RICOH Technical Bulletin No. ZB - 001

SUBJECT: Cutter Problem	**DATE:** Oct 15th, 1992
PREPARED BY: H. Someya CHECKED BY:	FROM: FAX T.S. Section

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

MODEL: ZBα

[Problem] The machine may not cut the paper in the correct position.

[Cause] The spring clutch was not lubricated enough.

[Countermeasure] This countermeasure has been made on the production from S/N K2612890456.

[Action in the field] Lubricate around the spring clutch.

(Objective S/Ns)

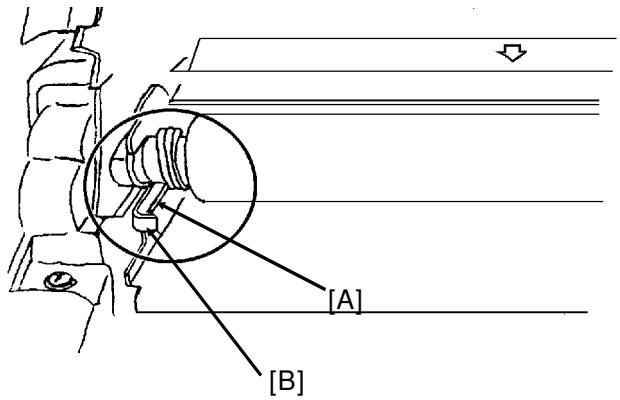
K2612890001 ~ 445

(Procedure)

1. Open the printer cover on the brush.
2. Lubricate the spring clutch with grease (Mobil Tomp 78: P/N 54479078), turning the platen roller forward one rotation by hand.

   Note: Do not apply grease to any parts other than the spring clutch. If you do, remove the grease immediately with alcohol.

3. Use alcohol to clean any parts of the platen roller that you touched.
4. Turn the platen roller back to the home position.
   (The long end of the spting [A] should touch the under side of the rib [B] of the decurler as shown in the diagram.)



RICOH Technical Bulletin No. ZB-002

SUBJECT: Modem Capture Range Problem	**DATE: Feb. 12th, 1993**
PREPARED BY: H. Someya CHECKED BY:	FROM: FAX T.S. Section

CLASSIFICATION:

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

MODEL: ZB2, ZB3

[Problem]

The ZB may not receive at 9600bps/7200bps from certain machines, with the following symptoms.

- Error code: 0-21, 0-23
- Only the first few inches (cm) of the image data would be received and then the line would be disconnected, or the error would occur as a usual line fail.

[Cause]

In the CCITT recommendations, the signalling rate of the TX terminal is defined to be 9600bps ±0.01%, and all makers design the facsimile models in accordance with the CCITT recommendation. However, in some of the models (Tx side), the signalling rate may be out of the range set in the CCITT recommendation, due to possible production variations in the modem, or other factors.

The capture range (Rx capability) of the ZB is designed to be 9600bps ±0.01% (there is no margin). Therefore, if the signalling rate of the Tx terminal is out of CCITT- recommended range, the ZB can not receive V29 signals correctly. This means that, if the modem is produced precisely, this problem will not occur.

Tx side: Signalling rate in the CCITT recommendations - 9600bps ±0.01%
Rx side: Capture range in the CCITT recommendations - none

[Countermeasure]

Permanent: We have re-designed the modem to have a certain margin for reception and the new modem has been applied from December productions of '92.

[Action in the field]

(1) **Make sure the exact causes** of the communication problem. If a communication problem occured in the following conditions, your problem is caused by this modem capture range problem. Go to step 2.
   1. Rx error occurs only in a few cases and always from the same transmitting terminal.
   2. The communication problem is solved when you change the Rx speed 4800 bps.

(2) Drop the starting modem rate of the terminal for Rx or Tx.
(3) Ask the Tx terminal to replace the modem.
(4) If (3) is not possible, replace the FCE with the new FCE which contains the new modem.
(5) Inform of the details by the attached sheet when you encounter this problem.

RICOH **Technical Bulletin No. ZB-002**

SUBJECT: Modem Capture Range Problem | **DATE: Feb. 12th, 1993**

[Sample]

Until now, this problem has been reported at a low rate with the following models, and as a result of our investigation, the signalling rates of the machines are as follows.

Models	Signalling rate
SANFAX 2100	Unknown (The modem has been replaced on the tx side)
SANFAX 1	- 0.0163 %
SANFAX 515	Unknown
Panafax UF1000	- 0.012 %
PC98 FAX (Star FAX)	+0.012 %
PC FAX Mac	+0.018%
IBM PC FAX	Unknown

Please note that the above table just shows examples of the problem, and the problem should not always occur with the above models in your field.

The estimated occurrence rate is as low as 0.05%/mo.
However, we like to keep watching the field performance.
We like you to log this case monthly.

RICOH Technical Bulletin No. ZB-003

SUBJECT: ROM Removal Tool	DATE: Feb. 12,1993
PREPARED BY: H. Someya CHECKED BY:	FROM: FAX T.S. Section

CLASSIFICATION:

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

MODEL:
ZB2, ZB3, ZBα

We have made the ROM removal tools for FCE available as service parts to improve service facilities. Please order them from SPC if you need them.

