Canon

Service Information

Model: DADF-H1

Ref. No. : FF-T01-X-000039-01

Date : November 22, 2001

Location: Service Manual (FY8-13HA-000)

Subject: Updating the Service Manual (FY8-13HA-000)

Reason: Descriptions relating to the LED jam display and the basic adjustments are updated.

Detail: Corrections are made to descriptions related mainly to adjustments in Chapters 2 and 5 of the Service Manual.

The correction of the LED jam display is described. From page 2-36 to 2-38 in Chapter 2 of 3. Jams.

The correction of the Scale adjustment to Tray width detection variable resistor adjustment mode is described. From page 5-9 to 5-20 in Chapter 5 of Basic Adjustments.

3. Jams

This ADF uses the sensors shown in F02-301-03 to detect document jams. The timing at which document jam checks are made is stored in ROM on the ADF controller PCB. The occurrence of a jammed document at a particular sensor is established on the basis of whether the document is located at that sensor.

When the ADF encounters a jam, it transmits coded information about the jam to the host. This ADF displays jam codes; ~~in two ways:~~
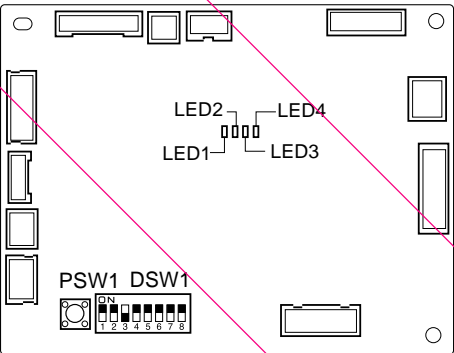
• Service mode screen on the host

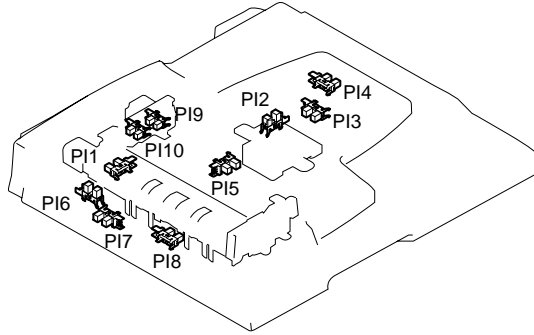• ~~LED indications on the ADF controller PCB~~

Service mode screen on the host

Jam codes ;
see Table T02-301-01 and later

'1' indicates a jam in the machine
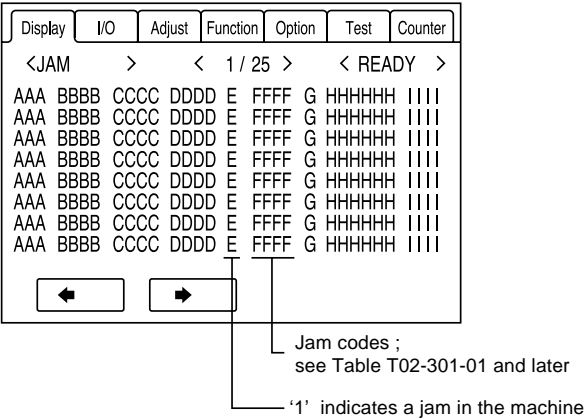
F02-301-01

LED indications on the ADF controller PCB

LED2 LED4
LED1 LED3

PSW1 DSW1

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F02-301-03

The table below summarizes the jam codes, ~~LED displays,~~ jam types, associated sensors, and detection conditions.

