CONTROLLER INTERFACE KIT TYPE-A

SERVICE MANUAL

This manual should be inserted to the NC5006 Service Manual.

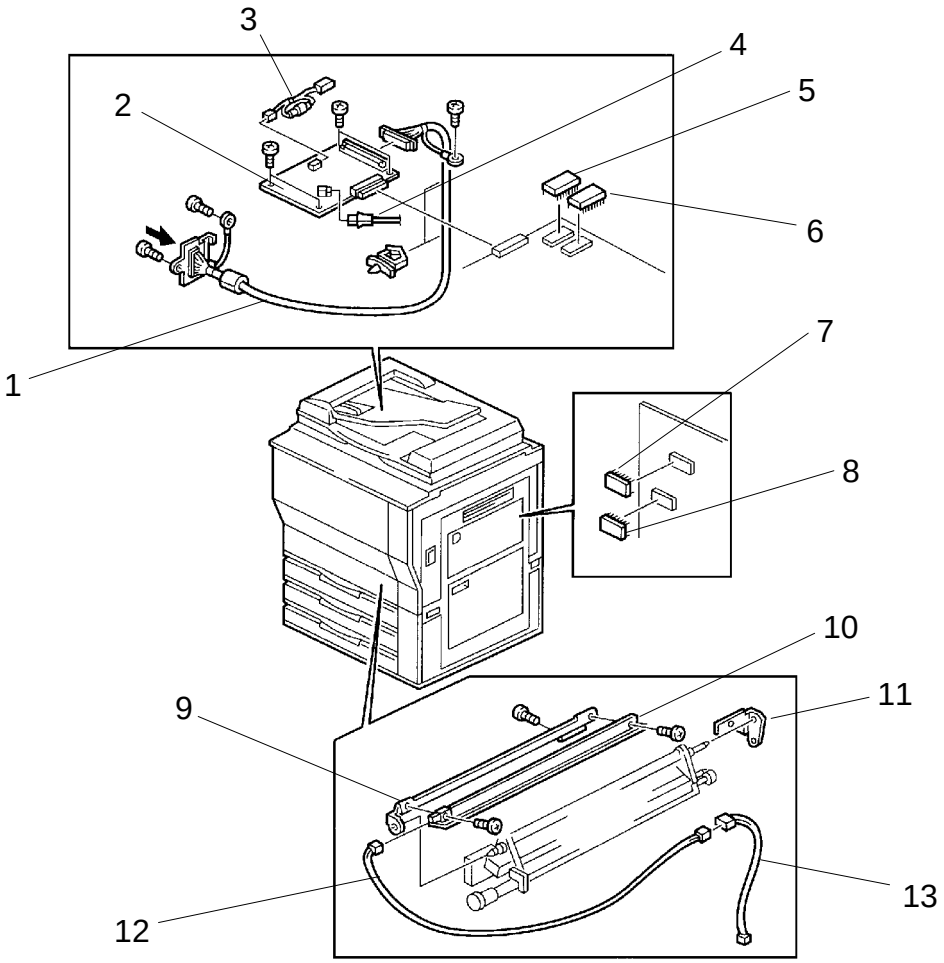
A5839850
Printed in Japan

CONTROLLER INTERFACE KIT TYPE-A
(Machine Code: A583-01)

1. SPECIFICATIONS

Refer to the Fiery Controller Service Manual.

2. COMPONENT LAYOUT



1. Controller Interface Harness
2. Controller Interface Board
3. Fuse Harness
4. Fiber Optics Cable
5. IPU ROM (IC303)
6. IPU ROM (IC309)
7. Main ROM(IC522)
8. Main ROM(IC509)
9. PTL Stay
10. PTL (LED Array)
11. PTL Bracket
12. PTL Harness
13. PTL Relay Harness

3. ELECTRICAL COMPONENT DESCRIPTION

Symbol	Name	Function	Index No. (See p. 1)
Printed Circuit Board			
PCB 1	Controller Interface Board	Interfaces input/output data between the Fiery Controller and the main frame.	2
Lamp			
L1	PTL	Reduces the drum potential in non-image areas of the drum, to prevent toner from jumping to these non-image areas.	10
Rerational ROMs			
IC303	IPU ROM	Processes R/G/B video signals.	5
IC309	IPU ROM	Processes R/G/B video signals.	6
IC509	Main ROM	Controls the PTL and all copier functions.	8
IC522	Main ROM	Controls the PTL and all copier functions.	7

