

I. SPECIFICATIONS

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1. RC5800

- Master-making system: High-speed Digital Scanning and Thermal Screening system
- Printing system: Automatic Stencil Duplicating system
- Image scanning system: Flat-bed, Scanner-moving system
- Original type: Books & sheets
- Original size: Maximum/A3(297mm x 431mm)size(11.7" x 17")
Minimum/Business card(55mm x 90mm)size(2" x 3.5")
- Paper size: Maximum/A3(297mm x 431mm)size(11.7" x 17")
Minimum/A6(100mm x 148mm)size(4" x 5.8")
- Paper weight: Maximum/210 g/m² (115.8 lbs Index)
Minimum/46 g/m² (12.4 lbs Bond)
- Print area: Legal Drum/208 x 350 mm(8.2" x 13.7")
A4 Drum/208 x 290 mm
B4 Drum/245 x 350 mm
- Print speed: Selectable/5-speed positions
(60,80,100,120,130 copies/min.)
- First copy time: A4 (8.3" x 11.7") original size/About 30 sec. (size-to-size)
- Print position adjustment: Vertical positioning/±20 mm
Horizontal positioning/±20 mm
[±5 mm for A3 (11.7" x 17") paper]
[±10 mm for A6 (4" x 5.8") paper]
- Scanning resolution: 400 dots/inch
Line and photograph modes changeable
- Maximum paper capacity: 1000 sheets
[Based on 64 g/m² (17 lbs Bond) paper]

- Machine dimentions:
 - In storage/ 650(W)x660(D)x617(H)mm
25.6" x 26" x 24.3"
 - In use/ 1295(W)x660(D)x617(H)mm
51" x 26" x 24.3"
 - [With ADF 5800]-**
 - In storage/ 670(W)x685(D)x695(H)mm
26.4" x 27" x 27.4"
 - In use/ 1295(W)x685(D)x695(H)mm
51" x 27" x 27.4"
- Machine weight:
 - 95 kg (209 lbs)
 - [With ADF 5800]-**
 - 110 kg (243 lbs)
- Power requirements:
 - 220 to 240 VAC, 50/60 Hz, 3A
 - 90 to 132 VAC, 50/60 Hz, 3.5A
- Reduction/Enlargement percentages:
 - Size-to-size/ 100%
 - Reduction/ (U.S.) 96%,77%,74%,64%
95%,87%,82%,71%
 - Enlargement/ (U.S.) 121%,127%,141%
116%,122%,141%
- Original mode selection:
 - Line-copy, Photograph, Dot-photo, Sharpen-image,
Margin erasing, Shadowed book-center erasing
- Print density control:
 - 5 steps
- Auxiliary function:
 - Confidential, Two-up function, Memory program,
Automatic idling, Automatic printing, Automatic contrast
control, Computer interface, Integrated sorter control
 - Option -**
 - ADF, Digitizer
- Liquid crystal display:
 - 240 x 64 dot graphic display with self-diagnosis function)
- Color change:
 - Cartridge-type drum replacement
 - 6 colors/black, red, blue, green, brown and yellow

2. Supplies

(1) Ink:

Risograph RC Ink (Emulsion type)

- Capacity: 1000 cc
- Ink bottle: Cylinder following piston method
- Color: 6 color/ black, red, blue, green, brown, and yellow
- Ink package unit: Two bottles per box, five boxes per carton

(2) Master:

Risograph RC Master 55

- Length: Approx. 100m (328 ft.)
 Legal drum/ About 200 masters
 A4 drum/ About 232 masters
 B4 drum/ About 200 masters
- Width: Legal/227 mm (8.9")
 A4/ 227 mm
 B4/ 270 mm
- Master package unit: Two master rolls per box, 10 boxes per carton

SPECIFICATIONS

3. ADF 5800
4. Optional Equipment

3. ADF 5800

- Original type: Sheets
- Original size: A3/B4/A4/A4(Wide)/B5/B5(Wide)/A5 sizes
- U.S. -
Ledger/Legal/Letter/Statement
- Maximum original capacity: 50 sheets
[Based on 64 g/m² (17 lbs Bond) paper]
- Original paper weight: 50 g/m² to 128 g/m² (13 lbs to 34 lbs)

4. Optional Equipment

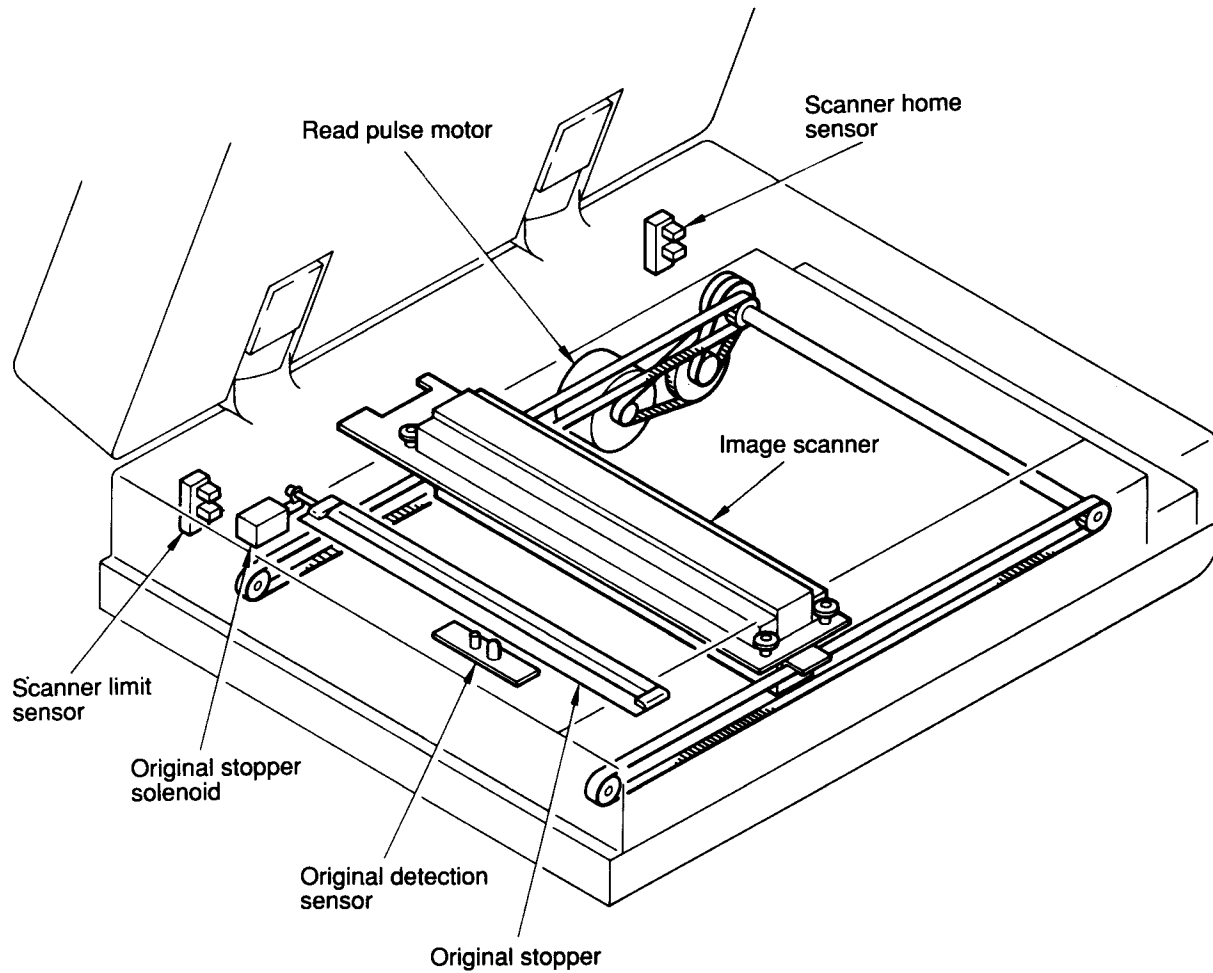
- ADF 5800
- Digitizer 5800
- RCI Board - For computer interface
- Job Separator
- Key/Card Counter
- RC Sorter
- Color Drum (6 colors - including "black")

II. IMAGE SCANNING SECTION

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[Mechanical Overview]



Part name	Function
Read pulse motor	Moves the Image scanner to the left or right via belts in scanning operation.
Original stopper solenoid	Releases the Original stopper when using ADF to feed out a fed-in original after the original scanning finishes.
Image scanner	Scans an original placed on the Stage glass, moving below it.
Original detection sensor	Checks if an original is placed on the Stage glass.
Scanner home sensor	Checks the position of the Image scanner.
Scanner limit sensor	Same as above

[Theory of Operation]

1. Image Scanner Home Positioning System (Initialization)

- Checking the position of Image Scanner

When the power is turned ON, the position of the Image scanner is checked by the Scanner home sensor and Scanner limit sensor.

When the Scanner home sensor is activated, the Image scanner is ready to scan an original.
(The scanning operation can be started by pressing "Start" button on the operation panel.)

- Home Positioning Process

1) When the Scanner home sensor is open (not activated) and that of the Scanner limit sensor is activated; the Read pulse motor rotates clockwise to shift the Image scanner in the direction of <1> until the Scanner home sensor has been activated.

2) When both the Scanner home sensor and Scanner limit sensor are open (not activated); the Read pulse motor rotates counter-clockwise to shift the Image scanner in the direction of <2>. ➡

Then if the Scanner home sensor has been activated **within 315 pulses** after the Read pulse motor started, the Read pulse motor stops to set the Image scanner ready for scanning operation.

3) Then if not, the Image scanner is judged to be positioned between the Scanner home and limit sensors, and is shifted in the direction of <1> by the clockwise rotation of the Read pulse motor. After the above, when the Scanner home sensor has been activated, the Read pulse motor stops to set the Image scanner ready for scanning operation.

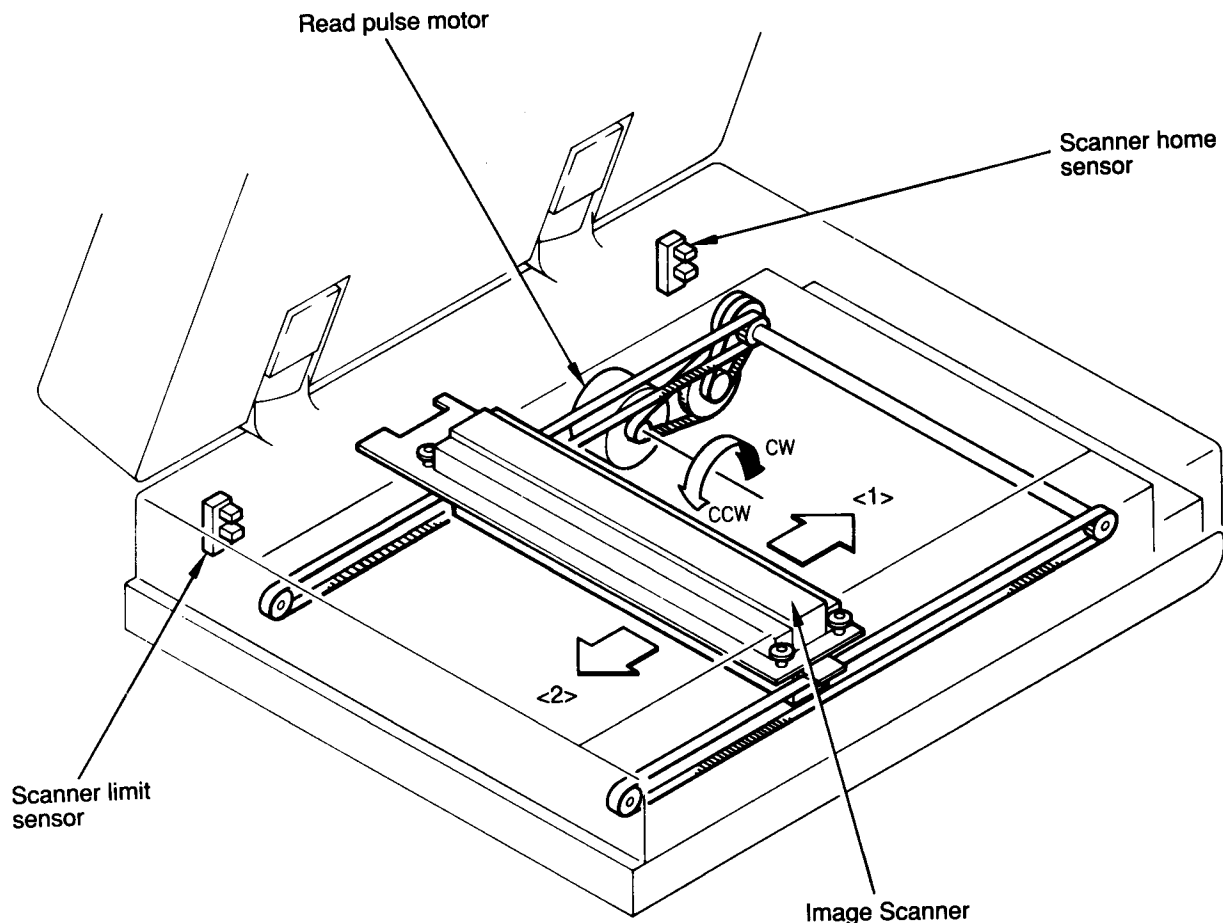
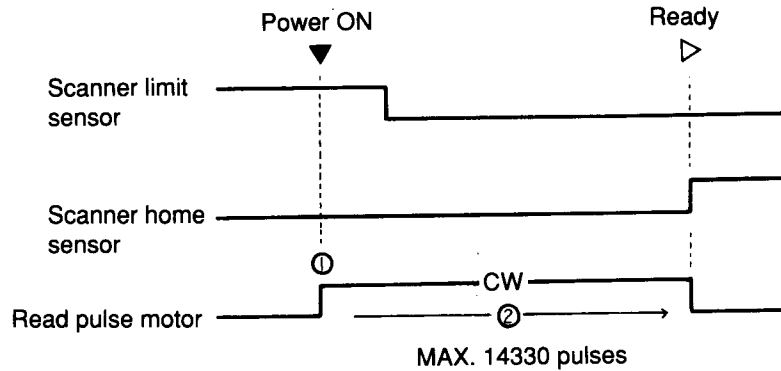
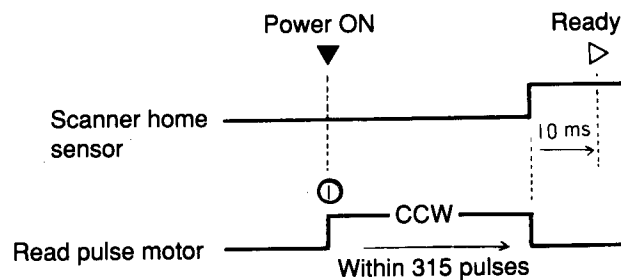


Image Scanner Home Positioning System

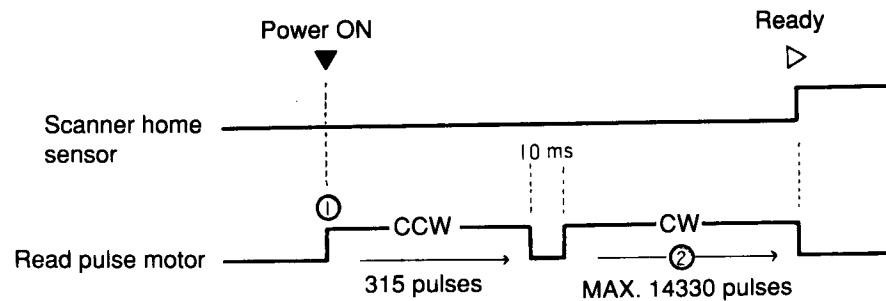
1)



2)



3)



- ① When the "Image scanner home positioning" operation is started, the message **"WAIT A MOMENT"** is displayed on the panel and the Read pulse motor starts to rotate.
- ② If the Scanner home sensor is not activated **within 14330 pulses** after the Read pulse motor started, it is assumed that the Read pulse motor is locked and the trouble message **"T15: CALL SERVICE"** is displayed on the panel.

2. Pre-scanning System (Check of Original Size)

- Lighting-up of LED arrays

When pressing "Start" button for master-making operation, the LED arrays of the Image scanner are lit up and the Thermal pressure motor rotates to lower the Thermal print head onto the Write roller.

- Shading Compensation Operation

At this time, the Read pulse motor rotates clockwise to shift the Image scanner in the direction of <1>.

When the Scanner home sensor is actuated, the Read pulse motor stops and the "shading compensation" operation is performed.

- Home Positioning of Image Scanner

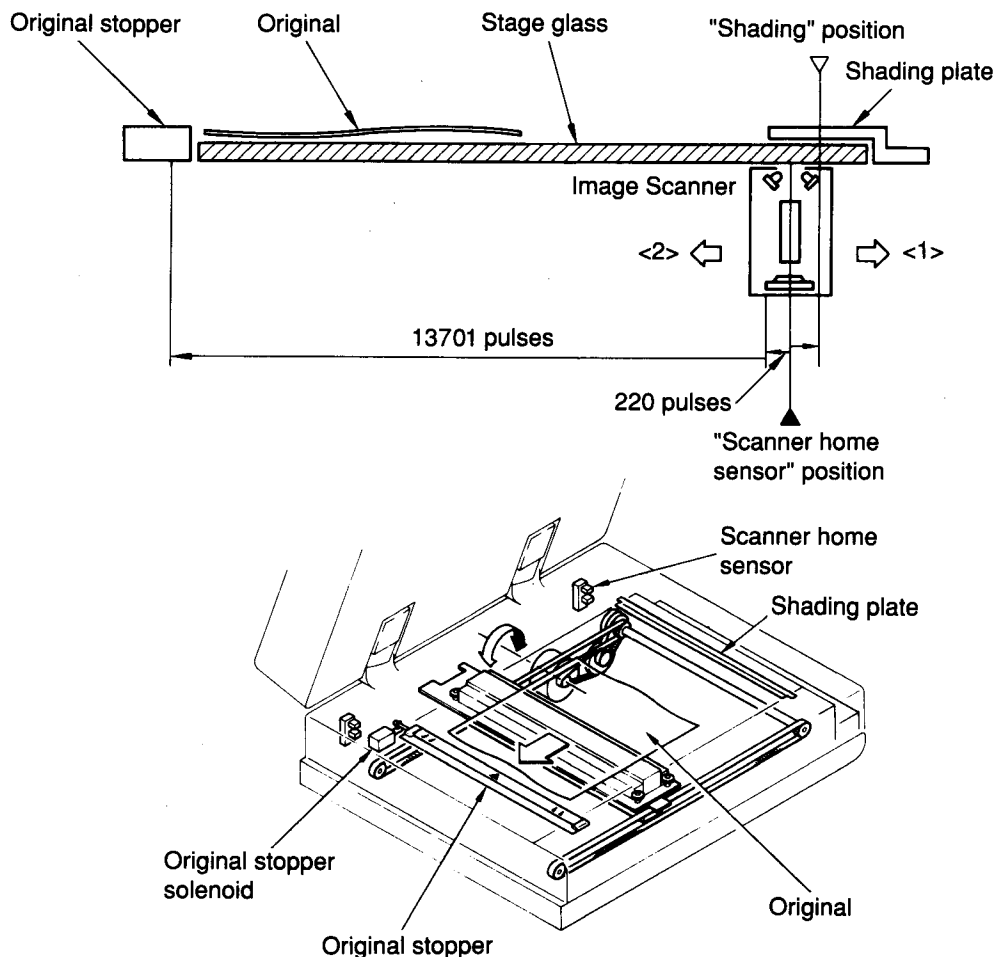
After the "shading compensation" operation is finished, the Read pulse motor rotates counter-clockwise **315 pulses** to shift the Image scanner to the home position [in the direction of <2>].

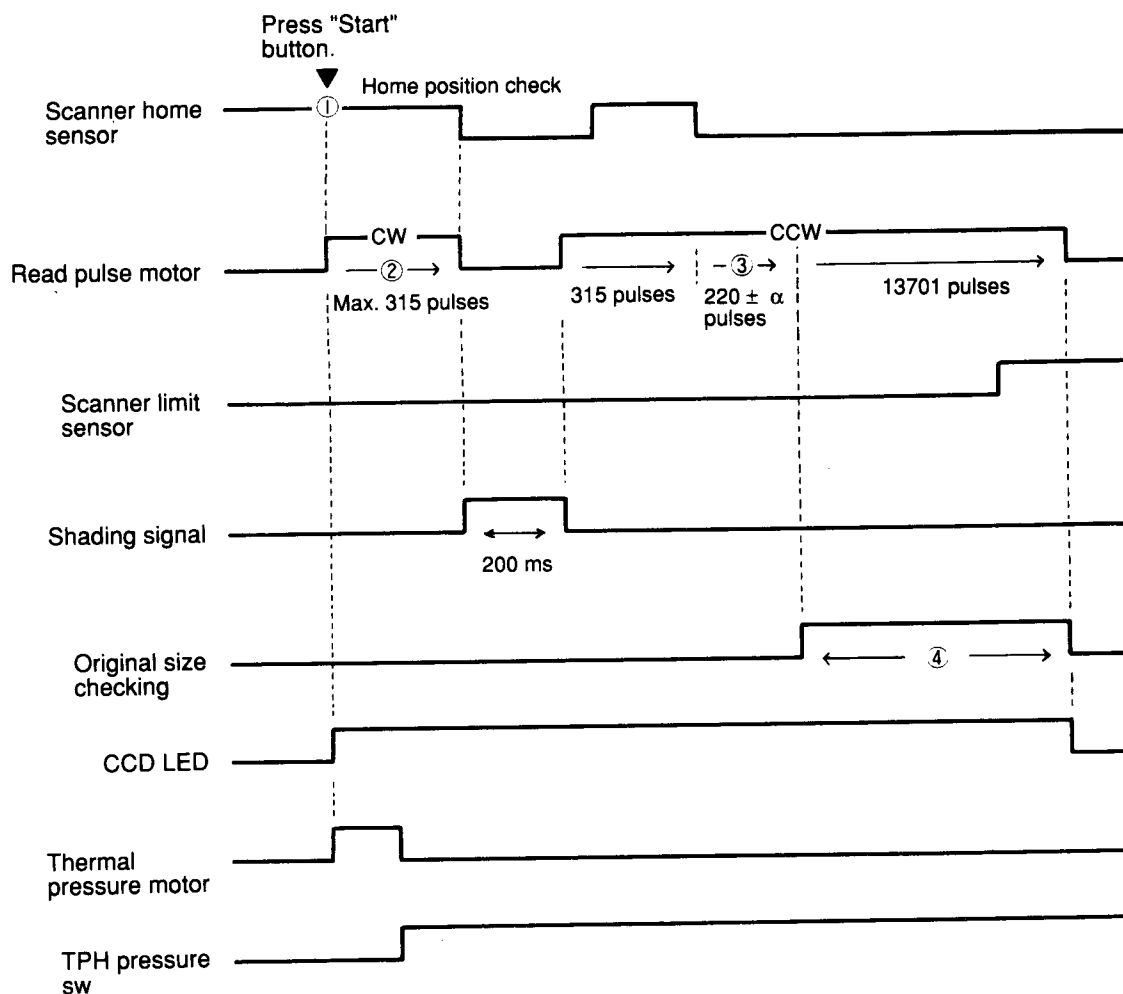
- Check of Original Size

After the Image scanner returns to the home position, the Read pulse motor rotates counter-clockwise **220 pulses** and shift the Image scanner to the start position for original size checking. Next the Read pulse motor rotates **13701 pulses** to check the size of an original placed on the stage glass with the Image scanner.

- Turning-off of LED arrays

After checking the original size, the LED arrays of the Image scanner are turned off.



Pre-scanning System

- ① When the "Start" button is pressed for master-making, the Scanner home sensor is checked. If the Image scanner is not at home, it is returned to the home position ("**Initialization**") and the original size checking ("**Pre-scanning**") is performed.
- ② If the Scanner home sensor is not opened **within 315 pulses** after the Read pulse motor started, it is assumed that the Read pulse motor is locked and the trouble message "**T15: CALL SERVICE**" is displayed on the panel.
- ③ The number of pulses can be adjusted by changing the setting of **SW2** on **Image Processing PCB (58)**.
(Refer to the page of "Scanning (Read) Start Position" adjustment.)
- ④ If no original is detected on the Stage glass in the original size checking operation, the message "**NO ORIGINAL ON THE STAGE**" is displayed on the panel.
This message is only displayed in the following original mode selections: "With margin/Normal" and "With margin/Book".

3. Image Scanning System (Original Reading)

- Image Scanning Operation

After the original size is checked in the "pre-scanning" operation, the LED arrays are lit up and the Read pulse motor rotates clockwise.

The Image scanner moves in the direction of (1), reading the original on the Stage glass.

During the "image scanning" operation, the master-making and master disposal operations are performed.

- Finish of Image Scanning

When the Image scanner reaches the tail edge of the original, the master-making operation is finished.

If the master disposal operation is completed, a newly-made master is loaded onto the drum (and the original is ejected, if the ADF is installed).

- Home Positioning of Image Scanner

After the "image scanning" operation is finished, the Image scanner returns to the home position.

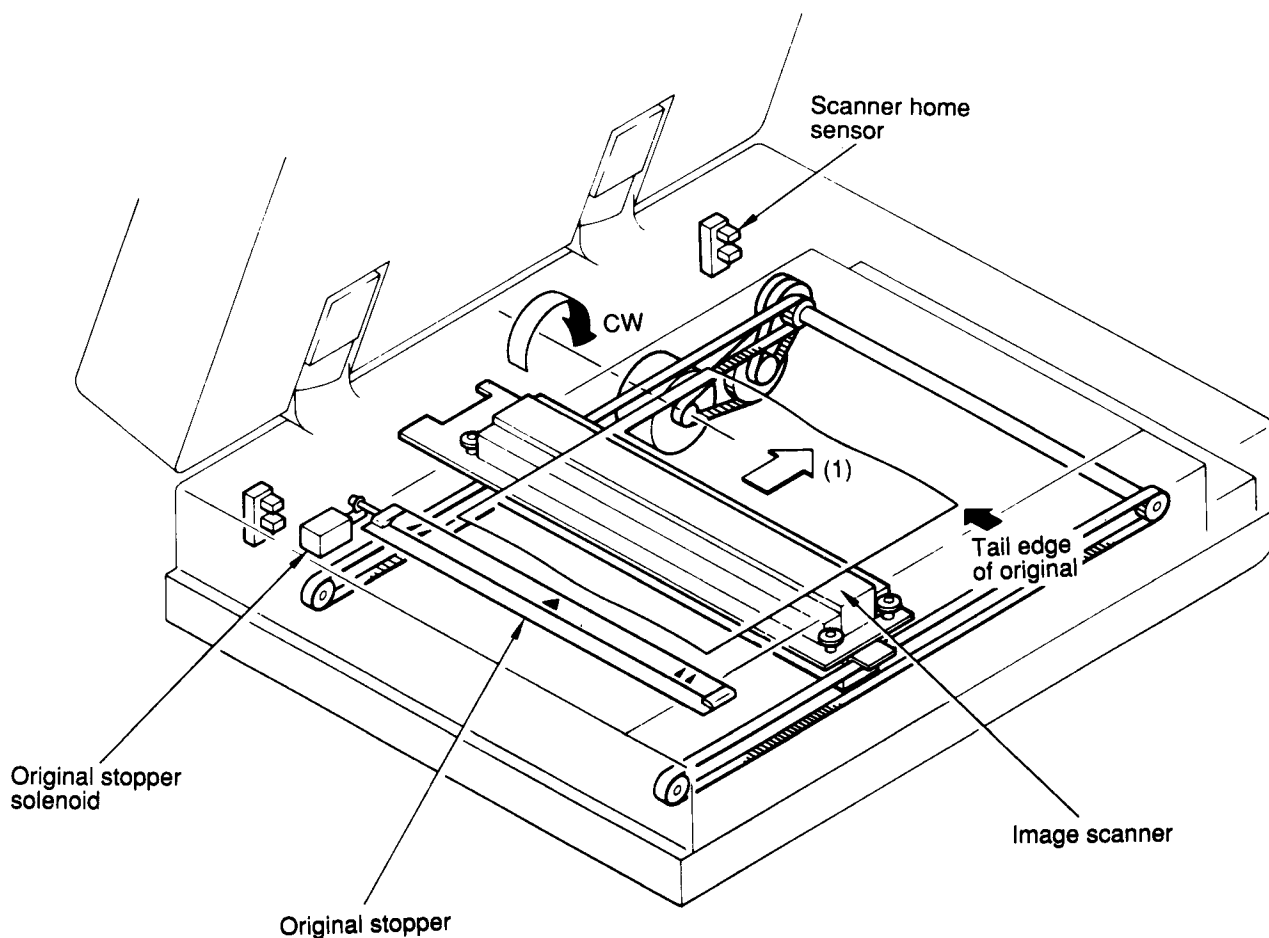
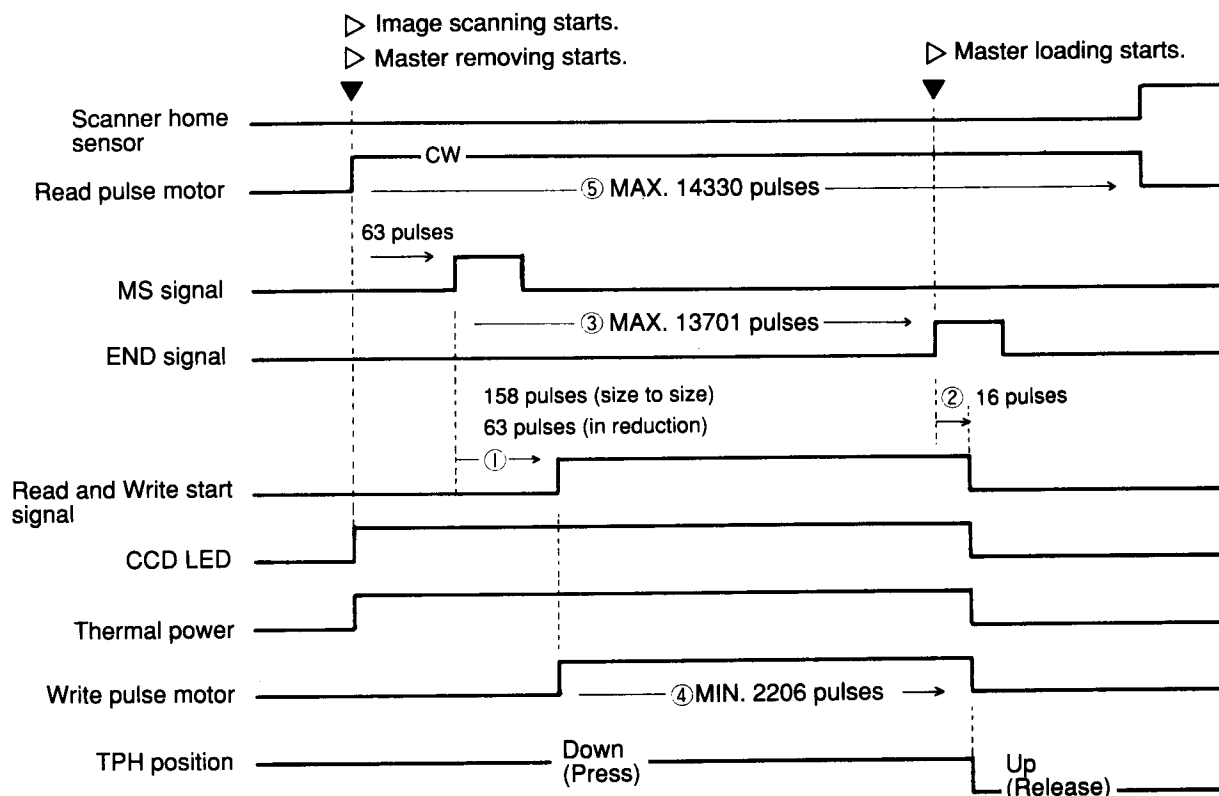


Image Scanning System



- ① In "1:1(size-to size)" or "enlargement", the master-making operation starts **158 pulses (5mm)** after the MS signal's output.
In "reduction", master-making starts **63 pulses (2mm)** after the MS signal's output.
- ② If the master disposal operation is finished when the END signal is output from the Trimming PCB, a newly-made master is loaded onto the drum.
The "Read/Write start signal" turns off **16 pulses** after the END signal's output.
- ③ If the END signal is not output **13701 pulses** after the MS signal's output, the master-making operation is finished and a newly-made master is loaded onto the drum.
- ④ If the END signal is output **within 2206 pulses** after the Write pulse motor started, a newly-made master is not loaded onto the drum but the Write pulse motor rotates further **2206 pulses** to feed a master into the master stocker.
If the END signal is not output within the "pre-selected" pulses, the master-making operation is finished and a newly-made master is loaded onto the drum.
(The "pre-selected" pulses are set according to the selection of the "paper size" on the operation panel.)
- ⑤ If the Image scanner has not been returned to the home position (the Scanner home sensor) by **14330 pulses** after the Read pulse motor started, it is judged that the Read pulse motor is locked and the trouble message "**T15: CALL SERVICE**" is displayed on the panel.

