are for UK setting.
2. Change the RAM addresses as follows.

(PTT requirement)

Address 0003B4 = 32(H) → 28(H)

Address 000399 = 43(H) → 42(H)

Address 0003B8 = 02(H) → 03(H)

The above correction will be applied into the software from the 1st productions of March '93.

SUBJECT: Installation of CFO 20M hard disk option in Sweden

DATE:

April 15th, 1993

PREPARED BY: N. Mihara

FROM: FAX T.S. Section

CHECKED BY:

CLASSIFICATION:

Action Required

Troubleshooting

Retrofit Information

Revision of service manual

Information only

Other

MODEL: CFO

At installation in Sweden, the following parts have to be replaced to meet the Swedish safety regulations.

* Replacement parts

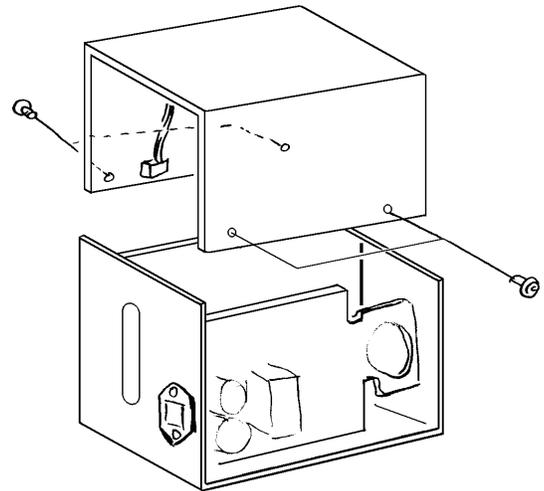
1. Inlet filter (H044 8202B) x 1

2. Fuse (215 series 250V/ 2A) x 1

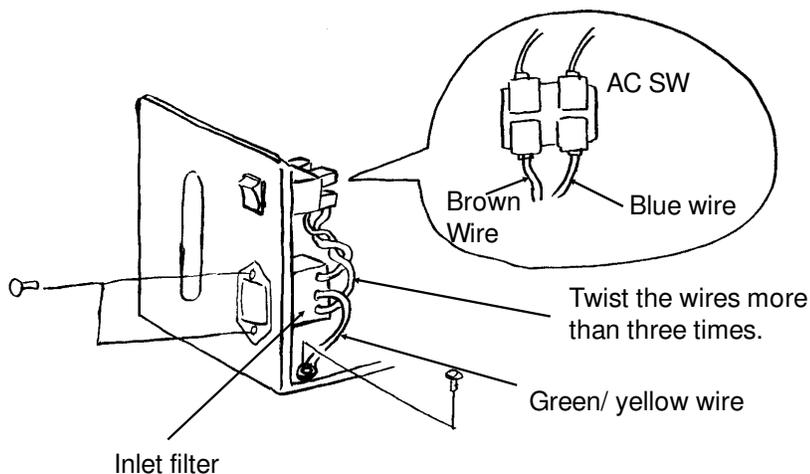
(These parts should be provided to REBV from Ricoh Tokyo, not through SPC.)

Procedure

1. Remove the hard disk cover (screw: M3 x 4)



2. Replace the inlet filter (Screw: M3 x 2, M4 x 1).

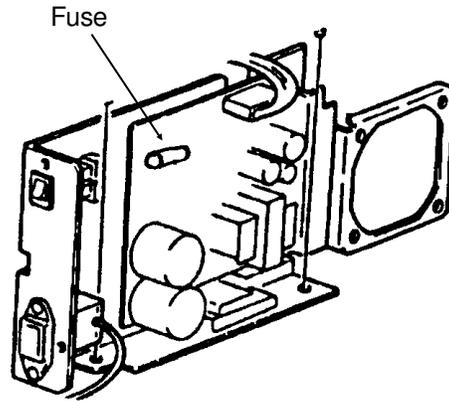


SUBJECT: Installation of CFO 20M hard disk option in Sweden

DATE:

April 15th, 1993

3. Replace the fuse on the PSU of the hard disk.



4. Reassemble the hard disk unit.

SUBJECT: Scratch on the OPU

DATE:

April 15th, 1993

PREPARED BY: N. Mihara

CHECKED BY:

FROM: FAX T.S. Section

CLASSIFICATION:

Action Required

Troubleshooting

Retrofit Information

Revision of service manual

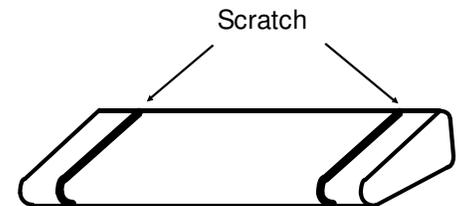
Information only

Other

MODEL: CFO

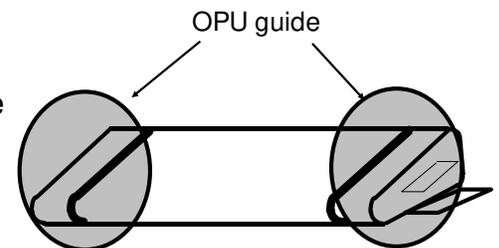
Problem

The OPU may be damaged when using the machine, as shown below. However, there is no problem on the printed image.



Cause

1. Both sides of the development roller may touch the metal blade on the development roller. By this, the shaved corpuscles may get in the space between the OPU belt and the development roller, the both sides of the OPU belt may be damaged.
2. The position of the OPU guide may be changed for some reason, then the OPU belt may touch the plastic pins on the development unit.



Action

1. If the above problem occurs, do not replace the OPU, because, there will be no problem on the printed image, in the lifetime of the OPU.
2. Do not adjust and change the position of the OPU guide.

Note

Do not touch the surface of the OPU belt and not clean with alcohol.

SUBJECT: Dirty Mirrors

DATE:

June 30, 1993.

PREPARED BY: N. Mihara

FROM: FAX T.S. Section

CHECKED BY:

CLASSIFICATION:

Action Required

Troubleshooting

Retrofit Information

Revision of service manual

Information only

Other

MODEL: CSO

— Problem —

In the field, the scanner mirrors may become dusty (poor scanning quality).
In this case, we recommend that you do procedures 1 and 2.

— Procedure —

Procedure 1.

Clean the mirrors with the mirror cleaning kit.

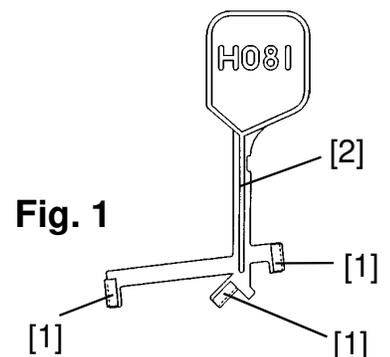
It is easy to clean the mirrors (there is no need to remove the ADF base).

P/N: H0819300 (for CSO) Mirror Cleaning Kit

- Mirror Cleaning Tool ×1pc
- Cleaning Felt ×30pcs
- Vinyl Bag ×1pc

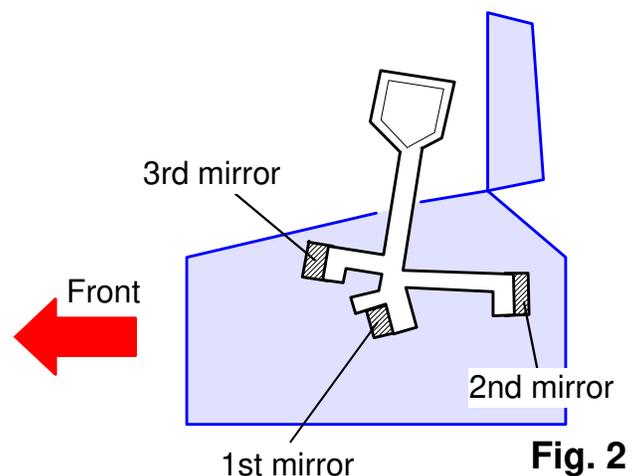
[Preparation]

Attach the cleaning felts [1] to the mirror cleaning tool [2]. (Fig. 1)
(With one set of felts, you can clean the mirror up to 10 times)



[Cleaning Method]

- (1) Remove the exposure glass.
- (2) Insert the cleaning tool into the scanner. (Fig. 2)
- (3) Clean the mirrors by sliding the tool.
(3~4 times for each mirror)



SUBJECT: Dirty Mirrors

DATE:

June 30, 1993.