4. INSTALLATION

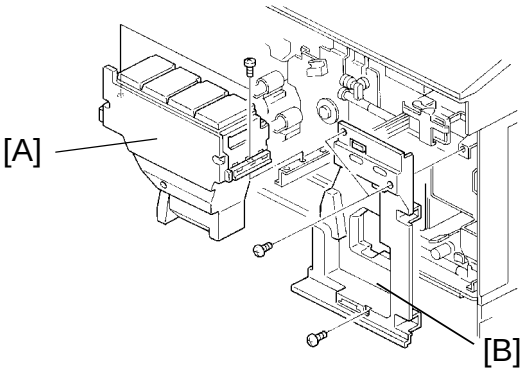
4.1 ACCESSORY CHECK

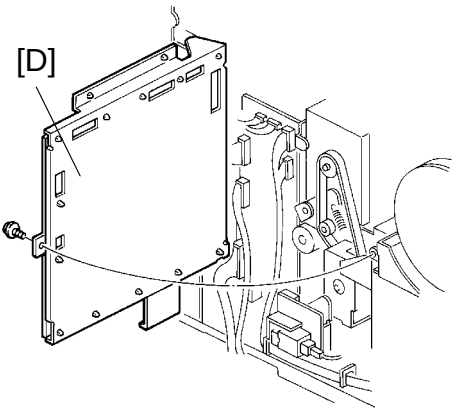
Make sure that each accessory listed in the following table is in the box. Also check the condition of each item.

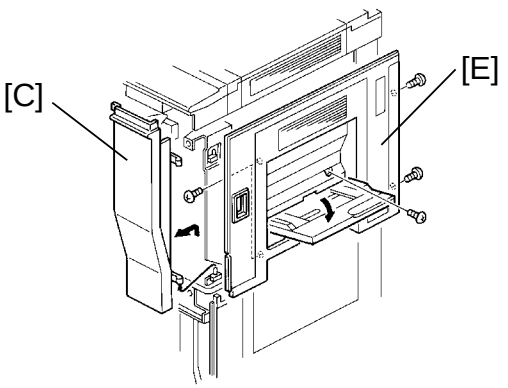
1. Controller Interface Board 1
2. IPU ROM (IC303, IC309). . . . . 1 of each
3. Main ROM (IC509, IC522) . . . . . 1 of each
4. Fuse Harness 1
5. Fiber Optics Cable. 1
6. Controller Interface Harness 1
7. PTL 1
8. PTL Bracket. 1
9. PTL Stay 1
10. PTL Harness 1
11. PTL Relay Harness 1
12. Stepped Screw - M3 1
13. Philips Pan Head Screw - M3 x 8 1
14. Philips Pan Head Screw - M4 x 8 6
15. Screw - M4 x6 1
16. Wire Saddle. 2
17. Installation Procedure 1

4.2 INSTALLATION PROCEDURE

4.2.1 Remove the covers



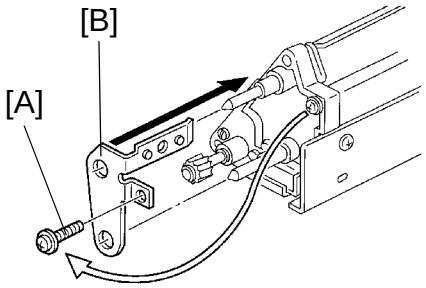


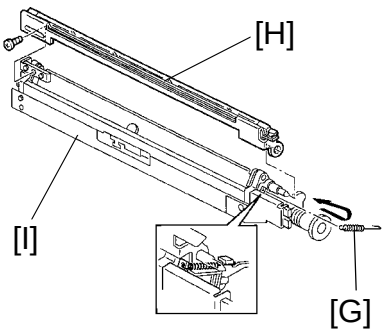


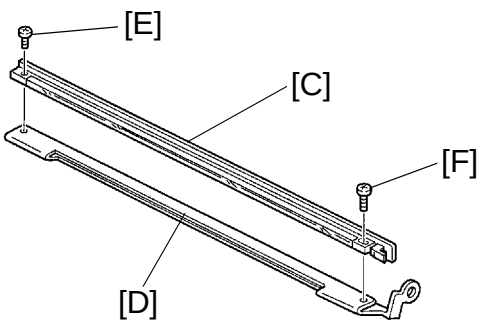
CAUTION: Turn off the main switch and unplug the machine before starting the following procedure.