[Note]

- MS Signal : the signal which starts the master-making operation and is output from the **Image processing PCB(58)**.
- END Signal : the signal which indicates the tail edge of the original detected in the pre-scanning operation and is output from the **Trimming PCB**.

REMOVAL & INSTALLATION

1. Image Scanner Table

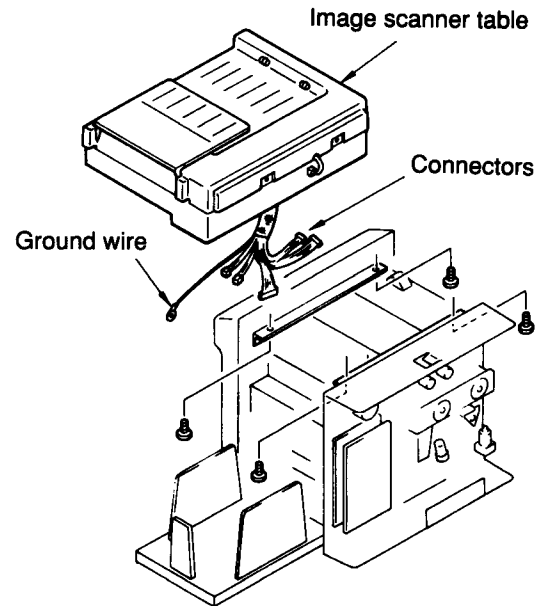
2. Stage Glass

[Removal Procedures & Precautions for Installation]

1. Image Scanner Table

- Removal Procedures -

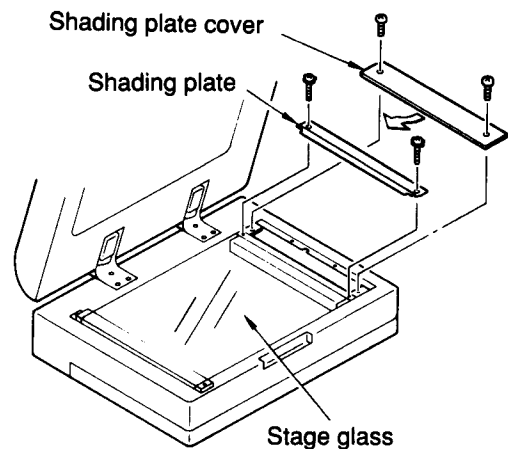
- 1) Remove the Back cover.
 - 2) Disconnect 5 connectors and 1 ground wire coming out of the Image scanner table.
 - 3) Remove 4 mounting screws which attach the Image scanner table onto the Table guide rails from below.
 - 4) Take the table out of the machine by holding it up.
- * Be careful not to let the wire harnesses be caught in the machine when taking out the Image scanner table.
 - * Be careful not to mis-connect the connectors when installing because there are connectors with the same pin-number.



2. Stage Glass

- Removal Procedures -

- 1) Remove 2 mounting screws on the Shading plate cover.
- 2) Remove the Shading plate cover by holding it up a little and shifting it to the direction indicated by an arrow in the figure.
- 3) Remove the Shading plate by removing 2 mounting screws on it.
- 4) Take the Stage glass out of the Image scanner table slowly.



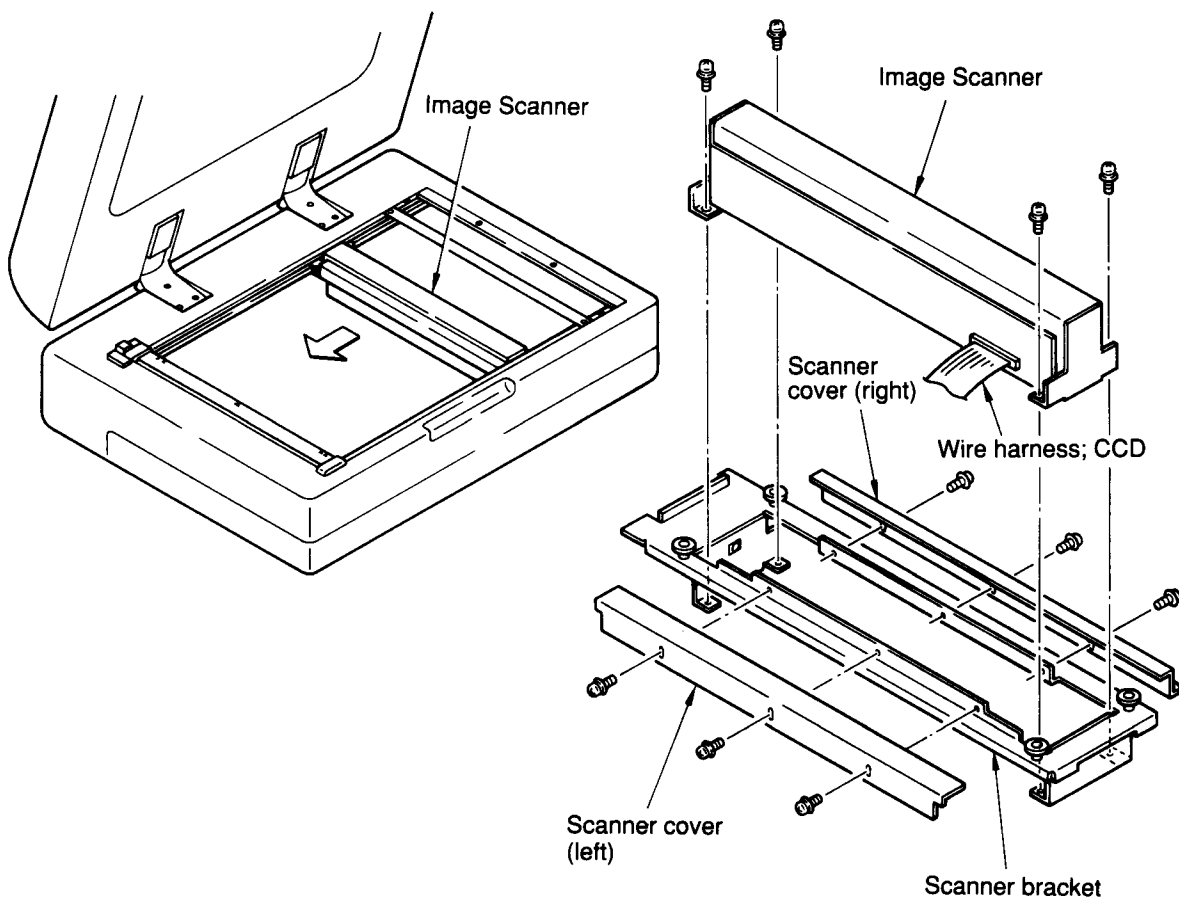
3. Image Scanner Unit

- Removal Procedures -

- 1) Remove the Stage glass. (Refer to the previous page.)
- 2) Shift the Image scanner slowly in the direction indicated by an arrow in the figure below and locate the Image scanner in the center.
- 3) Remove the Scanner cover (right) and Scanner cover (left) from the Scanner bracket by removing 3 fixing screws for each.
- 4) Remove 4 mounting screws which hold the Image scanner onto the Scanner bracket.
- 5) Disconnect the connector going into the Image scanner and lift the Image scanner slowly out of the Scanner bracket.

[Note]

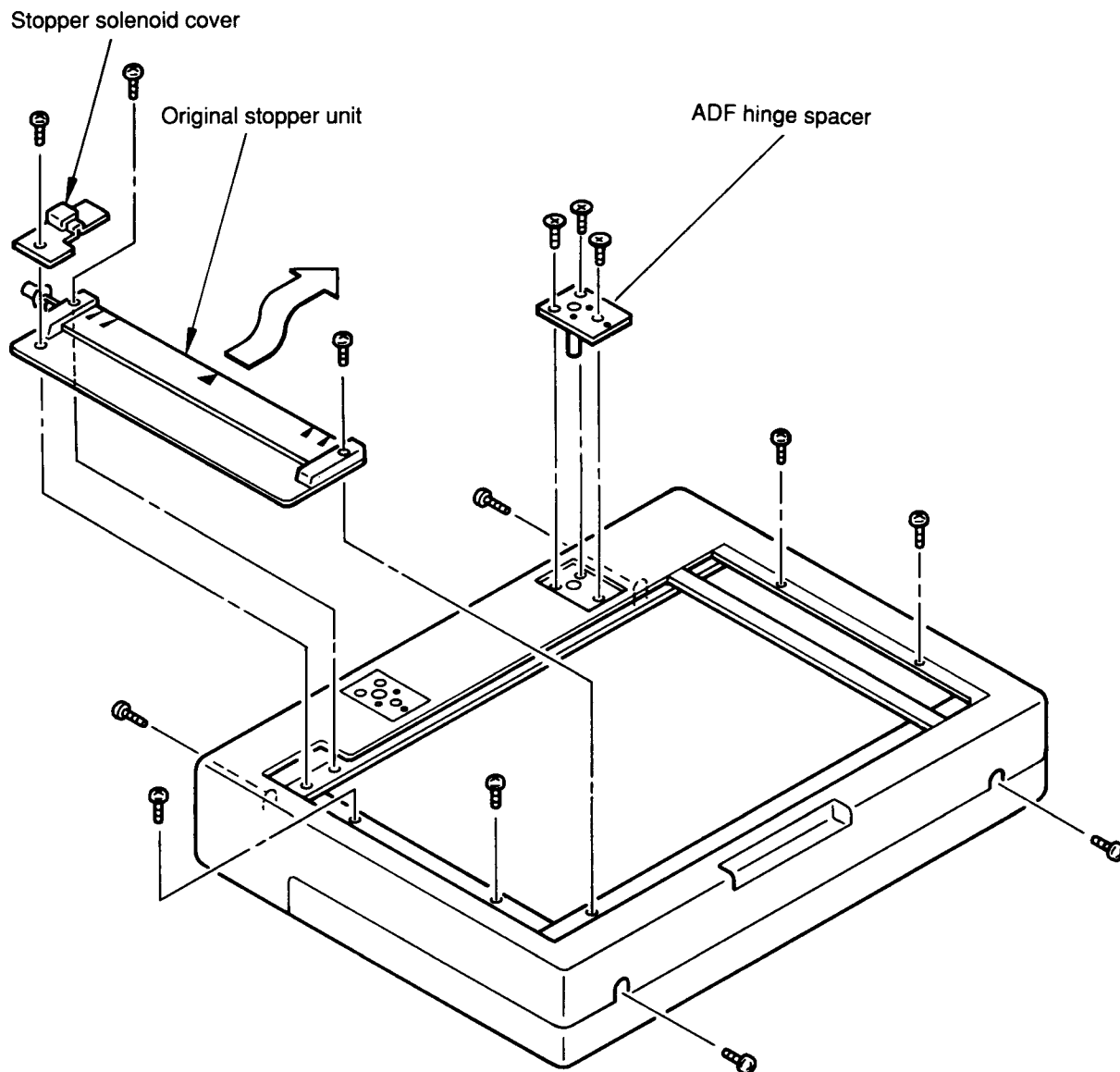
Be careful not to shift the Image scanner quickly; it may cause the belt to slip.



4. Scanner Table Cover

- Removal Procedures -

- 1) Remove the Stage cover (or the ADF) and Stage glass.
(Refer to pages II-8 & III-6.)
- 2) Remove 3 mounting screws which hold the Original stopper unit and Stopper solenoid cover onto the Image scanner table.
Remove the Original stopper unit and Stopper solenoid by holding them up and shifting them to the direction indicated by an arrow in the figure.
- 3) Remove the ADF hinge spacers (2 pcs.) from the Scanner table cover.
- 4) Remove 8 mounting screws on the Scanner table cover, and remove the cover.



5. Image Processing PCBs

[Image Processing PCB(58), Trimming PCB & ACC PCB]

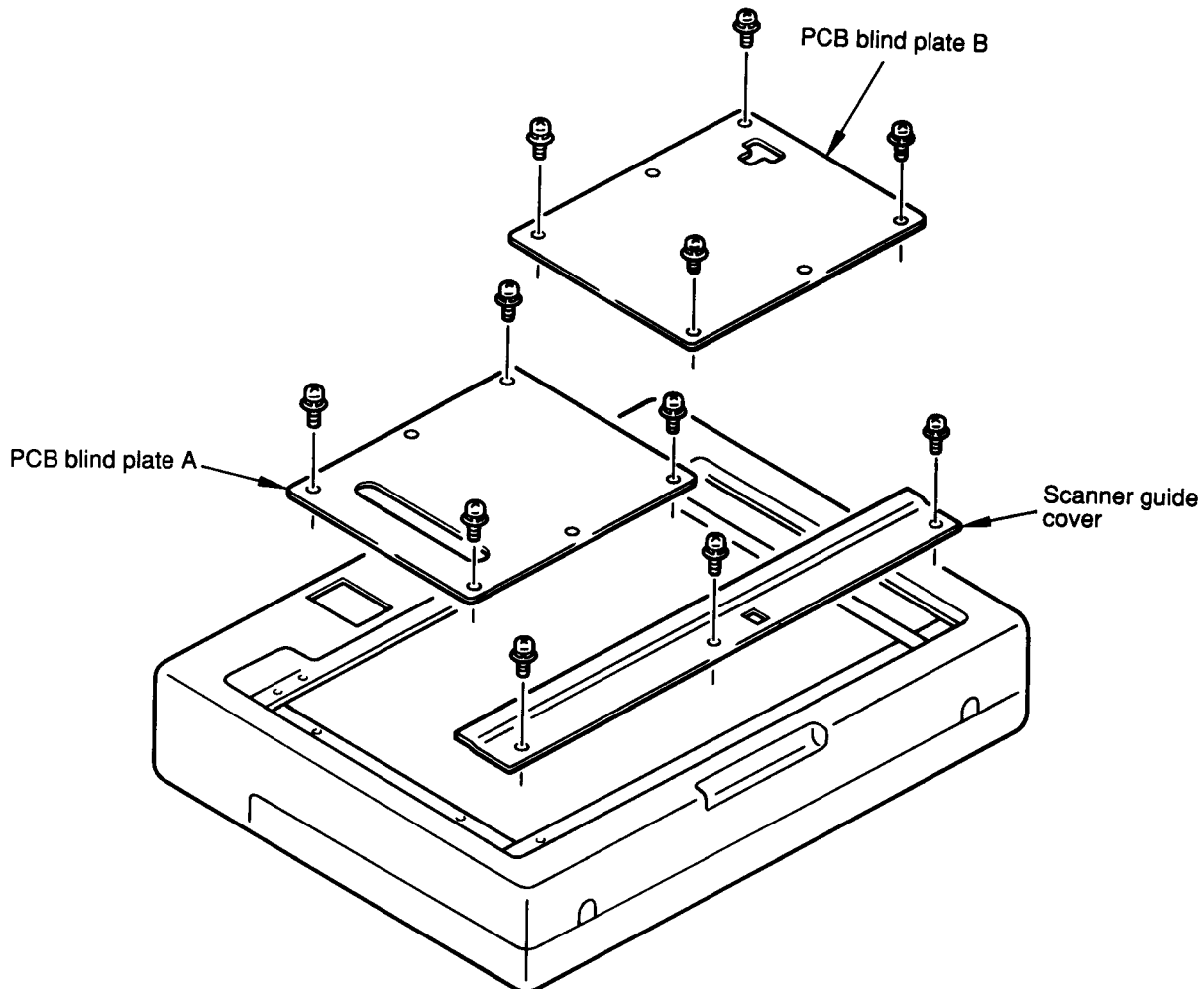
- Removal Procedures -

- 1) Remove the Shading plate cover, Stage glass and Original stopper unit.
(Refer to pages II-8 & 9.)
- 2) Disconnect the connector of the wire harness coming from the Image scanner.
- 3) Remove 11 mounting screws on the PCB blind plate A, PCB blind plate B and Scanner guide cover, and remove the plates and cover.
- 4) Disconnect all connectors on the Image processing PCBs, and remove all mounting screws on the PCBs.

Then take out the PCBs from the Image scanner table carefully.

[Note]

Be careful not to catch the wire harness coming from the Image scanner when removing the Scanner guide cover.



[Adjustment Procedures]

1. Tension of Read Pulse Motor Belt

- Check & Adjustment -

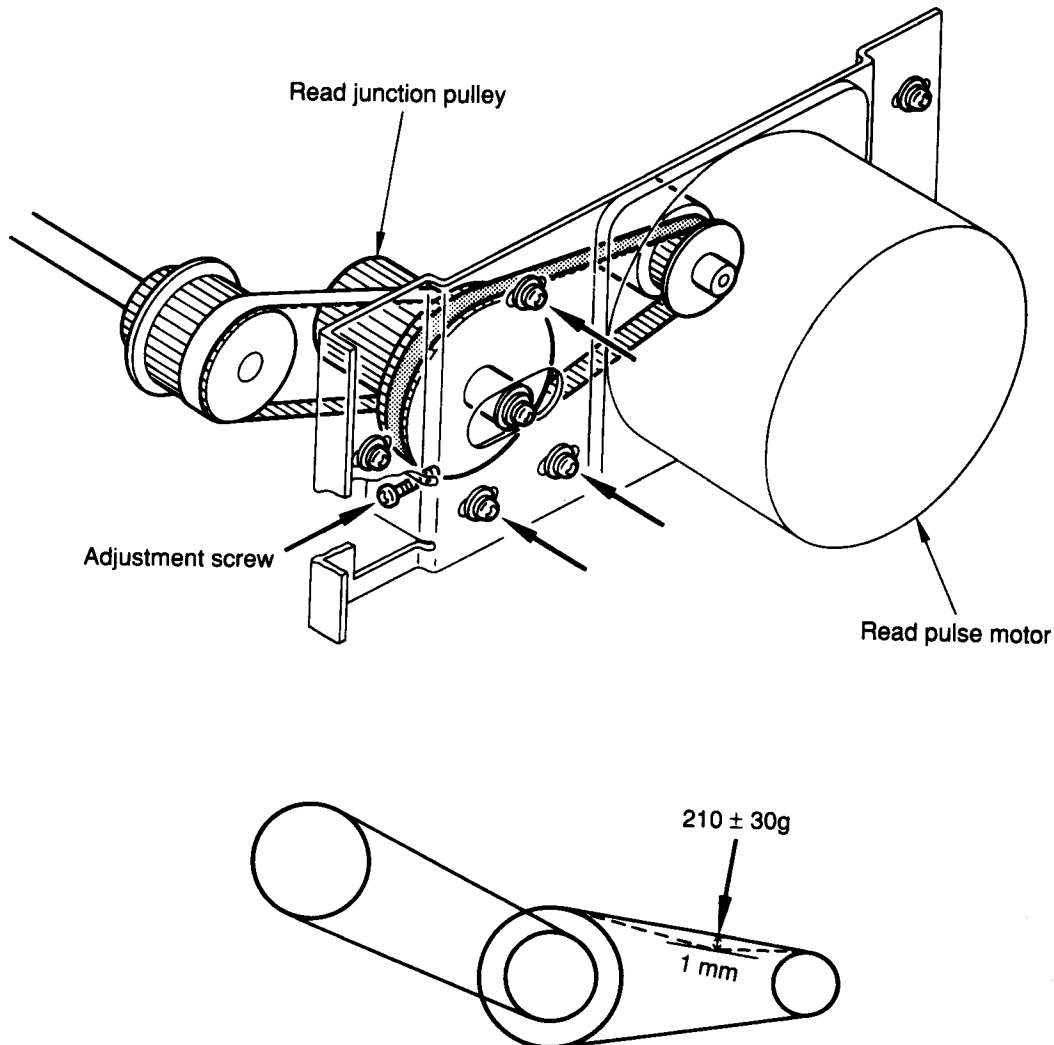
- 1) Remove the Scanner table cover and check the tension of the Read pulse motor belt. The tension should read $210 \pm 30\text{g}$ on the tension gauge when pushing the tension gauge down 1mm in the middle of the belt.
- 2) If the tension is incorrect, loosen the 3 mounting screws on the Read junction pulley and adjust the pulley for proper tension with the adjustment screw.

[Note]

After adjusting the tension of the Read pulse motor belt, always adjust the tension of the Read junction pulley belt.

- Results of Misadjustment -

- 1) If the tension is not adjusted correctly; \Rightarrow the belt may vibrate in rotation causing noise or/and jumping, which could result in deformed or/and missing images on printed copies due to irregular movement of the Image scanner.

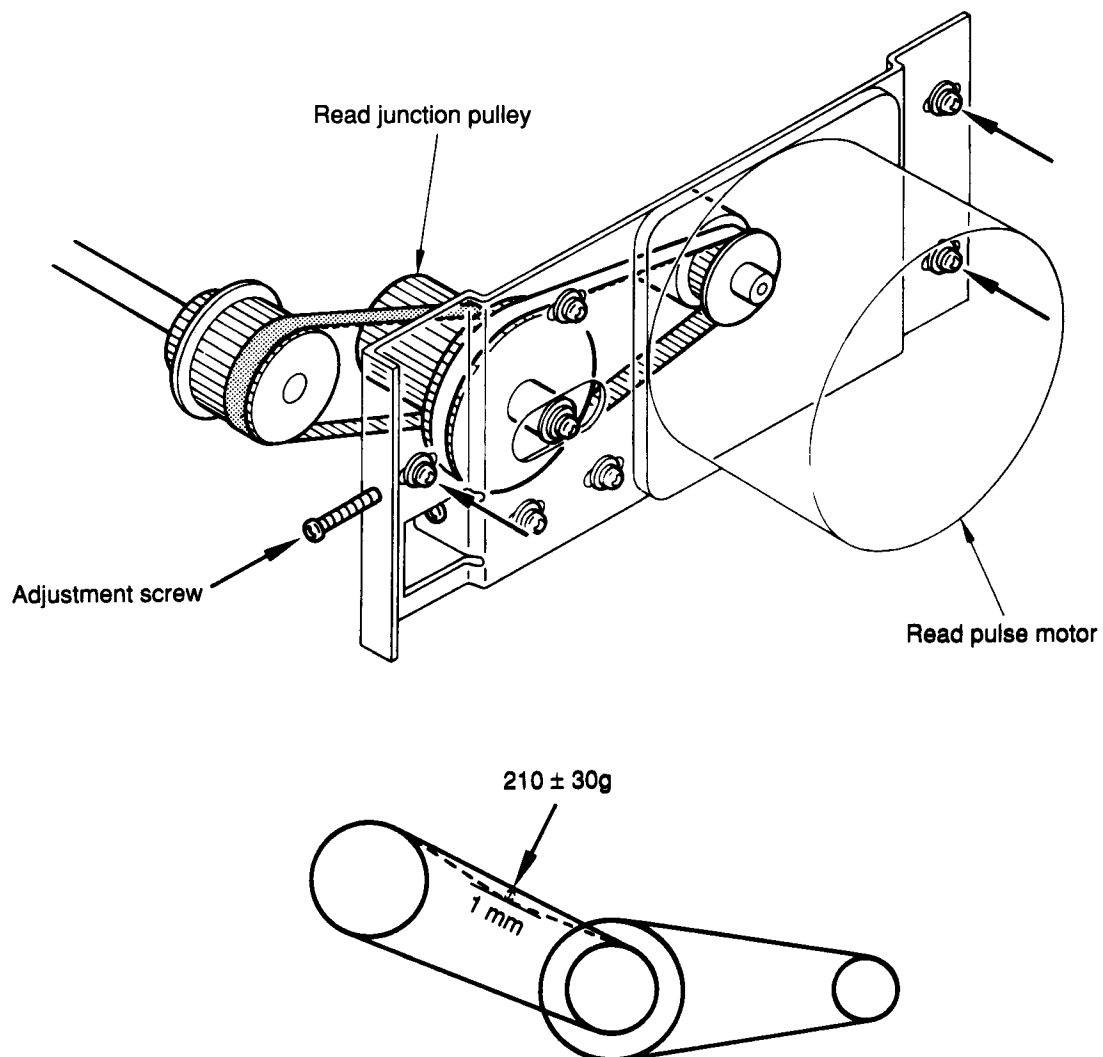


2. Tension of Read Junction Pulley Belt**- Check & Adjustment -**

- 1) Remove the Scanner table cover and check the tension of the Read junction pulley belt. The tension should read $210 \pm 30\text{g}$ on the tension gauge when pushing the tension gauge down 1mm in the middle of the belt.
- 2) If the tension is incorrect, loosen the 3 mounting screws on the Read pulse motor bracket and adjust the bracket for proper tension with the adjustment screw.

- Results of Misadjustment -

- 1) If the tension is not adjusted correctly; \rightarrow
the belt may vibrate in rotation causing noise or/and jumping, which could result in deformed or/and missing images on printed copies due to irregular movement of the Image scanner.



ADJUSTMENT PROCEDURES

3. Position of Scanner Driving Belt

- Procedure -

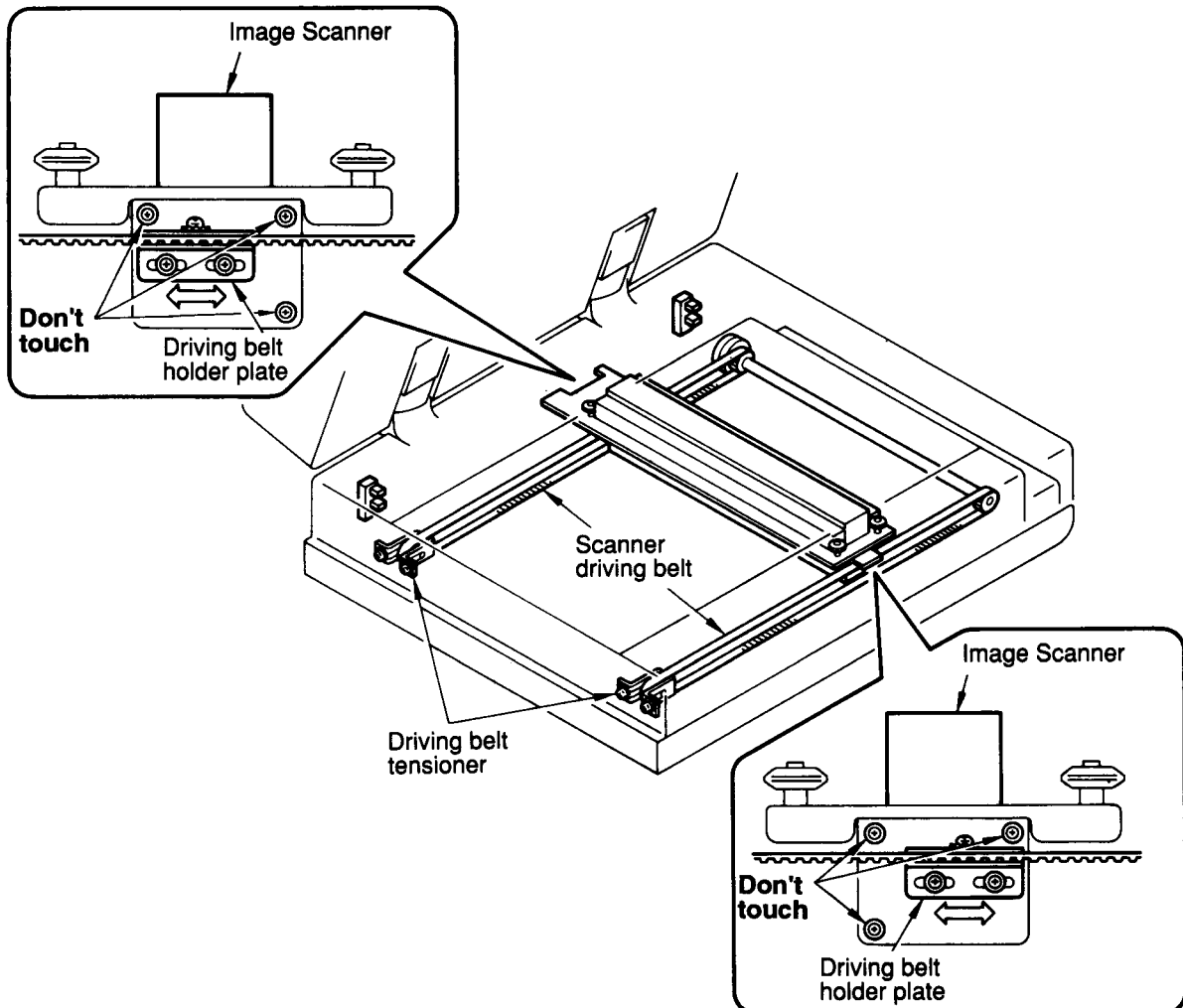
- 1) Remove the Scanner table cover.
- 2) Shift the Image scanner to the position indicated in the figure below.
Loosen the screws on the Driving belt holder plates (on the front and rear sides).
The screws can be accessed from the open part of the Scanner bracket.
- 3) Adjust and tighten the Driving belt holder plates so that the Image scanner can be moved smoothly without vibrating when rotating the Scanner driving belt.

