

DOCUMENT FEEDER

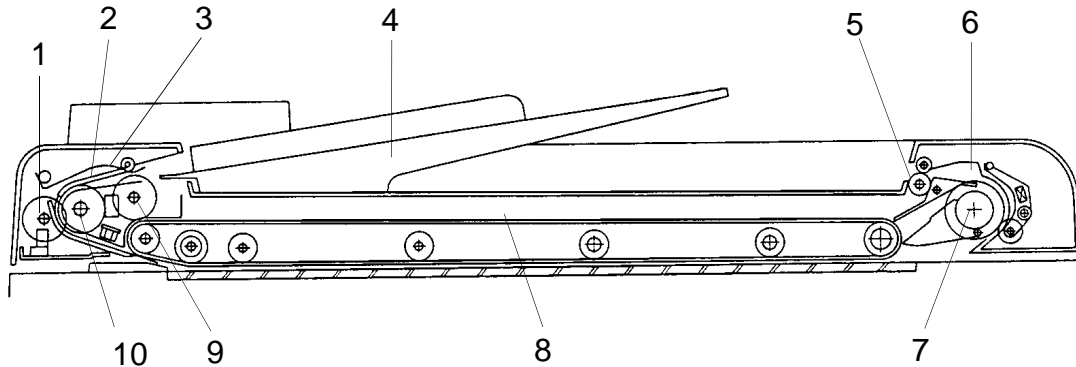
1. SPECIFICATIONS

Original Size and Weight:	<div><div>– Thin original mode –</div><div>MaximumA3/11" x 17"</div><div>MinimumB6/5½" x 8½"</div><div>Weight41 to 128 g/m² (11 to 34 lb)</div><div>– Thick original mode –</div><div>MaximumA3 / 11" x 17"</div><div>MinimumB6 / 5½" x 8½"</div><div>Weight52 to 128 g/m² (14 to 34 lb)</div><div>– Auto reverse mode –</div><div>MaximumA3 / 11" x 17"</div><div>MinimumB6 lengthwise / 5½" x 8½" lengthwise</div><div>Weight53 to 105 g/m² (14 to 28 lb)</div></div>
Original Feed:	<div>Automatic feed — ADF mode</div> <div>Manual feed one by one — SADF mode</div>
Original Table Capacity:	35 sheets / 64 g/m² (17 lb)
Original Set:	Face up. First sheet on top
Original Transport:	One flat belt
Copy Speed:	20 copies/minute for A4/8½" x 11" sideways
Power Consumption:	20 W
Dimensions (W x D x H):	670 x 460 x 103 mm (26.4" x 18.1" x 4.1")
Weight:	Approximately 9.0 kg (19.916 lb)



2. COMPONENT LAYOUT

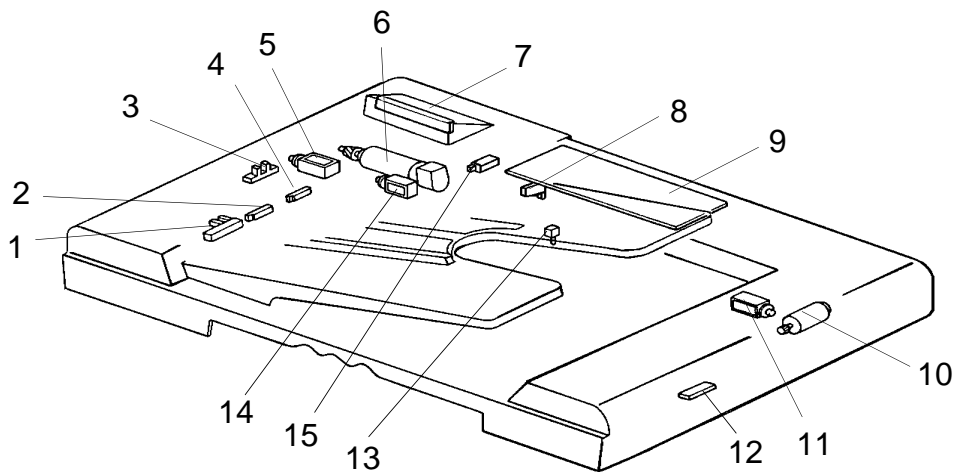
– Mechanical Components –



1. Pulse Generator Disk
2. Friction Belt
3. Pick-up Lever
4. Original Table
5. Exit Roller

6. Inverter Pawl
7. Inverter Roller
8. Transport Belt
9. Pick-up Roller
10. Feed Roller

– Electrical Components –



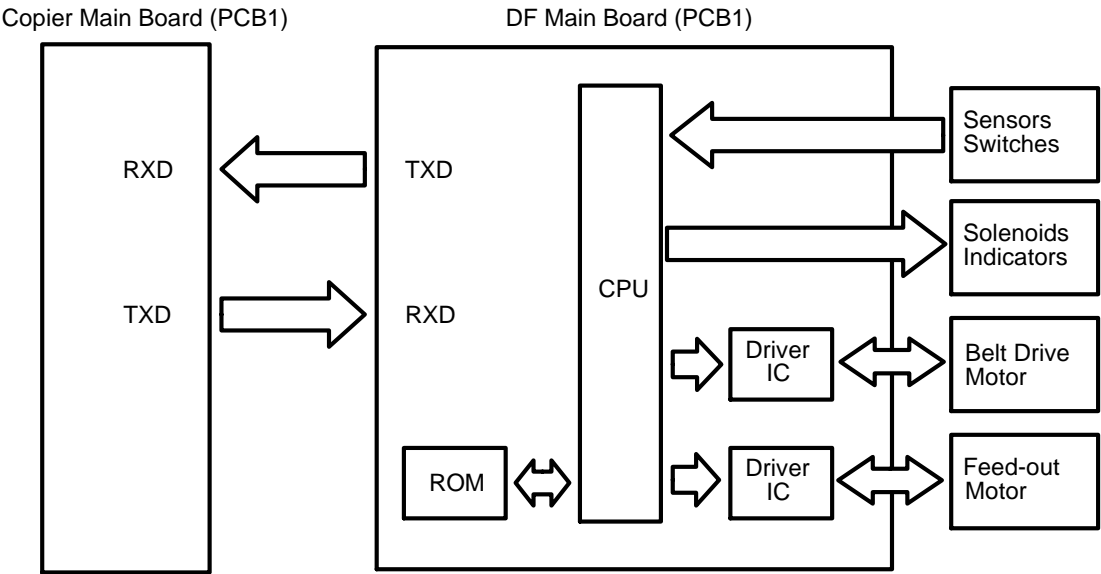
1. Original Set Sensor
2. Registration Sensor
3. Pulse Generator Sensor
4. Original Width Sensor
5. Pick-up Solenoid
6. Belt Drive Motor
7. Indicator Panel
8. Lift Switch

9. DF Main Board
 10. Feed-out Motor
 11. Inverter Solenoid
 12. Feed-out Sensor
 13. Original Select Switch
 14. Feed-in Solenoid
 15. DF Position Sensor
- (A054, A072, A111 copiers only)**

3. ELECTRICAL COMPONENT DESCRIPTIONS

Symbol	Name	Function	Index No.
Motors			
M1	Belt Drive Motor	DC servomotor that drives to the transport belt and feed-in system (pick-up roller, feed roller, pull-out roller and relay roller).	6
M2	Feed-out Motor	DC servomotor that drives the feed-out unit of the DF.	10
Solenoids			
SOL1	Pick-up Solenoid	Energizes to press the pick-up lever against the stack of originals in preparation for original feed-in.	5
SOL2	Feed-in Solenoid	Turns on to engage the feed-in clutch so rotation is transmitted to the feed roller, pull-out rollers, and relay rollers.	14
SOL3	Inverter Solenoid	Energizes to invert the original when copying two sided originals.	11
Switches			
SW1	Lift Switch	Informs the CPU when the DF is lifted and also serves as the jam reset switch for the DF.	8
SW2	Original Select Switch	Selects thick original mode or thin original mode.	13
Sensors			
S1	Original Set Sensor	Informs copier CPU that originals have been placed and causes the Insert Original indicator to go out.	1
S2	Registration Sensor	Sets original stop timing and measures original length.	2
S3	Original Width Sensor	Determines the width of the originals.	4
S4	Pulse Generator Sensor	Generates pulses used to measure the original length.	3
S5	Feed-out Sensor	Checks for original misfeeds and sets original stop timing when in auto reverse mode.	12
S6	DF Position Sensor	Detects when the document feeder is positioned about 10 cm above exposure glass. (A111 copier only)	
Printed Circuit Boards			
PCB1	DF Main Board	Controls all DF functions.	9
PCB2	Indicator Panel Board	Contains operator indicators.	7

4. OVERALL MACHINE CONTROL



The DF CPU monitors the input signals from the sensors and switches, and energizes the solenoids and the indicator LEDs directly. The belt drive motor and the inverter motor are controlled by the DF CPU through their respective driver ICs. The exchanged signals are shown in the tables on the next page.

1. DF → Copier

No.	Signal Name	Definition
1	Original Set	Originals have been set on the original table
2	Copy Start	Allows the copier to start the copy sequence
3	Lift Up	The DF has been lifted
4	DF Misfeed	A misfeed has occurred in the DF

2. Copier → DF

No.	Signal Name	Definition
1	Feed-in	Requests the DF to feed in the original
2	Feed-out	Requests the DF to feed out the original
3	Invert Original	Requests the DF to invert the original
4	Auto Feed	Shifts the DF to the auto feed mode
5	Original Stay	The machine attempted to use the DF but an original from the previous copy run remains on the exposure glass

5. BASIC OPERATION

1. One-sided Original Feed

When an original is inserted face up into the DF, the Insert Original indicator light goes out and the DF informs the copier CPU that originals have been set.

When the Start key is pressed, the copier CPU sends the feed-in signal to the DF. On receipt of this signal, the DF energizes the pick-up solenoid, the feed-in solenoid, and the belt drive motor in order to feed-in the bottom sheet of the original stack onto the exposure glass. The pick-up solenoid and the feed-in solenoid remain energized until the original leading edge reaches the DF registration sensor. The belt drive motor turns off shortly after the original's trailing edge passes the DF registration sensor.

While feeding the original, the DF registration sensor and the paper width sensor check the original size.

Just when the original trailing edge has passed the DF registration sensor, the DF CPU sends the copy start signal to the copier.

When the scanner reaches the return position, the copier CPU sends the feed-out and the feed-in signals to the DF CPU in order to exchange the original with the next original. At this time, the scanner begins returning to the home position.

When the scanner comes to the return position after scanning the last original, the copier CPU only sends the feed-out signal in order to feed-out the last original.

2. Two-sided Original Feed

Unlike one-sided original feed, the back side of the original must be copied first to keep the originals and copies in the correct order.

During original feed-in, the sequence is the same as for one-sided feed; however, the DF CPU also energizes the inverter motor and the inverter solenoid a short time after the original trailing edge has passed the DF registration sensor. The belt drive motor continues to feed the original until the original leading edge passes the feed-out sensor. At this point the inverter mechanism inverts the original, in preparation for copying the back side. Then the belt drive motor reverses and the original is fed towards the left scale and is aligned against the scale. The DF CPU sends the copy start signal a short time after the original trailing edge has passed the feed-out sensor.

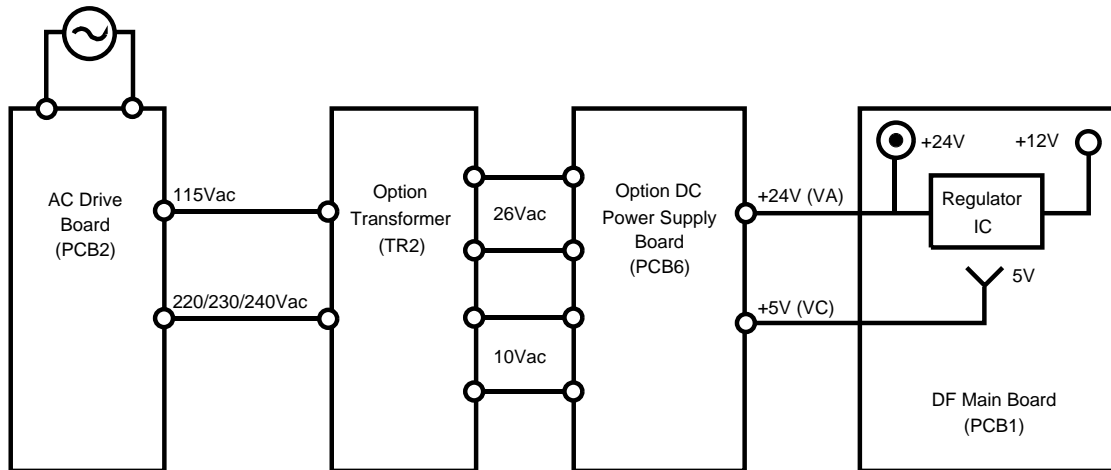
When the scanner reaches the return position, the copier CPU sends the invert original signal to the DF CPU in order to make a copy of the front side. The original is inverted in the same way as for back side copying.

3. Semi-automatic Document Feed

If a single original is inserted into the original table and copied, the DF shifts to the semi-automatic feed mode and lights the Auto Feed indicator. The Auto Feed indicator remains on for five seconds after the copier main motor stops. If another original is inserted within that five-second period, it is automatically fed and copied.

6. POWER DISTRIBUTION

6.1 A110/A054 COPIERS

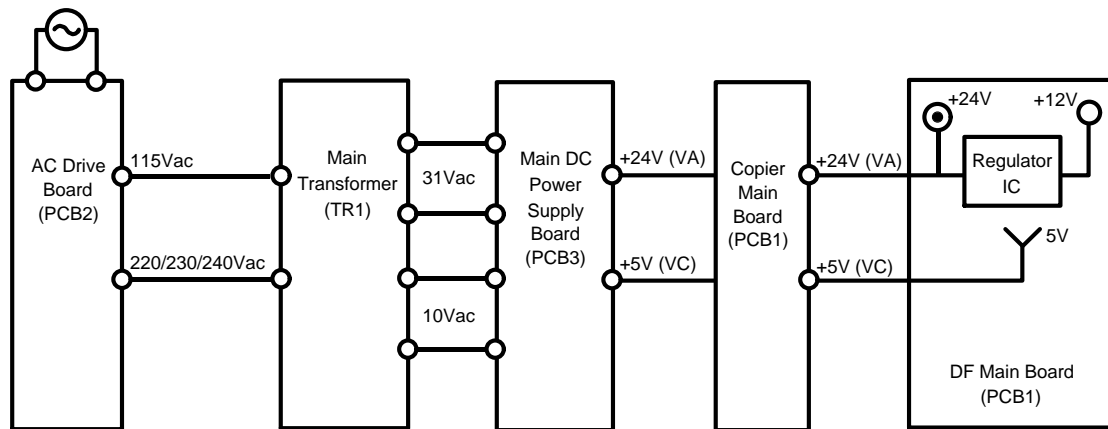


The DF uses three DC power levels: +24 volts, +12 volts, and +5 volts.

When the main switch is turned on, the option transformer receives the wall outlet ac power through the ac drive board and outputs 10 volts ac and 26 volts ac to the option dc power supply board. The option dc power supply board then converts the 10 volts ac input to +5 volts dc and the 26 volts ac input to +24 volts. Then, those two dc voltages are supplied to the DF main board.

The regulator IC on the DF main board further steps down the +24 volts to +12 volts.

6.2 A111 COPIER



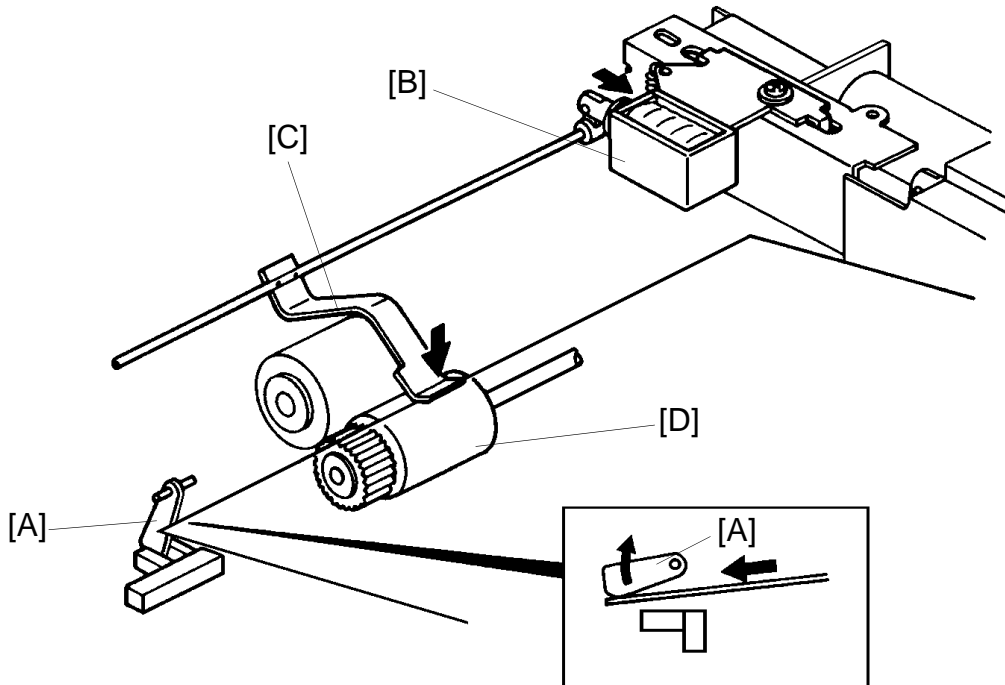
The DF uses three dc power levels: +24 volts, +12 volts, and +5 volts.

When the main switch is turned on, the main transformer receives the wall outlet ac power through the ac drive board and outputs 10 volts ac and 31 volts ac to the main dc power supply board. The main dc power supply board then converts the 10 volts ac input to +5 volts dc and the 31 volts ac input to +24 volts. Then, those two dc voltages are supplied to the DF main board through the copier main board.

The regulator IC on the DF main board further steps down the 24 volts to +12 volts.

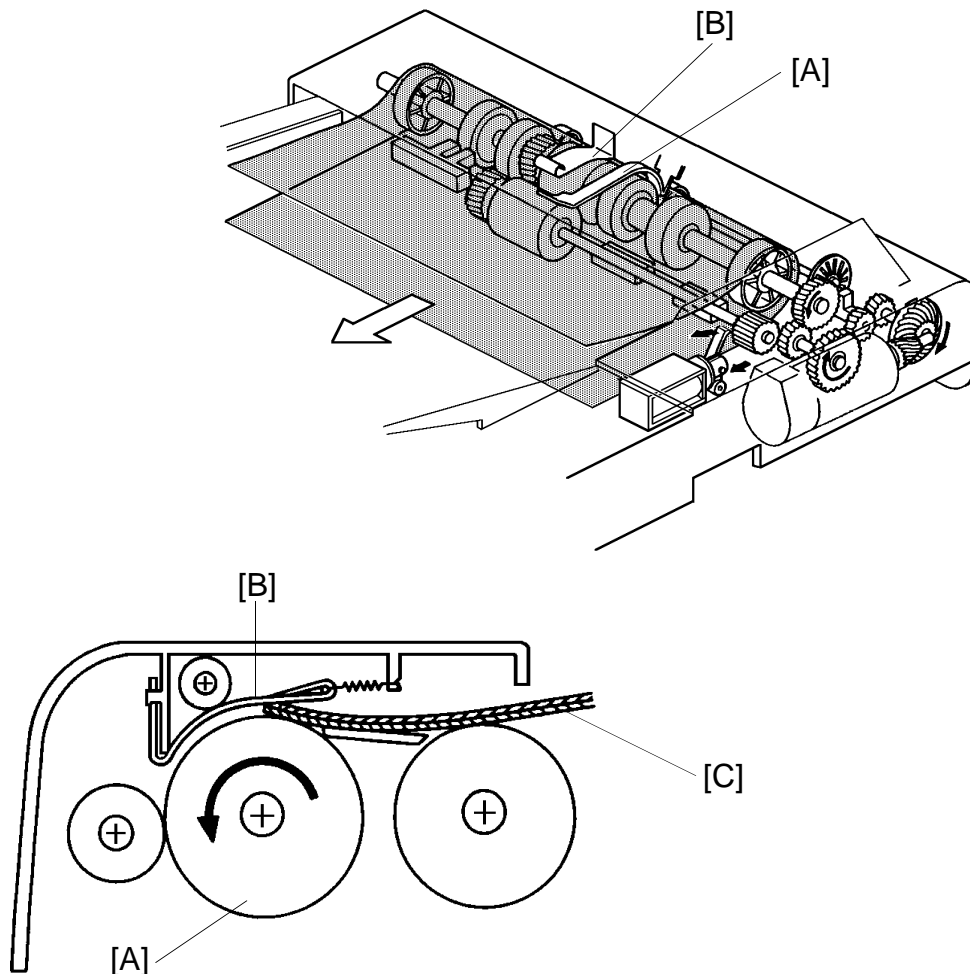
7. ORIGINAL FEED

7.1 ORIGINAL PICK-UP



After setting the originals on the original table, the originals contact the feeler [A] of the original set sensor and cause the feeler to move out of the sensor. The DF then sends the original set signal to the copier CPU to inform it that the DF will be used. When the Start key is pressed, the pick-up solenoid [B] is energized. The original stack is then pressed between the pick-up lever [C] and pick-up roller [D]. The rotation of the pick-up roller advances the bottom original.