1. Open the front doors and remove the toner tank unit [A] (2 screws).
2. Remove the right inner cover [B] (3 screws).
3. Remove the right front door [C].
4. Remove the upper rear cover (4 screws).
5. Remove the lower rear cover (4 screws).
6. Swing out the main board [D] (1 screw).
7. Remove the upper right cover [E] (5 screws).

4.2.2 Attach the PTL (Pre-Transfer Lamp) to the belt cleaning unit.



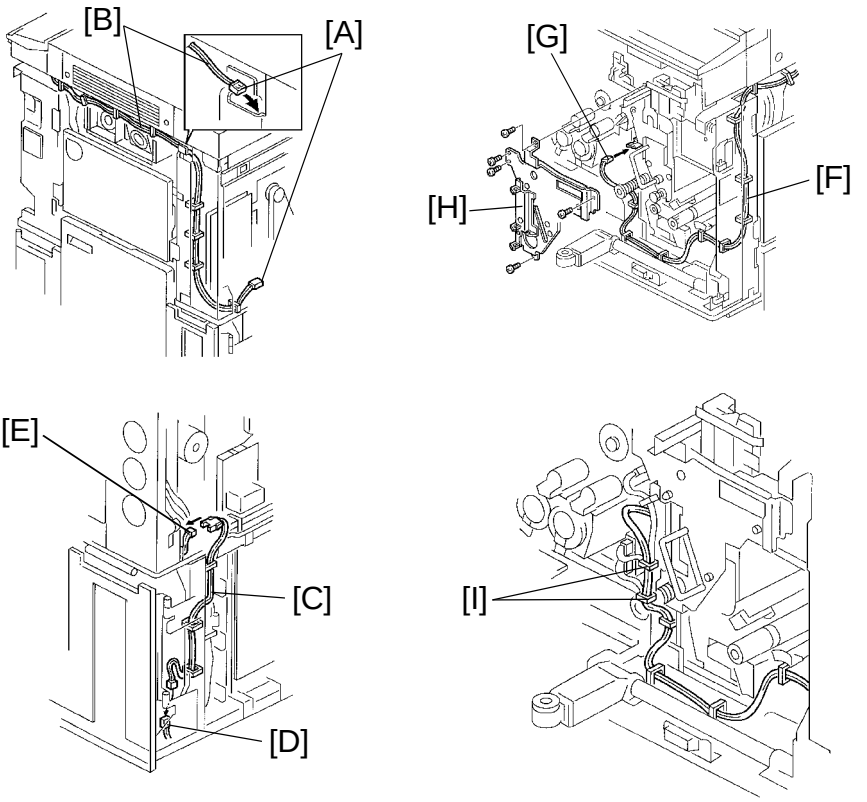




1. Lower the toner collection duct (1 hook).
2. Disconnect the three connectors and free them from the three harness clamps.
3. Remove the transfer belt stay (5 screws).
4. Remove the belt cleaning unit by pulling it out.
5. Remove the screw [A] on the rear plate of the unit.
6. Attach the PTL bracket [B] with this screw [A].
7. Attach the PTL (LED array) [C] to the PTL stay [D] (M3x8 [E] ,stepped screw-M3 [F]).
8. Remove the release spring [G].
9. Attach the PTL stay/LED array assembly [H] to the cleaning unit [I] (M4x6 screw).
10. Reset the release spring [G].

    NOTE: Don’t set the release spring the wrong way round.

