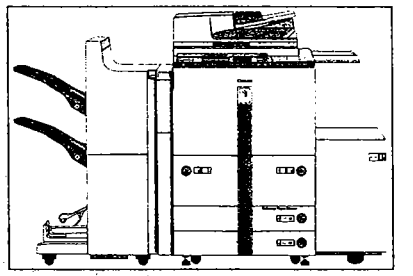
Canon

imageRUNNER™ 5000/6000



Service Map

DU7-7006-000

November 2000 Rev. 0

Canon USA, Inc.

Lake Success, NY 11042-1113

Prepared by: Educational Services
Systems and Technical Support Division

Printed in USA

1. SELF-DIAGNOSIS (Error Codes)

1.1 Copier

Code	Cause	Description
E000	• The main thermistor (TH1) has poor contact or an open circuit. • The thermal switch (TP1) has an open circuit. • The fixing heater (H1, H2) has an open circuit. • The SSR is faulty. • The DC controller PCB is faulty.	• 0000 After the main power switch is turned on, the temperature detected by the main thermistor does not reach 70°C. **Caution:** The error must be reset in service mode (COPIER>FUNCTION>CLEAR>ERR).
E001	• The main thermistor (TH1) has a short circuit. • The sub thermistor (TH2) has detected overheating. • The SSR is faulty. • The DC controller PCB is faulty.	• 0001 The main thermistor or the sub thermistor has detected about 230°C or higher for 2 sec. • 0002 The main thermistor has detected 230°C or higher (hard circuit detection). • 0003 The sub thermistor has detected about 236°C or higher. **Caution:** The error must be reset in service mode (COPIER>FUNCTION>CLEAR>ERR).
E002	• The main thermistor (TH1) has poor contact or an open circuit. • The thermal switch (TP1) has an open circuit. • The SSR is faulty. • The DC controller is faulty.	• 0000 The temperature of the upper fixing roller does not reach 100°C within 2 min after it has exceeded 70°C. **Caution:** The error must be reset in service mode (COPIER>FUNCTION>CLEAR>ERR).
E003	• The main thermistor (TH1) has poor contact or an open circuit. • The thermal switch (TP1) has an open circuit. • The fixing heater has an open circuit. • The SSR is faulty. • The DC controller PCB is faulty.	• 0000 The temperature detected by the main thermistor is 70°C for 2 sec or more after it has reached 100°C. **Caution:** The error must be reset in service mode (COPIER>FUNCTION>CLEAR>ERR).
E004	• The SSR has a short circuit. • The DC controller PCB is faulty.	• 0000 The SSR used to drive the fixing heater is found to have a short circuit (hard circuit detection). **Caution:** The error must be reset in service mode (COPIER>FUNCTION>CLEAR>ERR).
E005	• The fixing web has been taken up. • The fixing web length sensor (PS45) is faulty. • The DC controller PCB is faulty.	• 0000 The length of fixing web that has been taken up is in excess of the specified length. **Caution:** After replacing the fixing web, be sure to reset the two web counters in service mode COPIER>COUNTER>MISC>FIX-WEB and COPIER>COUNTER>DRBL-1>FX-WEB.
E010	• The main motor (M2) is faulty. • The DC controller PCB is faulty.	• 0000 The clock pulses do not arrive for 2 secs or more after the main motor drive signal (MMON) has been generated.
E012	• The drum motor (M1) is faulty. • The DC controller PCB is faulty.	• 0000 The clock pulses do not arrive for 2 secs or more after the drum motor drive signal (DMON) has been generated.
E013	• The waste toner feedscrew is faulty. • The waste toner lock sensor (MSW1) is faulty. • The DC controller PCB is faulty.	• 0000 The rotation of the waste toner feedscrew goes out of order, and the switch (MSW2) is pressed multiple times during a specific period of time.
E014	• The fixing motor (M19) is faulty. • The DC controller PCB is faulty.	• 0000 The motor clock signal is not detected for 2 secs or more continuously after the fixing motor drive signal has been generated.
E020	• The hopper connector is left disconnected. • The hopper motor (M9/M10) is faulty. • The toner sensor (TS1/TS2) is faulty. • The DC controller PCB is faulty.	• 0000 During printing, the toner supply signal is '0' (absence of toner) for 2 mins.
E032	• The copy data controller or the remote diagnostic device is faulty. • The Main controller PCB is faulty.	• 0001 The copy data controller or the remote diagnostic device is disconnected.
E061	• The laser shutter is faulty. • The laser unit is faulty. • The potential measurement PCB is faulty. • The DC controller PCB is faulty.	• 0001 As the result of potential control, the drum surface potential (VL2) of the white background is about 200 V (generating very light images). • 0002 The primary charging output used for print output and the drum surface potential after laser output has been made are about 200 V (generating very light images).
E100	• The BD PCB is faulty. • The laser unit is faulty. • The laser driver PCB is faulty. • The wiring is faulty (short circuit, open circuit). • The DC controller PCB is faulty.	• 0001 In 100 msec after the laser drive signal has been generated, the BD signal is not detected 50 times or more within 40 msecs. • 0002 While the laser is on, the BD signal cycle is found to be outside a specific range 10 times or more.

1.1 Copier (Cont'd)

Code	Cause	Description
E110	• The laser scanner motor (M15) is faulty. • The wiring is faulty (short circuit, open circuit). • The DC controller PCB is faulty.	• 0001 — After the laser scanner motor drive signal has been generated, the motor ready signal (LMRDY*) does not arrive for 15 secs or more. (stop → full speed, half-speed → full speed) — During the period of 'full speed → half speed', the motor ready signal does not arrive for 60 secs or more after the speed change signal has been generated. — During the period of 'full speed rotation', the motor ready signal is not detected 50 times or more (at intervals of 100 msec).
E121	• The controller cooling fan (FM4) is faulty. • The wiring is faulty (short circuit, open circuit). • The DC controller PCB is faulty.	• 0001 Although the controller cooling fan (FM4) is being driven, the clock signal (FM4LCK) does not arrive for 5 secs or more.
E196	• The EEPROM on the DC controller PCB is faulty. • The location of the EEPROM is wrong. • The DC controller PCB is faulty.	• 1abb When data is written to the EEPROM, the data written and the data read do not match. • 2abb When the ID read into the EEPROM and the ID into the ROM are compared, a mismatch is found. • 3abb When ID in the EEPROM and the ID in the ROM are compared after the main power switch is turned on, a mismatch is found. • a: Chip Nos. 0 through 5 (0: IC104, 1: IC105, 2: IC109, 3: IC110, 4: IC127, 5: IC130). • bb: Chip faulty address (bit).
E202	• The scanner HP sensor (PS39) is faulty. • The scanner motor (M3) is faulty. • The reader controller PCB is faulty.	• 0001 The scanner HP sensor does not turn off even when the scanner has been moved 40 mm forward after the main power switch has been turned on or the Start key has been pressed. • 0002 The scanner HP sensor does not turn on even when the scanner has been moved 450 mm in reverse. **Caution:** No code is indicated, and keys are locked. The code may be checked in service mode (COPIER>DISPLAY>ERR).
E204	• The ADF controller PCB is faulty. • The reader controller PCB is faulty.	• 0001 During printing, the image leading edge signal does not arrive from the ADF. **Caution:** No code is indicated, and keys are locked. The code may be checked in service mode (COPIER>DISPLAY>ERR).
E220	• The lamp inverter PCB is faulty. • The reader controller PCB is faulty.	• 0001 The lamp inverter PCB is found to have a fault.
E225	• The scanning lamp (xenon tube) is faulty. • The inverter PCB is faulty. • The CCD/AP PCB is faulty. • The reader controller PCB is faulty.	• 0000 A specific signal level cannot be attained by CCD gain correction at power-on. • 0002 The edge gain correction value changed more than a specific level compared with the correction value used for the preceding sheet.
E240	• The main controller PCB. • The DC controller PCB is faulty.	• 0000 An error has occurred in the communication between the main controller PCB and the CPU of the DC controller PCB.
E243	• The control panel CPU PCB is faulty. • The main controller PCB is faulty.	• 0000 An error has occurred in communication between the CPU of the control panel PCB and the main controller PCB.
E248	• The EEPROM on the reader controller PCB is faulty. • The reader controller PCB is faulty.	• 0001 The ID read into the EEPROM when the main power switch has been turned on and the ID in the ROM do not match. • 0002 When data is written into EEPROM, the data written and the data read do not match. • 0003 When data is written, the ID in the EEPROM and the ID in the ROM are found not to match.
E302	• The CCD/AP PCB is faulty. • The wiring is faulty (short circuit, open circuit). • The reader controller PCB is faulty.	• 0001 During shading, the reader controller PCB does not end shading in 1 sec. • 0002 In stream reading, the edge white accumulation (processing) does not end after a period of 10 secs.
E601	• The wiring is faulty (short circuit, open circuit). • The hard disk drive is faulty. • The DC controller PCB is faulty. • The main controller PCB is faulty.	• 0000 The main controller PCB has detected an error in control data while an image was transmitted between the main controller PCB and the hard disk drive. • 0001 The main controller PCB has found an error in the control data in transfer of images between main controller PCB and the DC controller PCB.
E602	• The wiring is faulty (short circuit, open circuit). • The hard disk drive is faulty. • The main controller PCB is faulty.	• 0001 A mount error was detected when the hard disk was started up from the boot ROM. • 0002 A data read error (from the hard disk) was detected when the hard disk was started from the boot ROM.
E607	• The hard disk fan (FM7) is faulty. • The wiring is faulty (short circuit, open circuit). • The DC controller PCB is faulty.	• 0000 While the hard disk fan (FM7) is being driven, the clock signal (FM7CLK) does not arrive for 5 secs or more.
E677	• The various printer board (accessories) are faulty. • The main controller PCB is faulty.	• 0001 An error has occurred in the communication between the various printer boards (accessories) and the main controller PCB.

Code	Cause	Description
E710	• The DC controller PCB is faulty. • The reader controller PCB is faulty. • The main controller PCB is faulty.	• 0001 When the main power is turned on, the IPC (IC5021) on the reader controller PCB cannot be initialized. • 0002 When the main power is turned on, the IPC (IC120) on the DC controller PCB cannot be initialized. • 0003 When the main power is turned on, the IPC (IC1003) on the main controller PCB cannot be initialized.
E711	• The connector is not connected properly. • The remote diagnostic device PCB is faulty. • The copy data controller PCB is faulty. • The ADF controller PCB is faulty. • The ADF controller PCB is faulty. • The finisher controller PCB is faulty.	• 0001 Data has been written to the error register of the IPC (IC5021) on the reader controller PCB four times or more within 1.5 secs. • 0002 Data has been written to the error register of the IPC (IC120) on the DC controller PCB four times or more within 2 secs. • 0003 Data has been written to the error register of the IPC (IC1003) of the main controller PCB four times or more within 2 secs.
E712	• The connector is not connected properly. • The ADF 24-V power supply is faulty. • The ADF controller PCB is faulty. • The reader controller PCB is faulty.	• 0001 Communication does not resume in 3 secs after data has been written to the error register of the communication IC (IPC) of the ADF controller PCB. • 0002 The transmission bit is not enabled after a period of 10 sec at the sync register of the IPC (IC5021) on the reader controller PCB.
E713	• The connector is not connected properly. • The finisher accessories power supply PCB is faulty. • The finisher controller PCB is faulty. • The DC controller PCB is faulty.	• 0000 The communications IC (IPC) on the finisher controller has gone out of order.
E717	• The wiring is faulty (short circuit, open circuit). • The copy data controller or the remote diagnostic device is faulty. • The main controller PCB is faulty.	• 0001 The copy data controller or the NE controller is out of order or an open circuit has been detected. **Caution:** The error must be reset in service mode (COPIER>FUNCTION>CLEAR>ERR).
E719	• The wiring is faulty (short circuit, open circuit). • The coin vendor is faulty. • The main controller PCB is faulty.	• 0001 The communication between the coin vendor and the main controller PCB has been interrupted. **Caution:** The error must be reset in service mode (COPIER>FUNCTION>CLEAR>ERR).
E732	• The connector has poor contact. • The reader controller PCB is faulty.	• 0001 The main controller PCB has detected an error in the communication between the reader controller PCB and the main controller PCB.
E733	• The connector has poor contact. • The DC controller PCB is faulty.	• 0001 The main controller PCB has detected an error in the communication between the DC controller PCB and the main controller PCB.
E740	• The LAN card is faulty. • The main controller PCB is faulty.	• 0001 An error is detected on the LAN card at power-on (with the card inserted). • 0002 A MAC address is found to be faulty. • 0003 The LAN card register cannot be read.
E741	• The PCI bus connection is not proper. • The main controller PCB is faulty.	• 0000 An error has occurred in the PCI bus.
E742	• The RIP1 board (accessory) is faulty. • The main controller PCB is faulty.	• 0000 An error has been detected by self-diagnosis of the RIP1 board.
E743	• The connector has poor contact. • The main controller PCB is faulty.	• 0000 The reader controller PCB has detected an error in the communication between the main controller PCB and the reader controller PCB.
E804	• The wiring is faulty (short circuit, open circuit). • The DC power supply fan (FM6) is faulty. • The DC controller PCB is faulty.	• 0000 While the DC power supply fan is being driven, the clock signal (FM6CLK) does not arrive for 5 secs or more.
E805	• The wiring is faulty (short circuit, open circuit). • The feed fan (FM1) is faulty. • The delivery fan (FM3) is faulty. • The DC controller PCB is faulty.	• 0001 While the delivery fan is being driven, the clock signal (FM3CLK) does not arrive for 5 secs or more. • 0002 While the feed fan is being driven, the clock signal (FM1CLK) does not arrive for 5 secs or more.
E824	• The wiring is faulty (short circuit, open circuit). • The primary charging assembly cooling fan (FM2) is faulty. • The DC controller PCB is faulty.	• 0000 While the primary charging assembly cooling fan is being driven, the clock signal (FM2CLK) does not arrive for 5 secs or more.

1.2 ADF

Code	Cause	Description
E412	• The cooling fan (FM1) is faulty. • The ADF controller PCB is faulty.	• 0001 While the cooling fan is being driven, the lock signal (FMLCK) arrives for 100 msec or more.
E420	• The EEPROM is faulty. • The ADF controller PCB is faulty.	• 0001 When the host machine's power switch is turned on, the backup data of the EEPROM cannot be read or the data, if read, has an error.
E421	• The EEPROM is faulty. • The ADF controller PCB is faulty.	• 0001 Backup data cannot be written to the EEPROM or the data, if written, has an error.
E422	• The IPC communication has an error. • The communication line has an open circuit. • The ADF controller PCB is faulty.	• 0001 While the machine is in standby, the communication with the host machine has been interrupted for 5 secs or more. or, while the machine is in operation, the communication with the host machine has been interrupted for 0.5 sec or more.

1.3 Finisher

Code	Cause	Description
E500	• The finisher controller PCB is faulty. • The DC controller PCB is faulty.	• 0001 The communication between the host machine and the finisher has been interrupted; this error is detected by the host machine.
E503	• The saddle stitcher controller PCB is faulty. • The finisher controller PCB is faulty.	• 0002 The communication between the saddle stitcher controller PCB and the finisher controller PCB has been interrupted.
E504	• The height sensor (PS1) is faulty. • The finisher controller PCB is faulty.	• 0001 Communication between the height sensor and the finisher controller PCB is not possible, or communication data has an error. • 0002 Communication between the height sensor and the finisher controller PCB is not possible for a specific period of time. • 0003 At time of power-on, the connector of the height sensor is found to be disconnected. • 0004 When the height sensor is being adjusted using the DIP switch, an error occurred during the adjustment.
E505	• The EEPROM is faulty. • The finisher controller PCB is faulty. • The puncher driver PCB is faulty.	• 0001 When the power switch is turned on, the check sum of the EEPROM on the finisher controller PCB is found to have an error. • 0002 When the power switch is turned on, the check sum of the EEPROM on the puncher driver PCB is found to have an error.
E512	• The delivery motor clock sensor (PI10) is faulty. • The delivery motor (M2) is faulty. • The finisher controller PCB is faulty.	• 0001 When operation starts, as many clocks as needed do not arrive from the delivery motor clock sensor. • 0002 No clock pulse arrives while paper is being moved over a distance of 200 mm.
E530	• The alignment plate home position sensor (PI6) is faulty. • The alignment motor (M3) is faulty. • The finisher controller PCB is faulty.	• 0001 The alignment plate does not leave home position when the alignment motor has been driven for 2 secs. • 0002 The alignment plate does not return to home position when the alignment motor has been driven for 2 secs.
E531	• The stapler home position detecting sensor (PI22) is faulty. • The stapler motor (M6) is faulty. • The finisher controller PCB is faulty.	• 0001 The stapler does not leave home position when the stapler motor has been driven for 0.5 sec. • 0002 The stapler does not return to home position when the stapler motor has been driven for 0.5 sec.
E532	• The stapler shift home position sensor (PI7) is faulty. • The stapler shift motor (M4) is faulty. • The finisher controller PCB is faulty.	• 0001 The stapler unit does not leave home position when the stapler shift motor has been driven for 4 secs. • 0002 The stapler unit does not return to home position when the stapler shift motor has been driven for 4 secs.
E535	• The swing motor clock sensor (PI20) is faulty. • The swing guide open sensor (PI18) is faulty. • The safety area switch (MS3) is faulty. • The swing guide closed detecting switch 2 (MS6) is faulty. • The swing motor (M7) is faulty. • The finisher controller PCB is faulty.	• 0001 The swing guide closed detecting switch 2 does not turn on when the swing motor has been rotated CCW for 1 sec. • 0002 The swing guide open sensor does not turn on when the swing motor has been rotated CW for 1 sec. • 0003 When the tray lift motor is in operation, the swing guide closed detecting switch 2 is found to be off while the tray 1/2 is at OFF position of the safety area switch. • 0004 No clock arrives for 200 msecs while the machine is in swing operation.
E540	• The tray home position sensor (PI8) is faulty. • The tray lifter motor clock sensor 1/2 (PI9/PI19) is faulty. • The tray upper limit detecting switch (MS5) is faulty. • The tray lifter motor (M5) is faulty. • The finisher controller PCB is faulty.	• 0001 The ascent does not end in 15 secs when the tray lift motor is driven; or, the tray home position cannot be detected when the tray lift motor has been driven for 15 secs. • 0002 While the tray is moving up, the tray upper limit detection switch is found to be on. • 0003 When the tray lift motor is driven, clock pulses do not arrive from the clock sensor 1/2 for 200 msecs.

1.3 Finisher (Cont'd)

Code	Cause	Description
E584	• The shutter open sensor (PI5) is faulty. • The safety area detecting switch (MS3) is faulty. • The shutter closed detecting switch (MS4) is faulty. • The No. 2 feed motor (M8) is faulty. • The finisher controller PCB is faulty.	• 0001 The shutter closed detecting switch does not turn on when the No. 2 feed motor has been rotated CCW for 1 sec or more. • 0002 The shutter open sensor does not turn on when the No. 2 feed motor has been rotated CCW for 1 sec. • 0003 While the tray lift motor is in operation, the shutter closed detecting switch is found to be off when the tray 1/2 is at OFF position of the safety area detecting switch.
E590	• The punch home position sensor (PI3P) is faulty. • The punch motor (M1P) is faulty. • The punch driver PCB is faulty.	• 0001 The puncher does not leave home position when the punch motor has been driven for 200 msecs. • 0002 The puncher does not return to home position when the punch motor has been driven for 200 msecs.
E593	• The horizontal registration home position sensor (PI1P) is faulty. • The horizontal registration motor (M2P) is faulty. • The punch driver PCB is faulty.	• 0001 The puncher does not leave home position when the horizontal registration motor has been driven for 4 secs. • 0002 The puncher does not return to home position when the horizontal registration motor has been driven for 4 secs.

1.4 Saddle Stitcher

Code	Cause	Description
E5F0	• The paper positioning plate home position sensor (PI7S) is faulty. • The paper positioning plate motor (M4S) is faulty. • The saddle stitcher controller PCB is faulty.	• 0001 The paper positioning plate home position sensor does not turn on when the paper positioning plate motor has been driven for about 1.3 secs. • 0002 The paper positioning plate home position sensor does not turn off 1 sec after the paper positioning plate motor has been driven for 1 sec.
E5F1	• The folding motor clock sensor (PI4S) is faulty. • The paper folding home position sensor (PI21S) is faulty. • The folding motor (M2S) is faulty. • The saddle stitcher controller PCB is faulty.	• 0001 The number of detection pulses of the folding motor clock sensor drops below a specific value. • 0002 The state of the paper folding home position sensor does not change when the folding motor has been driven for 3 secs.
E5F2	• The guide home position sensor (PI13S) is faulty. • The guide motor (M3S) is faulty. • The saddle stitcher controller PCB is faulty.	• 0001 The guide home position sensor does not turn on when the guide motor has been driven for about 0.5 sec. • 0002 The guide home position sensor does not turn off when the guide motor has been driven for 1 sec.
E5F3	• The alignment home position sensor (PI5S) is faulty. • The alignment motor (M5S) is faulty. • The saddle stitcher controller PCB is faulty.	• 0001 The alignment plate home position sensor does not turn on when the alignment motor has been driven for 0.5 sec (initially, driven for about 1.7 sec). • 0002 The alignment plate home position sensor does not turn off when the alignment motor has been driven for 1 sec.
E5F4	• The stitch home position sensor (rear, MS5S) is faulty. • The stitch motor (rear, M6S) is faulty. • The saddle stitcher controller PCB is faulty.	• 0001 The stitcher home position sensor (rear) does not turn off when the stitch motor (rear) has been rotated CW for 0.5 sec or more. • 0002 The stitch home position sensor (rear) does not turn on when the stitch motor (rear) has been rotated CCW for 0.5 sec or more.
E5F5	• The stitch home position sensor (front, MS7S) is faulty. • The stitch motor (front, M7S) is faulty. • The saddle stitcher controller PCB is faulty.	• 0001 The stitch home position sensor (front) does not turn off when the stitch motor (front) has been rotated CW for 0.5 sec or more. • 0002 The stitch home position sensor (front) does not turn on when the stitch motor (front) has been rotated CCW for 0.5 sec or more.
E5F6	• The paper push-on plate motor clock sensor (PI1S) is faulty. • The paper push-on plate leading edge position sensor (PI15S) is faulty. • The paper push-on plate home position sensor (PI14S) is faulty. • The paper push-on plate motor (M8S) is faulty. • The saddle stitcher controller PCB is faulty.	• 0001 The paper push-on plate home position sensor does not turn on when the paper push-on plate motor has been driven for 0.3 sec or more. • 0002 The paper push-on plate home position sensor does not turn off when the paper push-on plate motor has been driven for 0.3 sec or more. • 0003 The paper push-on plate leading edge position sensor does not turn off when the paper push-on plate motor has been driven for 0.3 sec or more. • 0004 The number of detection pulses of the paper push-on plate motor clock sensor drops below a specific value. • 0005 The paper push-on plate leading edge sensor does not turn on when the paper push-on plate motor has been driven for 0.3 sec or more.
E5F8	• The guide home position sensor (PI13S) is faulty. • The paper push-on plate home position sensor (PI14S) is faulty. • The paper push-on plate leading edge position sensor (PI15S) is faulty. • The saddle stitcher controller PCB is faulty.	• 0001 The connector of the guide home position sensor is found to be disconnected. • 0002 The connector of the paper home positioning plate home position sensor is found to be disconnected. • 0003 The connector of the paper push-on plate leading edge position sensor is found to be disconnected.
E5F9	• The inlet door switch (MS1S) is faulty. • The front door switch (MS2S) is faulty. • The delivery door switch (MS3S) is faulty. • The saddle stitch controller PCB is faulty.	• 0001 When the inlet cover, front cover, and the delivery cover are found to be closed, the inlet door switch detects an open condition for 1 sec or more from the start of the initial rotation of the host machine or the start of printing. • 0002 When the inlet cover, front cover, and delivery cover are found to be closed, the front door switch detects an open condition for 1 sec or more after the start of the initial rotation of the host machine or the start of printing. • 0003 When the inlet cover, front cover, and delivery cover are found to be closed, the delivery door switch detects an open condition for 1 sec or more from the start of the initial rotation of the host machine or the start of printing.

2. ADJUSTMENTS

2.1 Image Adjustments

2.1.1 Image Position Standards

The image margin/non-image width of a print made in Direct must be as follows:

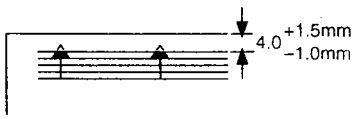


Figure 2-01
Image Leading Edge Margin

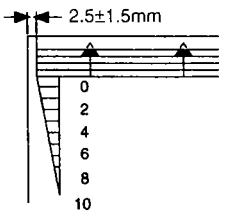


Figure 2-02
Left/Right Image Margin

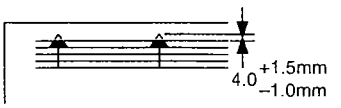


Figure 2-03
Leading Edge Non-Image Width

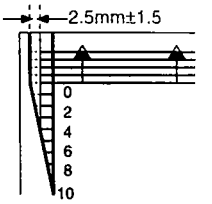


Figure 2-04
Left/Right Non-Image Width

2.1.2 Checking the Image Position

Make prints using the following as the source of paper (10 prints each), and check to see that the image margin and the non-image width are as indicated:

- Each cassette
- Front deck (left, right)
- Manual feed tray
- Duplex feeding unit
- Side paper deck

If not as indicated, adjust the image position in the following order:

1. Adjusting the left/right image margin (registration)
2. Adjusting the image leading edge margin (registration)
3. Adjusting the left/right non-image width (CCD read start position)
4. Leading edge non-image width (scanner image leading edge position)

2.1.3 Adjusting the Left/Right Image Margin

A. Cassette 3/4

1. Loosen the two fixing screws [1] found on the left and the right of the cassette.

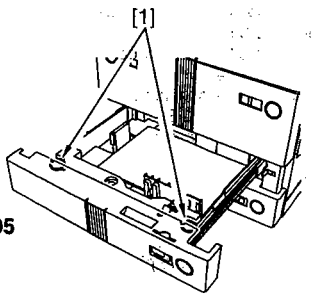


Figure 2-05

2. Remove the paper size plate [2], and turn the adjusting screw [3] found in the opening of the paper size plate [2] to adjust the position; then, tighten the two fixing screws [1].

   After making the adjustment, be sure to execute the following service mode: COPIER>FUNCTION>CST>C3-STMTR/A4R or C4-STMTR/A4R.

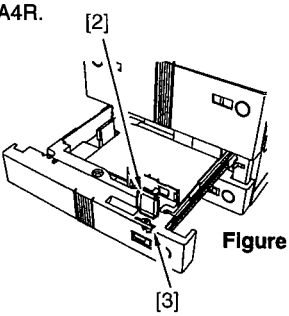


Figure 2-06

2.1.3 Adjusting the Left/Right Image Margin (Cont'd)

B. Left/Right Front Deck

1. Loosen the four screws [2] and the two fixing screws [3] of the cassette front cover [1].

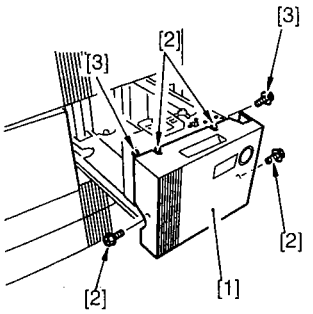


Figure 2-07

2. Move the cassette guide assembly (front) [4] to the front or the rear to make adjustments.

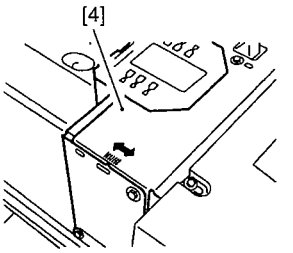


Figure 2-08

C. Manual Feed Tray

1. Loosen the two mounting screws [1] of the manual feed tray, and adjust the position of the manual feed tray.

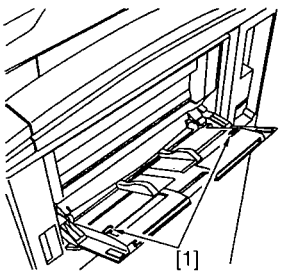


Figure 2-09

D. Duplex Feeding Unit

1. Adjust the image margin as indicated using service mode: COPIER>ADJUST>Feed-ADJ>ADJ-REFE.

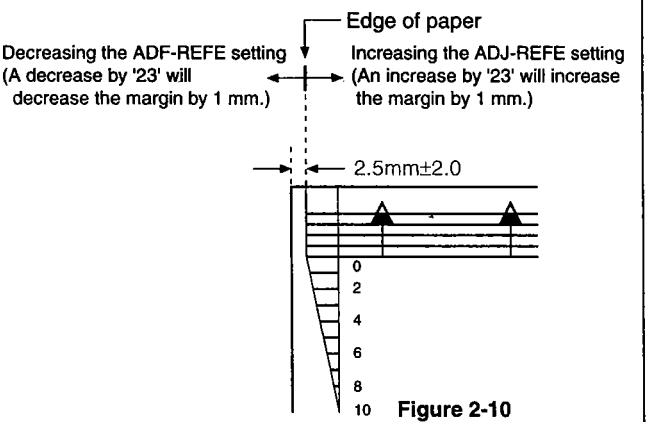


Figure 2-10

E. Side Paper Deck

1. Slide out the compartment and turn the two screws to adjust the position of the latch plate of the deck open solenoid. (At this time, use the index on the latch plate as a guide.)

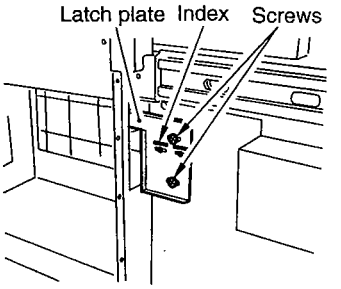


Figure 2-11

2.1.4 Adjusting the Image Leading Edge Margin

1. Adjust the image margin in service mode so that it is as indicated: COPIER>ADJUST>Feed-ADJ>REGIST.

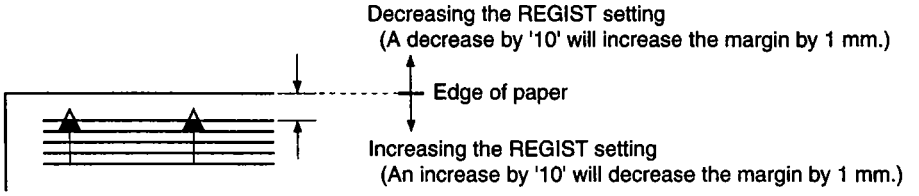


Figure 2-12

2.1.5 Adjusting the Left/Right Non-Image Width

1. Adjust the non-image width in service mode so that it is as indicated: COPIER>ADJUST>ADJ-XY>ADJ-Y.

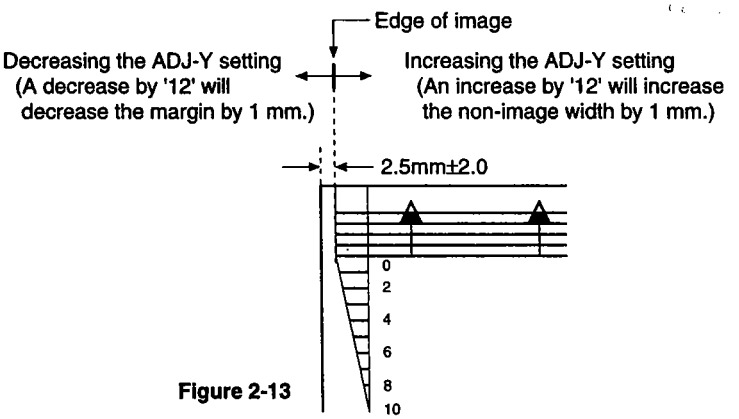


Figure 2-13

2.1.6 Adjusting the Leading Edge Non-Image Width

1. Adjust the non-image width in service mode so that it is as indicated: COPIER>ADJUST>ADJ-XY>ADJ-X.

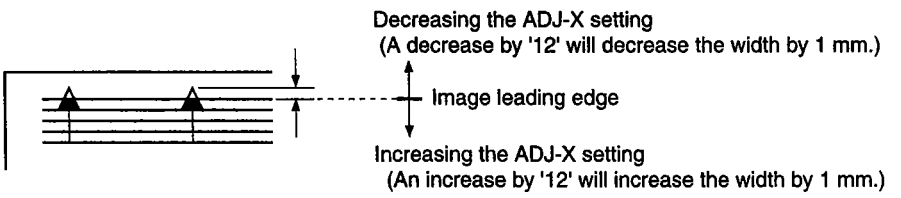


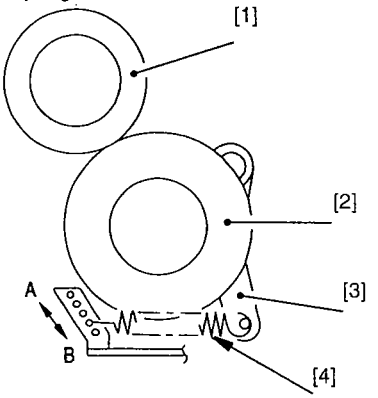
Figure 2-14

2.2 Pressure Roller Adjustments

2.2.1 Adjusting the Pressure of the Deck/Cassette Separation Roller

If double feeding or pick-up failure occurs during pick-up, change the position of the pressure spring of the separation roller:

- If double feeding occurs, move the hook of the spring in the direction of B.
- If pick-up failure occurs, move the hook of the spring in the direction of A.