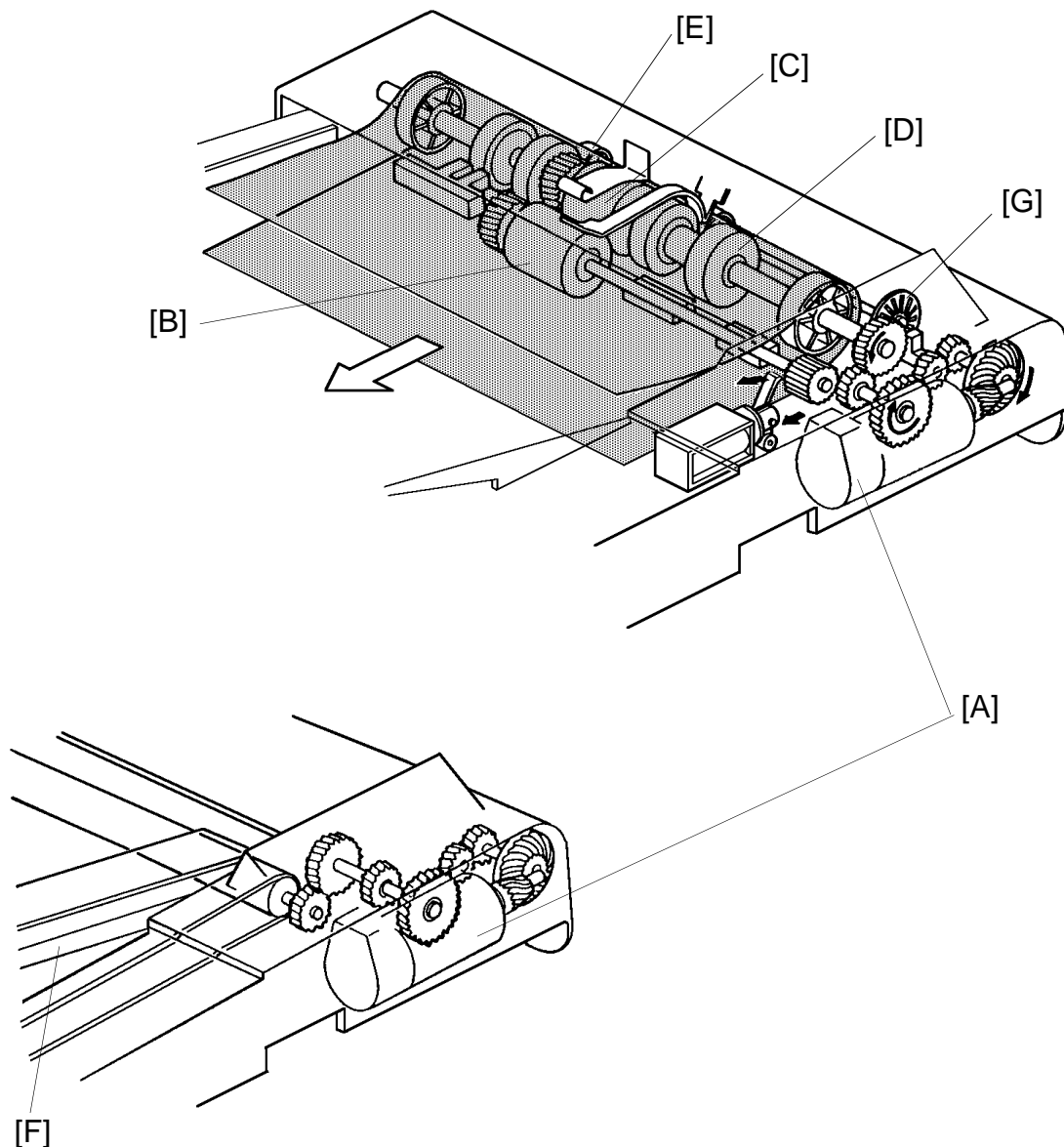
7.2 ORIGINAL SEPARATION



The feed roller [A] and the friction belt [B] are used to feed-in and separate the originals [C]. Only the bottom original is fed because the friction belt prevents any other originals from feeding.

Original feed starts when the feed roller starts turning and advances the bottom original of the stack. The feed roller moves the original past the friction belt because the driving force of the feed roller is greater than the resistance of the friction belt. The friction belt prevents multiple feeds because the resistance of the friction belt is greater than the friction between original sheets.

7.3 ORIGINAL FEED-IN MECHANISM

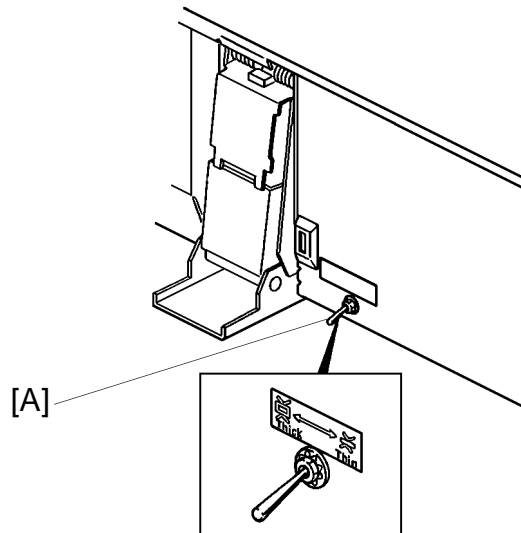


The belt drive motor [A] drives the pick-up roller [B], the feed roller [C], the pull out roller [D], the relay roller [E], and transport belt [F] via a feed clutch and a gear train.

The pick-up and feed-in solenoids are energized 100 milliseconds after the Start key of the copier is pressed. Then 100 milliseconds after the solenoids are energized, the belt drive motor starts turning. The pulse generator disc [G] always turns when the belt drive motor is on.

Slightly after the original trailing edge passes the registration sensor, the relay rollers and the transport belt stop turning.

This document feeder has two different ways of stopping originals at the correct position on the exposure glass. They are called the "thin original mode" and the "thick original mode". The mode used is determined by the original select switch [A].



– Original Select Switch –

1. Thin Original Mode

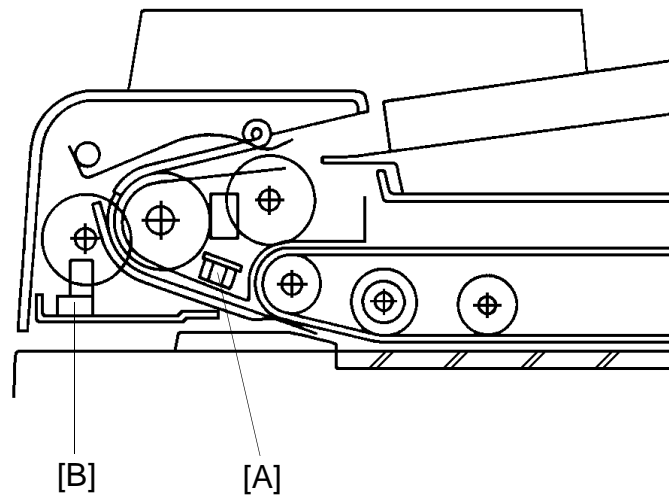
The original is stopped at the correct position on the exposure glass based on encoder pulse count. The belt drive motor stops shortly after the original trailing edge passes the DF registration sensor. (Exact timing depends on registration adjustment.) Thin original mode is selected at the factory.

2. Thick Original Mode

When thick original mode is selected, the belt drive motor remains energized for an additional 30 encoder pulses as compared to thin original mode. Then, the belt drive motor pauses and reverses for 21 pulses. This forces the original against the left scale and thus aligns the edge of the original with the scale.

After the exposure cycle is completed, the copier sends the feed-out signal to the DF CPU and the belt drive and feed out motors start turning. At this time, the copied original feeds out and the next original feeds in.

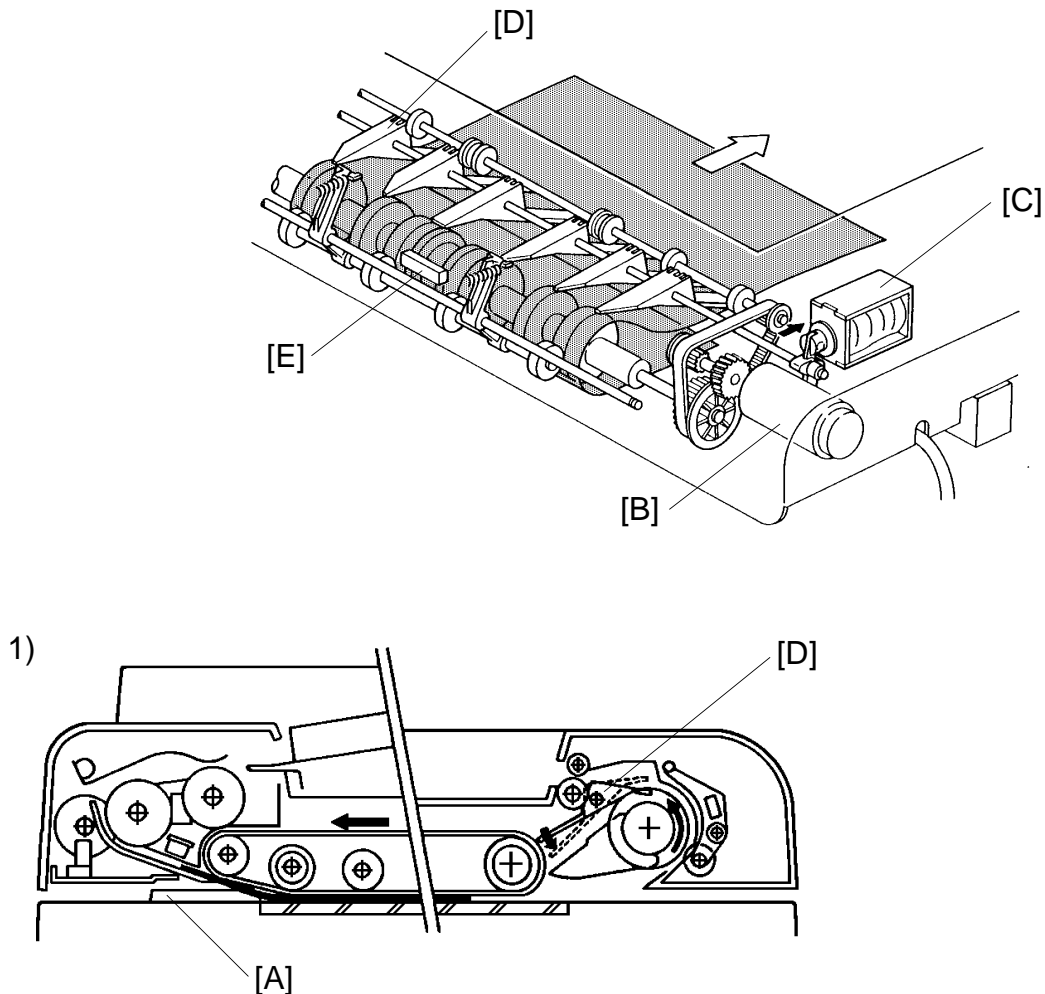
7.4 ORIGINAL SIZE DETECTION



The DF determines original size (both width and length) through the use of the original width sensor [A], registration sensor, and pulse generator sensor [B]. The original's length is calculated by counting the number of pulses from the pulse generator while the registration sensor is on.

Original size detection is necessary for the feed-in/feed-out timing of the DF.

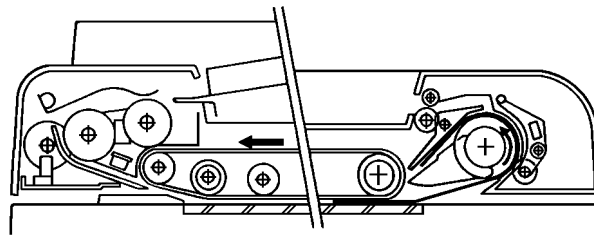
7.5 ORIGINAL INVERSION MECHANISM



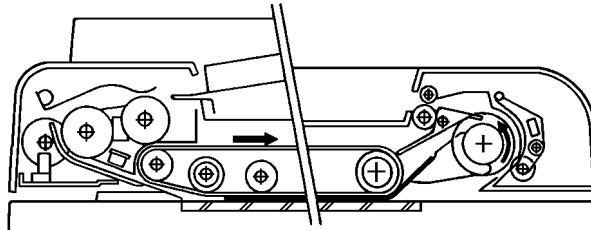
The two sided originals are inverted in the feed-out unit.

- 1) When the copier Start key is pressed, the two sided original is fed into the feed-in unit, passing over the DF registration sensor [A]. The feed-out motor [B] and the inverter solenoid [C] turn on 100 milliseconds after the original trailing edge passes the registration sensor. When the inverter solenoid turns on, the inverter pawls [D] rotate counterclockwise.

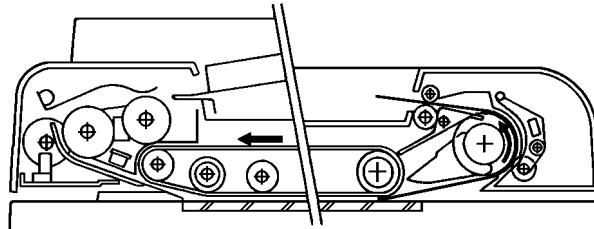
2) 4)



3) 5)

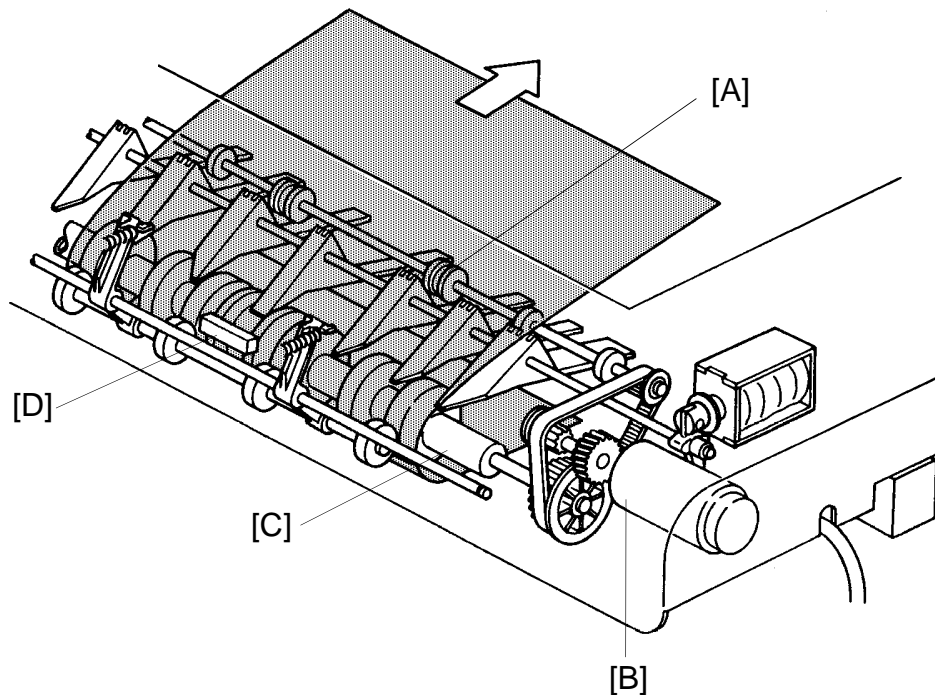


6)



- 2) The original passes over the exposure glass and feeds into the feed-out unit.
- 3) The original is directed onto the exposure glass again by the inverter pawls. The belt drive motor now reverses 140 milliseconds after the feed out sensor [E] turns on. The transport belt then moves the original toward the left scale. Slightly before the original reaches the left scale, the belt drive motor drops to half speed. This is to prevent damaging the edge of the original against the left scale. When the original leading edge reaches the left scale, the belt drive motor stops. At the same time, the feed-out motor and the inverter solenoid turn off.
- 4) After the reverse side of the original is exposed, the belt drive motor, the feed-out motor, and the inverter solenoid turn on, and the original is fed into the inverter section. (This is the same as step 2 above.)
- 5) The original is fed onto the exposure glass again as in step 3 above. The front side of the original is then copied.
- 6) After the front side of the original has been exposed, the original is fed out from the DF.

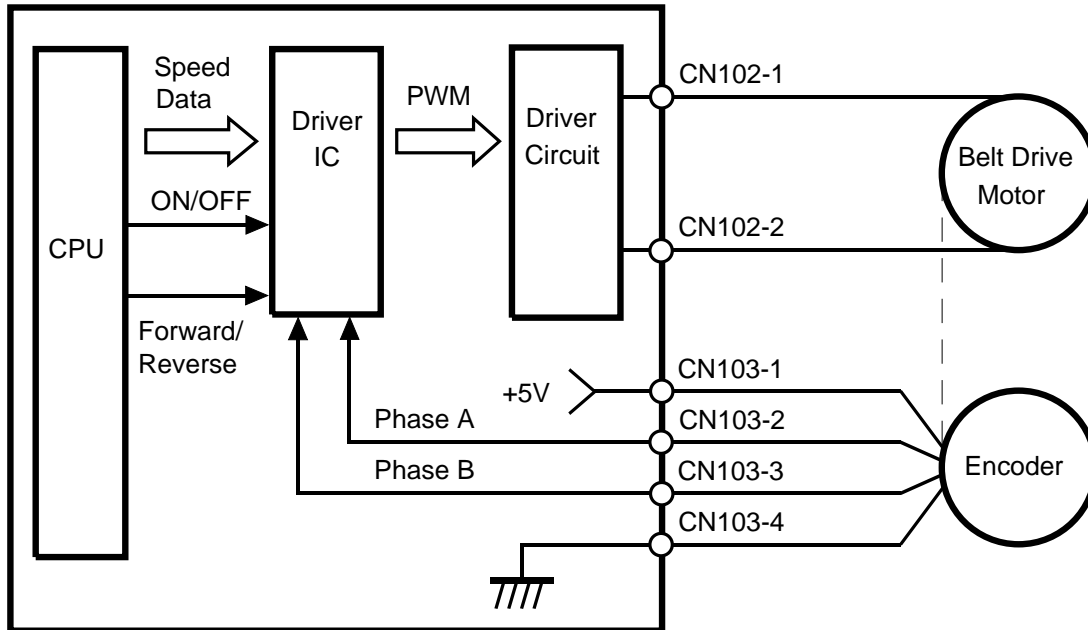
7.6 ORIGINAL FEED-OUT MECHANISM



The exit rollers [A] are driven by the inverter motor [B]. When the document feeder receives the feed out signal from the copier, the transport belt and the exit rollers start turning simultaneously. The transport belt carries the original to the inverter rollers [C] and the exit rollers take over the original feed-out. When the original trailing edge passes the feed-out sensor [D], the feed-out motor drops to half of its normal speed for 220 milliseconds and then stops. The lower speed prevents uneven stacking of originals. For A3 or double letter size originals, the feed-out motor speed does not change due to the length of the originals.