[Part Number]

ZB2, ZB3: H5029600
ZBα: H5039600

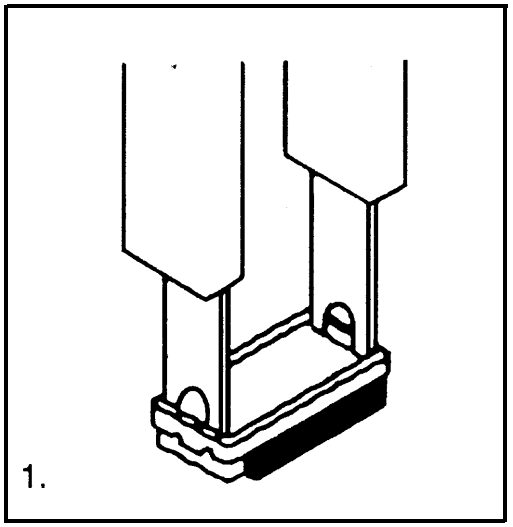
[Procedure]

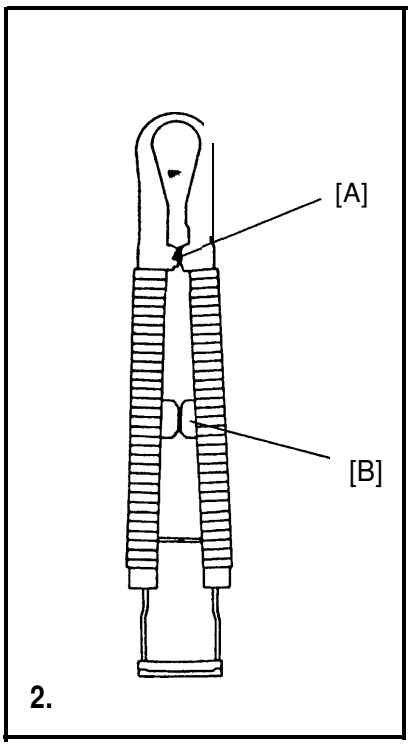
1. Insert both tips of the tool into the socket frame.

2. Grip the tool until both sets of stoppers touch ([A] and [B]), and then pull up the frame.

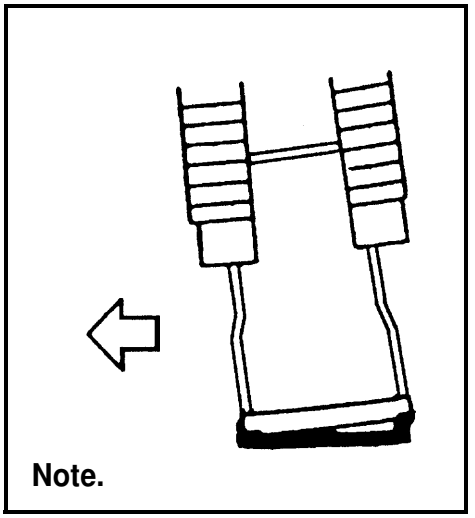
Note: If either side of the frame is removed, move the frame horizontally slightly and then pull up the frame.

3. Remove the ROM.


1.



2.


Note.

RICOH Technical Bulletin No. ZB-004

SUBJECT: Service Manual Correction	**DATE: Feb. 15th, 1993**
PREPARED BY: H. Someya CHECKED BY:	FROM: FAX T.S. Section

CLASSIFICATION:

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

MODEL: ZB 2/3

This information includes a correction and an addition to the ZB service manual.

[Correction]

RAM address

037A	NCU parameter 03: Minimum required length of a ring [Length = 20 x N - 120 (ms)]
037C	NCU parameter 05: Dial pulse on/off ratio [on/(on+off) = 33 + N (%) Note: $0 \leq N \leq 7$]
037D	NCU parameter 06: Pause between dialed digits (pulse dial mode) [Time = 50 x N + 500 (ms)]

[Addition]

The following items will be set automatically for each country code after changing the country code.

RICOH

Technical Bulletin No. ZB-004

SUBJECT: Service Manual Correction

DATE: Feb. 15th, 1993

	USA	Hong Kong	Austlia	New Zealand	Israel	Thailand	Singa pore	Indonesia
Number of DIS detections	1	1	2	1	1	1	1	1
Tx level (dbm)	-10	-10	-12	-10	-9	-13	-10	-5
Cable equalizer	off	off	off	off	off	off	off	on
Number of memory redials	4	4	2	4	4	4	4	4
DTMF on time (msec.)	100	100	100	100	100	100	100	100
DTMF off time (msec.)	100	100	100	100	100	100	110	100
DP interval digit time (msec.)	800	800	800	800	800	800	800	800
Line current detection	off	off	off	off	on	off	off	off
PSTN dial tone detection	off	off	off	off	on	off	off	off
PSTN busy tone detection	off	off	off	off	on	off	off	off
PBX dial tone detection	off	off	off	off	on	off	off	off
PBX busy tone detection	off	off	off	off	on	off	off	off
Bit SW 0	00	00	04	00	00	00	00	02
Bit SW 1	00	00	00	00	00	00	00	00
Bit SW 2	11	14	15	16	17	18	19	1A
NCU Parameter 0	011	011	011	011	011	011	011	011
NCU Parameter 1	090	090	090	090	090	090	090	090
NCU Parameter 2	001	001	003	001	002	001	001	001
NCU Parameter 3	010	010	010	010	010	010	010	010
NCU Parameter 4	003	003	003	003	003	003	003	003
NCU Parameter 5	007	000	000	000	007	000	000	000
NCU Parameter 6	006	006	006	006	006	006	006	006
NCU Parameter 7	101	101	101	101	101	101	101	101
NCU Parameter 8	008	008	008	008	008	008	008	008
NCU Parameter 9	008	008	008	008	008	008	010	008
NCU Parameter 10	010	010	012	010	009	013	010	005