[1] Feeding roller [2] Separation roller
[3] Pressure lever [4] Pressure spring

Figure 2-15

2.2.2 Adjusting the Pressure of the Manual Feed Tray Separation Roller

If double feeding or pickup failure occurs during pickup, adjust the position of the pressure spring of the separation roller.

1. Remove the right upper cover.
2. Remove the upper guide [1].

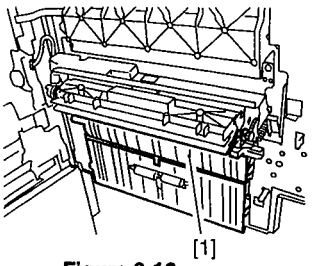


Figure 2-16

- If double feeding occurs, remove the mounting screw [2], and lower the mounting base [3]; then, tighten the mounting screw [2] in hole A.
- If pickup failure occurs, remove the mounting screw [2], and raise the mounting base [3]; then, tighten the mounting screw [3] in hole B.

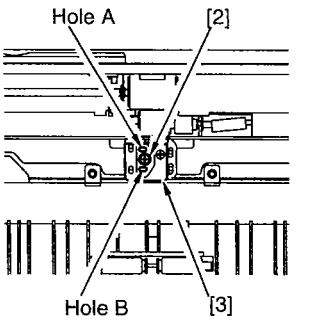


Figure 2-17

2.3 Solenoid Adjustments

2.3.1 Adjusting the Fixing Inlet Guide Solenoid (SL1)

Adjust the position of the solenoid using the two screws [1] so that the guide will be positioned as indicated when the solenoid turns on.

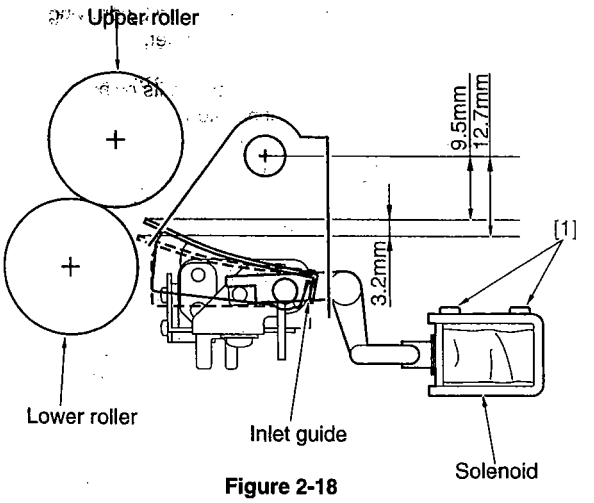


Figure 2-18

2.3.2 Adjusting the Position of Cassette 3/4 Pickup Solenoid (SL3, SL4)

Adjust the position of the solenoid using the two screws [3] so that the distance from the bottom of the pickup assembly to A of the roller arm is 36±0.5 mm when [1] and [2] are operated.

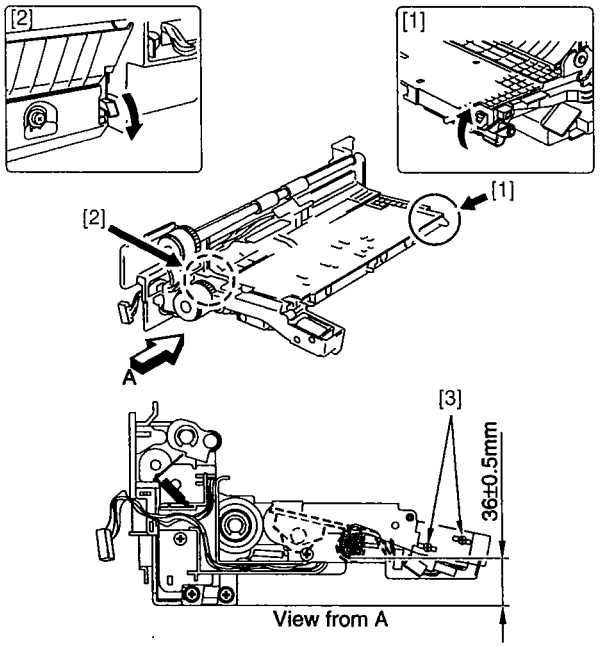


Figure 2-19

2.3.3 Adjusting the Position of the Delivery Flapper Solenoid (SL5)

Adjust the position of the mounting screw [2] using the screw [2] so that the drive lever [1] is pushed fully when the solenoid turns on (i.e., when the plunger is drawn).

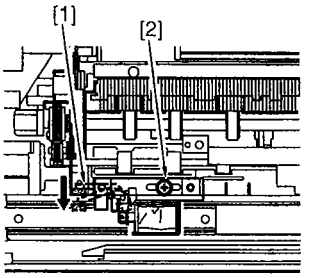


Figure 2-20

2.3.4 Adjusting the Position of the Right Deck Pickup Solenoid (SL6)

Adjust the position of the solenoid so that the left edge of the arm 2 is 57.2±0.5 mm from the center of hole A of the solenoid mounting base.

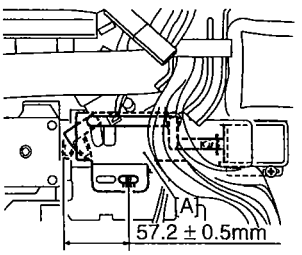


Figure 2-21

2.3.5 Adjusting the Position of the Left Deck Pickup Solenoid (SL7)

Before removing the left deck pickup solenoid from the support plate [1], take note of its position with reference to the fixing screw [2] of the solenoid. Or, mark the position for the solenoid by drawing a line on the support plate with a scriber.

When mounting the solenoid on its own, be sure to secure it in its original position.

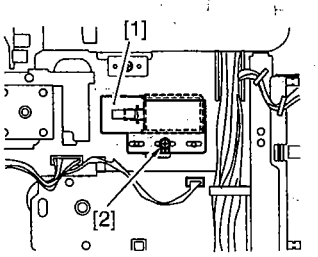


Figure 2-22

2.3.6 Adjusting the Position of the Reversing Flapper Solenoid (SL8)

1. Adjust the position of the solenoid so that the drive lever [1] is pushed fully when the solenoid turns on (i.e., when the plunger is drawn).

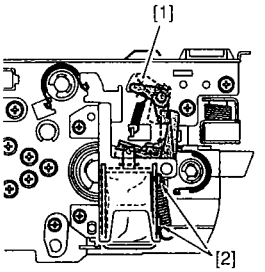


Figure 2-23

2.3.7 Adjusting the Position of the Fixing Web Solenoid (SL9)

A. New Fixing Web

Adjust the position for the solenoid using the screw [2] so that the distance of travel of the drive lever [1] is 8.6 mm.

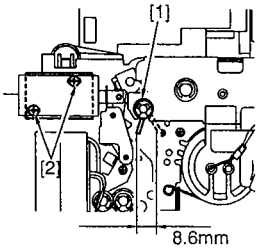


Figure 2-24

B. Existing Fixing Web

Before removing the solenoid, take note of the position [A] of the drive lever when the solenoid turns on. After replacing the solenoid, adjust its position using the screw [2] so that the drive lever [1] will be positioned as it was before replacement when the solenoid turns on.

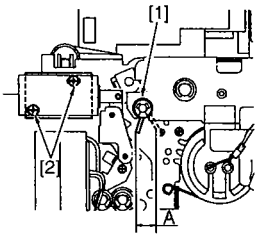


Figure 2-25

2.3.8 Position of the Side Paper Deck Pickup Roller Releasing Solenoid

Before removing the deck pickup roller releasing solenoid [1] from the support plate, take note of the position of the two fixing screws [2] of the solenoid with reference to the index on the support plate. Or, draw a line on the support plate so that it will serve as a reference when positioning the solenoid.

When mounting the solenoid on its own, be sure to secure it in its original position.

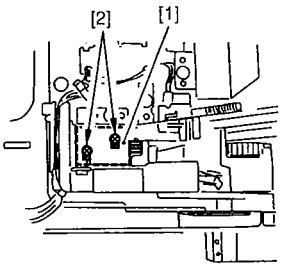


Figure 2-26

2.4 Belt Adjustments

2.4.1 Attaching the Drive Belt

Attach the drive belt on the pulley and the rollers as indicated.

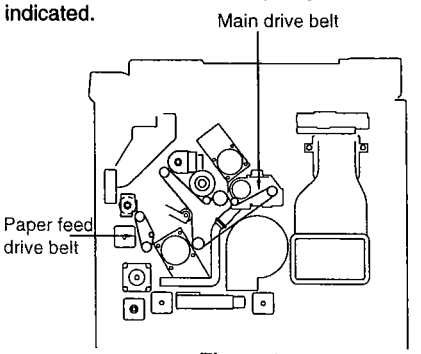


Figure 2-27

2.4.2 Attaching the Timing Belt of the Manual Feed Tray Assembly

1. Butt the rack plate [1] of the manual feed tray against A (open state).
2. Move the slide volume in the direction of B, and attach the timing belt [2] to the pulley [3].

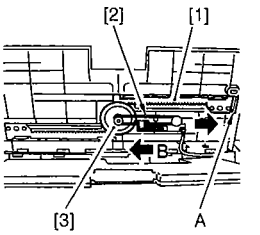


Figure 2-28

2.5 Fixing System

A. Points to Note When Mounting the Fixing Heater

1. Do not touch the surface of the heater.
2. For both heaters, be sure that the side with the longer harness is toward the front.
3. Mount the main heater [1] to the right side and the sub heater [2] to the left side (viewing from the front of the fixing assembly).
4. Check that there is no protrusion of the heaters components that will interfere with proper mounting.
5. When mounting the faston to the fixing heater at the rear, do not bend the faston terminals (A, B) as if to direct it toward the outside. Be sure it is parallel to the holder.

B. Position of the Fixing Inlet Guide

- Points to Note When Making Adjustments in the Field

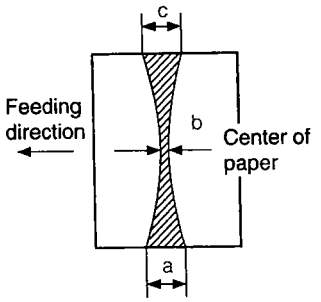
1. For the position of the inlet guide, see the instructions under 2.4.1, i.e., adjusting the position of the fixing inlet guide solenoid (SL1).
2. The inlet guide will move down when the solenoid (SL1) turns on.
3. The difference in the height of the inlet guide between front and rear must be within 0.5 mm.
4. The height of the inlet guide may be adjusted by loosening the fixing screw on the height adjusting support plate.

Caution:

Removing the inlet guide base will require adjustment of the position of the inlet guide. To avoid the adjustment, try not to loosen the mounting screw on the inlet guide base. If you loosened it for some unavoidable reason, be sure to position it correctly with reference to the index on the fixing assembly base.

C. Adjusting the Lower Roller Pressure (nip)

1. Taking Measurements
   Wait for 15 min after the machine ends its warm-up; then, make 20 A4 copies before starting the work:
   a. Place A4 or LTR paper, and select A4 or LTR in the control panel.
   b. Make the following selections in service mode to discharge the paper: COPIER>FUNCTION>FIXING>NIP-CHK



b : 7.8mm ± 0.5mm
a-c : 0.5mm or less

Figure 2-29

2. Standards
   a. Measure the width of a, b and c.

Caution:

a and c are points 10 mm from both edges of paper.

   b. Check to see if the measurements are as indicated. Otherwise, make the adjustment under c.

Caution:

Be sure that both upper and lower rollers are fully heated when taking measurements.

3. Making Adjustments
   a. Slide the fixing assembly out of the machine.
   b. Open the delivery assembly.
   c. Adjust the nip using the adjusting screw [1] found at the front and the rear.

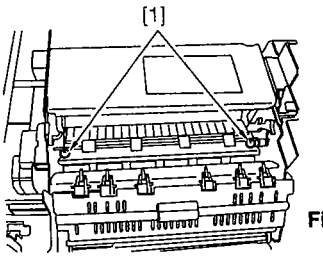


Figure 2-30

2.6 Laser Exposure System

When Replacing the Scanner Unit
If the temperature of the fixing assembly is 150°C or higher when the scanner unit is replaced, force potential control in service mode:
1. Make the following selections in service mode:
   COPIER>FUNCTION>DPC>DPC.
2. Turn off and then on the main power switch.

2.7 Adjusting the Height of the Charging Wire

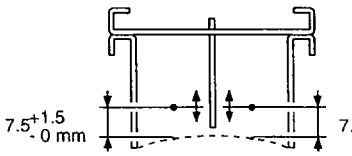
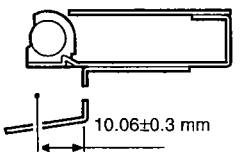
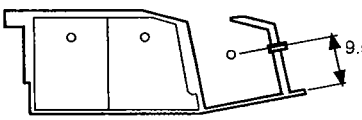
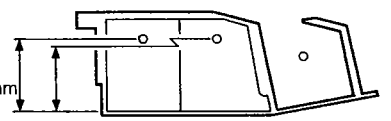
Charging assembly	Height of charging wire	Tolerance
Primary	 A	±1mm
Pre-transfer	 B	No height adjusting mechanism
Transfer	 C	±2mm
Separation	 D	±2mm

Figure 2-31

Note:
The height (position) of the primary charging wire and the transfer charging wire may be adjusted by turning the screw found at the back of the charging assembly; a single turn changes the position of the charging wire by about 0.7 mm.

3. SERVICE MODE

3.1 Outline

The machine's service mode is divided into the following seven types:

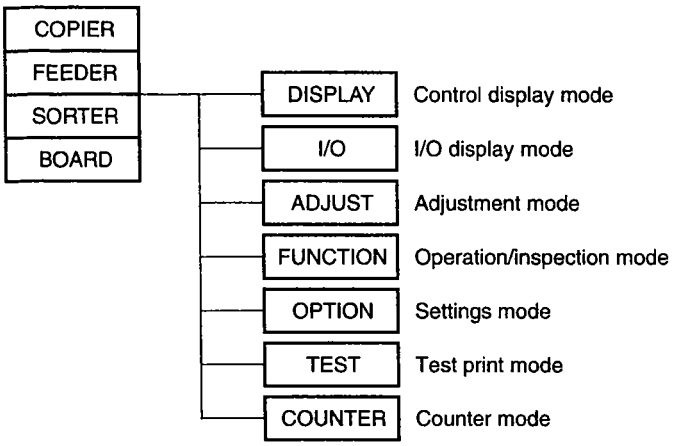


Figure 3-01

3.2 Starting and Ending Service Mode and Making Selections

1. Press the user mode key (⊛) on the control panel.
2. Press the 2 and 8 keys at the same time.
3. Press the user mode key (⊛).

In response, the Initial screen will appear.

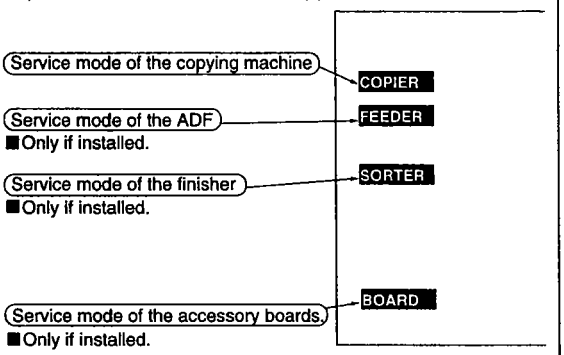


Figure 3-02

3.3 Ending Service Mode

Press the Reset key once to return to the service mode Initial screen (F3-03). Press the Reset key twice to end service mode and to return to the User (standard) screen.

Caution:

If you used ADJUST, FUNCTION, or OPTION in service mode, be sure to turn off and then on the power switch after ending service mode.

3.4 Backing Up Service Mode

Each machine is adjusted before shipment from the factory, and adjustment settings are indicated on the service label (attached to the service bookcase found behind the front cover).

If you have replaced the reader controller PCB or the DC controller PCB, be sure to remove the EEPROM from the old PCB and mount it to the new PCB.

If you have initialized the RAM, the ADJUST and OPTION settings are replaced with the default settings. If you have made adjustments and changed service mode settings in the field, be sure to record the new settings on the service label. (If the label does not show an appropriate item, make use of its blank space.)

If you want, you can print out all service mode settings at once using service mode (COPIER>FUNCTION>MIS-P>P-PRINT).

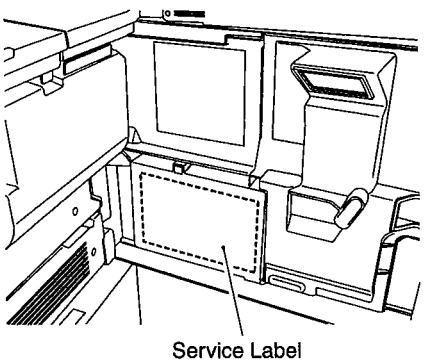


Figure 3-03

3.5 Basic Operations

A. Initial Screen

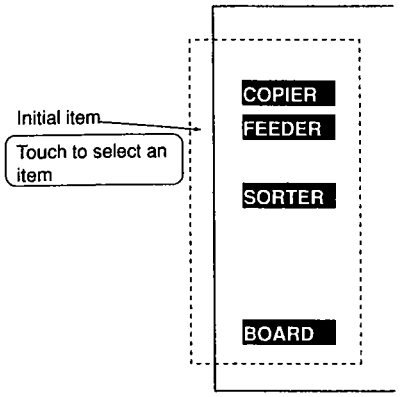


Figure 3-04

B. Level 1/level 2 Screen

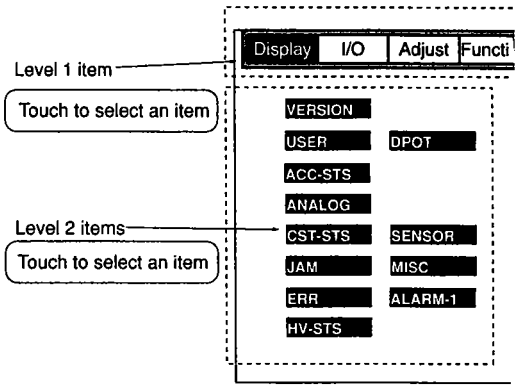


Figure 3-05

C. Level 3 Screen

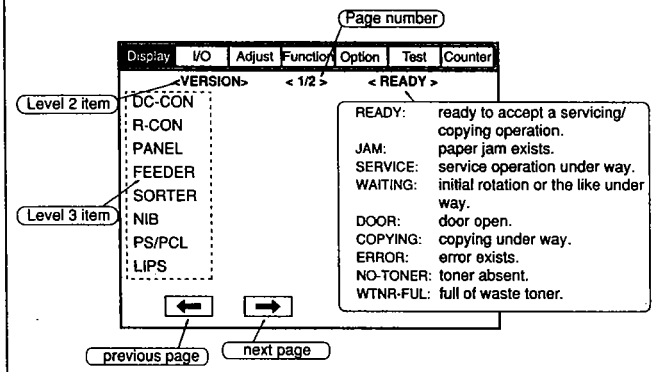


Figure 3-06

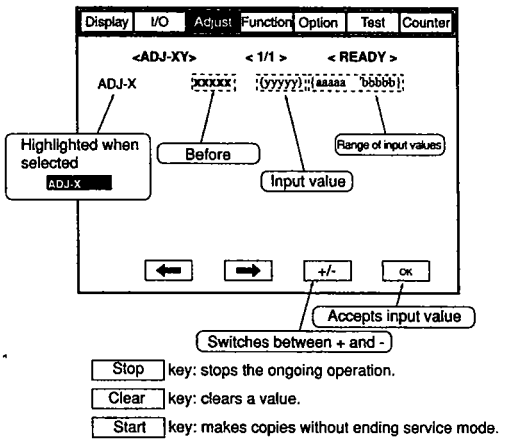


Figure 3-07

3.6 Display (Control/Display Mode)

Copier

The following screen appears in response to COPIER>DISPLAY; for item details, see the tables that follow:

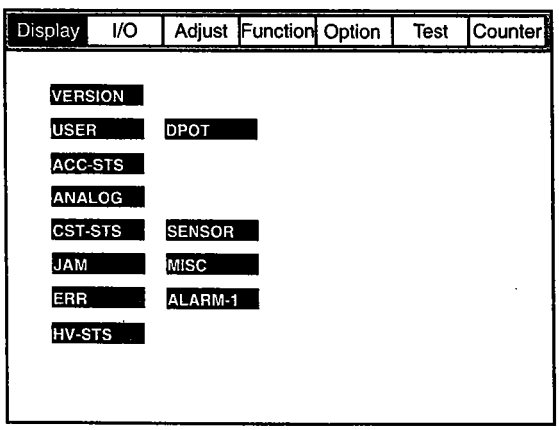


Figure 3-08

Display

Level 2	Level 3	Indicates	Remarks
VERSION	DC-CON	ROM version of the DC controller PCB.	Indicates the PCB ROM versions of the machine and accessories. • Indication <xx, yy> xx: version number yy: R & D control number.
	R-CON	ROM version of the reader controller PCB.	
	PANEL	ROM version of the control panel CPU PCB.	
	FEEDER	ROM version of the feeder controller PCB.	
	SORTER	ROM version of the finisher controller PCB.	
	NIB	Version of the network software.	
	PS/PCL	Version of the printer board. (PS/PCL)	
	LIPS	Version of the printer board. (LIPS)	
	SDL-STCH	ROM version of the saddle stitcher controller PCB.	
	MN-CONT	Version of the software of the main controller PCB.	
	RIP1	Version of the RIP1 board.	
	BOOT-ROM	ROM version of the boot ROM on the main controller block.	
	DIAG-DVC	Version of the self-diagnosis device.	
USER	LANGUAGE	Language/paper size configuration used. Display <LANGUAGE xxyy. zz. aa> xx (2 higher-order digits) : country code yy (2 lower-order digits) : language code zz: destination code (00: CANON, 01: OEM) aa: paper size configuration code (00: AB, 01: Inch 02: A, 03: all sizes)	Indicates the User screen and items related to the user.
	COUNTER	Indicates the type of control of the software counter. (00: 100 V, 01: USA, Europe)	
	MODEL	Identification of the model. (0: iR5000, 1: iR6000)	
ACC-STS	FEEDER	Connection status of the ADF. (0: not connected, 1: connected)	Indicates the connection status of accessories.
	SORTER	State (connection) of the finisher and the puncher unit. Display: xy x= 0: finisher, 1: saddle finisher, 3: shift tray y= 0: none, 1: 2-hole, 2: 2/3-hole, 3: 4-hole (FRN), 4: 4-hole (SWDN)	
	DECK	Connection of the paper deck (accessory). (0: not connected, 1: connected)	
	CARD	Connection of the control card. (0: not connected, 1: connected)	
	DATA-CON	Connection of a self-diagnosis device. (0: none, 1: copy data controller, 2: remote diagnostic dev.)	
	RAM	Size of the memory mounted to the main controller. (64 MB, 128 MB)	
	NIB	Connection of a network board. (0: none, 1: Etherboard, 2: Token-Ring, 3: both)	
	LIPS-RAM	Size of the memory mounted on the LIPS board. (xx MB)	
	LIPS	Connection of the LIPS board. (0: not connected, 1: connected)	
	PS/PCL	Connection of a PS/PCL board. (0: none, 1: PS/PCL, 2: PS Kanji)	
	RIP1	Connection of the RIP1 board. (0: not connected, 1: connected)	

Display (Cont'd)

Level 2	Level 3	Indicates	Remarks
ANALOG	TEMP	Machine's internal temperature (by environment sensor) Unit: °C	Indicates the measurement taken by the analog sensor.
	HUM	Machine's internal humidity (by environment sensor) Unit: %RH	
	FIX-U	Temperature of the upper fixing roller. Unit: °C	
CST-STS	WIDTH-C3	Width of the Cassette 3 in terms of paper size.	Indicates the paper size of the cassette and the manual feeder.
	WIDTH-C4	Paper width of the Cassette 4 in terms of paper size. (100-V model only)	
	WIDTH-MF	Indicates the paper width of the manual feeder in terms of paper size.	

JAM—Indicates jam data.

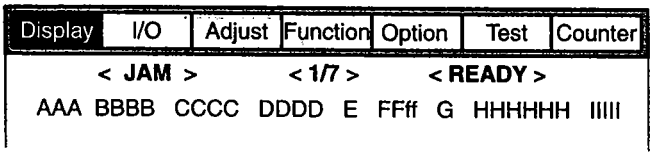


Figure 3-09

Level 2	Level 3	Indicates	Remarks
JAM	AAA	Numbers of jams (larger the number, the older the jam).	1 to 50 (50 max.)
	BBBB	Date of occurrence.	month, day (2 digits each)
	CCCC	Hour of occurrence.	24-hour notation
	E	Location of occurrence.	0: copying machine 1: feeder 2: finisher
	FFff	Jam code.	FF: jam type (Table 3-03) ff: jam sensor (Table 3-04) FFff: sensors for and types of jams in the feeder, Table 3-05)
	G	Source of paper.	(Table 3-06)
	HHHHH IIIII	Paper size.	

Code	Type
00xx	None
01xx	Delay jam
02xx	Stationary jam
0Axx	Stationary jam at power-on
0Bxx	Front cover open jam

Table 3-01 FF: Types of Jams

Code	Type	Sensor
xx01	Registration paper sensor	PS29
xx02	Laser write start sensor	PS28
xx03	Vertical path 1 paper sensor	PS24
xx04	Vertical path 2 paper sensor	PS25
xx05	Vertical path 3 paper sensor	PS26
xx06	Vertical path 4 paper sensor	PS27
xx07	Right deck feed paper sensor	PS32
xx08	Left deck feed paper sensor	PS33
xx0B	Right deck re-try sensor	PS19
xx0C	Left deck re-try sensor	PS20
xx0D	Cassette 3 re-try sensor	PS21
xx0E	Cassette 4 re-try sensor	PS22
xx0F	Claw jam sensor	PS4
xx10	Internal delivery sensory	PS35
xx11	External delivery sensor	PS36
xx12	Delivery assembly jam sensor	PS46
xx13	Reversal sensor 2	PS38
xx14	Reversal sensor 1	PS37
xx15	Duplexing paper sensor	PS34
xx16	Duplexing pre-registration sensor	PS30
xx1E	Deck pickup sensor	PS101
xx1F	Deck feed sensor	PS106
xx32	Buffer path sensor	PI14
xx33	Inlet sensor	PI1
xx34	Delivery sensor	P13
xx35	Staple tray sensor	PI4
xx36	Vertical path paper sensor	PI17S
xx37	Delivery sensor	PI11S

Table 3-02 ff: Jam Sensors

Code	Type	Sensor
00x1	Post-separation sensor (S3) delay	S3
00x2	Post-separation sensor (S3) stationary	S2, S3
00x3	Registration sensor (PI1) delay	S3, PI1
00x4	Registration sensor stationary (PI1)	PI1
00x5	Read sensor (S2) delay	S2
00x6	Read sensor (S2) stationary	S2
00x7	Delivery reversal sensor (S1) delay	S1, S2
00x8	Delivery reversal sensor (S1) stationary	S1, S2
00x9	User ADF open	PI2
00xA	ADF open	PI2
00xB	User cover open	SW2
00xC	Cover open	SW2
00xD	Residual	PI1, S1, S2, S3
00xE	Pickup fault	PI5
00xF	Timing error	S2

Table 3-03 FFff: Sensors for and Types of Jams in the Feeder
x=1: 1st original picked up.
x=0: 2nd or subsequent original picked up.

Code	Description
1	Right front deck
2	Left front deck
3	Cassette 3
4	Cassette 4
5	Not used
6	Not used
7	Paper deck (accessory)
8	Manual feed tray
9	Duplexing assembly

Table 3-04 G: Source of Paper

ERR—Indicates error data.

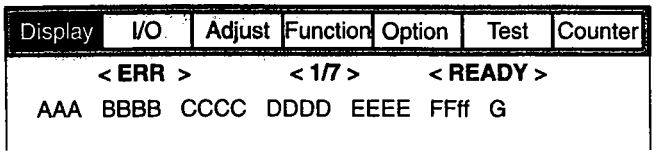


Figure 3-10

Level 2	Level 3	Indicates	Remarks
ERR	AAA	Number of errors (the higher the number, the more recent the error).	1 to 50 (50 max.)
	BBBB	Date of occurrence.	month, day (2 digits each)
	CCCC	Time of occurrence.	24-hour notation
	DDDD	Return time.	24-hour notation
	EEEE	Error code in question.	*See Section 1. Self-Diagnosis (Page 1)*
	FFff	Detailed code in question.	if none, '0000'.
	G	Location of occurrence.	0: copying machine/main controller 1: feeder 2: finisher 3: C.F.F. 4: reader 5: printer 6: PDL 7: fax

Display (Cont'd)

Level 2	Level 3	Indicates	Remarks
HV-STS	PRIMARY	Level of Primary charging current.	Indicates the voltage/currentmeasurements taken of the system.
	PRE-TR	Level of current pre-transfer charging.	
	TR	Level of transfer charging current.	
	SP	Level of separation charging current.	
	BIAS	Level of developing bias DC.	
	SP-N2	Level of separation charging current for the 2nd side of a double-sided print.	
	TR-N2	Level of transfer charging current for 2nd side of double-sided print.	

Display (Cont'd)

Level 2	Level 3	Indicates	Remarks
DPOT	DPOT-K	Surface potential of the photosensitive drum. (unit: V)	Indicates the photosensitive drum surface potential control data.
	VL1T	Target value of the light-area potential (VL1) for copying.	
	VL1M	Measurement taken of the light-area potential (VL1) for copying. (optimum value: VL1T ± 6 V; reference only)	
	VL2M	Measurement taken of the light-area potential (VL2) for copying. (optimum value: 70 ± 15 V; reference only)	
	VDT	Target dark-area potential (VD) for copying.	
	VDM	Measurement of the dark-area potential (VD) for copying. (optimum value: VDT ± 6 V; reference only)	
	VL2M-P	Measurement of the light-area potential (VL2) for printer (PDL) images. (optimum value: 70 ± 15 V; reference only)	
	VL1M-P	Measurement of the light-area potential (VL1) for printer (PDL) images. (optimum value: VL1T-P ± 6 V)	
	VL1T-P	Measurement of the light-area potential (VL1) for printer (PDL) images.	
	VDM-P	Measurement of the dark-area potential (V) for printer (PDL) images.	
	VDT-P	Target level of dark-area potential (VD) for printer (PDL) images.	
	LLMT-P	Laser power voltage control mechanism for printer (PDL) images. (0: normal, 1: error)	
	PLMT-P	Primary charging current control mechanism for printer (PDL) images. (0: normal, 1: error)	
	LLMT	Laser power voltage control mechanism for copying. (0: normal, 1: error)	
	PLMT	Primary charging current control mechanism for copying. (0: normal, 1: error)	
	BIAS-P	Result of potential control for the developing bias for printing.	
	BIAS-C	Result of potential control for the developing bias for copying.	
	LPOWER-P	Result of potential control for the laser intensity during output of printer (PDL) images. (range of indication: 0 to 255, 0: error)	
	LPOWER-C	Result of potential control for the laser intensity during output of copy images. (range of indication: 0 to 255, 0: error)	
	PRIM-P	Result of potential control for the primary charging current for printer (PDL) images. (range of indication: 0 to 1400 μA, optimum value: 500 to 1000 μA)	
	PRIM-C	Result of potential control for the primary charging current for copying. (range of indication: 0 to 1400 μ, optimum value: 500 to 1000 μA)	
SENSOR	DOC-SZ	Size of the original detected by the original size sensor.	Indicates the state of sensors.
	LPOWER	Laser intensity on a real-time basis.	