7.7 BELT DRIVE MOTOR CIRCUIT

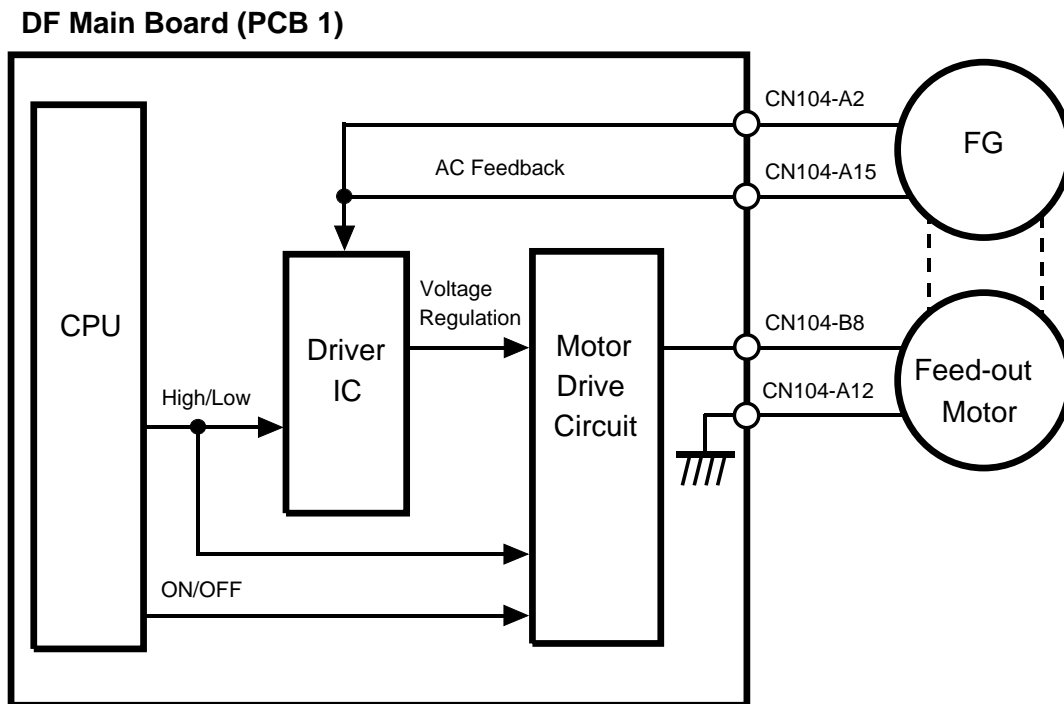
DF Main Board (PCB 1)



A dc servomotor is used as the belt drive motor. The driver IC controls the speed of the belt drive motor. The CPU sends the speed data (programmed) to the driver IC. The driver IC sends the pulse-width-modulation (PWM) signal to the driver circuit, which sends the motor drive pulses.

An encoder in the servomotor has two magnetic sensors that generate two pulse signals (phase A and B). The driver IC monitors the belt speed and direction with these pulse signals and uses the signals to regulate the motor's speed.

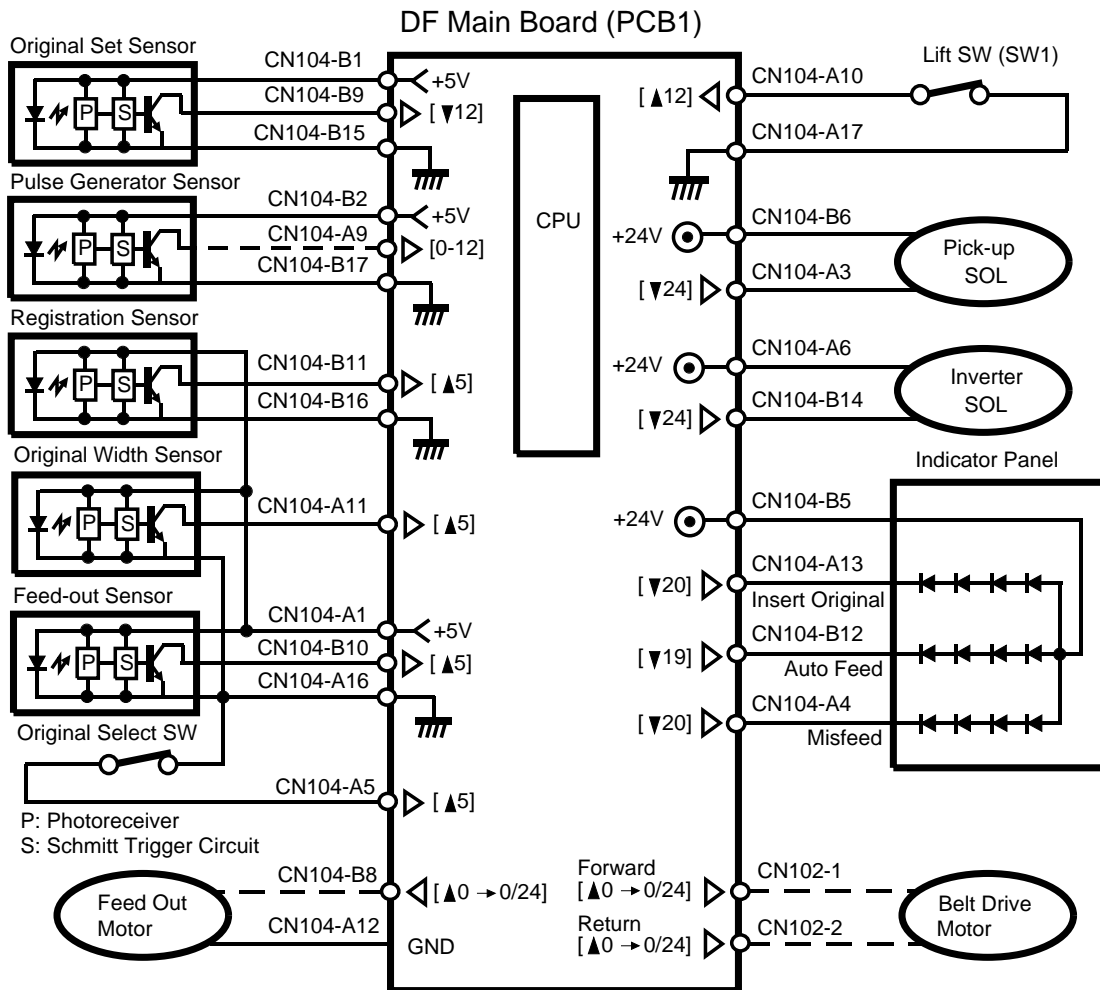
7.8 FEED-OUT MOTOR CIRCUIT



The DF CPU sends the speed data (high or low) to the driver IC and the motor drive circuit. The motor drive circuit creates the PWM signal and sends the motor drive pulses to the feed-out motor.

The frequency generator of the feed-out motor makes a very low voltage ac signal which is fed back to the driver IC. The driver IC monitors the frequency of this ac signal and based on the frequency it regulates the motor speed.

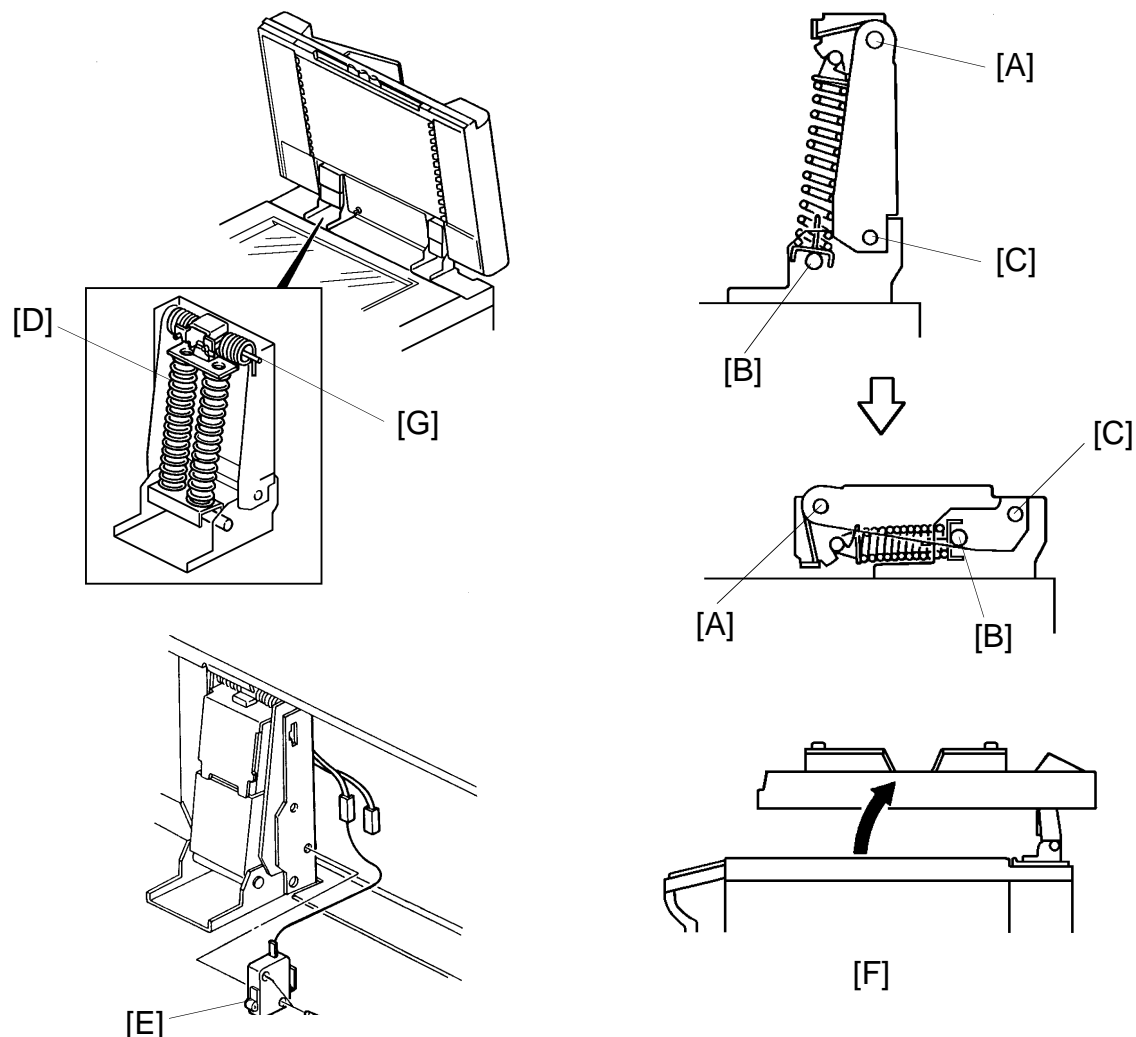
7.9 INPUT AND OUTPUT CIRCUITS



The above devices are directly controlled and monitored by the CPU. The solenoids and indicator panel are energized with +24 volts. The sensors and switches are energized with +12 volts or +5 volts.

To energize a solenoid or indicator, the CPU drops the connected trigger line from +24 volts to LOW. The CPU monitors the input lines of the sensors and switches to determine when they are activated.

8. LIFT MECHANISM



When the document feeder is opened, the lift springs [D] provide enough force to ensure that the document feeder does not fall onto the exposure glass. When the document feeder is closed, points "A", "B", and "C" are aligned and no such force is provided to the document feeder.

The lift switch [E] is actuated when the document feeder is closed. The copier then shifts to the document feeder mode. The lift switch also serves as the reset switch for document feeder misfeeds.

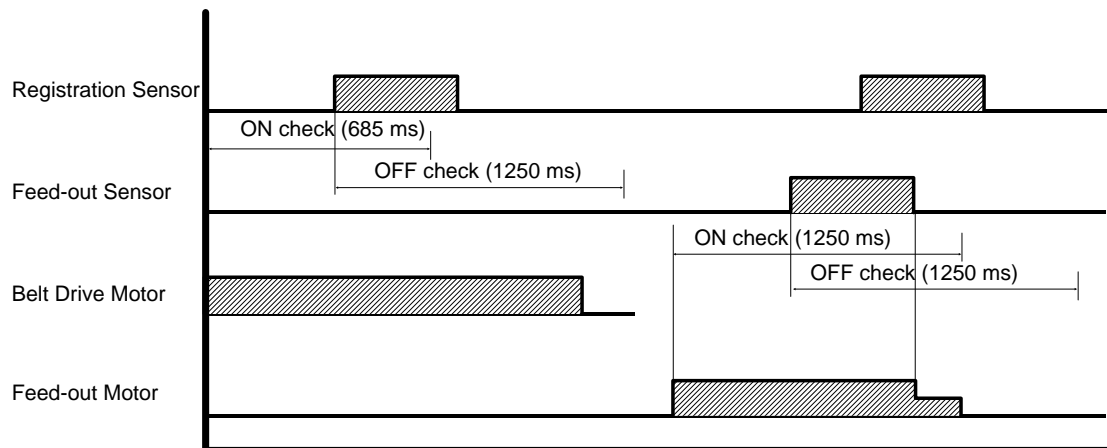
When a book or thick (maximum thickness 60 mm) original is copied, the DF acts as a cover for the original as shown in the figure [F]. The lift switch is turned off during this condition, so the DF does not function. The tension of spring [G] returns the DF to the normal condition after copying a thick original.

Document
Feeder

9. ORIGINAL MISFEED SENSING

The registration sensor and the feed-out sensor are used for misfeed checks.

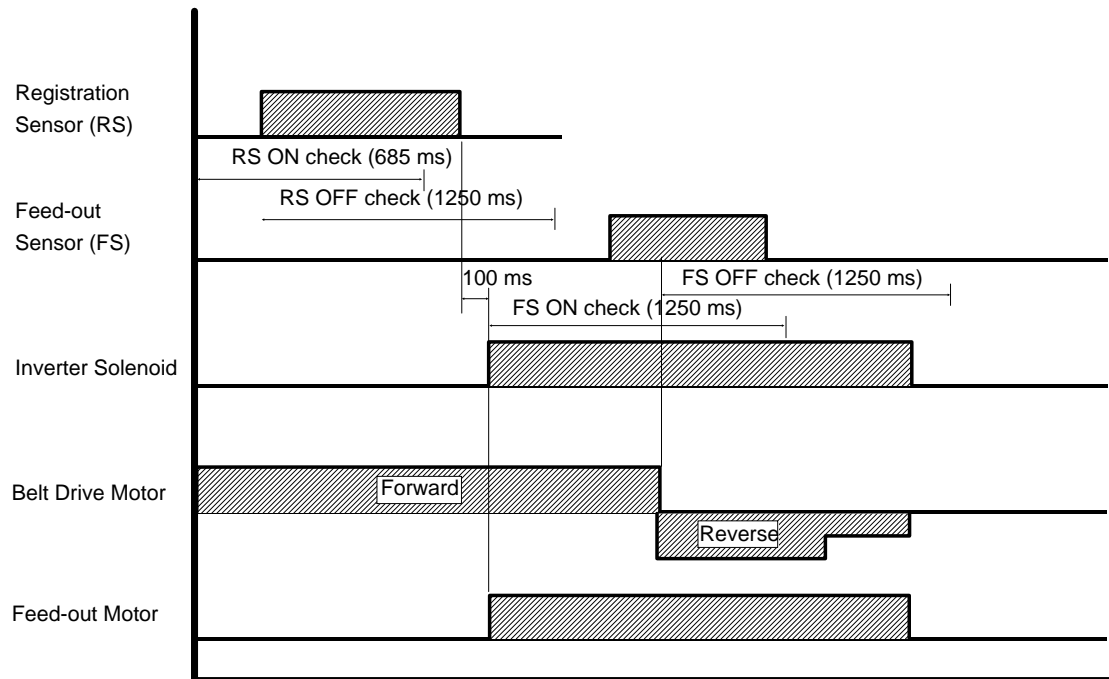
1. One sided original



If the registration sensor is not actuated within 685 milliseconds after the belt drive motor starts turning, the Original Misfeed indicator lights (ON check).

If the registration sensor does not turn off within 1,250 milliseconds, the CPU determines that there has been an original misfeed (OFF check). The Original Misfeed indicator also lights if the feed-out sensor is not actuated within 1,250 milliseconds after the feed-out motor starts turning (ON check) or if the feed-out sensor does not turn off within 1,250 milliseconds after the feed-out sensor is actuated (OFF check).

2. Two sided original

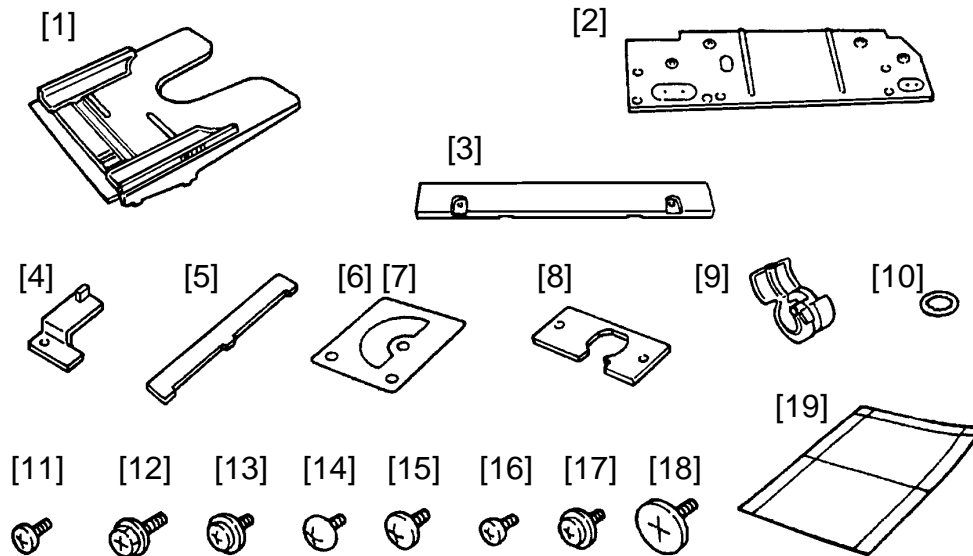


The registration ON/OFF check is the same as for one-sided originals. The inverter motor and the inverter solenoid turn on 100 milliseconds after the registration sensor turns off. If the feed-out sensor is not actuated within 1,250 milliseconds after the feed-out motor starts turning, the Original Misfeed indicator lights (ON check). The Original Misfeed indicator also lights if the feed-out sensor does not turn off within 1,250 milliseconds after the belt drive motor reverses (OFF check).

If a previous original remains on the exposure glass after manual copying and DF feed is attempted, the original misfeed indicator lights. When the DF is lifted and the previous original is removed, DF copying is permitted.

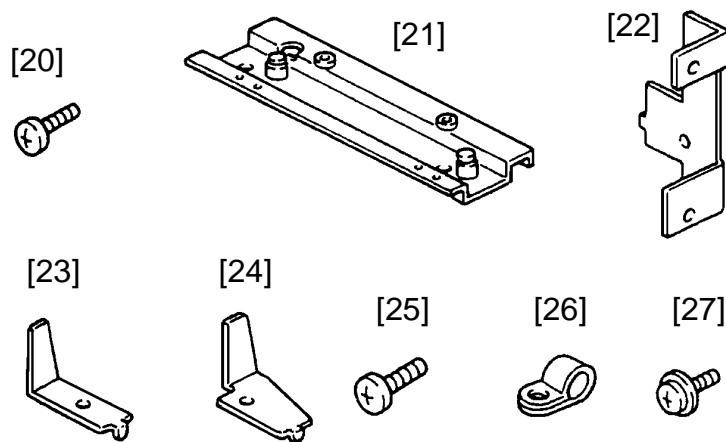
10. INSTALLATION PROCEDURE (for Machine Code: A110/A111)

10.1 ACCESSORY CHECK



Check the accessories and their quantities according to the following list:

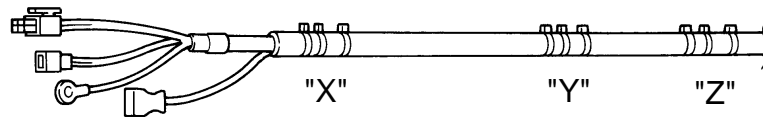
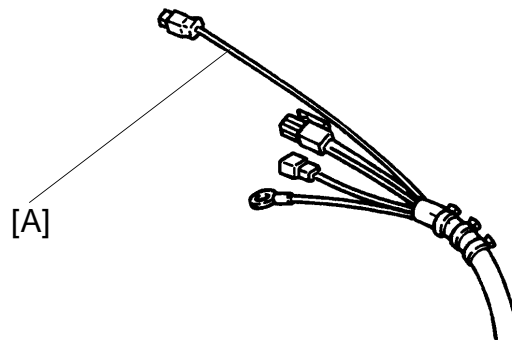
1. Original Table	1 pc
2. DF Mounting Bracket (for A027/A048/A054/A075/A110/A111)	1 pc
3. Angle Stopper	1 pc
4. Lift Switch Actuator	1 pc
5. E Plate	1 pc
6. Spacer - 0.5 mm	6 pcs
7. Spacer - 0.2 mm	4 pcs
8. DF Harness Bracket (for A027/A048/A054/A075/A030/A072)	1 pc
9. Bushing (for A027/A048/A054/A075/A030)	1 pc
10. Toothed Washer	1 pc
11. Ground Screw - M4 x 6	1 pc
12. Hexagon Head Screw - M4 x 10	4 pcs
13. Philips Screw with Flat Washer - M4 x 5	4 pcs
14. Philips Pan Head Screw - M4 x 5 (round head)	3 pcs
15. Philips Pan Head Screw - M4 x 5 (flat head)	2 pcs
16. Philips Pan Head Screw - M3 x 5	1 pc
17. Philips Pan Head Screw with Washer - M3 x 5 (for A054/A111)	1 pcs
18. Stud Screw	2 pcs
19. DF Test Sheet	1 pc



20. Philips Pan Head Screw - M5 x 10 (for A030/A072)	2 pcs
21. DF Mounting Bracket (for A030/A072)	1 pc
22. DF Bracket (for A030/A072)	1 pc
23. Sensor Actuator (for A054/A111)	1 pc
24. Sensor Actuator (for A072)	1 pc
25. Philips Pan Head Screw - M5 x 12 (for A072)	2 pcs
26. Clamp (for A072/A110/A111)	1 pc
27. Philips Pan Head Screw with Flat Washer - M4 x 8 (for A072/A110/A111)	1 pc

(for Machine Code: A027/A048/A075/A110)

When the DF is installed, the power supply unit (option) is required. Make sure that you have all the accessories listed in the power supply unit installation procedure.



