

Model: Kingfisher 2		Date: 15-Sep-99	No.: RA298001
Subject: Differences from Kingfisher		Prepared by: K. Miura	
From: Technical Service Dept., GTS Division			
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 ()		

The new models, "Kingfisher 2 (A298)" and "Grand Kingfisher 2" will be launched in November '99. They are slightly modified versions of the already existing models "Kingfisher (Ricoh FT4015, Gestetner 2715z, Nashuatec 3715, Rex-Rotary 8715Z, Savin 9115, Infotec 5151 z)" and "Grand Kingfisher (Ricoh FT4618, Gestetner 2718z, Nashuatec 3718, Rex-Rotary 8718Z, Savin 9118, Infotec 5181 z)".

There will be nine destination codes for Kingfisher 2 depending on the area: -27 is Europe (Ricoh), -29 is Asia (Ricoh), -19 is Taiwan (Ricoh), -23 is China (Ricoh), -69 is Russia (Ricoh), -22 is Europe and Asia (Gestetner, Nasuatec and Rex-Rotary), -50 is Taiwan (Gestetner), -62 is China (Gestetner), -26 is Europe (Infotec).

There will be four destination codes for the Grand Kingfisher 2 depending on the area: -27 is Europe (Ricoh), -29 is Asia (Ricoh), -22 is Europe and Asia (Gestetner, Nasuatec and Rex-Rotary), -26 is Europe (Infotec).

This RTB clarifies the differences between the base copier and Kingfisher 2 and Grand Kingfisher 2 (based on the style of the service manual).

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1. OVERALL MACHINE INFORMATION

1-1. SPECIFICATIONS

NOTE: Only items marked * are different from the base copiers.

*First Copy Time: Less than 6 seconds (A4/8.5" x 11" sideways)

NOTE: It can be changed in SP mode.

Warm-up Time: 120 V machines of A298: Less than 30 seconds (at 23 °C)
 *230 V machines of A298: Less than 35 seconds (at 23 °C)
 120 V machines of A299: Less than 35 seconds (at 23 °C)
 230 V machines of A299: Less than 45 seconds (at 23 °C)

*Power Consumption:

A298 machines	Copier only	Full system
Warm up	0.95	0.95
Stand-by	0.16	0.16
Copying	0.70	0.70
Maximum	1.4	1.5
Energy saver	0.12	0.12
A299 machines	Copier only	Full system
Warm up	0.95	0.95
Stand-by	0.16	0.16
Copying	0.70	0.70
Maximum	1.4	1.5
Energy saver	0.12	0.12

*Weight:

	Copier only	Full system
A298 machines	40.5 kg (89.3 1b)	53.5 kg (118.0 1b)
A299 machines	43.5 kg (95.9 1b)	56.5 kg (124.6 1b)

2. ELETRICAL COMPONENT DESCRIPTIONS

The following transformer is not included in these copiers.

Symbol	Name	Copier only	Full system
TR	Transformer	Steps down the wall voltage to 30 Vac and 8 Vac.	A219 machines: 15 A245 machines: 17

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3. INSATLLATION PROCEDURE

3-1. COPIER ACCESSORY CHECK

1. NECR – Multi-language (-19, -23, -27, -29, -69 machines)
2. Sheet – Operate Keytop – TWN (-19, -50 machines)
3. Sheet – Operate Keytop – CHN (-62, -69 machines)
4. Decal – Symbol Explanation – TWN (-19, 50 machines)
5. Decal – Symbol Explanation – Multi-language (-22, -23, -26, -27, 29 machines)
6. Decal – Symbol Explanation – CHN (-62, -69 machines)
7. Operating Instructions – Taiwanese (-19, -50 machines)
8. Operating Instructions – English (-22, -26, -29 machines)
9. Operating Instructions – Russian (-23 machines)
10. Operating Instructions – Germany (-26 machines)
11. Operating Instructions – French (-26 machines)
12. Operating Instructions – Italy (-26 machines)
13. Operating Instructions – Spanish (-26 machines)
14. Operating Instructions – Chinese (-62, -69 machines)
15. Exit Tray
16. Power Code Socket (-19, -50 machines)
17. Model Name Decal (-22, -50, -62 machines)
18. Decal – Keytop Cover (-22, -50, -62 machines)
19. Large Decal – Energy Star

4. SERVICE TABLES

4-1. SERVICE PROGRAM MODE TABLE

The following mode was added.