Procedure 2.

Install the mirror protection sheet kit. The sheets in the kit will prevent the mirrors from becoming dirty.

P/N: H0819900 Dust Protection Sheet Kit

- FCU Sheet × 1pc
- Dust Protection Sheet 1 × 1pc
- Dust Protection Sheet 2 × 1pc
- CTM Sheet × 1pc

[CTM Sheet Installation]

- (1) Open the front cover, then cover the OPC belt with a piece of paper (do not touch the belt surface by hand).
- (2) Attach the CTM sheet. (Fig. 3)

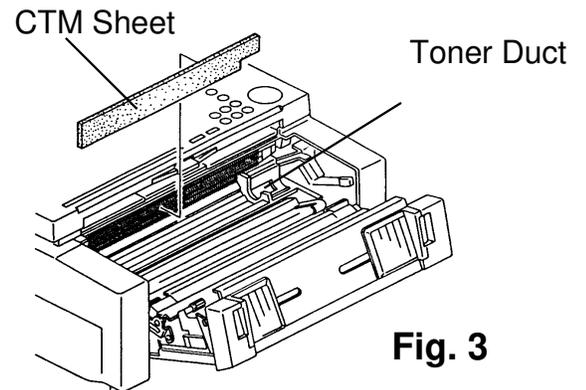


Fig. 3

[FCU Sheet Installation]

- (1) Remove the rear/ left/ right/ lens covers.
- (2) Insert the FCU sheet under the mirrors, then attach the sheet to the right side and interior of the ADF base. (Fig. 4)

[Dust Protection Sheet 1 and 2 Installation]

- (1) Attach the dust protection sheet 1 to the left side of the scanner and the upper side of the shading plate. (Fig. 4)
- (2) Attach the dust protection sheet 2 to the right side of the scanner and the upper side of the shading plate. (Fig. 4)

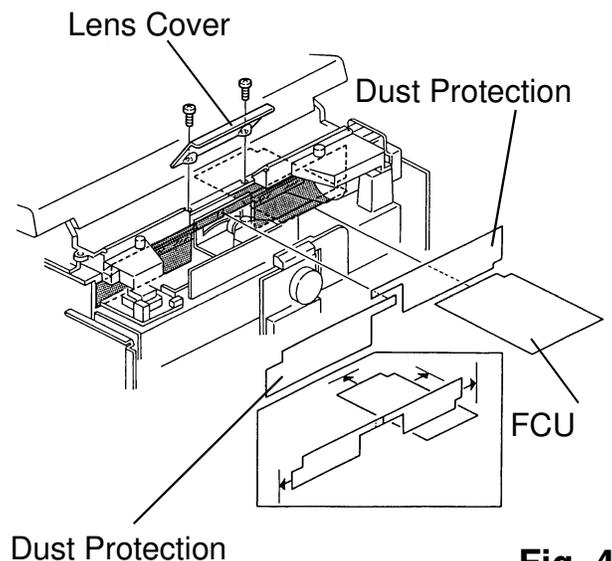


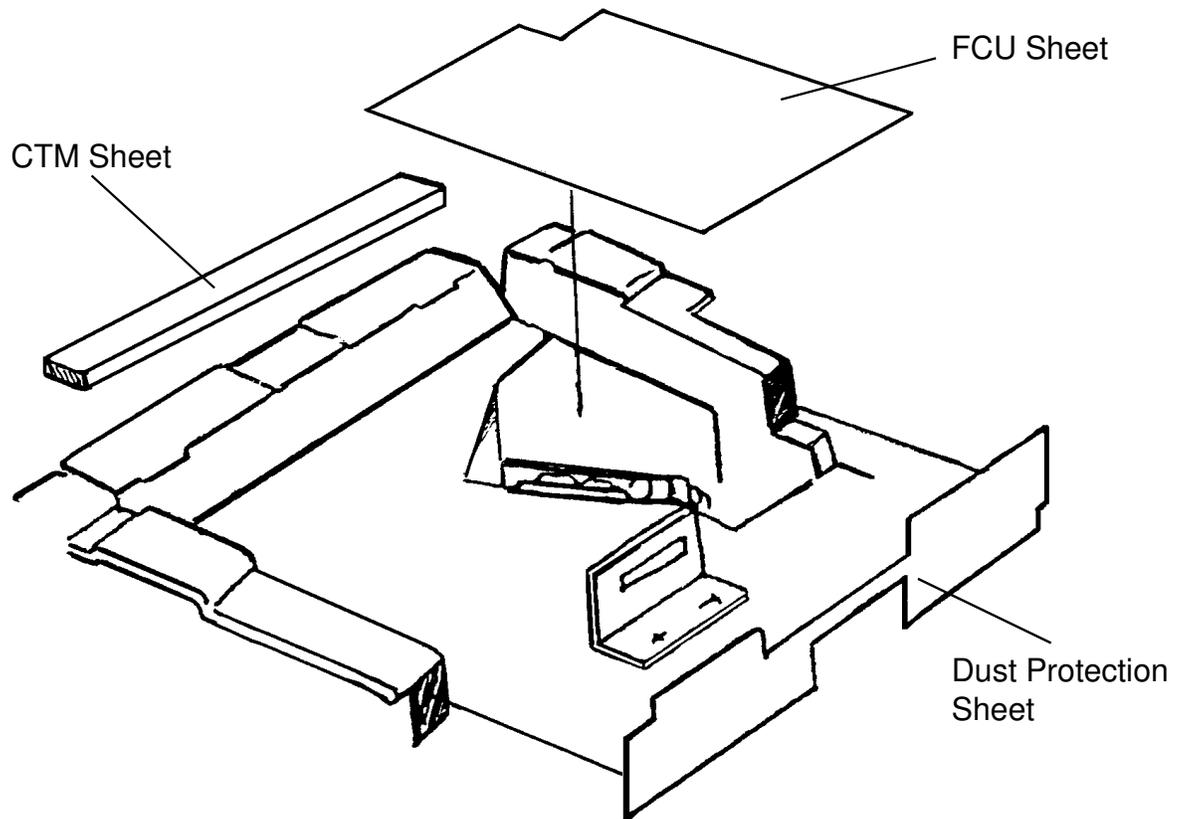
Fig. 4

— Countermeasure —

We have applied the modification (attaching the protection sheets to the productions) from the June. productions.

SUBJECT: Dirty Mirrors

DATE:
June 30, 1993.



SUBJECT: ADF Non Feed Problem**DATE:** July 27, 1993

PREPARED BY: N. Mihara

FROM: FAX T.S. Section

CHECKED BY:

CLASSIFICATION:

 Action Required Revision of service manual Troubleshooting Information only Retrofit Information Other

MODEL: CFO

[Problem]

Non feed at the ADF may occur if copier paper which has silicone oil on the surface is used as a original.

[Reason]

Some copier machines may leave too much silicone oil on copies.

[Countermeasure]

Please replace the pick-up roller with the following countermeasure part.

Part No. H0819504: Pick up roller (Carborundum roller)

Note: Please note that the ADF capacity will be decreased.
if the carborundum roller is installed.

ADF capacity: 50 sheets (Normal rubber roller)
20 sheets (Carborundum roller)

SUBJECT: Rx Error (with ISDN G3)

DATE: Aug 16th, 1993

PREPARED BY: N. Mihara

FROM: FAX T.S. Section

CHECKED BY:

CLASSIFICATION:

MODEL: CFO

Action Required

Revision of service manual

Troubleshooting

Information only

Retrofit Information

Other

[Problem]

During ISDN G3 reception, communication failure may occur.

[Cause]

Codec gain (ISDN) for the rx signal is too much high.

[Action]

Please reduce the codec gain from -0.5dB to -4.5 dB using RAM address 00015A(H) as follows.