[Note]

If the Driving belt holder plates (on the front and rear sides) are not aligned straight (looking from the front), loosen the mounting screws on the Driving belt tensioner and manually rotate the belt so that the holder plates can be aligned straight.

- Results of Misadjustment -

- 1) If the Image scanner is not adjusted properly ; ➡
the Image scanner vibrates during the Scanner driving belt rotation, which could result in blurred images on printed copies.



4. Position of Image Scanner Unit

- Check & Adjustment -

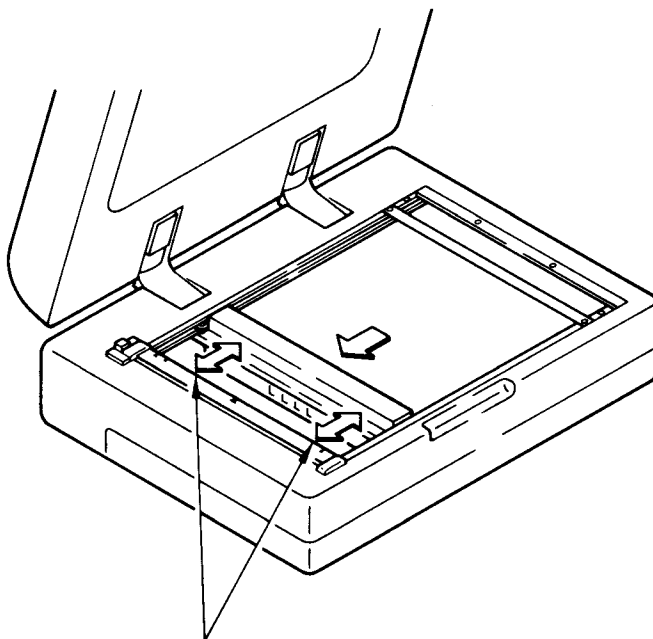
- 1) Remove the Stage glass.
- 2) Shift the Image scanner to the direction indicated by an arrow in the figure 1 below, and remove the Scanner cover (left) and Scanner cover (right).
- 3) Shift the Image scanner close to the Original stopper.
Check if the Image scanner is parallel with the Original stopper.
- 4) If the Image scanner is not parallel with the Original stopper, loosen the 4 mounting screws and adjust the position of the Image scanner. (See the figure 2 below.)
When adjusting the Image scanner, always position the Image scanner as close to the Original stopper as possible.

[Note]

If the Image scanner position adjustment is made to the Image scanner, always adjust the Scanning (Read) start position as well. (Refer to page II-18.)

- Results of Misadjustment -

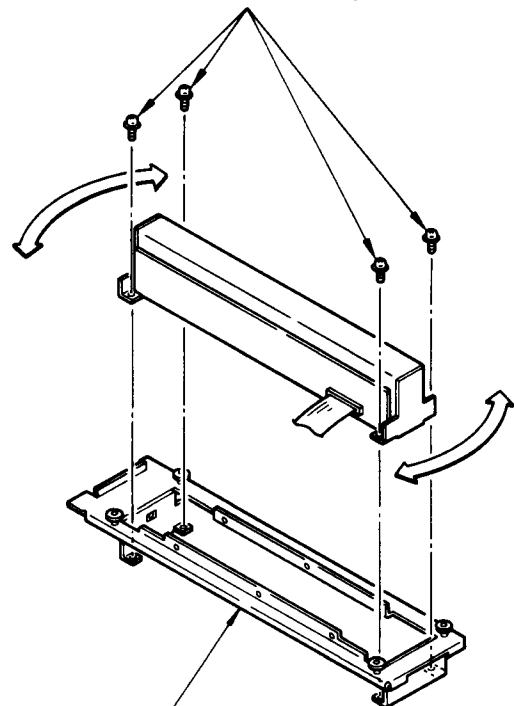
- 1) If the Image scanner is not parallel with the Original stopper ; ➡
slanting images appear on printed copies.



Install the Image Scanner so that it can be parallel with the Original stopper.

[Figure 1]

Loosen these screws to adjust the installation position of the Image Scanner.



Scanner bracket

[Figure 2]

ADJUSTMENT PROCEDURES

5. Position of Stage Glass

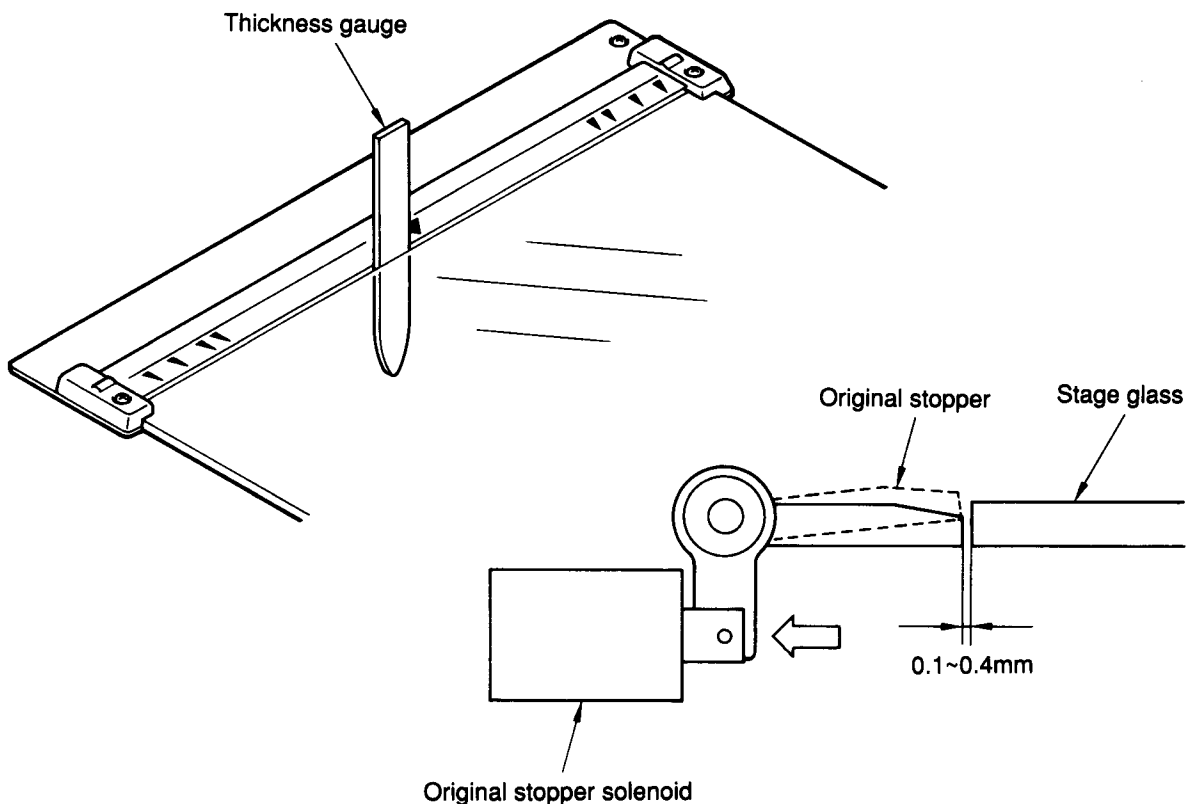
5. Position of Stage Glass

- Procedure & Check -

- 1) Remove the Shading plate cover and Shading plate from the Image scanner table.
- 2) Insert a feeler (thickness) gauge between the Stage glass and Original stopper, and adjust the position of the Stage glass. The gap between the Stage glass and Original stopper should be **0.1 to 0.4 mm**.
Check if the Stage glass is parallel with the Original stopper.
- 3) After adjustment, install the Stage glass with the Shading plate.
- 4) Check for mechanical binds of the Original stopper in Test mode **No.56**.

- Results of Misadjustment -

- 1) If the Stage glass binds with the Original stopper ;
the Original stopper prevents the ejection of a fed-in original in the ADF operation, causing the original ejection jam.



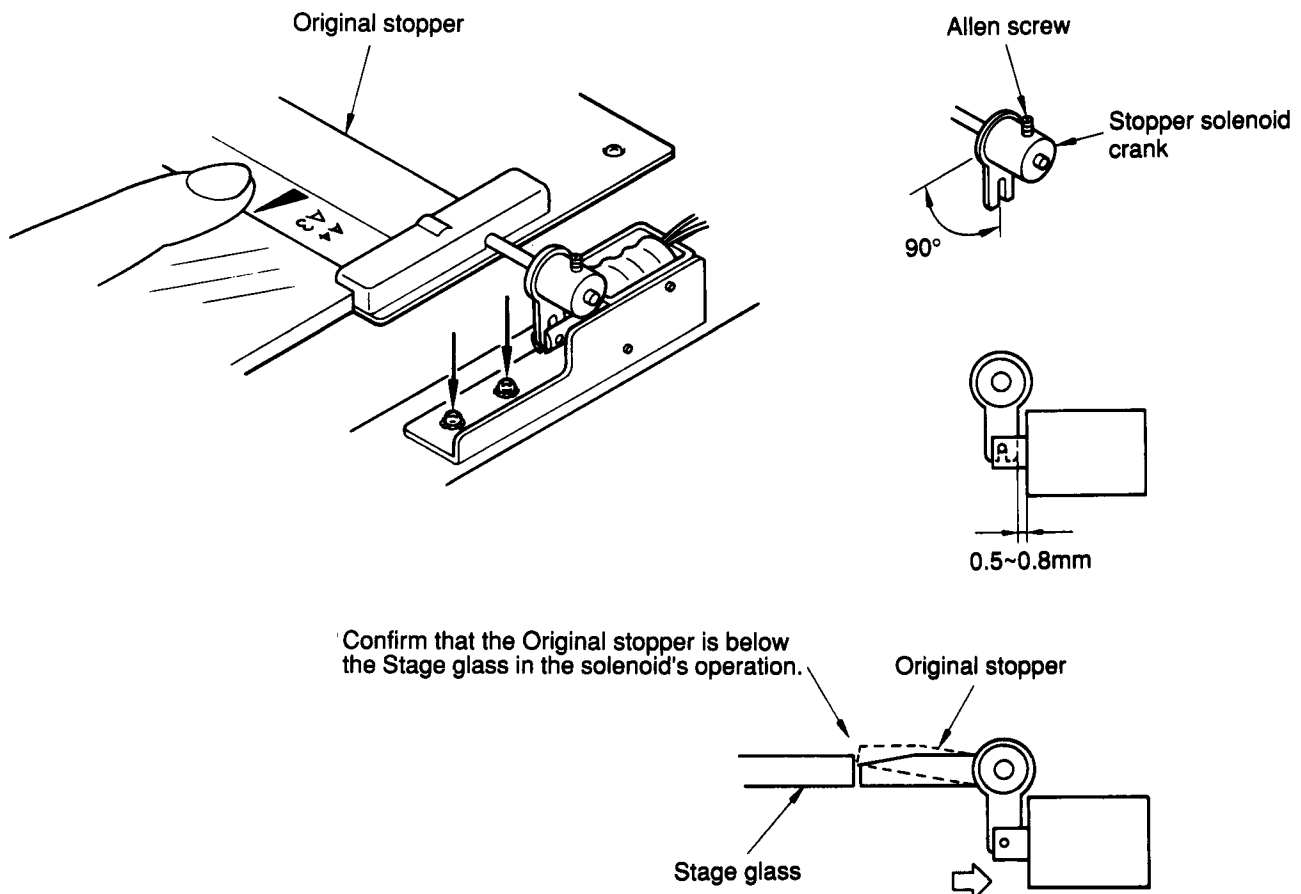
6. Position of Original Stopper Solenoid

- Procedure & Check -

- 1) Remove the Stopper solenoid cover.
- 2) Loosen the allen screw in the Stopper solenoid crank.
Turn the Stopper solenoid crank so that its plunger catch plate points down perpendicularly, and tighten the allen screw in the crank, holding down the Original stopper with a finger.
- 3) Loosen the screws on the Stopper solenoid bracket.
Adjust the position of the Original stopper solenoid so that the distance between the Original stopped solenoid and the Stopper solenoid crank is **0.5 to 0.8mm** when holding down the Original stopper with a finger.
- 4) Check that the Original stopper is below the Stage glass when the plunger of the Original stopper solenoid is pulled in in Test mode **No.56**.

- Results of Misadjustment -

- 1) If the Original stopper stays above the Stage glass when the Original stopper solenoid operates; →
the Original stopper prevents the ejection of a fed-in original in the ADF operation, causing the original ejection jam.



ADJUSTMENT PROCEDURE

7. Scanning (Read) Start Position

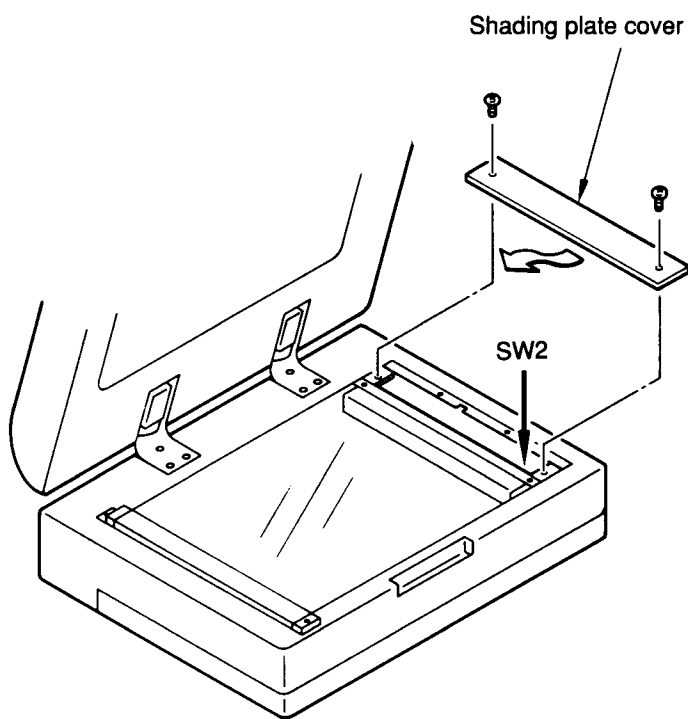
7. Scanning (Read) Start Position

- Check & Adjustment -

- 1) Remove the Shading plate cover from the Image scanner table.
- 2) Select "**No Margin**" with the Original type button on the operation panel and place the **Test chart No.8** on the Stage glass.
Then make a master in 1:1 (size-to-size).
- 3) Check that images on the master start from **5±0.5mm** down from the lead edge of the original (Test chart No.8).
- 4) If images on the master don't start from **5±0.5mm** down from the lead edge of the original, adjust with **SW2(ADF)** on the **Image processing PCB (58)**.

[Note]

Always start up Test Mode **No. 87** when performing this adjustment.



	Pulse No.	Shift Range (mm)
0	296	+2.4
1	286	+2.1
2	277	+1.8
3	267	+1.5
4	258	+1.2
5	248	+0.9
6	239	+0.6
7	229	+0.3
8	220	0
9	211	-0.3
A	201	-0.6
B	192	-0.9
C	182	-1.2
D	173	-1.5
E	163	-1.8
F	154	-2.1

Start Earlier

Scanning Start Position

Start Later

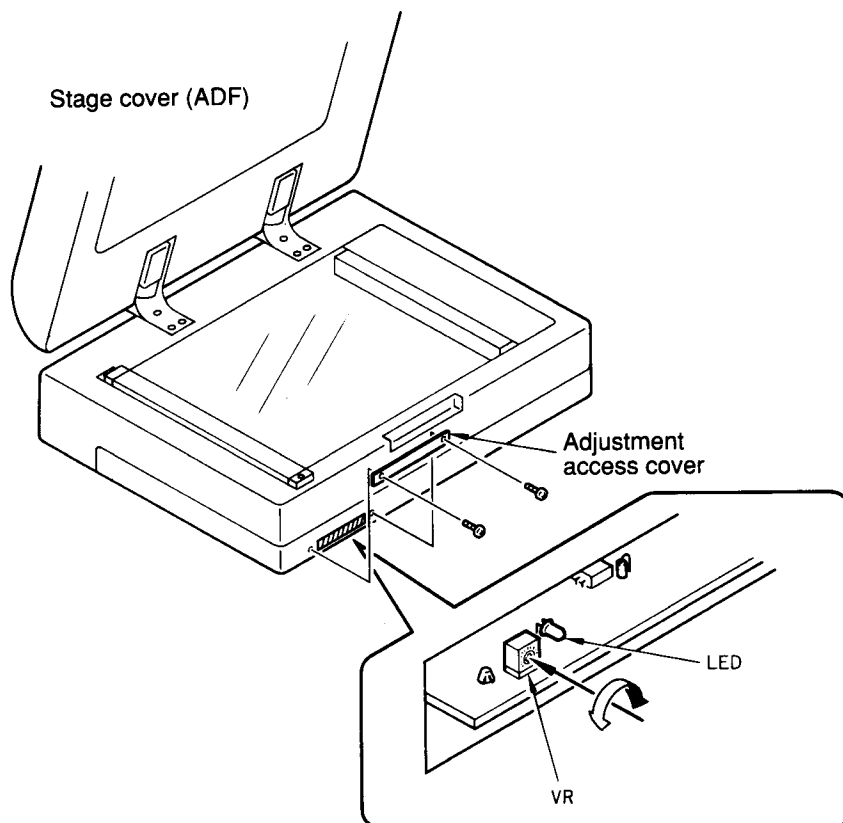
8. Sensitivity of Original Detection Sensor

- Check & Adjustment -

- 1) Slide the Image scanner table towards the paper feed side and remove the Adjustment access cover.
- 2) Check if the **LED on the Original det. sensor PCB** is lit when the Stage cover is closed. If it is not lit, turn the **VR on the Original det. sensor PCB** counter-clockwise until the LED is on.
- 3) Next, place the **Test chart No.10** on the Stage glass, and check that the LED is off when the Stage cover is closed. If it is on, turn the VR clockwise until the LED goes off and set the VR at the exact point where the LED has just gone off.
- 4) After adjustment, recheck that the LED is on without an original placed on the Stage glass and that it is off with Test chart No.10 placed there.

- Results of Misadjustment -

- 1) If the sensitivity is too low; ➡
the sensor can't detect an original when it is placed on the Stage glass. This will prevent master-making operation (except with the ADF on). With ADF on, this will cause the original feed or ejection jam when an original remains on the Stage glass.
- 2) If the sensitivity is too high; ➡
there will be no trouble in operation with an original placed on the Stage glass (except with the ADF), but it is assumed that an original is present even when not, causing the pre-scanning operation start. As a result, the message "**NO ORIGINAL ON THE STAGE**" is displayed on the panel. With ADF on, the message "**ORIGINAL REMAINING ON THE STAGE**" is displayed on the panel when there is no original placed on the Stage glass.



ADJUSTMENT PROCEDURES

9. Thermal Power of Thermal Print Head

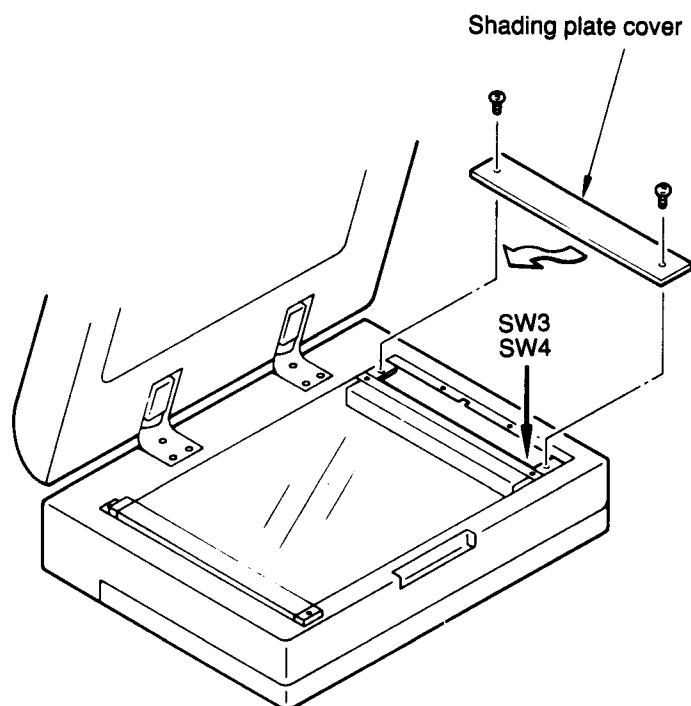
9. Thermal Power of Thermal Print Head

- Check & Adjustment -

- 1) Remove the Shading plate cover from the Image scanner table.
- 2) Remove the Front right cover.
- 3) Slide the Image scanner table towards the paper feed side, and unlock and open the Master loading unit.
Then read the resistance value (Ω) marked on the Thermal print head.
- 4) Measure the voltage between the **TP (GND)** and **TP (+18V)** on the **Power supply PCB** using a voltmeter, and check the table below.
If the value does not match, adjust **VR (+18ADJ)**.
- 5) Check that the setting of **SW3** and **SW4** on the **Image processing PCB (58)** are correct referring to the correlation table below.
- 6) If they are not set correctly, reset **SW3** for **HP1** and **SW4** for **HP2**.

- Results of Misadjustment -

- 1) If the heating time for **HP2** is too short (not enough heat) or the voltage is too low (not enough power); ➡
thin horizontal lines can not be reproduced clearly.
- 2) If the heating time for **HP1** is too long (too much heat) or the voltage is too high (too much power); ➡
the solid print image will be deformed and the Thermal print head may be damaged.



Voltage (V)	Resistance (Ω)	SW3	SW4
17.0 (17.3)	1520~1542	C	B
	1543~1574	D	D
	1575~1601	E	E
17.0 (17.3)	1602~1623	C	C
	1624~1656	D	D
	1657~1686	E	E
17.5 (17.8)	1687~1703	9	9
	1704~1737	A	A
	1738~1775	B	B
17.5 (17.8)	1776~1789	9	9
	1790~1823	A	B
	1824~1858	B	C
	1859~1870	C	D
18.0 (18.3)	1871~1874	6	6
	1875~1911	7	8
	1912~1947	8	9
	1948~1969	9	A
18.0 (18.3)	1970~2002	7	8
	2003~2038	8	9
	2039~2074	9	B
	2075~2093	7	9
18.0 (18.3)	2094~2129	8	A
	2130~2166	9	B
	2167~2184	A	D
	2185~2220	8	B
18.0 (18.3)	2221~2257	9	C
	2258~2300	A	D

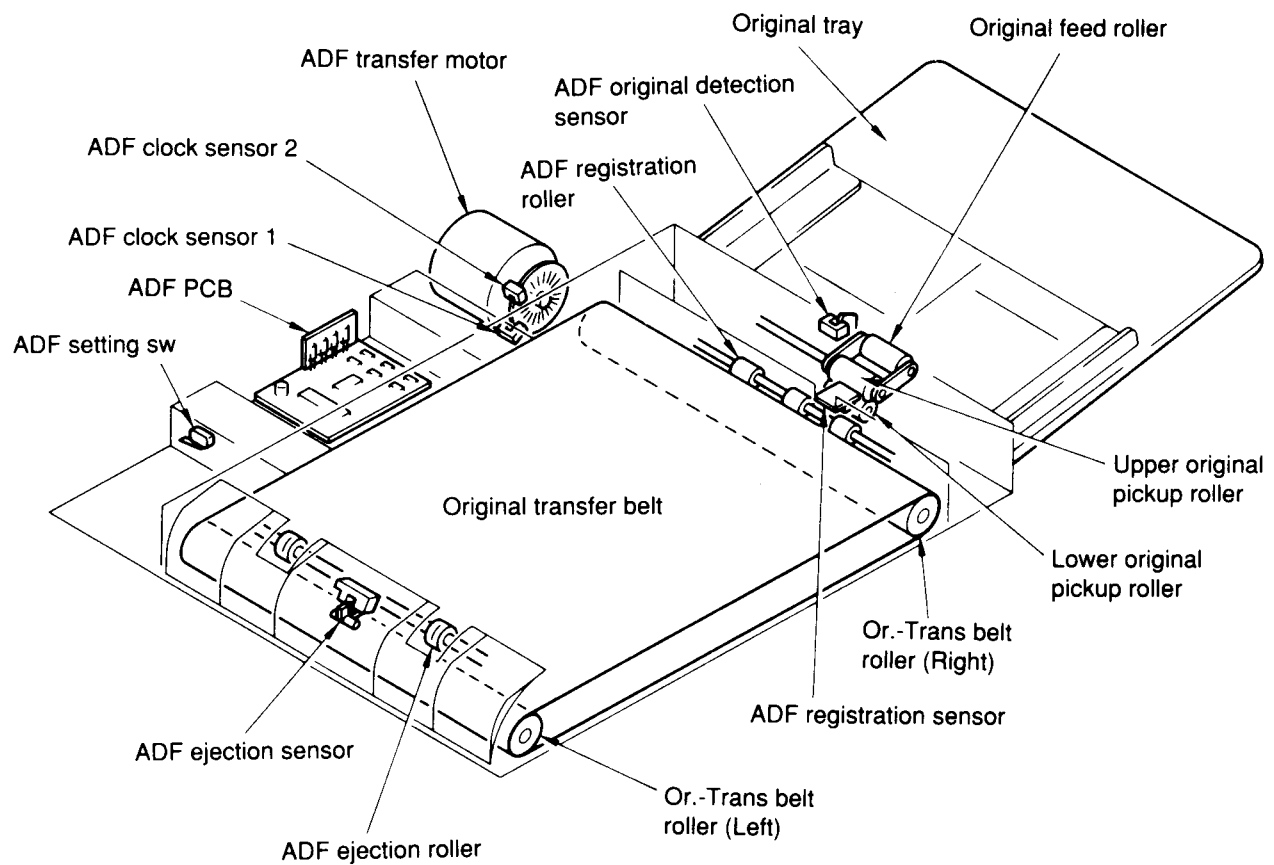
★ Refer to the voltage value in the bracket when a modified "Power supply PCB" is installed.

III. ADF 5800

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[Mechanical Overview]



Part name	Function
ADF transfer motor	Feeds an original into and out of the scanning section via transfer rollers and belts.
ADF original detection sensor	Checks if an original is placed on the Original tray.
ADF registration sensor	Detects original feed jam in ADF.
ADF ejection sensor	Detects original ejection jam in ADF.
ADF setting sw	Checks if the ADF is closed down or opened up.
ADF clock sensor 1	Checks the rotation speed of the ADF transfer motor.
ADF clock sensor 2	Same as above

[Theory of Operation]

1. Original Feed and Ejection System

- Detection of Original Placement

Originals placed on the Original tray are detected by the ADF original detection sensor.

- Pick-up of Original

When "Start" button is pressed for master-making, the ADF transfer motor starts to rotate clockwise, causing the ADF stopper to release originals and simultaneously the Original feed roller to lower onto originals.

When the Original feed roller gets in contact with originals, it starts to rotate clockwise via one-way clutch springs and ADF transfer motor, feeding the top original together with the Upper original pickup roller. (Originals are separated by the braking action caused by an one-way clutch spring of the Lower original pickup roller.)

- Original Feed-in

The original is fed by the Upper original pickup roller to the ADF registration sensor.

After the original reaches the ADF registration sensor, the ADF transfer motor (the Upper original pickup roller) rotates for 45ms to feed the original to the ADF registration roller and stops.

- Placing Original on the Stage

After a short stop, the ADF transfer motor reverses the rotation direction and transfers the original onto the Stage glass using the ADF registration roller and Original transfer belt.

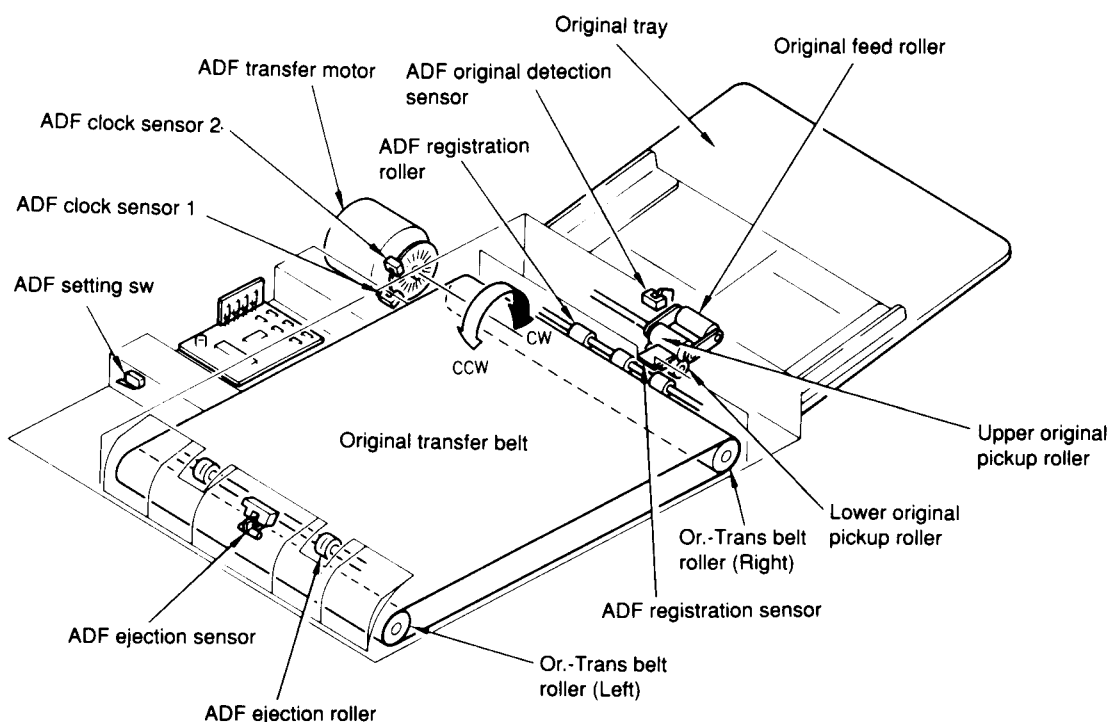
The original transfer range is decided according to the original size detected by the ADF registration sensor.