ALARM-1—Indicates alarm data.

Display	I/O	Adjust	Function	Option	Test	Counter

< ALARM-1 > < 1/1 > < READY >

BODY 00

DF 00

SORTER ww xx yy zz

Figure 3-11

Level 2	Level 3	Indicates	Remarks
ALARM	BODY	Alarms associated with the copying machine.	01: Right front deck lifter fault 02: Left front deck lifter fault 03: Cassette 3 lifter fault 04: Cassette 4 lifter fault 05: Paper deck lifter fault 10: primary charging assembly leakage 11: Transfer charging assembly leakage 12: Separation charging assembly leakage 20: De-curling fan (FM5) locked 21: Duplex unit feed fan (FM8) locked 30: Duplex unit horizontal registration HP detection fault 31: Shift tray alarm
	DF	Alarms associated with the ADF.	For details, see the Service Manual—ADF.
	SORTER	Alarms associated with the finisher.	For details, see the Service Manual—Finisher. ww: staple alarm of finisher xx: staple alarm of saddle stitcher yy: stack alarm zz: tray alarm
FEEDER	FEEDSIZE	Size of an original as detected by the ADF.	

3.7 Input/Output (Input/Output Display Mode)

Copier

The following screen appears in response to COPIER>I/O; for item details, see the tables that follow:

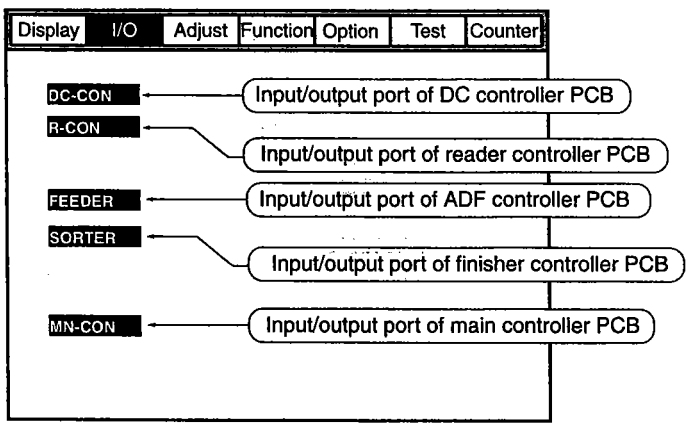


Figure 3-12

<Guide to the Screen>

3.7 Input/Output (Cont'd)*

DC-CON (Indicates the input/output ports of the DC controller PCB.)

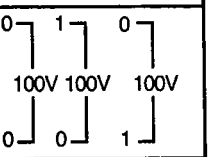
Address	Bit	Description	Signal	Remarks
IO-P01	0	Manual feed paper sensor signal	PS23	0: paper present
	1	Registration paper sensor signal	PS29	1: paper present
	2	Right deck re-try sensor signal	PS19	1: paper present
	3	Cassette 3 paper sensor signal	PS13	1: paper present
	4	Vertical path 3 paper sensor signal	PS26	1: paper present
	5	Cassette 4 paper sensor signal	PS14	1: paper present
	6	Vertical path 4 paper sensor signal	PS27	1: paper present
	7	Right deck paper sensor signal	PS7	1: paper present
	8	Vertical path 1 paper sensor signal	PS24	1: paper present
	9	Left deck paper sensor signal	PS11	1: paper present
	10	Vertical path 2 paper sensor signal	PS25	1: paper present
	11	External delivery sensor signal	PS36	1: paper present
	12	Internal delivery sensor signal	PS35	0: paper present
	14	Claw jam sensor signal	PS4	0: paper present
	15	Left deck feed paper sensor	PS33	1: paper present
IO-P02	0	Cassette 3 re-try sensor signal	PS21	1: paper present
	1	Cassette 4 re-try sensor signal	PS22	1: paper present
	2	Left deck re-try sensor signal	PS20	1: paper present
	3	Reversal sensor 1 signal	PS37	1: paper present
	4	Right deck limit sensor	PS8	1: limit
	5	Duplexing pre-registration sensor signal	PS30	1: paper present
	6	Duplexing horizontal registration sensor signal	PS31	0: paper present
	7	Reversal sensor 2 signal	PS38	1: paper present
	8	Laser write start sensor signal	PS28	1: paper present
	9	Developing assembly toner sensor signal	TS1	0: toner absent
	10	Hopper toner sensor signal	TS2	0: toner absent
	11	Duplexing paper sensor signal	PS34	1: paper present
	12	Fixing web length detection signal	PS45	1: absent
	14	Hopper connector detection signal		1: disconnected
	15	Waste toner screw lock detection signal	MSW1	0: clogged
IO-P03	0	Manual feed cover open/closed detection signal	MSW2	1: closed
	1	Right deck lifter sensor signal	PS6	1: paper present
	2	Right deck feed paper sensor signal	PS32	1: paper present
	3	Left deck lifter sensor signal	PS10	1: paper present
	4	Left deck limit sensor signal	PS12	1: limit
	5	Cassette 3 lifter sensor signal	PS17	1: paper present
	6	Cassette 4 lifter sensor signal	PS18	1: paper present

*Note: For reasons of conciseness, all I/O tables have been edited to reveal only active devices and critical items.

DC-CON (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P03 (cont'd)	8	Cassette 4 length detection signal 0	SV1	100V model only
	9	Cassette 4 length detection signal 1	SV1	100V model only
	10	Registration roller clutch drive signal	CL2	1: ON
	11	Right deck open/closed detection sensor signal	PS5	1: closed
	12	Left deck open/closed sensor signal	PS9	1: closed
	13	Manual feed tray open/closed detection signal	PS3	1: closed
	15	Front cover open/closed detection signal	SW2	0: closed
IO-P04	0	Duplexing unit detection signal		0: connected
	3	Cassette 3 open/closed sensor signal	PS15	1: closed
	4	Cassette 4 open/closed sensor signal	PS16	1: closed
	5	Cassette 3 size detection signal 0	SV2	
	6	Cassette 3 size detection signal 1	SV2	
	8	Fixing sub thermistor error detection signal 1	TH2	1: error
	9	Fixing main thermistor error detection signal	TH1	1: error
	12	Main relay OFF detection signal	RL1	
IO-P05	0	Separation feeder fan stop detection signal	FM1	1: stop
	1	Primary charging cooling fan stop detection signal	FM2	1: stop
	2	DC power supply fan stop detection signal	FM6	1: stop
	3	Delivery fan stop detection signal	FM3	1: stop
	4	Hard disk fan stop detection signal	FM7	1: stop
	5	Controller cooling fan stop detection signal	FM4	1: stop
	6	Duplexing feed fan stop detection signal	FM8	1: stop
	7	De-curling fan stop detection signal	FM5	1: stop
	8	Right deck paper level sensor (upper) signal	PS47	1: paper present
	9	Left deck paper level sensor (upper) signal	PS49	1: paper present
	12	Right deck paper level sensor (lower) signal	PS48	1: paper present
	13	Left deck paper level sensor (lower) signal	PS50	1: paper present
	15	Shift tray full sensor signal	PS104/105	0: full
IO-P06	0	Fixing motor clock detection	M19	1: locked
	1	Laser scanner motor lock detection signal	M15	1: locked
	2	Delivery jam sensor signal	PS46	1: paper present
	12	Shift tray paper sensor signal	PS103	0: paper present
	13	Shift tray HP detection (front)	PS104	1: HP
	14	Shift tray HP detection (rear)	PS105	1: HP

DC-CON (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P07	0	Flicker control signal		0: flicker
	1	Power supply spec 1		
	2	Power supply spec 2		
	3	SW3		
	4	SW4		
	5	SW5		
	7	SW7		
IO-P08	0	Developing clutch drive signal	CL1	1: ON
	1	Registration roller clutch drive signal	CL2	0: ON
	2	Manual feed pickup clutch drive signal	CL3	1: ON
	6	Left deck pull-off clutch drive signal	CL4	1: ON
IO-P09	1	Shift tray motor (CW) signal	SM101	1: ON
	2	Shift tray motor (CCW) signal	SM101	1: ON
	3	Right deck pickup solenoid drive signal	SL6	0: ON
	4	Left deck pickup solenoid drive signal	SL7	1: ON
	5	Cassette 3 pickup solenoid drive signal	SL3	1: ON
	6	Cassette 4 pickup solenoid drive signal	SL4	1: ON
	7	Manual feed releasing solenoid drive signal	SL2	1: ON
	9	Delivery flapper solenoid drive signal	SL5	1: ON
	10	Reversing flapper solenoid drive signal	SL8	0: ON
	11	Fixing assembly inlet guide drive solenoid (return) drive signal	SL1	1: ON
	12	Fixing assembly inlet guide drive solenoid (suction) drive signal	SL1	1: ON
	13	Fixing assembly web solenoid drive signal	SL9	1: ON
IO-P10	0	Right deck lifter motor drive signal	M5	0: ON
	1	Left deck lifter motor drive signal	M4	0: ON
	2	Primary charging wire cleaning motor (CCW) signal	M6	1: ON
	3	Primary charging wire cleaning motor (CW) signal	M6	1: ON
	4	Pre-transfer charging wire cleaning motor (CW) signal	M7	1: ON
	5	Pre-transfer charging wire cleaning motor (CCW) signal	M7	1: ON
	6	Transfer/separation charging wire cleaning motor (CW) signal	M8	1: ON
	7	Transfer/separation charging wire cleaning motor (CCW) signal	M8	1: ON

DC-CON (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P11	0	Drum motor drive signal	M1	0: ON
	1	Main motor drive signal	M2	0: ON
	3	Fixing motor drive signal	M19	0: ON
	4	Laser scanner motor drive signal	M15	0: ON
	5	Hopper stirring motor drive signal	M9	1: ON
	6	Hopper supply motor drive signal	M10	1: ON
	7	Laser scanner motor speed switch signal	M15	0: half-speed
IO-P12	0	Cassette 4 lifter motor drive signal	M21	0: ON
	1	Cassette 3 lifter motor drive signal	M20	0: ON
	4	Fixing main heater ON signal	H1	0: ON
	5	Fixing sub heater ON signal	H2	0: ON
	6	Drum heater ON signal	H3	0: ON
IO-P13	0	Separation feed fan (half-speed) signal	FM1	1: ON
	1	Separation feed fan (full-speed) signal	FM1	1: ON
	2	Primary charging cooling fan (half-speed) signal	FM2	1: ON
	3	Primary charging cooling fan (full speed) signal	FM2	1: ON
	6	Delivery fan (half-speed) signal	FM3	1: ON
	7	Delivery fan (full-speed) signal	FM3	1: ON
IO-P14	0	Hard disk fan (half-speed) signal	FM7	1: ON
	1	Hard disk fan (full-speed) signal	FM7	1: ON
	2	Controller cooling fan (half-speed) signal	FM4	1: ON
	3	Controller cooling fan (full-speed) signal	FM4	1: ON
	6	De-curling fan (half-speed) signal	FM5	1: ON
	7	De-curling fan (full-speed) signal	FM5	1: ON
IO-P15	0	Main relay OFF signal	RL1	1: ON
	5	Pre-exposure LED ON signal	LA1	1: ON
	6	Potential sensor ON signal	VS1	1: ON
IO-P18	7	Duplexing feed fan	FM8	
IO-P19	1	Reversal motor clock signal	M14	
	5	Duplexing feed left motor clock signal	M29	
	7	Delivery motor clock signal	M13	
IO-P20	0	Registration roller clutch ON signal	CL2	
	5	Pre-registration motor clock signal	M17	
	7	Duplexing feed right motor clock signal	M18	
IO-P22	0	Cassette paper width input port switch signal		1: Cassette 4 0: Cassette 3
	2	DC power supply fan drive signal	FM6	0: ON
	3	Duplexing horizontal registration motor clock signal	M16	

DC-CON (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P23	2	Laser enable signal	LD-EN	0: enabled
	5	Drum motor INT	M1	
	6	Main motor INT	M2	
IO-P25	0	Deck open detection switch signal	SW101	0: closed
	1	Deck paper absent sensor signal	PS102	1: paper present
	2	Deck lifter upper limit sensor signal	PS103	1: upper limit
	3	Deck pickup sensor signal	PS101	1: paper present
	4	Deck feed sensor signal	PS106	1: paper present
	5	Deck pickup clutch ON signal	CL102	1: ON
	7	Deck paper supply position sensor signal	PS107	1: ON
IO-P26	0	Deck paper level sensor signal	PS108	1: paper present
	1	Deck lifter lower limit detection signal	SW102	1: lower limit
	2	Deck set sensor signal	PS105	1: connected
	3	Deck open sensor signal	PS109	1: closed
IO-P27	0	Deck open LED ON signal	LED100	1: ON
	1	Deck pickup roller releasing solenoid drive signal	SL101	1: ON
	3	Deck pickup clutch drive signal	CL102	1: ON
	6	Deck main motor drive signal	M101	1: ON
	7	Deck lifter motor drive signal	M102	1: ON
IO-P28	0	Deck lifter lower limit detection signal	SW102	1: ON
	1	Deck open solenoid	SL102	1: ON
	2	Deck main motor fixing current setting	M101	1: ON

R-CON (Indicates the input/output ports of the reader controller PCB.)

Address	Bit	Description	Signal	Remarks
IO-P1	0	Scanner motor clock signal	M3	when 1→0, ON
	1	Scanner motor CW/CW switch signal	M3	0: CCW, 1: CW
	2	Scanner motor HOLD/OFF switch signal	M3	0: current HOLD 1: current OFF
	3	Scanner motor driver reset signal	M3	1: reset
	4	Scanner motor stream reading current switch signal	M3	0: stream reading current
	5	Original sensor ON switch signal	PS43	0: sensor ON
	7	Scanning lamp ON switch signal	LA2	0: lamp ON
IO-P2	0	SK signal to EEPROM		normal clock
IO-P4	6	Original sensor 3 signal (AB input)	PS43	0: original present
	7	Original sensor 4 signal (Inch input)	PS43	0: original present

R-CON (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P6	4	Scanner HP sensor signal	PS39	1: HP
	6	Copyboard cover sensor (used as interrupt)	PS40	1: ADF (copyboard) closed
	7	Copyboard cover sensor	PS40	1: ADF (copyboard) closed
IO-P7	0	WATCH-DOG pulse output		normal clock
	1	Output to analog processor		when 0→1→0, data transmitted
IO-P9	4	Scanner motor drive control 2	M3	default setting
	5	Scanner motor drive control 3	M3	default setting
	6	Scanner motor drive control 4	M3	default setting
	7	Scanner motor drive control (RETURN)	M3	default setting
IO-P10	0	Scanner motor drive control 0, 1	M3	default setting
	1	Scanner motor drive control 0, 1	M3	default setting
	2	Scanner motor drive current control	M3	default setting
	3	Scanner motor drive current control	M3	default setting
	4	Scanner motor drive current control	M3	default setting
	5	Scanner motor drive current control	M3	default setting
	6	Scanner motor drive current control	M3	default setting

MN-CON (Indicates the input/output ports of the main controller PCB.)

Address	Bit	Description	Signal	Remarks
P002	3	SPRTST signal, printer start-up signal	SPI	0: reader image start
P004	2	3.3-V non-all night power OFF signal		0: normal ON, 1: OFF
P007	12	LCD Back-light control		1: ON

Feeder (Indicates the input/output ports of the ADF controller PCB.)

Address	Bit	Description	Signal	Remarks
IO-P01	0	Feed motor drive clock	M2	
	2	Feed motor clock LB	M2	
	3	Pickup motor clock LB	M1	
	5	Delivery reversal motor clock LB	M3	
	6	Large/small identification sensor signal	PI3	1: paper present (large)
	7	A4R/LTRR identification sensor signal	PI4	1: A4R
IO-P02	0	Pickup motor drive clock signal	M1	
	1	Pickup motor mode signal	M1	
	2	Pickup motor CW/CCW signal	M1	
	3	Pickup motor enable output	M1	
	5	Feed motor enable output	M2	1: enable
	6	Pickup clutch drive signal	CL1	1: ON
	7	Locking solenoid signal	SL2	1: attracted
IO-P04	0	Original width VR signal	VR1	(AN0)
	1	Post-separation sensor analog signal	S3	(AN1)
	2	Read sensor analog signal	S2	(AN2)
	3	Delivery reversal sensor analog signal	S1	(AN3)
IO-P06	1	Cooling fan lock signal	FM1	1: locked
	2	Cooling fan	FM1	
	4	Post-separation sensor signal	S3	(IRQ0)
	5	Registration 1 sensor signal	PI1	(IRQ1)
	6	Read sensor signal	S2	(IRQ2)
	7	Delivery reversal sensor signal	S1	(IRQ3)
IO-P07	7	Cover open switch	SW1	1: opened
IO-P08	0	ADF open/closed sensor signal	PI2	1: opened
	1	Delivery reversing motor excitation phase (A) output	M3	during output, alternately '0' and '1'
	2	Delivery reversing motor excitation phase (*A) output	M3	during output, alternately '0' and '1'
	3	Delivery reversing motor excitation phase key (B) output	M3	during output, alternately '0' and '1'
	4	Delivery reversing motor excitation phase (*B) output	M3	during output, alternately '0' and '1'
	5	Feed motor mode output	M2	
	6	Feed motor mode output	M2	
	7	Feed motor (CW/CCW) switch signal	M2	1: CCW

Feeder (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P09	0	DIP switch (DIPSW8) signal		0: ON
	1	DIP switch (DIPSW7) signal		0: ON
	2	DIP switch (DIPSW6) signal		0: ON
	3	DIP switch (DIPSW5) signal		0: ON
	4	DIP switch (DIPSW4) signal		0: ON
	5	DIP switch (DIPSW3) signal		0: ON
	6	DIP switch (DIPSW2) signal		0: ON
	7	DIP switch (DIPSW1) signal		0: ON
IO-P11	0	LED ON signal	LED4	
	1	LED ON signal	LED3	
	2	LED ON signal	LED2	
	3	LED ON signal	LED1	
AD-P01		Original width volume	VR1	
AD-P02		Post-separation sensor analog input	S3	
AD-P03		Read sensor analog input	S2	
AD-P04		Delivery paper reversal sensor analog input	S1	
DA-P01		Pickup motor	M1	
DA-P02		Feed motor	M2	
DA-P03		Delivery reversal motor	M3	
DA-P04		Post-separation sensor_DA	S3	
DA-P05		Post-separation sensor_TH	S3	
DA-P06		Read sensor DA	S2	
DA-P07		Read sensor TH	S2	
DA-P08		Delivery reversal sensor_DA	S1	
DA-P09		Delivery reversal sensor_TH	S1	

Finisher Block (Indicates the input/output ports of the finisher controller PCB.)

Address	Bit	Description	Signal	Remarks
IO-P01 (output)	2	Second feed motor phase A output	M8	
	3	Second feed motor phase B output	M8	
	4	Stapler shift motor phase B output	M4	
	5	Stapler shift motor phase A output	M4	
	6	Alignment motor phase B output	M3	
	7	Alignment motor phase A output	M3	
IO-P02 (output)	0	Tray lift motor PWM	M5	
	1	Delivery motor PWM	M2	
	2	Swing motor PWM	M7	
	3	Punch motor PWM	M1P	
	4	Horizontal registration motor phase B output	M2P	
	5	Horizontal registration motor phase A output	M2P	
	6	Tray lift motor DOWN drive output	M5	1: down
	7	Tray lift motor UP drive output	M5	1: up
IO-P03 (output)	1	LED2 ON solenoid output	LED2	0: ON
	3	Height sensor (input)	PS1	
	4	LED1 ON signal output	LED1	1: ON
	5	Height sensor external clock (input)		
IO-P05 (output)	0	Inlet feed motor phase A output	M9	
	1	Inlet feed motor phase B output	M9	
IO-P06 (input)	0	Stapler tray paper detection signal	PI4	0: paper present
	2	No. 1 feed motor phase A (output)	M1	
	3	No. 1 feed motor phase B (output)	M1	
IO-P09 (input)	0	Buffer path inlet paper detection signal	PI17	0: paper present
	1	Delivery paper detection signal	PI3	1: paper present
	2	Buffer path paper detection signal	PI14	0: paper present
	3	Inlet paper detection signal	PI1	0: paper present
	4	Stapler drive home position detection signal	PI22	1: HP
IO-P12 (input)	0	Stapler connection detection signal		0: connected
	1	Stapler cartridge detection		0: cartridge present
	2	Staple ready signal		
	3	Staple absent detection signal		0: staple present
	5	Tray 1 paper detection signal		0: paper present
	6	Tray 2 paper detection signal		0: paper present

Finisher Block (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P14 (input)	1	Punch home position detection signal		1: HP
	2	Horizontal registration home position detection signal		0: HP
	3	Front cover open detecting switch signal		0: closed
	4	Upper cover open detecting switch signal		0: closed
IO-P15 (input)	0	PUSH SW3		
	1	PUSH SW2		
	2	Punch unit EEPROM data in		
	3	Stapler shift home position detection signal		0: HP
	4	Alignment home position detection signal		0: HP
	5	Tray open position detection signal		1: HP
	6	Shutter open detection signal		1: open
	7	Swing guide open detection signal		0: open
IO-P16 (output)	0	DIP SW3 bit 1		0: ON
	1	DIP SW3 bit 2		0: ON
	2	DIP SW3 bit 3		0: ON
	3	DIP SW3 bit 4		0: ON
	4	DIP SW3 bit 5		0: ON
	5	DIP SW3 bit 6		0: ON
	6	DIP SW3 bit 7		0: ON
	7	DIP SW3 bit 8		0: ON
IO-P17 (input)	0	Joint detection signal	PI15	1: connected
	1	Cover open/closed detection signal	PI16	1: closed
	3	Tray upper limit detecting switch signal	MS5	1: upper limit
	4	Tray safety switch signal	MS3	0: safe
	5	Cover open/closed detecting switch signal	MS1	0: closed
	6	Shutter closed detecting switch signal	MS4	1: closed
IO-P18 (output)	7	Swing guide closed detecting switch signal	MS6	0: closed
	0	Swing motor CW drive output	M7	1: CW
	1	Swing motor CCW drive output	M7	1: CCW
	2	Punch motor CCW drive output	M1P	0: CCW
	3	Punch motor CW drive output	M1P	0: CW
	4	Delivery motor CCW drive output	M2	1: CCW
	5	Delivery motor CW drive output	M2	1: CW
	6	Stapler motor CCW drive output	M6	0: CCW
	7	Stapler motor CW drive output	M6	0: CW

Finisher Block (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P19 (output)	0	Stepping motor OFF		1: OFF
	1	Punch horizontal registration motor current switch	M2P	0: ON
	2	Inlet feed motor current switch 2	M9	0: ON
	3	Inlet feed motor current swing 1	M9	0: ON
	4	Second feed motor current switch 2	M8	0: ON
	5	Second feed motor current switch 1	M8	0: ON
	6	No. 1 feed motor current switch 2	M1	0: ON
	7	No. 1 feed motor current switch 1	M1	0: ON
IO-P20 (output)	6	Stapler shift motor current switch	M4	0: ON
	7	Alignment motor current switch	M3	0: ON
IO-P21 (output)	0	Belt escape solenoid drive signal	SL7	1: ON
	1	Buffer outlet solenoid drive signal	SL3	1: ON
	3	Buffer inlet solenoid drive signal	SL2	1: ON
	4	Flapper solenoid drive signal	SL1	1: ON
	5	Paddle solenoid drive signal	SL5	1: ON
	6	Solenoid timer output	N/A	N/A
	7	Escape solenoid drive signal	SL6	1: ON

Saddle Stitcher Unit

Address	Bit	Description	Signal	Remarks
IO-P23 (output)	0	Stitcher motor (rear) CW drive output	M6S	0: CW
	1	Stitcher motor (rear) CCW drive output	M6S	0: CCW
	2	Stitcher motor (front) CW drive output	M7S	0: CW
	3	Stitcher motor (front) CCW drive output	M7S	0: CCW
	4	Paper fold motor CW drive output	M2S	0: CW
	5	Paper fold motor CCW drive output	M2S	0: CCW
	6	No. 1 deflecting plate solenoid drive signal	SL1S	1: ON
	7	No. 2 deflecting plate solenoid drive signal	SL2S	1: ON
IO-P24 (output)	5	Feed roller plate solenoid drive signal	SL4S	1: ON
	7	Paper positioning plate motor current switch	M4S	0: when ON
IO-P25 (input)	0	24-V output OFF detection signal		1: down
	1	Paper push-on plate leading edge position signal	PI15S	0: leading edge
	2	Delivery detection signal	PI11S	0: paper present
IO-P26 (input)	2	Paper push-on HP detection signal	PI14S	1: HP
	3	Alignment plate HP detection signal	PI5S	0: HP
IO-P27 (input)	0	Paper positioning HP detection signal	PI7S	0: HP
	1	Stitcher IN detection signal	PI16S	0: IN
	2	PUSH SW2 ON/OFF	SW2	
	3	Vertical path paper detection signal	PI17S	1: paper present
	4	Crescent roller phase detection signal	PI12S	0: HP
	5	Guide home position detection signal	PI13S	0: HP
IO-P28 (output)	0	Paper positioning plate motor phase A output	M4S	
	1	Paper positioning plate motor phase B output	M4S	
	2	Paper push-on plate motor PWM	M8S	
	3	Feed motor current switch		0: ON
	4	Feed motor phase A output	M1S	
	5	Feed motor phase B output	M1S	
	7	Paper push-on plate motor CCW drive output	M8S	0: CCW
IO-P29 (output)	0	Alignment motor phase A output	M5S	
	1	Alignment motor phase B output	M5S	
	2	Paper fold motor PWM	M2S	
	3	Paper push-on motor CW drive output	M8S	0: CW
	4	Guide motor phase A output	M3S	
	5	Guide motor phase B output	M3S	
	6	Guide motor current switch	M3S	0: ON
	7	Alignment motor current switch	M5S	0: ON

Saddle Stitcher (Cont'd)

Address	Bit	Description	Signal	Remarks
IO-P30 (input)	0	No. 2 paper sensor paper detection signal	PI19S	0: paper present
	1	No. 3 paper sensor paper detection signal	PI20S	0: paper present
	2	Stitching HP detection signal 2 (rear)	MS5S	1: HP
	3	Stitching HP detection signal 1 (front)	MS7S	1: HP
	4	Paper positioning plate paper detection signal	PI8S	0: paper present
	5	Tray paper detection signal	PI6S	0: paper present
	6	No. 1 paper sensor paper detection signal	PI18S	0: paper present
IO-P31 (input)	0	Alignment plate HP sensor connection detection	PI5S	1: connected
	1	Paper push-on plate HP sensor connection detection	PI14S	1: connected
	2	Delivery door sensor connection detection	PI3S	1: connected
	3	Front cover open/closed sensor connection detection	PI2S	1: connected
	4	Paper folding HP sensor connection detection	PI21S	1: connected
	5	Paper folding HP detection signal	PI21S	0: HP
IO-P33 (input)	0	Staple absent detection signal 2 (rear)	MS4S	1: staple absent
	1	Staple absent detection signal 1 (front)	MS6S	1: staple absent
	2	Inlet cover open detecting switch signal	MS1S	0: closed
	3	Front cover open detecting switch signal	MS2S	0: closed
	4	Delivery cover open detecting signal	PI3S	0: closed
	5	Front cover open detection signal	PI2S	1: closed
	6	Inlet cover open detection signal	PI9S	1: closed
	7	Delivery cover open detecting switch signal	MS3S	1: closed
IO-P34 (input)	0	TIP SW1 bit 8		0: ON
	1	TIP SW1 bit 7		0: ON
	2	TIP SW1 bit 6		0: ON
	3	TIP SW1 bit 5		0: ON
	4	TIP SW1 bit 4		0: ON
	5	TIP SW1 bit 3		0: ON
	6	TIP SW1 bit 2		0: ON
	7	TIP SW1 bit 1		0: ON
AD-P09		Stitcher (rear) punching detection		(hereafter, analog ports)
AD-P10		Stitcher (front) punching detection		
AD-P12		Inlet cover sensor connection detection	PI9	connected at '7F' or lower*
AD-P14		Guide HP sensor connection detection	PI13	connected at '7F' or lower*
AD-P15		Stitcher compartment sensor connection detection	PI16	connected at '7F' or lower*
AD-P16		Paper push-on plate leading edge position sensor connection detection	PI15	connected at '7F' or lower*

*Hexadecimal

3.9 Adjust (Adjustment Mode)

Copier

The following screen appears in response to COPIER>ADJUST; for item details, see the tables that follow:

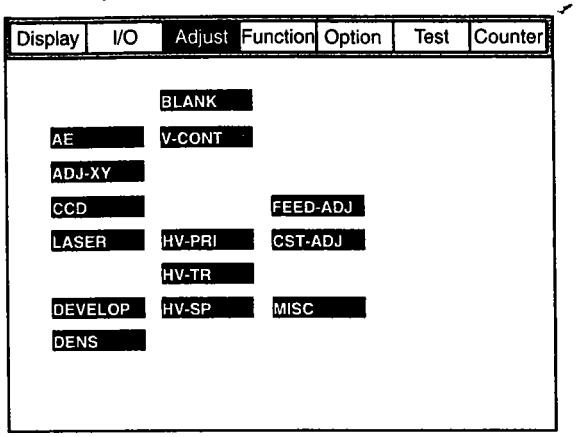
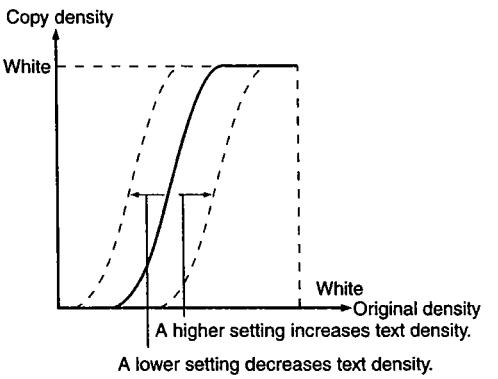
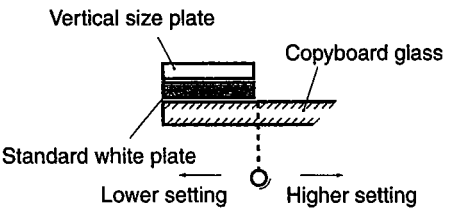
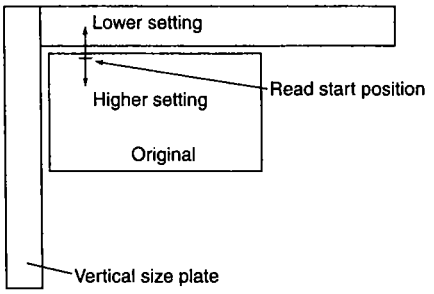
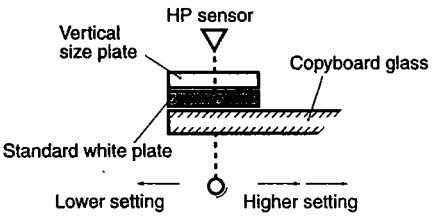
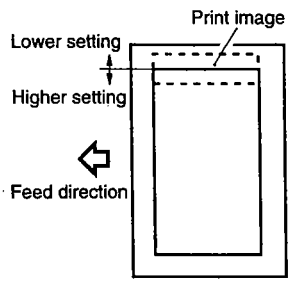


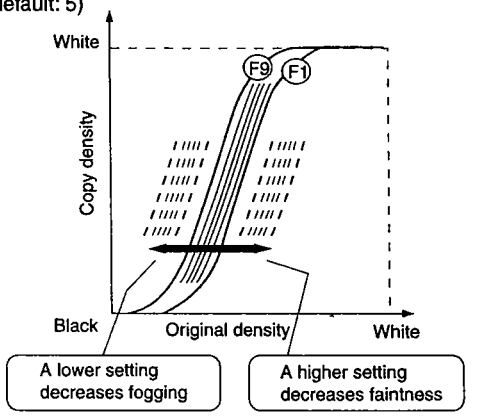
Figure 3-13

Adjust

Level 2	Level 3	Indicates	Remarks
AE	AE-TBL	Use it to adjust the density of characters for image density adjustment. Range of adjustment 1 to 9 Default: 5  	Executing AE Adjustment • If you have cleared the RAM on the reader controller PCB, enter the settings indicated on the service label.
ADJ-XY	ADJ-X	Use it to adjust the scanner image leading edge position. Range of adjustment 250 to 290 (A change of '1' causes a shift of 0.1 mm.) **Caution:** Be sure to execute this mode before adjusting the margin. Do not use this mode to create a margin.  	Executing Image Read Start Position Adjustment • If you have cleared the RAM on the reader controller PCB, enter the settings indicated on the service label.