Address 00015A(H)

BIT NO	Description							
	Codec Gain							
0	0	1	0	1	0	1	0	1
1	0: -4.5	0: -2.5	1: -0.5	1: +1.5	0: +3.5	0: +5.5	1: +7.5	1: +9.5
2	0 dB	B dB	0 dB	0 dB	1: dB	1 dB	1 dB	1 dB

[Countermeasure]

We have modified the software from the April '93 production run (MB CFO-032).

SUBJECT: Spare Parts List for CFO options

DATE:

Feb. 21st, 1994

PREPARED BY: H.Yokoyama

FROM: 2nd T.S. Section

CHECKED BY:

CLASSIFICATION:

Action Required

Troubleshooting

Retrofit Information

Revision of service manual

Information only

Other

MODEL: CFO all model

We issue the parts list for the CFOs optional ISDN and HD kits.

<ISDN>

- For 115V areas -

P/N	Description	Q'ty
H082 6017	PCB-CIG4: USA	1
H143 4002	Bracket - CIG4	1
H143 4010	Cover - CIG4 Connector	1

- For 200V areas -

- For the machines with model codes H082-40,51,52,83,90.

P/N	Description	Q'ty
H082 6016	PCB - CIG4: E/A	1
H143 4002	Bracket - CIG4	1
H143 4010	Cover - CIG4 Connector	1

- For the machine with model code H082-30.

P/N	Description	Q'ty
H082 6016	PCB - CIG4: E/A	1
H143 4002	Bracket - CIG4	1
H143 4001	Cover - CIG4 Connector: H	1

<HD Kit>

- For 115V areas -

P/N	Description	Q'ty
H082 6011	PCB - OPIF	1
H082 6024	PCB - HDCB	1
H044 8250	PSU Ass'y: US	1
H044 6021	PCB - HDIF	1
H044 8251	HD Unit	1

- For 200V areas -

P/N	Description	Q'ty
H082 6011	PCB - OPIF	1
H082 6024	PCB - HD CB	1
H043 8250	PSU Ass'y: E/A	1
H044 6021	PCB - HDIF	1
H044 8251	HD Unit	1

SUBJECT: CFO(F) may not detect IT2.**DATE:**

June,3rd, 1994

PREPARED BY: H.Yokoyama

CHECKED BY: S.Hamano

FROM: 2nd T.S. Section

CLASSIFICATION:

 Action Required Troubleshooting Retrofit Information Revision of service manual Information only Other

MODEL:

CFO(F)

<Problem>

CFO(French version) does not detect IT2 when is connected to a PABX.

<Cause>

The level of IT2 after the PABX exchanger does not match the French PTT standards.

<Modification>

The range for the parameter for detecting IT2 has been made wider than previous setting.

The following are the part number changes for the modification.

- H0826038C → D PCB-MBU : F
 (H0827161C → D) Programmed ROM : F
- H0826043A → B PCB-FCU : F
 (H0827163A → B) Programmed ROM : F

This will affect machines from April production, 1994.

<Action>

If you have this problem, replace the above parts (programmed ROMs) at the same time and do the following.

- (1) Set the value of NCU parameter No.00 to "00H" (This means set the country code to "France")
- (2) Press "Yes"

Then the machine sets the parameter automatically.

SUBJECT: Service Manual Correction

DATE:

June,10th, 1994

PREPARED BY: H.Yokoyama

CHECKED BY: S.Hamano

FROM: 2nd T.S. Section

CLASSIFICATION:

Action Required

Troubleshooting

Retrofit Information

Revision of service manual

Information only

Other

MODEL:

CFO (Siemens)

The following are corrections for the CFO service manual.

1. Section 4.2 BIT SWITCHES

Factory Setting for the bit switches

Bit Switch No.	Wrong	Correct
1E	00100001	00110001

2. Section 4.3 NCU PARAMETERS

Factory settings for the NCU parameters

NCU Parameter No.	Wrong	Correct
04	Not described	FF(H)
05	Not described	00(H)
09	HIGH	LOW 90(H)
10	LOW	HIGH 01(H)
19	-14dB	-7dB

3. Section 4.1.14 RAM Tests (Function 13)

Please add the following note to the start of section 4.1.14 as shown on the attached sheet.

<Note>

It is not recommended to try the S-RAM check at a customer site.

In S-RAM check mode, the software may hang up if the fax machine's program tries to access an address that is currently being checked. If this occurs, the machine will continue to indicate "NOW CHECKING", and will have to be switched off. Switching the power off will cause a total reset of the stored RAM data.

3. Press a key from 0 to 5, depending on the required pattern. Use and to see what patterns are available.
4.
A test pattern is printed.
5. To finish: x 2

4.1.14. RAM Tests (Function 13)

Note: It is not recommended to try the S-RAM check at a customer site. In S-RAM check mode, the software may hang up if the fax machine's program tries to access an address that is currently being checked. If this occurs, the machine will continue to indicate "NOW CHECKING", and will have to be switched off. Switching the power off will cause a total re-set of the stored RAM data.

1. After entering service mode, press

RAM TEST	NO. <input type="button" value="—"/>
0 SRAM	1 SAF
2 PAGE MEMORY	

2. Either:

- Test the SRAM:
- Test the SAF:
- Test the page memory:

If there is a problem, a display of the following type will occur.

SAF

PRESS START

ADDRESS=300002 W=55 R=00

Keep a note of the information on the display, then press to resume testing.

3. When the test has finished, "OK" is displayed. Press to finish.

4.1.15. Service Station Telephone Number (Function 14)

1. After entering service mode, press

S.S.NO	ENTER FAX NUMBER
<input type="button" value="NO"/> TO CANCEL	
<div style="background-color: black; height: 15px; width: 100%;"></div>	

2. Input the telephone number of the service station that will receive Auto Service calls from this machine.
Then press .
If the ISDN Option kit has been installed, press the Line Selector key to select either G3 or G4 before inputting the number.

SUBJECT: CE Mark

DATE:

Oct. 15, 1995

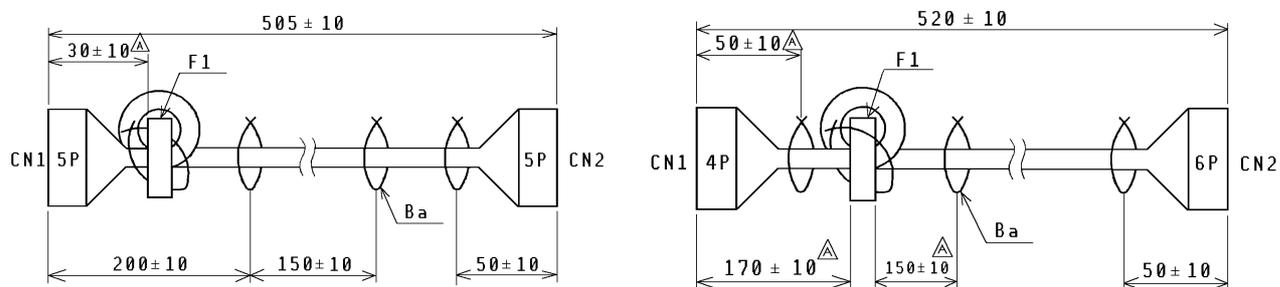
3. Power Pack (H0815020B)

C101 has been changed from 22 μ F to 100 μ F, 35V.