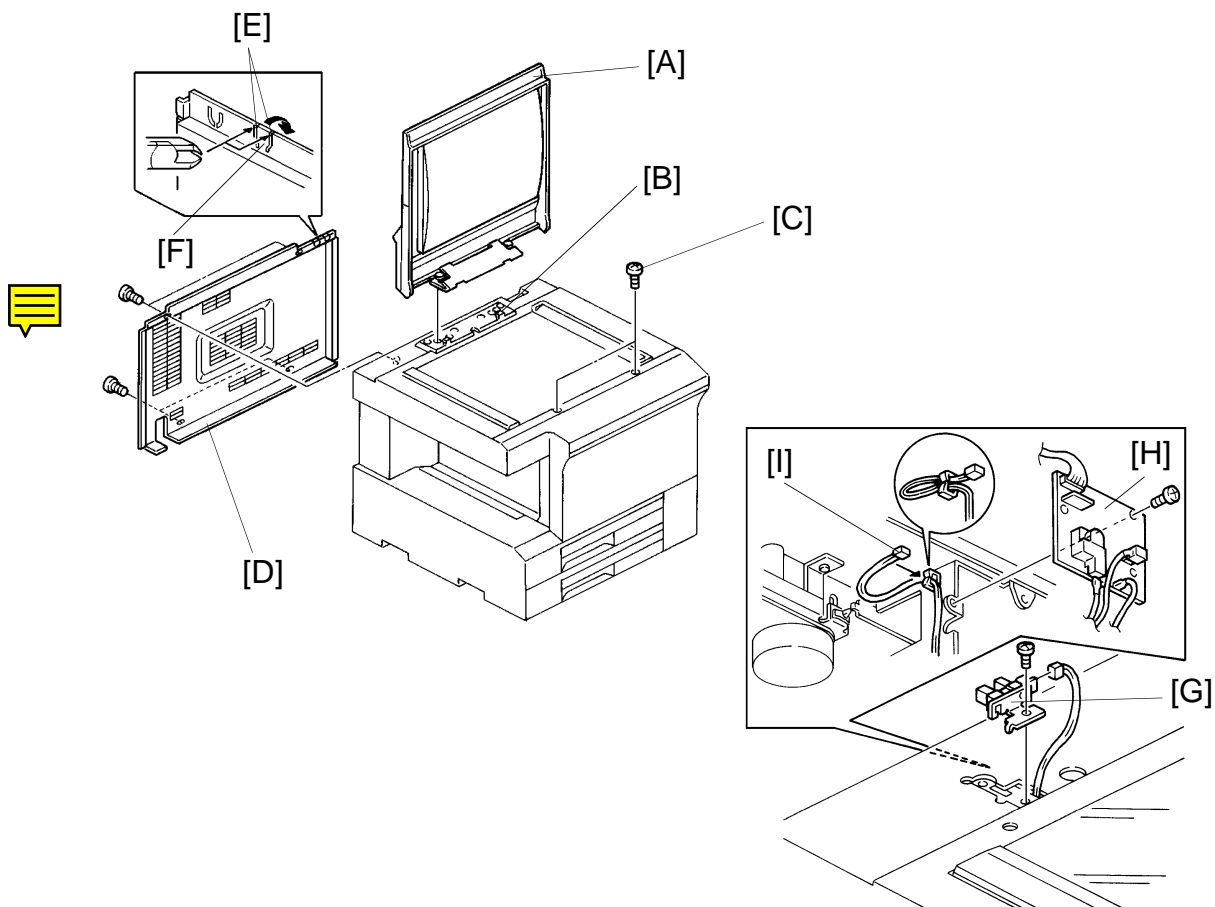
- NOTE:** 1. Connector (3P/Brown) [A] on the DC harness assembly is not used on the A027, A030, A048, A075 and A110 Copiers.
2. The clamp position of the DF harness with the bushing or clamp is different for each machine as follows:

"X" position A027 copier

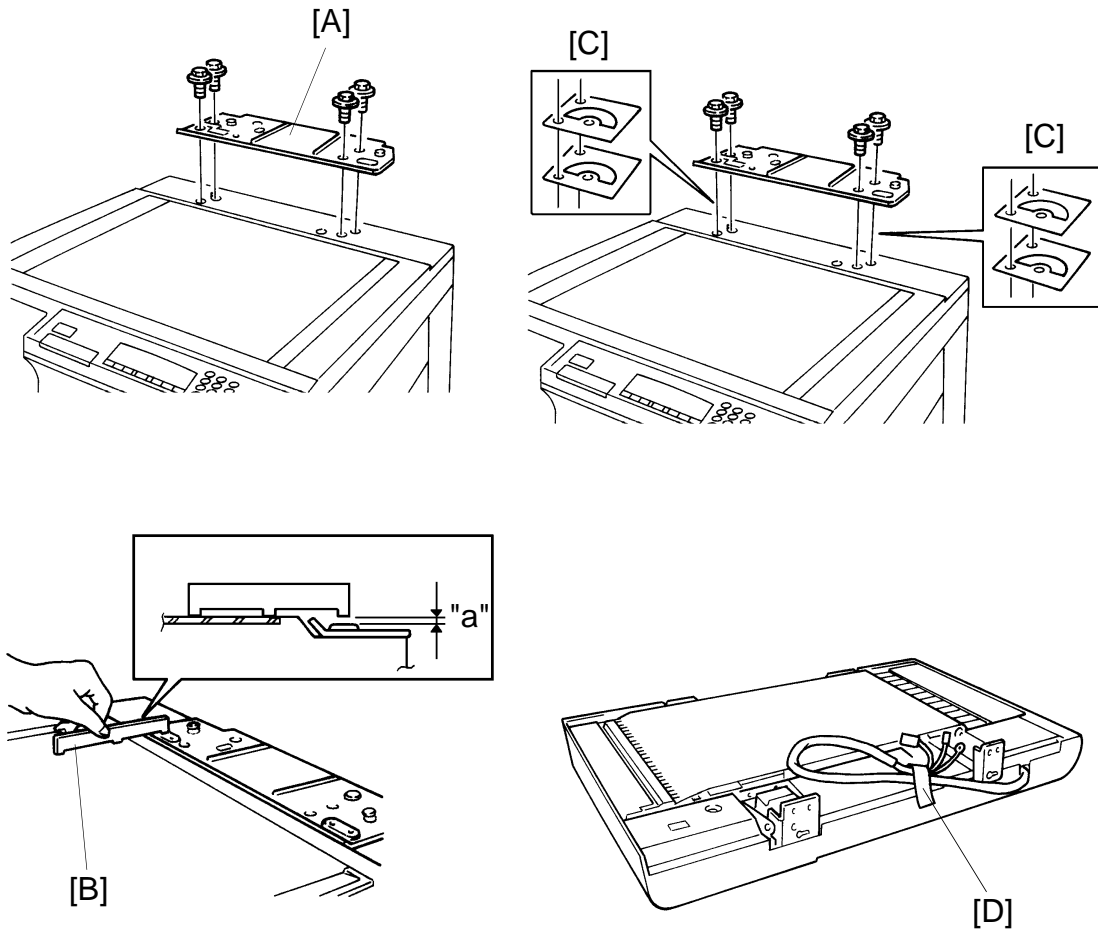
"Y" position A030, A048, A054, A072 and A075 copiers

"Z" position A110 and A111 copiers

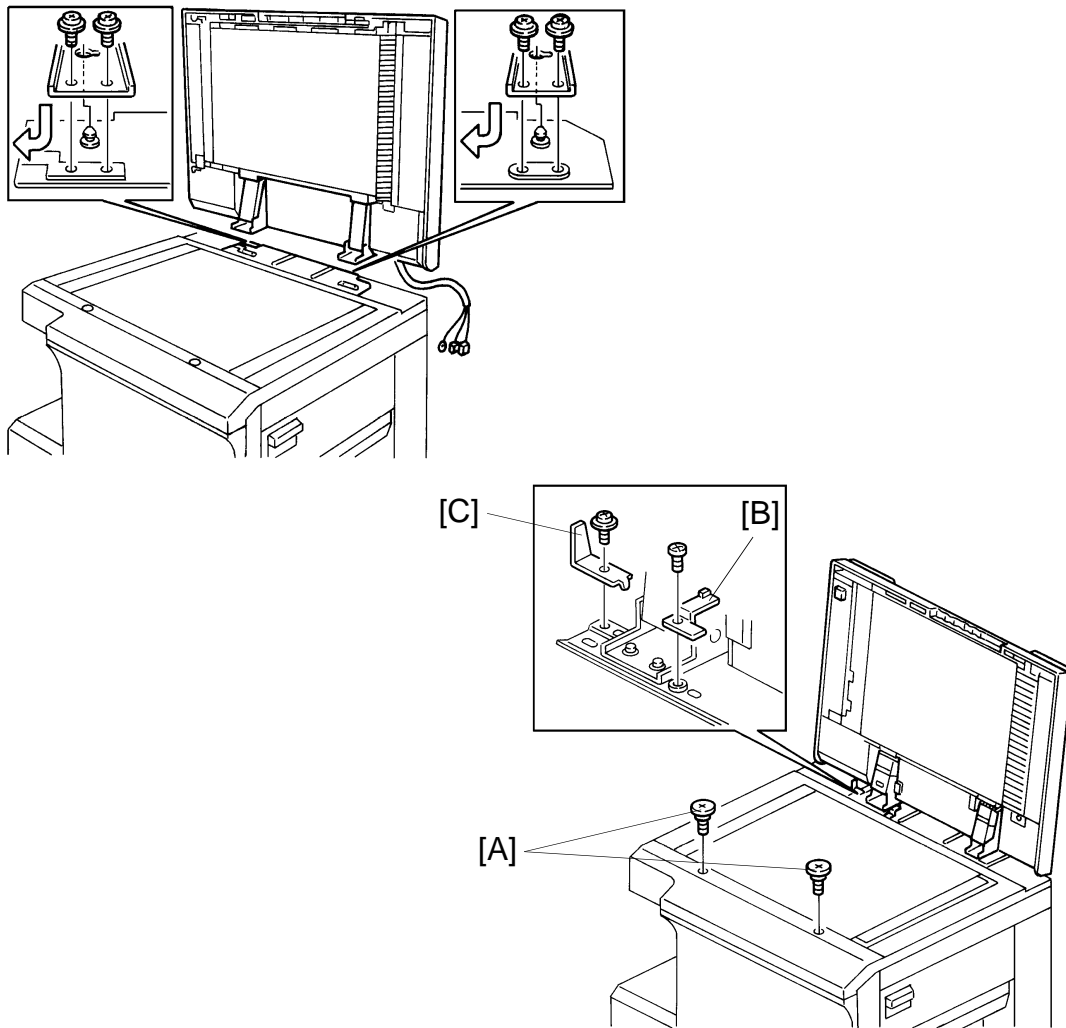
10.2 INSTALLATION PROCEDURE



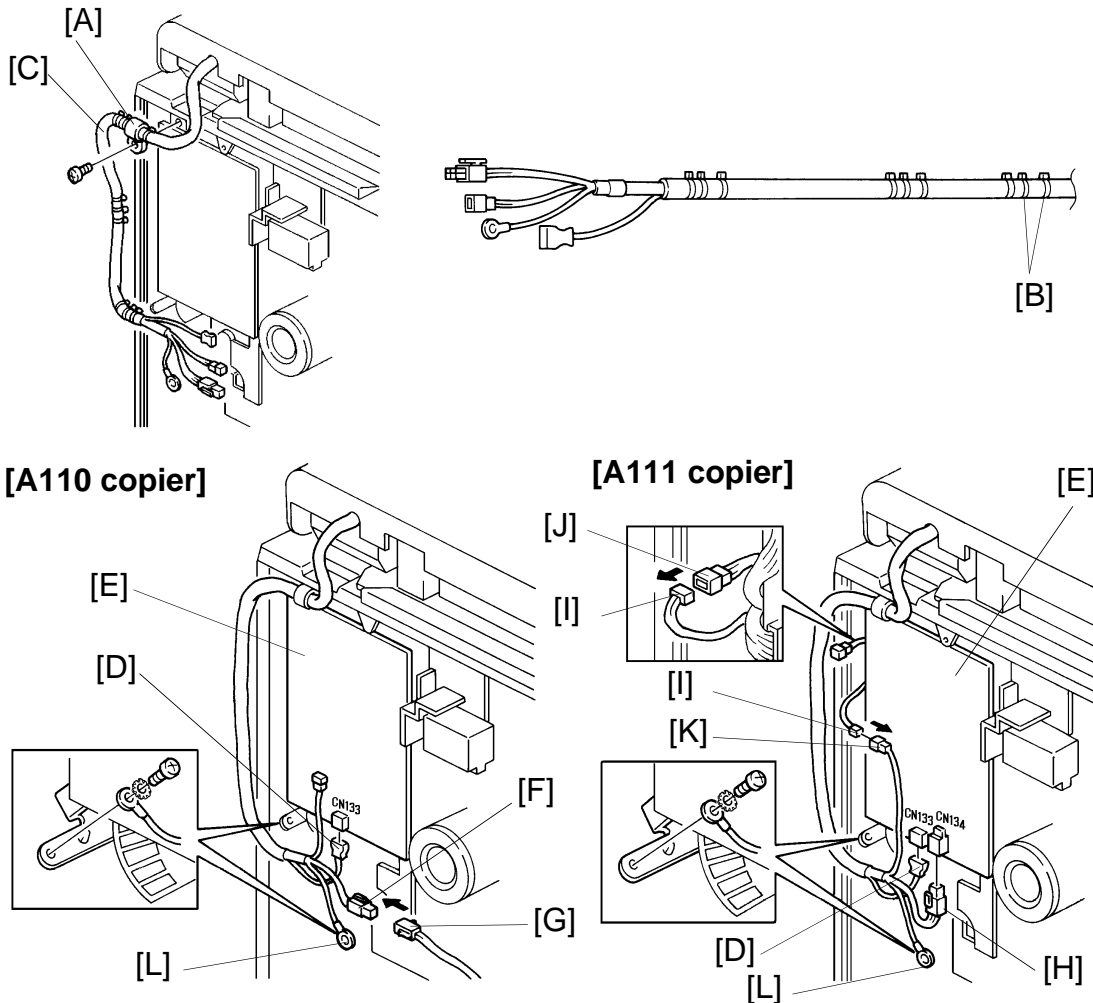
1. Install the power supply unit **(A110 copier only)**.
Refer to the installation procedure enclosed with the power supply unit (A525).
2. Remove the following parts from the copier.
 - 1) Platen cover [A] (2 push-locks)
 - 2) Platen cover pedestal [B] (4 screws)
 - 3) 2 screws [C] for fixing the operation panel
 - 4) Rear cover [D] (4 screws)
3. Cut the two links [E] with nippers and bend the large harness cap [F] in until it touches the rear cover.
4. Remove the lift sensor [G] (1 screw) **(A111 copier only)**.
5. Remove the CC/G/B power pack [H] (1 screw and 2 locking supports) and clamp the connector [I] as shown in the illustration; then reinstall the CC/G/B power pack **(A111 copier only)**.



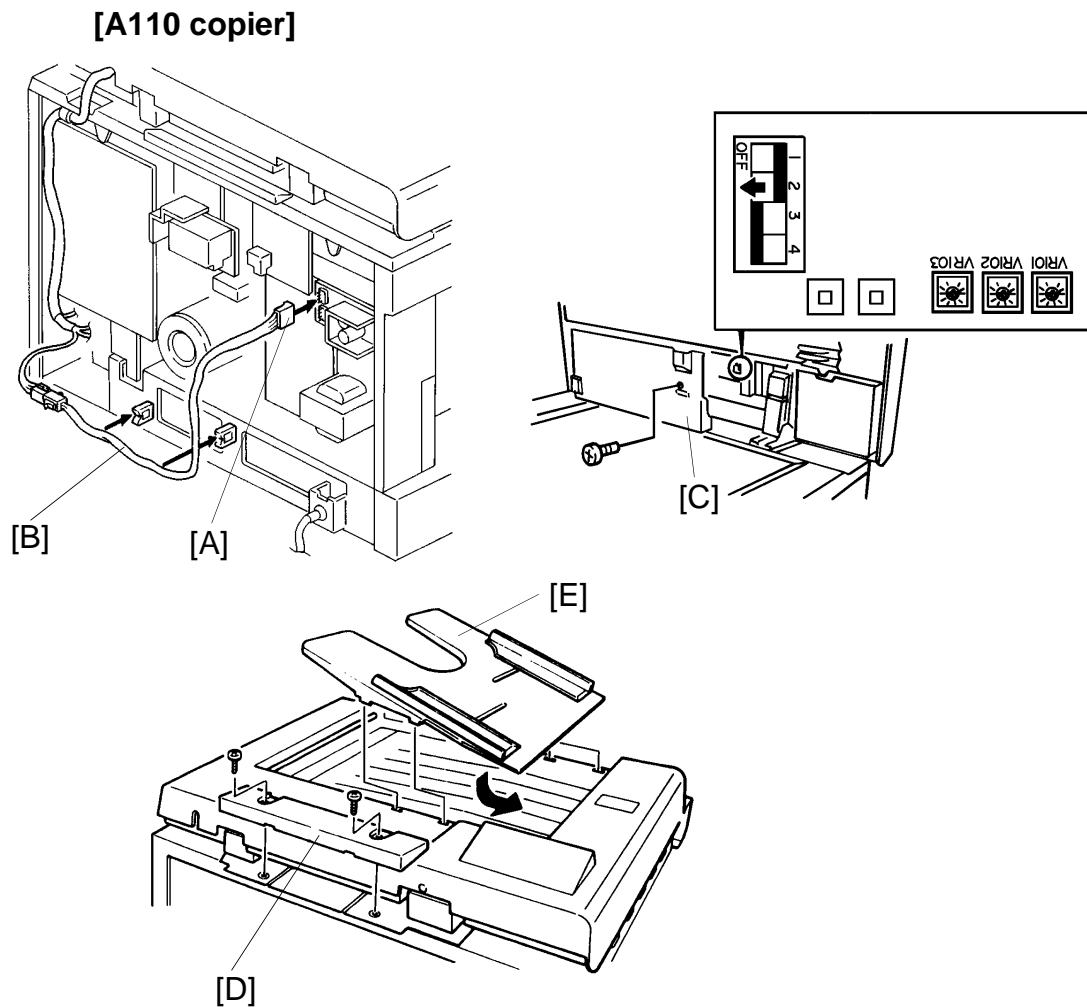
6. Secure the DF mounting bracket [A] (4 screws [12]).
7. Adjust the height of the DF mounting bracket in the following order:
 - 1) Set the E plate [B] on the exposure glass as shown and measure the clearance "a" between the DF mounting bracket and E plate using a scale.
 - 2) Remove the DF mounting bracket and insert the spacers [C] in order that the clearance "a" is between 0 mm and 0.3 mm.
8. Remove the strip of tape [D].