Level 2	Level 3	Indicates	Remarks
ADJ-XY (cont'd)	ADJ-Y	Use it to adjust the CCD read start position. Range of adjustment 100 to 400 (A change of '1' causes a shift of 0.1 mm.)  	
	ADJ-S	Use it to adjust the scanner home position. Range of adjustment 55 to 70 (A change of '1' causes a shift of 0.1 mm.) **Caution:** • Execute this mode if the copyboard glass is soiled so that the standard white plate will be read avoiding the soiled area. • If you changed the adjustment value, be sure to open and then close the ADF (for HP search).  	
	ADJ-Y-DF	Use it to adjust the ADF read start position (ADF horizontal registration) in scanning direction. Range of adjustment 100 to 400 (unit: 0.1 mm)  	
	STRD-POS	Use it to adjust the CCD read position for stream reading. Range of adjustment 30 to 60 (A change of '1' causes a shift of 0.1 mm.)	
CCD	SH-TRGT	Use it to enter the white level target value for shading correction.	Making CCD- and Shading-Related Adjustments • If faulty images are noted after executing COPIER>FUNCTION>CCD>CCD-ADJ, enter the settings indicated on the service label.
	SH-RATIO	Use it to enter the data on the white label ratio (standard white paper and standard white plate) for shading correction.	
	EGGN-ST	Use it to enter an adjustment value for the edge gain correction start position for the CCD.	
	EGGN-END	Use it to enter an adjustment value for the edge gain correction end position for the CCD.	
LASER	PVE-OFST	Use it to adjust the position of laser projection. Range of adjustment -300 to +300	Adjusting the Laser Output • If you have cleared the RAM on the DC controller PCB, be sure to enter the settings indicated on the service label.
	POWER	Use it to adjust the laser power for non-potential control. Range of adjustment 0 to 255	

Adjust (Cont'd)

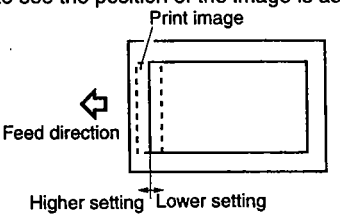
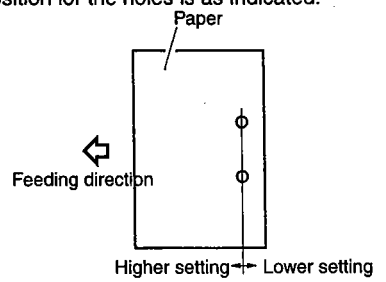
Level 2	Level 3	Indicates	Remarks
DEVELOP	BIAS	Use it to enter the adjustment value for the development bias. Range of adjustment of 0 to 600 (A higher setting makes images lighter.) **Caution:** • If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label. • This mode is valid only when the potential control mechanism is disabled.	Adjusting the Developing Bias Output
	HVT-DE	Use it to enter the offset value for the development high-voltage output for the high-voltage unit. **Caution:** If you have replaced the high-voltage unit or cleared the RAM on the DC controller PCB, enter the settings indicated on the new high-voltage unit.	
	D-HV-DE	Use it to enter the offset value for the development high-voltage output of the DC controller PCB. **Caution:** If you have replaced the DC controller PCB or cleared the RAM on the DC.	
DENS	DENS-ADJ	Use it to correct the density of images (copier/printer). If images are foggy or high-density areas are faint, correct the F-value table. Range of adjustment 1 to 9 (default: 5)  	Making Fine Adjustments for Copy Density Auto Correction • If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.
BLANK	BLANK-T	Use it to enter the image leading edge non-image width adjustment value. Range of adjustment 1 to 500	Adjusting the Non-Image Width • If you have cleared the RAM on the DC controller PCB, enter the value indicated on the service label.
	BLANK-B	Use it to enter the image trailing edge non-image width adjustment value.	
V-CONT	EPOTOFST	Use it to enter the offset value for the potential sensor. Range of adjustment 0 to 255 (default: 0)	Adjusting the Potential Control System • Normally, the machine's potential control is not executed if the temperature of the fixing assembly is 150°C or higher. If you have adjusted any of the following potential control-related modes, be sure to execute potential control by making the following selections: COPIER>OPTION>BODY>PO-CNT-S. • If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.
	VD-OFST	Use it to enter the offset value for the VD target potential for the copier. Range of adjustment -5 to +5 (unit: 10 V; default: 0)	
	DE-OFS-P	Use it to enter the offset value for the VL target potential for the printer (PDL; VDC fine-adjustment). Range of adjustment -50 to +50 (unit: V; default: 0)	
	VD-OFS-P	Use it to enter the offset value for the VD target potential (VDC fine-adjustment) for the printer (PDL). Range of adjustment -5 to +5 (unit: 10V; default: 0)	
	DE-OFST	Use it to enter the offset value for the VL target value for the copier (VDC fine-adjustment). Range of adjustment -50 to +50 (default: 0)	
HV-PR1	PRIMARY	Use it to enter the adjustment value of the primary current for non-potential control. Range of adjustment 0 to 1400	Adjusting the Output of the Primary Charging Assembly • If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.

Adjust (Cont'd)

Level 2	Level 3	Indicates	Remarks
HV-TR	TR-N1	Use it to enter the output adjustment value for the transfer charging current (for printing on the face of plain paper and printing on the 1st side of a double-sided sheet). **Caution:** If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.	Adjusting the Output of the Transfer Charging Assembly/Pre-Transfer Charging Assembly
	TR-N2	Use it to enter the output adjustment value for the transfer charging current (printing on the 2nd side of a double-sided plain paper sheet). **Caution:** If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.	
	PRE-TR	Use it to enter the output adjustment value for the pre-transfer charging current. **Caution:** If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.	
	HVT-TR	Enter the offset value for the transfer high-voltage output of the high-voltage unit. **Caution:** If you have replaced the high-voltage unit or cleared the RAM on the DC controller PCB, enter the settings indicated on the label attached to the new high-voltage unit.	
	H-PRE-TR	Use it to enter the offset value for the pre-transfer high-voltage output of the DC controller PCB. **Caution:** If you have replaced the DC controller PCB or cleared the RAM on the DC controller PCB, enter the settings indicated on the label attached to the new DC controller PCB.	
	D-PRE-TR	Use it to enter the offset value for the pre-transfer high-voltage output of the DC controller PCB. **Caution:** If you have replaced the DC controller PCB or cleared the RAM on the DC controller PCB, enter the settings indicated on the label attached to the new DC controller PCB.	
	D-HV-TR	Use it to enter the offset value for the transfer high-voltage output of the DC controller PCB. **Caution:** If you have replaced the DC controller PCB or cleared the RAM on the DC controller PCB, enter the settings indicated on the label attached to the new DC controller PCB.	
HV-SP	SP-N1	Use it to enter the output adjustment value of the separation charging current (printing on the face of a sheet of plain paper and printing on the 1st side of a double-sided sheet). **Caution:** If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.	Adjusting the Output of the Separation Charging Assembly
	SP-N2	Use it to enter the output adjustment value of the separation charging current (printing on the 2nd side of a double-sided sheet of plain paper). **Caution:** If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.	
	HVT-SP	Use it to enter the offset value for the separation high-voltage output of the high-voltage unit. If you have replaced the high-voltage unit or cleared the RAM on the DC controller PCB, enter the settings indicated on the label attached to the new high-voltage unit.	

Adjust (Cont'd)

Level 2	Level 3	Indicates	Remarks
HV-SP (cont'd)	D-HV-SP	Use it to enter the offset value for the separation high-voltage output of the DC controller PCB. **Caution:** If you have replaced the DC controller PCB or cleared the RAM on the DC controller PCB, enter the settings indicated on the label attached to the new DC controller PCB.	
FEED-ADJ	REGIST	Use it to adjust the timing at which the registration roller clutch turns on. • A higher setting delays the timing at which the registration roller clutch turns on, thereby decreasing the leading edge margin. Range of adjustment -50 to +50 (unit: 0.1 mm) **Caution:** If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.	Adjusting the Feeder System
	ADJ-REFE	Use it to adjust the horizontal registration for re-pickup. • If the image is displaced on the front, increase the setting. Range of adjustment -101 to +100 (unit: 0.1 mm) **Caution:** If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.	
	RG-MF	Use it to adjust the timing at which the registration roller clutch turns on at time of pickup in manual feed mode. • A higher setting delays the timing at which the registration roller clutch turns on, thereby decreasing the leading edge margin. Range of adjustment -50 to +50 (unit: 0.1 mm) **Caution:** If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.	
CST-ADJ	C3-STMTR	Enter the paper width basic value (STMTR) for Cassette 3. **Caution:** If you have replaced the paper width detecting VR, execute FUNCTION>CST in service mode.	Making Cassette-/Manual Feed Related Adjustments • If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.
	C3-A4R	Use it to enter the paper width basic value (A4R) for Cassette 3. **Caution:** If you have replaced the paper width detecting VR, execute FUNCTION>CST in service mode.	
	C4-STMTR	Use it to enter the paper width basic value (STMTR; 100-V model only) for Cassette 4. **Caution:** If you have replaced the paper width detecting VR, execute FUNCTION>CST in service mode.	
	C4-A4R	Use it to enter the paper width basic value (A4R; 100-V model only) for Cassette 4. **Caution:** If you have replaced the paper width detecting VR, execute FUNCTION>CST in service mode.	
	MF-A4R	Use it to enter the paper width basic value (A4R) for the manual feed tray. **Caution:** If you have replaced the paper width detecting VR, execute FUNCTION>CST in service mode.	
	MF-A6R	Use it to enter the paper width basic value (A6R) for the manual feed tray. **Caution:** If you have replaced the paper width detecting VR, execute FUNCTION>CST in service mode.	
	MF-A4	Use it to enter the paper width basic value (A4) for the manual feed tray. **Caution:** If you have replaced the paper width detecting VR, execute FUNCTION>CST in service mode.	

Level 2	Level 3	Indicates	Remarks
CST-ADJ (cont'd)	C3-LVOL	Use it to enter the stacking capacity of Cassette 3 (50 sheets).	
	C3-HVOL	Use it to enter the stacking capacity of Cassette 3 (275 sheets).	
	C4-LVOL	Use it to enter the stacking capacity of Cassette 4 (50 sheets).	
	C4-HVOL	Use it to enter the stacking capacity of Cassette 4 (275 sheets).	
MISC	ATM	Use it to select an operating environment in relation to atmospheric pressure. A low atmospheric pressure tends to cause leakage; lower the target potential control. Range of adjustment 0 to 2; 0: 1 to 0.75 atm (up to altitude of 2500m); 1: 0.75 to 0.70 atm (up to altitude of 2500 to 3000m); 2: 0.70 to 0.65 atm (up to altitude of from 3000 to 3500m)	Making Other Adjustments • If you have cleared the RAM on the DC controller PCB, enter the settings indicated on the service label.
FEEDER	DOCST	Use it to adjust the original leading edge registration when the ADF is selected as the source of paper. • A higher setting decreases the leading edge margin. • The data will be stored on the ADF controller PCB. Range of adjustment -10 to +10 (unit: 0.5 mm) Using the Mode 1) Make a print of the test chart, and check the position of the image. 2) Select the mode item, and change the setting to make adjustments. 3) Press the OK key. 4) Make a print of the test chart once again, and check to see the position of the image is as indicated.  	
	LA-SPEED	Use it to adjust the original feed speed for ADF stream reading speed. • A higher setting increases the speed. • The data will be stored on the ADF controller PCB. Range of adjustment -30 to +30 (unit: 0.1%)	
SORTER	PNCH-HLE	Use it to adjust the position of the punch holes (paper feeding direction) when the puncher unit is used. • A higher setting moves the punch holes toward the leading edge (middle) of the sheet. Range of adjustment -4 to +2 (unit; mm) Using the Mode 1) Make a print of the Test Chart, and check the position of the holes. 2) Select this item, and change the setting as needed. 3) Press the OK key. 4) Make a print of the Test Chart once again, and see that the position for the holes is as indicated.  	

3.10 Function (Operation/Inspection Mode)

Copier

The following screen appears in response to COPIER>FUNCTION; for the item details, see the pages that follow:

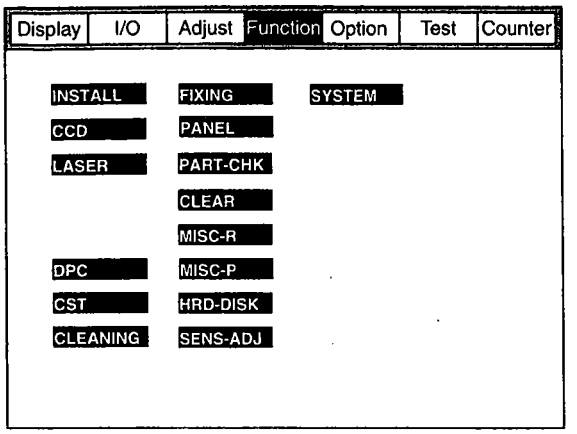
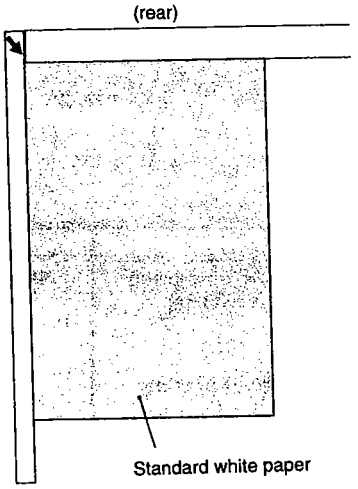
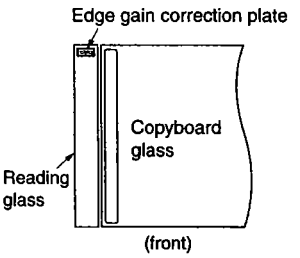


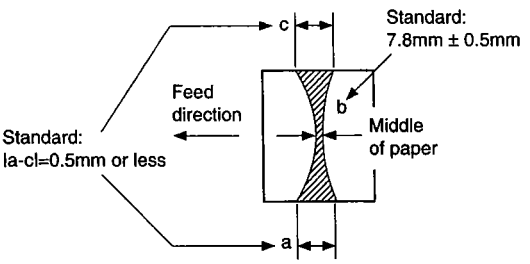
Figure 3-14

Function

Level 2	Level 3	Indicates	Remarks
INSTALL	TONER-S	Use it to supply toner from the hopper to the developing assembly and to stir the toner inside the developing assembly. **Caution:** • Make sure that the developing assembly is properly mounted before pressing the OK key. • Do NOT turn off the power while the machine is in operation. Using the Mode 1) Select the mode item, and press the OK key. 2) The machine executes toner supply (about 8 to 10 min). • While toner is being supplied, the duration (sec) is counted down starting at '600 sec'. 3) The machine stops automatically at the end of the operation.	Modes for Installation
	STRD-POS	Use it to execute auto adjustment of the position of the CCD read position for stream reading mode. **Caution:** • Execute this mode at time of installing an ADF or if you have removed and then installed the existing ADF. Using the Mode 1) Select this item, and press the OK key. • Auto adjustment is executed. 2) See that the adjustment ends automatically. 3) Record the updated setting indicated in service mode on the service label: COPIER>ADJUST>ADJ-XY>STRD-POS.	

Level 2	Level 3	Indicates	Remarks
CCD	CCD-ADJ	Use it to execute CCD auto adjustment. **Caution:** • Execute this mode if you have replaced the CCD unit, scanning lamp, inverter PCB, or copyboard glass (standard white plate). • Use the whitest of all papers used by the user as the (standard white paper.) Using the Mode 1) Place sheets of standard white paper (10 sheets min.) on the copyboard glass. 2) Select the mode item, and press the OK key. • The machine executes auto adjustment. (about 1 min) • The machine stops operation at the end of auto adjustment. 3) Record the updated settings on the service label (all under COPIER>ADJUST>CCD).  	Executing Auto Adjustment for CCD-/Shading-Related Items
	SHDG-POS	Use it to enter the data for optimum position auto adjustment in reference to the standard white plate for shading correction. **Caution:** Do not use this mode item. It is for use at the factory only.	
	SH-PS-ST	Use it to execute optimum position auto adjustment in reference to the standard white plate for shading correction. **Caution:** The following must be executed before initiating auto adjustment in this mode: COPIER>FUNCTION>CCD>CCD-DJ. Using the Mode 1) Clean the back of the copyboard glass. 2) Select the mode item, and press the OK key. • The machine executes auto adjustment. (several tens of seconds) • The machine stops automatically at the end of the operation.	

Level 2	Level 3	Indicates	Remarks
CCD (cont'd)	EGGN-POS	Use it to execute auto adjustment for the edge gain correction position for the CCD. (The CCD edge gain correction mechanism is effective only when an ADF is in use.) **Caution:** • If the CCD unit has been replaced, be sure to execute the following in advance: COPIER>FUNCTION>CCD>CCD-ADJ. • If the CCD unit, No. 1 mirror mount, or No. 2 mirror mount has been replaced, execute this mode. Using the Mode 1) Open the ADF (copyboard cover; be sure to do so). 2) Select the item, and press the OK key. 3) Wait until auto adjustment ends (about 1 sec). 4) See that auto adjustment ends automatically and the results (OK or NG) are displayed. • If NG is indicated, check the following, and execute adjustment once: a. Is the ADF (copyboard cover) open? b. Is the reading glass mounted correctly? c. Is the edge gain correcting plate attached to the reading glass normal? d. Is the scanning lamp on? 5) When the following has been updated, enter the new settings: COPIER>ADJUST>CCD-EGGN-ST and -EGGN-END.  	
LASER	POWER	Turning On the Laser Using the Mode 1) Select the mode item, and press the OK key. • The laser turns on. • The laser turns off automatically in 30 sec. (To turn it off earlier, press the Stop key.)	Using Laser-Related Operations
	DPC	Use it to force potential control. **Caution:** The machine will not execute potential control when the power switch is turned off and then on if the temperature of the fixing assembly is 150°C or higher. If you have replaced the photosensitive drum or the laser unit, or changed the drum potential setting, execute potential control using this mode item. Using the Mode 1) Select the mode item, and enter '1', then, press the OK key. 2) Turn off and then on the power switch. • The machine will execute potential control.	Using Potential Sensor-Related Operations
	OFST	Use it to execute offset adjustment for the potential sensor. **Caution:** Do not execute this mode on its own; it is designed as part of a series of work to perform after replacing the potential sensor unit. (See the Printer Manual: Chap. 4, 7. "Disassembly and Assembly.") Using the Mode 1) Select the mode item, and press the OK key. • The machine stops the operation automatically at the end of offset adjustment.	

Level 2	Level 3	Indicates	Remarks
CST	C3-STMTR C3-A4R	Use it to store the paper width basic value for Cassette 3. STMTR width: 139.5 mm, A4R width: 210 mm **Caution:** For fine adjustment after storing the basic value, make the following selections: ADJUST>CST-ADJ>C3-STMTR, C3-A4R, C4-STMTR, C4-A4R. Using the Mode 1) Place STMTR paper in the cassette, and adjust the side guide plate to suit the STMTR width. 2) Select C3-STMTR (C4-STMTR), and press the OK key. • The machine executes adjustment automatically, at the end of which the value is stored. 3) Likewise, repeat Steps 1) and 2) for A4R.	Executing Size Auto Adjustment for the Cassette/Manual Feed Tray.
	MF-A4R MF-A6R MF-A4	Use it to store the paper width basic value for the manual feed tray. **Caution:** For fine adjustment after storing the basic value, make the following selections: ADJUST>CST-ADJ>MF-A4R, MF-A6R, MF-A4. Using the Mode 1) Place A4R paper on the manual feed tray, and adjust the side guide to the A4R width. 2) Select MF-A4R, and press the OK key. • The machine executes adjustment automatically, at the end of which the value is stored. 3) Likewise, repeat Steps 1 and 2 for A6R and A4.	
CLEANING	WIRE0-CLN	Use it to execute automatic cleaning of the charging wire five times (5 round trips) consecutively. **Caution:** If you have replaced the primary charging wire or the transfer charging wire, execute this mode item. Using the Mode 1) Select the mode item, and press the OK key. • The machine executes auto cleaning of the charging wire five times consecutively. • The machine stops automatically at the end of the cleaning operation.	Executing Cleaning Operations
FIXING	NIP-CHK	Use it to obtain an output for measuring the fixing nip width. Using the Mode 1) Make about 20 LTR copies of the test sheet. 2) Place LTR sheet of paper on the manual feed tray. 3) Select the mode item (to highlight), and press the OK key. • The sheet will be picked up and stopped between the fixing rollers; it is then discharged in about 20 secs. 4) Measure the width of the area indicated.  **Caution:** a and b are points 10 mm from the edges of paper.	Executing Auto Adjustment for Fixing Assembly-Related Items

Level 2	Level 3	Indicates	Remarks
PANEL	LCD-CHK	Use it to check for missing dots on the touch panel. Using the Mode 1) Select the mode item, and press the OK key. • The entire face of the touch panel turns on in white and blue repeatedly. 2) Press the Stop key to stop the operation.	Checking the Control Panel
	LED-CHK	Use it to check the LEDs on the control panel. Using the Mode 1) Select the mode item, and press the OK key. • The LEDs will turn on in sequence. 2) Select LED-OFF to end the operation.	
	LED-OFF	Use it to end a LED check of the control panel. Using the Mode 1) Select the mode item to end the check.	
	KEY-CHK	Use it to check key inputs. Using the Mode 1) Select the mode item. 2) Press any key so that its corresponding character will appear on the touch panel, indicating that the input is normal. (Table 3-05)	
	TOUCHKEY	Use it to adjust the coordinates of the touch panel. **Caution**: • Use it to match the points of presses on the touch panel and the LCD coordinates. • Execute this mode if you have replaced the LCD unit. Using the Mode 1) Select the mode item, and press the OK key. 2) Press '+' indicated on the touch panel at nine locations in sequence. 3) Select TOUCHKEY once again to end the operation.	
PART-CHK	CL	Use it to select the clutch to check. Using the Mode 1) Select the mode item. 2) Using the keypad, enter the code of the clutch in question (Table 3-06). 3) Press the OK key.	Checking the operation of various loads.
	CL-ON	Use it to check the operation of a clutch. Using the Mode 1) Select the mode item, and press the OK key. • ON → 10 secs OFF → ON → 10 secs OFF → ON → OFF	
	MTR	Use it to select the motor to check. Using the Mode 1) Select the mode item. 2) Using the keypad, enter the code of the motor to check (Table 3-07). 3) Press the OK key.	
	MTR-ON	Use it to check the operation of the motor. Using the Mode 1) Select the mode item, and press the OK key. • ON for 20 secs → OFF • The hopper motor and the duplex horizontal registration motor remain on for 10 sec and then turns off. • The shift tray motor stops at the front/rear home position.	

Key	Screen Display
Counter check	BILL
Copy	COPY
Scan	OTHER
0 to 9	0 - 9
Stop	STOP
ID	ID
Additional functions	USER
Start	TART
Mail box	PB
Reset	RESET
Energy saver	STAND BY
Clear	CLEAR
Interrupt	INTERRUPT
Guide	?

Table 3-05
Input Key/Display

Clutch	Code	Description
CL3	1	Manual feed clutch
CL4	2	Left deck pull-off clutch
CL102	3	Opt. PD-G1 PU Clutch
CL1	4	Developing clutch
CL2	5	Registration roller clutch

Table 3-06
Reference Codes for Clutch Check

Motor	Code	Description
M1	1	Drum motor
M2	2	Main motor
M19	3	Fixing motor
M15	4	Laser scanner motor
M9	5	Hopper stirring motor
M10	6	Hopper supply motor
M16	7	Duplexing horizontal registration motor
M5	8	Right deck lifter motor
M4	9	Left deck lifter motor
M20	10	Cassette 3 lifter motor
M21	11	Cassette 4 lifter motor
M11	12	Right deck pickup motor
M24	13	Left deck pickup motor
M12	14	Cassette 3/4 pickup motor
M25	15	Vertical path duplexing feed motor
M27	16	Vertical path lower motor
M26	17	Vertical path upper motor
M101	18	Paper deck main motor
M14	19	Reversal motor
M29	20	Duplexing feed left motor
M13	21	Delivery motor
M17	22	Pre-registration motor
M18	23	Duplexing feed right motor
SM101	24	Shift tray motor

Table 3-07
Reference Codes for Motor Check

Level 2	Level 3	Indicates	Remarks
PART-CHK (cont'd)	SL	Use it to select the solenoid to check for operation. Using the Mode 1) Select the mode item. 2) Using the keypad, enter the code of the solenoid (Table 3-08). 3) Press the OK key.	
	SL-ON	Use it to check the operation of the solenoid. Using the Mode 1) Select the mode item, and press the OK key. • ON → OFF for 10 secs → ON → OFF for 10 secs → ON → OFF	
	ERR	Use it to clear error codes. Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	
CLEAR	DC-CON	Use it to clear the RAM on the DC controller PCB. Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	Clearing the RAM, Jam History, and Error Code History • The data is cleared only when the main power switch has been turned off and then on; be sure to turn it off and then on at the end.
	R-CON	Use it to clear the RAM on the reader controller PCB. Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	
	SERVICE	Use it to clear the backup data of service mode (COPIER>OPTION). Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	
	JAM-HIST	Use it to clear the jam history. Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	
	ERR-HIST	Clearing the Error History Using the Mode 1) Select the item, and press the OK key. 2) Turn off and then on the main power switch.	
	PWD-CLR	Use it to clear the password set for 'system administrator' in user mode. Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	
	CNT-MCON	Use it to clear the counter for servicing located on the main controller PCB. Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	
	CNT-DCON	Use it to clear the counter for servicing found on the DC controller PCB. Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	

Solenoid	Code	Description
SL6	1	Right deck pickup solenoid
SL7	2	Left deck pickup solenoid
SL3	3	Cassette 3 pickup solenoid
SL4	4	Cassette 4 pickup solenoid
SL2	5	Manual feed releasing solenoid
SL101	6	Opt. PD-G1 pickup roller
SL5	7	Delivery flapper solenoid (SL5)
SL8	8	Reversing flapper solenoid (SL8)
SL1	9	Fixing inlet guide drive solenoid
SL1	10	Fixing inlet guide drive solenoid; return
SL9	11	Fixing web solenoid

Table 3-08
Reference Codes for Solenoid-Check

Level 2	Level 3	Indicates	Remarks
CLEAR (cont'd)	MMI	Use it to clear the backup data on user mode settings (spec, ID, group ID, mode memory, etc.). Using the Mode 1) Select the mode item, and press the OK key. 2) Turn off and then on the main power switch.	
MISC-R	SCANLAMP	Use it to check the activation of the scanning lamp. Using the Mode 1) Select the mode item, and press the OK key. • The scanning lamp will turn on. 2) Press the Stop key to turn off the lamp.	Checking Reader Unit-Related Operations
MISC-P	P-PRINT	Use it to print out a list of service mode items. Using the Mode 1) Select the mode item, and press the OK key. • The machine will print out a list of service mode items.	Checking Printer-Related Operations
	KEY-HIST	Use it to print out the history of key inputs made on the control panel. Using the Mode 1) Select the mode item, and press the OK key. • The machine will print out the history of key inputs.	
	HIST-PRT	Use it to print out the history of jams and errors in service mode. Using the Mode 1) Select the item mode, and press the OK key. • The machine will print out the history of jams and errors.	
	USER-PRT	Use it to print out a list of user modes in service mode. Using the Mode 1) Select the mode item, and press the OK key. • The machine will print out a list of user modes.	
	PRE-EXP	Use it to check the activation of the pre-exposure LED. Using the Mode 1) Select the mode item, and press the OK key. • The pre-exposure LED will remain on for about 3 secs and will turn off.	
HRD-DISK	SCANDISK	**Caution**: Use it on a hard disk found to have a problem. Using the Mode 1) Select the mode item, and press the OK key. • Once operation starts, counting is executed starting with 0%; the operation ends at 100% (in about 25 mins).	Use it to detect an error on the hard disk.
	FORMAT	Use it to initialize the image area of the hard disk. **Caution**: • Use it on a normal hard disk. • Use it at time of shipment from the factory or upon replacement of the hard disk. Using the Mode 1) Select the mode item, and press the OK key. • The operation will end in about 1 sec, and the power will turn off.	

Level 2	Level 3	Indicates	Remarks
SENS-ADJ	STCK-LMT	Use it to adjust the position of the full sensor (PS104, PS105) of the shift tray. • If either of the full sensors (or both) detects paper, the machine will indicate 'ON'. • If neither of the sensors detects paper, the machine will indicate 'OFF'. **Caution**: • Use this mode when the full sensor has been replaced. • Be sure to move the sensors starting at the point farthest from the paper, moving them closer to the paper (in keeping with the characteristics of the sensors). Using the Mode 1) Keep both sensors at the point farthest from the paper. 2) Place a stack of sheets (about 60 mm high) at the point of detection of either sensor on the shift tray. 3) Select the mode item, and press the OK key. 4) By referring to the indication, move the sensor closer to the paper, and fix it in position where the indication changes to 'ON'. 5) Move the paper to the position of detection of the other sensor. 6) Repeat Step 4) for the other sensor. 7) Press the Stop key to end the adjustment.	Use it to check the operation of sensors.
SYSTEM	DOWNLOAD	Use it to switch to download mode of the system program. Using the Mode 1) Turn off the machine and the PC. 2) Disconnect the network-related cable connected to the machine. 3) Connect the machine with the PC with a bi-Centronics cable. 4) Turn on the PC. 5) Turn on the machine. 6) Select the mode item, and press the OK key. 7) Start downloading using the service support tool. 8) At the end of the operation, turn off and then on the main power switch	Checking System-Related Operations
FEEDER	SENS-INT	Use it to adjust the sensitivity of each sensor of the ADF. **Caution**: Be sure to clean the sensor before executing this mode. Using the Mode 1) Select the mode item, and press the OK key. • The machine stops operation at the end of the adjustment.	

Copier

The following screen appears in response to COPIER>OPTION; for the item details, see the pages that follow:

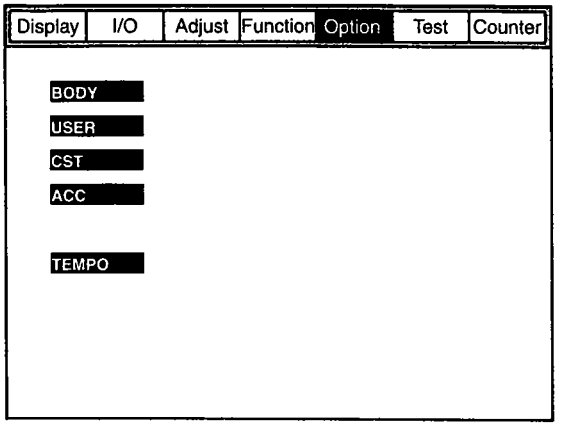


Figure 3-15

Option

Level 2	Level 3	Indicates	Remarks
BODY	PO-CNT	Use it to turn on/off potential control. Settings–0: off; 1: on (default)	Use it to make machine settings.
	PO-CNTMD	Use it to select a potential control mode. Settings–0: one at time of power-up (default); 1: 10 mins and 60 mins after power-up (reduced mode); 2: 10 mins and 60 mins after power-up (normal mode)	
	W-CLN-P	Use it to set the intervals at which auto cleaning of the primary charging wire is executed in terms of the number of prints. Settings–100 to 2000 (default: 2000)	
	MOFEL-SZ	Use it to switch default ratios display and ADF original size detection by site. Settings–0: AB (6R5E); 1: INCH (5R4E); 2: A (3R3E); 3: AB/INCH (6R5E)	
	FIX-TEMP	Use it to select down sequence mode. Settings– 0: OFF; 1: priority on fixing while controlling down sequence temperature to +10°C for all; 2: priority on productivity while controlling down sequence temperature to -5°C for all	
	IDL-MODE	Use it to select idle rotation mode for the developing assembly. Settings–0: OFF (no idle rotation; default);1: auto control by environment sensor; 2: idle rotation started when fixing temperature reaches 100°C; 3: idle rotation started when main power switch is turned on	

Option (Cont'd)

Level 2	Level 3	Indicates	Remarks
BODY (cont'd)	FSPD-S1	Use it to switch fixing control for special paper. • The selection of this mode disables the function of OHP-TEMP and WARM-UP. • The special paper mode setting 2 is valid for the 120/230-V model only, and is executed when a source of paper assigned to thick paper is selected. Settings–0: normal mode (plain paper; default); 1: special paper 1 mode (in high humidity environment, reduces fixing temperature); 2: special paper mode (thick paper)	
	FUZZY	Use it to turn on/off fuzzy control and to make environment settings. • The selection will affect pre-transfer, transfer, and separation charging currents. • Selecting 1 through 3 will make the operation independent of the environment sensor. Settings–0: fuzzy control ON (default); 1: low humidity environment mode (current level lower than standard); 2: normal humidity environment mode, 3: high humidity environment mode (current level higher than standard)	
	TSPLY-SW	Use it to switch the toner supply sequence executed in conjunction with the humidity sensor. Settings–0: changes control of toner supply motor by humidity data automatically (default) • medium/low humidity: ON for 2 sec, OFF for 1 sec • high humidity: ON for 4 sec, OFF for 2 sec 1: uses fixed pattern (ON for 2 sec, OFF for 1 sec)	
	SCANSLCT	Use it to turn on/off the ADF original size detection mechanism. • When ON, the scan size is determined according to the detected original size. Settings–0: OFF (default); 1: ON	
	OHP-TEMP	Use it to switch the temperature setting for transparency mode. • The control mechanism will use a lower fixing temperature to improve separation of transparencies from the fixing roller. **Caution:** This mode is disabled if WARM-UP, FSPD-S1 is set. Settings–0: OFF (default); 1: normal temperature control -5°C; 2: normal temperature control -10°C; 3: normal temperature control -15°C; 4: normal temperature control -20°C	
	F-GD-CNT	Use it to select the descent mode for the fixing inlet guide. • Move down the inlet guide if uneven density or light images occur as a result of uneven fixing. Settings–0: normal control (default); 1: moves down inlet guide for 1st side only (A4R/297 mm or larger)	
	CONFIG	Use it to select multiple pieces of firmware retained on the hard disk so as to make appropriate settings: country, language, model, paper size series. Settings XXYYZZAA XX: country (JP), YY: language (ja), ZZ (00); model, AA (00): paper size series; display will be in the following sequence and the parentheses indicate default settings: COPIER>DISPLAY>USER>LANGUAGE. Using the Mode 1) Select CONFIG. 2) Select an item (to highlight), and press the +/- key to scan through the items. 3) When the appropriate setting has appeared for each item, press the OK key.	