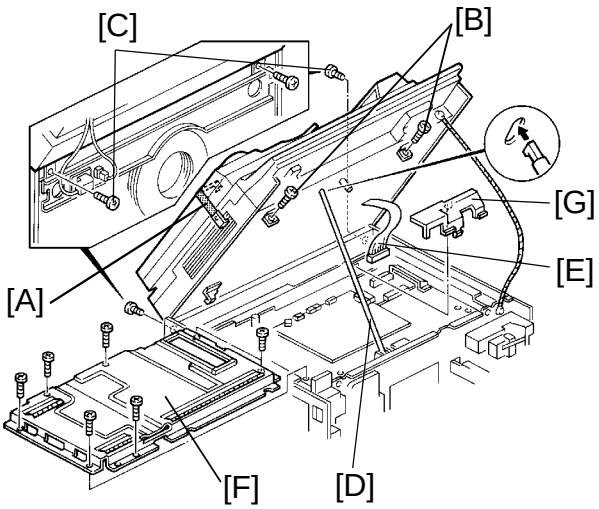
4.2.3 Route the PTL harness and attach the belt cleaning unit

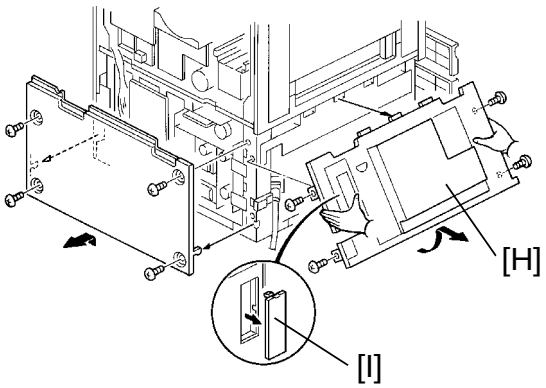


1. Route the white connector end [A] of the PTL harness [B] from the upper rear right side of machine through to the rear as shown in the diagram (8 clamps).
2. Run the PTL relay harness [C] (3 clamps) down the rear side and connect it to the connector [D] and the PTL harness [E].
3. Route the PTL harness [F] through the front side of the machine (8 clamps).
4. Reinstall the belt cleaning unit and connect it to the PTL harness [G].
5. Reinstall the transfer belt stay [H] (5 screws and 3 connectors).
6. Reinstall the toner collection duct (1 hook).

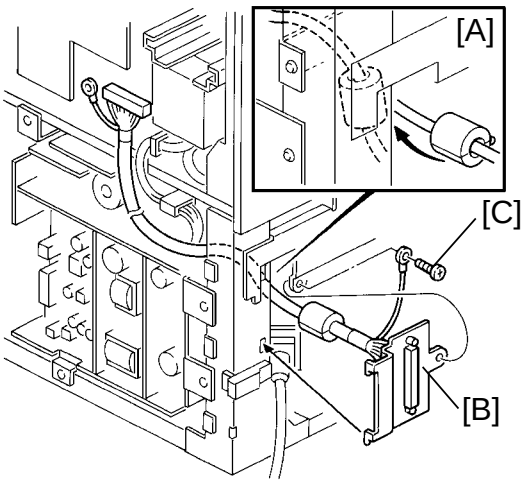
NOTE: Connect the connector of the PTL unit before reattaching the transfer belt stay. Also, disconnect it after removing the transfer belt stay.
After reinstalling the transfer belt stay, secure the PTL harness with the 2 clamps [I] on the transfer belt stay.

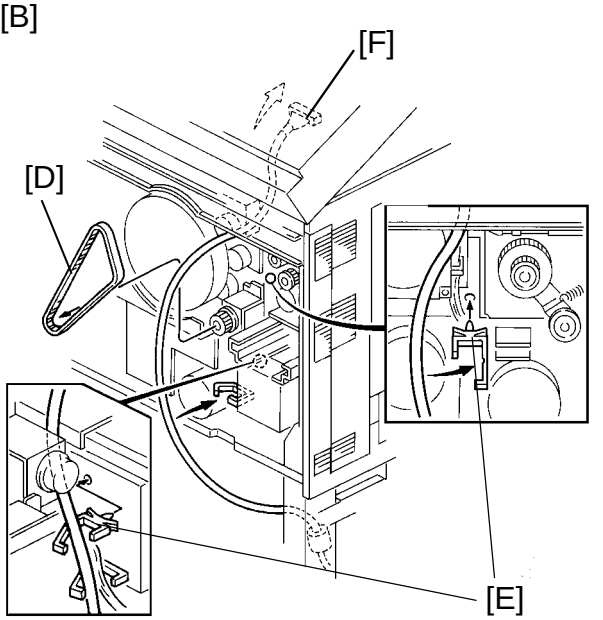
4.2.4 Install the interface board and harness