Mode No.		Function				Settings	
79	Fusing Temperature Setting for Energy saver mode	Sets the fusing temperature in energy saver mode.				0 ~ 3 Default = 0	
		A298 machines		A299 machines			
		120V machines	230V machines	120V machines	230V machines		
		0	120	130	130		140
		1	130	140	140		150
		2	140	150	150		160
3	150	160	160	170			

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5. PREVENTIVE MAINTENANCE SCHEDULE

5-1. PM TABLE

All the 45K PM parts are changed to 60K.

5-2. SPECIAL TOOLS AND LUBRICANTS

The Digital Multimeter has been changed.

Part Number	Description	Q'ty
A0299387	Digital Multimeter	1

Model: Kingfisher 2		Date: 31-Jan-00	No.: RA298002
Subject: User Code Mode		Prepared by: M. Ishihara	
From: Technical Services Dept., GTS Division			
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 ()		

The following SP modes have been added to the KF2/GKF2.

SP 70 (No UP mode)

-User Code Mode selection-

Function: Enables User Code Mode.

Procedure:

- 1) Access SP mode 70.
- 2) Select 1:user code mode (Default is 0: No user code).
- 3) The machine is then ready to access the next mode number.

Note:

Cut JP101 on the main board.

Procedure to set the user code:

- 1) "U2" is displayed in the copy counter. Using the number keys, input the three-digit user code number (e.g.111,123,999). Please note that 000 is invalid.
- 2) Press the Auto Image Density key.
- 3) "U2" is no longer displayed and the machine becomes ready to copy.
If any invalid values are entered or other keys are pressed, "U2" will remain displayed and copies cannot be made.
- 4) After the copy job is completed (or one minute after the last key is pressed), the machine initiates Auto Reset and becomes ready to set the next user code. At this time, "U2" will be displayed and copies cannot be made.
- 5) As an alternative, you can set the next user code by pressing the Clear Mode/Energy Star key and then the Clear/Stop key when the machine is in Copy Ready condition. The machine will then become ready to accept the next user code.

User codes:1 - 999(*)

SP 72 (UP 12)

-Registering User Numbers-(*)

Function: Registers user numbers.

The user number (1-10) is displayed in the copy counter and code numbers are displayed in the three digit indicator (Zoom, %).

To change the user code numbers, use the Zoom key.

Model: Kingfisher 2	Date: 31-Jan-00	No.: RA298002
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Procedure:

- 1) Access mode number 72 in SP mode (12 for UP mode).
- 2) "1" is displayed in the copy counter.
A 3-digit number can be displayed in the three digit indicator (Zoom,%).
Press the Zoom Up(+) key or Zoom Down (-) key to see the next user codes.
- 3) Enter the new user code with the number keys. This can be a 3-digit number from 1 to 999.
- 4) Press the Auto Image Density key. The old user code is then changed to the new code.
- 5) To exit from the User Tools, turn the main switch off and on.

<u>User Numbers:</u>	<u>User code:</u>
1	1 - 999
2	1 - 999
3	1 - 999
.	.
.	.
10	1 - 999

Note: User codes are set to "0" when the machine is shipped from the factory.

SP 73 (UP 8)

- User Code Counter Check -

Function:

Displays the copy counter value for each user number registered.

The user number (1-10) is displayed in the copy counter and the corresponding total copy counter value is displayed in the 3-digit indicator (Zoom,%). Using the Zoom key (up:+,down:-), you can view how many copies each registered user has made.

Procedure:

- 1) Access mode number 73 (number 8 for UP mode).
- 2) "1" is displayed in the copy counter.
- 3) At first, only 3 digits are displayed in the 3-digit indicator (6th, 5th and 4th).
- 4) After you press the "Darker" key, the next 3 digits will be displayed (3rd, 2nd and 1st).
- 5) To exit, press the Auto Image Density key and turn the main switch off and on.

SP 92 (UP 9)

-User Code Counter Clear-

Function: Clears the total copy counter values for all registered users.

Procedure:

- 1) Access mode number 92 (number 9 for UP mode).
- 2) Press "1" on the number key pad.
- 3) Press the Auto Image Density key and the "Darker" key at the same time.
- 4) The Image density indicator will blink and begin to clear the counter values.
- 5) The image density indicator then turns off and all total copy counter values are cleared. The machine will then wait for the next SP mode number to be input.
- 6) To exit, turn the main switch off and on.