Option (Cont'd)

Level 2	Level 3	Indicates	Remarks
BODY	WARM-UP	Use it to reduce the warm-up time if the room temperature is likely to be about 18°C or higher when the machine is first turned on. In the case of the iR5000 Series, the multiple rotation initial, standby, and print start temperatures are reduced by 15°C. In the case of the iR6000 Series (100-V model), the period of initial multiple rotation is reduced by 1 min. **Caution:** • For the 120/230-V model, the same control mechanism is used for both iR6000 Series and iR5000 Series. • This mode is disabled if FSPD-S1 is set. Settings–0: standard (default); 1: reduced mode (as above)	
	SHARP	Use it to change the sharpness level of the image. • A higher setting makes the images sharper. Settings–1 to 5 (default: 3)	
	LAPC-SW	Use it to switch laser APC correction. Settings–0: ON (initial rotation APC executed if left alone for 10 min); 1:ON (initial rotation ON APC executed if left alone for 60 min; default); 2: (initial rotation APC executed if left alone for 120 min); 3: initial rotation APC only off; 4: OFF	
	FDW-DLV	Use it to switch face-up delivery to ensure stacking performance when making multiple prints. Settings–0:normal (all in face-up delivery, if single original; default); 1:face-up delivery for single print of single original, face-down delivery for multiple prints)	
	COTDPC-D	For factory use. Settings–0 to 3 (default: 0)	
	EVL-VDT	Use it to switch the drum target potential (VDT) and the developing bias (Vdc) to reduce traces of black fixing separation claws caused by an excess deposit of toner in a low-humidity environment. Settings–0: no change; 1: for copy image, VDT -35 V; for printer image, VDT -25 V/Vdc +25 V (default); 2: for copy image, VDT -50 V; for printer image, VDT -50 V/Vdc +25 V; 3: for copy image, VDT -35 V; for printer image, no change; 4: for copy image, VDT -50 V; for printer image, no change; 5: for copy image, no change; for printer image, VDT -25 V/Vdc +25 V; 6: for copy image, no change; for printer image, VDT -50 V/Vdc +25 V	
	RMT-LANG	Use it to switch the language for remote UI driven over the WEB. Settings–Use it to select a language code (ja, en, etc.) to identify the site; expressed as in service mode (COPIER>DISPLAY>USER>LANGUAGE). Using the Mode 1) Select RMT-LANG. 2) Each press on the +/- key brings up a different language code. 3) When the desired language code has appeared, press the OK key.	
	Hi-HUME	Use it to switch the developing bias frequency if separation faults occur in a high-humidity environment. **Caution:** If separation faults occur in the above environment, set it to '1'. Settings–0: 2700Hz (default); 1: 2000Hz	

Option (Cont'd)

Level 2	Level 3	Indicates	Remarks
BODY	TR-SP-C1	Use it to switch the transfer/separation output level when the right deck is used as the source of paper to prevent various problems. Settings–0: normal (default); 1: to prevent re-transfer; 2: to prevent separation fault; 3: to prevent transfer fault	
	TR-SP-C2	Use it to switch the transfer/separation output level when the left deck is used as the source of paper to prevent various problems. Settings–0: normal (default); 1: to prevent re-transfer; 2: to prevent separation fault; 3: to prevent transfer fault	
	TR-SP-C3	Use it to switch the transfer/separation output level when Cassette 3 is used as the source of paper to prevent various problems. Settings–0: normal (default); 1: to prevent re-transfer; 2; to prevent separation fault; 3: to prevent transfer fault	
	TR-SP-C4	Use it to switch the transfer/separation output level when Cassette 4 is used as the source of paper to prevent various problems. Settings–0: normal (default), 1: to prevent re-transfer; 2: to prevent separation fault; 3: to prevent transfer fault	
	TR-SP-MF	Use it to prevent the transfer/separation output level when the manual feed tray is used to prevent various problems. Settings–0: normal (default); 1: to prevent re-transfer; 2: to prevent separation fault; 3: to prevent transfer fault	
	TR-SP-DK	Use it to switch the transfer/separation output level when the paper deck is used as the source of paper to prevent various problems. Settings–0: normal (default); 1: to prevent re-transfer; 2: to prevent separation fault, 3: to prevent transfer fault	
	TPR-DECL	Use it to switch the delivery path to improve stacking performance in reverse delivering thick paper. Settings–0: normal (default); 1: move paper over reversing roller, and reverse/delivery after removing curl	
	DF_BLINE	Use it to turn on/off reduce mode (turning off edge emphasis) for black lines in stream reading mode. **Caution:** Turning on the mode will make black lines less noticeable, but the edges of images will accordingly be less sharp. Settings–0: OFF (default); 1: ON	
USER	COPY-LIM	Use it to change the upper limit for setting a copy count. Settings–1 to 999 (default: 999)	Making User-Related Settings
	SLEEP	Use it to turn on/off sleep mode. Settings–0: OFF, 1: ON (default)	
	WEB-DISP	Use it to turn on/off the fixing web length warning. • If OFF (no warning), the message will appear only when service mode is started. Settings–0: OFF (warning not issued; default); 1: ON (warning issued)	
	SIZE-DET	Use it to turn on/off the original size detection mechanism. Settings–0: OFF, 1: ON (default) **Caution:** After making the setting, be sure to turn off and then on the main power switch.	

Option (Cont'd)

Level 2	Level 3	Indicates	Remarks
USER	W-TONER	Use it to turn on/off the waste toner case full message. • When OFF (no warning) is selected, the message will appear only when service mode is started. Settings–0: OFF (no warning issued; default); 1: ON (warning issued)	
	COUNTER1	Use it to indicate the type of soft counter of the control panel. **Caution:** The type of soft counter 1 cannot be changed. Settings–101: total 1 (default: fixed to 101; see Table 3-09)	
	COUNTER2	Use it to change the type of soft counter 2 of the control panel to suit the needs of the user or the dealer. Settings–000 to 804 (Table 3-09); default: 000 for 100-V model, 103 for 120/230-V model	
	COUNTER3	Use it to change the type of soft counter 3 of the control panel to suit the needs of the user or the dealer. Settings–000 to 804 (Table 3-09); default: 000 for 100-V model, 203 for 120/230-V model	
	COUNTER4	Use it to change the type of soft counter 4 of the control panel to suit the needs of the user or the dealer. Settings–000 to 804 (Table 3-09); default: 000 for 100-V model, 203 for 120/230-V model	
	COUNTER5	Use it to change the type of soft counter 5 of the control panel to suit the needs of the user or the dealer. Settings–000 to 804 (Table 3-09); default, 000	
	COUNTER6	Use it to change the type of soft counter 6 of the control panel to suit the needs of the user or the dealer. Settings–000 to 804 (Table 3-09); default: 000	
	DATE-DSP	Use it to switch how the date is displayed. **Caution:** For the 120V model, the default is '1'. Settings–0: YYYY MM/DD (default); 1: DD/MM YYYY, 2: MM/DD/YYYYMB-CCV	
	MB-CCV	Use it to impose limits on the Box function by the Control Card IV (CC-IV). Settings–0: enables control and printing regardless of presence/absence of card in remote; in remote, makes no change; 1: enables control and printing regardless of presence/absence of card in remote; accepts print job, but stops printing in absence of card (with card, enables printing but imposes charge; default); 2: disables control in remote; does not accept print job in remote	
	B4-L-CNT	Use it to specify whether B4 sheets are counted as large size or small size for soft counters 1 through 6. Settings–0: small size (default); 1: large size	
	TRAY-STP	Use it to prohibit suspension of printing by imposing limits to the number of sheets to staple or mixing of sizes of the finisher. Settings–0: normal mode (suspend printing by count/size; default); 1: suspend printing if height sensor is ON (full of paper)	

Option (Cont'd)

Level 2	Level 3	Indicates	Remarks
USER (cont'd)	MF-LG-ST	Use it to turn on the Extra Length key for sheets up to 630 mm (free in manual feed); the 630 mm limit also applies to the ADF. Settings–0: normal mode (default); 1: extra length mode (key indicated)	
	SPECK-DP	Use it to enable/disable indication of a warning for dust detection in stream reading. Settings–0: disable indication (default); 1: enable indication	
	CNT-DISP	Use it to enable/disable the indication of a serial number in response to the Counter Check key. Settings–0: enable indication (default); 1: disable indication	
	PH-D-EL	Use it to select the number of lines for photo mode printing. Settings–0: 141 lines (default); 1: 134 lines	
	COPY-JOB	Use it to prevent auto copy start when using a coin robot and a card reader. Settings–0: copy job auto start selected (default); 1: copy job auto start not selected	
	OP-SZ-DT	Use it to turn on and off the original size detection mechanism in book mode. Settings–0: OFF (accepts input of original size from control panel; default); 1: ON (detects original size automatically)	

Soft Counter Specifications

The soft counters are classified as follows according to input numbers:

100s: total 500s: scan
200s: copies 600s: box
300s: prints 700: reception prints
400s: copies + prints 800: report prints

Legend

O:	counter effective for the machine
4C:	full color
mono:	mono color (Y, M, C/R, G, B/sepia mono)
Bk:	black mono
L:	large size (larger than B4)
S:	small size (B4 or smaller)

Number in counter: count indicating large-size sheets

In service mode, the settings may be changed so that B4 or larger may be counted as large size (COPIER>OPTION>USER>B4-L-CNT).

Counter Type

Effective	No.	Counter Type	Effective	No.	Counter Type
O	000	not indicated		311	print (Mono 1)
O	101	total 1		312	print (Mono 2)
O	102	total 2		313	print (Bk 1)
O	103	total (L)		314	print (Bk 2)
O	104	total (S)		315	print (4C/L)
	105	total (4C1)		316	print (4C/S)
	106	total (4C2)		317	print (Mono/L)
	107	total (Mono)		318	print (Mono/S)
	108	total (Bk 1)		319	print (Bk/L)
	109	total (Bk 2)		320	print (Bk/S)
	110	total (Mono/L)		321	print (4C+Mono/L)
	111	total (Mono/S)		322	print (4C+Mono/S)
	112	total (Bk/L)		323	print (4C+Mono/2)
	113	total (Bk/S)		324	print (4C+Mono/1)
O	114	total (4C+Mono+Bk/double-sided)		325	print (4C/L/double-sided)
		total 1 (double-sided)		326	print (4C/S/double-sided)
O	115	total 2 (double-sided)		327	print (Mono/L/double-sided)
O	116	L (double-sided)		328	print (Mono/S/double-sided)
O	117	S (double-sided)		329	print (Bk/L/double-sided)
O	201	copy (total 1)		330	print (Bk/S/double-sided)
O	202	copy (total 2)	O	331	PDL print (total 1)
O	203	copy (L)	O	332	PDL print (total 2)
O	204	copy (S)	O	333	PDL print (L)
O	205	copy A (total 1)	O	334	PDL print (S)
O	206	copy A (total 2)		401	copy + print (4C/L)
O	207	copy A (L)		402	copy + print (4C/S)
O	208	copy A (S)		403	copy + print (Bk/L)
O	209	local copy (total 1)		404	copy + print (Bk/S)
O	210	local copy (total 2)		405	copy + print (Bk 2)
O	211	local copy (L)		406	copy + print (Bk 1)
O	212	local copy (S)		407	copy + print (4C+Mono/L)
O	213	remote copy (total 1)		408	copy + print (4C+Mono/S)
O	214	remote copy (total 2)		409	copy + print (4C+Mono/2)
O	215	remote copy (L)		410	copy + print (4C+Mono/1)
O	216	remote copy (S)		411	copy + print (L)
	217	copy (4C1)		412	copy + print (S)
	218	copy (4C2)		413	copy + print (2)
	219	copy (Mono 1)		414	copy + print (1)
	220	copy (Mono 2)	O	501	scan (total 1) copy scan (total/4)
	221	copy (Bk 1)	O	502	scan (total 2)
	222	copy (Bk 2)	O	503	scan (L) copy scan (L/4)
	223	copy (4C/L)	O	504	scan (S) copy scan (S/4)
	224	copy (4C/S)		505	Bk scan (total 1) copy scan (Bk)
	225	copy (Mono/L)		506	Bk scan (total 2)
	226	copy (Mono/S)		507	Bk scan (L) copy scan (Bk/L)
	227	copy (Bk/L)		508	Bk scan (S) copy scan (Bk/S)
	228	copy (Bk/S)		509	color scan (total 1) copy scan (4C)
	229	copy (4C+Mono/L)		510	color scan (total 2)
	230	copy (4C+Mono/S)		511	color scan (L) copy scan (4C/L)
	231	copy (4C+Mono/2)	O	512	color scan (S) copy scan (4C/S)
	232	copy (4C+Mono/1)	O	513	copy scan (L)
	233	copy (4C/L/double-sided)	O	514	copy scan (S)
	234	copy (4C/S/double-sided)	O	515	copy scan (total)
	235	copy (Mono/L/double-sided)	O	601	box print (total 1)
	236	copy (Mono/S/double-sided)	O	602	box print (total 2)
	237	copy (Bk/L/double-sided)	O	603	box print (L)
	238	copy (Bk/S/double-sided)	O	604	box print (S)
O	301	print (total 1)	O	701	reception print (total 1)
O	302	print (total 2)	O	702	reception print (total 2)
O	303	print (L)	O	703	reception print (L)
O	304	print (S)	O	704	reception print (S)
O	305	print A (total 1)	O	801	report print (total 1)
O	306	print A (total 2)	O	802	report print (total 2)
O	308	print A (S)	O	803	report print (L)
	309	print (4C1)	O	804	report print (S)
	310	print (4C1)			

Table 3-09

Option (Cont'd)

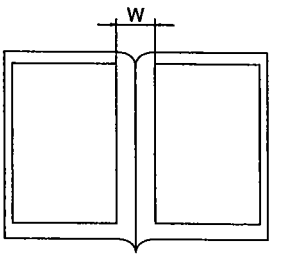
Level 2	Level 3	Indicates	Remarks
CST	U1-NAME U2-NAME U3-NAME U4-NAME	Use it to turn on/off the paper name indication when a paper size group (U1 to U4) is detected. Settings–0: OFF (touch panel indicates 'U1' through 'U4'; default); 1: ON (indicates paper name specified in CST-U1 through -U4)	
	CST-U1	Use it to specify paper names used for paper size group U1. Settings–31: G-LTR (default), 22: K-LGL	
	CST-U2	Use it to specify paper names used for paper size group U2. Settings–24: FOOLSCAP (default); 26: OFFICIO, 27: E-OFFI; 36: A-OFI, 37: M-OFI	
	CST-U3	Use it to specify paper names used for paper size group U3. Settings–34: G-LGL (default); 29: A-LTR; 25: A-FLS	
	CST-U4	Use it to specify paper names used for paper size group U4. Settings–18: LTR (default); 29: A-LTR	
	P-SZ-C1 P-SZ-C2	Use it to specify paper size used in the front deck (C1: right deck, C2: left deck). **Caution:** After electing the appropriate paper size, be sure to turn off and then on the main power switch. Settings–6: A4 (default); 15: B5; 18: LTR	
	P-SZ-C4	Use it to select a paper size for Cassette 4. **Caution:** • This mode is effective only for the 120/230-V model. • After electing the appropriate paper size, be sure to turn off and then on the main power switch. Settings–4: A3 (230-V model: default); 16: 11x17 (120-V model: default); See Table 3-10	
	C1-DWSW C2-DWSW DK-DWSW C3-DWSW C4-DWSW	Use it to turn on/off the thick paper control sequence. (C1: right deck, C2: left deck, C3/C4: cassette 3/4, DK: paper deck) Setting–0: OFF (default); 1: ON	

Code/Paper Names

Code	Notation	Name	Code	Notation	Name
01	A1	A1	21	LGL	LEGAL
02	A2	A2	22	K-LGL	Korean government
03	A3R	A3R	23	K-LGLR	Korean government R
04	A3	A3	24	FLSC	FOOLSCAP
05	A4R	A4R	25	A-FLS	Australian FOOLSCAP
06	A4	A4	26	OFI	OFFICIO
07	A5	A5	27	E-OFI	Ecuadorian OFFICIO
08	A5R	A5R	28	B-OFI	Bolivian OFFICIO
09	B1	B1	29	A-LTR	Argentine LETTER
10	B2	B2	30	A-LTRR	Argentine LETTERR
11	B3	B3	31	G-LTR	Government LETTER
12	B4R	B4R	32	G-LTRR	Government LETTERR
13	B4	B4	33	A-LGL	Argentine LEGAL
14	B5R	B5R	34	G-LGL	Government LEGAL
15	B5	B5	35	FOLI	FOLIO
16	11x17	11x17	36	A-OFI	Argentine OFFICIO
17	LTRR	LETTERR	37	M-OFI	Mexico OFFICIO
18	LTR	LETTER	38		
19	STMT	STATEMENT	39		
20	STMTR	STATEMENTR	40 A	LL	

Table 3-10

Option (Cont'd)

Level 2	Level 3	Indicates	Remarks
ACC	COIN	Use it to turn on/off the coin vendor indication. • The control card indicator used on the control panel may be used for the coin vendor. Settings–0: OFF (default); 1: ON (for count vendor)	Making Accessories-Related Settings.
	DK-P	Use it to set a paper of the optional PD-G1. **Caution:** After electing the appropriate paper size, be sure to turn off and then on the main power switch. Settings–0: A4 (default); 1: B5, 2: LTR	
TEMPO	F-POT-SW	Use it to turn on and off the setting if a transfer fault occurs because of a fault (error) in the potential sensor. • Use it as an emergency remedy until the potential sensor is replaced. Settings–0: OFF (default); 1: enables F-POT-D setting	Use it as an emergency remedy when the potential sensor or the environment sensor is faulty (out of order).
	F-POT-D	Use it if a transfer fault occurs because of a fault (error) in the potential sensor. • It is valid only when F-POT-SW is set to '1'. • The level of separation current is in the order of 0>1>2. Settings–0: for text-oriented users (originals with low image ratio);1: for photo-oriented users (originals with high image ratio); 2: not used usually; however, if re-transfer (white spot at 50 mm along leading edge) occurs	
	F-HUM-SW	Use it to turn on and off F-HUM-D if the environment sensor has a fault (error). • Use it as an emergency remedy until the environment sensor is replaced. Settings–0: OFF (default); 1: enables F-HUM-D	
	F-HUM-D	Use it to enter an approximate humidity level of the site of installation. • Uses the input humidity as the output of the humidity sensor. • Valid only if F-HUM-SW is set to '1'. Settings–30% to 99% (default: 35%)	
FEEDER	SIZE-SW	Use it to turn on/off the mixed size detection mechanism for AB and Inch series originals. Settings–0: disable (default); 1: enable	
SORTER	BLNK-SW	Use it to set the margin width (W) on both sides of the fold when the saddle stitcher is used. Settings–0: normal width (5 mm); 1: larger width (10 mm; default)  	

Option (Cont'd)

Level 2	Level 3	Indicates	Remarks
BOARD	MENU-1	Use it to enable level 1 indication for the printer settings menu. Settings–0: disable indication (default); 1: enable indication	
	MENU-2	Use it to enable level 2 indication for the printer settings menu. Settings–0: disable indication (default); 1: enable indication	
	MENU-3	Use it to enable level 3 indication of the printer settings menu. Settings–0: disable indication (default); 1: enable indication	
	MENU-4	Use it to enable level 4 indication for the printer settings menu. Settings–0: disable indication (default); 1: enable indication	
	RIP1-CHK	Use it to check the operation of the RIP1 board. Check the generated test print. If lines of 32 dots wide are found, the board is normal; otherwise, the board is faulty. Using the Mode 1) Select the mode item, and press the OK key. 2) The machine will generate a test print. 3) Check to find out if the generated test print has lines of 32 dots wide.	
	PI1-OFF	Use it to turn off the slot 1 function when the board inserted into the PCI slot 1 is out of order. Settings–0: normal (default); 1: OFF (board function not used)	
	PCI2-OFF	Use it to turn off the slot 2 function when the board inserted into the PCI slot 2 is out of order. Settings–0: normal (default); 1: OFF (board function not used)	
	PCI3-OFF	Use it to turn off the slot 3 functions when the board inserted into the PCI slot 3 is out of order. Settings–0: normal (default); 1: OFF (board function not used)	

Test Print Mode
The following screen appears in response to COPIER>TEST;
for the item details, see the pages that follow:

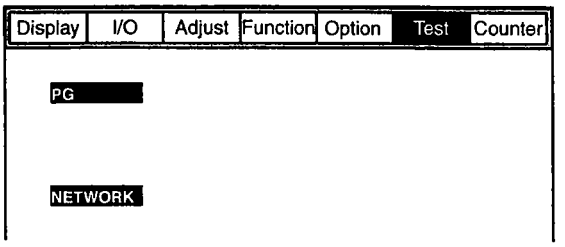


Figure 3-16

Test

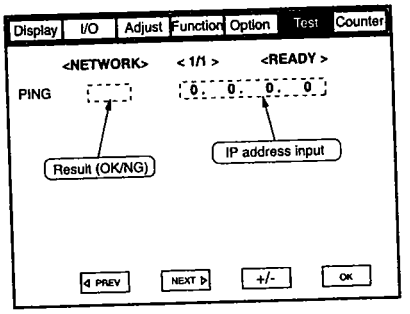
Level 2	Level 3	Indicates	Remarks
PG	TYPE	Enter the type number of the test print, and press the OK key to generate it. **Caution**: Check that the input returns to "00" after generating a test print. Settings: 00: normal print, 01 through 08: see Table 3-20	Use it to select the type of test print and generate it.
	TXPH	Use it to switch between text mode and photo mode during test printing. Settings: 0: text mode, 1: photo mode	
	PG-PICK	Use it to select the source of paper for test printing. Settings: 1: right deck (default); 2: left deck, 3: cassette 3, 4: cassette 4, 5 to 6: not used, 7: paper deck, 8: manual feed tray	

Type Input No./Test Print Type

Input No.	Type
00	Image form CCD (normal print)
01	Grid
02	17 gradations (w/ image correction)
03	17 gradations (w/o image correction)
04	Blank
05	Halftone
06	Solid black
07	Vertical straight lines
08	Horizontal straight lines

Table 3-11

Test (Cont'd)

Level 2	Level 3	Indicates	Remarks
NETWORK	PING	Use it to check the connection between the machine and the network (for TCP/IP environment only). **Caution**: Use this mode to check the connection to the network after installing the machine or when the connection to the network is found to be poor.  Using the Mode 1) Turn off the main power switch. 2) Connect the network cable to the machine, and turn on the main power switch. 3) Inform the user's system administrator that the machine has properly been installed, asking him/her to make the appropriate network settings. 4) Inform the system administrator that the network connection will be tested, and find out the remote host address (i.e., IP address of the PC terminal on the user network) for PING. 5) Make the following selections in service mode: COPIER>TEST>NETWORK>PING; then, enter the IP address obtained in Step 4), and press the OK key. • If the connection to the network is correct, 'OK' will be indicated. • If 'NG' is indicated, check the connection of the network cable; if correct, go to Step 6). If a fault is found in the connection of the network cable, correct the fault, and go to Step 5). 6) Make the following selections in service mode: COPIER>TEST>NETWORK>PING; then, enter the loop back address* (127.0.0.1), and press the OK key and then the Start key. • If 'NG' is indicated, the machine has a problem with the TCP/IP settings; go back to Step 3), and check the settings. • If 'OK' is indicated, the machine's TCP/IP settings may be considered to be free of a problem. However, the connection of the network interface board (NIC) or the NIC itself may have a problem. Go to Step 7) to make a check. *The address will be returned before it reaches the NIC, allowing a check on the machine's TCP/IP settings. 7) Make the following selections in service mode: COPIER>TEST>NETWORK>PING; then, enter the local host address (i.e., the machine's IP address), and press the OK key. • If 'NG' is indicated, the NIC connection or the NIC itself is faulty. Check the NIC connection or replace the NIC. • If 'OK' is indicated, the machine's network settings and NIC may be considered to be free of problems. However, the environment of the user network may be faulty. Report to the system administrator, and ask for correction.	Use it to check the connection related to the network.

3.13 Counter (Counter Mode)

Counter Mode

The following screen appears in response to COPIER>COUNTER; for the item details, see the pages that follow:

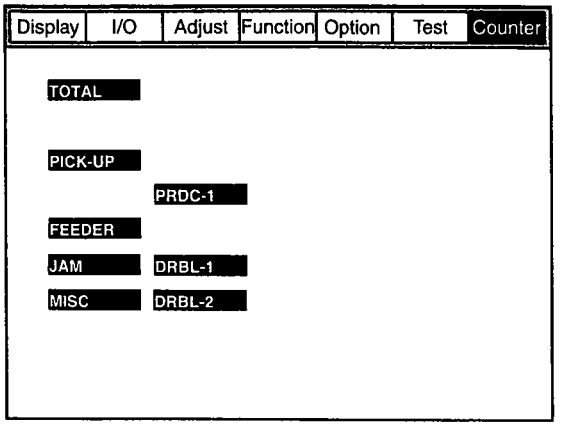


Figure 3-17

Clearing the Counter Reading

1) Select the item to clear (to highlight).
2) Press the Clear key on the control panel.
   - The counter will be cleared, and will return to '00000000'.

Small Size and large Size in the Mode

Large size (L): Larger than A4 or LTR
Small size (S): A4 or LTR or smaller

Guide to Consumables Counter

The machine is equipped with consumables counters (PRDC-1, DRBL-1, DRBL-2), providing references for parts replaced on a periodical basis or parts requiring replacement.

EX.

PRM-WIRE / 00000027 / 00500000 / 0% !! 000082
[1] [2] [3] [4] [5] [6]

[1] Indicates the name of the part. In the case of the example, the primary charging wire.
[2] Indicates the counter reading (number of actual sheets handled); clear it by pressing the Clear key after replacing the part.
[3] Indicates the limit setting (guide to replacement); the setting may be changed by selecting the image and using the keypad (thereafter, press the OK key).
[4] Indicates the ratio of counter readings to limit levels.
[5] A single exclamation mark (!) will be indicated between 90% and 100%; two marks at 100% or higher; otherwise, no mark.
[6] Indicates an estimated number of days to replacement; in the case of the example, 82 days.