4. Harness - FCU 24V (H0825123)

Harness - Paper Size Sensor (H0825124)

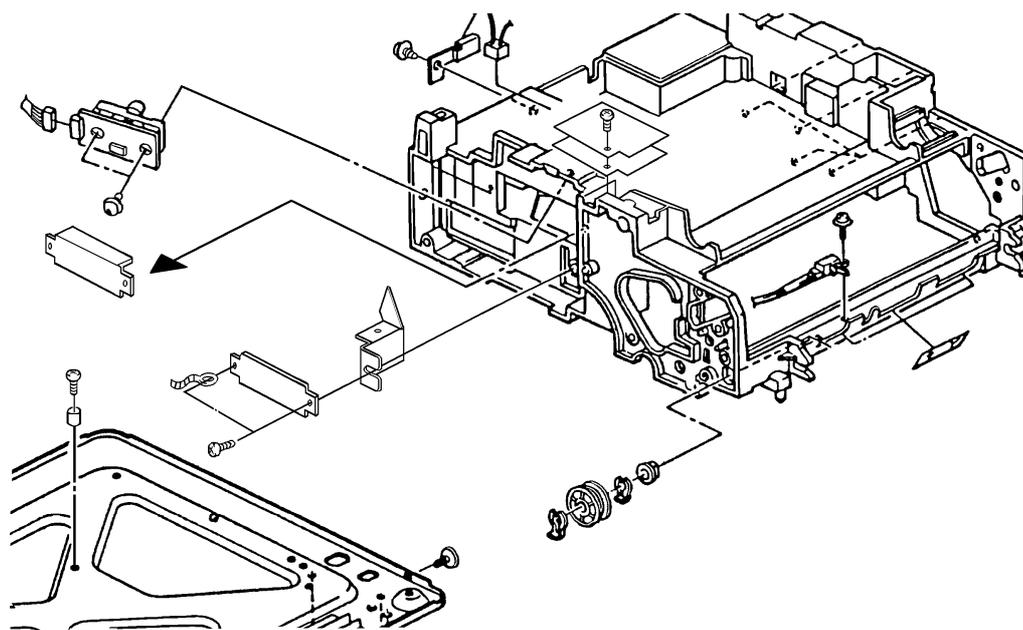
A magnet core has been added on both harnesses.



5. Covers of LDUNI

Ground Wire of the LDUNI Cover

For LD-UNIT, the covers and ground wire have been added.



* New covers, shielding plates, and the ground wire are not registered as service parts.

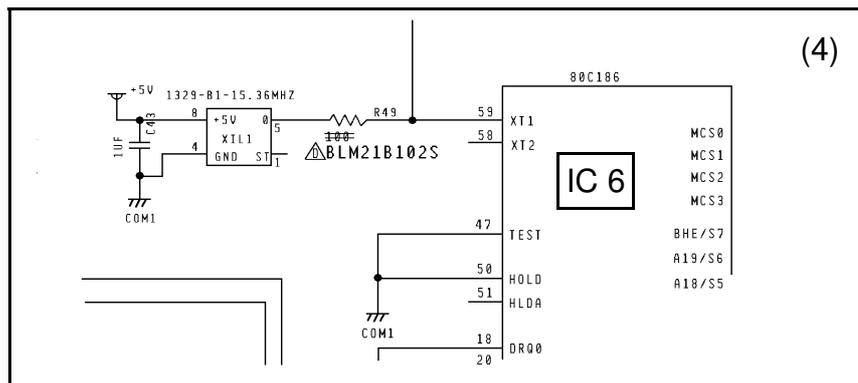
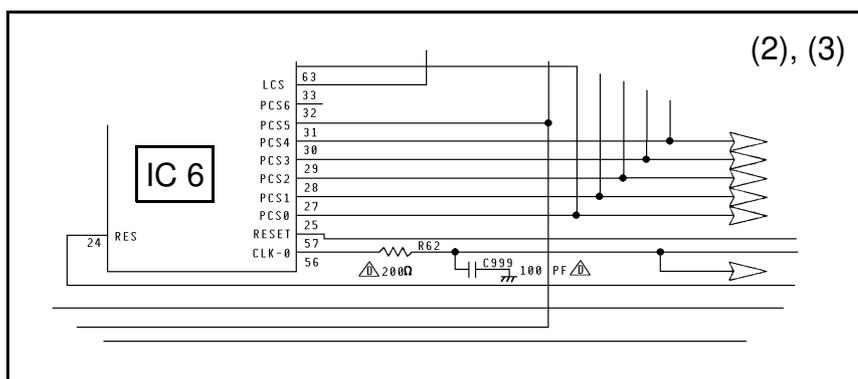
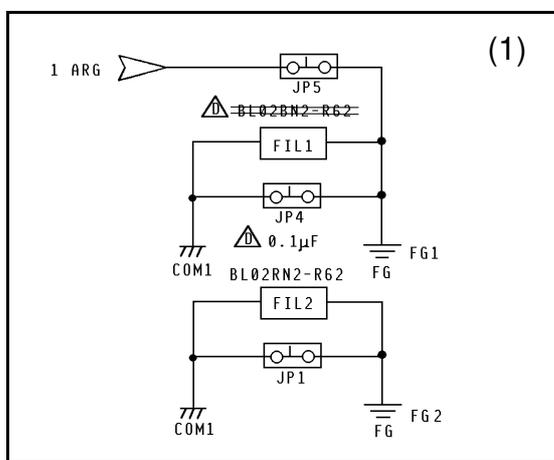
SUBJECT: CE Mark

DATE:
Oct. 15, 1995

B. G4 Kit

1. PCB-CIG4-EU2 (H0826016G)

- (1) Fil1 has been removed and a condenser (0.1 μ F) has been added at JP4.
- (2) R62 has been changed from 56 Ω to 200 Ω .
- (3) A condenser (100pF) has been added between R62 and COM1.
- (4) R49 has been changed from 100 Ω to an Inductor.



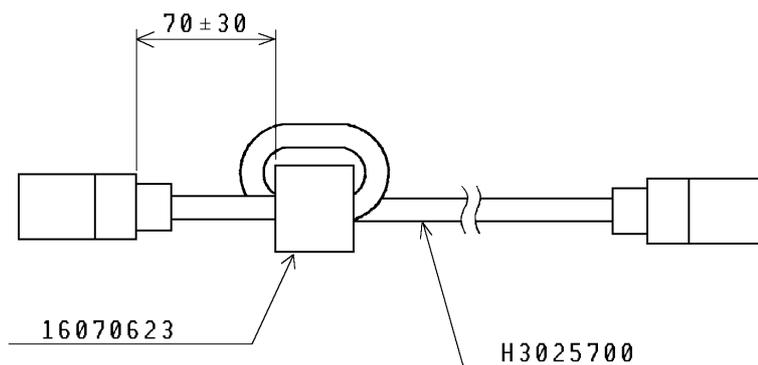
SUBJECT: CE Mark

DATE:

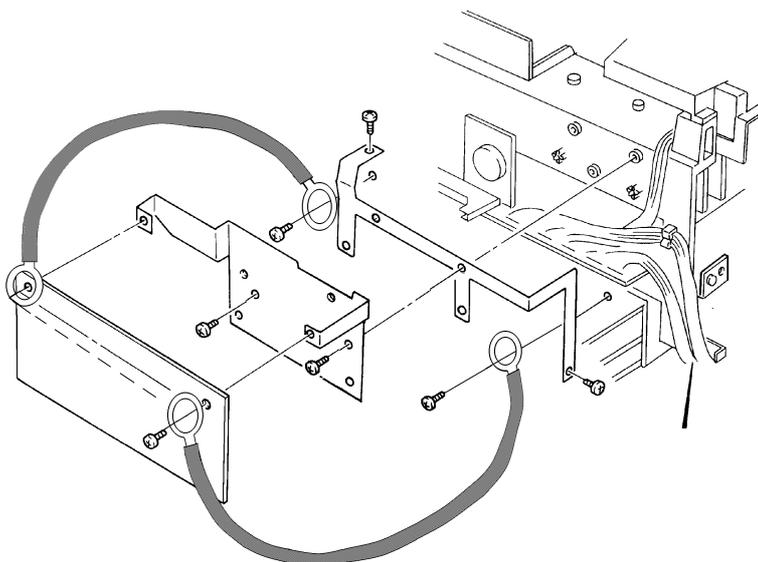
Oct. 15, 1995

2. ISDN Cable (H0825700)

- A filter (magnet core) has been added on the ISDN Cable.

**3. Ground Wire (H0825125)**

- Two ground wires have been added between the C1G4 Cord and the Bracket.



RICOH**Technical Bulletin No. CFO-005****SUBJECT:** Black bands/lines on the received copy**DATE:**
February. 16th, 1993**PREPARED BY:** N. Mihara**CHECKED BY:** *Satoru Mito***FROM:** FAX T.S. Section**CLASSIFICATION:** Action Required Troubleshooting Retrofit Information Revision of service manual Information only Other**MODEL:** CFO

Problem

On receive copies, black bands or lines may be printed, especially on the right side.