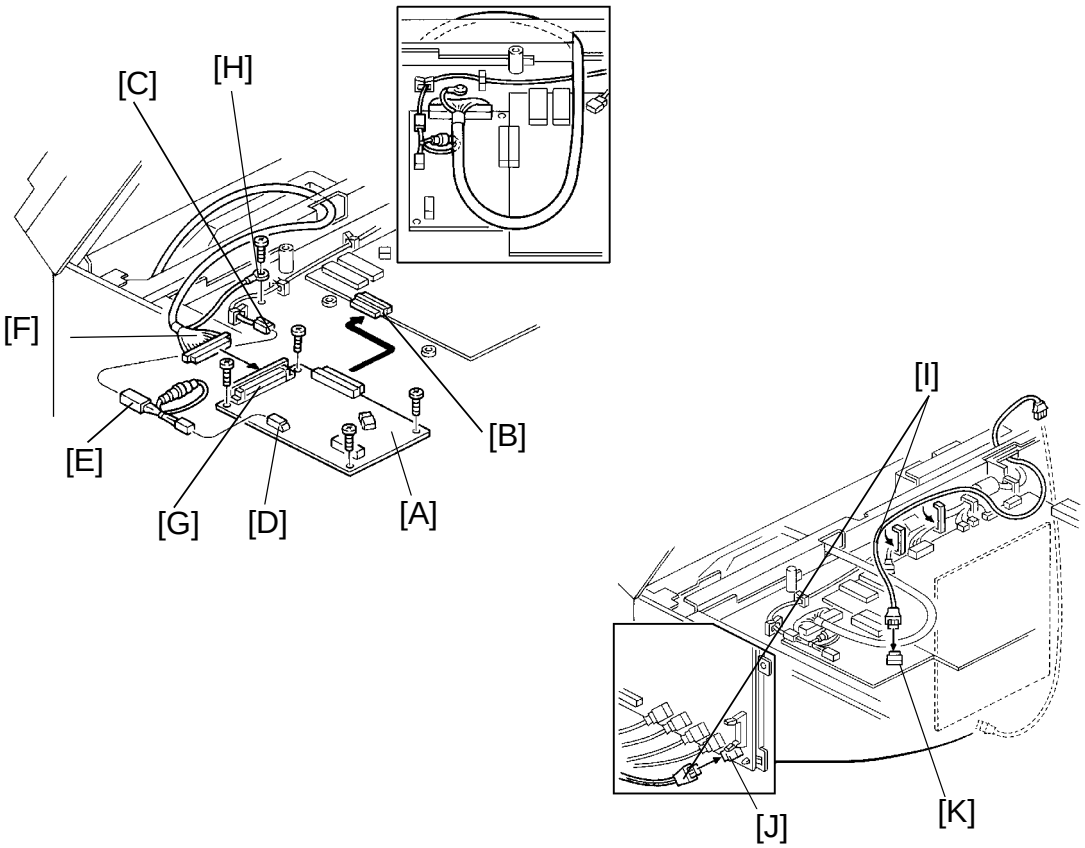
1. If the DJF is equipped on the copier, secure the DJF to the scanner unit with the DJF securing belt [A] as shown.
   If the Film Projector Unit is installed on the copier, remove the mirror unit.
2. Remove the two screws [B] at the front of the scanner unit.
3. Remove the two screws [C] at the rear of the scanner unit.
4. Open the scanner unit and set the scanner support bar [D] as shown.
5. Disconnect the shielded flat cable [E] and remove the IPU board cover [F] (2 long and 5 short screws).
6. Remove the harness cover [G] from the right rear corner.
7. Remove the lower left cover [H] (4 screws). Then remove the cap [I] from the lower left cover.