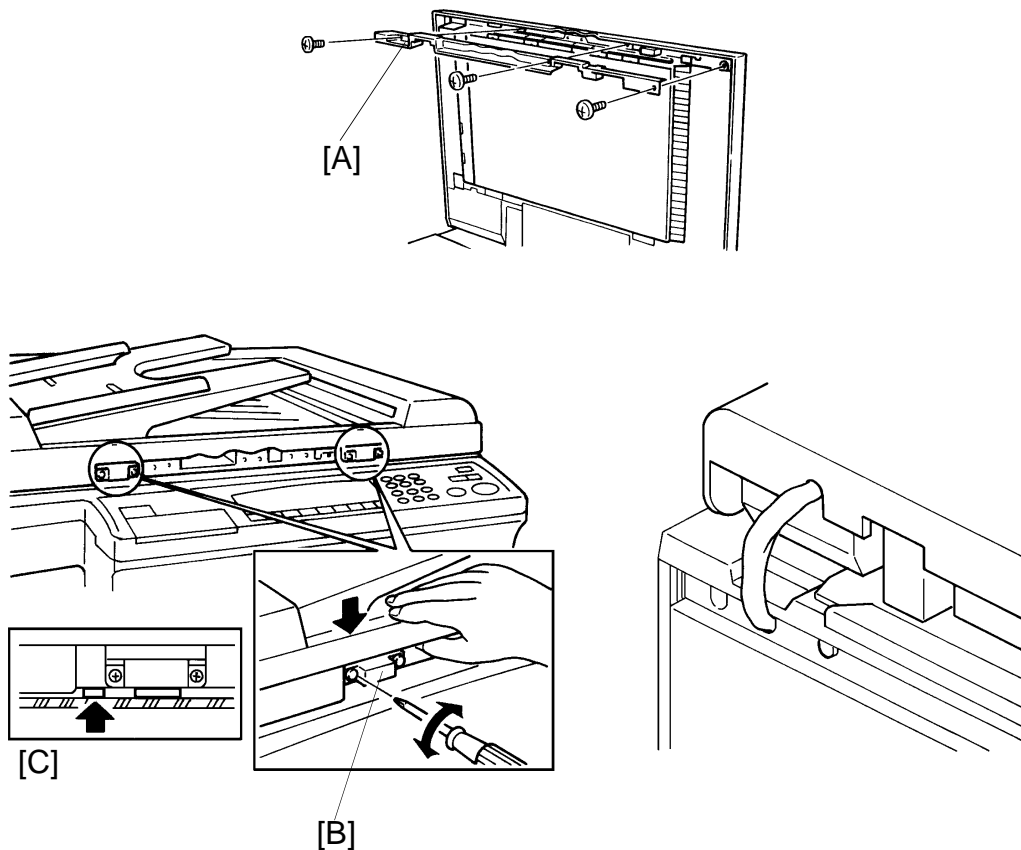
9. Mount the DF on the DF mounting bracket aligning the holes in the DF and the pins on the mounting bracket, then slide the DF to the left as shown.
10. Secure the DF to the DF mounting bracket (4 screws [13]).
11. Secure the 2 stud screws [A] as shown in the figure.
12. Install the lift switch actuator [B] (1 screw [16]).
13. Install the sensor actuator [C] [23] (1 screw [17]) **(A111 copier only)**.



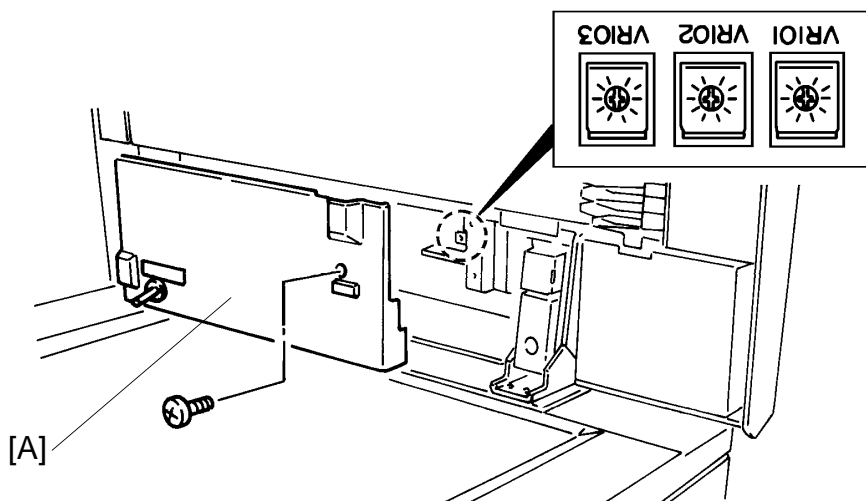
14. Set the clamp [A] between the last two binders [B] of the DF harness [C] as shown (1 screw [27]).
15. Connect the optics fiber cable connector (2P/Black) [D] to CN133 on the main board [E].
16. Connect the dc harness connector (4P/White) [F] to the optional harness connector [G] equipped with the power supply unit (**A110 copier only**).
17. Connect the dc harness connector (4P/White) [H] to CN134 on the main board (**A111 copier only**).
18. Disconnect the connector [I] (3P/Brown) from the platen cover position sensor connector [J], then connect the connector [I] to the connector [K] of the DF harness (**A111 copier only**).
19. Secure the grounding wire [L] (1 screw and toothed washer).



20. Connect the harness connector [A] to CN102 on the dc power supply unit **(A110 copier only)**.
21. Clamp the optional harness [B] as shown **(A110 copier only)**.
22. Remove the DF main PCB cover [C] and turn off DIP switch 101-2.
NOTE: Make sure that DIP switch 101-1 is on and the other switches (101-2, 3 and 4) are off.
23. Install the angle stopper [D] (2 screws [15]).
24. Install the original table [E].



25. Adjust the height of the magnet catches in the following order:
 - 1) Remove the grip cover [A] (3 screws)
 - 2) Loosen the screws of the magnet catches [B] (2 screws each)
 - 3) Close the document feeder and tighten the screws of the magnet catches when the rubber stopper [C] contacts the exposure glass.
 26. Reinstall the grip cover (3 screws).
- NOTE:** Open and close the document feeder confirming that the magnet catches are making good contact.
27. Plug in the copier and turn on the main switch.
 28. Confirm the original registration. (See page 33.)
 29. Reassemble the copier. (The DF harness fits in the cut-out on the rear cover as shown.)
 30. Check the operation of the DF.
 31. Position the original select switch to thin paper mode (normal position) and explain the function of this switch to the customer.



Original Registration Adjustment

1. Make a copy of the test sheet in the platen mode (A4 width).
2. Confirm that the original select switch is in the thin original mode and make a copy in DF mode (A4 width).
3. Compare the registration of the copy in platen mode with that of the DF mode, and confirm that the difference is within 2.5 mm.
4. If the difference is more than 2.5 mm, remove the DF main PCB cover [A] (1 screw) and adjust VR102 to change the original-stop timing.

NOTE: Turning VR102 clockwise results in the original stopping later.

5. Make a copy of the test sheet in DF two-sided original mode.

NOTE: a) The test sheet should stop pressed against the left scale in DF two-sided original mode.

b) The position of the original select switch does not matter.

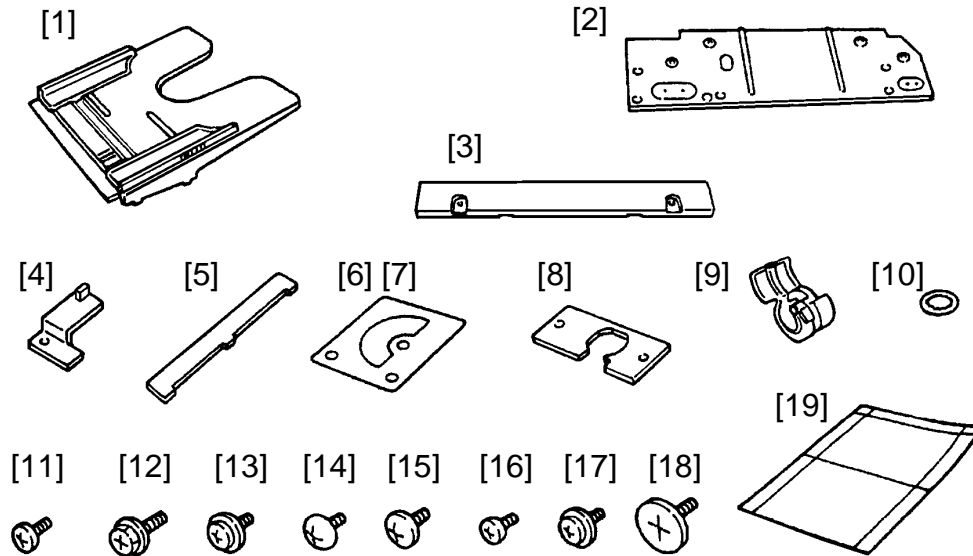
6. Compare the registration of the copy in platen mode with that of DF two-sided original mode, and confirm that the difference is within 2.0 mm.
7. If the difference is more than 2.0 mm, remove the DF main PCB cover and adjust VR103 to change the original-stop timing.

NOTE: a) The test sheet should stop pressed against the left scale in DF two-sided original mode.

b) Turning VR103 clockwise results in the original stopping later.

9. INSTALLATION PROCEDURE

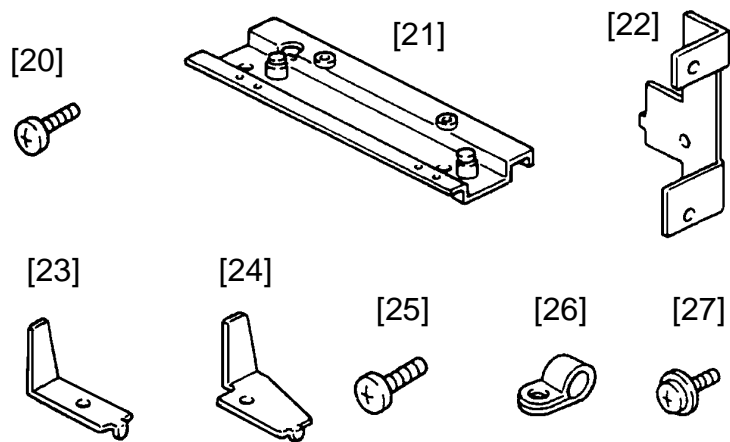
9.1 ACCESSORY CHECK



A318I500.img

Check the accessories and their quantities against the following list:

1. Original Table	1 pc
2. DF Mounting Bracket.....	1 pc
3. Angle Stopper.....	1 pc
4. Lift Switch Actuator.....	1 pc
5. E Plate	1 pc
6. Spacer - 0.5 mm	6 pcs
7. Spacer - 0.2 mm	4 pcs
8. DF Harness Bracket (not used).....	1 pc
9. Bushing (not used)	1 pc
10. Toothed Washer	1 pc
11. Ground Screw - M4 x 6.....	1 pc
12. Hexagon Head Screw - M4 x 10	4 pcs
13. Philips Screw with Flat Washer - M4 x 5	4 pcs
14. Philips Pan Head Screw - M4 x 5 (round head)	3 pcs
15. Philips Pan Head Screw - M4 x 5 (flat head).....	2 pcs
16. Philips Pan Head Screw - M3 x 5.....	1 pc
17. Philips Pan Head Screw with Washer - M3 x 5 (not used).....	1 pcs
18. Stud Screw	2 pcs
19. DF Test Sheet	1 pc

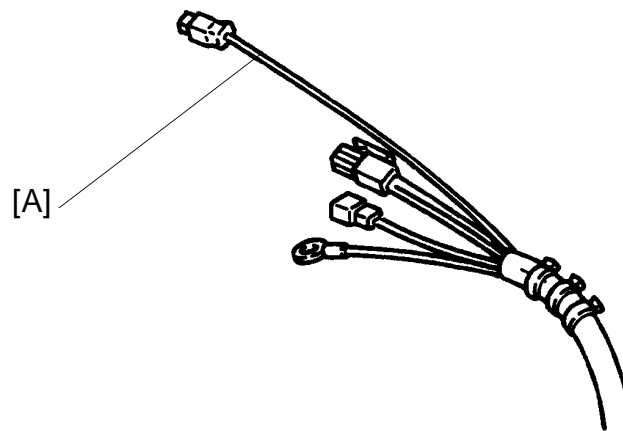


A318I501.img

20. Philips Pan Head Screw - M5 x 10 (not used).....	2 pcs
21. DF Mounting Bracket (not used)	1 pc
22. DF Bracket (not used)	1 pc
23. Sensor Actuator (not used).....	1 pc
24. Sensor Actuator (not used).....	1 pc
25. Philips Pan Head Screw - M5 x 12 (not used).....	2 pcs
26. Clamp	1 pc
27. Philips Pan Head Screw with Flat Washer - M4 x 8	1 pc

NOTE: Optional DF Interface Kit Type B (A625) is necessary to install a DF57 on the A173 model. This kit includes the following parts:

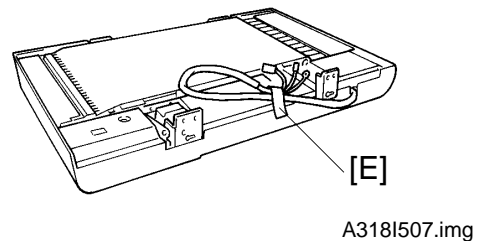
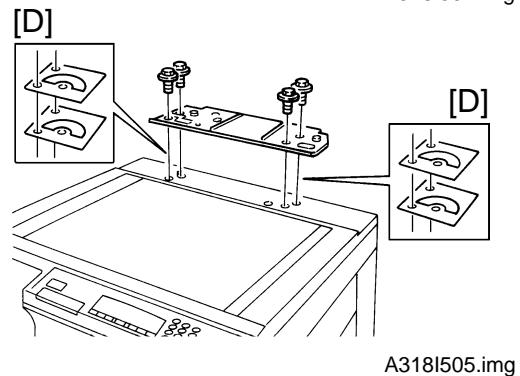
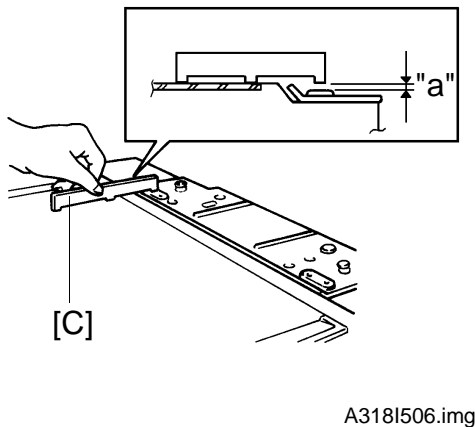
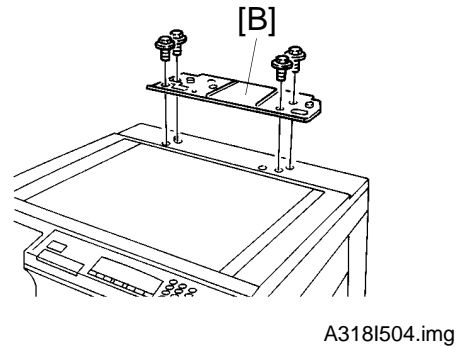
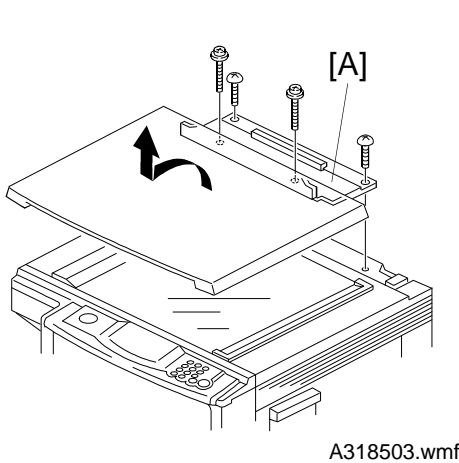
DF Interface Board	1 pc
Studs.....	2 pcs
M3 x 6 Hexagon Head Screws.....	4 pcs



A318I502.img

NOTE: Connector (3P/Brown) [A] on the DC harness assembly is not used with the A173 copier.

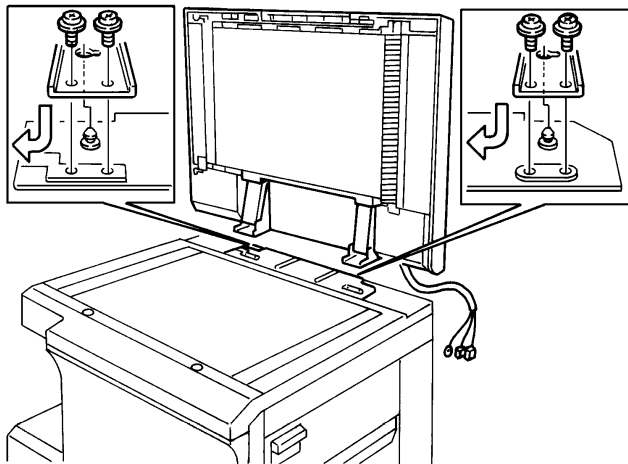
9.2 INSTALLATION PROCEDURE



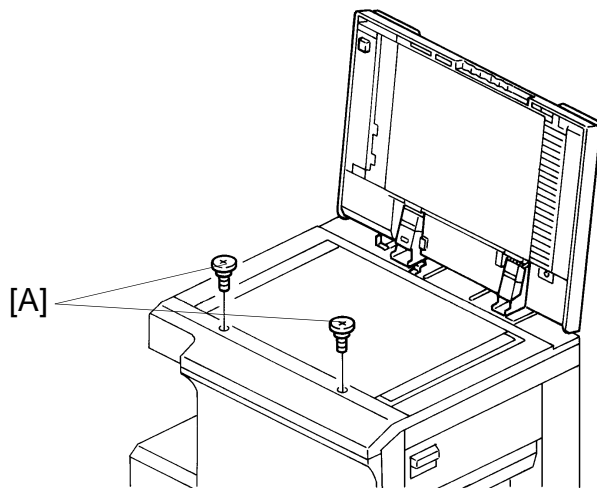
⚠ CAUTION

Before installing the DF, check that the power cord is unplugged.

1. Remove the platen cover [A] (4 screws).
2. Remove the rear cover (4 screws) and the right cover (4 screws).
3. Secure the DF mounting bracket [B] (4 screws [12] in the accessories list).
4. Adjust the height of the DF mounting bracket in the following order:
 - 1) Set the E plate [C] on the exposure glass as shown and measure the clearance "a" between the DF mounting bracket and the E plate using a scale.
 - 2) If necessary, remove the DF mounting bracket and insert spacers [D] until the clearance "a" is between 0 mm and 0.3 mm.
5. Remove the strip of tape [E].

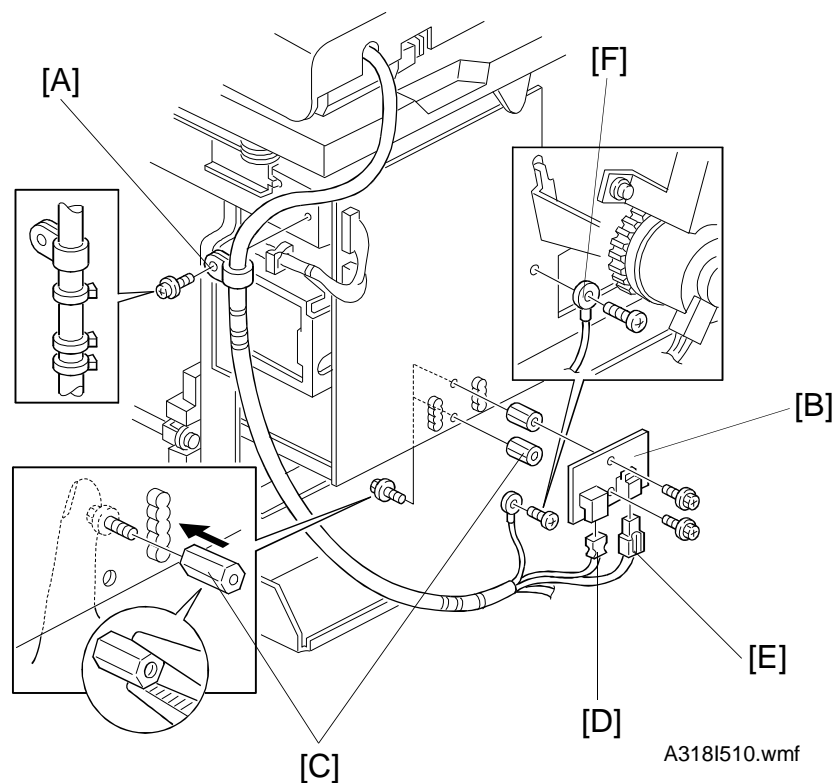


A318I508.img

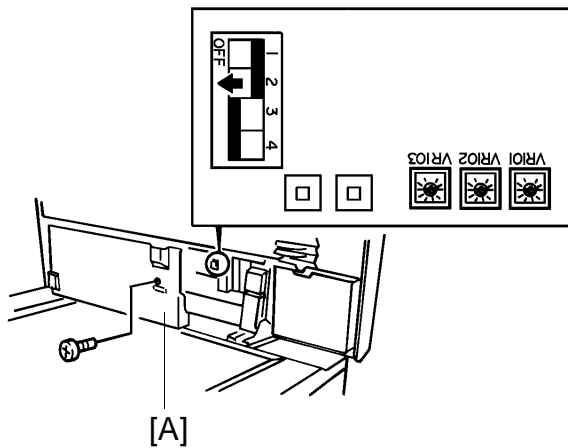


A318I509.img

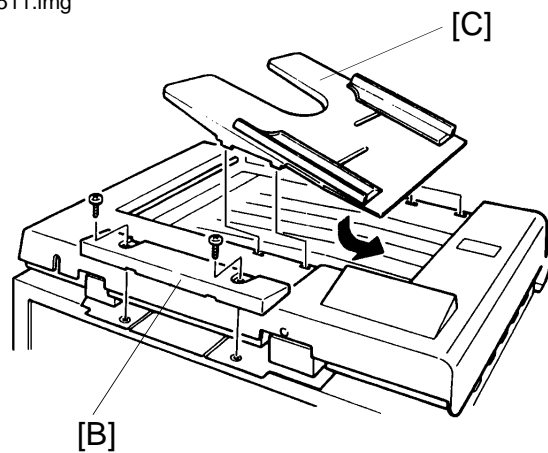
6. Mount the DF on the DF mounting bracket, aligning the holes in the DF and the pins on the mounting bracket, then slide the DF to the left as shown.
7. Secure the DF to the DF mounting bracket (4 screws [13] in the accessories list).
8. Secure the 2 stud screws [A] as shown in the diagram.