- Ejection of Original

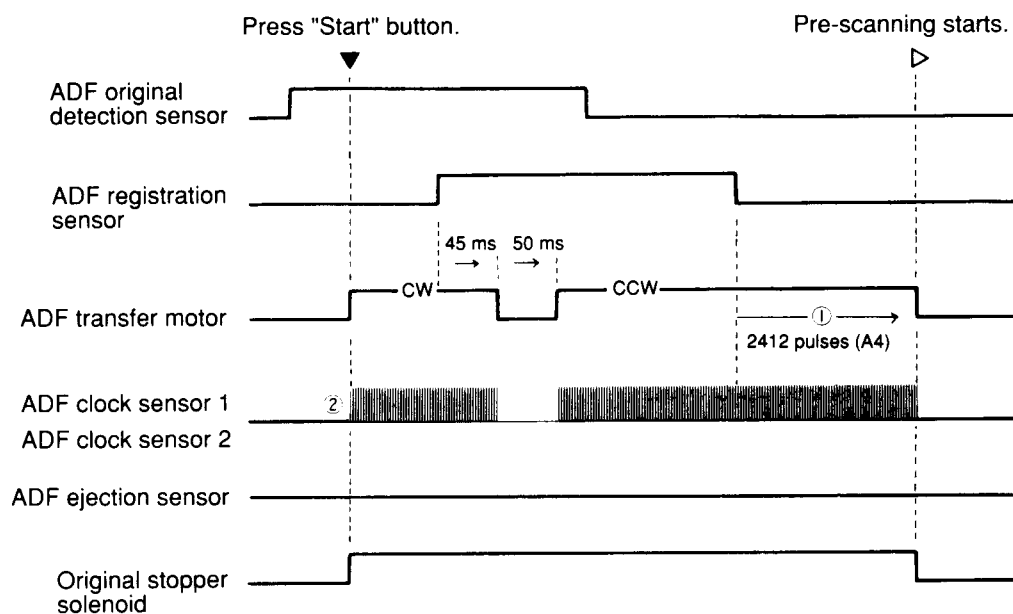
After pre-scanning/scanning/master-making operations, the Original stopper solenoid is activated, causing the Original stopper to lower and open the exit for the original.

Then the ADF transfer motor starts to rotate counter-clockwise and ejects the original from on the Stage glass via the Original transfer belt and ADF ejection roller.

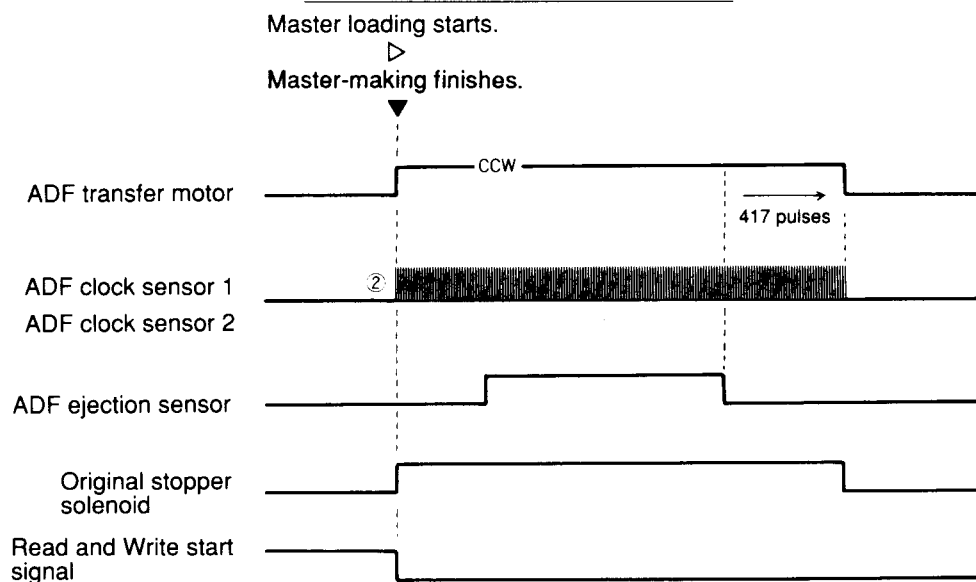
In the above operation, the ADF ejection sensor checks for original jams.



1. Original Feed System



2. Original Ejection System



- ① The original size is detected by counting the time for which the light path of the ADF registration sensor has been blocked by an original.

<Detected original size>

- A3/B4/A4(Wide)/B5/B5(Wide)/A5
- Ledger/Legal/Letter/Statement

According to the detected original size, the original feed range is determined after the trail edge of the original has passed the ADF registration sensor.

(For "A4" original, the original feeds for 2421 pulses <counted by the ADF clock sensor 1 & 2> after its trail edge passed the ADF registration sensor.)

- ② If no pulse signal is sent from the ADF clock sensor 1 for **more than 500 ms** when the ADF transfer motor is in operation, it is determined that the ADF transfer motor is locked and the trouble message "T14: CALL SERVICE" is displayed on the panel.

2. Original Feed Check System

During the original feed operation, the following 4 kinds of original feed troubles are detected by the ADF registration sensor.

In each case, when the trouble occurs, the jam message **"ORIGINAL MISFEED IN ADF-OPEN STAGE COVER/REMOVE ORIGINAL"** is displayed on the panel.

1. [Original stack in entrance at start-up]

If the light path of the ADF registration sensor is blocked when the ADF starts to operate, it is determined that a jammed original remains in the original feed side of the ADF.

2. [No original feed or Original slip]

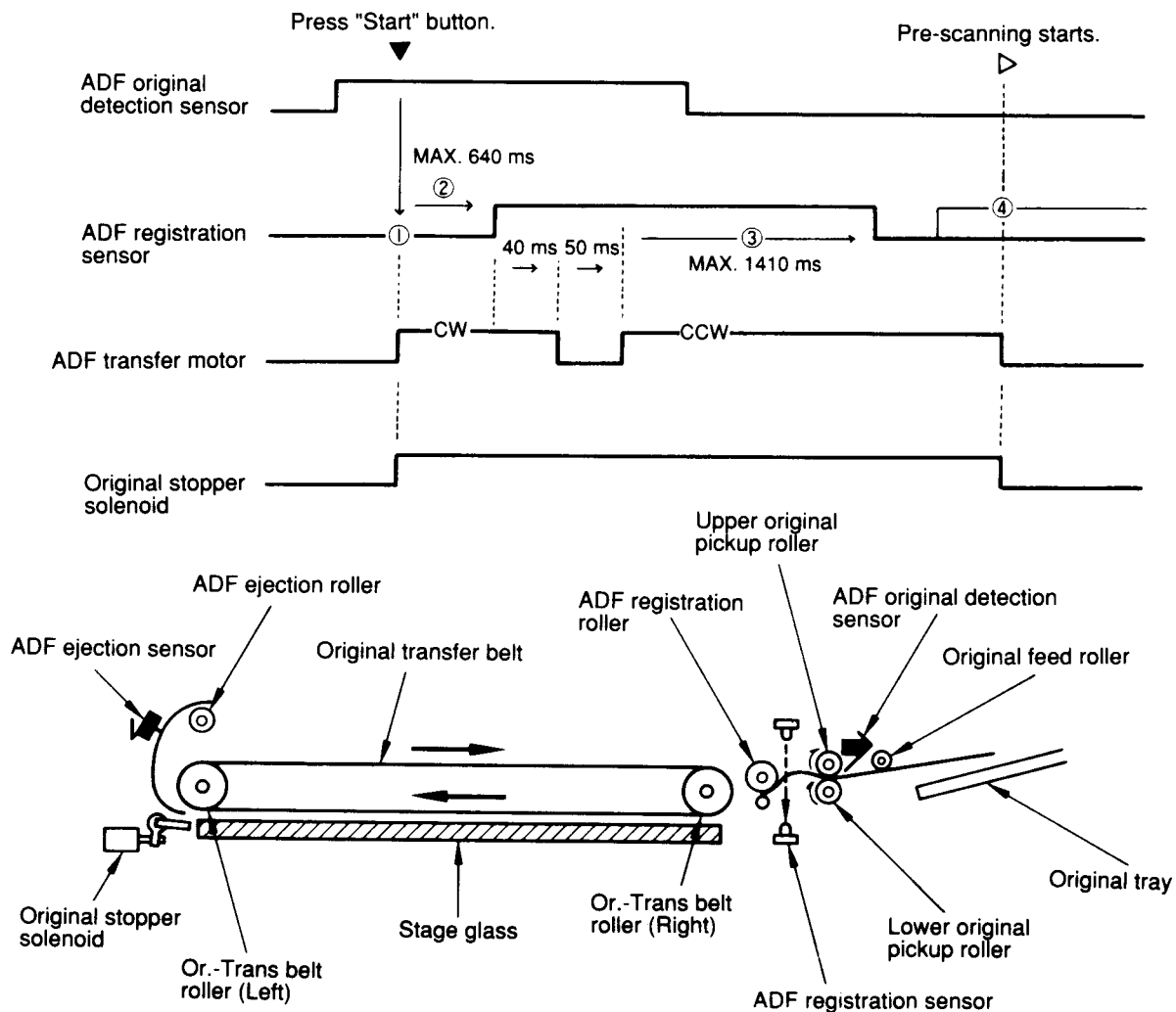
If the light path of the ADF registration sensor is not blocked by the original within **640ms** after the start of the ADF transfer motor (clockwise rotation), it is determined that the original has not been fed.

3. [Original misfeed in ADF]

If the light path of the ADF registration sensor has not been opened within **1410ms** after the ADF transfer motor reversed the rotation direction to counter-clockwise, it is determined that the original has misfed in the ADF.

4. [Original feed jam in ADF]

If the light path of the ADF registration sensor is blocked by the original when the original feed operation finished, it is determined that the original jams in the original feed side of the ADF.



3. Original Ejection Check System

During the original ejection operation, the following 3 kinds of original ejection troubles are detected by the ADF ejection sensor.

In each case, when the trouble occurs, the jam message "**ORIGINAL JAM IN ADF-OPEN STAGE COVER/REMOVE ORIGINAL**" is displayed on the panel.

1. [Original stack in exit at start-up]

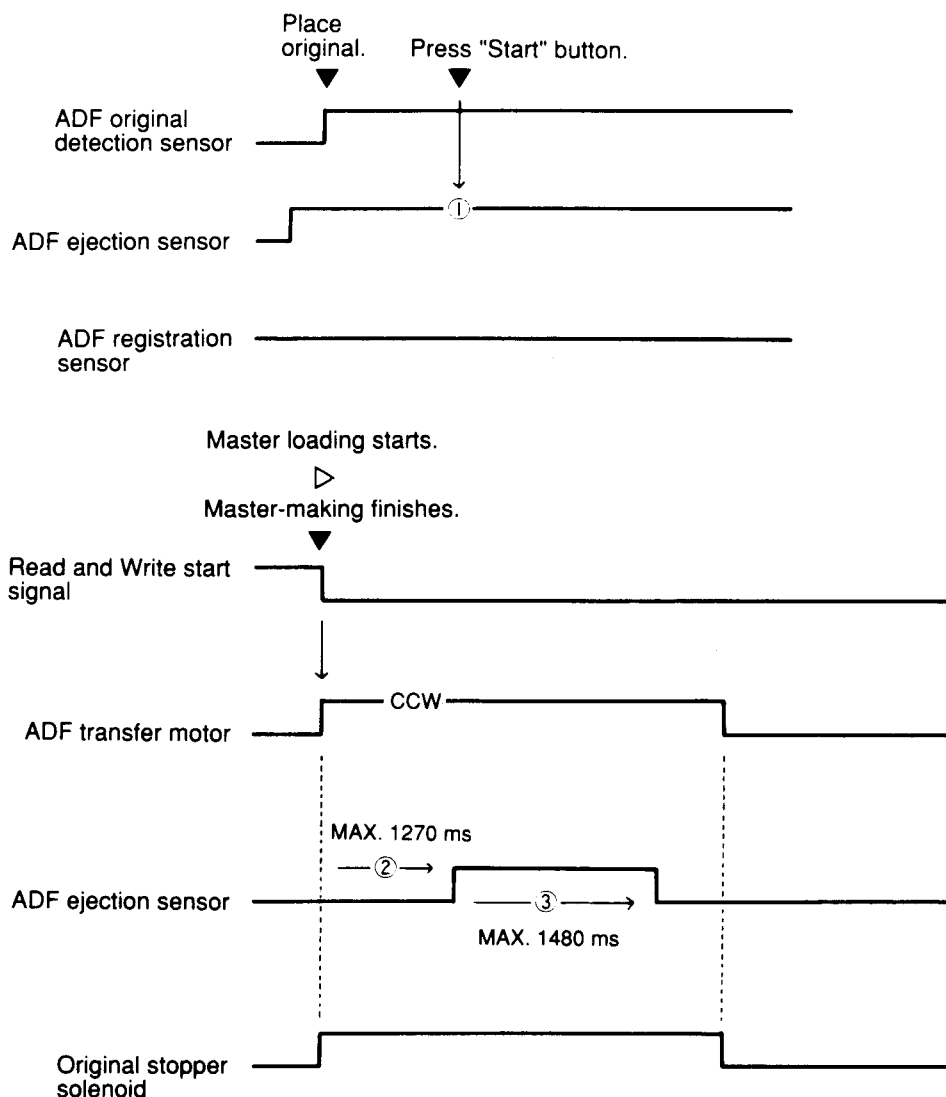
If the actuator of the ADF ejection sensor is held up, when the ADF starts to operate, it is determined that a jammed original remains in the original ejection side of the ADF.

2. [Original mis-ejection in ADF]

If the actuator of the ADF ejection sensor has not been pushed up, within **1270ms** after the ADF transfer motor started rotating counter-clockwise, it is determined that the original has not been ejected into the exit of the ADF.

3. [Original ejection jam in ADF]

If the actuator of the ADF ejection sensor is not released within **1480ms** after it was pushed up, it is determined that the original has jammed in the original ejection side of the ADF.



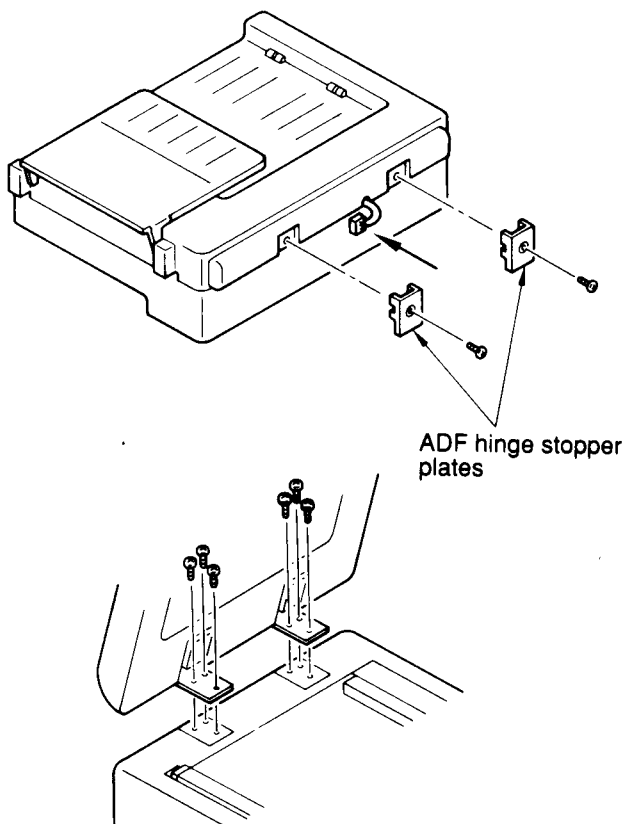
[Removal Procedures & Precautions for Installation]

1. ADF 5800

- Removal Procedures -

- 1) Remove the ADF hinge stopper plates (2 pcs.).
- 2) Disconnect the ADF interface wire.
- 3) Remove 6 mounting screws on the ADF hinges.

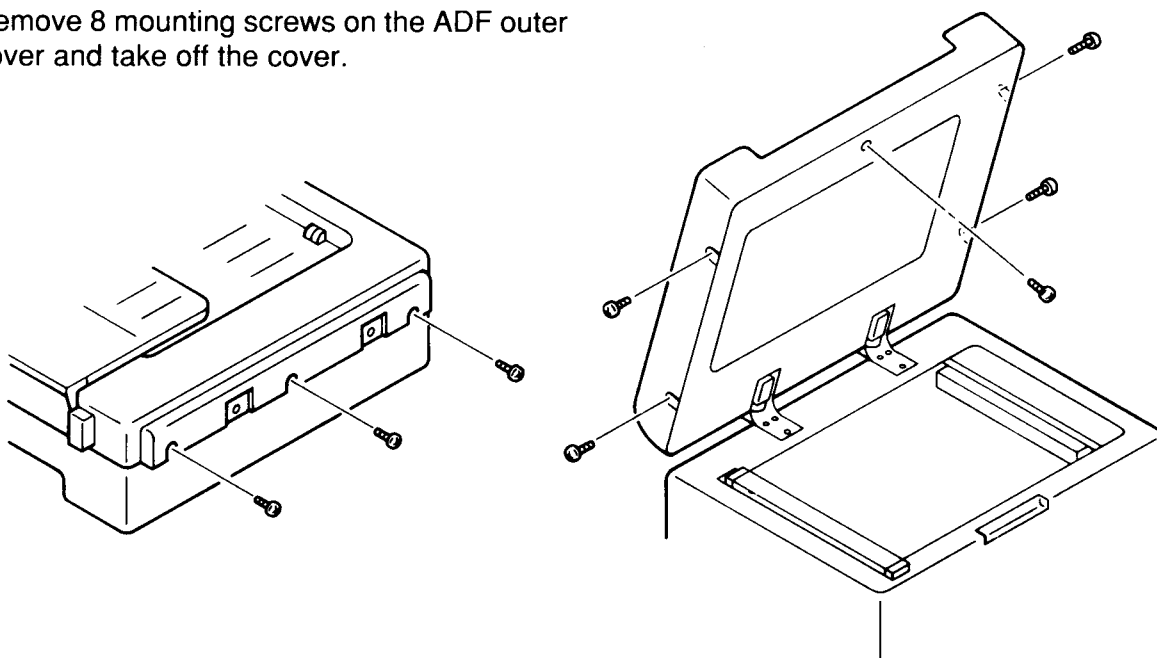
* Remove the ADF spacers if they are inserted under the ADF hinges.



2. ADF Outer Cover

- Removal Procedures -

- 1) Remove 8 mounting screws on the ADF outer cover and take off the cover.



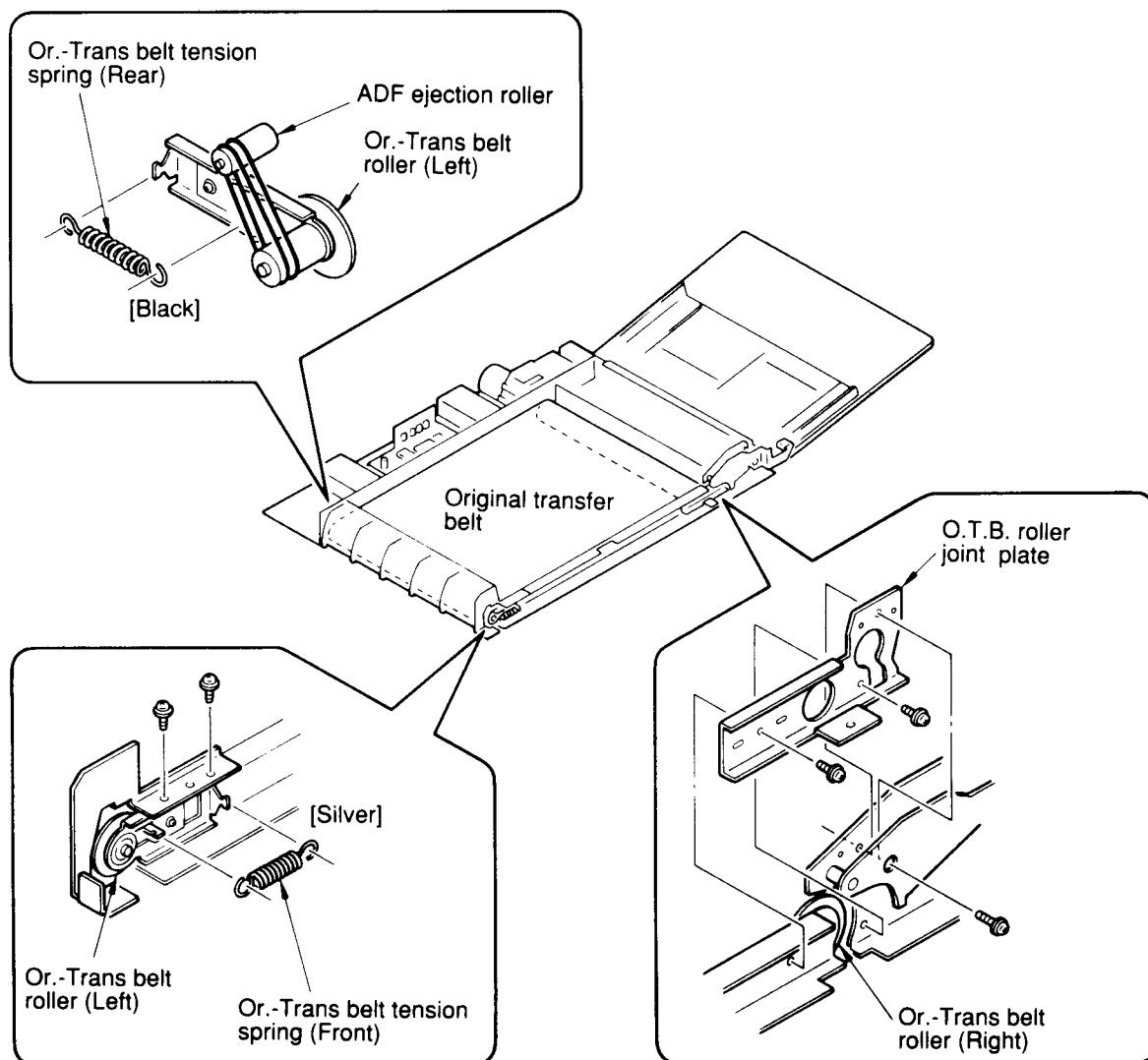
3. Original Transfer Belt

- Removal Procedures -

- 1) Remove the ADF outer cover. (Refer to the previous page.)
- 2) Remove the Or.-Trans belt tension springs (on the front and rear sides) from the Or.-Trans belt roller (Left).
- 3) Remove the O.T.B. roller joint plate by removing the 5 mounting screws indicated in the figure below.
- 4) Pull the Original transfer belt toward you and remove it from the Or.-Trans belt rollers.

- Precautions for Installation -

- Two different Or.-Trans belt tension spring are attached on the front and rear sides; be careful not to install it on the wrong side.
(A silver one for the front side and a black one for the rear side)
- After belt installation, always confirm by the ADF 5800 Test mode that the Original transfer belt doesn't shift sideways.



[Adjustment Procedures]

1. Sensitivity of ADF Registration Sensor

- Check & Adjustment -

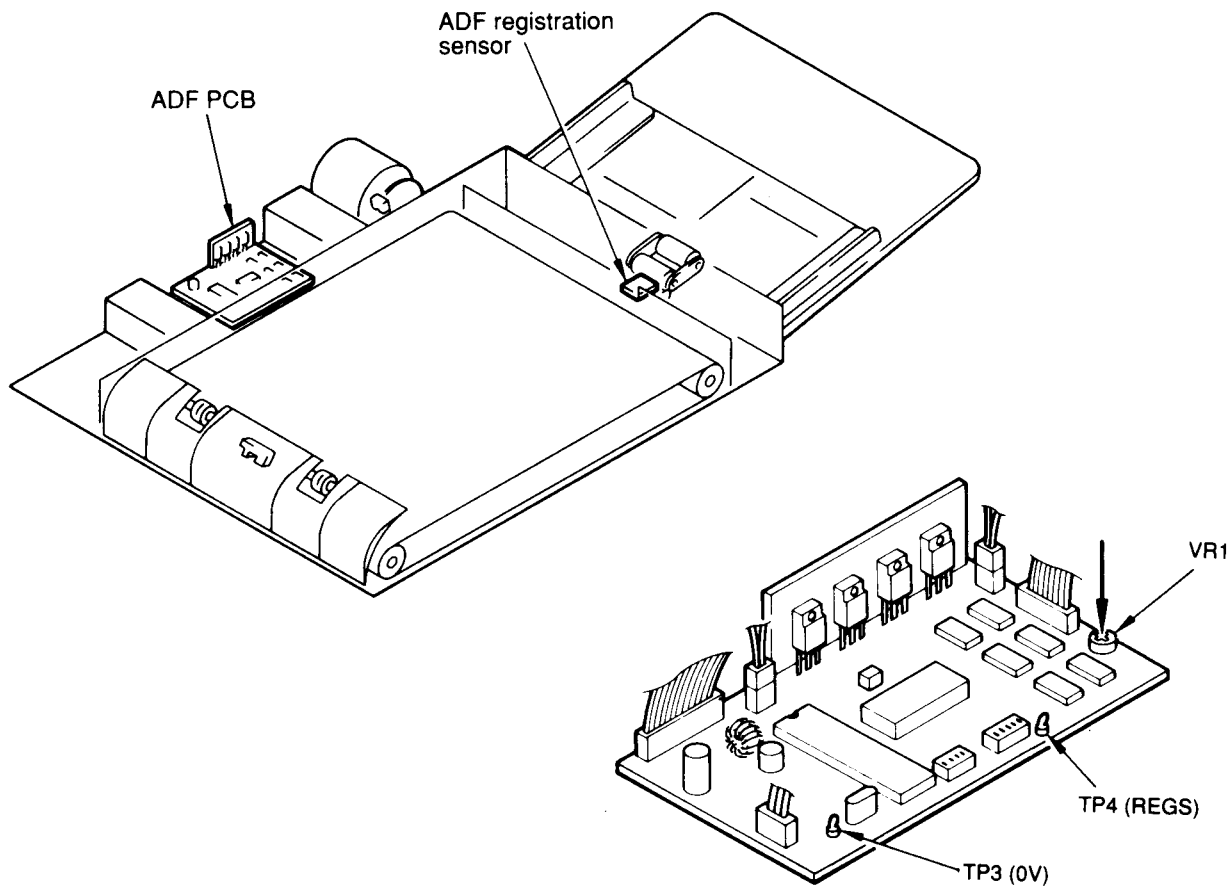
- 1) Remove the ADF outer cover from the ADF.
- 2) Connect the terminals of a voltmeter to **TP3(0V)** and **TP4(REGS)** on the **ADF PCB**.
- 3) Turn the machine on and shut off the ADF registration sensor from the outside light.
- 4) Check that the voltmeter indicates **1.0 to 1.1V** when no original is placed on the Original tray, and that it indicates **3.0V or more** when the light path of the ADF registration sensor is blocked by paper.
- 5) If not, adjust the sensitivity with **VR1** on the **ADF PCB**.
(The voltage is increased by turning VR1 clockwise.)

[Note]

For checking the sensitivity, use a 75 g/m²-thick tracing paper (attached).

- Results of Misadjustment -

- 1) If the sensitivity is too low; ➡
the message **"ORIGINAL MISFEED-OPEN STAGE COVER/REMOVE ORIGINAL"** is displayed on the panel even when no original is jammed in the ADF.
- 2) If the sensitivity is too high; ➡
the message **"ORIGINAL MISFEED-OPEN STAGE COVER/REMOVE ORIGINAL"** is displayed on the panel when an original is normally fed.



2. Stop Position of Original Feed

- Check & Adjustment -

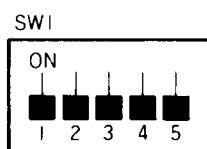
- 1) Remove the ADF outer cover from the ADF.
- 2) Enter the **ADF 5800 Test mode** and select "**Single Original Feeding Mode**".
- 3) Place originals on the Original tray and press **SW3** on the **ADF PCB** to feed an original.
- 4) Check that an original stops with **0 to 2mm** distance between the lead edge of the original and the Original stopper.
- 5) If not, adjust the stop position with **SW1** on the **ADF PCB**.

[Note]

In "Single Original Feeding Mode" the Original stopper solenoid doesn't operate. Always lower the Original stopper below the Stage glass before the above procedure.

- Results of Misadjustment -

- 1) If an original stops too early; ➡
a black line or block appears in the top part of printed copies.
- 2) If an original stops too late; ➡
an original hits against the Original stopper, causing wrinkles, which result in the deformation of images on printed copies.

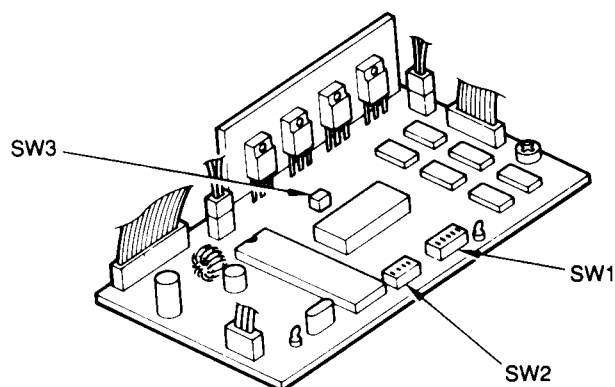


#1-#4 : For adjustment of original feed range

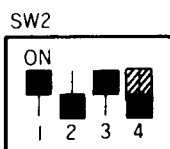
#5 : For selection of adjustment direction

- ON - <+> direction
(Increases original feed range.)
- OFF - <-> direction
(Decreases original feed range.)

[ADF PCB]



"Single Original Feeding Mode" Setting in ADF 5800 Test Mode



- #1: ON
- #2: OFF
- #3: ON
- #4: OFF

★ #4 is "ON" for U.S. model.