Cause

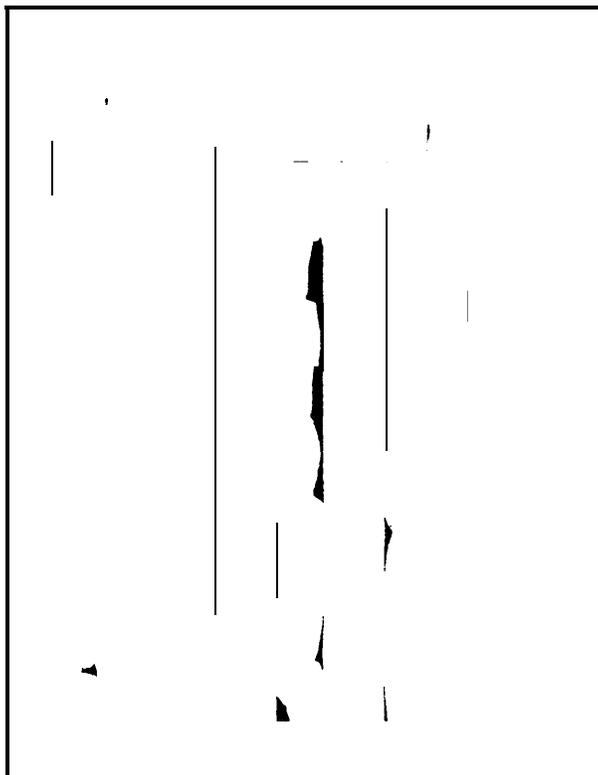
Toner or dust is attached on the charge corona wire.

Countermeasure

Clean the charge corona wire and the grid plate.

Action

1. At PM or EM, clean the charge corona wire (by sliding the cleaner 2-3 times) and the grid plate,
If you replace the charge corona wire, please replace it as a eraser ass'y.
2. If you receive a complaint, please advise the customer to clean the charge corona wire by sliding the cleaner 2-3 times periodically.
3. Do not change the charge corona voltage from the power pack with the VR, otherwise, the life time of the OPC may be decreased.



RICOH**Technical Bulletin****No. GENERAL-004****SUBJECT:** Black bands/lines on the received copy**DATE:**

November 11th, 1993

PREPARED BY: H.Yokoyama

CHECKED BY:

FROM: 2nd T.S. Section

CLASSIFICATION:

 Action Required Troubleshooting Retrofit Information Revision of service manual Information only Other

MODEL: USA only

CSO, CFO, CS1/CRO

[Problem]

On the received copies, black bands or lines may be printed, especially on the right hand side.

[Cause]

Toner or dust is attached to the charge corona wire.

[Modification]

The electric current of the charge corona will be increased to avoid applying uneren charge to the master which is caused by a dirty corona wire. Because of the increase of the electric current, the distance between the grid plate and the corona wire will be changed to keep the charge on the master belt the same as before modification.

- H081 2870 → H081 2854 Eraser Ass'y
- H081 5030 → H081 5020 Power pack (CSO/CFO)
- H510 5030 → H510 5020 Power pack (CRO/CS1)

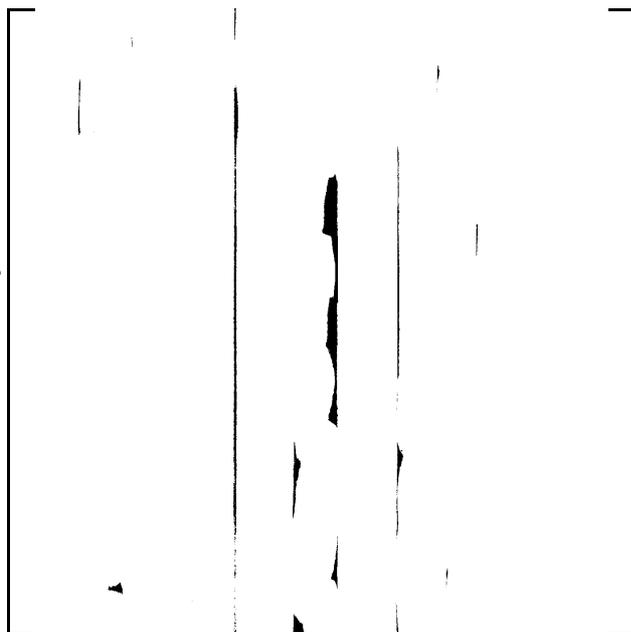
<Eraser Ass'y>

- The thickness of the cleaning blade of the cleaner will be changed to increase the cleaning ability (4mm → 5mm)
- The distance between the gride plate and charge wire will be changed (6mm → 8mm)

<Power pack>

- The range and initial value of the VRC (VR for the charge corona) will be changed.

The above modification will take place from the December 1st production.



**SUBJECT:** Black bands/lines on the received copy**DATE:**November 11th, 1993

[Countermeasure in the field]

The countermeasure method depends on the CV (Copy Volume) of the machine.

- If the CV is less than 400 sheets/month
Turn VRC on the power pack to the maximum (Turn the VR clockwise until it stops)
- If the CV is more than 400 sheets/month
Change the Eraser to the modified one and turn VRC on the power pack to the maximum.

Note: The increase in the power of VRC may decrease the life time of the master unit, so for customers whose ACV/month is more than 400 sheets, the Eraser should be changed.

[Request]

The essence of this problem is a dirty charge corona wire, so please do the following

- When a sales or service person visits a customer (at PM or EM), clean the charge corona wire with the built-in cleaner
- Advise the customer to clean the charge corona wire at a certain interval or if the customer sees black bands/lines on the received copy.

RICOH**Technical Bulletin****No. GENERAL-005****SUBJECT:** Black bands/lines on the received copy**DATE:**

Feb. 3rd, 1994

PREPARED BY: H.Yokoyama

CHECKED BY:

FROM: 2nd T.S. Section

CLASSIFICATION:

 Action Required Troubleshooting Retrofit Information Revision of service manual Information only Other

MODEL: Europe, Asia

CSO, CFO, CRO

[Problem]

On the received copies, black bands or lines may be printed, especially on the right hand side.

[Cause]

Toner or dust is attached to the charge corona wire.

[Modification]

The electric current of the charge corona will be increased to avoid applying uneren charge to the master which is caused by a dirty corona wire. Because of the increase of the electric current, the distance between the grid plate and the corona wire will be changed to keep the charge on the master belt the same as before modification.

- H081 2870 → H081 2854 Eraser Ass'y
- H081 5030 → H081 5020 Power pack (CSO/CFO)
- H510 5050 → H510 5051 Power pack (CRO)

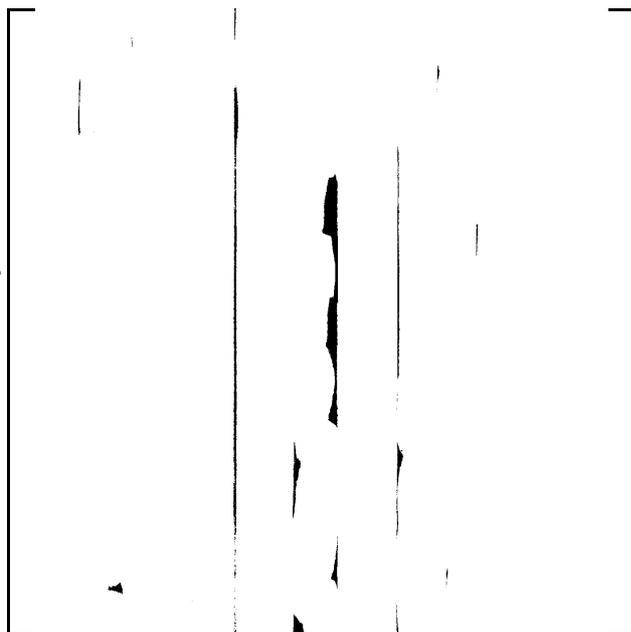
<Eraser Ass'y>

- The thickness of the cleaning blade of the cleaner will be changed to increase the cleaning ability (4mm → 5mm)
- The distance between the gride plate and charge wire will be changed (6mm → 8mm)

<Power pack>

- The range and initial value of the VRC (VR for the charge corona) will be changed.