9. Attach the clamp [A] as shown (1 screw [27] in the accessories list).
10. Install the DF interface board [B] on the main board (2 studs [C] and 4 screws).
11. Connect the optics fiber cable connector (2P/Black) [D] and the dc harness connector [E] to the DF interface board.
12. Secure the grounding wire [F] (1 screw and toothed washer).



A318I511.img



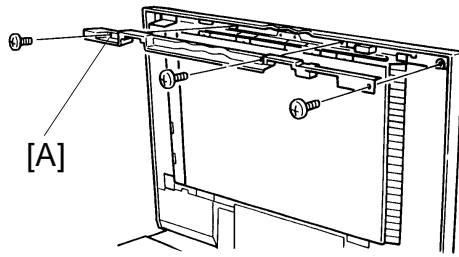
A318I512.img

13. Remove the DF main PCB cover [A] and turn off DIP switch 101-2.

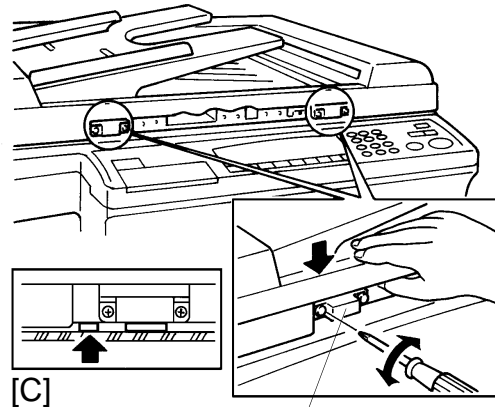
NOTE: Make sure that DIP switch 101-1 is on and the other switches (101-2, 3 and 4) are off.

14. Install the angle stopper [B] (2 screws [15] in the accessories list).

15. Install the original table [C].



A318I513.img

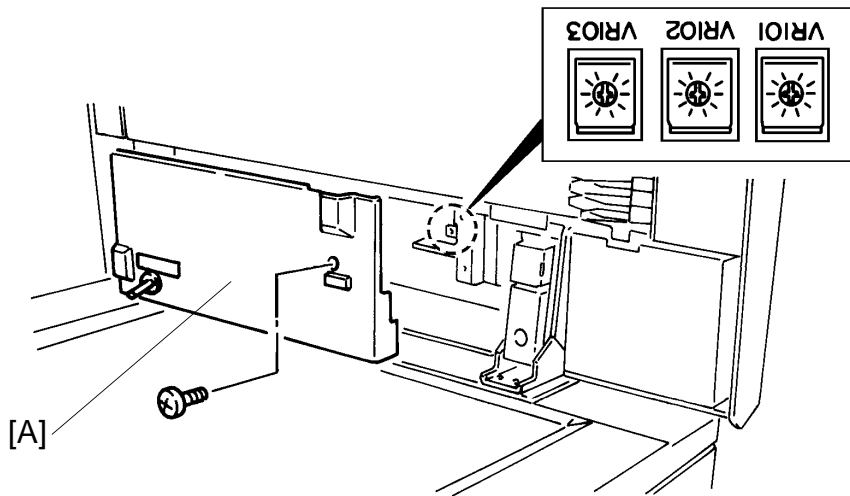


A318I514.img

16. Adjust the height of the magnet catches in the following order:
 - 1) Remove the grip cover [A] (3 screws).
 - 2) Loosen the screws of the magnet catches [B] (2 screws each).
 - 3) Close the document feeder and tighten the screws of the magnet catches when the rubber stopper [C] contacts the exposure glass.
17. Reinstall the grip cover (3 screws).

NOTE: Open and close the document feeder while confirming that the magnet catches are making good contact.
18. Plug in the copier and turn on the main switch.
19. Inch version machines only:

Access SP mode and change the setting of SP1 from 0 to 1.
20. Check the original registration. (See page 30.)
21. Reassemble the copier. (The DF harness fits in the cut-out in the rear cover as shown.)
22. Check the operation of the DF.
23. Position the original select switch to thin paper mode (this is the normal position) and explain the function of this switch to the customer.



A3181515.wmf

Original Registration Adjustment

1. Make a copy of the test sheet in the platen mode (A4 width).
2. Confirm that the original select switch is in the thin original mode and make a copy in DF mode (A4 width).
3. Compare the registration of the copy in platen mode with that of DF mode, and check that the difference is within 2.5 mm.
4. If the difference is more than 2.5 mm, remove the DF main PCB cover [A] (1 screw) and adjust VR102 to change the original-stop timing.
NOTE: Turning VR102 clockwise results in the original stopping later.
5. Make a copy of the test sheet in DF two-sided original mode.
NOTE: a) The test sheet should stop pressed against the left scale in DF two-sided original mode.
b) The position of the original select switch does not matter.
6. Compare the registration of the copy in platen mode with that of DF two-sided original mode, and check that the difference is within 2.0 mm.
7. If the difference is more than 2.0 mm, remove the DF main PCB cover and adjust VR103 to change the original-stop timing.
NOTE: a) The test sheet should stop pressed against the left scale in DF two-sided original mode.
b) Turning VR103 clockwise results in the original stopping later.

11. INSTALLATION PROCEDURE (for Machine Code: A048)

11.1 ACCESSORY CHECK

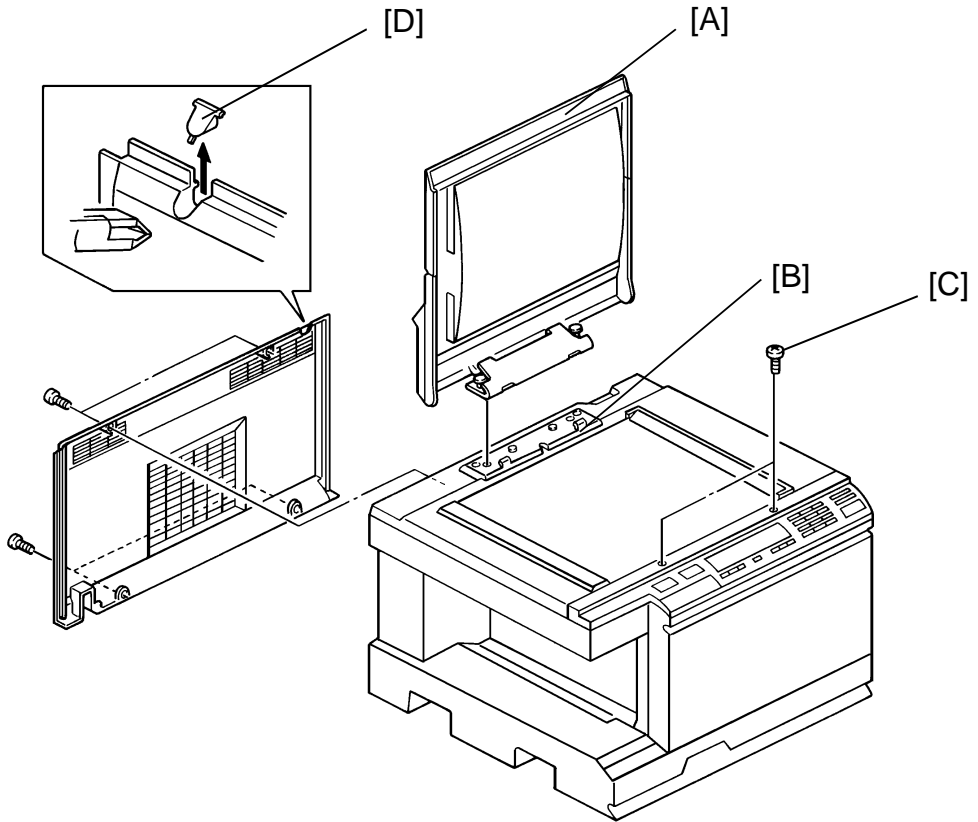
Check the quantity and condition of the accessories in the box according to the following list:



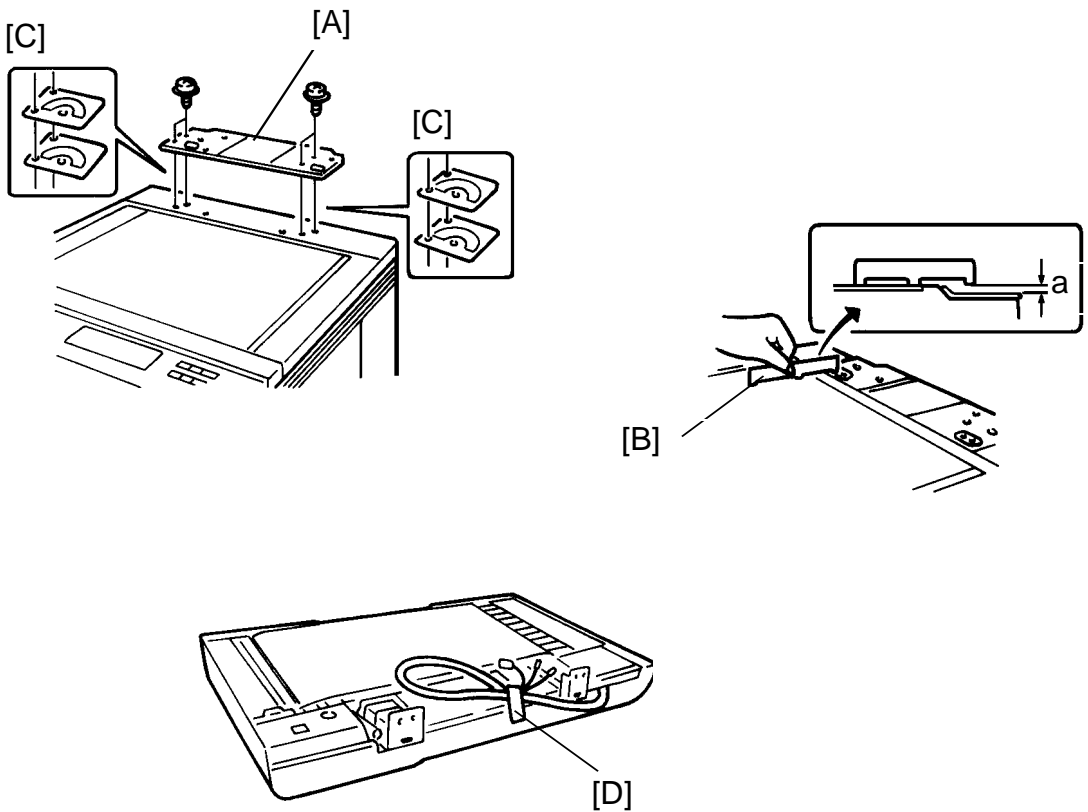
1. Original Table	1
2. DF Mounting Bracket	1
3. Angle Stopper	1
4. Lift Switch Actuator	1
5. E Plate	1
6. Spacer - 0.5 mm	6
7. Spacer - 0.2 mm	4
8. DF Harness Bracket	1
9. Bushing	1
10. Toothed Washer	1
11. Grounding Screw - M4 x 6	1
12. Hexagon Head Screw - M4 x 10	4
13. Philips Screw with Flat Washer - M4 x 5	4
14. Philips Pan Head Screw - M4 x 5 (round head)	3
15. Philips Pan Head Screw - M4 x 5 (flat head)	2
16. Philips Pan Head Screw - M3 x 5	1
17. Stud Screw	2
18. DF Test Chart	1

- NOTE**
- 1. When the document feeder is installed on the copier, the DC power supply unit (option) is required.
 - 2. When installing the DC power supply unit, please refer to the installation procedure enclosed with it.

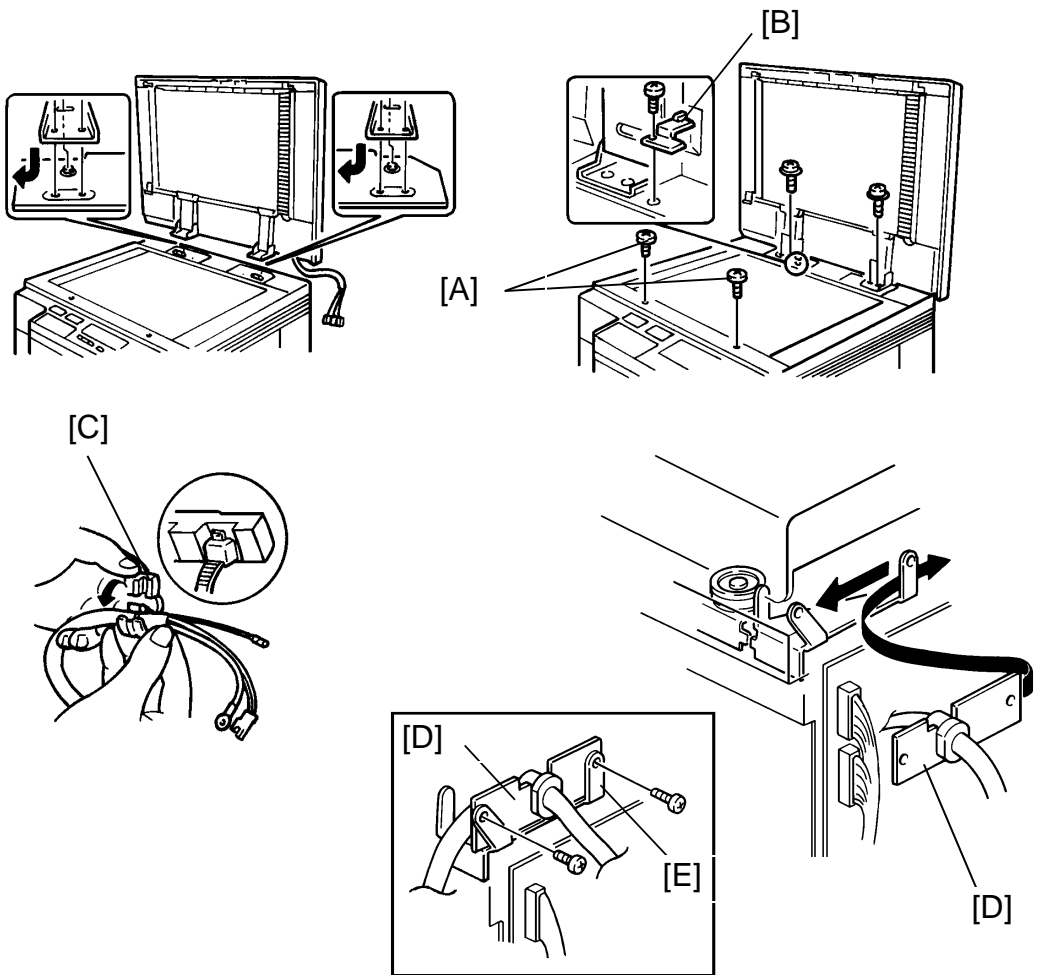
11.2 INSTALLATION PROCEDURE



1. Install the dc power supply unit.
2. Remove the following parts from the copier:
 - 1) Platen cover [A] (2 push-locks)
 - 2) Platen cover pedestal [B] (4 screws)
 - 3) 2 screws [C] for fixing the operation panel.
3. Remove the harness cap [D] on the rear cover with nippers.



4. Secure the DF mounting bracket [A] (4 screws).
5. Adjust the height of the DF mounting bracket as explained below:
 - 1) Set the E plate [B] on the exposure glass as shown and measure the clearance "a" between the DF mounting bracket and the E plate with a scale.
 - 2) Remove the DF mounting bracket and insert spacers [C] until the clearance "a" is between 0 mm and 0.3 mm.
6. Remove the strip of tape [D].



7. Mount the DF on the DF mounting bracket so that the holes in the DF are aligned with the pins on the mounting bracket, then slide the DF to the left as shown.

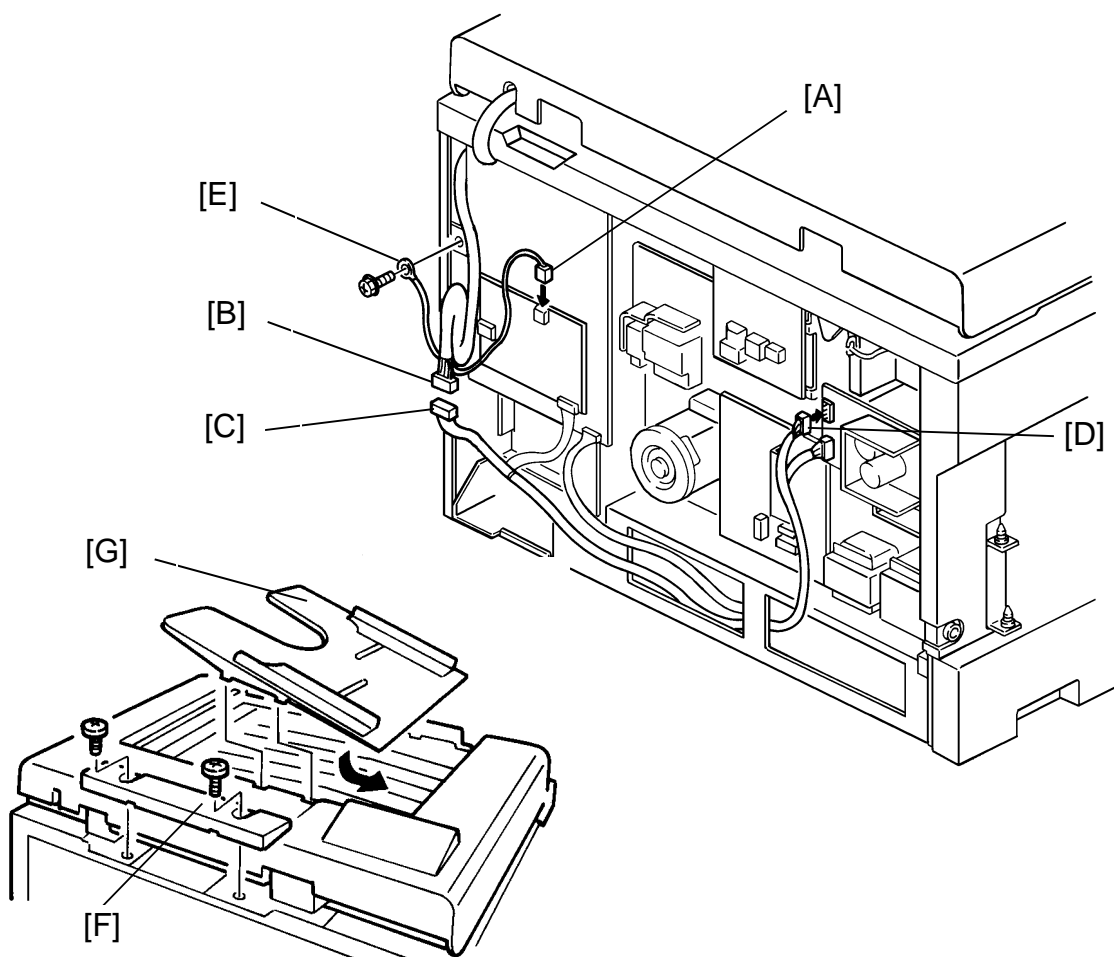
8. Secure the DF to the DF mounting bracket (4 screws).