Technical Bulletin No. ZB-005A

SUBJECT: Scanner Adjustment PCB Modification

DATE: May 17th, 1993

PREPARED BY: Y. Furuya
CHECKED BY: H. Motojima

FROM: FAX T.S. Section

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

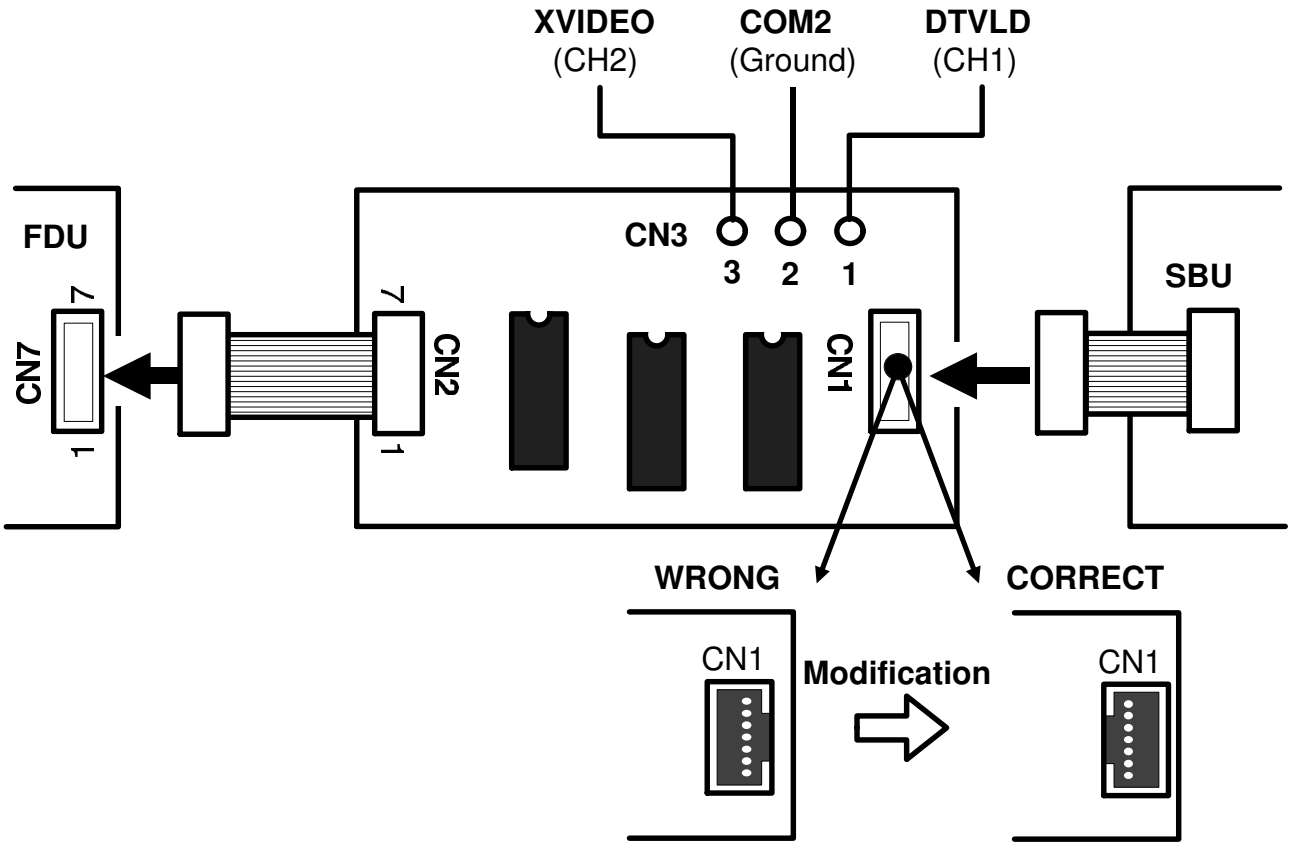
MODEL:
FAX220/240
α-Innfax

The PCB for scanner adjustment (P/#: H0939650) needs small modification as explained below.

[Problem]
The PCBs produced in early times that have white CN1 connector cannot generate the test signals, as the CN1 is installed in a wrong way.

[Countermeasure]
If the color of CN1 is white, remove it from the PCB and install it correctly on the PCB.
If the color of CN1 is brown, the PCB can be used without modification.

Illustration has been revised on July 1st,



Technical Bulletin No. ZB-006

SUBJECT: Condition for Memory Reception	**DATE:** June 17, 1993
PREPARED BY: Y. Furuya CHECKED BY: H. Motojima	FROM: FAX T.S. Section

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

MODEL:
FAX240
Nashuatec F192L

An additional bit switch has newly been assigned for above models from the suffix E software (ROM part number: H5027100E), as explained below.

Bit Switch 0

Bit	Setting	Meaning
0	RTI/TSI reception check in memory reception **0:** Enabled **1:** Disabled	**0:** Messages can be received into memory only when an RTI or TSI is received from the other terminal. **1:** Messages can be received into memory even if an RTI or TSI is not received.

The suffix E software has been implemented to the machine from the first of June production.