8. Route the harness above the left rail of the 1st tray [A] from the left side to the rear.
9. Place the controller interface harness bracket [B] on the left side frame and secure it with the grounding wire (1 screw) [C].
10. Remove the timing belt [D] and install the two harness clamps [E].
11. Route the harness from the bottom to the top as shown [F].

    NOTE: Route the harness behind the charge inlet fan duct. Position the harness near the rear side plate so that the harness won't touch any moving parts such as timing belts and motors.
12. Secure the harness with the three harness clamps and reinstall the timing belt.



13. Install the controller interface board [A] by connecting it to CN308 [B] of the IPU board (4 screws).
14. Connect the white 2P connector [C] to CN301 [D] of the controller interface board via the fuse harness [E].
15. Connect the controller interface harness [F] to CN303 [G] of the controller interface board. Then secure the grounding wire [H] to the IPU board bracket (1 screw).

    NOTE: Make sure that the connectors are set properly. If not, the copier might not achieve the ready condition or blank copies might be made.
16. Connect the fiber optics cable [I] to CN514 [J] on the main control board and route it to the IPU board area following other fiber cables.
17. Run the fiber optics cable through the harness clamps and connect it to CN304 [K] of the controller interface board.

4.2.5 Replace ROMs and reassemble the machine

1. Replace the ROM (IC303) on the IPU board.
2. Replace the ROM (IC309) on the IPU board.
3. Replace the ROM (IC509) on the main board.
4. Replace the ROM (IC522) on the main board.
5. Re-assemble the machine.

4.2.6 Connect to the Fiery and adjust the printer gamma

The printer gamma must be adjusted for both Fiery print mode settings (halftone and contone).

1. Connect the Fiery controller to the controller interface connector with the cable provided from EFI.
2. First turn on the copier. When the copier in standing by, turn on the Fiery controller.
3. Watch the Fiery boot up. When "**Press ESC to run Fiery Setup**" is displayed, press the **ESC** key.
4. Press **Enter** until the "**Enable halftone printing**" setting is displayed. Then select **Yes** with the "→" key and press **Enter**.
5. When the "**Default print mode**" setting is displayed, select **halftone**.
6. Press **Enter** until "**Save changes: No/Yes/Quit**" is displayed.
7. If you changed either of the settings in steps 4 and 5, select **Yes** then press **Enter**. Otherwise, select **Quit** then press **Enter**. The Fiery continues its startup routine.

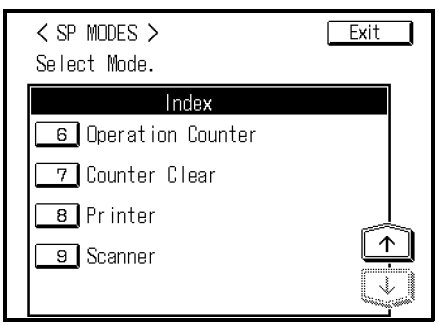
   NOTE: If you made a mistake during set-up, select **No** and do the set-up all over again.
8. When the Fiery controller enters **idle** mode, press the **F4** key to print a test page.

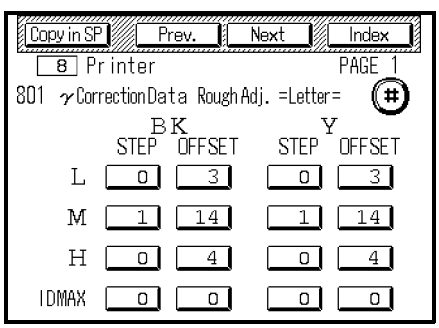
9. Compare the color scales on the test page just printed with the color scales for halftone in the halftone area of the reference Fiery test chart. Check the following points on the print out.
   1). The 16th levels in each of the 16-grade color test strips (YMCK) are similar in density to those on the test chart.
   2). The 16th level in the 16-grades "PK" (Process Black) scale is similar to that on the test chart.