Counter

Level 2	Level 3	Indicates	Remarks
TOTAL	SERVICE1	Total counter 1 for servicing	
	SERVICE 2	Total counter 2 for servicing	
	COPY	Copy counter	
	PDL-PRT	Print counter	
	BOX-PRT	Box print counter	
	PMT-PRT	Remote copy/print counter	
	FAX-PRT	Fax reception print counter	
	RPT-PRT	Report print counter	
	2-SIDE	Double-sided print counter	
	SCAN	Scanner counter	
PICK-UP	C1	Right front deck (cassette 1) pickup counter	
	C2	Left front deck (cassette 2) pickup counter	
	C3	Cassette 3 pickup counter	
	C4	Cassette 4 pickup counter	
	MF	Manual feed tray pickup counter	
	DK	Paper deck pickup counter	
	2-SIDE	Duplexing 2nd side pickup counter	
FEEDER	FEED	Feeder pickup total counter	
JAM	TOTAL	Machine total jam counter	
	FEEDER	Feeder (ADF) jam counter	
	SORTER	Sorter (finisher) jam counter	
	2-SIDE	Duplexing assembly jam counter	
	MF	Manual feed tray jam counter	
	C1	Right front deck (cassette 1) jam counter	
	C2	Left front deck (cassette 3) jam counter	
	C3	Cassette 3 jam counter	
	C4	Cassette 4 jam counter	
	DK	Paper deck jam counter	
MISC	FIX-WEB	Fixing web counter (Be sure to reset after replacing the fixing web.)	When FIX-WEB counts up to <2000>, <E005> will be indicated.
	WST-NR	Waste toner counter (Be sure to reset after disposing of the waste toner.)	
PRDC-1	PRM-WIRE	Primary charging wire counter	
	PRM-GRID	Primary grid wire counter	
	PO-WIRE	Pre-transfer (post-) charging wire counter	
	TR-WIRE	Transfer charging wire counter	
	SP-WIRE	Separation charging wire counter	
	FIX-TH1	Fixing main thermistor (TH1) counter	
	FIX-TH2	Fixing sub thermistor (TH2) counter	
	FX-TSW	Fixing thermal switch (TP1) counter	
	PRM-CLN	Primary charging wire cleaner counter	
	TR-CLN	Transfer charging wire cleaner counter	
	PO-CLN	Pre-transfer charging wire cleaner counter	
	SP-CLN	Separation charging wire cleaner counter	
	OZ-FIL3	Ozone filter (FM3) counter	

Counter (Cont'd)

Level 2	Level 3	Indicates	Remarks
DRBL-1	PRM-UNIT	Primary charging assembly counter	
	PO-UNIT	Pre-transfer charging assembly counter	
	PO-SCRPR	Pre-transfer (post-) charging assembly scraper counter	
	T/S-UNIT	Transfer/separation charging assembly counter	
	CLN-BLD	Cleaner blade counter	
	SP-CLAW	Cleaner separation claw counter	
	DVG-CYL	Developing cylinder counter	
	DVG-ROLL	Developing assembly roll counter	
	C3-PU-RL	Cassette 3 pickup roller counter	
	C3-SP-RL	Cassette 3 separation roller counter	
	C3-FD-RL	Cassette 3 feed roller counter	
	C4-PU-RL	Cassette 4 pickup roller counter	
	C4-SP-RL	Cassette 4 separation roller counter	
	C4-FD-RL	Cassette 4 feed roller counter	
	LD-PU-RL	Left front deck pickup roller counter	
	LD-SP-RL	Left front deck separation roller counter	
	LD-FD-RL	Left front deck feed roller counter	
	RD-SP-RL	Right front deck separation roller counter	
	RD-PU-RL	Right front deck pickup roller counter	
	RD-FD-RL	Right front deck feed roller counter	
	M-SP-RL	Manual feed separation roller counter	
	M-FD-RL	Manual feed roller counter	
	M-PO-RL	Manual feed pull-off roller counter	
	FX-UP-RL	Upper fixing roller counter	
	FX-LW-RL	Lower riding roller counter	
	FX-IN-BS	Fixing insulating bush counter	
	FX-WEB	Fixing web counter (Be sure to reset after replacing the fixing web.) The limit of FX-WEB is set to 300,000.	
	DLV-UCLW	Delivery upper separation claw counter	
	DLV-LCLW	Delivery lower separation claw counter	
DRBL-2	DF-PU-RL	ADF pickup roller counter	
	DF-SP-PL	ADF separation plate counter	
	DF-SP-PD	ADF separation pad counter	
	DF-FD-RL	ADF feed roller counter	
	LNT-TAPE	ADF dust-collecting tape counter	
	PD-PU-RL	Paper deck pickup roller counter	
	PD-SP-RL	Paper deck separation roller counter	
	PD-FD-RL	Paper deck feed roller counter	
	FIN-STPR	Finisher stapler counter	
	FIN-FDBL	Finisher feed belt counter	
	FIN-PDDL	Finisher paddle counter	
	SDL-STPL	Saddle staple counter	
	PUNCH	Punch counter	
	PNCH-HRS	Punch harness counter	

4. ELECTRICAL PARTS LOCATOR

Clutches

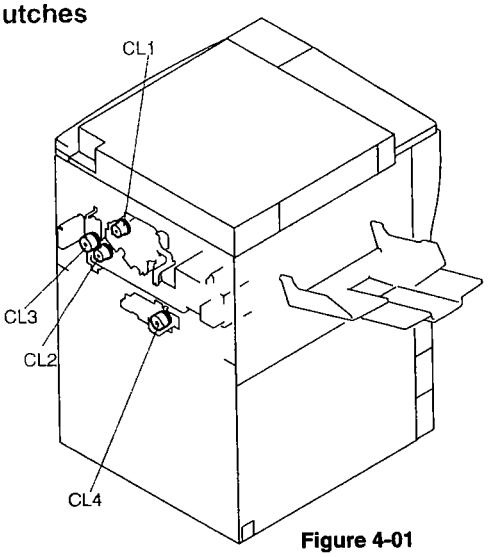


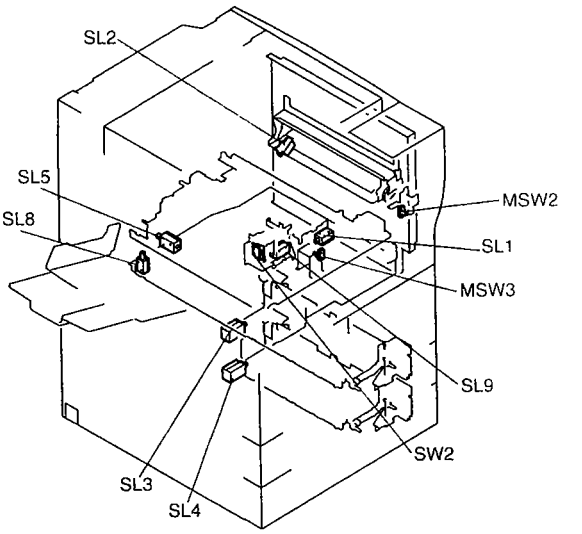
Figure 4-01

A. Reader Unit
The reader unit does not have a clutch.

B. Printer Unit

CL	Clutches
CL1	Drives the developing cylinder
CL2	Drives the registration roller
CL3	Drives the manual feed pickup roller
CL4	Drives the left deck pull-off roller

Solenoids and Switches



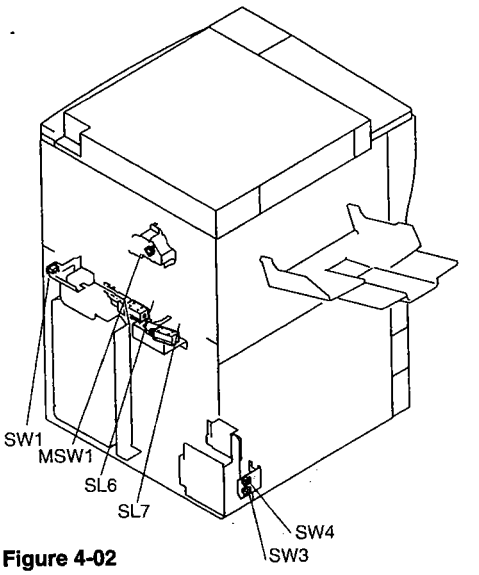
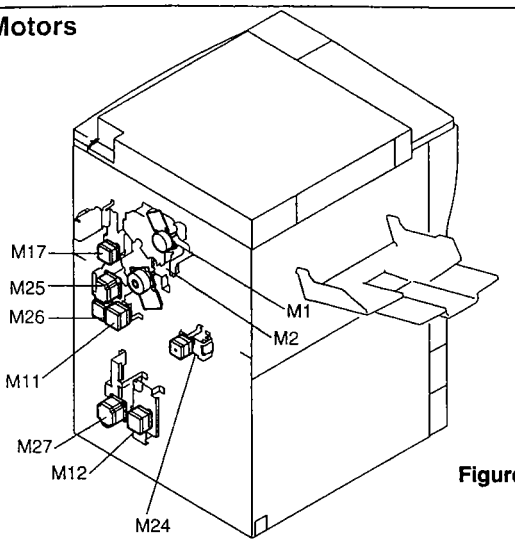


Figure 4-02

SL	Solenoids and Switches
SL1	Drives the fixing assembly inlet guide
SL2	Drives the manual feed pickup mechanism
SL3	Drives Cassette 3 pickup mechanism
SL4	Drives Cassette 4 pickup mechanism
SL5	Drives the delivery flapper
SL6	Drives the right deck pickup mechanism
SL7	Drives the left deck pickup mechanism
SL8	Drives the reversing flapper
SL9	Drives the fixing web
SW1	Main power switch
SW2	Front cover switch
SW3	Environment switch
SW4	Cassette heater switch
MSW1	Detects the state (locked) of the waste toner screw
MSW2	Detects the state (open/closed) of the manual feed tray cover detection
MSW3	Detects the attachment/detachment of the fixing/feeding unit

Motors



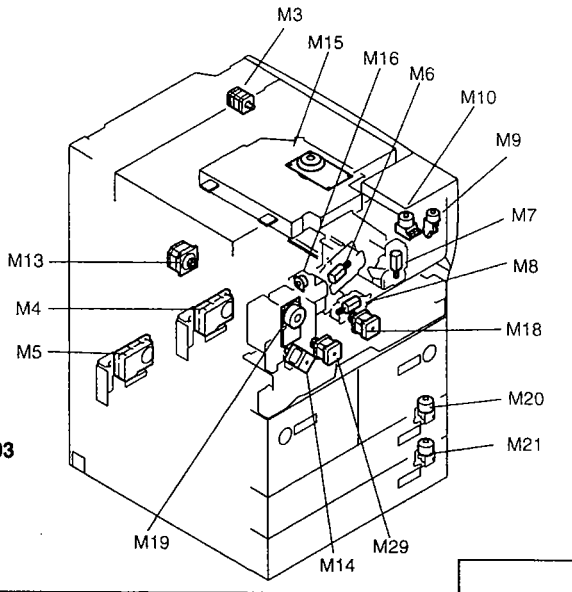
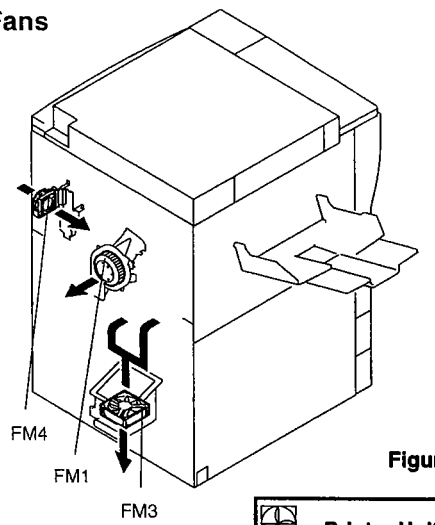


Figure 4-03

	Motors Reader and Printer Unit		
M1	Drum motor	M14	Reversal motor
M2	Main motor	M15	Laser scanner motor
M3	Scanner motor (Reader Unit)	M16	Duplex horizontal registration motor
M4	Left deck lifter motor	M17	Pre-registration motor
M5	Right deck lifter motor	M18	Duplex feeding right motor
M6	Primary charging wire cleaning motor	M19	Fixing motor
M7	Pre-transfer charging wire cleaning motor	M20	Cassette 3 lifter motor
M8	Transfer/separation charging wire cleaning motor	M21	Cassette 4 lifter motor
M9	Hopper stirring motor	M24	Left deck pickup motor
M10	Hopper supply motor	M25	Vertical path duplex feeding motor
M11	Right deck pickup motor	M26	Vertical path upper motor
M12	Cassette 3/4 pickup motor	M27	Vertical path lower motor
M13	Delivery motor	M29	Duplex feeding left motor

Fans



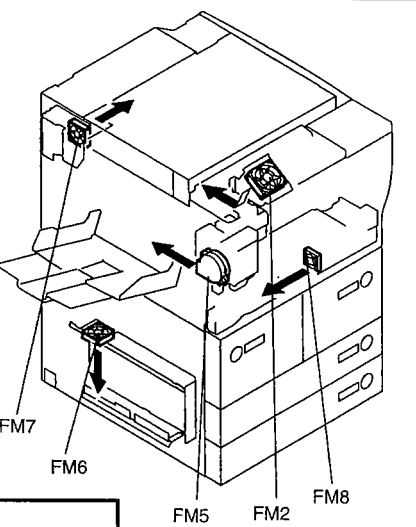
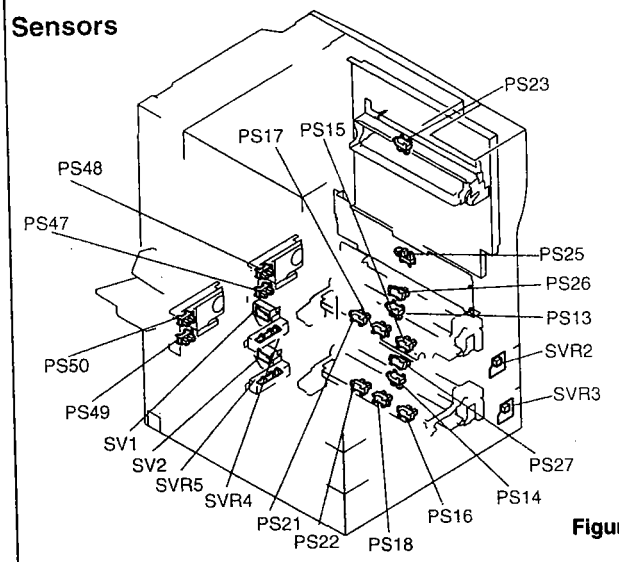


Figure 4-04

	Printer Unit Fans
FM1	Feeding fan
FM2	Primary charging cooling fan
FM3	Heat discharging fan
FM4	Controller cooling fan
FM5	De-curling fan
FM6	DC power supply fan
FM7	HDD fan
FM8	Duplex feeding fan

Sensors



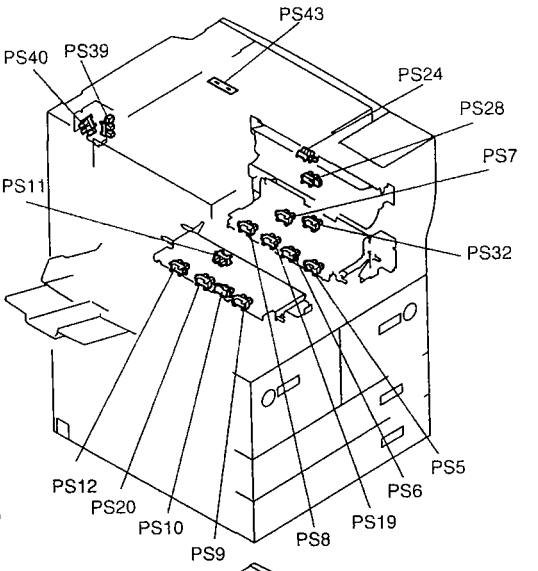
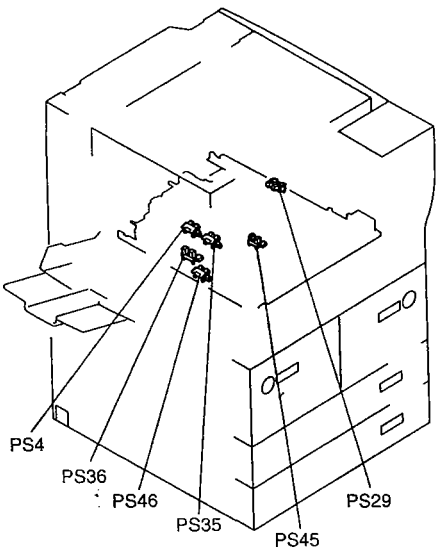


Figure 4-05



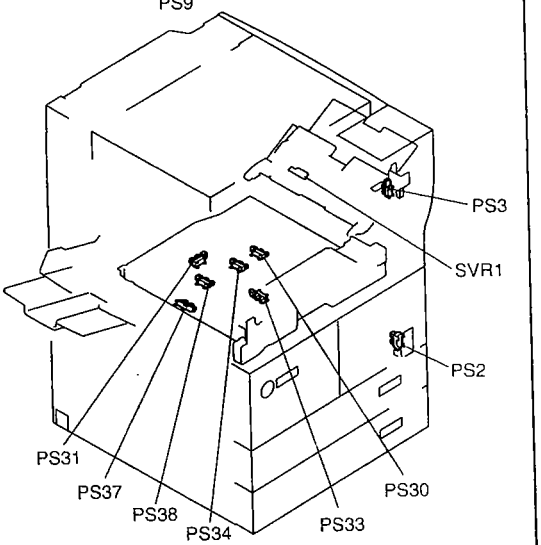


Figure 4-06

Sensors	
PS2 Right lower cover open/closed sensor	PS30 Duplex pre-registration sensor
PS3 Manual feed tray open/closed sensor	PS31 Duplex horizontal registration sensor
PS4 Claw jam sensor	PS32 Right deck feed paper sensor
PS5 Right deck open/closed sensor	PS33 Left deck feed paper sensor
PS6 Right deck lifter sensor	PS34 Duplexing paper sensor
PS7 Right deck paper sensor	PS35 Internal delivery sensor
PS8 Right deck limit sensor	PS36 External delivery sensor
PS9 Left deck open/closed sensor	PS37 Reversal sensor 1
PS10 Left deck lifter sensor	PS38 Reversal sensor 2
PS11 Left deck paper sensor	PS39 Scanner HP sensor (Reader Unit)
PS12 Left deck limit sensor	PS40 Copyboard cover sensor (Reader Unit)
PS13 Cassette 3 paper sensor	PS43 Original sensor (Reader Unit)
PS14 Cassette 4 paper sensor	PS45 Fixing web length sensor
PS15 Cassette 3 open/closed sensor	PS46 Delivery jam sensor
PS16 Cassette 4 open/closed sensor	PS47 Right deck level sensor (upper)
PS17 Cassette 3 lifter sensor	PS48 Right deck level sensor (lower)
PS18 Cassette 4 lifter sensor	PS49 Left deck level sensor (upper)
PS19 Right deck re-try sensor	PS50 Left deck level sensor (lower)
PS20 Left deck re-try sensor	SV1 Detects the length of paper in Cassette 4 (100-V model only)
PS21 Cassette 3 re-try sensor	SV2 Detects the length of paper in Cassette 3
PS22 Cassette 4 re-try sensor	SVR1 Detects the width of paper on the manual feed tray.
PS23 Manual feed paper sensor	SVR2 Detects the level of paper in Cassette 3
PS24 Vertical path 1 paper sensor	SVR3 Detects the level of paper in Cassette 4
PS25 Vertical path 2 paper sensor	SVR4 Detects the width of paper in Cassette 3
PS26 Vertical path 3 paper sensor	SVR5 Detects the width of paper in Cassette 4 (100-V model only)
PS27 Vertical path 4 paper sensor	
PS28 Laser write start sensor	
PS29 Registration paper sensor	

Lamps, Heaters and Misc.

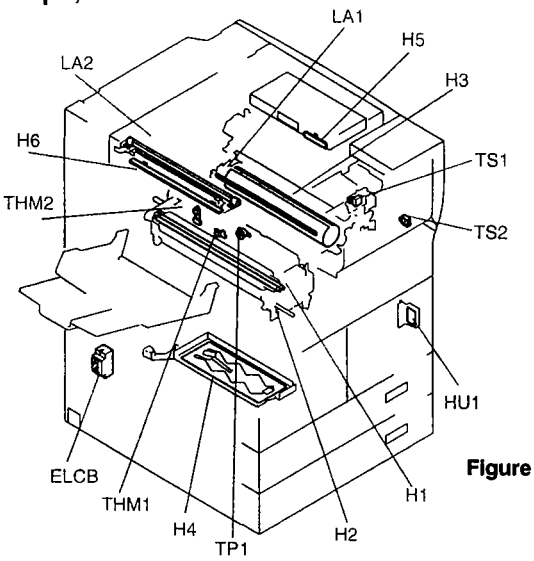


Figure 4-07

Lamps, Heaters and Misc.	
LA1	Pre-exposure lamp (LED)
LA2	Scanning lamp (Reader Unit)
H1	Fixing main heater
H2	Fixing sub heater
H3	Drum heater
H4	Cassette heater (standard in 100-V model)
H5	Lens heater (standard in 100-V model) (Reader Unit)
H6	Mirror heater (standard in 100-V model) (Reader Unit)
TH1	Fixing heater main thermistor
TH2	Fixing heater sub thermistor (ends)
TP1	Fixing heater thermal switch
ELCB	Leakage breaker ELCB Leakage breaker
TS1	Developing assembly toner sensor
TS2	Hopper toner sensor
HUM1	Temperature/humidity sensor (machine internal temperature sensor)

Table 4-01

PCBs

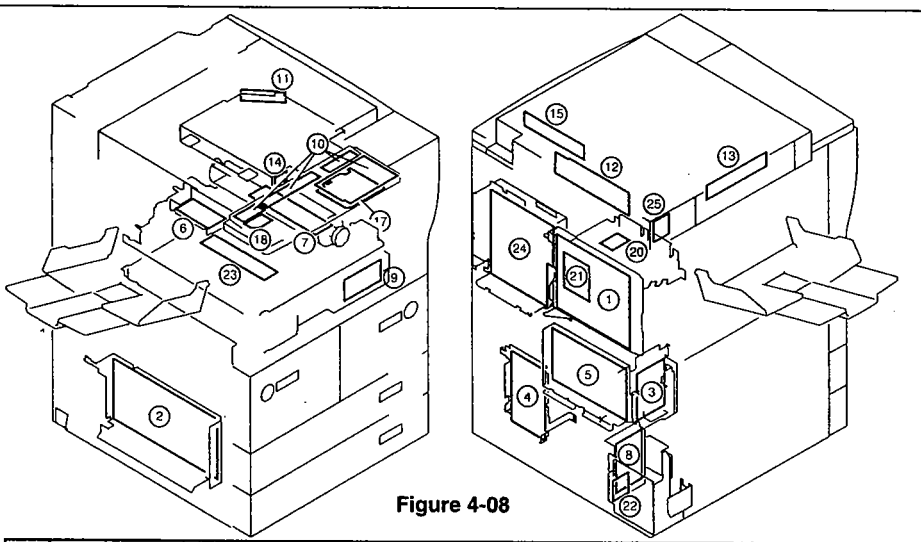


Figure 4-08

ID	Name	Function
1	DC controller PCB	Controls the power supply of the printer unit/finisher.
2	DC power supply	Supplies DC power.
3	AC driver PCB	Controls the AC circuit.
4	Motor driver PCB	Controls the motor.
5	HVT PCB	Generates high-voltage.
6	Potential control PCB	Controls the surface potential of the photosensitive drum.
7	Drum heater control PCB	Controls the drum heater.
8	Accessories power supply PCB	Supplies power to the finisher.
9	Duplex driver PCB	Controls the sensor, motor, and solenoid of the duplex unit.
10	Control panel PCB	Controls the keys and LEDs.
11	Laser driver PCB	Controls the laser drive.
12	Reader controller PCB (Reader Unit)	Controls the reader unit/ADF.
13	CCD/AP PCB (Reader Unit)	Drives the CCD/processes analog images.
14	BD PCB	Detects the laser beam.
15	Inverter PCB (Reader Unit)	Controls scanning lamp.
17	Control panel CPU PCB	Controls the control panel.
18	LCD contrast adjustment	Adjusts the contrast of the control panel.
20	Serial number PCB	Controls the serial number.
21	Anti-rush current PCB	Prevents rush current in the fixing/feeding assembly and the duplex unit.
22	Capacitor PCB Removes noise.	Removes noise.
23	Fixing/feeding relay PCB	Relays signals of sensors and motors of the fixing/feeding unit.
24	Main controller PCB	Processes digital images/controls the system.
25	Fuse PCB (Reader Unit)	Controls the mirror/lens heaters. (standard in 100-V model)

Table 4-02

4.1 Variable Resistors (VR), Light-Emitting Diodes (LED), and Check Pins by PCB

Of the VRs, LEDs and switches found on the machine, those in the field are discussed:

Caution:

1. Some LEDs have leakage current and emit dim light when off; this is a normal condition and must b kept in mind:
2. VRs that may be used in the field:
3. VRs that must not be used in the field:

Caution:
Any VR and check pin not found in this list is for use at the factory, requiring special tools and high accuracy. Do not touch them in the field.

DC Controller PCB

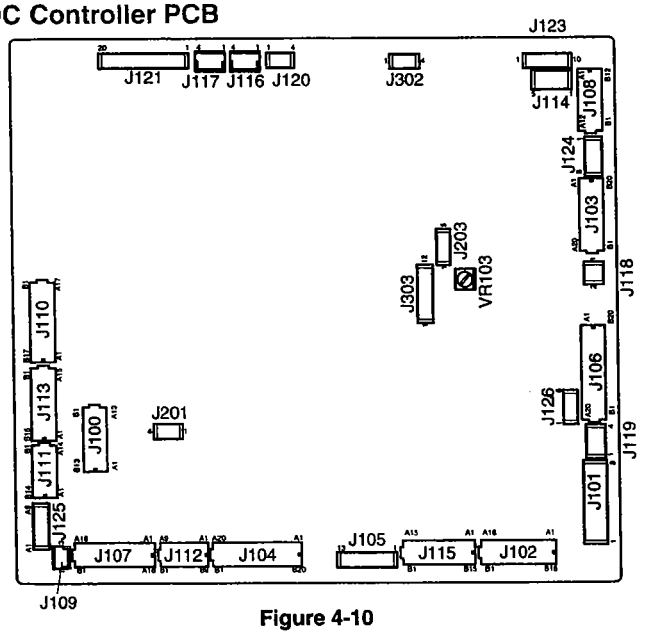


Figure 4-10

Main Controller PCB

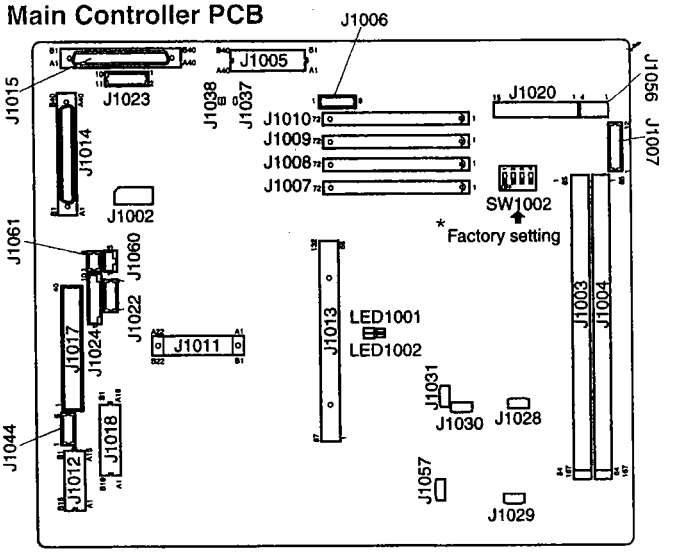


Figure 4-09

*The DIP switch (SW1002) is for factory use only.

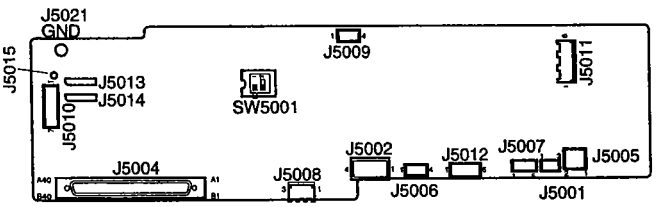
The shorting connectors of J303 are set as follows; be sure to transfer the shorting connectors to the new PCB upon replacement:

J303-	100V	120V	230V
1		○	○
2			
3	○		○
4			
5	○	○	
6			
7			
...			
12			

○ :shorted by a jumper wire.

Figure 4-11

Reader Controller PCB



	SW5001-1	SW5001-2
ON:	Inch series.	Not used.
OFF:	AB series	Not used.

Figure 4-12

Power Supply PCB

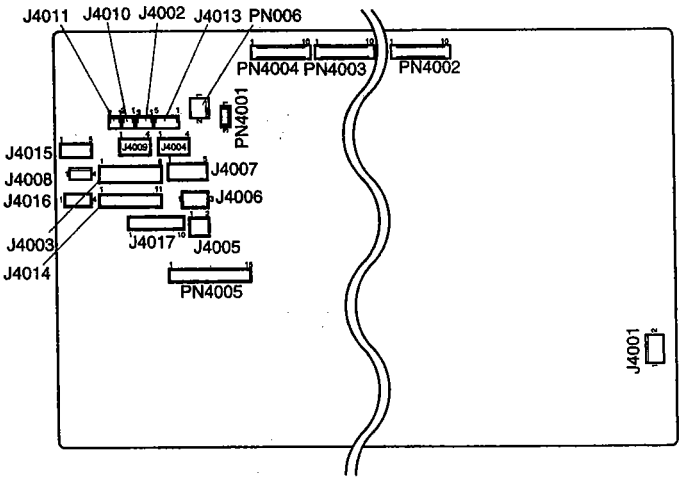


Figure 4-13

HVT PCB

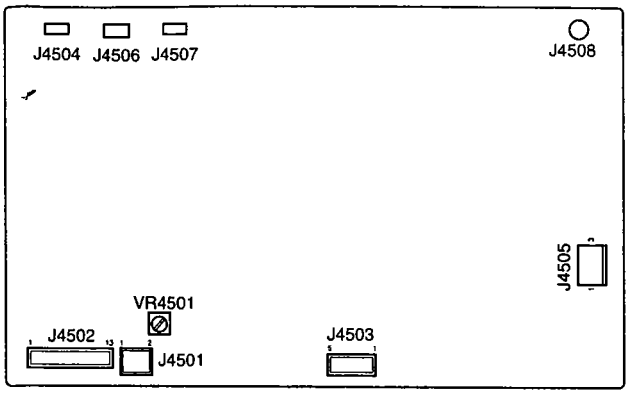


Figure 4-14

Drum Heater

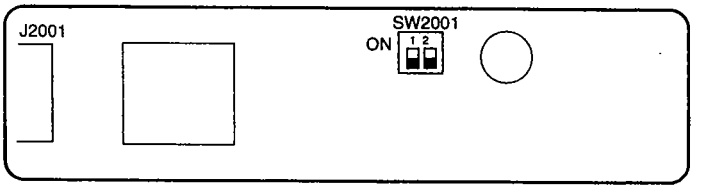


Figure 4-15

	SW2001-1	SW2001-2
ON:	controlled to 47°C (default)	Not used.
OFF:	controlled to 43°C (default)	Not used.

PCB and Assembly Replacement Cautions

When Replacing the CCD Unit

1) Replace the CCD unit.
2) After assembling the machine, connect the power plug to the power outlet, and turn on the main power switch.
3) Execute the following modes:
   - CCD auto adjustment: COPIER>FUNCTION>CCD>CCD-ADJ
   - CCD edge gain correction position auto adjustment: COPIER>FUNCTION>CCD>EGGN-POS
4) When the following data is updated (automatically), record them on the service label: COPIER>ADJUST>CCD>all items

When Replacing the Main Controller PCB

1) Replace the main controller PCB.
2) Remove the counter memory PCB from the existing PCB, and mount it to the new PCB.
3) After assembling the machine, connect the power plug to the power outlet, and turn on the main power switch.

When Replacing the DC Controller PCB

1) Print out the data of user mode/service mode.
2) Replace the DC controller PCB.
3) Remove the EEPROMs (6 pc.) from the existing PCB, and mount them to the new PCB.
4) After assembling the machine, connect the power plug to the power outlet, and turn on the main power switch.
5) Enter the values recorded on the label attached to the new DC controller PCB in service mode:
   - COPIER>ADJUST>DEVELOP>D-HV-DE
   - COPIER>ADJUST>HV-TR>D-PRE-TR
   - COPIER>ADJUST>HV-TR>D-HV-TR
   - COPIER>ADJUST>HV-SP>D-HV-SP
6) Check to make sure that the following service mode settings are the same as the data obtained before replacing the PCB:
   - COPIER>ADJUST>LASER>(all items)
   - COPIER>ADJUST>DEVELOP>(all items except D-HV-DE)
   - COPIER>ADJUST>DENS>(all items)
   - COPIER>ADJUST>BLANK>(all items)
   - COPIER>ADJUST>V-CONT>(all items)
   - COPIER>ADJUST>HV-PRI>(all items)
   - COPIER>ADJUST>HV-TR>(all items except D-PRE-TR and D-HV-TR)
   - COPIER>ADJUST>HV-SP>(all items except D-HV-SP)
   - COPIER>ADJUST>FEED-ADJ>(all items)
   - COPIER>ADJUST>CST-ADJ>(all items)
   - COPIER>ADJUST>MISC>(all items)

If a fault is found in the service mode settings, enter the respective setting recorded on the service label in service mode; however, enter the settings recorded on the label attached to the high-voltage unit for the following service mode items:
   - COPIER>ADJUST>DEVELOP>HVT-DE
   - COPIER>ADJUST>HV-TR>HVT-TR
   - COPIER>ADJUST>HV-TR>H-PRE-TR
   - COPIER>ADJUST>HV-SP>HVT-SP

When Replacing the Reader Controller PCB

1) Print out the data of user mode/service mode.
2) Replace the reader controller PCB.
3) Remove the EEPROM (1 pc.) from the existing PCB, and mount it to the new PCB.
4) After assembling the machine, connect the power plug to the power outlet, and turn on the main power switch.
5) Check to make sure that the following service mode settings are the same as the data before replacement:
   - COPIER>ADJUST>AE>all items
   - COPIER>ADJUST>ADJ-XY>all items
   - COPIER>ADJUST>CCD>all items

If any service mode setting is faulty, enter the respective setting recorded on the service label in service mode.

When Replacing the HD Unit

Caution: When replacing the HDD unit, be sure to keep the following in mind:
1. Take appropriate measures against static charges.
2. Keep the HDD unit protected from impact.

1) Replace the HDD unit.
2) After assembling the machine, connect the power plug to the power outlet.
3) Connect a PC to which the Service Support Tool has been installed.
4) Turn on the PC, and turn on the main power switch while holding down both '2' and '8' on the keypad.
5) Using the Service Support Tool, format the HDD unit and install the system software.

When Replacing the High-Voltage PCB

1) Replace the high-voltage PCB.
2) After assembling the machine, connect the power plug, and turn on the main power switch.
3) Enter the values recorded on the label attached to the new high-voltage PCB in the following service mode items:
   - COPIER>ADJUST>DEVELOP>HVT-DE
   - COPIER>ADJUST>HV-TR>HVT-TR
   - COPIER>ADJUST>HV-TR>H-PRE-TR
   - COPIER>ADJUST>HV-SP>HVT-SP

When Replacing the Following Items:

- Scanning Lamp
- Scanner Unit
- White Plate (Copyboard Glass)
- CCD/AP PCB
- Control Unit
- Fixing Web
- Inverter PCB

See the Service Manual for replacement details.