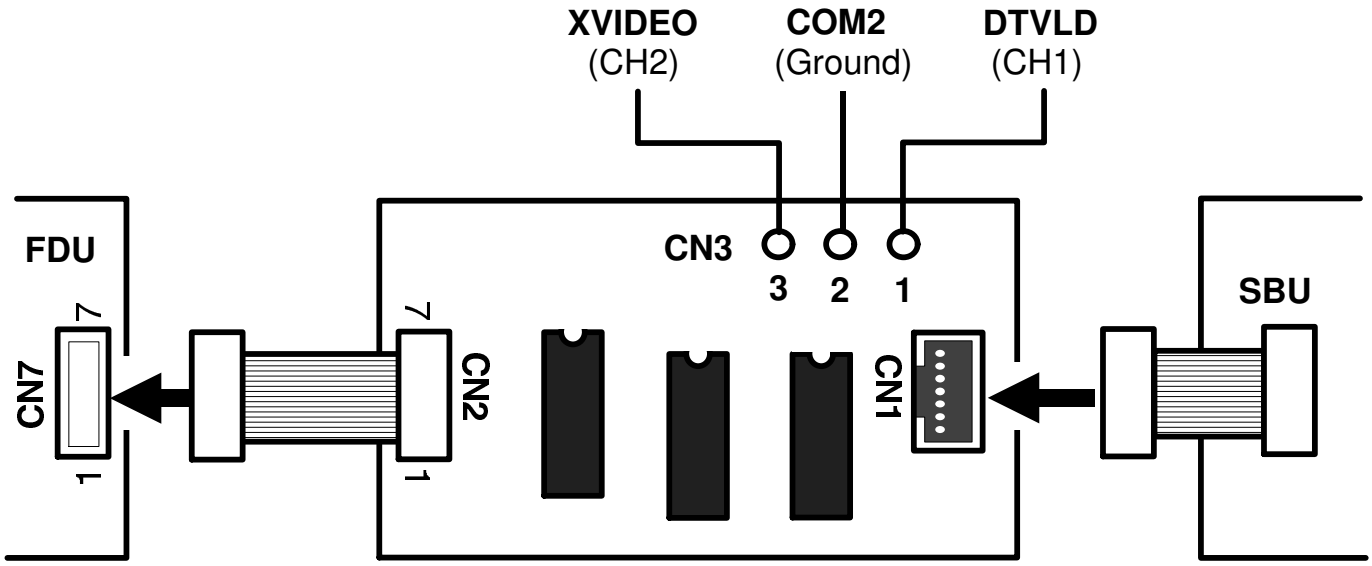
RICOH Technical Bulletin No. ZB-007

SUBJECT: Scanner Adjustment	**DATE: July 1st,1993**
PREPARED BY: Y. Furuya CHECKED BY: H. Motojima	FROM: FAX T.S. Section

CLASSIFICATION:		MODEL:
☐ Action Required	■ Revision of service manual	FAX220/240
☐ Troubleshooting	☐ Information only	α-Innfax
☐ Retrofit Information	☐ Other	Nashuatec F192L

In the service manual section 4-5, the illustration to explain scanner test PCB (P/# H0939650) connection was wrong. **Actually, the PCB cannot be connected as in the illustration, but connecting the PCB as shown in the service manual may cause the SBU or FD**U defective.

So, please find below the illustration for correct PCB connection when adjusting the scanner.



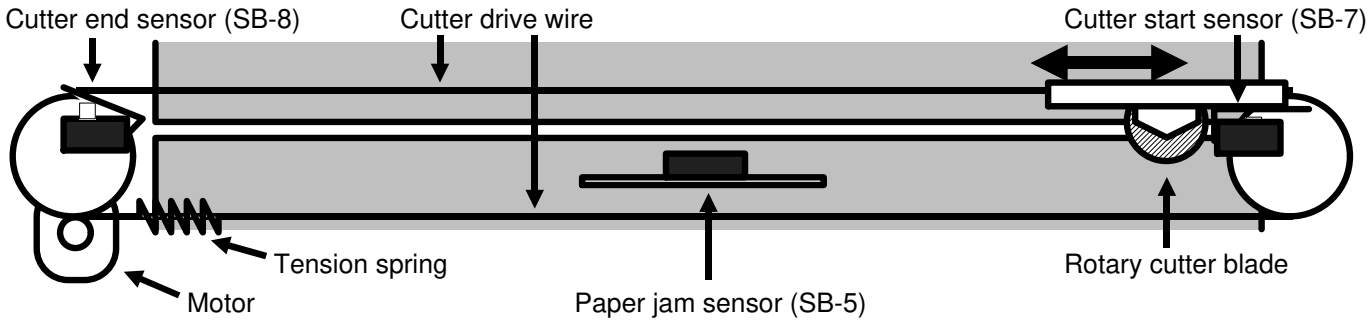
Technical Bulletin No. ZB-008

SUBJECT: Cutter Start/End Positions Sensors	**DATE:** 12th July, 1993
PREPARED BY: Y. Furuya CHECKED BY: H. Motojima	FROM: FAX T.S. Section

CLASSIFICATION:		MODEL:
☐ Action Required	☐ Revision of service manual	Ricoh FAX240
■ Troubleshooting	☐ Information only	Nashuatec F192L
☐ Retrofit Information	☐ Other	α-InnFax

[Problem]
The machines with automatic paper cutter may indicate “REMOVE PRINTOUT / ADJUST FAX PAPER” on the LCD display frequently, and the cutter may not work correctly.

[Cause]
The cutter start position sensor (SB-7) and/or the cutter end position sensor (SB-8) is/are defective.



[Countermeasure]
Replace whole cutter unit or defective sensor(s). The part number of the microswitch which is used as these sensors is;

H5022210

[Note]
When replacing the cutter unit, remove the jam sensor (SB-5) from the old cutter, and install it on a new cutter unit.

RICOH Technical Bulletin No. ZB-009

SUBJECT: Radio Interference / Random Dialling Problems	**DATE:** July 12th, 1993
PREPARED BY: Y. Furuya CHECKED BY: H. Motojima	FROM: FAX T.S. Section

CLASSIFICATION:

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

MODEL:
RICOH FAX220/240
Nashuatec F192L

[Problem]
The machines may catch a radio broadcasting signals, or may show numbers on the LCD display as if the machine is dialling. In the first case, the audio signals from one of AM radio station could be heard from the machine's handset or from the speaker. In the second case, the machine acts as if it's dialling numbers (but actually the machine just display numbers), and communications cannot take place.

[Cause]
These problem can occur in a area where radio broadcasting signals or some other electro-magnetic wave are too strong. These strong signals interfere the dialler CPU and speech circuit on the LIU.

[Countermeasure]
The following LIUs have been prepared against these problems.

Part #	Description	Corresponding P/# on the Part Catalog
H5029650	PCB - LIU2	H5026006
H5029660	PCB - LIU2 - Australia / New Zealand	H5026008
H5029670	PCB - LIU2 - Israel	H5026010

Use these LIUs only when the machines have above mentioned problem(s). These LIUs are available at SPC.