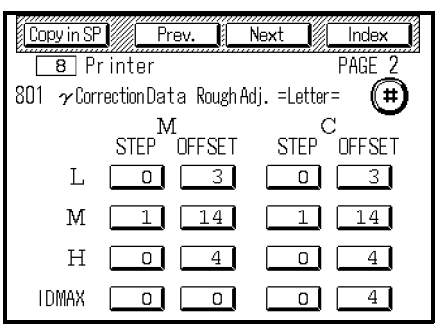
10. If the colors on the test page are not acceptable, adjust the γ correction data as follows.
   1). Enter the SP mode on the copier.
   2). Select "8: Printer".
   3). In the "**=Letter=**" screens (pages 1 and 2) of the SP mode, adjust the 16th levels for the colors that need adjusting by changing only the **IDMAX** setting in the **OFFSET** column.

NOTE: The **IDMAX OFFSET** setting should be between 0 and 4.
Do not change the data in the **STEP** columns; these must remain at the default settings.
Do not change the **H**, **M**, or **L** settings in the **OFFSET** column. Such changes will have no effect on the printout, because the various colors in the H, M, and L ranges are produced by dithering (the laser is switched on and off to produce dither patterns).

   4). Exit the SP mode and press the **F4** key on the Fiery keyboard.



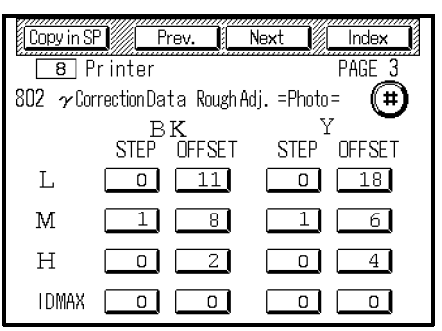


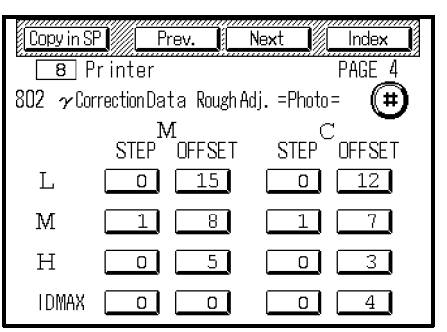


11. If necessary, repeat the adjustment from step 9. Otherwise, go to step 12.
12. After your adjustment, reboot the Fiery controller to change the printer mode setting (press **Alt-X** or the Reset button).
13. Press **ESC** to enter Fiery Setup and select **contone** in the "**Default print mode**" (refer to steps 3 ~ 7).
14. When the Fiery controller enters **idle** mode, press the **F4** key to print a test page.
15. Compare the color scales on the test page just printed with the color scales for contone in the contone area of the reference Fiery test chart. Check the following points on the print out.
    1). The various grades along the color scales are similar in density to those on the reference test chart.
    2). The gray balance of the "PK" test strip is similar to that of the reference chart.
16. If the color scales on the test page are not acceptable, adjust the γ correction data as follows.
    1). Enter the SP mode on the copier.
    2). Select "8: Printer".
    3). In the "**=Photo=**" screens (pages 3 and 4), adjust the color scales by changing the γ data in the **OFFSET** columns.

        Low: Use to adjust levels 1 to 3 of the 16-grade scale.
        Middle: Use to adjust levels 2 to 14.
        High: Use to adjust levels 13 to 15.
        ID MAX: Use to adjust the whole range, including level 16. Do not change this unless the whole range needs to be made brighter or darker. The adjustment is very sensitive, so it is best not to change the default settings.

    Do not change the γ data in the STEP column from the default settings.