Model: Kingfisher 2		Date: 29-Feb-00	No.: RA298003
Subject: Overtoneing and toner drops on copies		Prepared by: M. Ishihara	
From: Technical Services Dept., GTS Division			
Classification:	<input checked="" type="checkbox"/> Troubleshooting	<input type="checkbox"/> Part information	<input checked="" type="checkbox"/> Action required
	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Service manual revision
	<input type="checkbox"/> Paper path	<input type="checkbox"/> Transmit/receive	<input type="checkbox"/> Retrofit information
	<input type="checkbox"/> Other ()		

SYMPTOM:

- 1) At machine installation or after the developer is replaced, SP66 (TD sensor Initial Setting) that would usually take about 60 seconds stops after only a few seconds.
- 2) After a new machine is installed, copies have high ID and/or toner drops onto copies. This occurs until about 100 copies are made.

CAUSE:

The TD sensor connector (A1905346: Development Unit Harness) which is mounted on the I/U (Imaging Unit) is not properly connected to the connector of the Development Relay Board (A1905145). The board is mounted on the rear side plate of the mainframe.

If the service technician does not tighten the knob screw *while* pushing the I/U against the raised portion of the mainframe front side plate, the TD sensor connector will not be fully inserted into the receiving connector on the board.

To check whether or not the connection is stable, make some copies and check the reading of SP55. If the connection is unstable, the SP55 reading will also be unstable (e.g. 71,125,13,17,117,35).

Model: Kingfisher 2

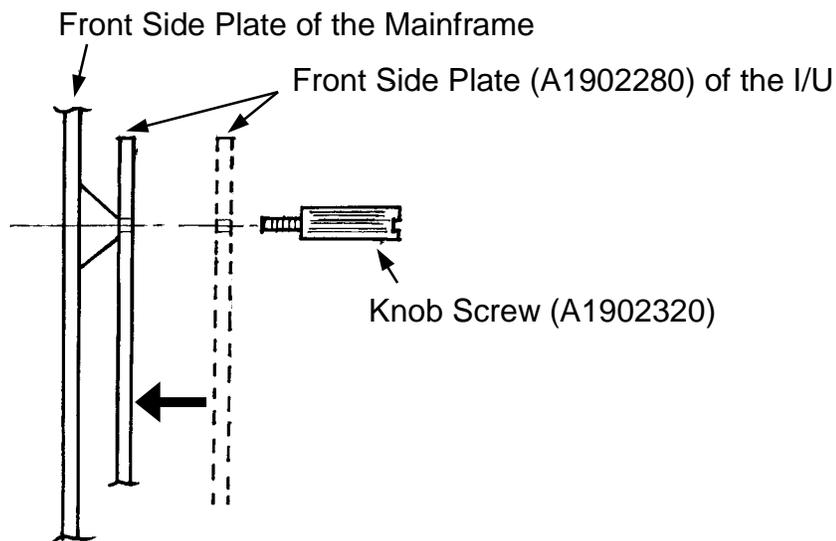
Date: 29-Feb-00

No.: RA298003

SOLUTION:

I/U installation procedure

- 1) Insert the I/U into the mainframe.
- 2) Push the I/U toward the back so that the I/U front side plate(A1902280) remains flush against the raised portion of the front side plate of the mainframe (see the illustration below). While holding the unit in this position (pushing on the handle), tighten the knob screw (A1902320) by hand until the I/U is secure.



- 3) Use a slotted screwdriver or coin for the final tightening.

Model: Kingfisher 2		Date: 10-Mar-00	No.: RA298004
Subject: Installation Procedure for the Imaging Unit		Prepared by: M.Ishihara	
From: Technical Services Dept., GTS Division			
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 ()		

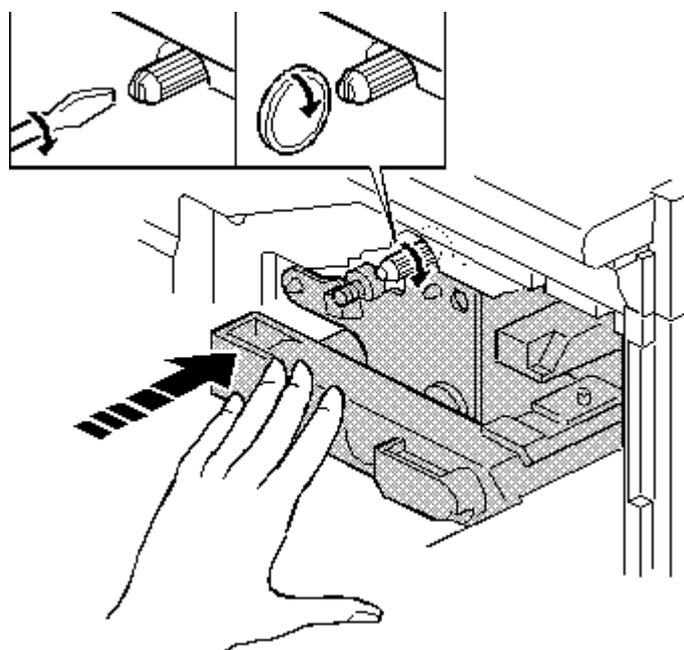
The procedure for installing the imaging unit in the copier has been replaced with a more detailed description. Please make sure to install the unit in this way after pouring in the new developer at machine installation or developer replacement.