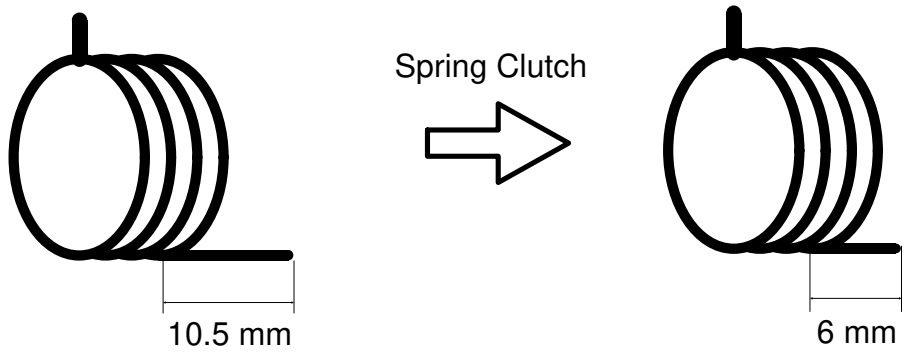
RICOH Technical Bulletin No. ZB-010

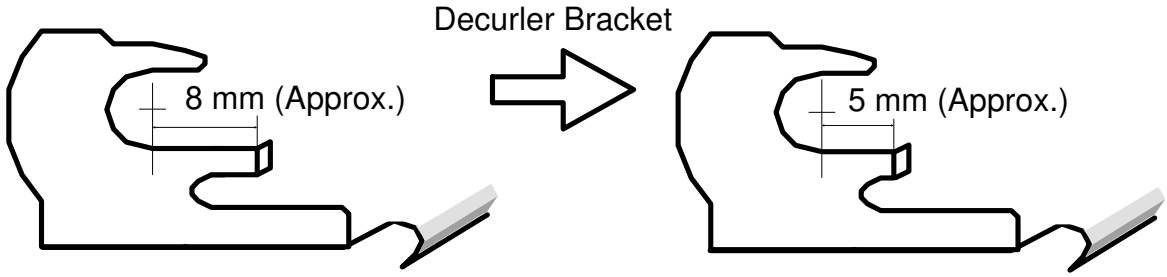
SUBJECT: Decurler Bracket and Spring	**DATE:** July 22nd, 1993
PREPARED BY: Y. Furuya CHECKED BY: H. Motojima	FROM: FAX T.S. Section

CLASSIFICATION:		MODEL:
■ Action Required	☐ Revision of service manual	Ricoh FAX240
☐ Troubleshooting	☐ Information only	Nashuatec F192L
☐ Retrofit Information	☐ Other	α-InnFax

[Problem]

The thermal head surface might be scratched by the spring that is used as spring clutch for decurler.





[Countermeasure]

The decurler bracket and the spring clutch have been modified as follows. Use the new parts as a set for future replacement.

Index	Old P/#	New P/#	Description	ICA
154	H5022112	H5022116	Decurler Bracket	X/O
114	H5022107	H5022117	Spring Clutch	

RICOH Technical Bulletin No. ZB-011

SUBJECT: Service Mode Notices	**DATE:** 1 September, 1993
PREPARED BY: Y. Furuya CHECKED BY: H. Motojima	FROM: FAX T.S. Section

CLASSIFICATION:

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

MODEL: α-InnFax

The following notice and procedures are missing in the service manual for α-InnFax.

1. When entering the service mode by pressing #, Stop, #, Stop and # keys sequentioally, if one or some of these errors has happened, the machine cannot enter the service mode.
   1) Paper End
   2) Communication Error
   3) Document Jam

2. The following functions can be accessed by the following procedures without entering service mode.

	Function	Procedure
1	RAM Clear	Switch the power on, while holding down **Start**, **Stop** and **"7"** keys.
2	LED Test	Switch the power on, while holding down **Start**, **Stop** and **"8"** keys. **Use this procedure for scanner adjustment.**
3	Time/Date Setting	Switch the power on, while holding down **Start**, **Stop** and **"9"** keys.

RICOH Technical Bulletin No. ZB-012

SUBJECT: Difference of the Parts Number	**DATE:** June 20th, 1994
PREPARED BY: M. Tasaka CHECKED BY:	FROM: 2nd T.S. Section

CLASSIFICATION:

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

MODEL: ZB-α(white)

The ZB-α which is black cover has been launched. Since the design of the current black color dose not meet some of Hotel interior, the white color version of the ZB-α will be produced from June '94 production additionally.

The differentce of the parts numbers are as follows.

Index	Description	P/N for Black	P/N for White
1	Op-port Cover -Alpha	H503 3121	H503 3133
2	OPU Rubber Mat-Alpha	H503 3113	H503 3126
11	Rear Cover - Alpha	H503 3102	H502 3142
12	Printer Cover - Alpha	H503 3123	H502 3143
20	Scanner Cover - Alpha	H503 3101	H502 3141
33	Paper Holder - Alpha	H503 3125	H502 3165
35	Bottom Cover - Alpha	H503 3122	H503 3124

Please place an order for the above parts as a usual order procedure, if necessary.

Technical Bulletin No. ZB-013

SUBJECT: FCE problem

DATE: Dec. 28, 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
- ☐ Other

MODEL:
Fax240
Barbara

Problem: No Rx and/or Tx (Error code 2-12)

Cause: Defective DSP chip (RF5C72, IC-5: Fax240) on the FCE.
The majority of the defective DSP chips were with the following lot numbers.

4BG-7E, 4BG-7F, 4CG-7G

(Those DSPs were made in February and March in 1994.)
The current DSP chips do not have any problems.

Action taken:

1. Check the symptoms of the problem.
2. If the problem is no Rx/Tx or error code 2-12, replace the FCE.
3. Replace the DSP chip (H5047154) to repair the FCE.

RICOH Technical Bulletin No. ZB - 014

SUBJECT: Parts Catalog for α lnnfax MK2	DATE: Nov.15,1996
PREPARED BY: Y.Okunishi CHECKED BY: S.Fujii	FROM: Quality Assurance Center

CLASSIFICATION:

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

MODEL:
α lnnfax MK2 (USA)
(ZBαII)

The parts catalog for lnnfaxMK2 has been revised.