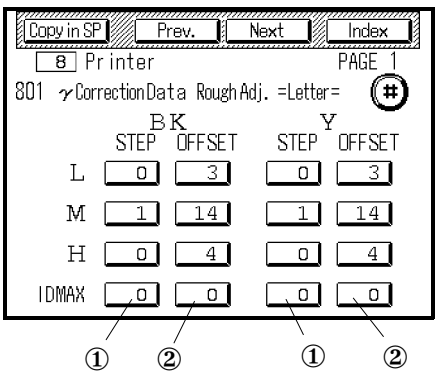


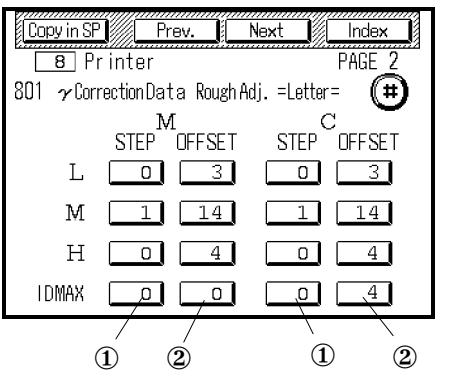


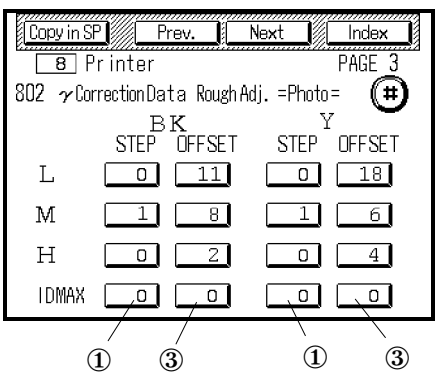
    4). Exit the SP Mode and press the **F4** key on the Fiery's keyboard.

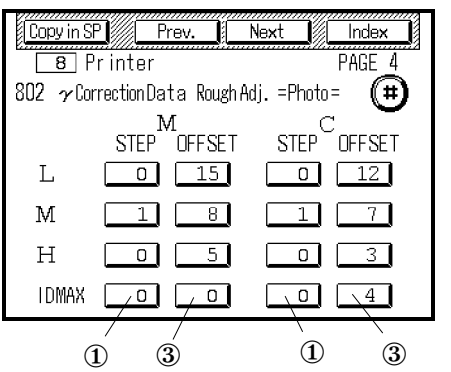
17. If necessary, repeat the adjustment from step 14. Otherwise, go on to step 18.
18. After finishing the adjustment, check with the customer that the mode that is set up on the Fiery controller is suitable.

5. ADDITIONAL SP MODE TABLE FOR PRINTER



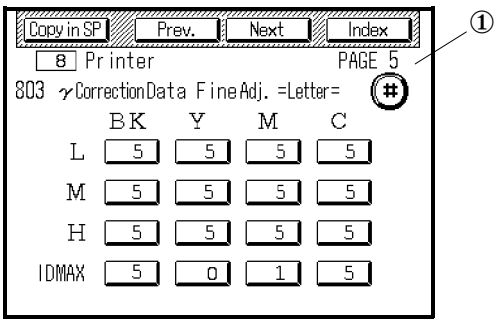


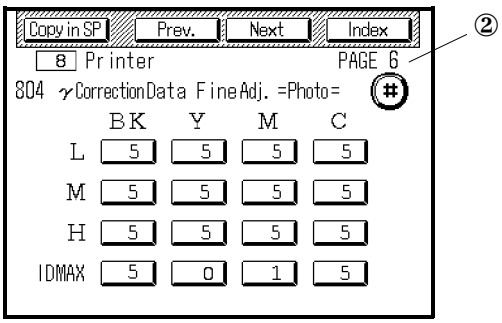


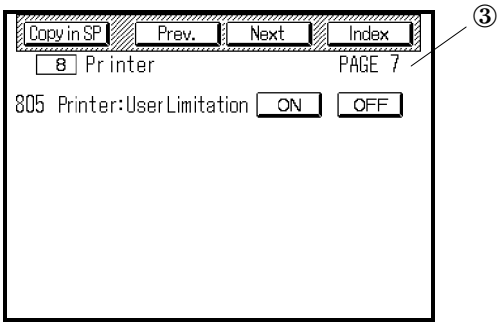


Item	Function	Note
①	Factory use only	**Do not change the STEP values in the field.**
②	Adjusts each color image density (Letter mode rough adjustment)	See Section 4.2.6 (color balance adjustment) from step 10.
③	Adjusts each color image density (Photo mode rough adjustment)	

The above diagrams show the default settings.







Item	Function	Note
①	Adjusts each color image density (Letter mode, fine adjustment)	**Do not change these values in the field.**
②	Adjusts each color image density (Photo mode, fine adjustment)	**Do not change these values in the field.**
③	Limits users from the remote terminal.	Default: OFF **Do not change these values when connected to the Fiery Controller.**

The above diagrams show the default settings.