The above modification will take place from the Feb. 1st production.



**SUBJECT:** Black bands/lines on the received copy**DATE:**
Feb. 3rd, 1994

[Countermeasure in the field]

The countermeasure method depends on the CV (Copy Volume) of the machine.

- If the CV is less than 400 sheets/month
Turn VRC on the power pack to the maximum (Turn the VR clockwise until it stops)
- If the CV is more than 400 sheets/month
Change the Eraser to the modified one and turn VRC on the power pack to the maximum.

Note: The increase in the power of VRC may decrease the life time of the master unit, so for customers whose ACV/month is more than 400 sheets, the Eraser should be changed.

[Request]

The essence of this problem is a dirty charge corona wire, so please do the following

- When a sales or service person visits a customer (at PM or EM), clean the charge corona wire with the built-in cleaner
- Advise the customer to clean the charge corona wire at a certain interval or if the customer sees black bands/lines on the received copy.

RICOH**Technical Bulletin****No. GENERAL-006****SUBJECT:** CTM modification**DATE:**

April, 11th, 1994

PREPARED BY: H.Yokoyama

CHECKED BY:

FROM: 2nd T.S. Section

CLASSIFICATION:

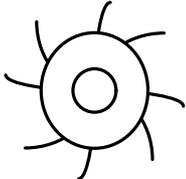
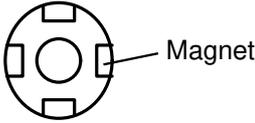
 Action Required Troubleshooting Retrofit Information Revision of service manual Information only Other

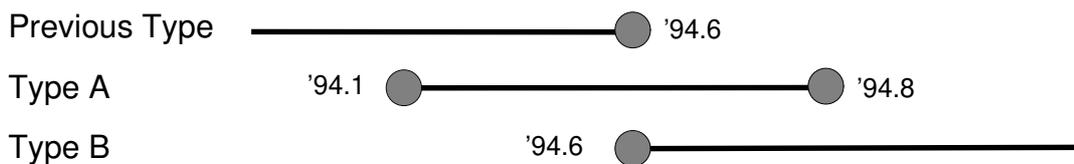
MODEL:

CSO, CFO, CS1

To avoid toner from being spilt inside the machine, the toner collection roller of the CTM will be modified.

<Figure>

Previous	After modification	
	Type A	Type B
Brush 	4 Magnets 	Magnet surface 
Black lot no. is printed on the carton box.	Red lot no. will be printed on the carton box.	Blank lot no. will be printed on the carton box.

<Expected arrival period>

RICOH**Technical Bulletin****No. GENERAL-008****SUBJECT:** Replacing the toner cassette**DATE:**

April, 11th, 1994

PREPARED BY:H. Yokoyama

CHECKED BY:

FROM: 2nd T.S. Section

CLASSIFICATION:

 Action Required Troubleshooting Retrofit Information Revision of service manual Information only Other

MODEL:

CSO, CFO, CRO, CS1

The instruction of the operator's manual for replacing the toner cassette (CTM) is wrong.
We will insert the errata sheet to the operator's manual.

Wrong: 1. Switch off the machine.

Correct: Keep the power switch on when replacing the toner cassette.



Technical Bulletin

No. GENERAL-009

SUBJECT: Vertical Black Lines

DATE:

July. 30, 1994

PREPARED BY: H.Yokoyama

CHECKED BY: S.Hamano

FROM: 2nd T.S. Section

CLASSIFICATION:
 Action Required

 Troubleshooting

 Retrofit Information

 Revision of service manual

 Information only

 Other

MODEL:

CSO, CFO, CRO, CS1

[Problem]

Vertical black lines appear on the printed image.

[Cause]

The toner may stick on the Hot Roller, Fusing Stripper, Thermistor, and Thermostat and this toner may damage the surface of the Hot Roller. Then, during copying toner is transferred by the scratched part of the roller to cause vertical black lines on the printed image.

[Countermeasure]

The material of the surface of the Hot Roller has been changed to prevent the toner from sticking on the Roller by the following modification

H0812100D → E

Because of the above modification, the vender has been changed.

[Effective S/N]

H081-24, 40, 46, 51, 54, 59, 60: Oct., 1993 ~

H510-20: R8831000609 ~

21, 22, 27, 30, 40, 51, 59, 60: Nov., 1993 ~

H082-20, 23, 30, 40, 51, 59, 60: Nov., 1993 ~

H511-20, 21, 22, 27: Nov., 1993 ~

[Action]

Clean the Fusing Stripper, Thermistor and Thermostat and take out the toner from them when visit the customer.

SUBJECT: Memory Back-up Battery

DATE:
Jan. 19, 1995

PREPARED BY: Y.Okunishi
CHECKED BY: S.Hamano

FROM: 2nd T.S. Section

CLASSIFICATION:

- | | |
|---|---|
| <input type="checkbox"/> Action Required | <input type="checkbox"/> Revision of service manual |
| <input checked="" type="checkbox"/> Troubleshooting | <input type="checkbox"/> Information only |
| <input type="checkbox"/> Retrofit Information | <input type="checkbox"/> Other |

MODEL:

CSO, CFO, CS1, LHO

[Symptom]

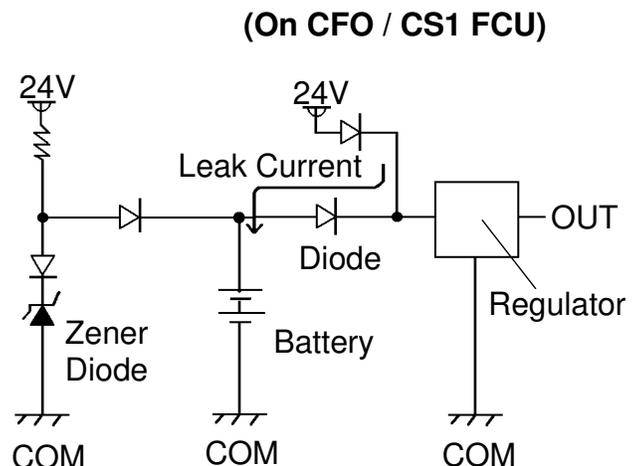
Stored documents in the memory might be erased when the main power goes down.
A power failure report is printed with the following information.

- Memory Tx Files: Destination names or fax numbers are printed.
- Substitute Reception Files: The Sender's RTI or CSI is printed if they are programmed.
CSO rejects incoming messages without RTI or CSI because of the factory setting.
- Memory Lock Files: Programmed Quick Numbers are printed.

[Cause]

Power loss from the memory back-up battery on FCU caused by excessive charge current, for the following reasons.

- (1) Leak current from Diode
The battery is charged after it is already fully charged. This type of battery is damaged if this occurs.
- (2) Excessive charge voltage (CFO, CS1, LHO) The target charge voltage was 6.2V against 6.4V or under which is recommended by the battery maker. This margin was too small for this battery.



[Modification]

See MB C Series-048A.



SUBJECT: Memory Back-up Battery

DATE:
Jan. 19, 1995

[Action Taken]

1. Install the modified FCU to deal with customer claims.
2. Request technicians not to turn off the main power if a document is stored in the memory.

[Note]

- Stored data other than documents is not erased even if the main power goes down.

SUBJECT: Toner Spillage during Transportation**DATE:**

Jul. 15.1995

PREPARED BY: Y. Okunishi

CHECKED BY: M. Iwasa

FROM: 2nd T.S. Section

CLASSIFICATION:

 Action Required Troubleshooting Retrofit Information Revision of service manual Information only Preventive Action

MODEL:

All laser plain paper fax machines

Background: Machines have been sent to customers after pre-installation and sent back to the service center for repair.

Problem: Toner had spread inside the machine during transportation.

Cause: Toner leaked from the development unit, the toner cartridge, or somewhere in the toner path during transportation.

Preparation for transportation:

(1) Transportation without heavy vibration

(Example: A technician should carry the machine with care.)

• F/L series fax machines:

The development unit can be connected to a CTM with toner.

However, the toner path under the CTM must be covered by some adhesive tape. See the attached illustration.

• C series fax machines:

Follow RTB No. CSO-006

• Other order machines:

Follow (2) below.