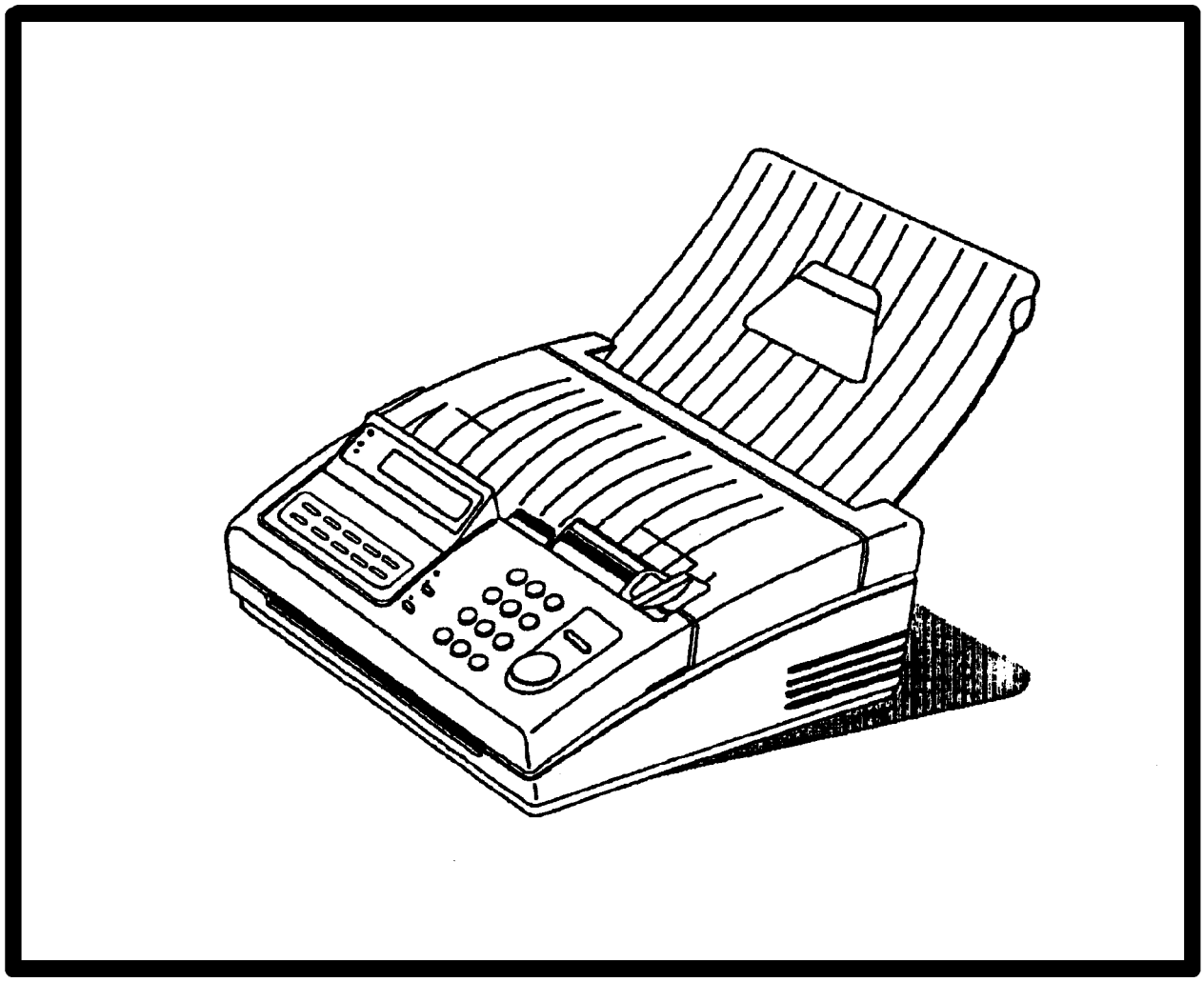
RC	RE	ASIA	
*			

RICOH

α Innfax MK2
(Alpha II)

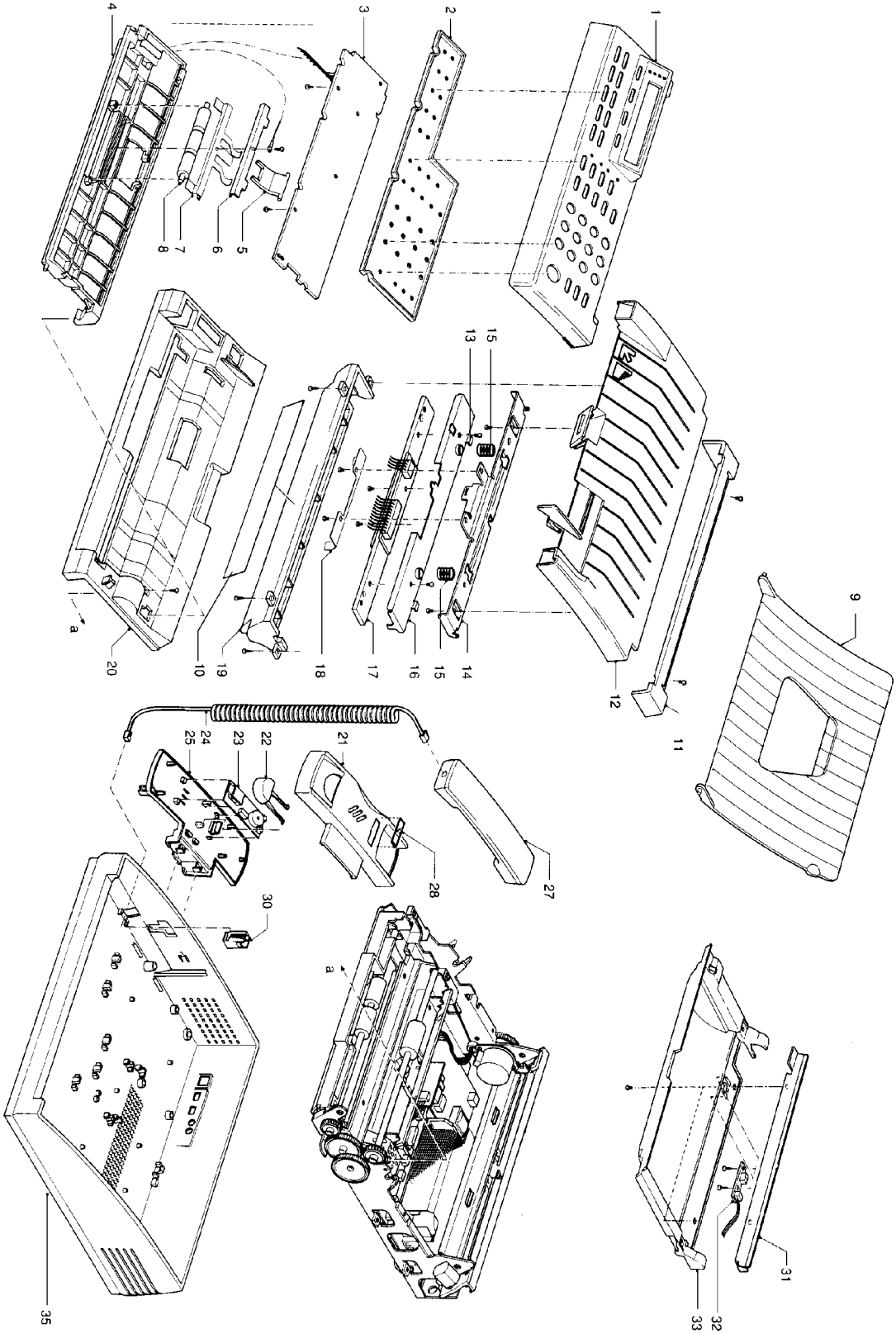
(USA)