~~● : OFF   ◎ : Flashing (at 160 msec intervals)~~

Jam code	LED display	Jam type	Associated sensor	Detection condition
00x1	1 2 3 4 ●●●◎	Failure to reach registration roller pa per sensor	PI6	A document has not been detected by the registration roller paper sensor (PI6) within 1.5 seconds after the start of separation.
00x2	1 2 3 4 ●●◎●	Registration roller paper sensor stack	PI6	The trailing sheet of a document has not been detected after the paper has been fed for a predetermined period of time upon detection by the registration roller paper sensor (PI6).
00x3	1 2 3 4 ●●◎◎	Failure to reach read sensor	PI6, PI7	A document has not been detected by the read sensor (PI7) after the paper has been fed for a predetermined period of time upon detection by the registration roller paper sensor (PI6).
00x4	1 2 3 4 ●◎●●	Read sensor stack	PI7	The trailing sheet of a document has not been detected after the paper has been fed for a predetermined period of time upon detection by the read sensor (PI7).
00x5	1 2 3 4 ●◎●◎	Failure to reach delivery reversal sensor	PI7, PI8	Paper has not been detected by the delivery reversal sensor (PI8) after the paper has been fed for a predetermined period of time upon detection by the read sensor (PI7).

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● : OFF   ◎ : Flashing (at 160 msec intervals)

Jam code	LED display	Jam type	Associated sensor	Detection condition
00x6	1 2 3 4 ● ○ ○ ●	Delivery reversal sensor stack	PI8	The trailing sheet of a document has not been detected after the paper has been fed for a predetermined period of time upon detection by the delivery reversal sensor (PI8).
00x7	1 2 3 4 ● ○ ○ ○	ADF open	PI1	The ADF was opened during an operation (drive operation).
00x8	1 2 3 4 ◎ ● ● ●	User ADF open	PI1	The ADF was opened during an operation (drive outage).
00x9	1 2 3 4 ◎ ● ● ◎	ADF cover open	PI9	The ADF was opend during an operation (drive operation)
00xA	1 2 3 4 ◎ ● ○ ●	User ADF cover open	PI9	The feeder cover was opened during an operation (drive outage).
00xB	1 2 3 4 ◎ ● ○ ◎	Initial stack	PI6,PI7,PI8	Paper was detected in the path while picking up the first sheet of a document.
00xC	1 2 3 4 ◎ ○ ● ●	Pickup failure	PI10	A pickup signal was received for 2 seconds without a document in the document pickup tray.

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1.1.5 Scale adjustment

This adjustment adjusts the feed speed for a document to regulate the image feed direction.

Two modes of adjustment available are:

• Adjusting from the host set in service mode
• Adjusting from the ADF controller PCB

Memo | Adjustment would be easier to carry out from the host set in service mode.

1) Create a test chart shown at right using an A4 or LTR sheet of paper.

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2) Set the test chart created in the document tray and print it in equal size.
3) Check to see if size A in the test chart and size B in the image produced in Step 2) comply with the following tolerances:
   A $\leq$ 1mm
   B $\leq$ 1mm

F05-101-11
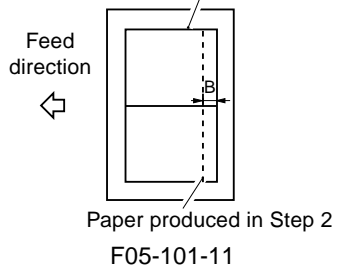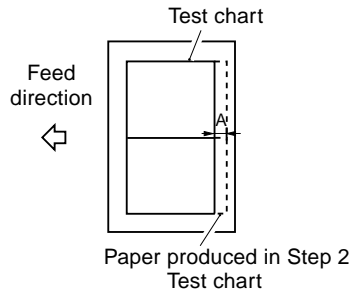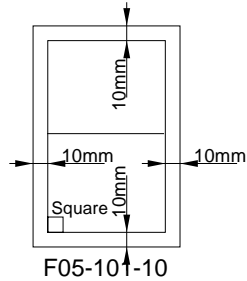
[If out of tolerances]

a. Adjusting from the host set in service mode

1) Press ✸, 2 and 8 concurrently, and then ✸ to invoke service mode.

2) Starting from the service mode screen, touch the following screens in this order:
   FEEDER>ADJUST>LA-SPEED

3) Find out the optimal value by trying various possible values.
   Adjustment value unit 1=0.1%
   - Short image
     -> Reduce the value (for slower document scanning)
   - Long image
     -> Increase the value (for faster document scanning)

4) Print the test chart again to make sure that the image falls within tolerances of the specifications.

b. Adjusting from the ADF controller PCB

1) Detach the rear cover.
2) Set the DIP switch (DSW1) on the ADF
   controller PCB as illustrated and press
   the push switch (PSW1) to let the ADF
   into scanning speed adjustment mode.