9. Secure the 2 stud screws [A] as shown.

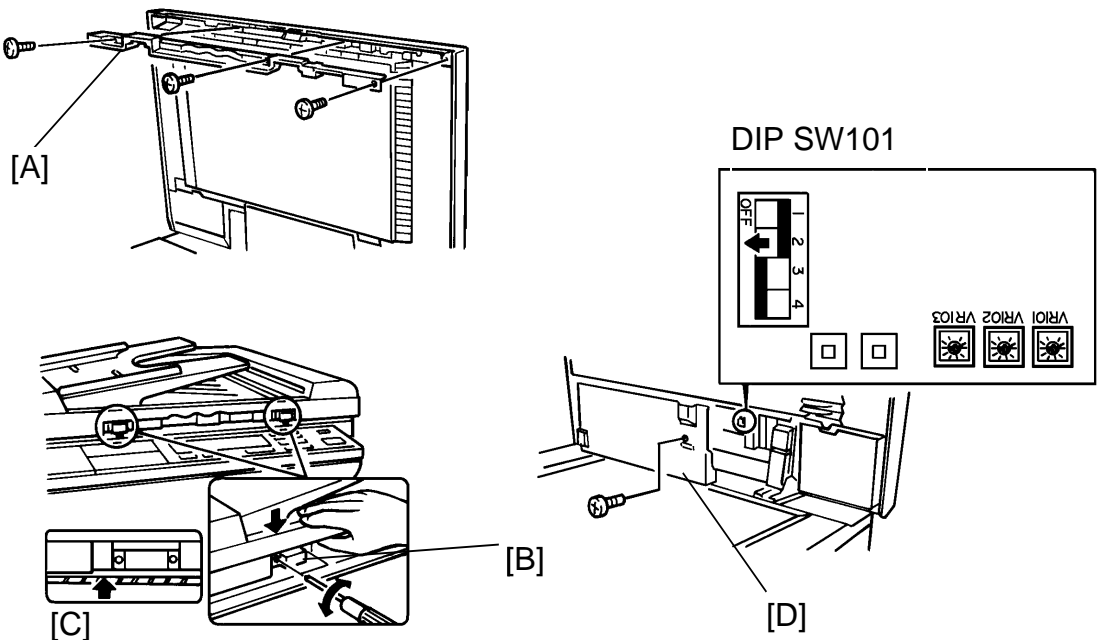
10. Install the lift switch actuator [B] (1 screw).

11. Place the bushing [C] on the DF harness as shown in the figure.

12. Place the bushing on the harness bracket [D] and secure the bracket to the harness support bracket [E] (2 screws).



13. Connect the optic cable connector (2P/Black) [A] to CN206 on the interface board.
14. Connect the dc harness (4P/White) [B] to the optional harness connector [C]; then, connect the optional harness connector [D] to CN102 on the dc power supply unit.
15. Secure the grounding wire [E] to the right side plate.
16. Install the angle stopper [F] (2 screws).
17. Install the original table [G].



18. Adjust the height of the magnet catches as follows:

- 1) Remove the grip cover [A] (3 screws).
- 2) Loosen the screws of the magnet catches [B] (2 screws for each catch).
- 3) Close the document feeder and tighten the screws of the magnet catches when the rubber stopper [C] contacts the exposure glass.

19. Remove the DF main PCB cover [D] and turn off DIP switch 101-2.

NOTE: Make sure that DIP switch 101-1 is on and the other switches (101-2, 3, and 4) are off.

20. Reinstall the grip cover (3 screws).

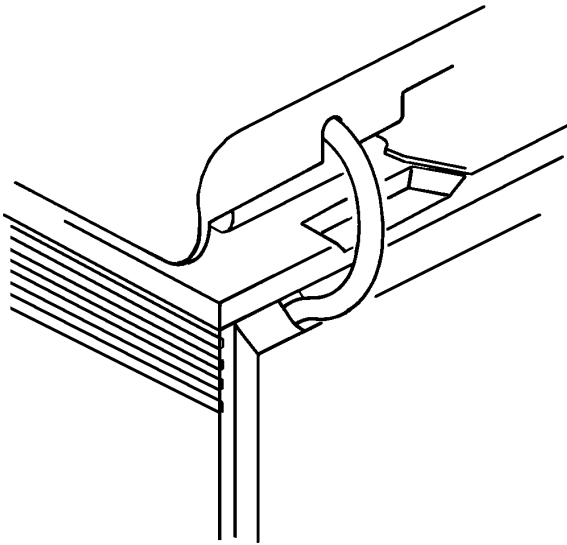
NOTE: Open and close the document feeder to confirm that the magnet catches are making good contact.

21. Plug in the copier and turn on the main switch.

22. Confirm the original registration as follows:

- 1) Make a copy of the test sheet in platen mode (A4 width).
- 2) Confirm that the original select switch is set to thin paper mode and make a copy in DF mode (A4 width).
- 3) Compare the registration of the copy in platen mode with that of DF mode, and confirm that the difference is within 2.5 mm.
- 4) If the difference is more than 2.5 mm, remove the DF main PCB cover and adjust VR102 to change the original-stop timing.

NOTE: Turning VR102 clockwise results in the original stopping later.



5) Make a copy of the test sheet in DF two-sided original mode.

NOTE: 1. The test sheet must be set facedown.

2. The original select switch can be set at any position.

6) Compare the registration of the copy in platen mode with that of DF two-sided original mode, and confirm that the difference is within 2.0 mm.

7) If the difference is more than 2.0 mm, remove the DF main PCB cover and adjust VR103 to change the original-stop timing.

NOTE: 1. The test sheet should stop pressed against the left scale in DF two-sided original mode.

2. Turning VR103 clockwise results in the original stopping later.

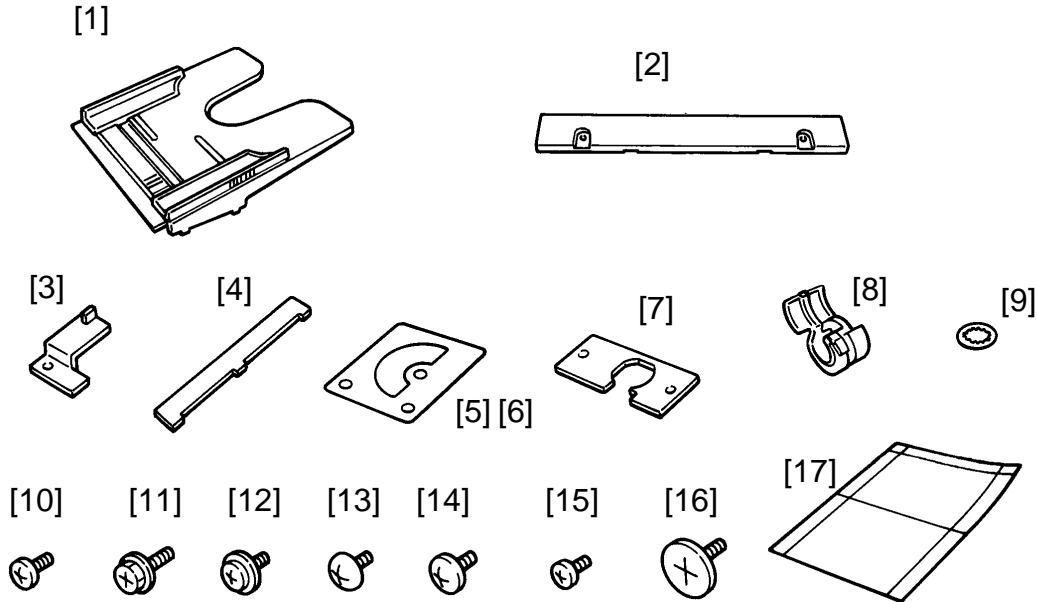
23. Reassemble the copier. (The DF harness fits in the cut-out on the rear cover as shown.)

24. Check the operation of the DF.

25. Position the original select switch to thin original mode (normal position) and explain the function of this switch to the customer.

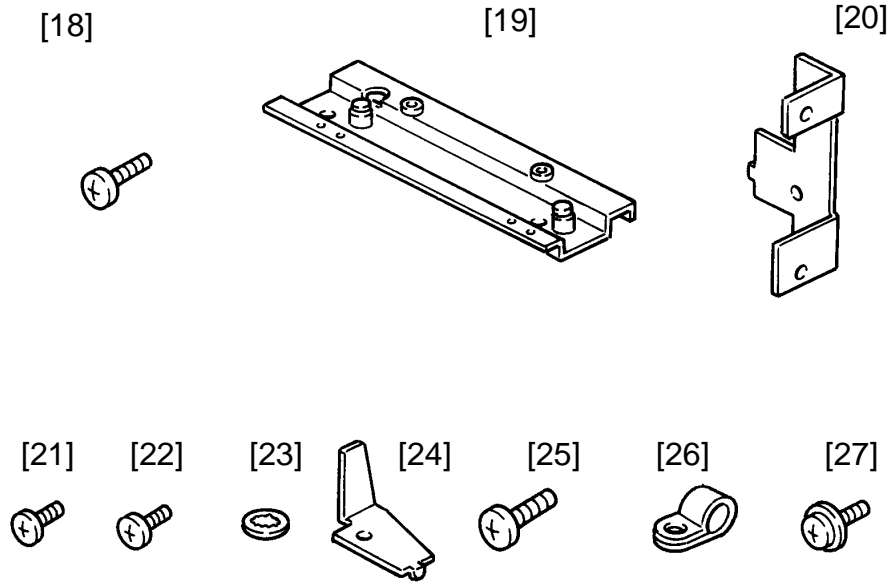
8. INSTALLATION PROCEDURE (for Machine Code: A072)

8.1 ACCESSORY CHECK



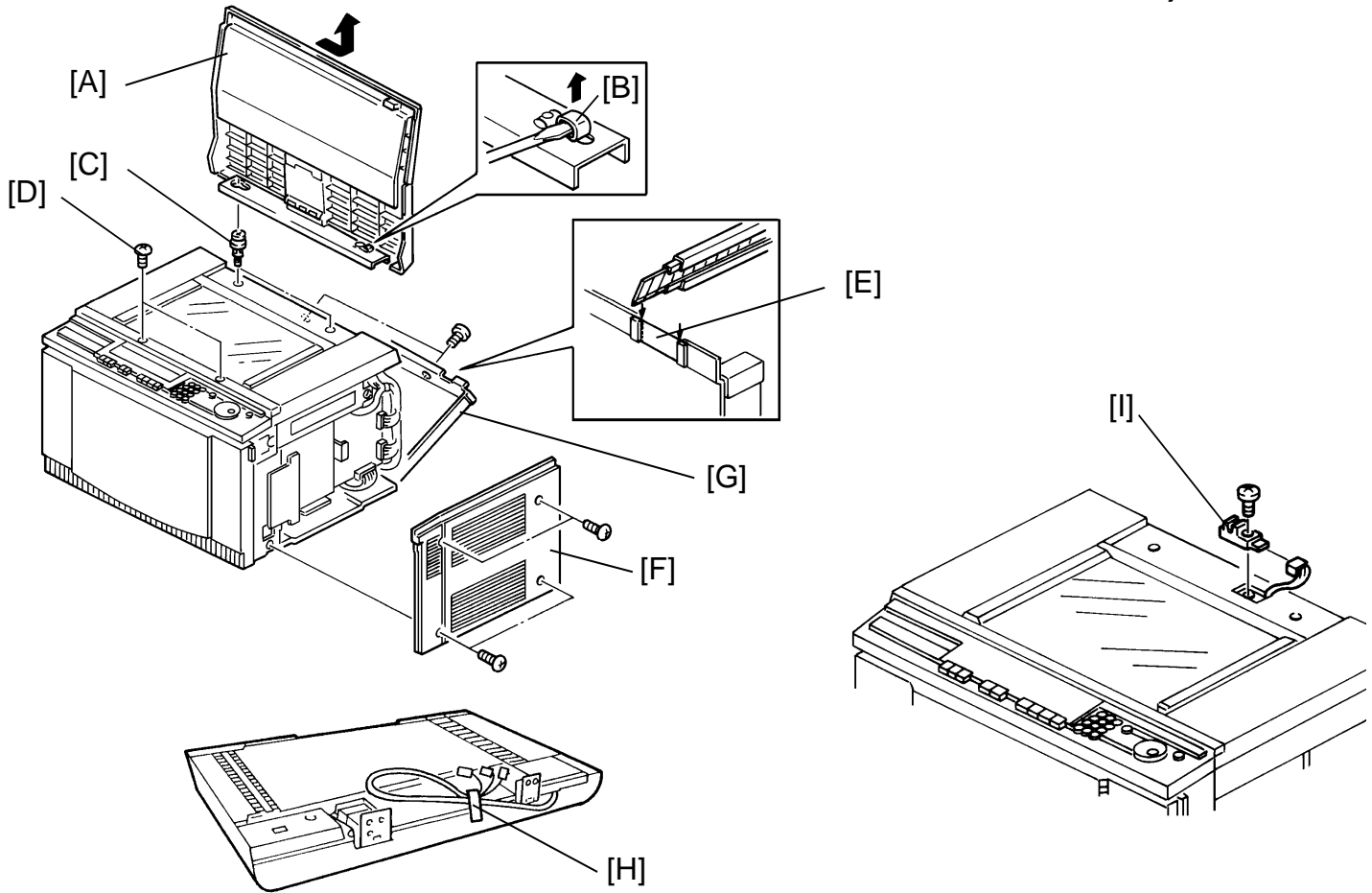
Check the accessories and their quantities according to the following list:

1. Original Table	1 pc
2. Angle Stopper	1 pc
3. Lift Switch Actuator	1 pc
4. E Plate	1 pc
5. Spacer - 0.5 mm	6 pcs
6. Spacer - 0.2 mm	4 pcs
7. DF Harness Bracket	1 pc
8. Bushing	1 pc
9. Toothed Washer	1 pc
10. Ground Screw - M4 x 6	1 pc
11. Hexagon Head Screw - M4 x 10	4 pcs
12. Philips Screw with Flat Washer - M4 x 5	4 pcs
13. Philips Pan Head Screw - M4 x 5 (round head)	3 pcs
14. Philips Pan Head Screw - M4 x 5 (flat head)	2 pcs
15. Philips Pan Head Screw - M3 x 5	1 pc
16. Stud Screw	2 pcs
17. DF Test Sheet	1 pc



18. Philips Pan Head Screw - M5 x 10 (for A030).....	2 pcs
19. DF Mounting Bracket (for A030/A072)	1 pc
20. DF Bracket (for A030).....	1 pc
21. Philips Pan Head Screw - M4 x 6	5 pcs
22. Grounding Screw - M4 x 6.....	1 pc
23. Toothed Washer	1 pc
24. Sensor Actuator (for A072).....	1 pc
25. Philips Pan Head Screw - M5 x 12 (for A072).....	2 pc
26. Clamp (for A072)	1 pc
27. Philips Pan Head Screw with Flat Washer - M4 x 8 (for A072).....	1 pc

8.2 INSTALLATION PROCEDURE (for Machine Code: A072)

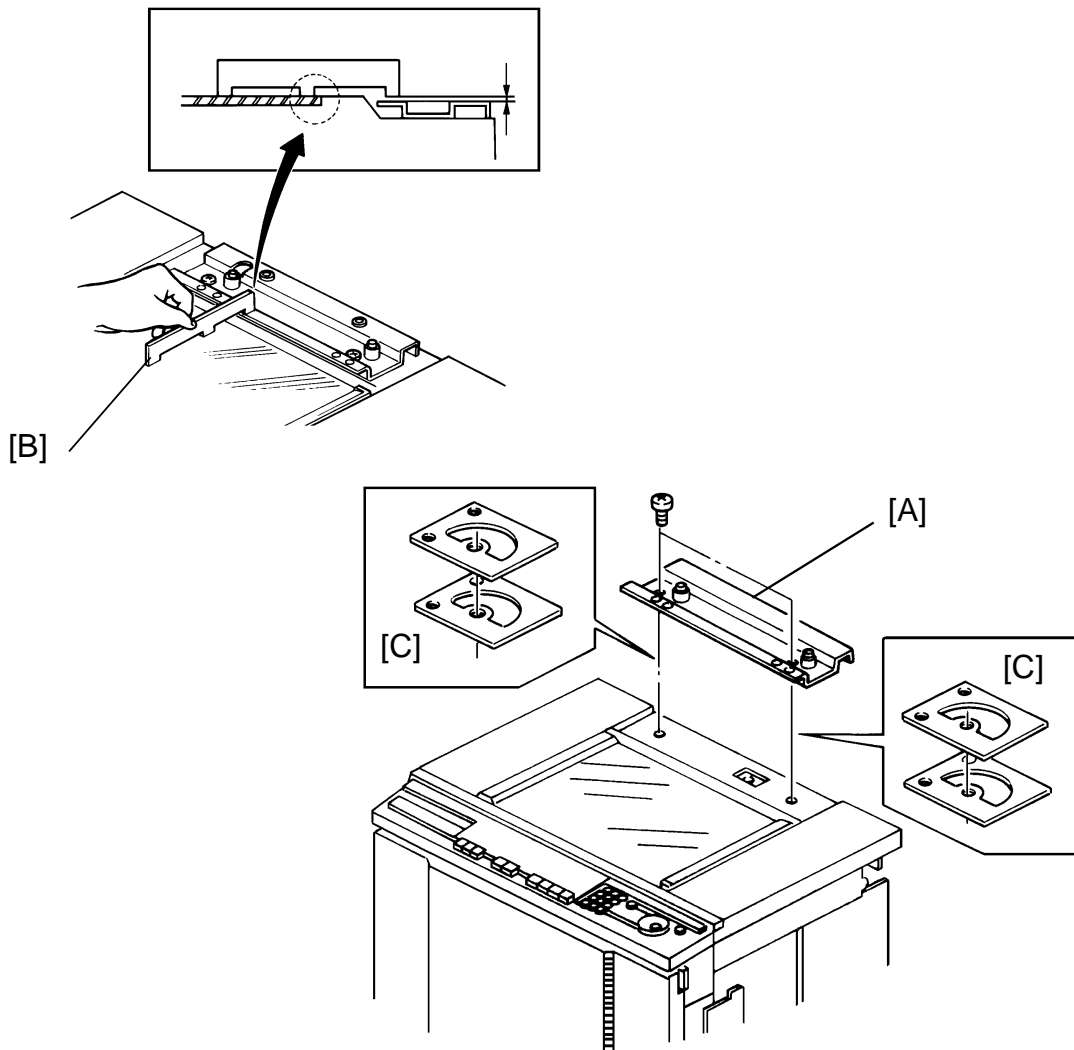


CAUTION: When installing the DF, make sure that the copier is unplugged.

1. Remove the following parts of the copier.
 - 1) Plate cover [A] (2 push-locks)

NOTE: Use a minus (slotted) screw driver to lift up the leaf spring [B] as shown.

 - 2) Two screws [C] fixing the platen cover
 - 3) Two screws [D] fixing the scale cover
 - 4) Harness hole mylar [E]
 - 5) Right cover [F] (2 screws)
2. Open the rear cover [G] (2 screws).
3. Remove the strips of tape [H].
4. Remove the platen cover position sensor [I] (1 screw, 1 connector), then, insert the removed connector into the bracket hole.