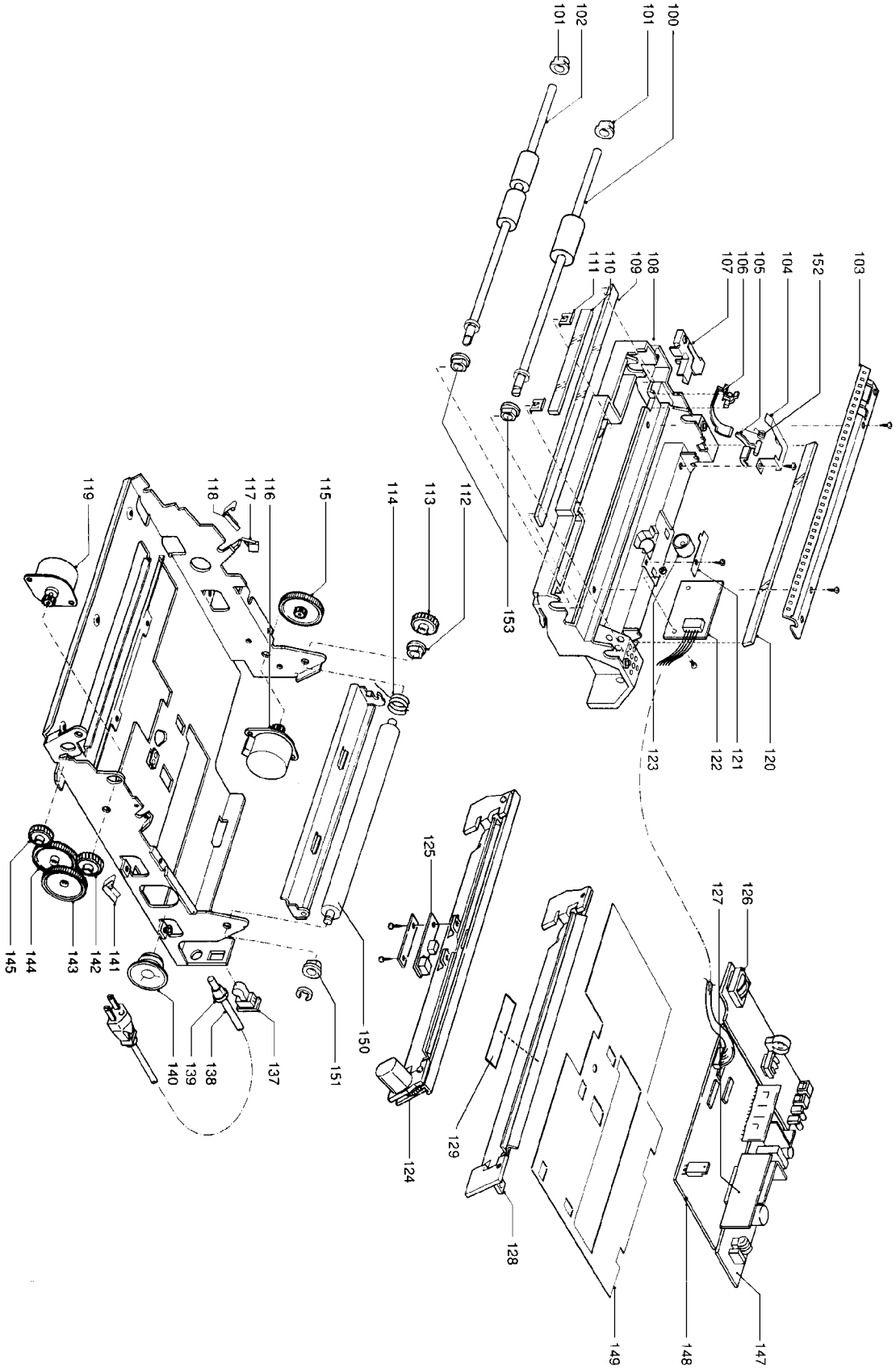
PARTS CATALOG



Revised on Nov 15, 1996.
Ricoh QAC

1. PART LAYOUT

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2. PARTS LIST

In the following table, "O" in a column indicates that the part is used in that model (s).