   Set 1 for the first side, 2 for the second
   side.
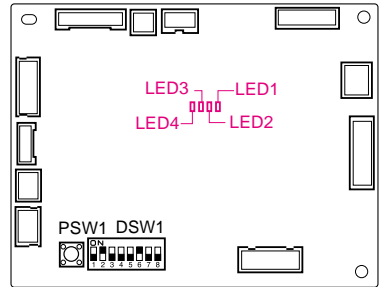
F05-101-12

When Scanning speed adjustment mode
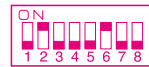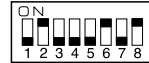sets in, ADF controller PCB LED2 will
display the current setting.
A setting is displayed in the order of the
sign, tens place, and ones place, de-
pending on the mix of the LED2 flash-
ing speed and the flashing count.

1. LED2 lit for 2 seconds: Start of dis-
   play
2. LED2 off for 1 second
3. Quick display of the sign of the setting
   (at 0.1 second intervals)
   LED2 flashes twice to indicate positive
   (+), or once to indicate negative (-).
4. Flashing slowly the number of times
   specified by the tens place (at 0.8 sec-
   ond intervals)
5. Flashing slowly the number of times
   specified by the ones place (at 0.2 sec-
   ond intervals)

○ : On   ◎ : Flashing   ● : Off

1. LED2 on for 2 seconds

2. LED2 off for 1 second

3. Sign of the setting
   Flashing once denotes (-)
   (at 0.1 second intervals).

4. Tens place of the
   setting Flashing twice
   indicates 2
   (at 0.8 second intervals).

5. Ones place of the setting
   Flashing six times
   indicates 6
   (at 0.2 second intervals).

* If the setting is positive (+), all LEDs will
flash twice quickly in 3.

F05-101-13

3) Enter a document feed speed setting using the ADF controller PCB DIP switch (DSW1). Enter a setting in binary. Bit 1 designates a positive (+) value when OFF, a negative (-) value when ON.
- The adjustment range is ±30.
- +1 speeds up the scanning speed by 0.1%.

4) Press the push switch (PSW1) to update the setting as it is displayed by the LED indicator.
5) Print the test chart again to make sure that the image falls within tolerances of the specifications.
6) When the adjustment is completed, set all ADF controller PCB DIP switch (DSW1)bits to OFF.