○: OFF ●: ON

1	2	3	4	Feed Range
○	○	○	○	0.00mm
●	○	○	○	0.46mm
○	●	○	○	0.92mm
●	●	○	○	1.38mm
○	○	●	○	1.84mm
●	○	●	○	2.30mm
○	●	●	○	2.76mm
●	●	●	○	3.22mm
○	○	○	●	3.68mm
●	○	○	●	4.14mm
○	●	○	●	4.60mm
●	●	○	●	5.06mm
○	○	●	●	5.52mm
●	○	●	●	5.98mm
○	●	●	●	6.44mm
●	●	●	●	6.90mm

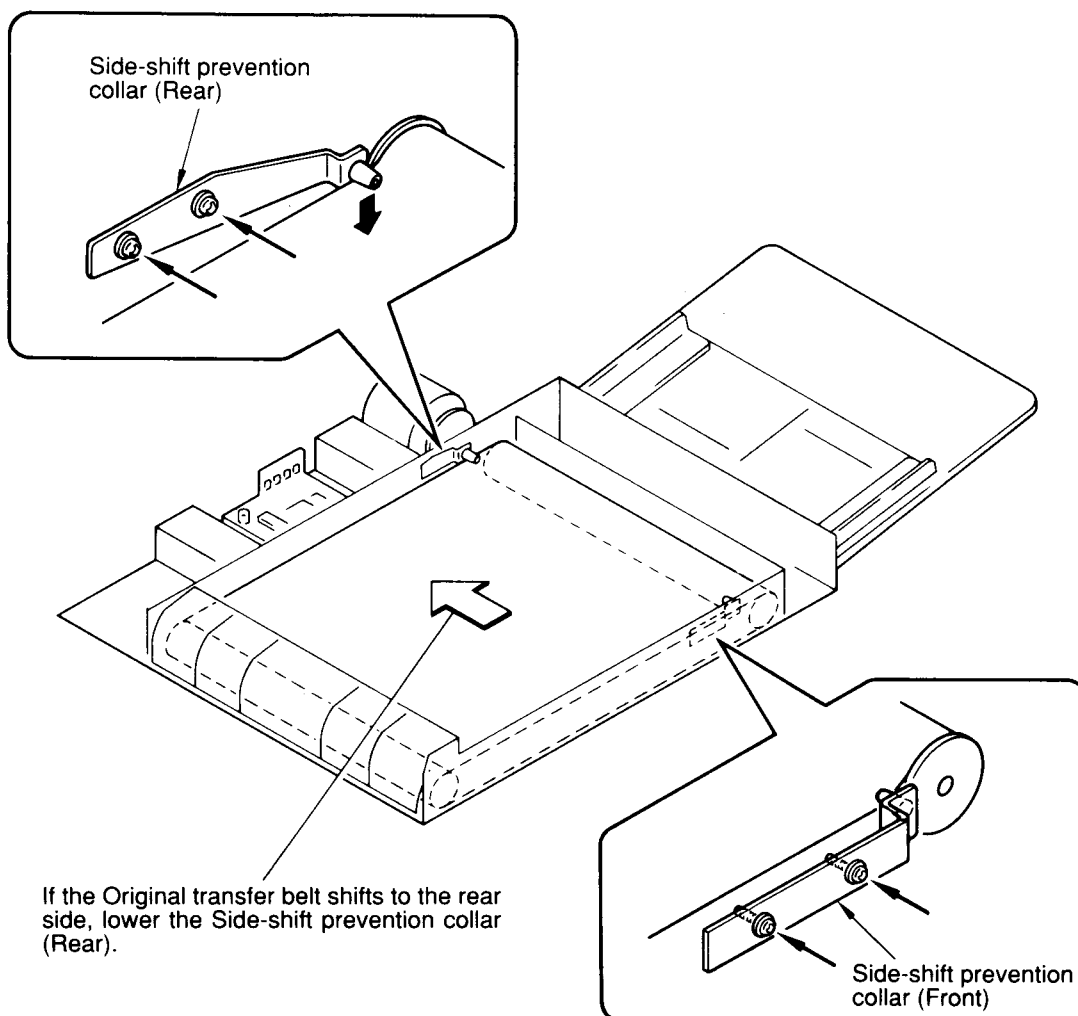
3. Position of Side-Shift Prevention Collar (For preventing the sideways shift of Original transfer belt)

- Check & Adjustment -

- 1) Remove the ADF outer cover from the ADF.
- 2) Loosen the mounting screws on the Side-shift prevention collars (Front and Rear) and adjust the collars at the highest position.
- 3) Enter the **ADF 5800 Test mode** and select “**ADF Transfer Motor Operation Check**” mode.
- 4) Rotate the Original transfer belt counter-clockwise at a high speed in this test mode.
- 5) Check if the Original transfer belt shift sideways.
If it does, adjust the position of the Side-shift prevention collar by shifting down the collar as indicated by an arrow in the figure below.
- 6) Rotate the Original transfer belt counter-clockwise at a high speed for **about 5 minutes**, and check that there is no sideways-shift of the Original transfer belt.

- Results of Misadjustment -

- 1) If the Original transfer belt shifts sideways; ➡
an original is shifted to one side when it is transferred onto the Stage glass, causing images on printed copies to shift sideways.



4. Position of Original Registration Collars (For preventing the original skew)

- Check & Adjustment -

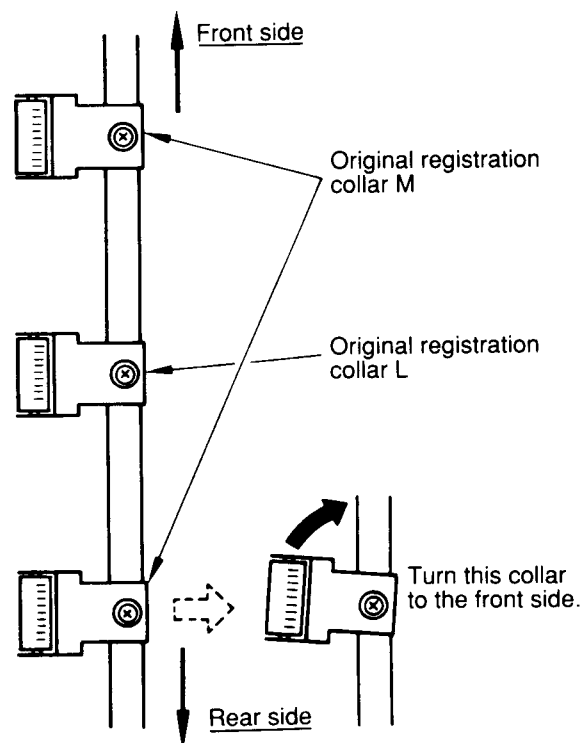
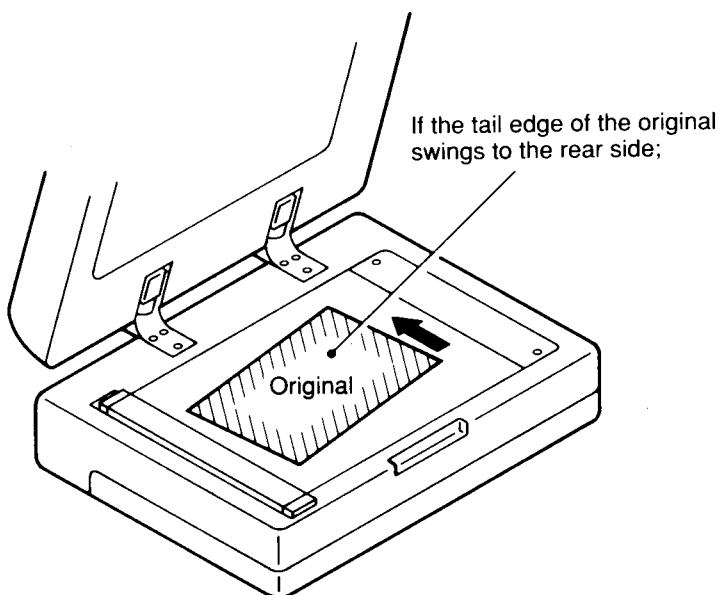
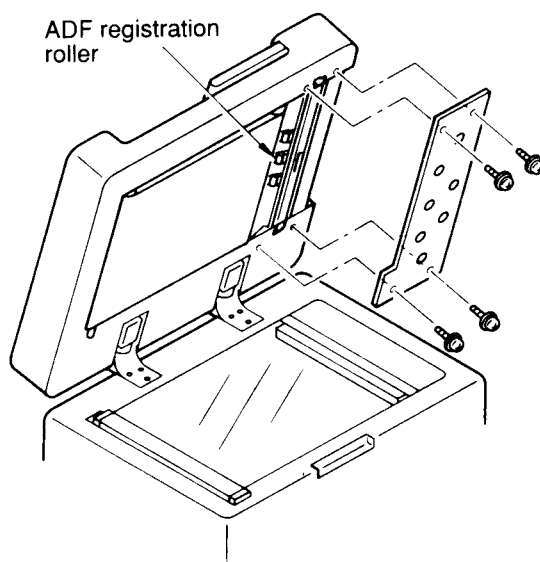
- 1) Check by "**Single Original Feeding Mode**" of the **ADF 5800 Test mode** if the original skew. If it does, adjust by the following procedures.

<Procedure>

1. Remove the metal plate indicated in the figure to the right.
2. Loosen the mounting screws on the **Original registration collar L** and **Original registration collar Ms** (on the front and rear sides) and adjust the collars parallel to the Original registration shaft.
3. If an original still skews;
<1> If the trail edge of the original swings to the rear side of the machine, turn the **Original registration collar M** on the rear side to the front side (clockwise).
<2> If the trail edge of the original swings to the front side of the machine, turn the **Original registration collar M** on the front side to the rear side (counter-clockwise).

[Note]

When the Original registration collar M is turned for adjustment, always confirm that the collar is not in contact with the cover plate.



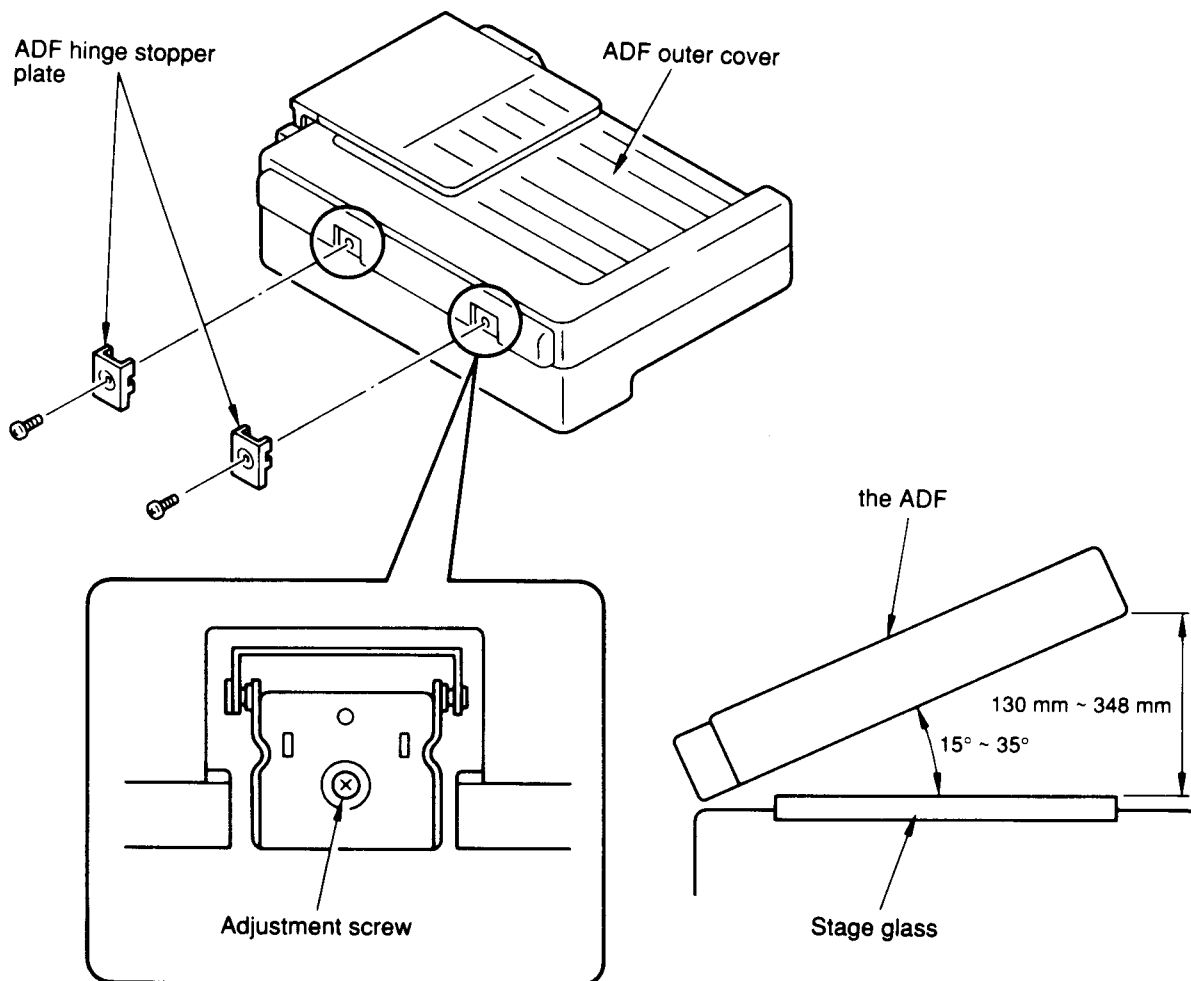
5. Spring Tension of ADF Hinge (For setting the self-closing area of ADF 5800)

- Check & Adjustment -

- 1) Remove the ADF hinge stopper plates from the ADF hinges.
(The ADF outer cover should be on.)
- 2) Check if the ADF closes by its own weight when it is slowly closed down from the full-open position to the position where the angle of the ADF against the Stage glass is **15° to 35°** (the distance is **130 to 348mm** from the Stage glass to the tip of the ADF).
- 3) If not, adjust the spring tension of the ADF hinges by turning the adjustment screw.

[Note]

Balance the spring tension of the ADF hinges on the left and right sides.



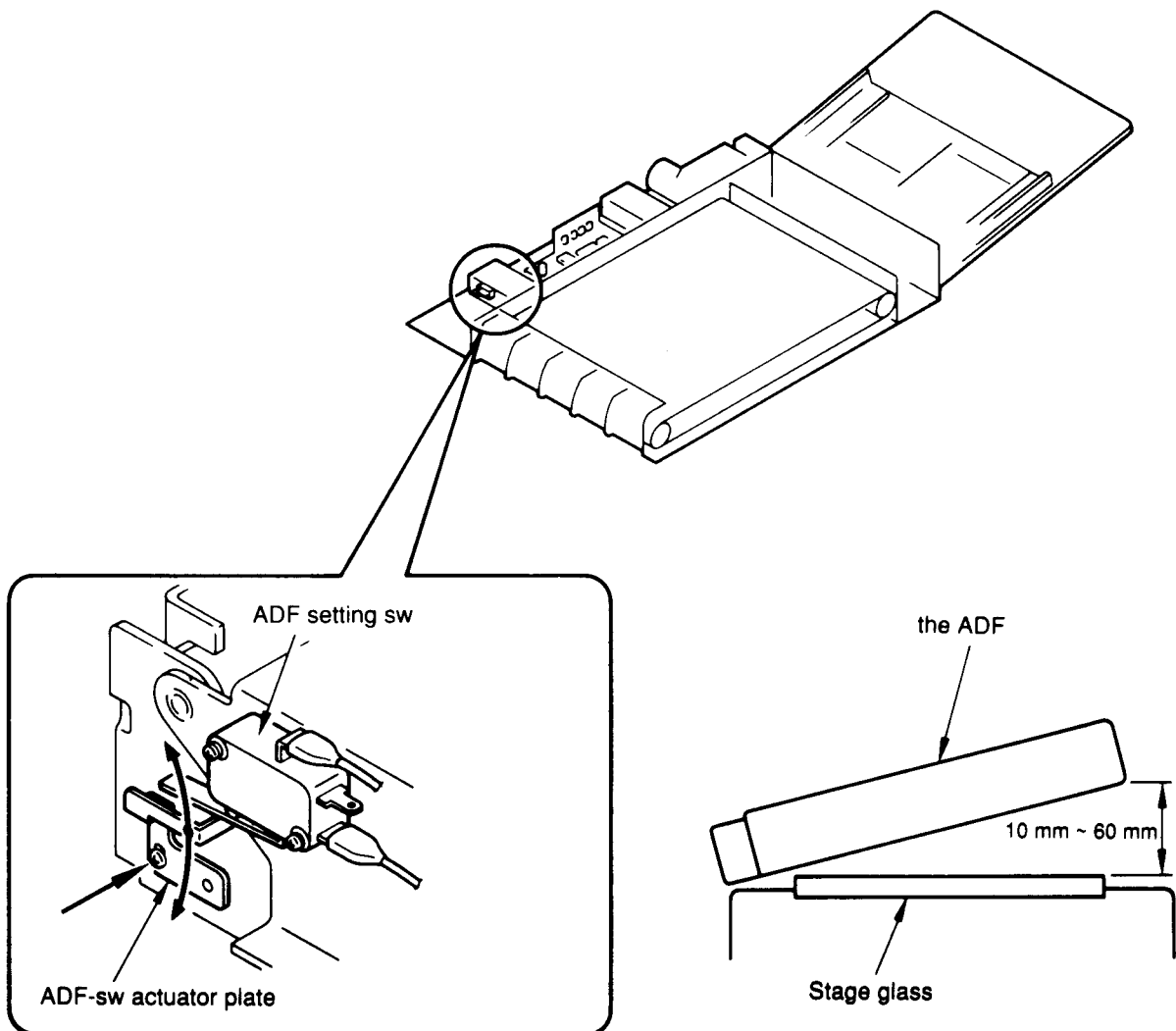
6. Position of ADF Setting Sw

- Check & Adjustment -

- 1) Remove the ADF outer cover from the ADF.
- 2) Check that the ADF setting sw is pressed ON when the ADF is closed down to the position where the distance is **10 to 60mm** from the Stage glass to the tip of the ADF.
- 3) If not, loosen the mounting screw on the ADF-sw actuator plate and adjust it.
- 4) After adjustment, put on the ADF outer cover and confirm that the ADF setting sw is not ON when the ADF stays open.

- Results of Misadjustment -

- 1) If the ADF setting sw is not ON when the ADF is closed ; ➡
the message **"CLOSE STAGE COVER"** is displayed on the panel when the ADF is closed, preventing the ADF operation.
- 2) If the ADF setting sw is ON when the ADF stays open ; ➡
the ADF operation starts when the ADF is not completely closed, causing the original misplacement on the Stage glass and/or original ejection jam.



7. Position of ADF Magnet Catch

- Check & Adjustment -

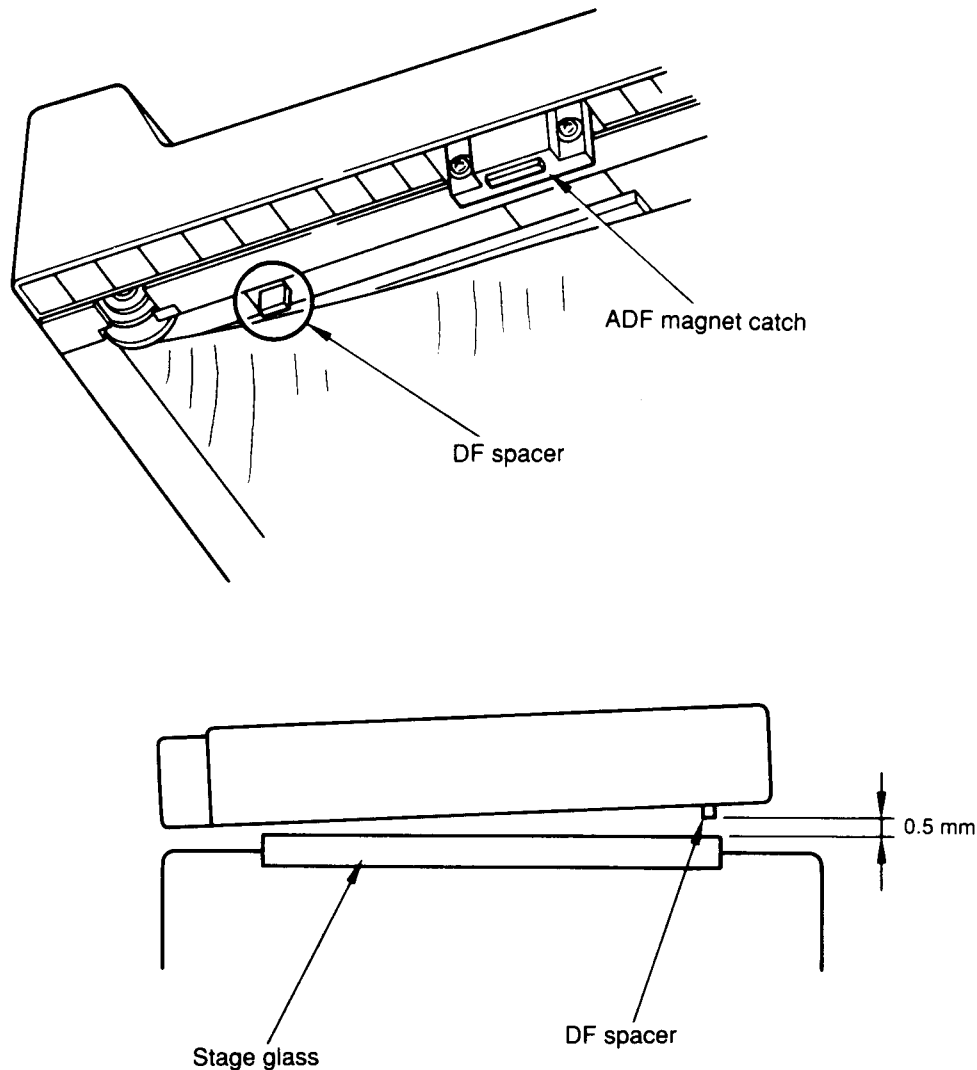
- 1) Check that the gap is **0.5mm or less** between the Stage glass and DF spacer on the front side (as indicated in the figure below) with the ADF closed.
- 2) If not, loosen the mounting screw on the ADF magnet catch and shift it up or down.

[Note]

Be careful to adjust the ADF magnet catch parallel with the magnet catch.

- Results of Misadjustment -

- 1) If the ADF magnet catch is not positioned correctly ; ➡
too much space remains between the Stage glass and Original transfer belt causing the original skew on the Stage glass and/or original ejection jam.



IV. DATA

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1. Test Mode

1. Operational Procedures

The Test mode program in the machine is to enable a service technician to check the operation of each electrical component.

1. [Starting Up Test Mode]

Turn on the power pressing down the "**P/M**" and "**ORIGINAL**" buttons on the main panel.
In the Test activities the following indication will be displayed in the LCD panel and print quantity displays.

-This is the initial condition of Test Mode.-

TEST MODE			
PANEL	Ver	○	○ ○
SYSTEM	Ver	○	○ ○

0		0	0
---	--	---	---

2. [Checking the Operation of A Component]

To check the operation of a component, select a test No. using panel keys and then press the "**START**" button to start the test.

The figures in the print quantity display mean:

- The right-side two digits: The test No. selected
- The left-side on digit: **0** for the "Test OFF" status
1 for the "Test ON" status

If the test is an one-cycle operation test, it will be automatically stopped after one check.
To stop the test, press the "**START**" button again.

[Print quantity display]

0		0	0
---	--	---	---

⇓

Select test No. **69** using panel keys.

0		6	9
---	--	---	---

⇓

Press the "**START**" button.

1		6	9
---	--	---	---



Press the **"START"** button again.

0		6	9
---	--	---	---

3. [Selecting another Test mode and Exiting the Test mode]

To select another Test mode, clear the set Test No. by pressing the **"C"** or **"STOP"** button and select another Test No..

-To exit the Test mode, turn off the power or perform the following operations:

- 1) Press the **"START"** button to stop the test if in operation.
- 2) Press the **"C"** or **"STOP"** button to return to the initial condition.
- 3) Press the **"RESET"** button.

- 1) Press the **"START"** button.

0		6	9
---	--	---	---



- 2) Press the **"C"** or **"STOP"** button.

0		0	0
---	--	---	---

- 3) Press the **"RESET"** button.

TEST MODE			
PANEL	Ver	○	○
SYSTEM	Ver	○	○

0		0	0
---	--	---	---

READY			
RISOGRAPH			
R ⇒ C			

--	--	--	--

2. Test Items and Operations

1) Sensor/Sw Test

A beep sounds in two ways to tell the current condition.

Detection: 0.1 seconds interval beep

No detection: 0.5 seconds interval beep

★ Shaded numbers are special for RC5800.

No.	Test Component	Detection Status	No.	Test Component	Detection Status
01	Paper detection sensor	Light path is blocked.	18	Drum set switch	The actuator is depressed.
02	Elevator upper limit sensor	The actuator is raised to open the light path.	19	Paper receiving sensor 1	Light path is blocked.
03	Elevator lower limit switch	The actuator is depressed.	20	Paper receiving sensor 2	Light path is blocked.
05	Master loading button	The button is pressed.	21	Front cover set sensor	Metal plate is attached.
06	Paper sensor	Light path is blocked.	22	Vertical centering sensor	Light path is NOT blocked.
07	Pressure detection sensor	Light path is blocked.	23	Master end sensor	No reflected light
08	Magnet A detection sensor	Magnetism is detected.	25	Master detection sensor	Reflected light is detected.
09	0° Angular sensor	Magnetism is detected.	26	Original feed-table set switch	The actuator is depressed.
10	180° Angular sensor	Magnetism is detected.	29	Master loading unit switch	The actuator is depressed.
11	Magnet C detection sensor	Magnetism is detected.	31	Master removal sensor	Light path is blocked.
12	Feed-tray down button	The button is pressed.	33	Disposal box set switch	The actuator is depressed.
13	Clamp safety switch	The actuator is pressed.	34	Scanner home sensor	Light path is blocked.
14	Master sensor	Reflected light is detected.	35	Scanner limit sensor	Light path is blocked.
15	Master positioning sensor	Reflected light is detected.	36	Original detection sensor	Reflected light is detected.
16	Drum home position button	The button is pressed.	37	Ink sensor	Ink is detected.
17	Ink bottle switch	The actuator is depressed.	38	Overflow sensor	Ink is detected.

2) Motor/Solenoid Test

To start a test, select a **Test No.** and press the **"START"** button.

To stop the test, press the **"START"** button again.

★ Shaded numbers are special for RC5800.

No.	Test Item	No.	Test Item
40	15 rpm Drum rotation	56	Original stopper solenoid
41	30 rpm Drum rotation	57	Read pulse motor CCW (For Scanner limit sensor)
42	Variable speed Drum rotation	58	Read pulse motor CW (For Scanner home sensor)
47	Paper feed clutch	59	LED arrays in Image scanner ON
48	Pressure solenoid	60	Write pulse motor CCW (Backward)
49	Suction motor (fan)	61	Write pulse motor CW (Feed)
50	Inking motor	62	Thermal pressure motor Up and Down
51	Master removal solenoid and Vertical transport motor	63	Loading pulse motor
53	Clamp solenoid	64	Loading fan
54	Clamp motor CCW (0°)	66	Thermal power supply CTL ON and Storage fan
55	Clamp motor CW (180°)	67	Lock solenoid
		69	Separation fan

[Note]

- 1) The Inking motor (No. 50) operates only when the ink sensor is out of touch with ink.
- 2) The Feed-tray interlock Sw operates even in the Test mode.
- 3) The Paper feed clutch (No. 47) operates only when the light path of the Paper feed clutch sensor is open.

3) Operation Test

To start an operation test, select a **Test No.** and then press the **"START"** button.

To stop the operation test, press the **"START"** button again.

★ Shaded numbers are special for RC5800.

No.	Test Item
70	Elevator motor Up/Down operation The following operations will be repeated while pressing down the Feed-tray down button. <ul style="list-style-type: none"> • When Elevator lower limit switch is ON: Go UP ⇄ Elevator upper limit sensor detection ⇄ Stop • When Elevator lower limit switch is OFF: Go DOWN ⇄ Elevator lower limit switch detection ⇄ Stop
71	Print positioning motor CW/CCW rotation (one-cycle check) Return to vertical center position ⇄ One second half ⇄ CW(+) direction rotation ⇄ One second halt ⇄ CCW (–) direction rotation ⇄ One second halt ⇄ Return to vertical center position ⇄ Stop
72	Clamp plate Open/Close operation Rotate Drum to Home position ⇄ Open Clamp plate (180°) ⇄ Close Clamp plate (0°) ⇄ Rotate Drum to Home position (Then go back to the first step.)
73	Image scanner shifting (Read pulse motor) operation Read pulse motor CCW direction rotation ⇄ Scanner limit sensor detection ⇄ One second halt ⇄ Read pulse motor CW direction rotation ⇄ Scanner home sensor detection ⇄ One second halt ⇄ Read pulse motor CCW direction rotation ⇄ (Go back to the first step.)
75	Confidential operation (Repeated by three cycles) Confidential operation ⇄ Pressure solenoid ON ⇄ Three times Drum rotation ⇄ Confidential operation ⇄ (This cycle will be repeated) ⇄ Three times Drum rotation ⇄ Stop

3) Operation Test

★ Shaded numbers are special for RC5800.

No.	Test Items
77	Paper feed & Printing operation The Paper feed tray raises and the paper is continuously fed until paper supply runs out. Note: <ul style="list-style-type: none"> • The copy counter doesn't operate and paper jam is not detected. • Paper feed tray will be automatically lowered without paper. • Ink can be supplied by Inking motor.
78	Shading compensation operation Image scanner LED arrays ON ⇄ One second ⇄ Shading compensation 200 ms
79	Machine aging operation 130 rpm Drum rotation ⇄ 5000 items Magnet A detection ⇄ Stop
80	Thermal print head check operation 0 Making Master of test pattern #0 memorized in the Image Processing PCB.
81	Thermal print head check operation 1 Making Master of test pattern #1 memorized in the Image processing PCB.
82	Thermal print head check operation 2 Making Master of test pattern #2 memorized in the Image Processing PCB.
83	Thermal print head check operation 3 Making Master of test pattern #3 memorized in the Image processing PCB.
84	Cutter motor ON [One-cut operation]
86	ADF operation Original feed in ⇄ One second halt ⇄ Original feed out ⇄ One second halt ⇄ (Go back to the first step.) Note: <ul style="list-style-type: none"> • ADF operation will be automatically finished without any originals in ADF tray or when original feed jam happens in ADF unit. • ADF operation can be restarted after opening and closing ADF unit when original feed jam happens in ADF unit.

4) Others (Auxiliary Modes)

★ Shaded numbers are special for RC5800.

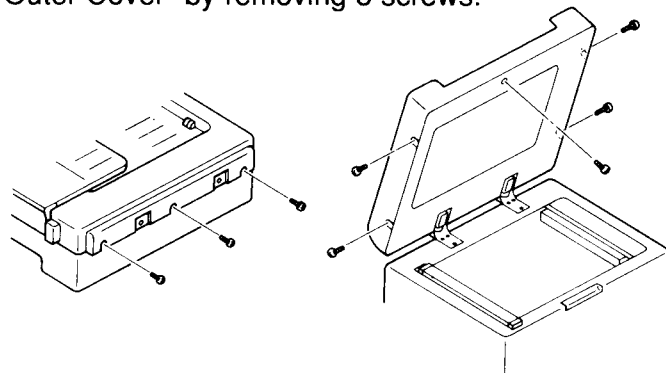
No.	Contents
87	<p>Image processing PCB adjustment mode Shifts the Image scanner to the Scanner limit sensor (CCW) by 20mm after master making operation.</p> <ul style="list-style-type: none"> • In normal operation, the Master count and Copy count signals will not be output, and the Key/card counter set signal will not be checked. ★ The machine will be released from this condition when the power is turned off or the Reset button is pressed for the initial set-up.
88	<p>Release of Test mode No.89 (Clearing of "Remove Stopper screw." message) Clears the panel message, "Remove Stopper Screw", in an unpacking operation.</p>
89	<p>Shift of the Image scanner for Transportation Shifts the Image scanner to the transportation fixing position to protect the Image scanner during transportation.</p>
90	<p>Clearing of Memory All RAM contents on the System Main and Panel Main PCBs will be initialized. (The same operation as when the Memory back-up battery is removed off.)</p>
91	<p>Input of Telephone No. The telephone No., which will be displayed in the LCD panel in case of the trouble messages (T#: CALL SERVICE), can be input.</p> <p>[Procedures for Inputting Tel. No.]</p> <ol style="list-style-type: none"> 1. Press the "C" button. 2. Input Tel. No. using panel keys. 3. Terminate the Test mode. <p>★ If the Test mode No.90 is selected, the telephone No. will be cleared.</p>
92	<p>Prevention of the Master count, Copy count, and Key/card counter set signals output</p> <ul style="list-style-type: none"> • In normal operation, the Master count and Copy count signals will not be output, allowing a service technician to print without increasing the digit of the Master and Copy counters. • The Key/card counter set signal will not be checked, allowing a service technician to print without inserting a counter card into the Key/card counter. • The machine will be released from this condition when the power is turned off or the Reset button is pressed for the initial set-up.