Index	Part No.	Description	Commonly used with α Innfax MK1 (ZB-α)	α Innfax MK2 (USA)	
				H503-25	H503-26
				Black	White
1	H5033207	OP-PORT Cover - Alpha 2 - Black	X	O	X
	H5033208	OP-PORT Cover - Alpha 2 - White	X	X	O
3	H5036014	PCB - OPU - Alpha2	X	O	O
4	H0801501	White Pressure Plate	O	O	O
5	H5021521	Separation Rubber Plate Ass'y	O	O	O
6	H5021523	Reinforce Plate	O	O	O
7	H0801514	Spring Plate - ADF	O	O	O
8	H0801503	Upper R2 Roller	O	O	O
9	H5024141	Copy Tray - FAX240/Alpha	O	O	O
10	H5024241	Decal - Decurler Cover	O	O	O
11	H5033102	Rear Cover - Alpha - Black	O	O	X
	H5023142	Rear Cover - Alpha - White	O	X	O
12	H5033123	Printer Cover - Alpha - Black	O	O	X
	H5023163	Printer Cover - Alpha - white	O	X	O
13	H0102053	Tapping Screw - Thermal Head	O	O	O
14	H5022105	Bracket - Printer Cover	O	O	O
15	H5022104	Coil Spring - Thermal Head	O	O	O
16	H5032110	Bracket - Thermal Head - Alpha2	X	O	O
17	H5032100	Thermal Head	X	O	O
18	H5022108	Spring Plate - Thermal Head	O	O	O
19	H5023106	Decurler Cover	O	O	O
20	H5033101	Scanner Cover - Alpha - Black	O	O	X
	H5023141	Scanner Cover - Alpha - White	O	X	O
32	H5025051	Paper End Sensor (SB-4)	O	X	O
33	H5033125	Paper Holder - Alpha - Black	O	O	X
	H5023165	Paper Holder - Alpha - White	O	X	O
35	H5033122	Bottom Cover - Alpha - Black	O	O	X
	H5033124	Bottom Cover - Alpha - White	O	X	O
100	H0801510	ADF Feed Roller	O	O	O
101	H0801508	Bushing - R2/Feed Roller	O	O	O
102	H0801511	Lower R2 Roller	O	O	O
103	H5021113	LED Array Ass'y	O	O	O
104	H5021109	Spring Plate - Feed Roller	O	O	O
105	H0801102	Actuator-SB1	O	O	O
106	H0801103	Actuator-SB2	O	O	O
107	H0801104	White Reflector - SB-1/2	O	O	O
108	H0801101	Scanner Base	O	O	O
109	H5021105	1st Mirror	O	O	O
110	H5021107	3rd Mirror	O	O	O
111	H5021110	Spring Plate - 3rd Mirror	O	O	O
112	H5022102	Left Bushing - Platen Roller	O	O	O
113	H0802107	Gear - Platen Roller	O	O	O
114	H5022118	Spring Clutch - Decurler	O	O	O
				Black	White

Index	Part No.	Description	Commonly used with	α Innfax MK2 (USA)	
			α Innfax MK1 (ZB-α)	H503-25	H503-26
115	H0801505	Idler Gear - ADF/Printer	O	O	O
116	H5025162	Rx Motor	O	O	O
117	H5022109	Cover Sensor (SB-10)	O	O	O
118	H0801517	Spring Hook - Left	O	O	O
119	H5025161	Tx Motor	O	O	O
120	H5021106	2nd Mirror	O	O	O
121	H5021111	Spring Plate - Lens	O	O	O
122	H5026002	PCB - SBU	O	O	O
123	H0801108	Lens	O	O	O
124	H5032220	Cutter Unit	X	O	O
125	H5025051	Jam Sensor (SB-5)	O	O	O
126	H5036006	PCB - LIU - Alpha	O	O	O
127	H5036020	PCB - FCE - Alpha2	X	O	O
129	H5024240	Decal - Cutter Unit	O	O	O
138	H5035171	Power Cord	O	O	O
139	H5023116	Power Cord Clamper	O	O	O
140	H5025160	Monitor Speaker	O	O	O
141	H0801518	Spring Hook - Right	O	O	O
142	H0801506	Gear - ADF Feed Roller	O	O	O
143	H0801504	Idler Gear - ADF/Printer	O	O	O
144	H0801505	Idler Gear - ADF	O	O	O
145	H0801507	Gear - R2 Roller	O	O	O
147	H5025000	PCB - PSU - 120V	O	O	O
148	H5036001	PCB - FDU - Alpha	O	O	O
149	H5023114	Insulating Sheet	O	O	O
150	H5022100	Platen Roller	O	O	O
151	H5022101	Right Bushing - Platen Roller	O	O	O
152	H0801115	Spring-SB1	O	O	O
153	50530447	Bushing - 6 mm	O	O	O
154	H5022112	Decurler Bracket	O	O	O
*	H5033241	One Touch Dial Sheet - Black	X	O	X
*	H5033239	One Touch Dial Sheet - White	X	X	O
*	52141221	Rubber Foot	O	O	O
*	H5037120	ROM - Alpha2	X	O	O
*	H5025035	Harness - OPU-FDU	O	O	O
*	H5025040	Harness - LIU-FDU	O	O	O
*	H5025036	Harness - PSU-FDU	O	O	O
*	H5025038	Harness - SB4-FDU	O	O	O
*	H5025039	Harness - SB5-FDU	O	O	O
*	H5025003	Harness - SBU-FDU	O	O	O
*	H5025030	Harness - T/H-FCE	O	O	O
*	H5025037	Harness - T/H-FDU	O	O	O
*	H5025033	Harness - LIUα-FCE	O	O	O

Inndex	Part No.	Description	commonly used with α Innfax MK1 (ZB-α)	a Innfax MK2 (USA)	
				H503-25	H503-26
				Black	White
Service Tools					
*	H0809600	Scanner Adjustment Kit	O	O	O
*	H0809602	Scanner Adjustment Kit	O	O	O
*	H0939650	Scanner Adjustment PCB	O	O	O