□ : Switch OFF   ■ : Switch ON

Setting	Bit number 1 2 3 4 5 6 7 8	Setting	Bit number 1 2 3 4 5 6 7 8
+1	□ □ □ □ □ □ □ ■	-1	■ □ □ □ □ □ □ ■
+2	□ □ □ □ □ □ ■ □	-2	■ □ □ □ □ □ ■ □
+3	□ □ □ □ □ □ ■ ■	-3	■ □ □ □ □ □ ■ ■
+4	□ □ □ □ □ ■ □ □	-4	■ □ □ □ □ ■ □ □
+5	□ □ □ □ □ ■ □ ■	-5	■ □ □ □ □ ■ □ ■
+6	□ □ □ □ □ ■ ■ □	-6	■ □ □ □ □ ■ ■ □
+7	□ □ □ □ □ ■ ■ ■	-7	■ □ □ □ □ ■ ■ ■
+8	□ □ □ □ ■ □ □ □	-8	■ □ □ □ ■ □ □ □
+9	□ □ □ □ ■ □ □ ■	-9	■ □ □ □ ■ □ □ ■
+10	□ □ □ □ ■ □ ■ □	-10	■ □ □ □ ■ □ ■ □
+11	□ □ □ □ ■ □ ■ ■	-11	■ □ □ □ ■ □ ■ ■
+12	□ □ □ □ ■ ■ □ □	-12	■ □ □ □ ■ ■ □ □
+13	□ □ □ □ ■ ■ □ ■	-13	■ □ □ □ ■ ■ □ ■
+14	□ □ □ □ ■ ■ ■ □	-14	■ □ □ □ ■ ■ ■ □
+15	□ □ □ □ ■ ■ ■ ■	-15	■ □ □ □ ■ ■ ■ ■
+16	□ □ □ ■ □ □ □ □	-16	■ □ □ ■ □ □ □ □
+17	□ □ □ ■ □ □ □ ■	-17	■ □ □ ■ □ □ □ ■
+18	□ □ □ ■ □ □ ■ □	-18	■ □ □ ■ □ □ ■ □
+19	□ □ □ ■ □ □ ■ ■	-19	■ □ □ ■ □ □ ■ ■
+20	□ □ □ ■ □ ■ □ □	-20	■ □ □ ■ □ ■ □ □
+21	□ □ □ ■ □ ■ □ ■	-21	■ □ □ ■ □ ■ □ ■
+22	□ □ □ ■ □ ■ ■ □	-22	■ □ □ ■ □ ■ ■ □
+23	□ □ □ ■ □ ■ ■ ■	-23	■ □ □ ■ □ ■ ■ ■
+24	□ □ □ ■ ■ □ □ □	-24	■ □ □ ■ ■ □ □ □
+25	□ □ □ ■ ■ □ □ ■	-25	■ □ □ ■ ■ □ □ ■
+26	□ □ □ ■ ■ □ ■ □	-26	■ □ □ ■ ■ □ ■ □
+27	□ □ □ ■ ■ □ ■ ■	-27	■ □ □ ■ ■ □ ■ ■
+28	□ □ □ ■ ■ ■ □ □	-28	■ □ □ ■ ■ ■ □ □
+29	□ □ □ ■ ■ ■ □ ■	-29	■ □ □ ■ ■ ■ □ ■
+30	□ □ □ ■ ■ ■ ■ □	-30	■ □ □ ■ ■ ■ ■ □

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1.1.6 Trailing registration adjustment

This adjustment corrects drifts in the image feed direction.
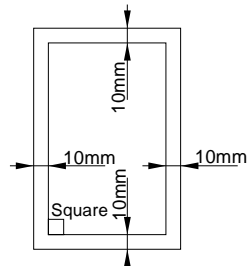
Two modes of adjustment available are:

• Adjusting from the host set in service mode

• Adjusting from the ADF controller PCB

Memo | Adjustment would be easier to carry out from the host set in service mode.

---

1) Create a test chart shown at right using an A4 or LTR sheet of paper.

10mm

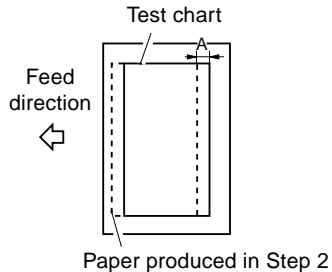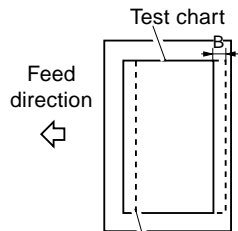10mm   10mm

10mm

Square

F05-101-15

2) Set the test chart created in the document tray and print it in equal size.

3) Check to see if size A in the test chart and size B in the image produced in Step 2) comply with the following tolerances:

A ≤ 1mm

B ≤ 1mm

Test chart

A

Feed direction

Paper produced in Step 2

Test chart

B

Feed direction

Paper produced in Step 2

F05-101-16

[If out of tolerances]

a. Adjusting from the host set in service mode

1) Turn on the power to the host to invoke service mode.
2) Press ✺, 2 and 8 concurrently, and then ✺ to invoke service mode.
3) Starting from the service mode screen, touch the following screens in this order:
   FEEDER>ADJUST>DOCST
4) Find out the optimal value by trying various possible values.
   Integer unit 1=0.5mm
   • The image appears shifted to left
     -> Increase the value.
   • The image appears shifted to right
     -> Reduce the value.
5) Print the test chart once again to see if the resultant image conforms to the specifications.