(2) Transportation with heavy vibration

(If a third party handles the transportation, follow this procedure.)

• F/L series fax machines:

Remove the development unit and the CTM from the machine if toner has been installed. They must not be delivered in the same box as the machine, because they contain toner which may spill out. The toner inside the machine must be cleaned away or the toner path under the CTM must be covered with tape.

• C series fax machines and others:

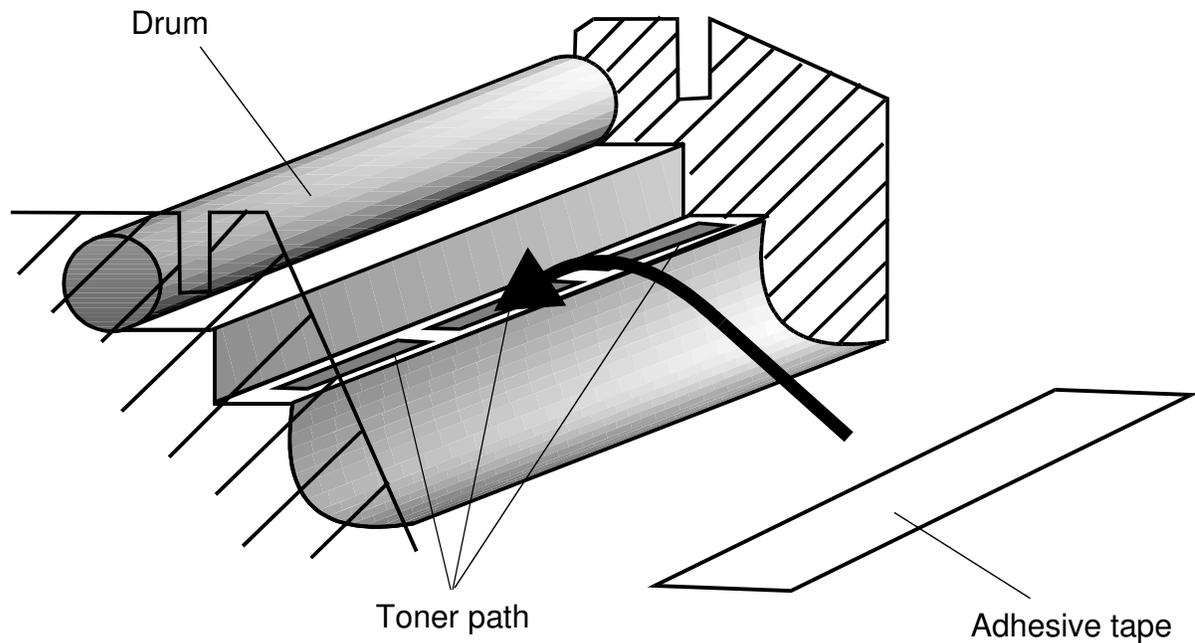
Remove the development unit and CTM (or Toner Cartridge) from the machine if toner has been installed, and clean the toner from inside the machine.

The removed development unit and CTM must not be delivered in the same box as the machine.

SUBJECT: Toner Spillage during Transportation

DATE:
Jul. 15.1995

Inside of FX6 and LSO



Note: Adhesion of the tape should not be strong. Otherwise, it may not be taken off cleanly from the machine, or the toner path may be damaged when it is taken off.

Please request tape samples for the FX6 and LSO from Ricoh.



Technical Bulletin No. Multi - 004A

SUBJECT: Fusing Unit
DATE:

Oct. 15, 1996

PREPARED BY: Y.Okunishi

FROM: Quality Assurance Center

CHECKED BY: S.Fujii

CLASSIFICATION:
 Action Required

 Revision of service manual

 Troubleshooting

 Information only

 Retrofit Information

 Other

MODEL:

 CSO, CRO, CS1, CFO,
CGO

A: "NOTE" is added to page 2/3.

SYMPTOM:

Background on received and copied documents.

Cause:

Hot Roller failure as a result of not changing the Cleaning Pad at the 10K PM. Failure to change the Cleaning Pad results in dirty Strippers and Thermostat and then Hot Roller failure.

As the machine warms up from the standby temperature to the fusing temperature, it is exposed to slight overheating before the temperature levels off. This leads to softening of the Teflon layer on the Hot Roller. As a result, the Teflon layer peels off in the areas where the Strippers and other parts come in contact with it. Dirty Strippers and Thermostat put more stress on the Hot Roller and cause premature Hot Roller failure.

Also, the dirty Thermistor causes the Hot Roller to overheat and fail prematurely.

A second cause can be a damaged (bent) Thermistor from a previous service visit. The damaged Thermistor causes the Hot Roller to overheat and fail prematurely.

SOLUTION:

Ricoh recommends replacing the Cleaning Pad at the 10K PM. However, this is sometimes ignored. Realizing this, Ricoh will conduct the following modifications to protect the Hot Roller from the failure mentioned above.

No.	Old Part	New Part	Description	Qty Used	Interchangeability
1	H0812121	H0812123	Stripper Spring	2 → 2	X / O
2	H0812120	H5132119	Stripper (Separation Pawl)	2 → 2	X / O
3	H0812137	H0815035	Thermistor Assembly	1 → 0	X / O as an assembly
		H0812141	Thermistor	1 → 1	
		H0812141	Bracket	1 → 1	
		03130080B	Screw - M3x8	0 → 1	
4	H0812100	H0819600	Hot Roller Kit	1 → 1	X / O

SUBJECT: Fusing Unit**DATE:**

Oct. 15, 1996

Hot Roller Kit:

The hot rollers shipped from the SPC in Japan will be replaced by the Hot Roller Kit in July.

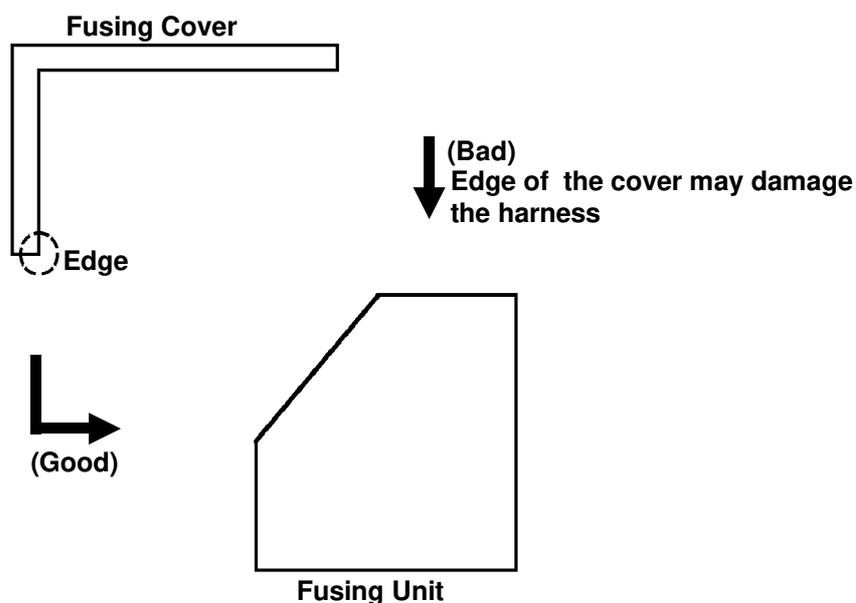
This kit will be comprised of the following: Hot Roller, Cleaning Pad, Thermistor, Thermistor Bracket, Screw, Strippers (2), Stripper Springs (2) and Installation Sheet. The individual Hot Roller will be no longer available. The Cleaning Pad will continue to be a Service Part.

Ricoh recommends change of the above modified parts and Cleaning Pad when the failed Hot Roller is replaced with the new one.