Connectors

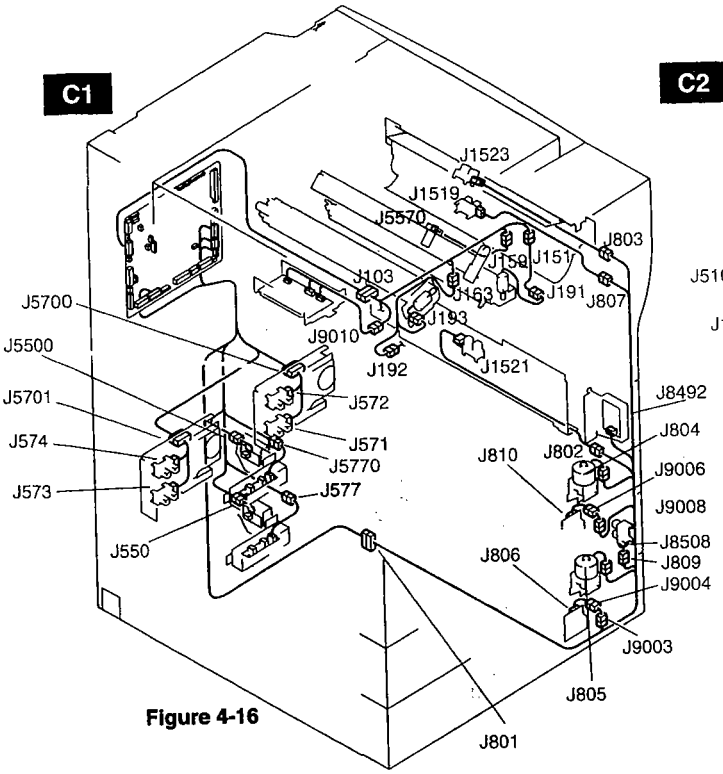


Figure 4-16

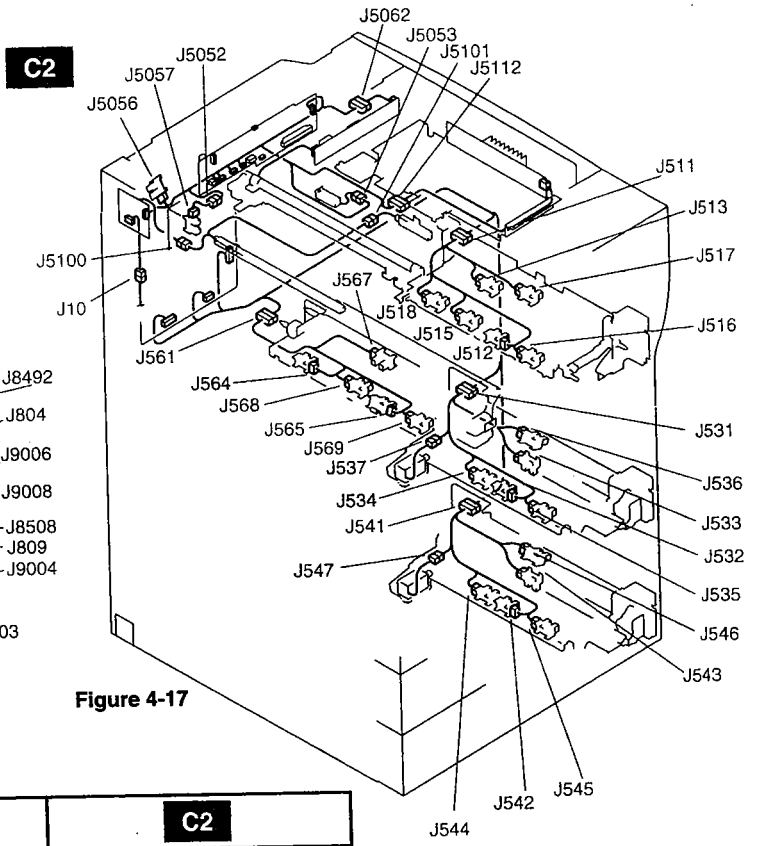


Figure 4-17

C1	C2
J103, 151, 159, 163, 191, 192, 193, 550, 571, 572, 573, 574, 577, 801, 802, 803, 804, 805, 806, 807, 809, 810, 1519, 1521, 1523, 5500, 5570, 5700, 5701, 5770, 8492, 8508, 9003, 9004, 9006, 9008, 9010	J10, 511, 512, 513, 515, 516, 517, 518, 531, 532, 533, 534, 535, 536, 537, 541, 542, 543, 544, 545, 546, 547, 561, 564, 565, 567, 568, 569, 5052, 5053, 5056, 5057, 5062, 5100, 5101, 5112

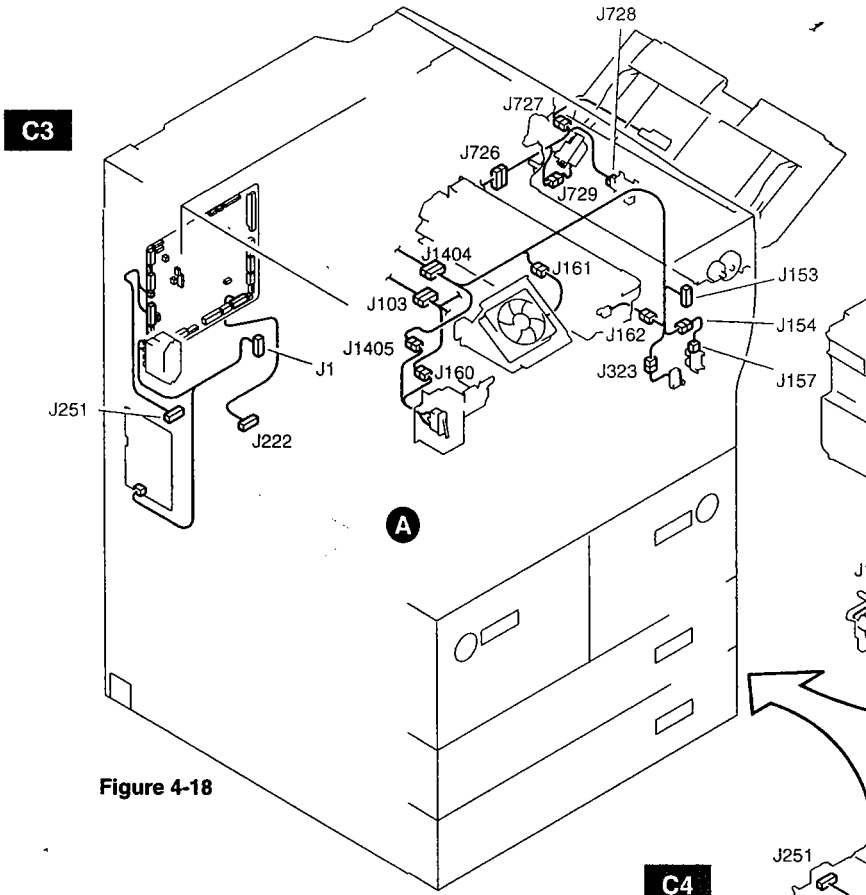


Figure 4-18

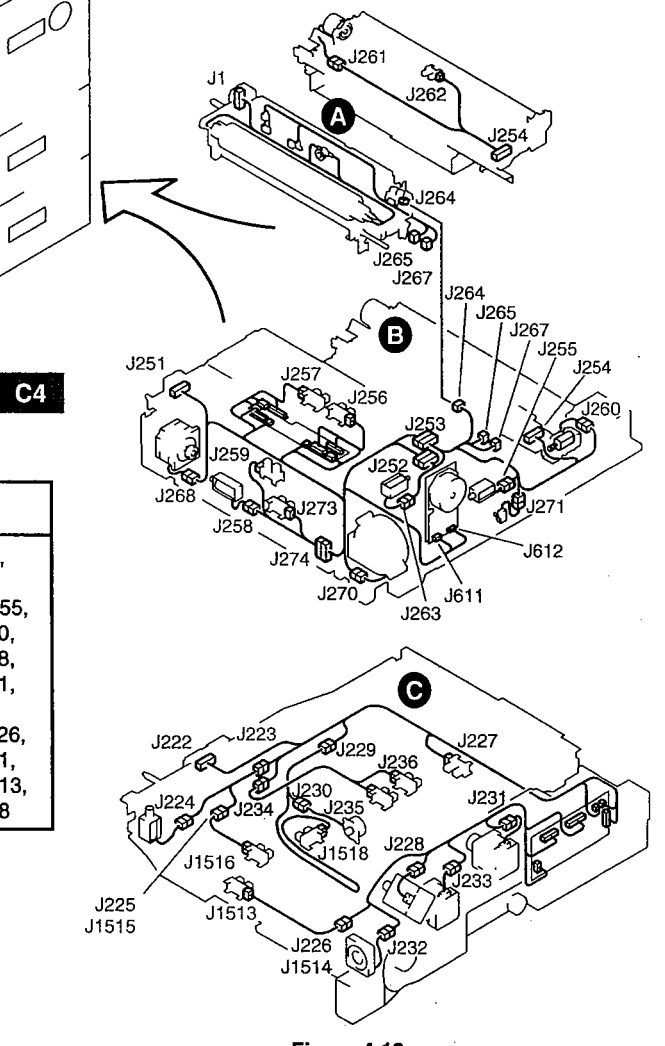


Figure 4-19

C3	C4
A: J1, 103, 153, 154, 157, 160, 162, 222, 251, 323, 726, 727, 728, 729 **B:** J153, 155, 156, 158	**A:** J1, 254, 261, 262, 264, 265, 267 **B:** J251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 263, 264, 265, 267, 268, 270, 271, 273, 274, 611, 612 **C:** J222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 235, 236, 1513, 1514, 1515, 1516, 1518

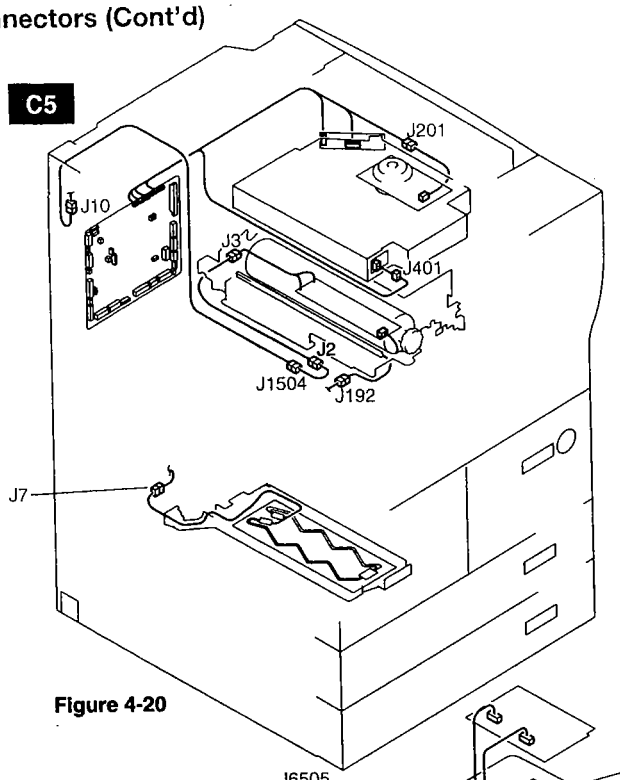


Figure 4-20

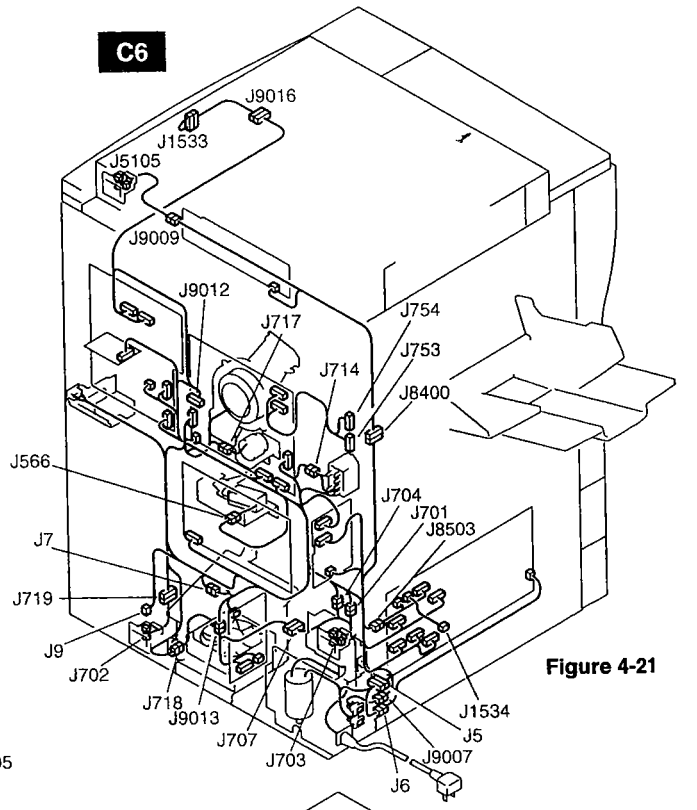


Figure 4-21

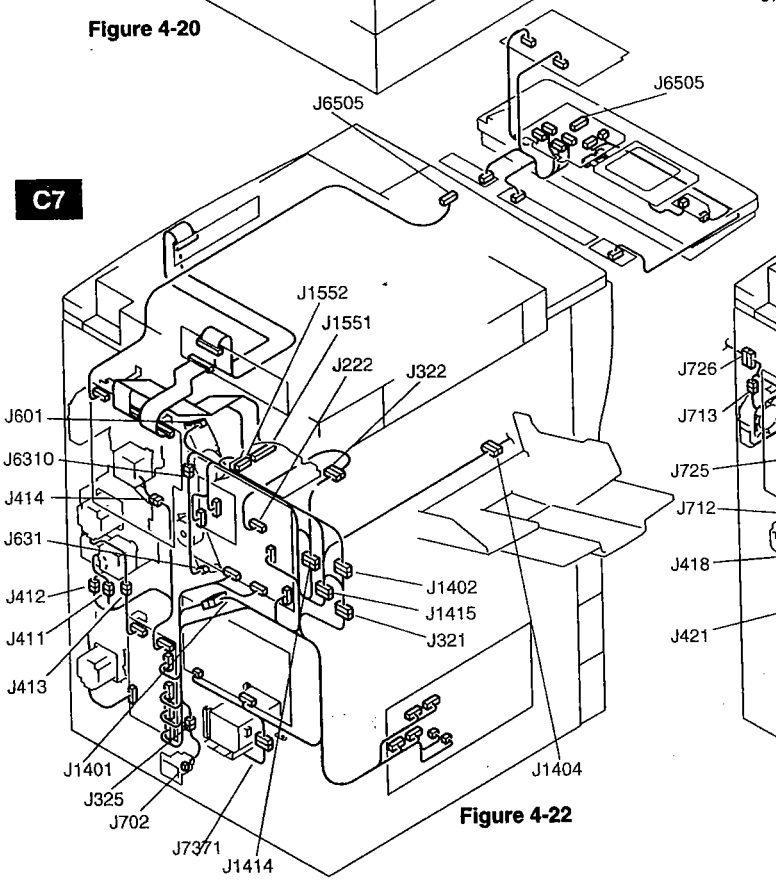


Figure 4-22

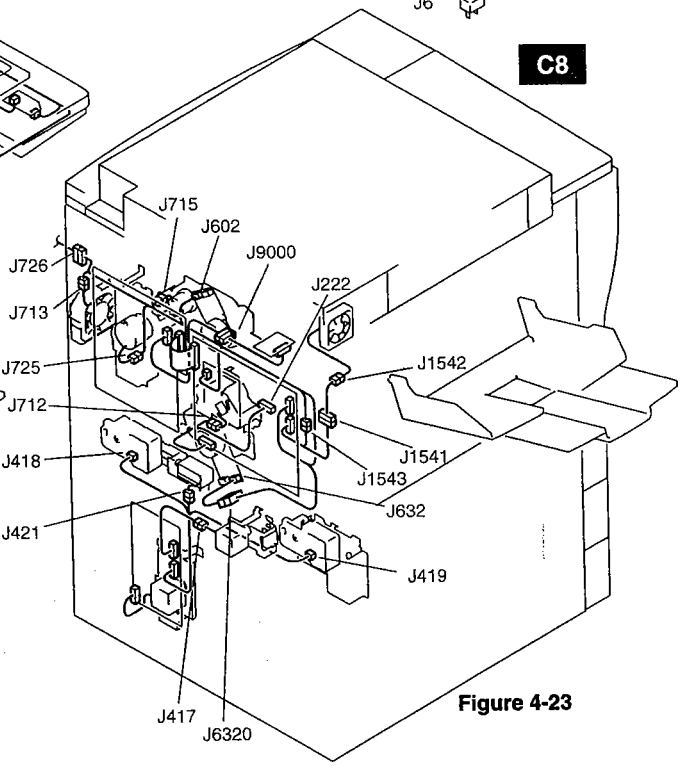


Figure 4-23

C5	C6	C7	C8
J2, 7, 10, 32, 192, 201, 401, 1504	J5, 6, 7, 9, 566, 701, 702, 703, 704, 707, 714, 717, 718, 719, 753, 754, 5105, 8400, 8503, 9007, 9009, 9012, 9013, 9016, 1533, 1534	J222, 321, 322, 325, 411, 412, 413, 414, 601, 631, 702, 1401, 1402, 1404, 1414, 1415, 1551, 1552, 6310, 6505, 7371,	J222, 417, 418, 419, 421, 602, 632, 712, 713, 715, 725, 726, 1541, 1542, 1543, 6320, 9000

5. IMAGE ADJUSTMENT BASIC PROCEDURE

Making Pre-Checks

<Pre-Checks>

Clean the following:
1. Primary charging assembly grid wire
2. Primary charging wire
3. Pre-transfer charging wire
4. Transfer charging wire

Check the following:
1. Height of charging wire

◆If a fault is found on copy images,

Using the NA3 Chart, make two copies each in the following modes:
1. AE mode
2. Text mode
3. Text/photo mode

Generate several of the following test sheets:
1. 04 (blank)
2. 05 (halftone)
3. 06 (solid black)

Output Conditions
- ■ F value=5
- ■ potential control: ON

Are the test prints normal?

NO → Perform 2. "Making Checks on the Printer Unit."

YES → Perform 4. "Making Checks on the Reader Unit."

◆If a fault is found on printer images,

Generate several each of the following printer (PDL) images
1. Image with large background (to check for fogging)
2. Image including solid black (to check solid black density)
3. Image including halftone (to check halftone density)

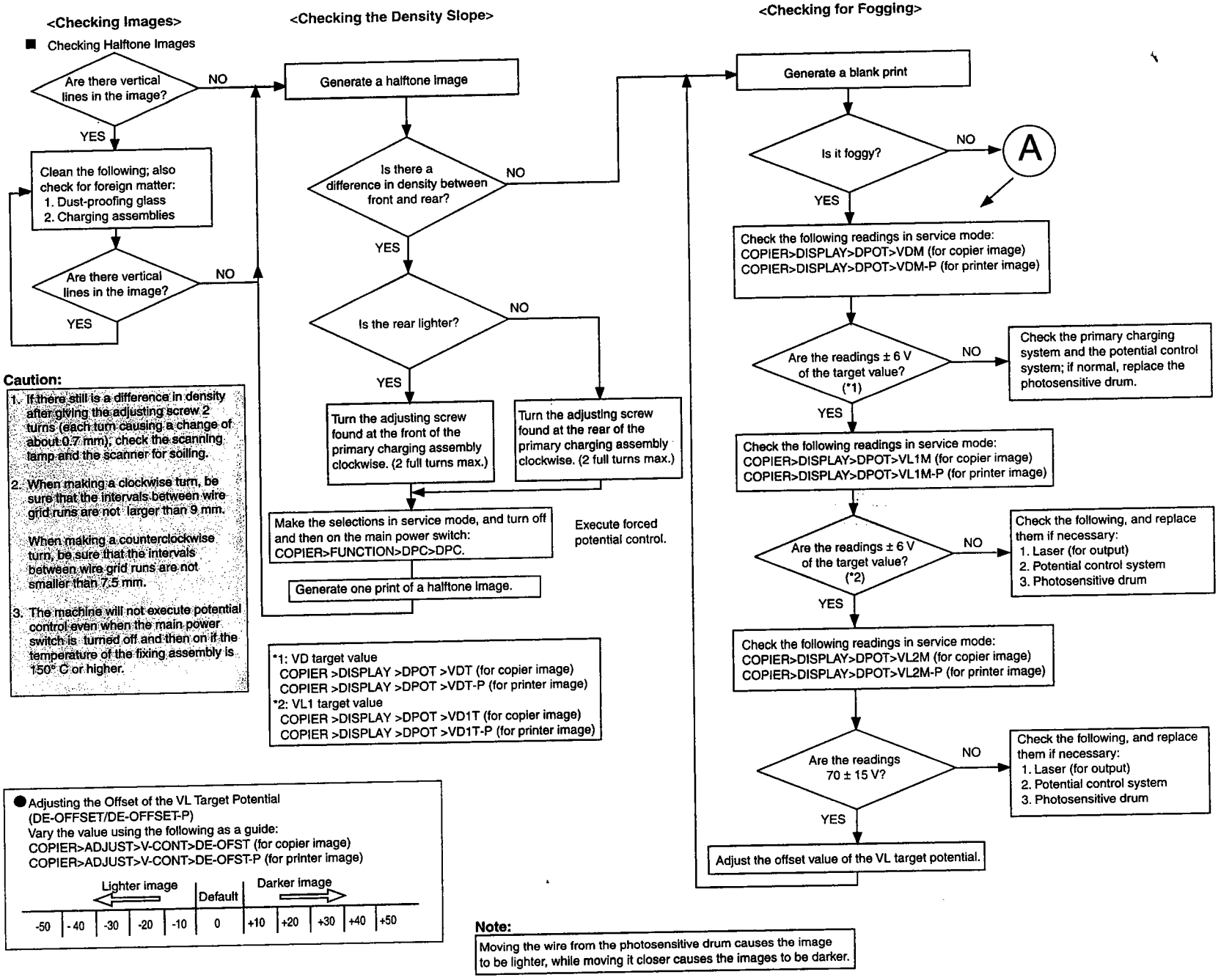
Caution:

Points to Note When Making Checks on the Printer Side

The machine's potential control mechanism is designed for both copier image output and printer (PDL) image output, and its parameters for potential control in service mode may be adjusted independently of each other.

As such, when an image fault occurs, try to find out which side is causing it, and generate the appropriate images (data) for adjustment of related parameters.

Making Checks on the Printer Unit (1/2)



Caution:

1. If there still is a difference in density after giving the adjusting screw 2 turns (each turn causing a change of about 0.7 mm), check the scanning lamp and the scanner for soiling.
2. When making a clockwise turn, be sure that the intervals between wire grid runs are not larger than 9 mm.

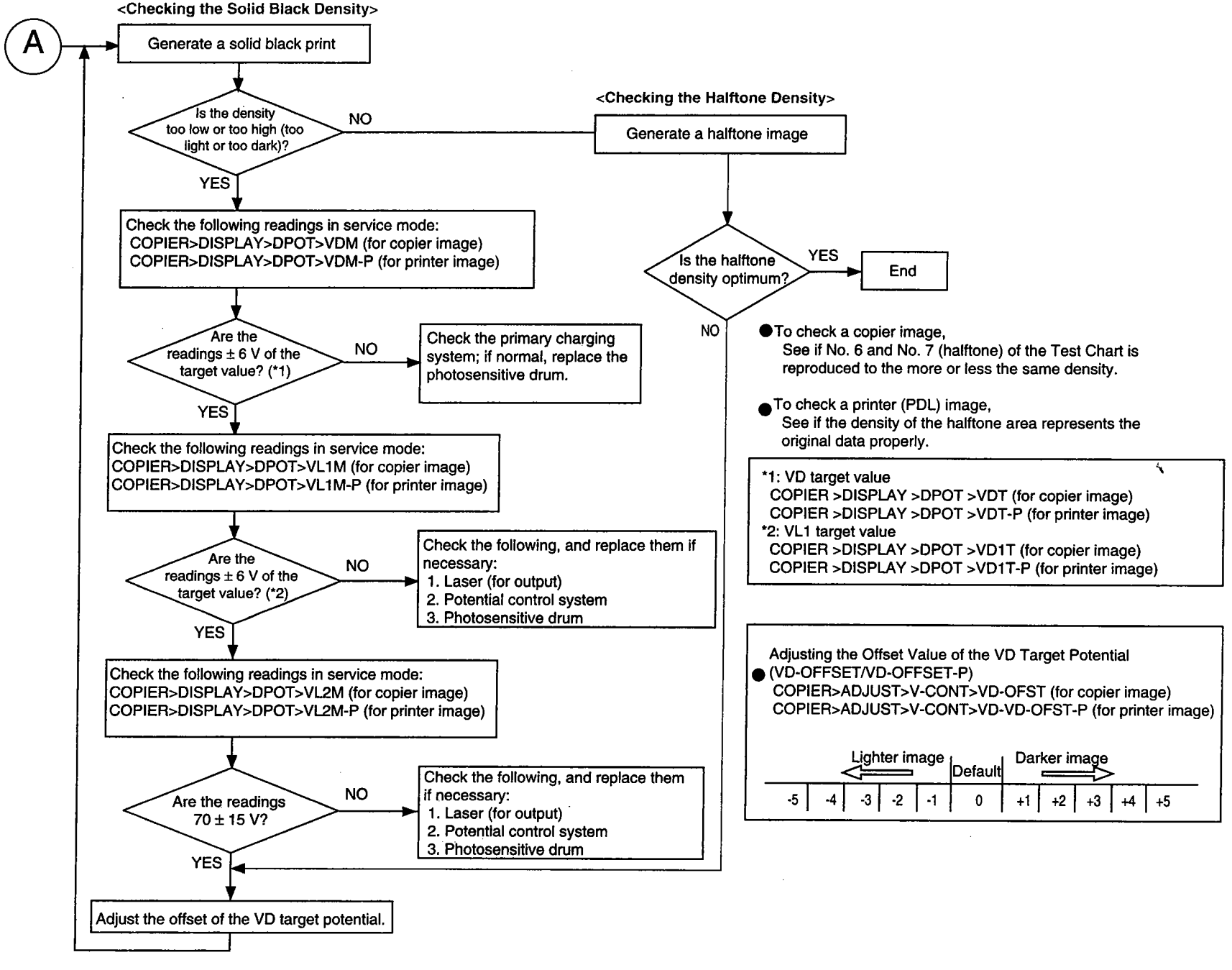
   When making a counterclockwise turn, be sure that the intervals between wire grid runs are not smaller than 7.5 mm.
3. The machine will not execute potential control even when the main power switch is turned off and then on if the temperature of the fixing assembly is 150° C or higher.

*1: VD target value
COPIER >DISPLAY >DPOT >VDT (for copier image)
COPIER >DISPLAY >DPOT >VDT-P (for printer image)
*2: VL1 target value
COPIER >DISPLAY >DPOT >VD1T (for copier image)
COPIER >DISPLAY >DPOT >VD1T-P (for printer image)

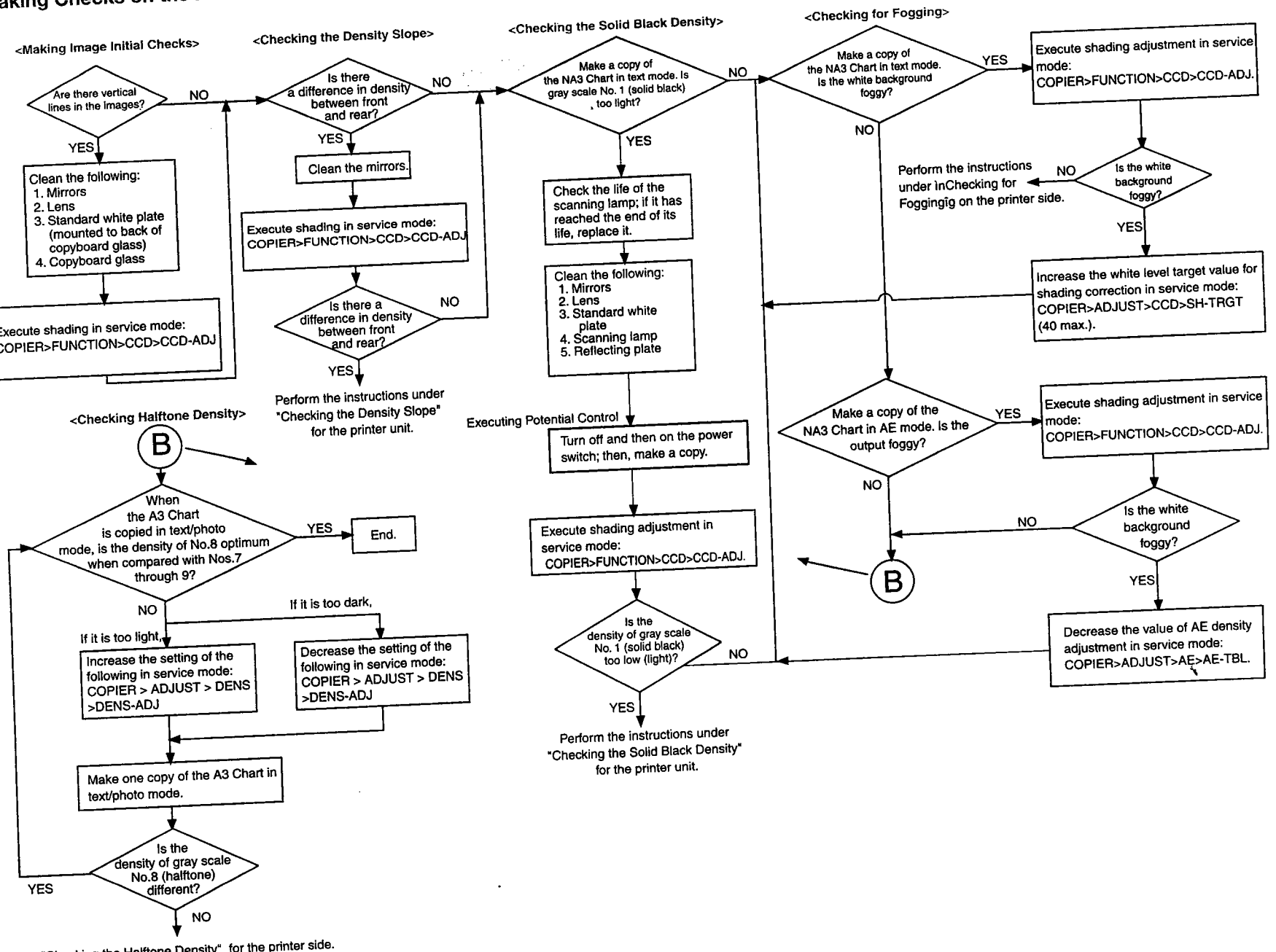
● Adjusting the Offset of the VL Target Potential
(DE-OFFSET/DE-OFFSET-P)
Vary the value using the following as a guide:
COPIER>ADJUST>V-CONT>DE-OFST (for copier image)
COPIER>ADJUST>V-CONT>DE-OFST-P (for printer image)

Note:
Moving the wire from the photosensitive drum causes the image to be lighter, while moving it closer causes the images to be darker.