b. Adjusting from the ADF controller PCB

1) Detach the rear cover.
2) Set the DIP switch (DSW1) on the ADF controller PCB as illustrated and press the push switch (PSW1) to let the ADF into trailing registration adjustment mode.
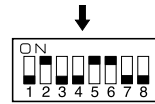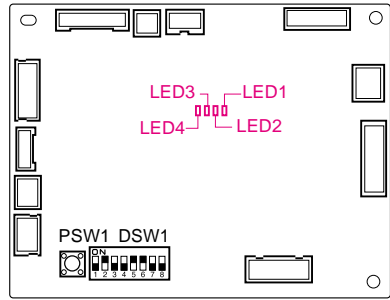
F05-101-17

When trailing registration adjustment mode sets in, ADF controller PCB LED2 will display the current setting. A setting is displayed in the order of the sign, tens place, and ones place, depending on the mix of the LED2 flashing speed and the flashing count.

1. LED2 lit for 2 seconds: Start of display
2. LED2 off for 1 second
3. Quick display of the sign of the setting (at 0.1 second intervals)
   LED2 flashes twice to indicate positive (+), or once to indicate negative (-).
4. Flashing slowly the number of times specified by the tens place (at 0.8 second intervals)
5. Flashing slowly the number of times specified by the ones place (at 0.2 second intervals)

○: On ◎: Flashing ●: Off

1. LED2 on for 2 seconds

4	3	2	1
●	●	○	◎

2. LED2 off for 1 second

4	3	2	1
●	●	●	◎

3. Sign of the setting
   Flashing once denotes (-)
   (at 0.1 second intervals).

4	3	2	1
●	●	○	◎

4. Tens place of the setting
   No display

5. Ones place of the setting
   Flashing five times indicates five
   (at 0.2 second intervals).

4	3	2	1
●	●	○	◎

* If the setting is positive (+), all LEDs will flash twice quickly in 3.

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3) Enter a trailing end registration setting with ADF controller PCB DIP switch (DSW1). Enter a setting in binary. Bit 1 designates a positive (+) value when OFF, a negative (-) value when ON.
- Adjustment range: ±10
- +1 slows the image start signal output timing by 0.5mm.

□ : Switch OFF   ■ : Switch ON

Setting	Bit number 1 2 3 4 5 6 7 8	Setting	Bit number 1 2 3 4 5 6 7 8
+1	□ □ □ □ □ □ □ ■	-1	■ □ □ □ □ □ □ ■
+2	□ □ □ □ □ □ ■ □	-2	■ □ □ □ □ □ ■ □
+3	□ □ □ □ □ □ ■ ■	-3	■ □ □ □ □ □ ■ ■
+4	□ □ □ □ ■ □ □ □	-4	■ □ □ □ ■ □ □ □
+5	□ □ □ □ ■ □ □ ■	-5	■ □ □ □ ■ □ □ ■
+6	□ □ □ □ ■ □ ■ □	-6	■ □ □ □ ■ □ ■ □
+7	□ □ □ □ ■ □ ■ ■	-7	■ □ □ □ ■ □ ■ ■
+8	□ □ □ ■ □ □ □ □	-8	■ □ □ ■ □ □ □ □
+9	□ □ □ ■ □ □ □ ■	-9	■ □ □ ■ □ □ □ ■
+10	□ □ □ ■ □ ■ □ □	-10	■ □ □ ■ □ ■ □ □

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4) Press the push switch (PSW1) to update the setting as it is displayed by the LED indicator.
5) Print the test chart again to make sure that the image falls within tolerances of the specifications.
6) When the adjustment is completed, set all ADF controller PCB DIP switch (DSW1)bits to OFF.