2. ADF 5800 Test Mode

1. Operation Procedures

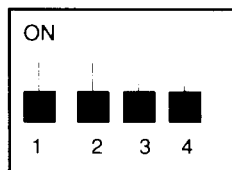
ADF 5800 has its own test mode, enabling service technicians to check the ADF operation independently of the machine.

(1) Remove "ADF Outer Cover" by removing 8 screws.



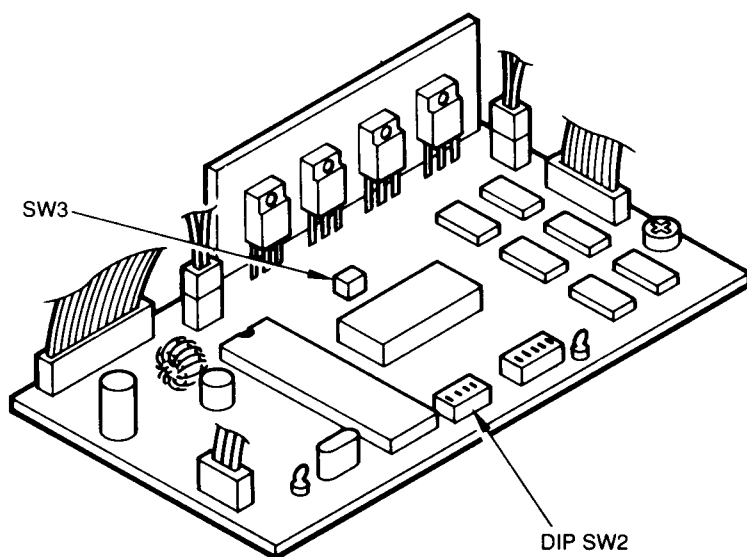
(2) Turn on Switch #1 of DIP SW2 on the ADF PCB and turn on the power.

SW2



- #1 : For Test mode set-up
(Should be set before turning on the power.)
OFF - Normal operation
ON - Test mode
- #2 : Test mode selection (Refer to the chart.)
- #3 : Test mode selection (Refer to the chart.)
- #4 : Original paper size selection
(Should be set before turning on the power.)
OFF - A/B sizes paper
ON - Letter/Legal paper

(3) To start up each Test mode, press SW3 on the ADF PCB.



2. Test Mode Selection

# 2	# 3	Test Item
OFF	OFF	ADF Transfer Motor Operation Check Each time pressing SW3 on the ADF PCB, the ADF transfer motor rotates in the following order. Forward (CW) ⇄ Backward-High (CCW) ⇄ Backward-Low (CCW) ⇄ Backward-Medium (CCW)
OFF	ON	Single Original Feeding Mode Each time pressing SW3 on the ADF PCB, an original is fed into and ejected out of the ADF.
ON	OFF	Multi Original Feeding Mode When pressing SW3 on the ADF PCB, originals on the ADF tray keep being fed into and ejected out of the ADF until no original remains on the tray.
ON	ON	Free Run Operation When pressing SW3 on the ADF PCB, the feeding-in and ejecting-out operation is performed without originals. NOTE: Never feed originals in this mode.

- NOTE:
1. If an other Test mode is desired after one Test mode is performed, open up the ADF or turn off the power before changing DIP switches' setting.
 2. In "Single original feeding mode" and "Multi original feeding mode", the Original stopper in the machine should be manually lowered because the Original stopper solenoid doesn't operate in the ADF Test mode.

2. Advice Displays & the Conditions for Display

1. "CALL SERVICE" indication

T1
CALL SERVICE

- Main Motor Lock -

Displayed to interrupt the machine operation:

- 1) If the Magnet A is still detected by the **Magnet A detection sensor 2 seconds** after the Main motor started.
- 2) If the Magnet A hasn't been detected by the **Magnet A detection sensor within 5 seconds** after the Main motor started.

T2
CALL SERVICE

- Elevator Motor Lock -

Displayed to interrupt the machine operation:

- 1) If the actuator of the **Elevator upper limit sensor** has not been raised to open the light path **within 7 seconds** after the Elevator motor started to rise.
- 2) If the actuator of the **Elevator lower limit switch** has not been depressed **within 7 seconds** after the Elevator motor started to lower.
- 3) If the actuator of the **Elevator lower limit sensor** is still depressed **2 seconds** after the Elevator motor started to rise.
- 4) If the actuator of the **Elevator upper limit sensor** is still raised to open the light path **2 seconds** after the Elevator motor started to lower.

T3
CALL SERVICE

- Clamp Error -

Displayed to interrupt the machine operation:

- 1) If the actuator of the **Clamp safety switch** is still depressed **4 seconds** after the Clamp solenoid was activated (turned on).
- 2) If the actuator of the **Clamp safety switch** has not been depressed **within 4 seconds** after the Clamp solenoid was released (turned off).
- 3) If the Angular magnet has not been detected by the **Angular sensor** (either 0° or 180°) **within 8 seconds** after the Clamp motor started rotating.

Displayed to prevent the machine operation:

- 4) If the actuator of the **Clamp safety switch** is not depressed when the Clamp solenoid is not in operation.

T4
CALL SERVICE

- Ink Overflow -

Displayed after the machine operation finished, immediately stopping the Inking motor.

- 1) If the **Overflow sensor** detects excessive ink in the Squeegee unit.

T5
CALL SERVICE

- Print Positioning Motor Lock -

Displayed after the machine operation finished, immediately stopping the Print positioning motor:

- 1) If the **Vertical centering sensor** status has not been changed from ON to OFF (or OFF to ON) **within 12 seconds** after the Print positioning motor started rotating.

T6
CALL SERVICE

- **Communication Error between Panel and System PCBs -**
Displayed to interrupt the machine operation:
1) If a communication error has occurred between the Panel and System PCBs.

T7
CALL SERVICE

- **Communication Error between Panel and Digitizer PCBs -**
Displayed to interrupt the machine operation:
1) If a communication error has occurred between the Panel and Digitizer PCBs.

T8
CALL SERVICE

- **Communication Error between System PCBs and Interface Accessories -**
Displayed to interrupt the machine operation:
1) If a communication error has occurred between the System PCBs and the interface accessories.

T9
CALL SERVICE

- **Communication Error between System PCBs and RC Sorter -**
Displayed to interrupt the machine operation:
1) If a communication error has occurred between the System PCBs and the RC sorter.

T10
CALL SERVICE

- **Malfunction of the Magnet A Detection Sensor -**
Displayed to interrupt the machine operation:
1) If the **Magnet A detection sensor** has not detected the Magnet A by the time the Pressure detection sensor status has changed twice from OFF to ON (the light path of the sensor has been blocked twice by the Pressure Disc) after the Main motor started.

T11
CALL SERVICE

- **Pressure Control Motor Lock -**
Displayed to interrupt the machine operation:
1) If the resistance value of the **Print pressure detection potentiometer** has not changed to a specified value within **20 seconds** after the Pressure control motor started.

T13
CALL SERVICE

- **Cutter Motor Lock -**
Displayed:
1) If the error message "**MASTER CUT MALFUNCTION/PRESS RESET BUTTON**" has been displayed twice in master making operation.

T14
CALL SERVICE

- ADF Transfer Motor Lock -

Displayed to interrupt the ADF operation:

- 1) If no pulse signal is sent from the **ADF clock sensor 1 more than 500 ms** after the ADF transfer motor is in operation.

T15
CALL SERVICE

- Read Pulse Motor Lock -

Displayed to interrupt the machine operation:

- 1) If the light path of the **Scanner home sensor** is not blocked **within 14330 pulses** after the Read pulse motor started in the Image scanner home positioning (initializing) operation.
- 2) If the light path of the **Scanner home sensor** is not opened **within 315 pulses** after the Read pulse motor started in the pre-scanning operation.
- 3) If the Image scanner has not been returned to the home position (the **Scanner home sensor**) **14330 pulses** after the Read pulse motor started in the image scanning operation.

T16
CALL SERVICE

- Malfunction of the Trimming PCB -

Displayed to interrupt the machine operation:

- 1) If the data signals such as original size, are not output from the **Trimming PCB** at the start of the image scanning operation.

2. "JAM or ERROR" indication

PAPER JAM CHECK PAPER FEED AREA

- Paper Jam in the Paper Feed Area -

[In Master-making]

Displayed after the master has been loaded on the Drum:

- 1) If the light path of the **Paper sensor** is blocked at the second Magnet A detection after cutting operation.

Note:

- If the light path of the **Paper receiving sensor 1** was open at the first Magnet A detection after cutting, it is judged that the first sheet is stuck in the second paper feed area.
- If the light path of the **Paper receiving sensor 1** was blocked at the first Magnet A detection after cutting, it is judged that some sheets have been fed with lead and trail edges stuck to each other.

[In Printing]

Displayed in the following cases:

- 1) If the light path of the **Paper receiving sensor 1** is open at the first Magnet A detection after the light path blocking of the Paper sensor, and if the light path of the **Paper sensor** is still blocked at the second Magnet A detection.

Note:

- At the first Magnet A detection, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).
- Judged that paper is stuck in the second paper feed area.

- 2) If the light path of the **Pressure detection sensor** has been blocked twice while that of **Paper sensor** is kept blocked from the first blocking after the start of printing.

The jam message will be displayed when the Drum stops after the Magnet A has been detected twice by the detection sensor following the above.

Note:

- At the light path blocking of the Pressure detection sensor, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).
- Judged that some sheets have been fed with lead and trail edges stuck to each other.

- 3) If the light paths of the **Paper receiving sensor 1** and **Paper sensor** are both open at a Magnet A detection, and if the light path of the **Paper sensor** has been open during the following 2 Magnet A detections.

The jam message will be displayed when the Drum stops after the Magnet A has been detected twice by the detection sensor following the above.

Note:

- At the first Magnet A detection following the above (at the fourth one counted from the beginning), the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).
- Judged that paper has misfed or slipped in feeding.

PAPER JAM UNDER DRUM
PULL OUT DRUM

**- Paper Jam under the Drum or in the Paper Receiving Area -
[In Master-making]**

Displayed after the master has been loaded on the Drum:

- 1) If the light path of the **Paper receiving sensor 1** is blocked at the start of the light path blocking of the **Pressure detection sensor**.

Note:

- Judged that the previous jammed paper still remains under the Drum.

- 2) If the light path of the **Paper receiving sensor 1** was open at the first Magnet A detection after cutting, and if the light path of the **Paper sensor** is also open at the second Magnet A detection.

Note:

- Judged that the first copy was not separated from the Drum and has stuck onto it.

[In Printing]

Displayed in the following cases:

- 1) If the light path of the **Paper receiving sensor 1** is blocked at the start of the light path blocking of the **Pressure detection sensor**.

The jam message will be displayed when the Drum stops after the Magnet A has been detected twice by the detection sensor following the above.

Note:

- At the start of the light path blocking of the Pressure detection sensor, the Print signal is immediately interrupted to stop the first paper feed (Paper feed clutch's operation). Judged that the printed copy has jammed around the Separator.

- 2) If the light path of the **Paper receiving sensor 1** is open at the first Magnet A detection after the light path blocking of the **Paper sensor**, and if the light path of the **Paper sensor** is open at the second Magnet A detection.

Note:

- At the first Magnet A detection, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation). Judged that the printed copy was not separated from the Drum and has stuck onto it.

- 3) If the light path of the **Paper receiving sensor 2** has been kept blocked while that of the **Paper receiving sensor 1** has been blocked twice.

The jam message will be displayed when the Drum stops after the Magnet A has been detected three times by the detection sensor following the above.

Note:

- At the first Magnet A detection following the above, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).
- Judged that the printed copy has jammed around the exit of the paper receiving side or on the Paper receiving tray.

MASTER CLAMP ERROR
PRESS RESET BUTTON

- The Master has Not been Loaded onto the Drum -

Displayed in master-making and confidential processes after the following display message is cleared:

[REMOVE CUT MASTER STRIP]

Note: The above message will be displayed:

- 1) If the **Master sensor** did not detect the master on the Drum at the Magnet C-1 detection in master loading process (preventing the first paper feed-Paper feed clutch's operation), and then if the **Master positioning sensor** detects the master at the Magnet A detection after master-cutting operation at the Magnet C-2 detection.

If the **Master positioning sensor** does not detect the master at the Magnet A detection after master-cutting operation, the above message **[REMOVE CUT MASTER STRIP]** will not be displayed.

MASTER CUT
MALFUNCTION
PRESS RESET BUTTON

- Master Cut Error -

Displayed to interrupt the machine operation in master-making and confidential processes:

- 1) If the **Master sensor** detected the master on the Drum at the Magnet C-1 detection in master loading process, and then if the **Master positioning sensor** detects the master at the Magnet A detection after master-cutting operation (the Magnet C-2 detection).

MASTER MIS-FEED
RESET MASTER

- Master has Not been Properly Fed or Loaded -

Displayed after the master has been loaded onto the Drum in master making or confidential process:

- 1) If the **Master positioning sensor** has not detect the master material **within 536 pulses** after the Loading pulse motor started rotating following the master cutting operation.

Note:

- The Loading and Write pulse motors are turned off following the above.

Displayed to interrupt the machine operation when the Master loading button was pressed:

- 2) If the **Master positioning sensor** has not detected the master material **within 2426 pulses** after the Loading pulse motor was turned on.
- 3) If the **Master positioning sensor** has not detected the master **within 536 pulses** after the Loading pulse motor was turned on following the operation of the Cutter motor.

USED MASTER NOT
DISCHARGED
PULL OUT DRUM
AND CHECK

- The Used Master has Not been Removed from the Drum -

Displayed after the Image scanning and Master making operations are completed or in the confidential operation:

- 1) If the light path of the **Master removal sensor** has been open until the Magnet A detection sensor detects the Magnet A after the detection of the master by the Master sensor at the Magnet C-1 detection, during master removal.

Note:

- If the Master sensor does not detect the master at the Magnet C-1 detection, in the above case, the Master removal sensor is prevented from operating and the message will not be displayed.

ORIGINAL MISFEED IN ADF
OPEN STAGE COVER/
REMOVE ORIGINAL

- Original has Misfed or Jammed in the ADF Feed Side -

Displayed to immediately interrupt the machine operation:

- 1) If the **ADF registration sensor** is blocked when the ADF starts to operate.
- 2) If the **ADF registration sensor** is not blocked by the original **within 640ms** after the start of the ADF transfer motor (clock-wise rotation) in the original feed operation.
- 3) If the **ADF registration sensor** has not been opened **within 1410ms** after the ADF transfer motor reversed the rotation direction to counter-clockwise in the original feed operation.
- 4) If the **ADF registration sensor** is blocked by the original when the original feed operation finished.

ORIGINAL JAM IN ADF
OPEN STAGE COVER/
REMOVE ORIGINAL

- Original has Misedected or Jammed in the ADF Ejection Side -

Displayed after the master has been loaded onto the Drum:

- 1) If the actuator of the **ADF ejection sensor** is held up, when the ADF starts to operate.
- 2) If the actuator of the **ADF ejection sensor** has not been pushed up, **within 1270ms** after the ADF transfer motor started rotating counter-clockwise in the original ejection operation.
- 3) If the actuator of the **ADF ejection sensor** is not released **within 1480ms** in the original ejection operation.

ORIGINAL REMAINING
ON THE STAGE

- Original Remains on the Stage Glass in ADF Operation -

Displayed immediately after originals have been placed on the Original tray:

- 1) If the **Original detection sensor** detects the original placed on the Stage glass when the **ADF original detection sensor** detects the originals placed on the Original tray.

NO MASTER ON DRUM
SET ORIGINAL IN PLACE
AND PRESS START BUTTON

- The Master is Not Attached to the Drum -

Displayed **for 2 seconds** after the Drum has stopped at the Magnet A detection:

- 1) If the **Master sensor** does not detect the master (the reflected light) when the Magnet C-1 has been detected by the Magnet C detection sensor just after the print started.

Note:

- At the Magnet C-1 detection, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).

MASTER JAM IN
MASTER DISPOSAL UNIT

- The Used Master is Jammed and Blocked at the entrance of Master disposal box -

Displayed when "START" button is pressed for master-making operation.

- 1) If the light path of the **Master removal sensor** is blocked at the start of master-making operation.

3. "CHECK SETTING" indication

SET DRUM IN PLACE	Displayed to prevent the machine operation: <ul style="list-style-type: none">• If the actuator of the Drum set switch is not depressed.
SET INK BOTTLE IN PLACE	Displayed to prevent the machine operation: <ul style="list-style-type: none">• If the actuator of the Ink bottle switch is not depressed.
ADD PAPER	Displayed to interrupt the Print signal (the first paper feed) in printing: 1) If the light path of the Paper detection sensor is open when that of the Pressure detection sensor has been opened in printing. Displayed to prevent the machine operation: 2) If the light path of the Paper detection sensor is open.
SET LEAD EDGE OF MASTER UNDER GREEN FILM	Displayed to prevent the machine operation: <ul style="list-style-type: none">• If the Master detection sensor does not detect the master material (the reflected light).
CLOSE FRONT COVER	Displayed to prevent the machine operation: <ul style="list-style-type: none">• If the metal plate is not attached to the Front cover set sensor.
SET MASTER DISPOSAL BOX IN PLACE	Displayed to prevent the machine operation: <ul style="list-style-type: none">• If the actuator of the Disposal box set switch is not depressed.
SET ORIGINAL FEED TABLE IN PLACE	Displayed to prevent the machine operation: <ul style="list-style-type: none">• If the actuator of the Original-feed table set switch is not depressed.
CLOSE MASTER LOADING UNIT	Displayed to prevent the machine operation: <ul style="list-style-type: none">• If the actuator of the Master loading unit switch is not depressed.
CLOSE STAGE COVER	Displayed to prevent the machine operation: <ul style="list-style-type: none">• If the ADF setting sw is not ON when the ADF original detection sensor detects the originals placed on the Original tray.

4. Others

REPLACE INK BOTTLE

Displayed after the machine operation is finished:

- If the **Ink sensor** has not detected ink in the Squeegee unit **within 30 seconds** after the Inking motor was started rotating by the detection of scarce ink in the unit.

REPLACE MASTER ROLL

Displayed after the machine operation is finished:

- If the black tape attached at the end of the Master roll has been detected by the **Master end sensor** during master making or the confidential operation.

EMPTY DISPOSAL BOX

Displayed after the machine operation is finished:

- If the **Internal counter** for disposed masters on the **Panel PCB** has counted 30 through the detection of disposed masters by the **Master removal sensor**.

REMOVE CUT MASTER STRIP

Displayed:

- If the **Master positioning sensor** detects the master material (the reflected light) just after the master cut operation is completed.

SELECT PRINT QUANTITY

Displayed:

- If the "START" button is pressed for printing when the print quantity is set to **0**.

PRESS RESET BUTTON

Displayed:

- When jam has occurred.

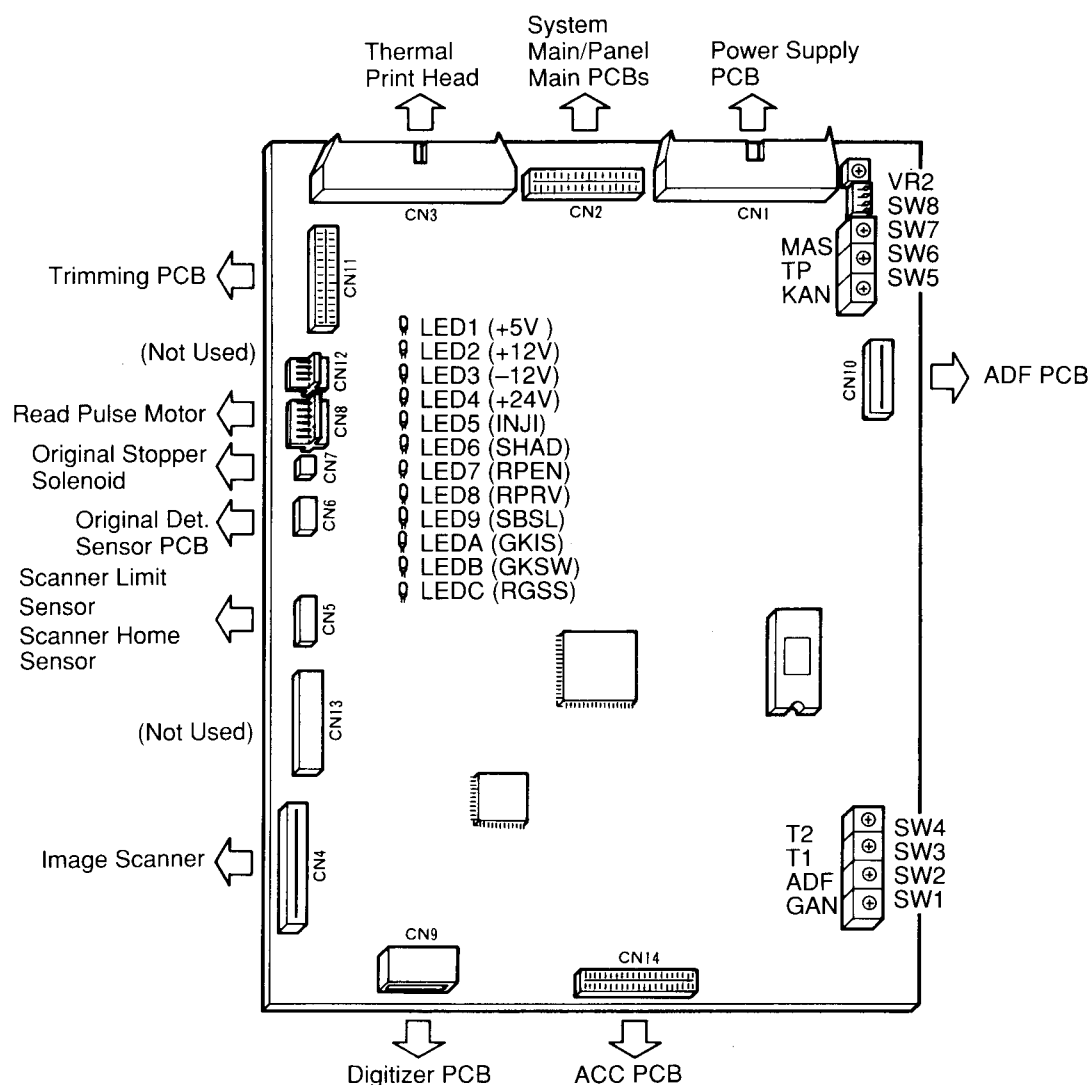
TO RESUME
PRESS START BUTTON

Displayed:

- If the "REST" button has been pressed after the error or jam occurred.

4. Description of PCBs

1. IMAGE PROCESSING PCB (58)



LED

- When LED is ON -

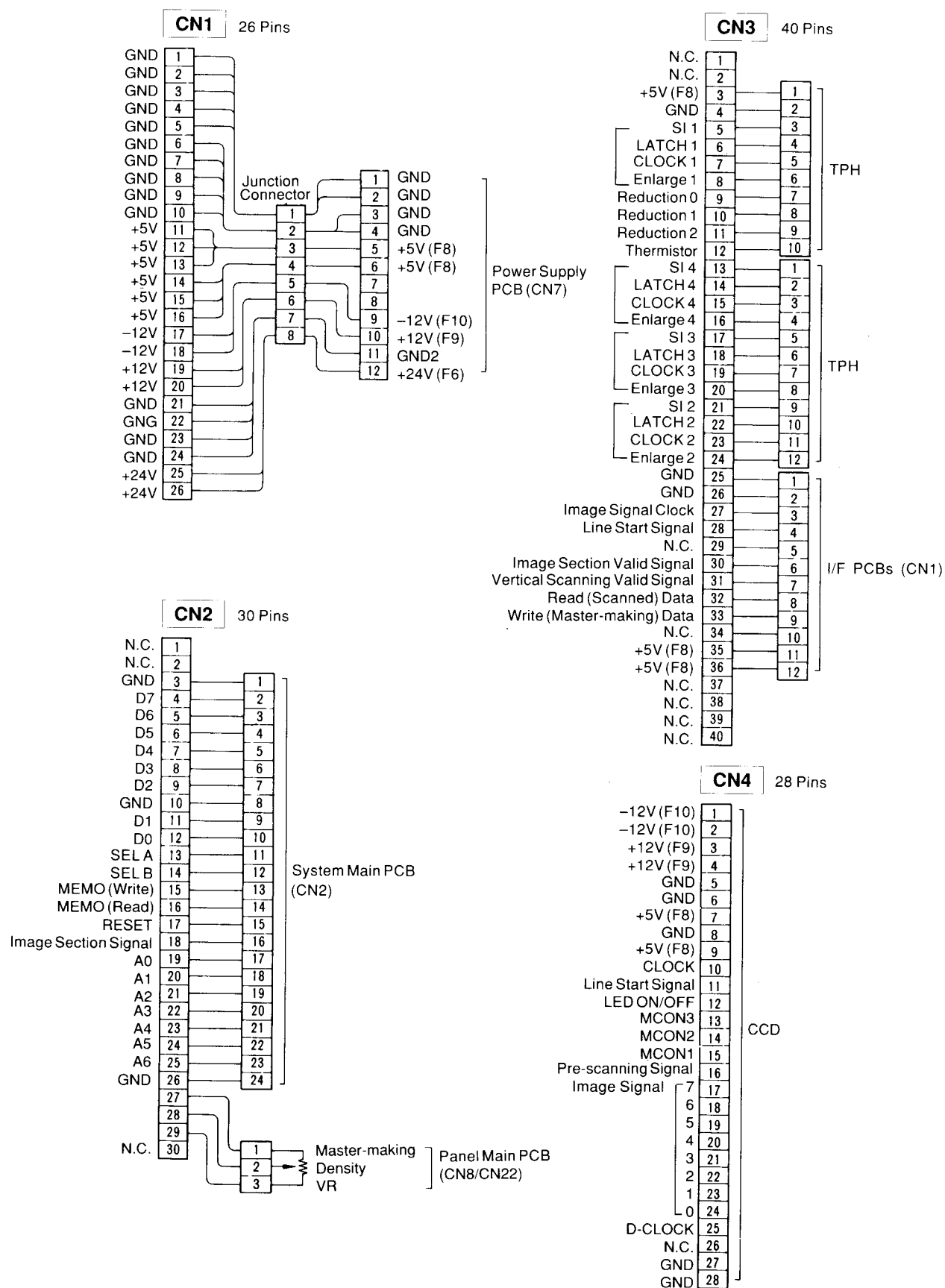
LED1 (+5V)	: +5V is supplied into PCB.
LED2 (+12V)	: +12V is supplied into PCB.
LED3 (-12V)	: -12V is supplied into PCB.
LED4 (+24V)	: +24V is supplied into PCB.
LED5 (INJI)	: "Read/Write Start Signal" is output.
LED6 (SHAD)	: "Shading Compensation Signal" is output.
LED7 (RPEN)	: Read Pulse Motor is ON.
LED8 (RPRV)	: Read Pulse Motor is rotating CCW.
LED9 (SBSL)	: Original Stopper Solenoid is ON.
LEDA (GKIS)	: Original Det. Sensor is detecting reflected light.
LEDB (GKSW)	: Scanner Home Sensor is activated.
LEDC (RGSS)	: Scanner Limit Sensor is activated.