Making Checks on the Printer Unit 2/2

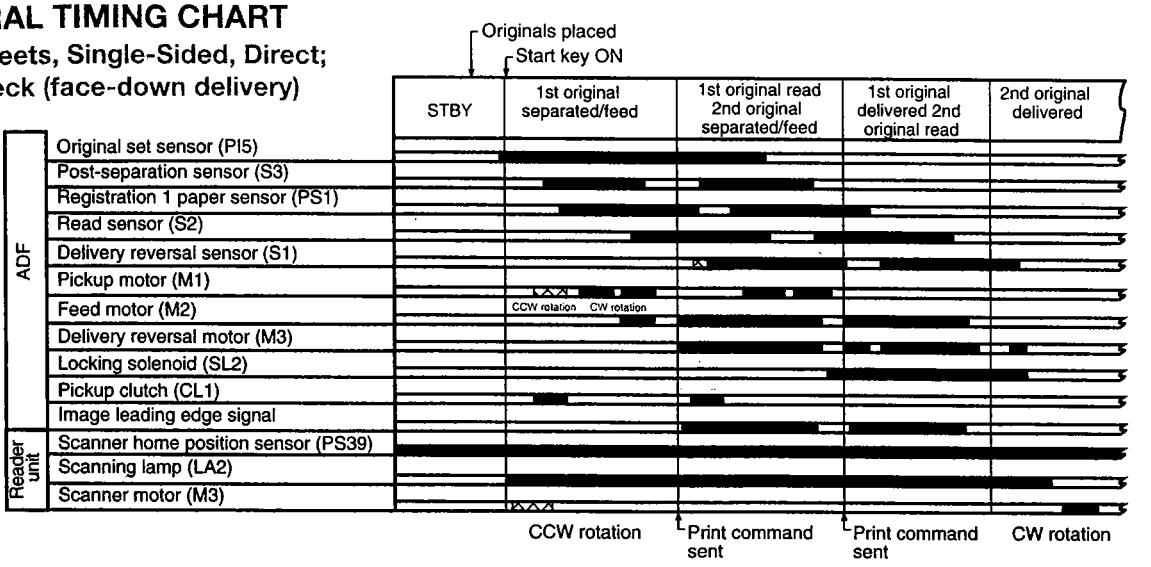


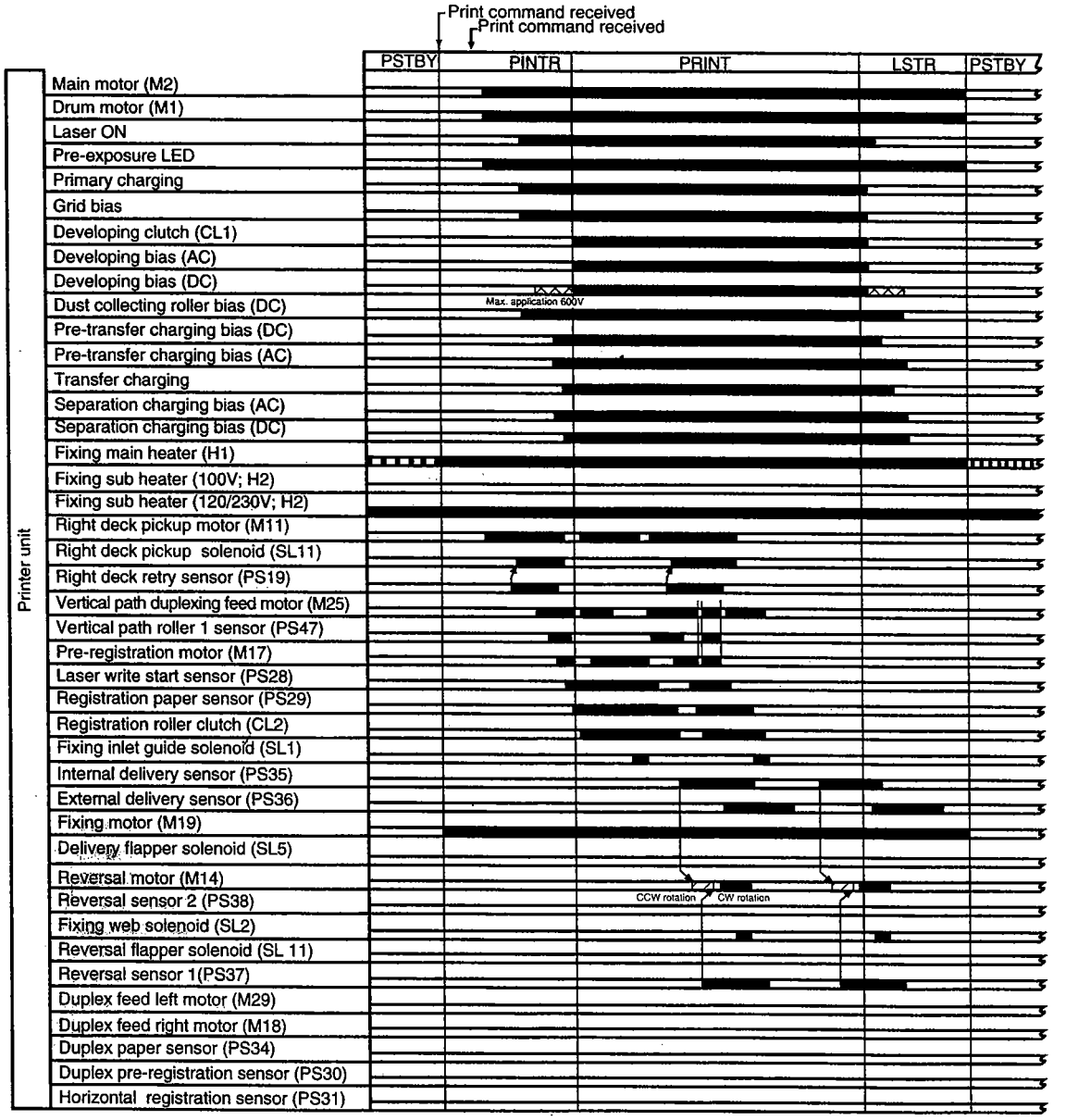
Making Checks on the Reader Unit



6. GENERAL TIMING CHART

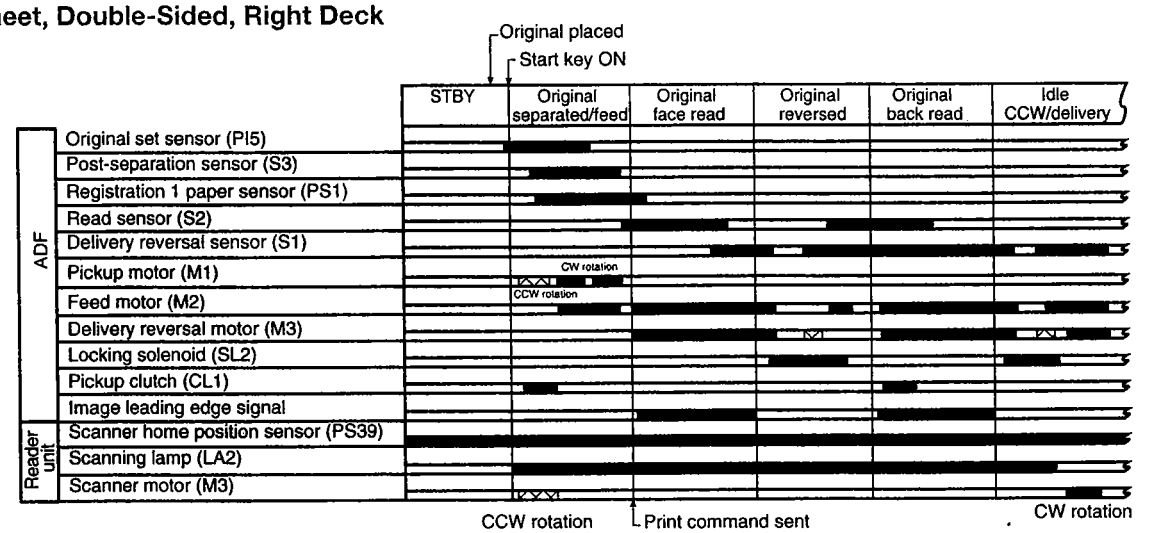
A4, 2 Sheets, Single-Sided, Direct; Right Deck (face-down delivery)

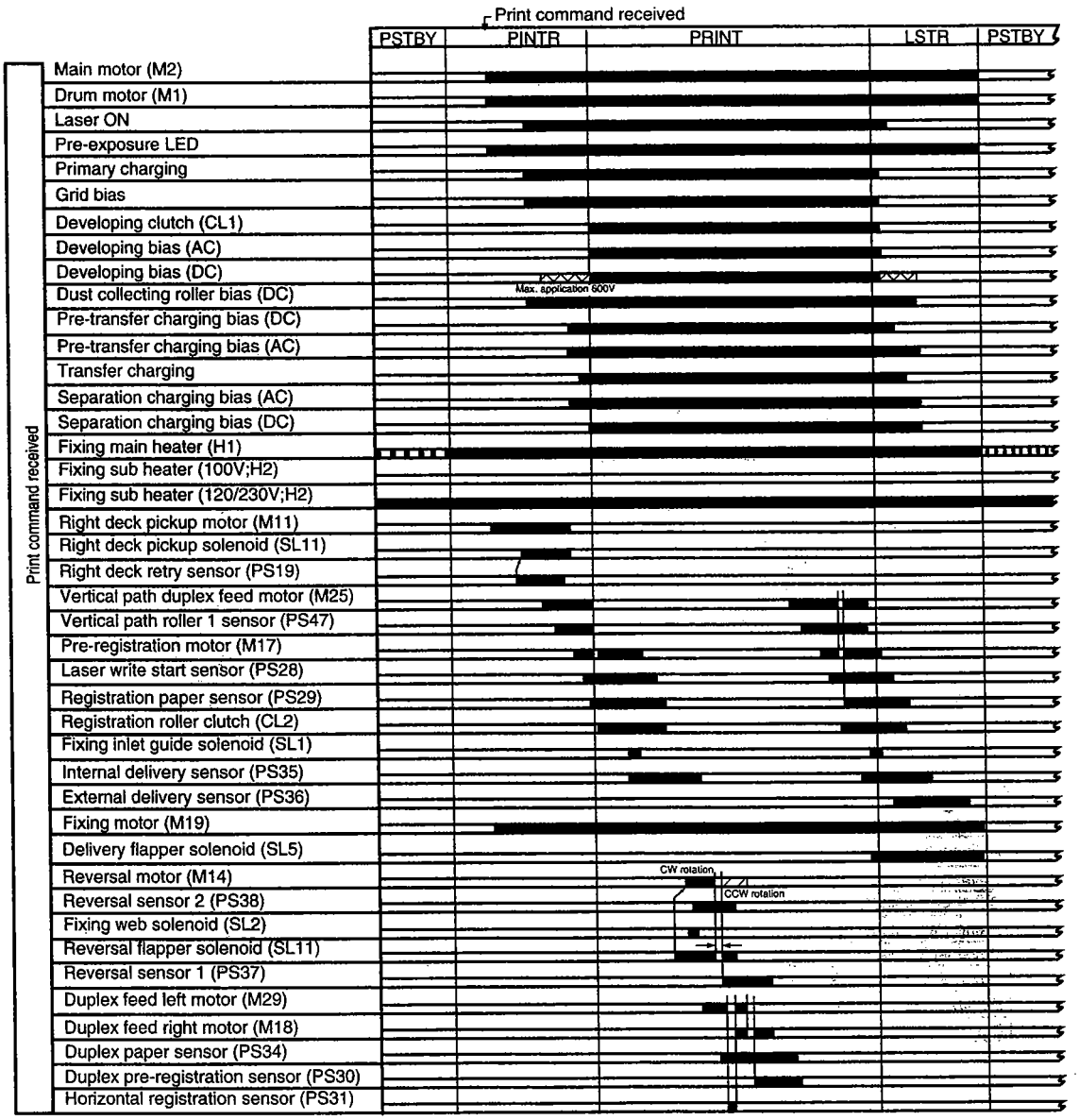




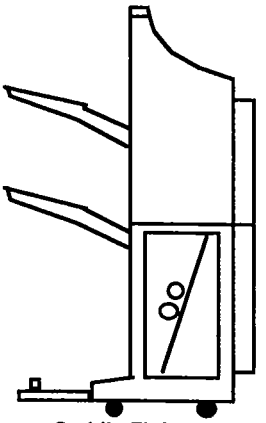
6. GENERAL TIMING CHART (Cont'd)

A4, 1 Sheet, Double-Sided, Right Deck

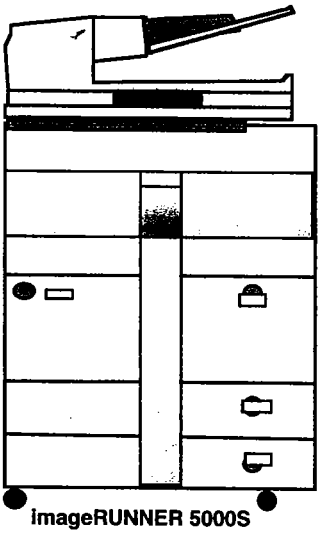




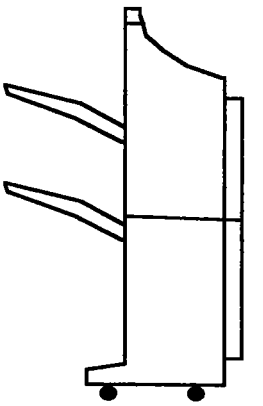
Configuration Chart/Notes



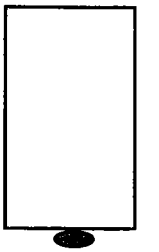
Saddle Finisher-F-2
F25-4502-000



imageRUNNER 5000S
F13-9132-001
imageRUNNER 5000N
F13-9134-001



Finisher-F1
F25-4501-000



Paper Deck-G1
F25-4611-000

Accessories

Item	Part Number
Control Card IV	F22-7213-704
Control Card Printer-A1	F22-7211-000
Basic Card Set	F21-7541-000
Card Set 2	F21-7523-000
Card Set 3	F21-7533-000
Specific Utility Kit	
NetSpot™	F1-NSP-322

Optional Accessories

Item	Part Number
Saddle Finisher-F2	F25-4502-000
Finisher-F1	F25-4501-000
Copy Tray-C3	F24-2123-702
Puncher Unit-B1	F25-4513-000
Black Toner Unit	F42-4101-700
Paper Deck-G1	F25-4611-000

Supplies

Item	Part Number
Transparency Type E	9-70015-E1
GPR-4 Drum	F43-7801-700
GPR-4 Black Toner	F42-4101-700
Staple Cartridge-D2	F23-2930-000
Staple-E1	F23-5705-000
Roll Paper for C.C.P.-A1	SSF-H1200
Label Type D1	9-70015-E1
Label Type D2	9-50015-D1

Connectivity Accessories

Item	Part Number
Token Ring Kit	Future Option
Network Multi-PDL Printer Kit-A1	F61-8522-000
Network Interface Kit-TR4 (imageRUNNER 5000S option)	F61-6558-100

NOTES:

Signal/Command Directory

Signal Name	Page/ Coordinates	Signal or Command Description (C)=Drive Command (S)=Control/Detection Signal
ADF-ITOP	P92, H4	adf cover open/closed (S)
C3LMD	H96, W8	cassette3 lifter motor (C)
C3LTP	P94, N1	cassette3 lifter position (S)
C3OP	P94, N4	cassette3 open/closed (S)
C3PD	P94, N2	cassette3 paper (S)
C3PL0	P97, AA6	cassette3 length (S)
C3PL	P97, AA6	cassette3 length (S)
C3PLV I	P96, W8	cassette3 paper level (S)
C3PUSD*	P93, M1	cassette3 pick-up solenoid (C)
C3PWD	P97, AA6	cassette3 paper width (S)
C3RTD	P94, N1	cassette3 retry (S)
C4LMD	P96, W6	cassette4 lifter motor (C)
C4LTP	P93, M2	cassette4 lifter position (S)
C4OP	P93, L2	cassette4 open/closed (S)
C4PD	P93, M1	cassette4 paper (S)
C4PL0	P97, Z6	cassette4 length (S)
C4PL1	P97, Z7	cassette4 length (S)
C4PLV	P96, W8	cassette4 paper level (S)
C4PUSD*	P93, L2	cassette4 pick-up solenoid (C)
C4PWD	P97, Z7	cassette4 paper width (S)
C4RTD	P93, M1	cassette4 retry (S)
CBOP	P87, T8	fixing web length (S)
CJAM	P87, S8	claw jam (S)
D_SENS3*	P93, J4	document size (S)
DEV-AC-REMOTE	P97, DD7	developing dc bias remote (S)
DEV-DC-CNT	P97, DD7	developing dc bias current control (S)
DEVCD*	P89, DD9	developing clutch (C)
DMFG	P89, CC9	drum motor clock (S)
DMON	P89, CC9	drum motor (C)
DPDS	P89, AA9	duplexing paper (S)
DRGFPD	P89, AA9	duplexing pre-registration paper (S)
DRAM HT ON	P97, CC6	drum heater drive control (S)
DSJAM	P87, T8	delivery jam (S)
DSRFPD	P89, Z9	duplexing side registration paper (S)
DTEP	P85, K4	developer toner (S)
EDS	P87, S8	external delivery (S)
FCBSD*	P87, T7	fixing web solenoid (C)
FDOD	P85, K4	front door open/close (S)
FFUS*	P87, S9	fixing feed unit locked (S)
FM1CLK	P96, Y6	feeding fan clock (S)
FM1ON	P96, Z6	feeding fan (C)
FM2CLK	P85, K4	primary charging cooling fan clock (S)
FM2ON	P85, K4	primary charging cooling fan (C)
FM3CLK	P97, BB6	delivery fan clock (S)
FM3ON	P97, BB6	delivery fan (C)
FM4CLK	P89, CC9	controller cooling fan clock (S)
FM4ON	P89, CC9	controller cooling fan (C)
FM5CLK		de-curling fan clock (S)
FM5ON	P87, T8	de-curling fan (C)
FM6CLK	P97, CC6	dc power supply fan clock (S)
FM6ON	P97, CC6	dc power supply fan (C)
FM7CLK	P95, R6	hard disk fan clock (S)
FM7ON	P95, R6	hard disk fan (C)
FM8CLK	P88, Y9	duplexing fan clock (S)
FM8ON	P89, AA7	duplexing fan (C)
HPSENS	P93, X9	scanner home position (S)
HV-CR-REMOTE	P97, DD7	dust-collecting roller bias remote (S)
IDS	P87, T7	internal delivery (S)
INV_ERR I		inverter error (S)
L-RDY	P92, G2	laser intensity ready (S)
LAMP_ON	P93, J4	scanning lamp (C)
LD(+)	P92, G1	laser drive (S)
LD(-)	P92, G1	laser drive (S)
LD-DT	P92, G1	laser intensity reference (S)
LD-EN	P92, G2	laser enable (S)
LDCLD*	P94, N2	left deck pull-off clutch (C)
LDEL	P94, P2	left deck limit (S)
LDEOP	P94, P2	left deck open/closed (S)
LDLM		left deck lifter motor (C)
LDLTP	P94, P2	left deck lifter position (S)
LDPD	P94, P2	left deck paper (S)
LDPD1	P94, O2	left deck paper level (S)1
LDPD2	P94, O2	left deck paper level (S)2
LDPFS	P88, Y9	left deck feed paper (S)
LDPUSD*	P97, CC8	left deck pick-up solenoid (C)
LDRT	P94, P2	left deck retry (S)
LMON	P92, F1	laser scanner motor (C)
LMRDY*	P92, F1	laser scanner motor ready (S)
LMSPSEL	P92, F1	laser scanner motor speed select (S)
LODOP	P96, X6	right lower cover open/closed (S)
LSH	P92, G1	sample laser activation (S)
LWRPD	P96, X7	laser write start (S)
M3A	P92, G4	scanner motor (a) (C)
M3A*	P92, G4	scanner motor (a*) (C)
M3B	P92, G4	scanner motor (b) (C)
M3B*	P92, G4	scanner motor (b*) (C)
M9ON	P85, L4	hopper motor (toner stirring) (C)
M10ON	P85, L4	hopper motor (toner supply) (C)
M11_A	P86, N2	right deck pick-up motor (a) (C)
M11_A*	P86, N2	right deck pick-up motor (a*) (C)
M11_B	P86, N2	right deck pick-up motor (b) (C)
M11_B*	P86, N2	right deck pick-up motor (b*) (C)
M12_A	P86, O2	cassette3/4 pick-up motor (a) (C)
M12_A*	P86, O2	cassette3/4 pick-up motor (a*) (C)
M12_B	P86, O2	cassette3/4 pick-up motor (b) (C)
M12_B*	P86, O2	cassette3/4 pick-up motor (b*) (C)
M13_A	P87, T9	delivery motor (a) (C)
M13_A*	P87, T9	delivery motor (a*) (C)
M13_B	P87, T9	delivery motor (b) (C)
M13_B*	P87, T9	delivery motor (b*) (C)
M14_A	P89, Z9	reversal motor (a) (C)
M14_A*	P89, Z9	reversal motor (a*) (C)
M14_B	P89, Z9	reversal motor (b) (C)
M14_B*	P89, Z9	reversal motor (b*) (C)
M16_A	P89, AA8	duplexing horizontal registration motor (a) (C)
M16_A*	P89, AA8	duplexing horizontal registration motor (a*) (C)
M16_B	P89, AA8	duplexing horizontal registration motor (b) (C)
M16_B*	P89, AA8	duplexing horizontal registration motor (b*) (C)
M17_A	P86, N5	pre-registration motor (a*) (C)
M17_A*	P86, N5	pre-registration motor (a) (C)
M17_B	N86, N5	pre-registration motor (b*) (C)
M17_B*	P86, N5	pre-registration motor (b) (C)
M18_A*	P88, Y7	duplexing feeding right motor (a*) (C)
M18_A	P88, Y7	duplexing feeding right motor (a) (C)
M18_B	P88, Y7	duplexing feeding right motor (b) (C)
M18_B*	P88, Y7	duplexing feeding right motor (b*) (C)
M19LD	P88, W9	fixing motor lock (S)
M19ON	P88, W9	fixing motor (C)
M24_A	P86, O2	left deck pick-up motor (a) (C)
M24_A*	P86, O2	left deck pick-up motor (a*) (C)
M24_B	P86, O2	left deck pick-up motor (b) (C)
M24_B*	P86, O2	left deck pick-up motor (b*) (C)
M25_A	P86, O2	vertical path duplexing feeding motor (a) (C)
M25_A*	P86, O2	vertical path duplexing feeding motor (a*) (C)
M25_B	P86, O2	vertical path duplexing feeding motor (b) (C)
M25_B*	P86, O2	vertical path duplexing feeding motor (b*) (C)
M26_A	P86, N2	vertical path upper motor (a) (C)
M26_A*	P86, N2	vertical path upper motor (a*) (C)
M26_B	P86, N2	vertical path upper motor (b) (C)
M26_B*	P86, N2	vertical path upper motor (b*) (C)
M27_A	P86, P2	vertical path lower motor (a) (C)
M27_A*	P86, P2	vertical path lower motor (a*) (C)
M27_B	P86, P2	vertical path lower motor (b) (C)
M27_B*	P86, P2	vertical path lower motor (b*) (C)
M29_A	P89, AA7	duplexing feeding left motor (a) (C)
M29_A*	P89, AA7	duplexing feeding left motor (a*) (C)
M29_B	P89, AA7	duplexing feeding left motor (b) (C)
M29_B*	P89, AA7	duplexing feeding left motor (b*) (C)
MFDS		manual feed tray open/closed (S)
MFLSD*	P90, EE9	multifeed releasing solenoid (C)
MFPCD*	P89, DD9	multifeed roller clutch (C)
MFPD	P89, DD9	manual feed paper width (S)
MFDS	P90, EE9	multifeeder paper (S)
MMFG	P89, CC9	main motor drive clock (S)
MMON	P89, CC9	main motor (C)
PCLM1	P85, J4	primary charging wire cleaning motor1 (C)
PCLM2	P85, J4	primary charging wire cleaning motor2 (C)
PEXP	P85, J4	pre-exposure led (C)
POT		photosensitive drum surface potential (S)
POTON	P85, K3	photosensitive drum surface potential sensor power on command
PR/TR-REMOTE	P97, DD7	high-voltage remote (S)
PR-CNT	P97, DD7	primary corona current control (S)
PR-LEAK-DETECT	P97, DD7	primary charging leakage (S)
PT/SP-CNT	P97, DD7	pre-transfer charging control (S)
PT/SP-LEAK-DETECT	P97, DD7	pre-transfer/separation charging leakage (S)
PT/SP-REMOTE	P97, DD7	pre-transfer/separation charging remote (S)
PTRCLM1	P85, J5	pre-transfer charging wire cleaning motor1 (C)
PTRCLM2	P85, J5	pre-transfer charging wire cleaning motor2 (C)
RDEL	P94, N2	right deck limit (S)
RDEOP	P94, N2	right deck open/closed (S)
RDLM	P86, O3	right deck lifter motor (C)
RDLTP	P94, N2	right deck lifter position (S)
RDPD	P94, N2	right deck paper (S)
RDPD1	P94, P2	right deck paper level (S)1
RDPD2	P94, P2	right deck paper level (S)2
RDPFS	P94, N2	right deck feed paper (S)
RDPUSD*	P86, P5	right deck pick-up solenoid (C)
RDRT	P94, N2	right deck retry (S)
RGCD*	P87, S9	registration roller clutch (C)
RGPD		registration paper (S)
RVFSD1*		delivery flapper solenoid (C)
RVFSD2*	P87, U9	reversing flapper solenoid (C)
RVS1	P89, AA9	reversing (S)1
RVS2	P89, AA9	reversing (S)2
SL1P*	P87, S8	fixing assembly inlet guide solenoid (C)
SL1R*	P87, S8	fixing assembly inlet guide solenoid (C)
SP-CNT	P97, DD7	separation charging current control (S)
TEP	P85, L4	hopper toner (S)
TH1	P87, T8	fixing main thermistor (S)
TH2	P87, T8	fixing sub thermistor (S)
THHUM1		machine inside humidity (S)
TR-CNT	P97, DD7	transfer charging current control (S)
TR-LEAK-DETECT	P97, DD7	transfer charging leakage (S)
TSCLM1	P87, T9	transfer/separation charging wire cleaning motor1 (C)
TSCLM2	P87, T9	transfer/separation charging wire cleaning motor2 (C)
VP1PD	P96, X6	vertical path 1 paper (S)
VP2PD	P96, X6	vertical path 2 paper (S)
VP3PD	P93, M1	vertical path 3 paper (S)
VP4PD	P93, L2	vertical path 4 paper (S)
WTFL*	P89, AA9	waste toner feeding screw locked (S)

Table 7-01 Signal Name Directory

7. General Circuit Diagrams

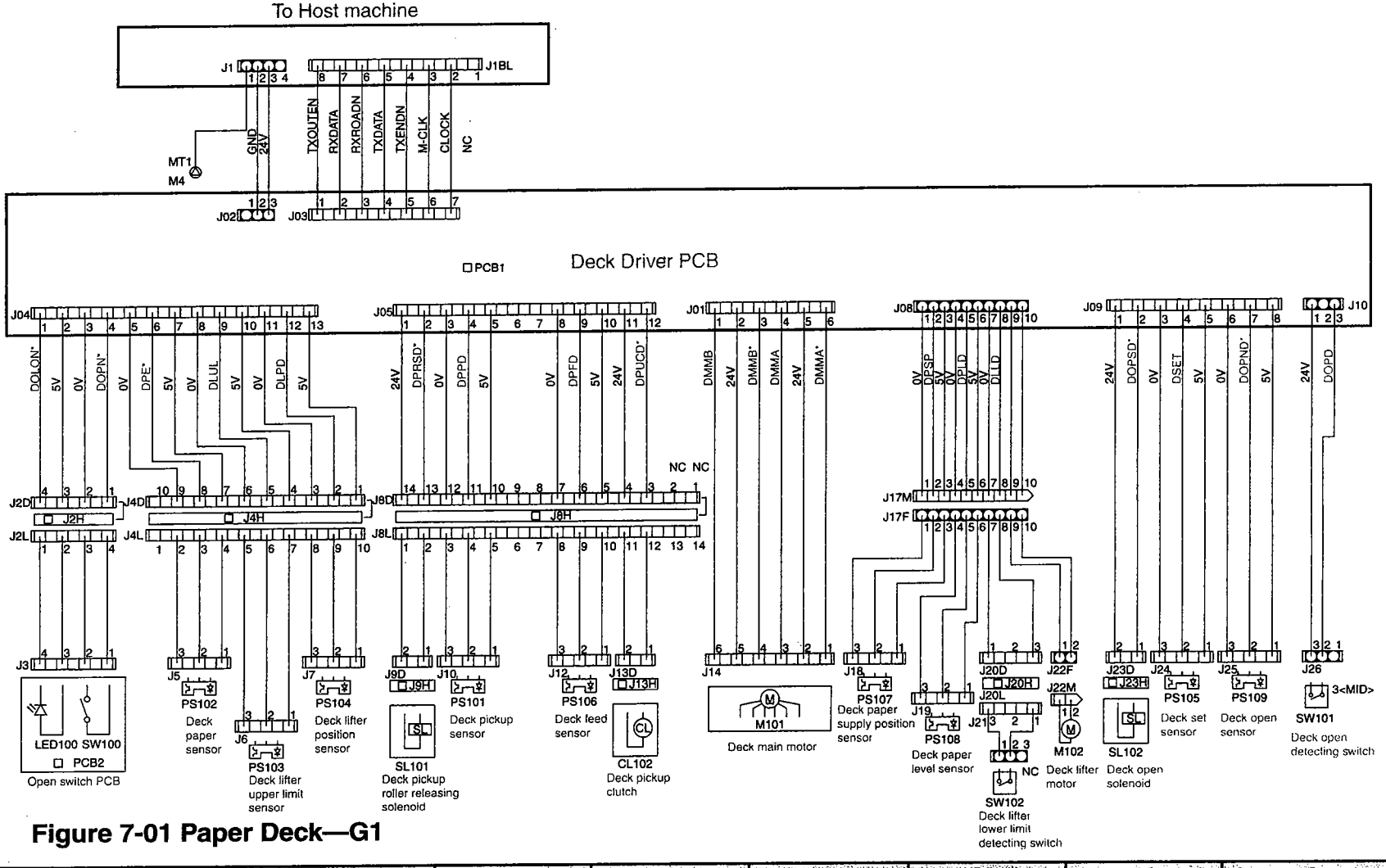


Figure 7-01 Paper Deck—G1

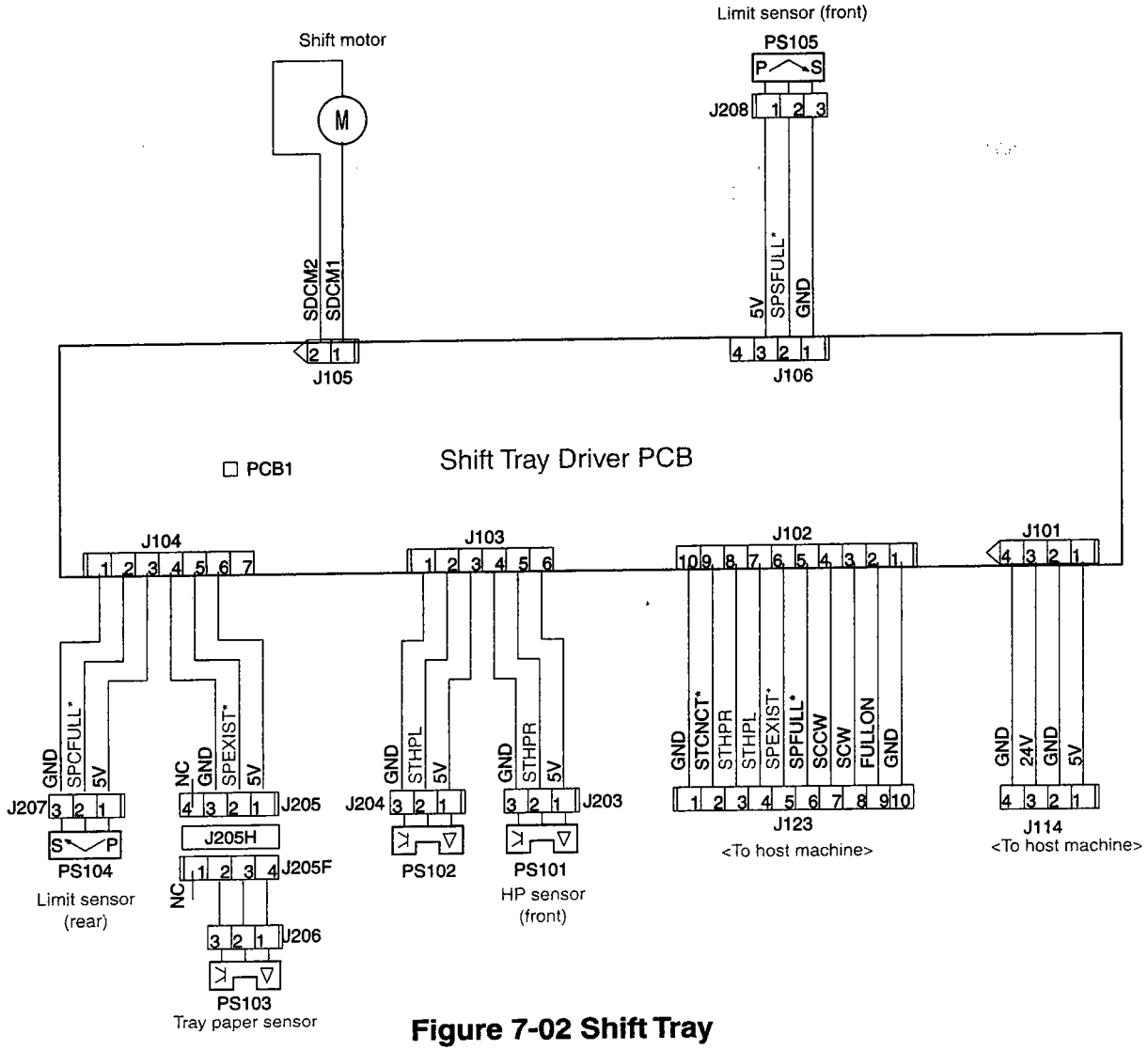


Figure 7-02 Shift Tray