Previous:

8. Remount the cover on the imaging unit, and install the unit in the copier (1 knob screw).
Then turn the "B1" lever clockwise to raise the transfer corona unit.

Revised:

8. Remount the cover on the imaging unit and insert the unit into the mainframe. Push the unit toward the back until it stops. While holding the unit in this position, tighten the knob screw by hand. For the final tightening, use a screwdriver or coin as shown in the illustration. Then turn the B1 lever clockwise to raise the transfer corona unit.



Model: Kingfisher2		Date: 03-Aug-00	No.: RA298005
Subject: Low image density in leading (top) area		Prepared by: M.Ishihara	
From: Technical Services Dept., GTS Division			
Classification:	<input checked="" 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 type="checkbox"/> Transmit/receive	<input type="checkbox"/> Retrofit information
	<input type="checkbox"/> Other ()		

SYMPTOM:

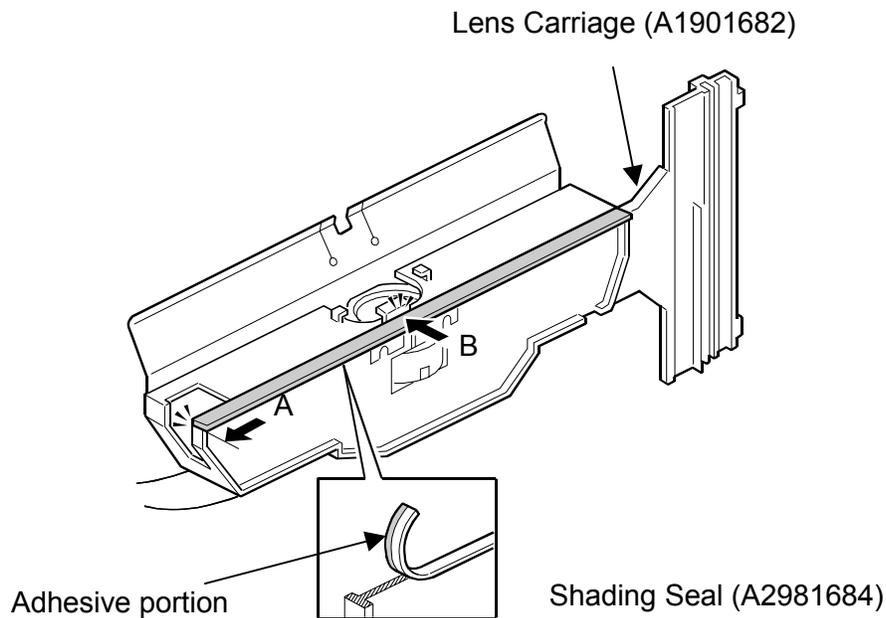
The image density of the leading (top) half of the copy becomes lighter when specific light or halftone originals are copied.

CAUSE:

When the 1st and 2nd scanners start to move, part of the light from the 1st scanner is directly sent to the mirror of the 2nd scanner, as the two scanners are relatively close. This "extra light" received by the mirror will cause the image to appear lighter. As scanning continues, the 1st scanner increases to twice the speed of the 2nd scanner, causing the two scanners to get farther and farther apart. Therefore, less and less light "extra light" reaches the 2nd scanner mirror. This is why the image is lighter near the leading edge.

SOLUTION:

A shading seal (A2981684) should be attached to ensure proper image density at the leading edge (when making copies with very light/halftone originals). Because the extra light passes from the 2nd scanner mirror to the photoconductor via the base plate of the optics unit and lens carriage (A1901682), the seal should be attached to the lower portion of the lens carriage. This will prevent the extra light from passing between the optic base plate and lens carriage. This modification will be applied from August 2000 production. Please see the procedure as shown below.



A: 0-1mm from the edge, B: 0-0.5mm from the surface

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Procedure:

1. Remove the power plug from the wall outlet.
2. Remove the lens carriage from the optics unit.

Note: Before removing the lens carriage, remove the left scale, the exposure glass and the lens cover.