NOTE

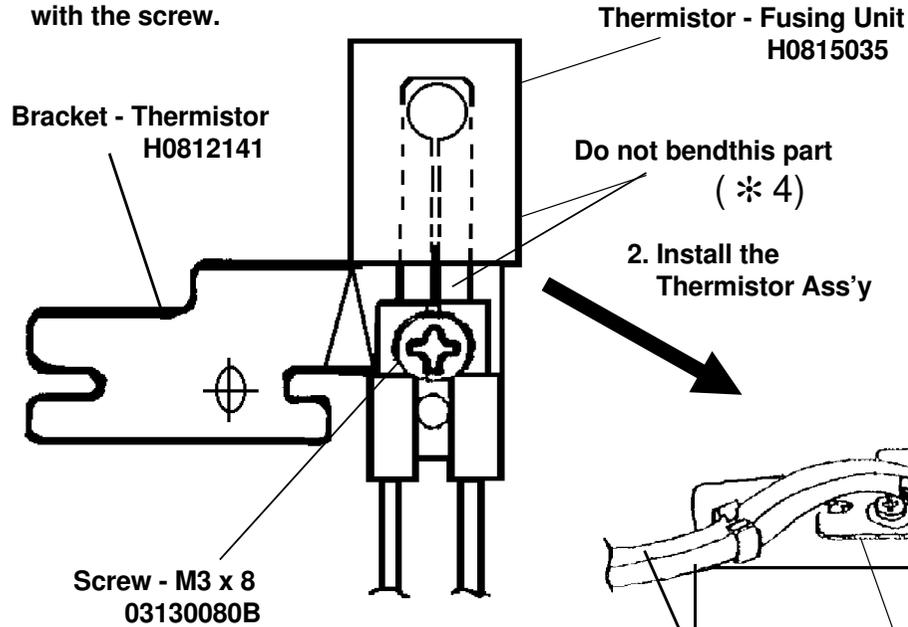
(A): Please refer to the following instructions and fix the cover to the fusing unit and check that the harness is not pinched before installing the fusing unit in the machine.

If the metal wire of the harness contacts the thermistor bracket, a no power condition may occur. Please check the thermistor harness if this occurs.



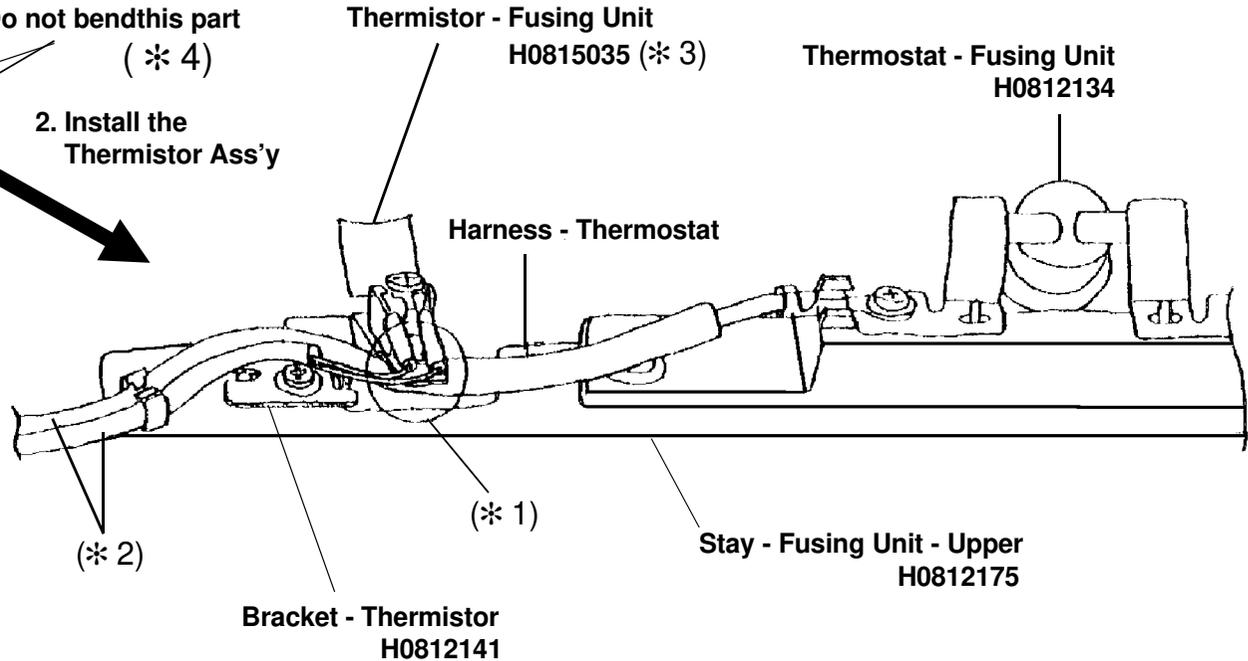
Installation Procedure for the Thermistor

1. Assemble the thermistor and the bracket with the screw.



Do not bend this part (* 4)

2. Install the Thermistor Ass'y



- Note: * 1 Place the thermostat harness under the part of the bracket.
- * 2 Do not cross the thermostat harness and the thermistor harness.
- * 3 Push the thermistor head (sensor) gently against the hot roller with a finger to make sure that the thermistor head touches the hot roller surface. Do not push it strongly.
- * 4 Do not bend the thermistor neck (spring plate) when installing or cleaning it .
If the thermistor is bent, replace it.

Model: K105 (FAX4000L)		Date: 15-Sep-97	No: 015
Subject: 14.4 Kbps Modem		Prepared by: Y.Okunishi	
From: QAC 2nd Field Information Dept.			
Classification:	<input type="checkbox"/> Troubleshooting	<input type="checkbox"/> Part information	<input type="checkbox"/> Action required
	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Service manual revision
	<input type="checkbox"/> Paper path	<input checked="" type="checkbox"/> Transmit/receive	<input type="checkbox"/> Retrofit information
	<input type="checkbox"/> Other ()		

The V.33 standard for 14.4 kbps modems has not been supported by FX4 and FX6MK2 because V.33 has been deleted from the ITU (CCITT) recommendations.

So, data transfer at 14.4 kbps speed between a FAX4000L which supports only V.33 and products which support only V.17 will not be successful, and 9.6 kbps is the highest speed for data transfer between them .

See the following list.

Only V.33 is supported	V.33 and V.17 are supported	Only V.17 is supported
K105 (FAX4000L)	CFO, CS1, CGO	FX6MK2, FX4

RC	RE	ASIA	
*			

Model: ISDN Option		Date: 30-Nov-97	No: Multi - 006
Subject: US National ISDN		Prepared by: H.Kamiya	
From: IPP Business Division Technical Service Dpt.			
Classification:	<input type="checkbox"/> Troubleshooting	<input type="checkbox"/> Part information	<input type="checkbox"/> Action required
	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input checked="" type="checkbox"/> Service manual revision
	<input type="checkbox"/> Paper path	<input type="checkbox"/> Transmit/receive	<input type="checkbox"/> Retrofit information
	<input type="checkbox"/> Other ()		

This technical bulletin informs of the settings required when a machine is connected to the US National ISDN network

Models: CFO, CGO, LHO, FX4, ADAM

- **Subscriber Number**

Input the subscriber number given by the telephone company at :

- 1.G4 SUBSCRIBER NO.1 (MAIN)
- 2.G3 SUBSCRIBER NO.1 (MAIN)

- **SPID Number (Service Profile Identification Number)**

Input the SPID number given by the telephone company at :

- 1.G4 SUBSCRIBER NO.2 (Sub)
- 2.G3 SUBSCRIBER NO.2 (Sub)

Note: Input a " _ " (pause) before the SPID number.

- **G4 Internal Switches**

SW No.	Bit	Setting	Definition
SW11	Bit1	0: Dynamic TEI	Type of TEI used (Layer 2) (Default)
SW13	Bit2	1: Yes	Attachment of calling party number (L3 SET UP)
	Bit5	1: Yes	Attachment of channel information element (L3 CONN)
SW14	Bit0	1: Speech	ISDN G3 information transfer capability (L3)
	Bit5	1: Keypad facility	Called ID mapping (L3)
SW15	Bit7	1: On	Transmission of STAT in reply to STAT_ENQ received in the U0 state.
SW19	Bit0	1: Permanent	Permanence of the link (L2)
	Bit2	1: On	SPID procedure (L2)
	Bit3	1: On	G4 SPID procedure (L2)

Note: After completing a G4 service mode operation, turn off the machine and turn it back on to make the new settings take effect.

RC	RE	ASIA	
*			