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1.2 Making Adjustments Following Replacement of Key Parts
1.2.1 Overview

Key part	Action	Reference page
• ADF controller PCB	[1] Scanning speed adjustment	P.5-11
	[2] Leading registration adjustment	P.5-16
	[3] Tray width detection variable resistor adjustment	P.5-23
• Document width detection variable resistor (VR)	[1] Tray width detection variable resistor adjustment	P.5-23

T05-102-01

1.2.2 Tray width detection variable resistor adjustment mode

Perform this adjustment when the following parts have been replaced:

• ADF controller PCB
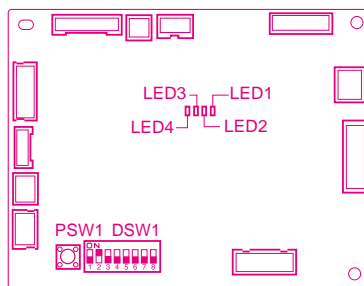• Document width detection variable resistor

The adjustment procedure varies between the AB system and the Inch system. Please follow an appropriate procedure. In case of the AB/Inch system, either procedure will do.

Memo

If adjustments fail, LED2 remains lit. In this case, be sure to turn the power of the copier OFF/ON, and then make adjustments from the first.

a. AB system

1) Detach the rear cover.
2) Set the DIP switch (DSW1) on the ADF controller PCB as illustrated and press the push switch (PSW1) to let the ADF into tray width detection variable resistor adjustment mode.
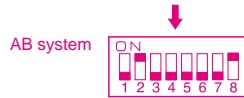

F05-102-01

3) The start of tray width detection variable resistor adjustment mode is signified by LED2 flashing slowly for the AB system.
4) Set the A3 or A4 paper in the document pickup tray, adjust the slide, and press push switch (PSW1).
    Pressing push switch (PSW1) will cause LED2 to flashing fast.
5) Set the A5R paper in the document pickup tray, adjust the slide, and press the push switch (PSW1).
    Pressing push switch (PSW1) will cause LED2 to going-off.
6) When the writing of the adjustment value ends, LED2 goes off, and the tray width detection variable resistor adjustment mode exits.
7) When the adjustment is completed, set all ADF controller PCB DIP switch (DSW1) bits to off, then power off and on the copier.

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b. INCH system

1) Detach the rear cover.
2) Set the DIP switch (DSW1) on the ADF controller PCB as illustrated and press the push switch (PSW1) to let the ADF into tray width detection variable resistor adjustment mode.
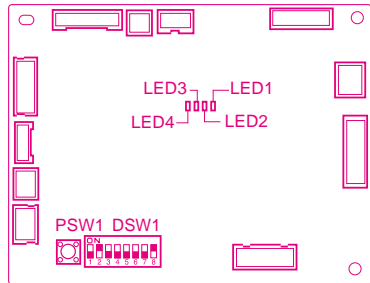
F05-102-02

3) The start of tray width detection variable resistor adjustment mode is signified by LED1 and LED2 flashing slowly.
4) Starting from the service mode screen, touch the following screens in this order:
   COPIER>I/O>FEEDER
   The value of AD-P01 shown in the screen is a document width scanning value.
5) Shift the slide guide until a document width scanning value falls into the range given below, and press the push switch (PSW1).
   • 01DA to 0222 (center value: 01FE)
     Pressing push switch (PSW1) will cause LED2 to flashing fast.
6) Shift the slide guide until a document width scanning value falls into the range given below, and press the push switch (PSW1).
   • 011C to 0171 (center value: 0146)
     Pressing push switch (PSW1) will cause LED2 to going-off.

7) Set the LDR paper in the document pickup tray, adjust the slide, and press the push switch (PSW1) twice.
   Pressing push switch (PSW1) twice will cause LED2 to flashing fast.

8) Set the LTRR paper in the document pickup tray, adjust the slide, and press push switch (PSW1).
   Pressing push switch (PSW1) will cause LED2 to going-off.

9) Set the LDR paper in the document pickup tray, adjust the slide, and press the push switch (PSW1) twice.
   Pressing push switch (PSW1) twice will cause LED2 to flashing fast.

10) Set the LTRR paper in the document pickup tray, adjust the slide, and press push switch (PSW1).
    Pressing push switch (PSW1) will cause LED2 to going-off.

11) When the writing of the adjustment value ends, LED2 goes off, and the tray width detection variable resistor adjustment mode exits.

12) When the adjustment is completed, set all ADF controller PCB DIP switch (DSW1) bits to off, then power off and on the copier.