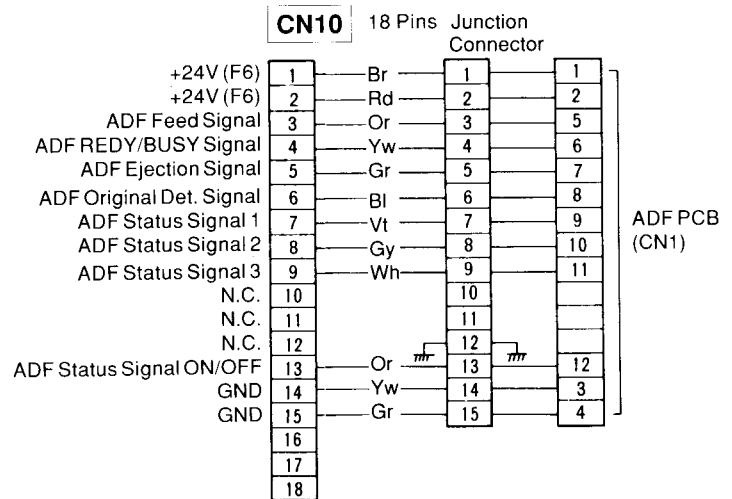
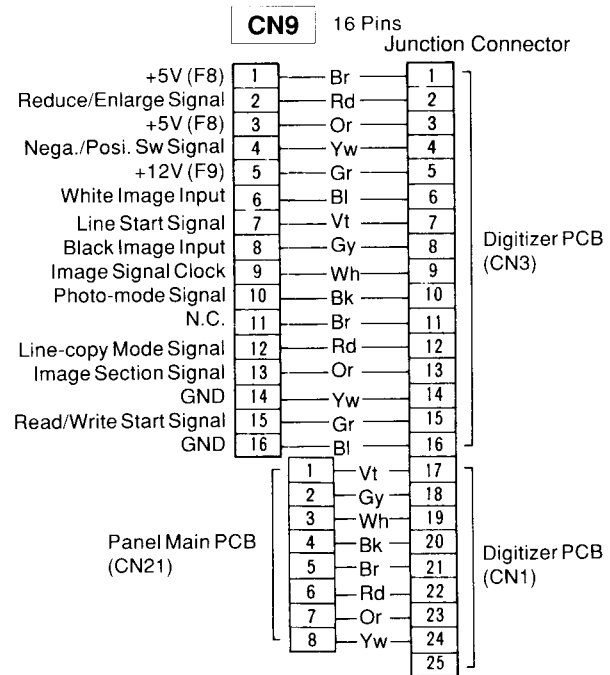
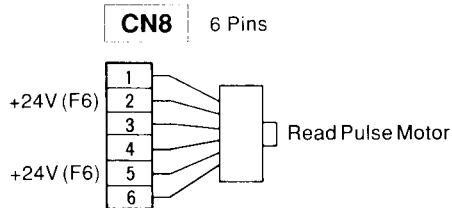
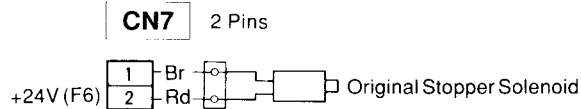
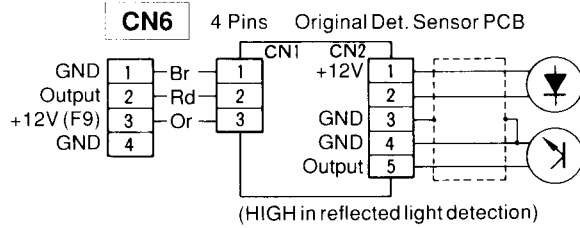
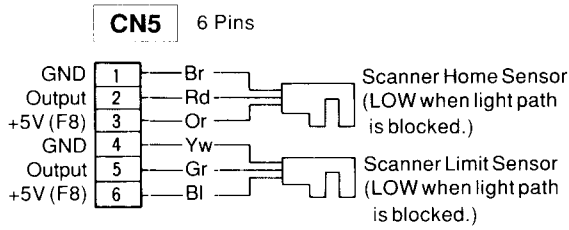
VR

VR2 (NDD)	: For contrast level adjustment in image scanning. (The contrast will be darker by turning it clockwise.)
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SW

SW1 (GAN)	: For contrast balance (γ compensation) adjustment in image scanning.
SW2 (ADF)	: For adjustment of scanning (read)-start position.
SW3 (T1)	: For adjustment of heating power (HP1) of Thermal Print Head
SW4 (T2)	: For adjustment of heating power (HP2) of Thermal Print Head
SW5 (KAN)	: Not Used
SW6 (TP)	: Not Used
SW7 (MAS)	: For adjustment of "Line-copy mode slice level."
SW8 (Dip SW)	: Used only for adjustment in factory





CN11 26 Pins

+5V (F8)	1
+5V (F8)	2
Line Start Signal	3
Image Signal Clock	4
Image Valid Signal	5
Image Data	6
White Signal	7
PS Signal	8
Read/Write Start Signal	9
Reduce/Enlarge Signal	10
READY/BUSY Signal	11
END Signal	12
SIZE Signal 1	13
SIZE Signal 2	14
SIZE Signal 3	15
MS Signal	16
CLEAR Signal	17
TOP Signal	18
N.C.	19
SM Signal	20
PHOTO Signal	21
CP Signal	22
GND	23
GND	24
GND	25
GND	26

Trimming PCB
(CN1)

CN14 30 Pins

GND	1
+5V (F8)	2
GND	3
N.C.	4
N.C.	5
Image Signal Clock	6
D0	7
D1	8
D2	9
D3	10
D4	11
D5	12
D6	13
D7	14
A0	15
A1	16
A2	17
A3	18
A4	19
A5	20
A6	21
A7	22
Character Signal	23
N.C.	24
ACC ON	25
N.C.	26
Character Signal	27
N.C.	28
N.C.	29
N.C.	30

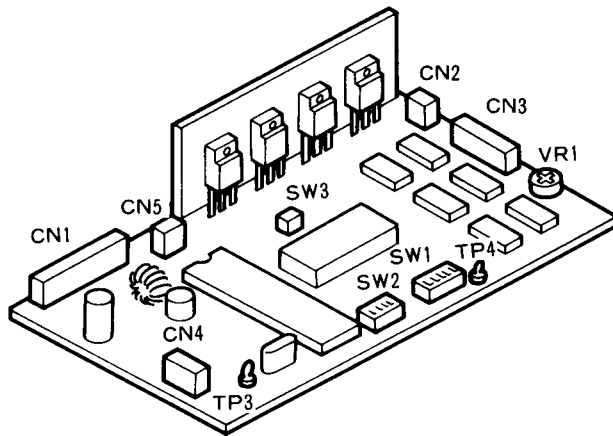
ACC PCB
(CN1)

CN12 4 Pins

+24V (F6)	1
+24V (F6)	2
	3
	4

(Not Used)

2. ADF PCB



VR

VR1 : For sensitivity adjustment of ADF registration sensor

LED

- When LED is ON -

LED1 : +24V is supplied into PCB

TP

TP1 (+24V) : +24V

TP2 (+5V) : +5V

TP3 (0V) : GND

TP4 (REGS) : OADF registration sensor's Output

TP5 (X4) : Clock Sensor's Output

TP6 (MCK2) : ADF clock Sensor 1's Output

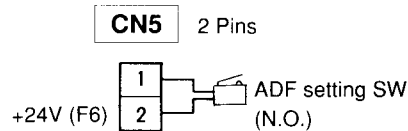
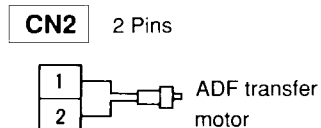
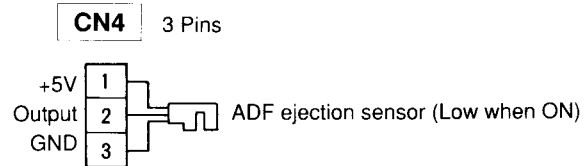
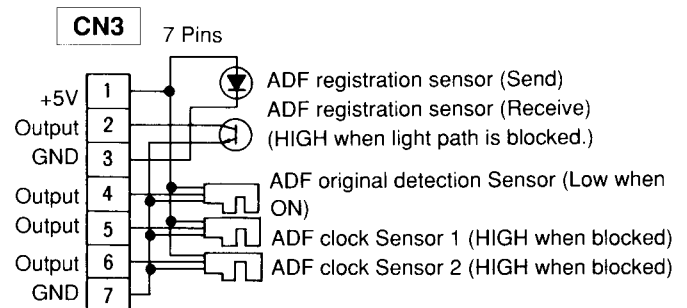
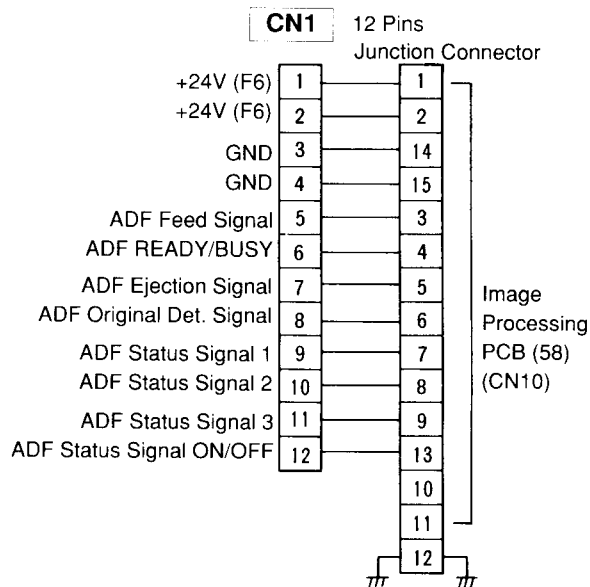
TP7 (MCK1) : ADF clock Sensor 2's Output

SW

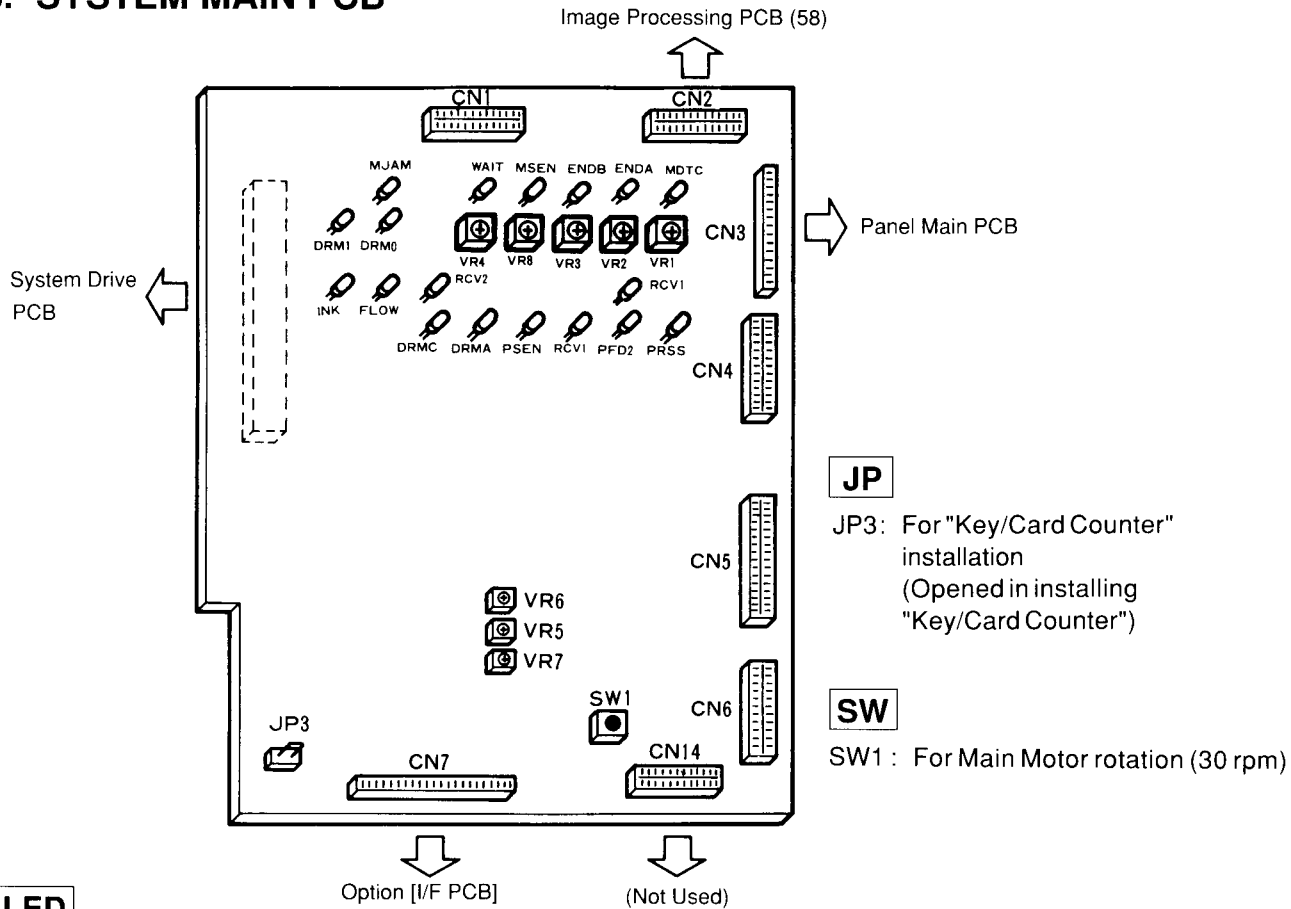
SW1 : For stop position adjustment of original feed

SW2 : For ADF Test Mode

SW3 : For ADF Test Mode



3. SYSTEM MAIN PCB



LED

LED - When LED is ON -

- MDTC : Master Det. Sensor is detecting reflected light (Master).
- ENDA : Master End Sensor (A4) is NOT detecting reflected light.
- ENDB : Master End Sensor (B4) is NOT detecting reflected light.
- MSEN : Master Sensor is detecting reflected light (Master).
- WAIT : Master Positioning Sensor is detecting reflected light (Master).
- MJAM : The light path of Master Removal Sensor is blocked.
- DRM0 : 0° Angular Sensor is detecting magnetism (Angular Magnet).
- DRM1 : 180° Angular Sensor is detecting magnetism (Angular Magnet).
- PFD1 : The actuator of Paper Buckle Det. Sensor is raised to open the light path.
- RCV2 : The light path of Paper Receiving Sensor 2 is blocked.
- FLOW : Overflow Sensor is detecting ink.
- INK : Ink Sensor is NOT detecting ink.
- PRSS : The light path of Pressure Detection Sensor is blocked.
- PFD2 : The light path of Paper Feed Clutch Sensor is open.
- RCV1 : The light path of Paper Receiving Sensor 1 is blocked.
- PSEN : The light path of Paper Sensor is blocked.
- DRMA : Magnet A Detection Sensor is detecting magnetism (Magnet A).
- DRMC : Magnet C Detection Sensor is detecting magnetism (Magnet C-1 or -2).

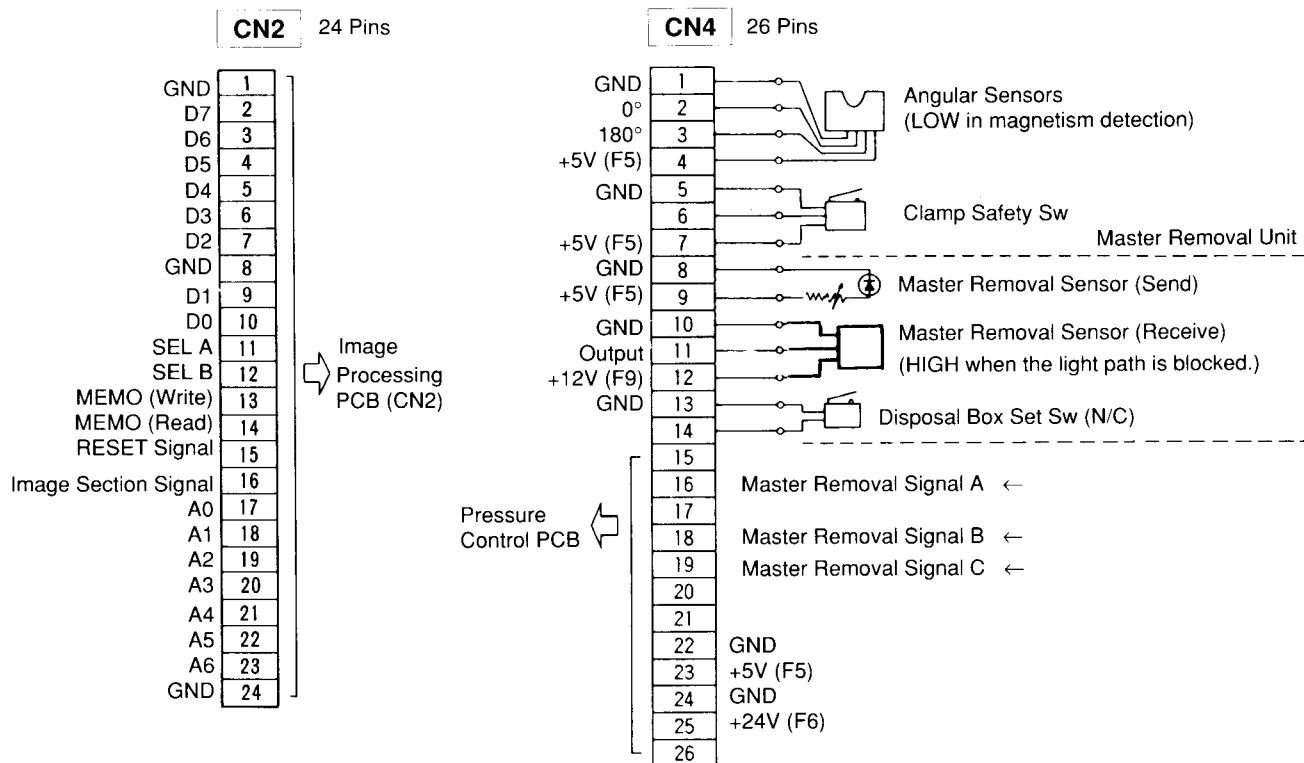
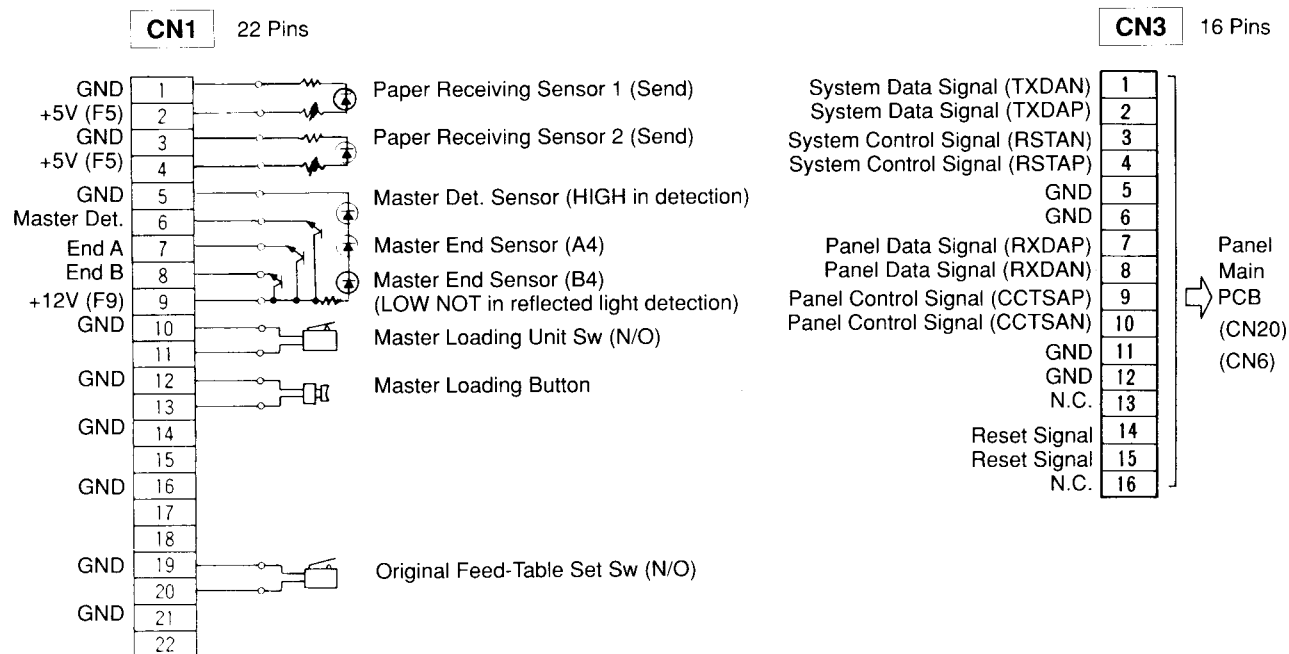
VR

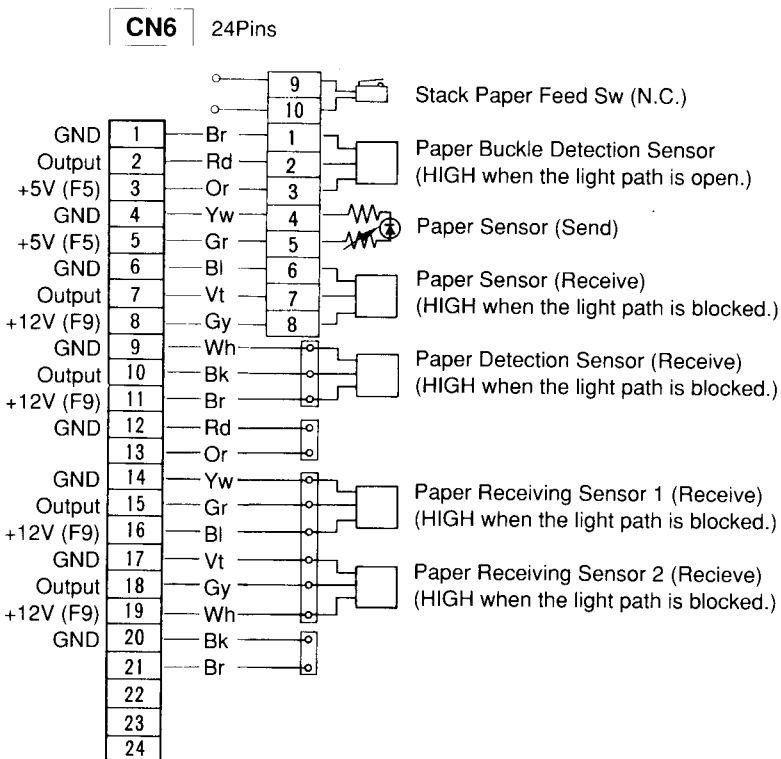
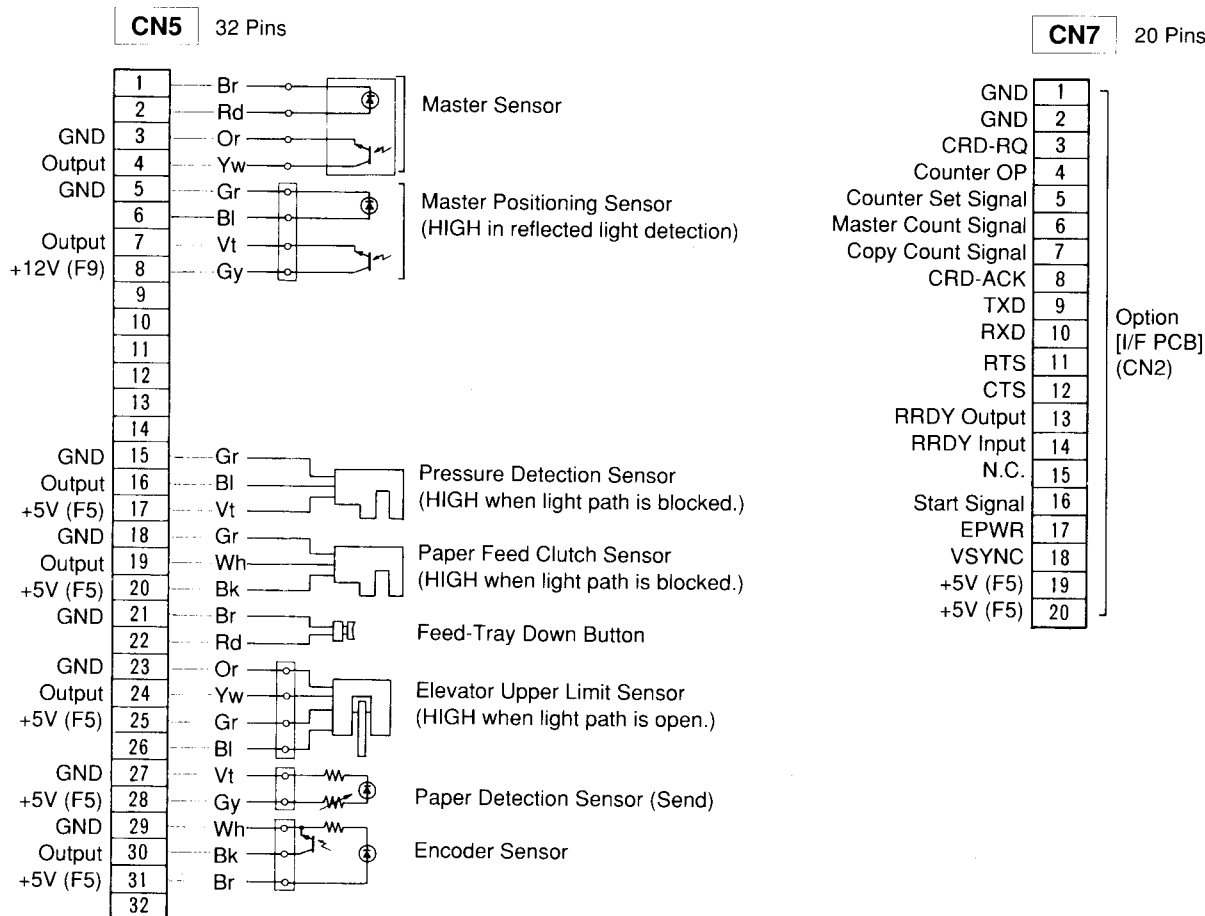
- VR**
- VR1 : For detection sensitivity adjustment of Master Det. Sensor (Sensitivity goes up by clockwise rotation.)
- VR2 : For detection sensitivity adjustment of Master End Sensor-A4 (Sensitivity goes up by clockwise rotation.)
- VR3 : For detection sensitivity adjustment of Master End Sensor-B4 (Sensitivity goes up by clockwise rotation.)
- VR4 : For detection sensitivity adjustment of Master Positioning Sensor (Sensitivity goes up by clockwise rotation.)
- VR5 : For adjustment of "Free rotation speed" (30 rpm) (The speed goes up by clockwise rotation.)
- VR6 : For adjustment of "Master loading speed" (15 rpm) (The speed goes up by clockwise rotation.)
- VR7 : For adjustment of "Print speed" (130 rpm) (The speed goes up by clockwise rotation.)
- VR8 : For detection sensitivity adjustment of Master Sensor (Sensitivity goes up by clockwise rotation.)

SW

- SW1 : For Main Motor rotation (30 rpm)

- JP3: For "Key/Card Counter" installation (Opened in installing "Key/Card Counter")





CNA 96 Pins

System
Drive
PCB
(CNA)



1	GND
2	GND
3	GND
4	GND
5	GND
6	GND
7	+5V (F5)
8	+5V (F5)
9	+5V (F5)
10	Sorter Connect Signal
11	Ink Sensor
12	Overflow Sensor
13	Ink Data Signal
14	Drum Home Position SW
15	Ink Bottle SW
16	Drum Set SW
17	Drum Data Signal
18	Tape End Signal
19	Vertical Centering Sensor
20	
21	
22	
23	Paper Full Stack Signal
24	Sorter Set Signal
25	Print Position Motor Busy
26	Write Pulse Motor CW/CCW
27	Write Pulse Motor (Enable Signal)
28	Loading Pulse Motor (Enable Signal)
29	Separation Fan
30	
31	Inking Motor
32	Lock Solenoid
33	Drum Home Position Lamp
34	Master Count Signal
35	Copy Count signal
36	Storage Fan
37	Thermal Pressure Motor
38	Suction Fan Control
39	Loading Fan
40	Reset
41	Cutter Motor
42	Clamp Motor CW/CCW
43	Clamp Motor ON/OFF
44	Print Position Motor TRIGGER
45	Print Position Motor CW/CCW
46	Print Signal
47	Pressure Solenoid
48	M.-Rmv. Vertical Transport Motor
49	
50	Elevator Lower Limit SW

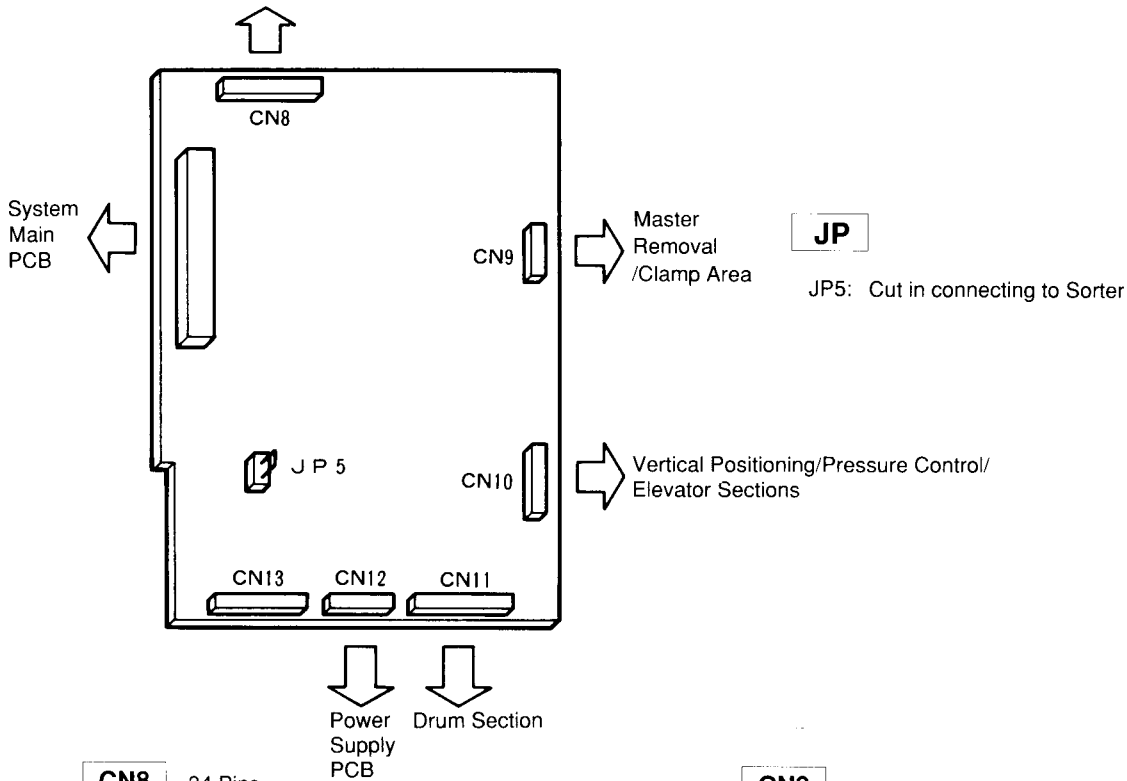
System
Drive
PCB
(CNA)



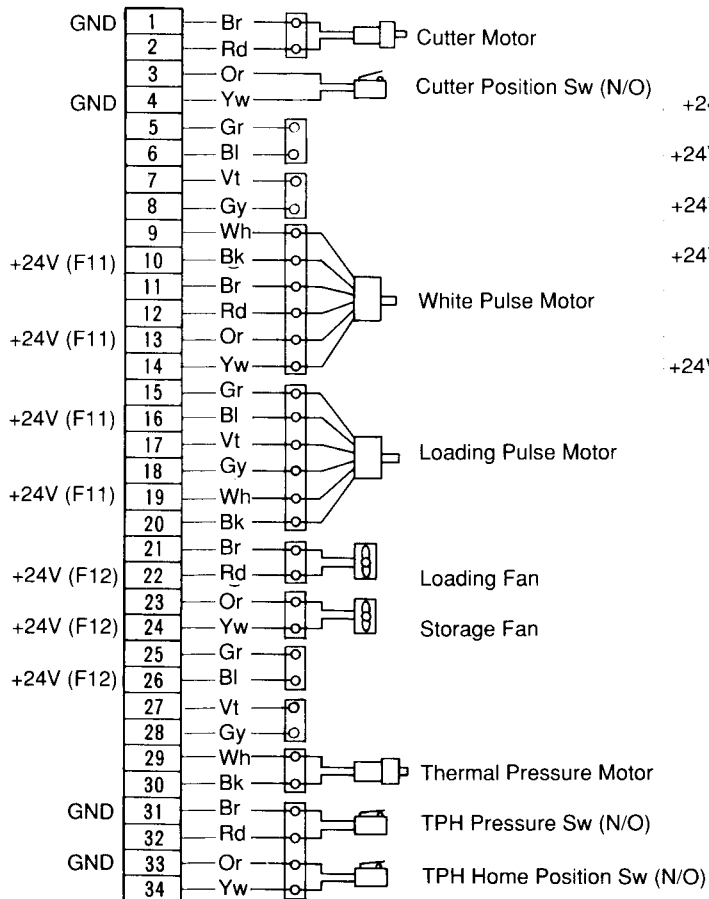
51	Elevator Motor UP/DOWN
52	Elevator Motor ON/OFF
53	Clamp Solenoid
54	Pressure Control Motor CTL 3
55	N.C.
56	Master-make Start/Stop Signal
57	Print Start/Stop Signal
58	Pressure Control Motor CTL 2
59	Pressure Control Motor CTL 1
60	Cluster Signal A
61	Cluster Signal B
62	Status 1
63	Status 2
64	Magnet A Det. Sensor
65	Paper Sensor
66	Paper Receiving Sensor 2
67	Counter Set Signal
68	TXDB
69	Main Motor Pulse K
70	Magnet C Det. Sensor
71	RXDB
72	Main Motor Pulse A
73	Magnet A Det. Sensor
74	RTSB
75	Main Motor Brake A
76	Power Fail
77	CTSB
78	Main Motor Brake K
79	Clock
80	Write Pulse Motor Clock
81	Front Cover Set Signal
82	P.-F. Clutch/Paper Buckle Det. Sensor
83	N.C.
84	N.C.
85	+12V (F9)
86	+12V (F9)
87	+12V (F9)
88	-12V (F10)
89	-12V (F10)
90	-12V (F10)
91	+24V (F6)
92	+24V (F6)
93	+24V (F6)
94	GND
95	GND
96	GND