3. Attach the shading seal to the lens carriage as shown in the illustration.

Model: Kingfisher2		Date: 28-Dec-00	No.: RA298006
Subject: DF Harness damage		Prepared by: M.Ishihara	
From: Technical Services Dept., GTS Division			
Classification:	<input checked="" 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 type="checkbox"/> Transmit/receive	<input type="checkbox"/> Retrofit information
	<input type="checkbox"/> Other ()		

SYMPTOM:

Damage to the harness connecting the DF44 and the copier.

CAUSE:

Sometimes, the DF is forced past its normal stop position when it is opened. If this happens many times, the harness may be damaged.

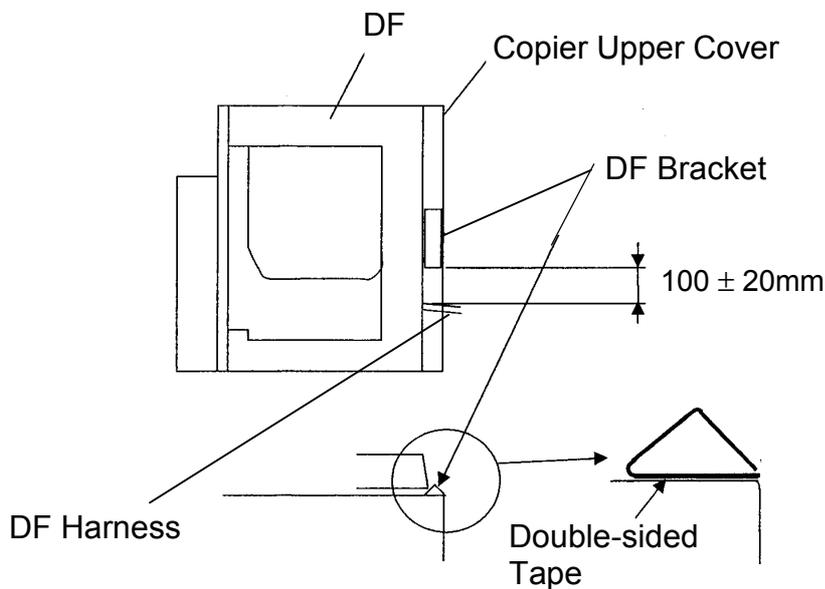
SOLUTION:

1. User Instruction

Request the users not to force the DF past the stop position when they open it.

2. DF Bracket

A DF bracket (PN A2989500) has been registered as a service part. Place it on the copier upper cover as shown below to prevent the DF unit from being forced too far back.



Model: Kingfisher2

Date: 28-Dec-00

No.: RA298006

3. Upper Cover Slit

A slit has been made in the upper cover to prevent the harness from being pinched even if the DF unit is forced too far back. This change was applied from the August, September, and October production as shown in the following table.

<u>Model Code</u>	<u>Machine serial number</u>	<u>Applying date</u>
A298-19	N/A	N/A
-22	H2106900001	00/09/07
-23	H2106902854	00/09/04
-26	4A18900001	00/09/14
-27	H2106803121	00/08/23
-29	H2106902914	00/09/06
-50	H2107003536	00/10/27
-62	H2106903169	00/09/06
-69	H2106903269	00/09/26

Model: Kingfisher2		Date: 10-Jan-01	No.: RA298007
Subject: Toner Supply Motor failure		Prepared by: M.Ishihara	
From: Technical Services Dept., GTS Division			
Classification:	<input checked="" 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 type="checkbox"/> Transmit/receive	<input type="checkbox"/> Retrofit information
	<input type="checkbox"/> Other ()		

SYMPTOM:

The toner supply motor breaks down so that the toner supply system malfunctions.

CAUSE:

The tip of the worm gear on the motor shaft wears out.

SOLUTION:

- 1) Apply grease to the tip and spiral threads of the present worm gear of the toner supply motor (P/N A2983371).

Recommended grease:

Part Number	Description
A1909002	Grease-CP501 (5 pcs/set)
52039502	Grease-501
-	Cosmos No.1

An equivalent grease for plastic can be used instead of the above ones.

Note: Cosmos No.1 grease was applied to the tip and spiral threads of the worm gear at the motor vendor as of July 2000 production motors onward.

- 2) Replace the worm gear with a new one (P/N A2983388) and apply grease to the tip and spiral threads of the gear.

Note: The material of the new worm gear was changed to NW-02 to improve durability, and it will be applied from the February 2001 production machines onward. We will issue a modification bulletin (MB) to inform you of the new part number of the toner supply motor (the motor service part includes the worm gear) and the cut-in machine serial numbers.

Please do not order the new parts until the MB is issued, as they are not yet in stock.