4. SYSTEM DRIVE PCB

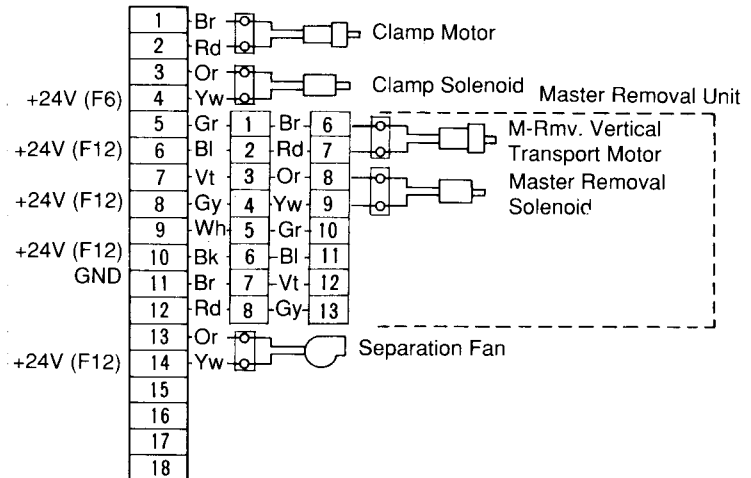
Cutter/Master-Making Sections

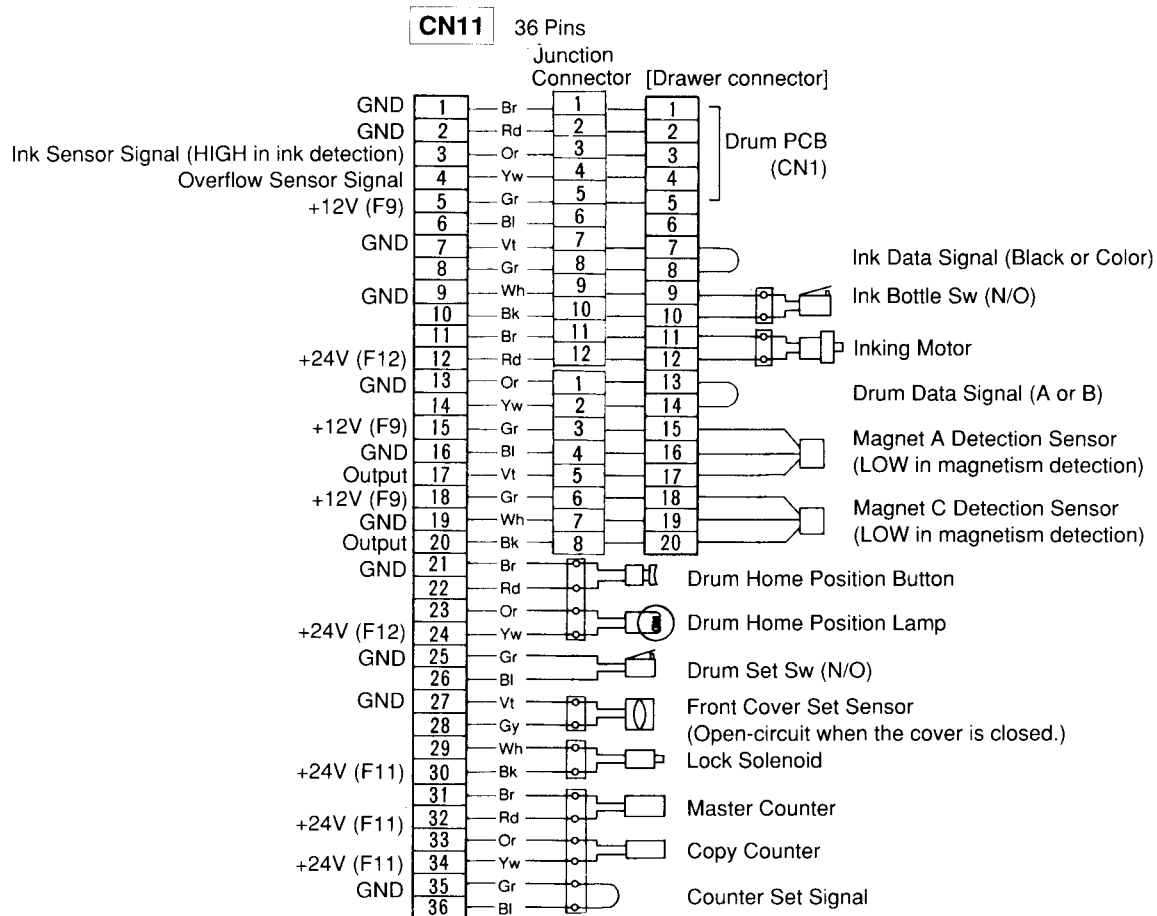
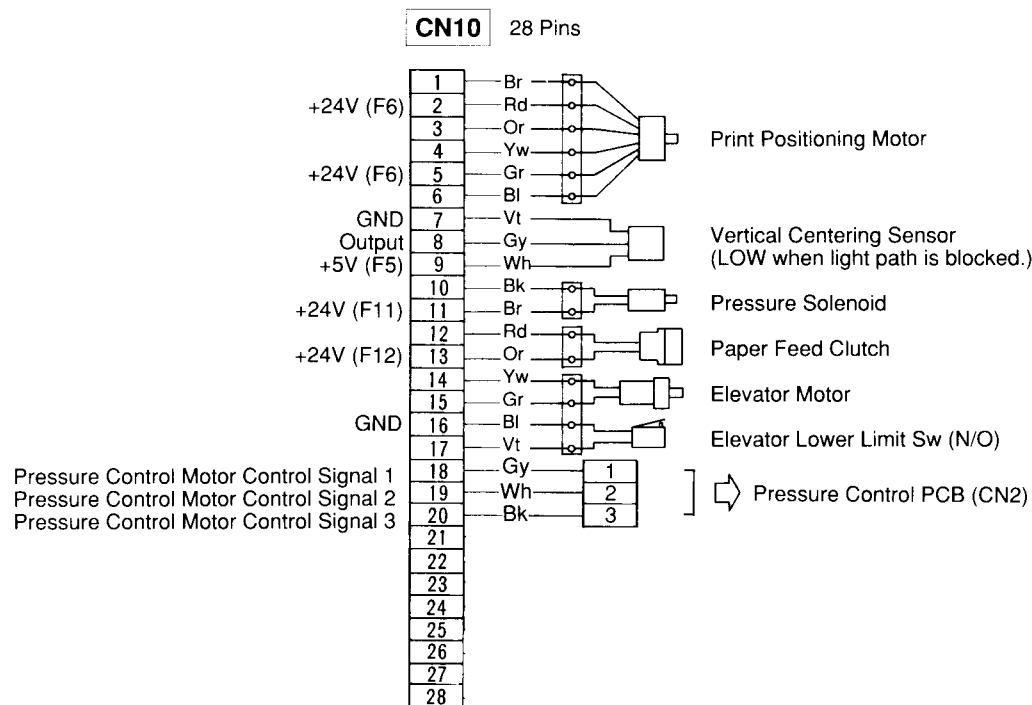


CN8 34 Pins



CN9 18 Pins





CN12 22 Pins

1	Br	1	GND	
2	Rd	2	GND	
3	Or	3	GND	
4	Yw	4	GND	
5	Gr	5	+5V (F5)	
6	Bl	6	+5V (F5)	
7	Vt	7	System Reset Signal	
8	Gy	8	Power Fail Signal	
9	Wh	9	-12V (F10)	
10	Bk	10	+12V (F9)	
11	Br	11	GND	
12	Rd	12	+24V (F6)	
13	Or	1	Thermal Print Head Control Signal	
14	Yw	2	Suction Fan Control Signal	
15	Gr	3	Main Motor Control Signal	
16	Bl	4	Main Motor Control Signal	
17	Vt	5	Main Motor Control Signal	
18	Gy	6	Main Motor Control Signal	
19	Wh	7	+24V (F12)	
20	Bk	8	+24V (F11)	
21	Br	9	GND	
22	Rd	10	GND	

Power Supply
PCB (CN8)

Power Supply
PCB (CN5)

CN13 34 Pins

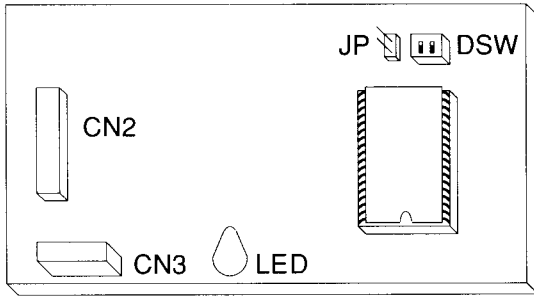
RC SORTER					
Shielded Ground	1	Br	1		
GND	2	Rd	2		
GND	3	Or	3		
TXD	4	Yw	4		
RXD	5	Gr	5		
RTS	6	Bl	6		
CTS	7	Vt	7		
Sorter Connect Signal	8	Gy	8		
+5V(F5)	9	Wh	9		
+12V(F9)	10	Bk			
-12V(F10)	11	Br			
GND	12	Rd	12		
GND	13	Or	13		
Sorter Starter (+24V) (F12)	14	Yw	14		
GND	15	Gr	15		
+5V (F5)	16	Bl			
Sorter Set Signal	17	Vt	17		
Cluster Signal A	18	Gy			
Paper Sensor Signal	19	Wh	19		
Paper Rcv. Sensor 2 Signal	20	Bk	20		
Print Signal	21	Br			
Magnet A Det. Signal	22	Rd			
Copy Count Signal	23	Or			
Master Count Signal	24	Yw			
Print Start/Stop Signal	25	Gr			
GND	26	Bl	26		
GND	27	Vt	27		
+24V (F12)	28	Gy	28		
Cluster Signal B	29	Wh	29		
Tape End Signal	30	Bk			
STATUS 1 Signal	31	Br			
STATUS 2 Signal	32	Rd			
Master-making Start/Stop Signal	33	Or			
Paper Full Stack Signal	34	Yw			

*The not-numbered pins are not used.

FRISORTER

JOBSEPARATOR

5. PRESSURE CONTROL PCB



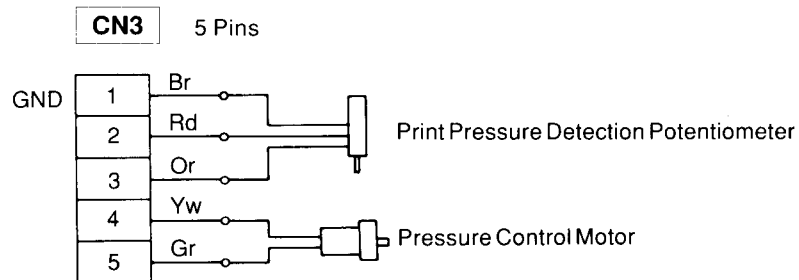
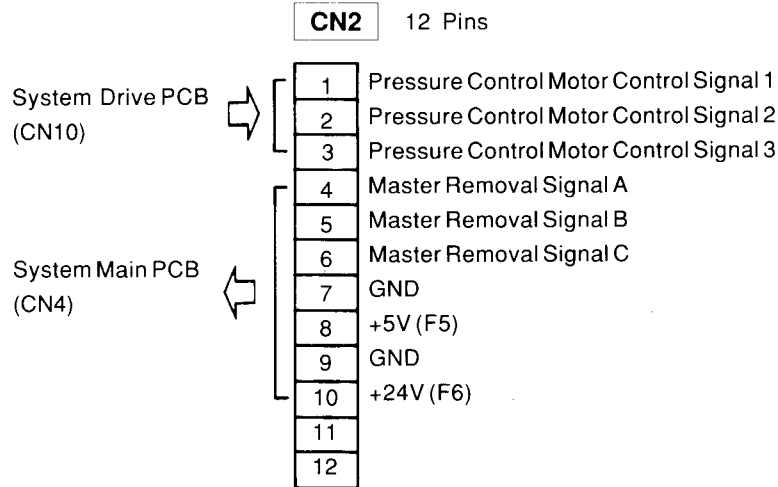
DIP SW

Type of Drum	SW1	SW2
A4 Drum	OFF	OFF
Legal Drum	OFF	OFF
B4 Drum	OFF	ON

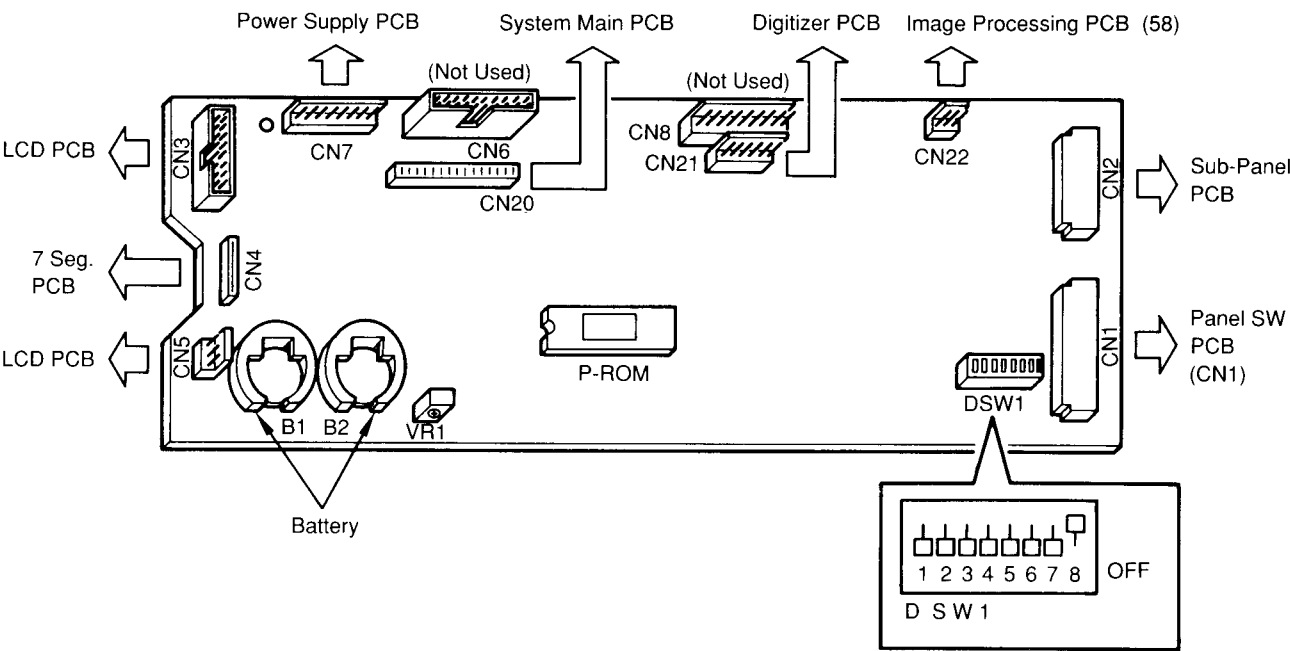
VR1 : For luminosity adjustment of LCD panel

LED

LED is ON when the print pressure is set at the standard value.
(When step 3 is selected in the density mode.)



6. PANEL MAIN PCB



VR

VR1 : For luminosity adjustment of LCD panel

SW

SW	FUNCTION	OFF	[ON]
DSw1-1	The initial print speed selection * 1	100RPM	60RPM
DSw1-2	The initial paper size selection	A4 or B4 or Legal *2	Setting before Power OFF or Reset
DSw1-3	The initial ACC setting selection	ACC ON	ACC OFF
DSw1-4	Priority selection between Density- and Speed-Change modes	Density-Change mode	Speed-Change mode
DSw1-5	* 3		
DSw1-6			
DSw1-7			
DSw1-8			

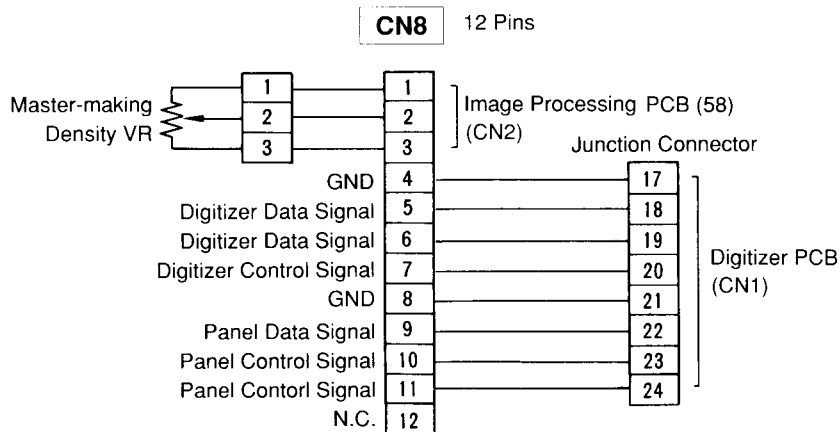
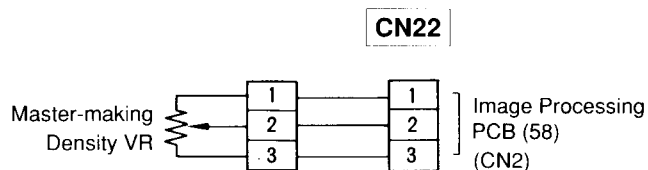
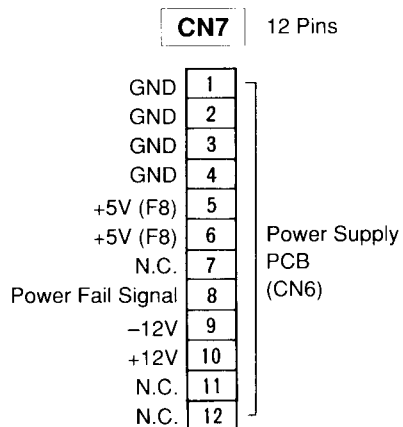
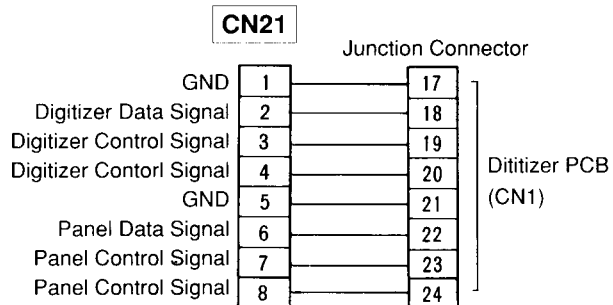
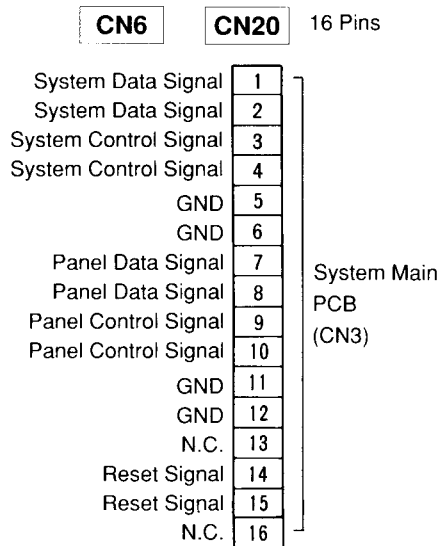
* 1 Functions only in Speed-Change mode.
In Density-Chage mode, the print speed is fixed at 100 rpm.

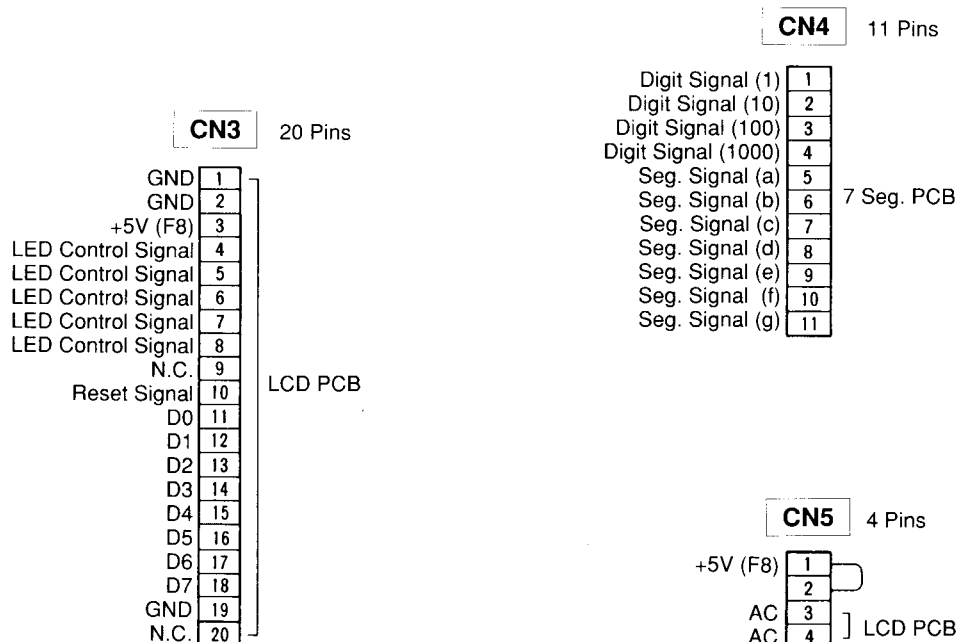
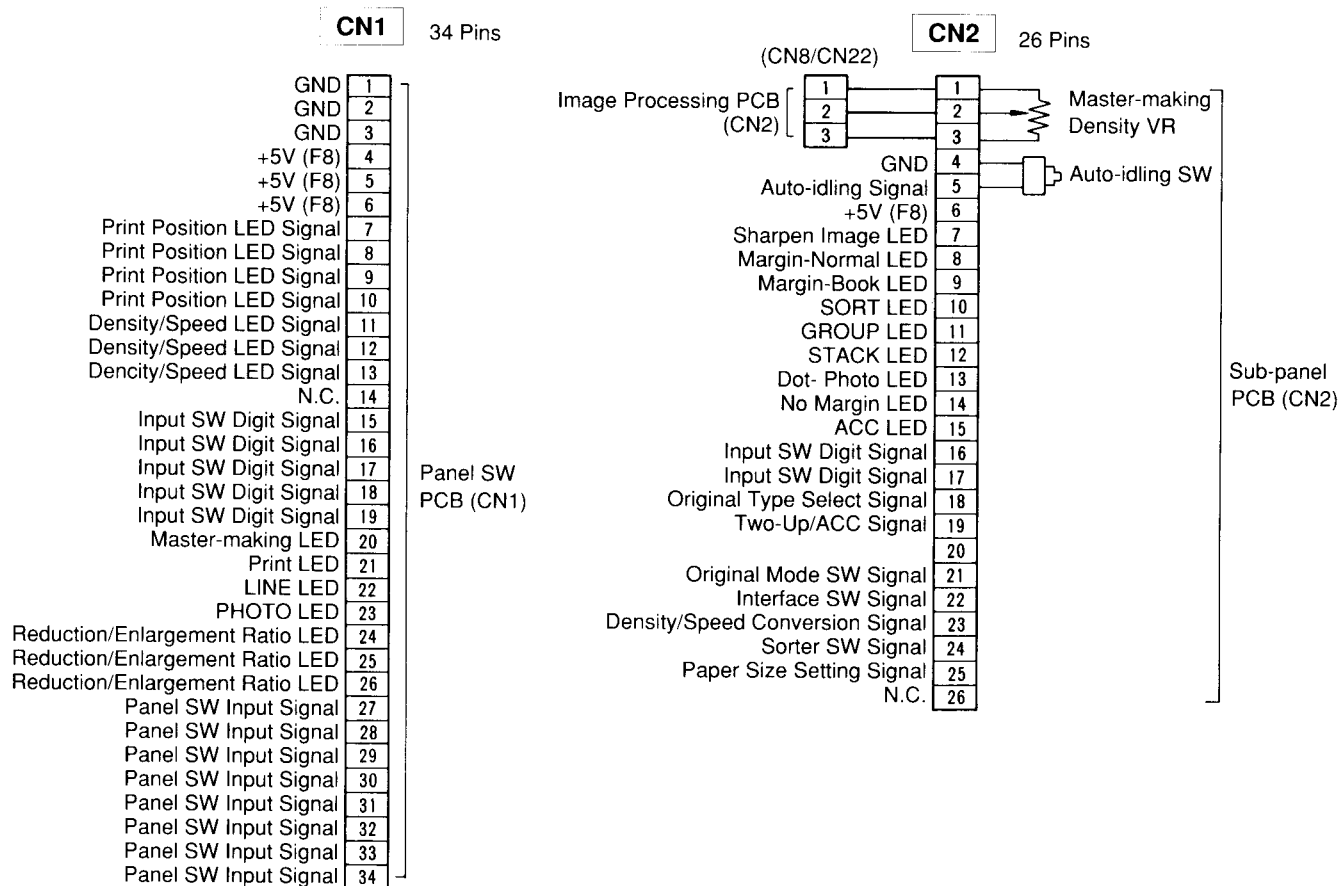
* 2

A4	Picture Panel
B4	Metric Panel
Legal	Inch Panel

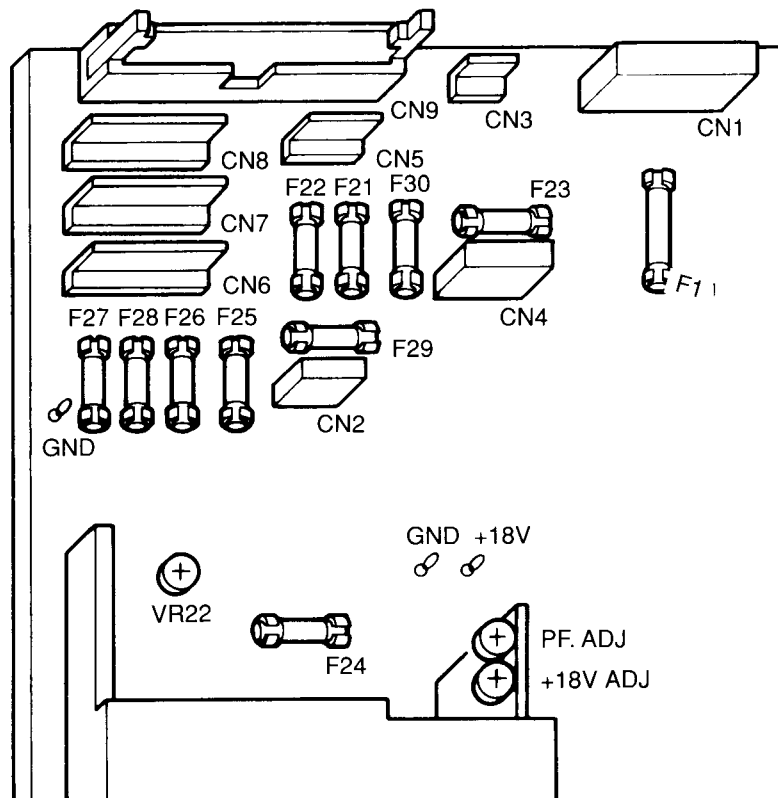
*3

	U.S.A.	A4 Drum Type	B4 Drum Type
DSw1-5	OFF	ON	OFF
DSw1-6	OFF	OFF	ON
DSw1-7	OFF	OFF	OFF
DSw1-8	OFF	OFF	OFF





7. POWER SUPPLY PCB



CN	CN1	From Main Power Sw
	CN2	To Main Motor
	CN3	To Suction Fan
	CN4	To Thermal Print Head
	CN5	From System Drive PCB
	CN6	Not Used
	CN7	To Panel Main PCB
	CN8	To System Drive PCB
	CN9	To Image Processing PCB (58)

TP	GND	Ground
	+18V	For check of +18V output

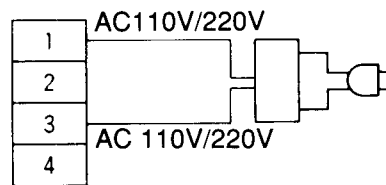
VR	VR22	For adjustment of +5V output
	PFADJ	Used only for adjustment in factory
	+18VADJ	For adjustment of +18V output (TPH Input Voltage)

FUSE

No.	Rate	Protected line	Symptoms in case of open-circuited fuse	Relevant components
F1	10A (110V) 5A (220V)	Main Power	No Power	Main Power Sw
F21	3.15A	DC24V	No problem in printing. Master mis-feed in master-making or confidential operation.	Loading pulse motor, Loading fan, Storage fan, Thermal pressure motor, Cutter motor, Write pulse motor
F22	3.15A	DC24V	[T2: Call Service], Paper feed jam, Master removal error	M.-Rmv. vertical transport motor, Master removal solenoid, Separation fan, Pressure solenoid, Paper feed clutch, Elevator motor, Lock solenoid, Inking motor, Counters, Drum home position lamp
F23	1A	DC24 – 18V	Paper receiving jam	Suction fan
F24	8A	DC24V	[T1: Call Service]	Main Motor
F25	3.15A	DC+12V	[T4: Call Service]	Various sensors
F26	3.15A	DC–12V	No LCD indication	
F27	5A	DC5V	No Background light in LCD panel & No Print quantity indication	
F28	5A	DC5V	No power except for Suction fan	
F29	3.15A	DC24V		For optional equipments
F30	3.15A	DC24V	[T5: Call Service]	Clamp motor, Clamp solenoid, Print positioning motor, Pressure control motor, Read pulse motor, ADF Transfer motor

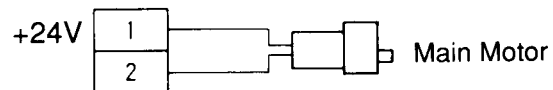
CN1

4 pins



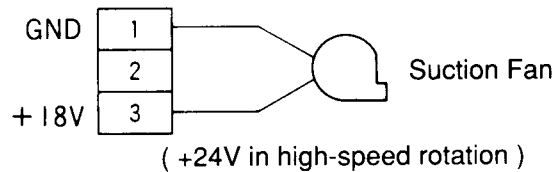
CN2

2 pins



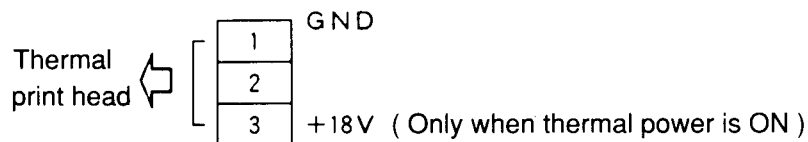
CN3

3 pins



CN4

3 pins



CN5

10 pins