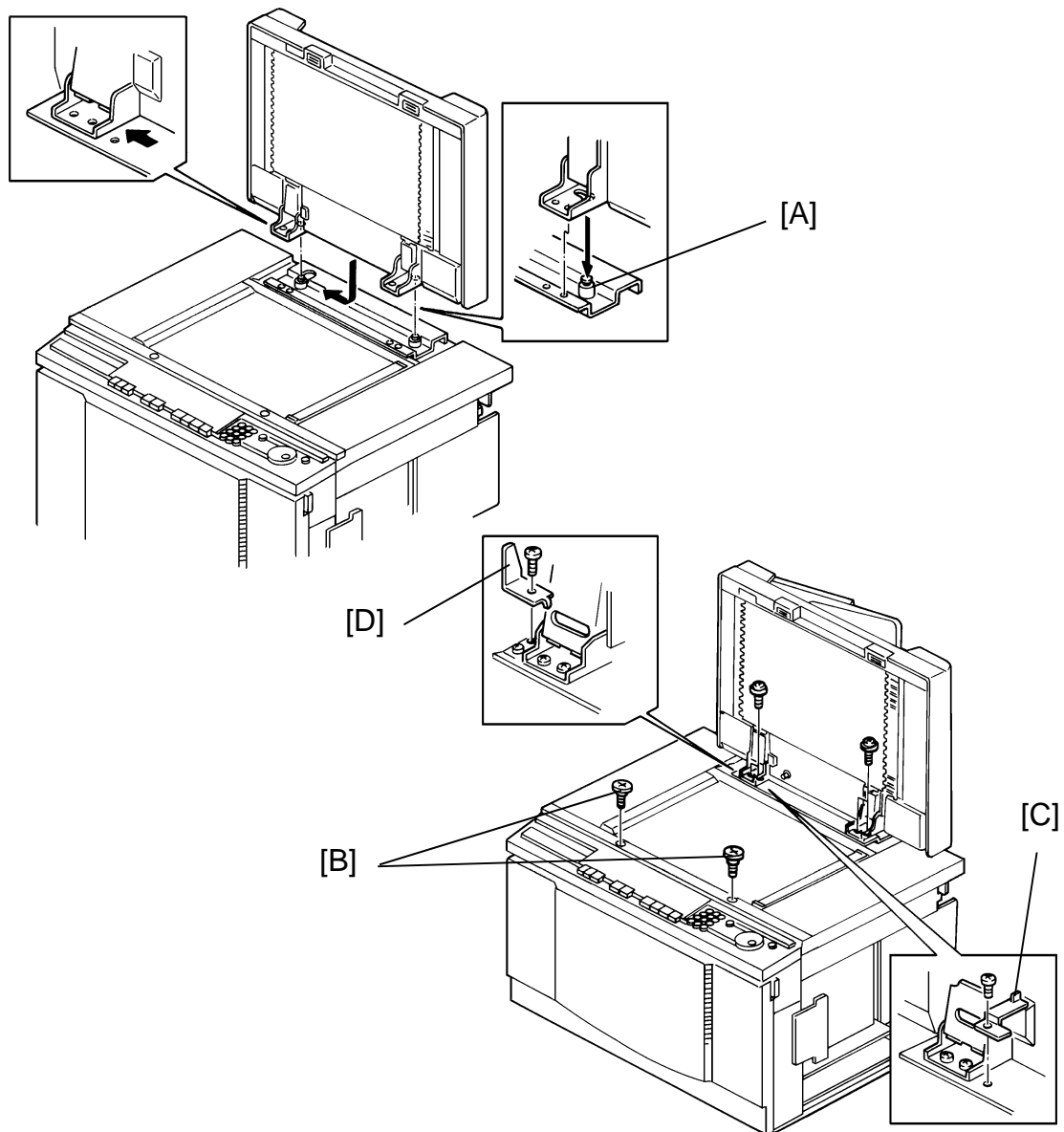


5. Secure the DF mounting bracket [A] (2 screws - M5 x 12 [25]).

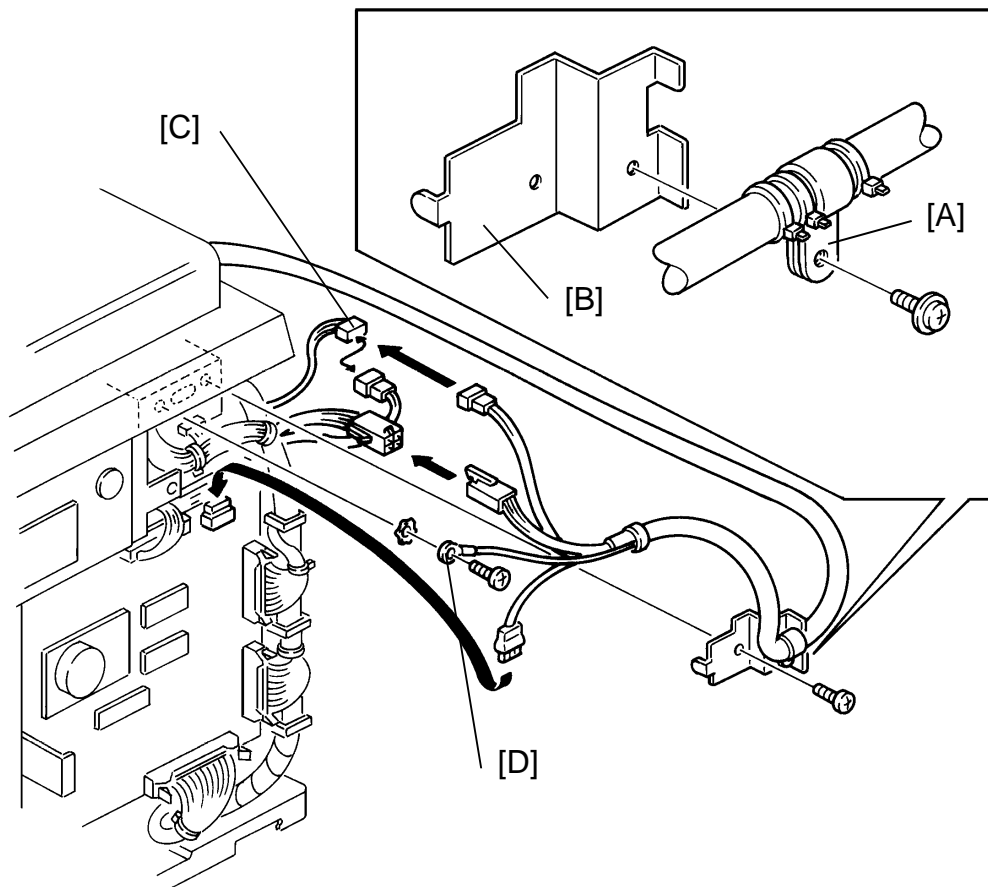
NOTE: Use the screws - M5 x 10 for A030 copier.

6. Adjust the height of the DF mounting bracket in the following order:

- 1) Set the E plate [B] on the exposure glass as shown and measure the clearance "a" between the DF mounting bracket and the E plate.
- 2) Remove the DF mounting bracket and insert the spacers [C] to make clearance "a" between 0 mm and 0.3 mm.

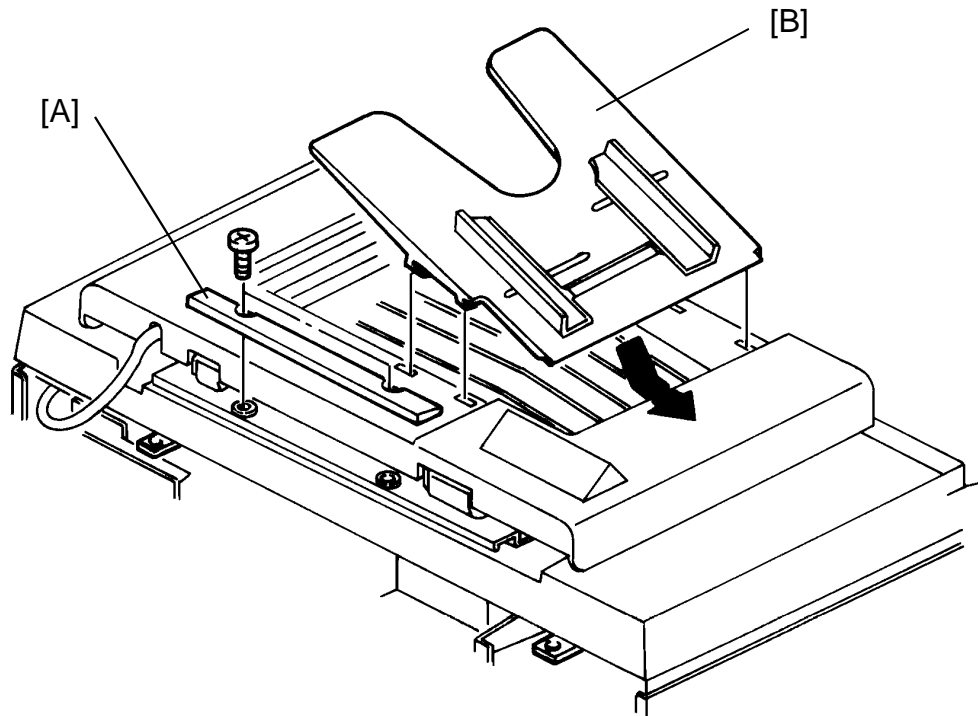


7. Mount the DF on the DF mounting bracket by aligning the holes in the DF and the pins [A] on the mounting bracket, then slide the DF to the left as shown.
8. Secure the DF to the DF mounting bracket (4 screws [13]).
9. Install the 2 stud screws [B] as shown in the figure.
10. Install the lift switch actuator [C] (1 screw [16]).
11. Install the positioning sensor actuator [D] [24] (1 screw [17]).

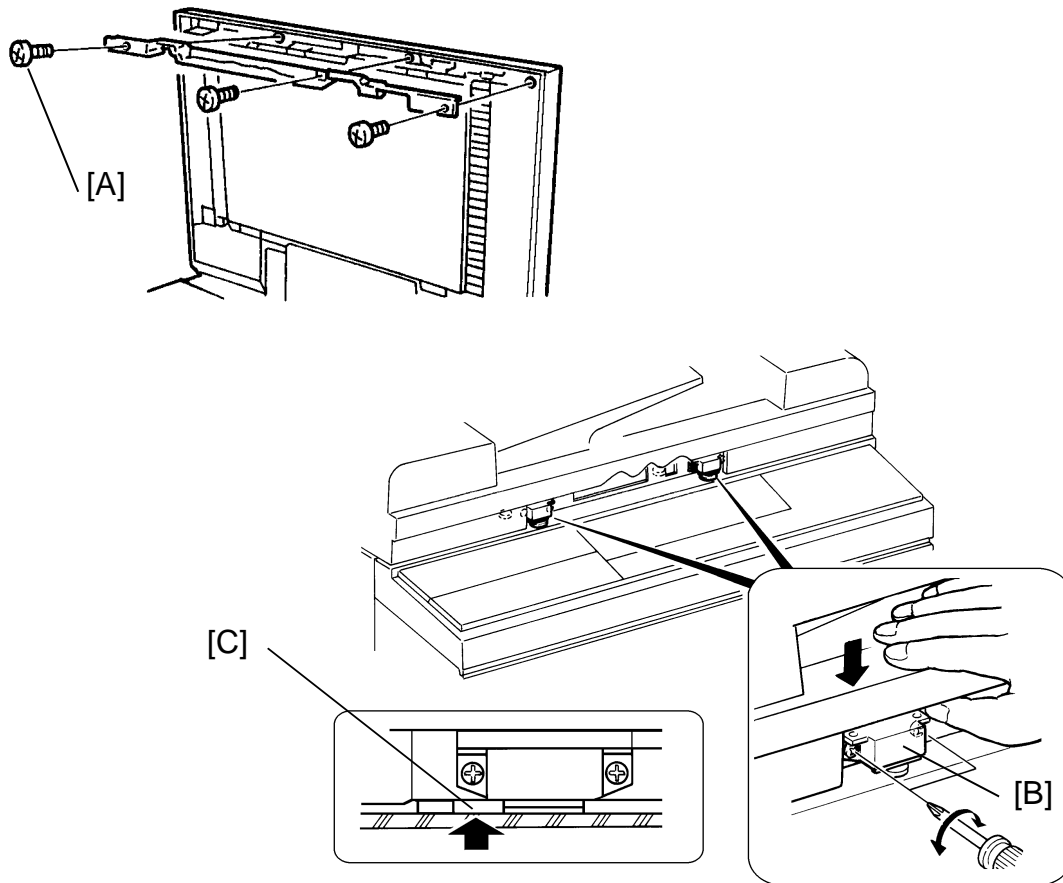


**CAUTION: During this step, avoid bending the fiber optics sharply.
This will damage them.**

12. Set the clamp [A] to the harness (see illustration for location) and set it to the copier's accessory bracket [B] (1 screw [27]).
13. Install the DF harness as follows:
 - 1) Fiber optics ↔ CN108 (main PCB)
 - 2) 4P connector ↔ 4P connector (copier)
14. Disconnect the copier 2P brown connector [C], and connect it to the DF 2P connector.
15. Secure the grounding wire[D] (1 grounding screw, 1 toothed washer).
16. Reinstall the copier's cover.



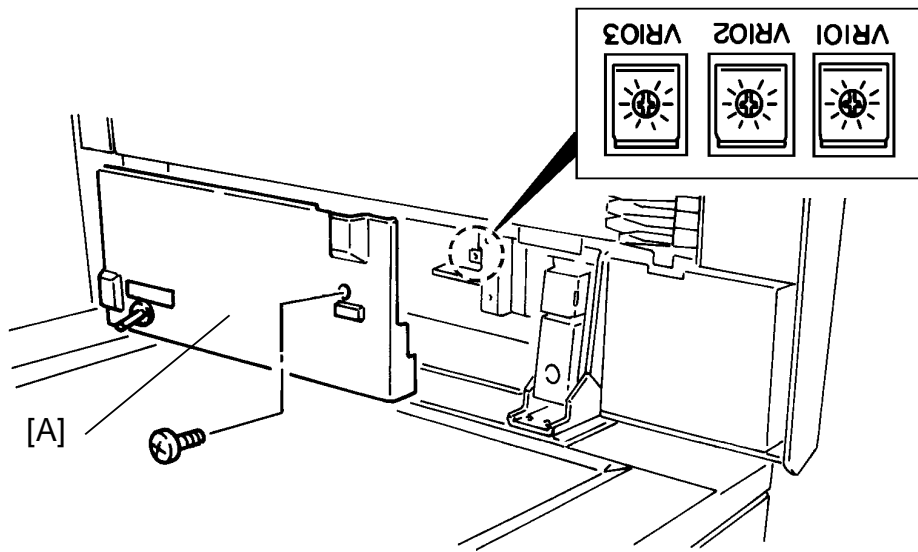
17. Install the angle stopper [A] (2 screws) and the original table [B].



18. Adjust the height of the magnet catches in the following order:
 - 1) Remove the grip cover [A] (3 screws).
 - 2) Loosen the screws of the magnet catches [B] (2 screws each).
 - 3) Close the document feeder and tighten the screws of the magnet catches when the rubber stopper [C] contacts the exposure glass.
19. Reinstall the grip cover (3 screws).
20. Remove the main PCB cover (1 screw), and set DIP SW 101 on the main PCB as follows:

ON: 101 - 1

OFF: 101 - 2, 3, 4
21. Plug in the copier and turn on the main switch.
22. Confirm the original registration. (See next page.)
23. Check the operation of the DF.
24. Position the original select switch to the thin paper mode (normal position), and explain the function of this switch to the customer.

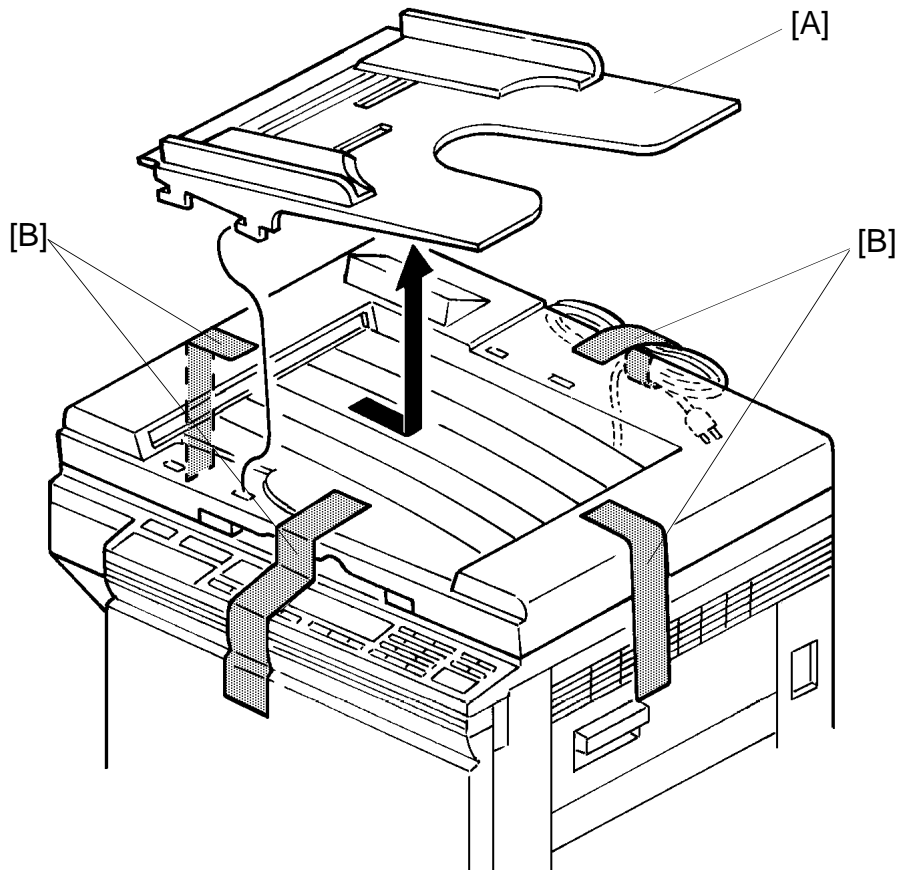


ORIGINAL REGISTRATION ADJUSTMENT

1. Make a copy of the test sheet in the platen mode (A4/8 1/2" x 11" Sideways).
2. Confirm that the original select switch is in the thin original mode and make a copy in DF mode (A4/8 1/2" x 11" Sideways).
3. Compare the registration of the copy in platen mode with that of the DF mode, and confirm that the difference is within 2.5 mm.
4. If the difference is more than 2.5 mm, remove the DF main PCB cover [A] (1 screw) and adjust VR102 to change the original-stop timing.
NOTE: Turning VR102 clockwise results in the original stopping later.
5. Make a copy of the test sheet in DF two-sided original mode.
NOTE: a) The test sheet should stop pressed against the left scale in DF two-sided original mode.
 b) The position of the original select switch does not matter.
6. Compare the registration of the copy in platen mode with that of DF two-sided original mode, and confirm that the difference is within 2.0 mm.
7. If the difference is more than 2.0 mm, remove the DF main PCB cover and adjust VR103 to change the original-stop timing.
NOTE: a) The test sheet should stop pressed against the left scale in DF two-sided original mode.
 b) Turning VR103 clockwise results in the original stopping later.

11. PREPARATION FOR TRANSPORTATION

CAUTION: Before moving the document feeder, be sure to prepare it for transportation as follows. The document feeder may be badly damaged if it is moved without proper preparation.

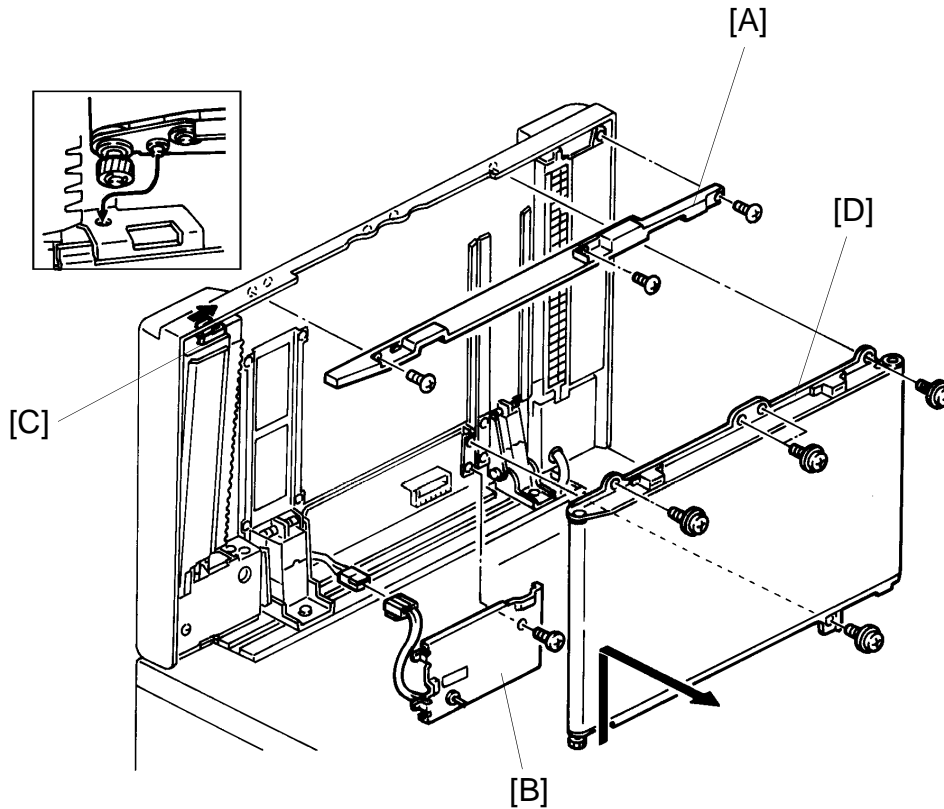


1. Remove the original table [A].
2. Secure the document feeder with strips of tape [B] as shown in the illustration.

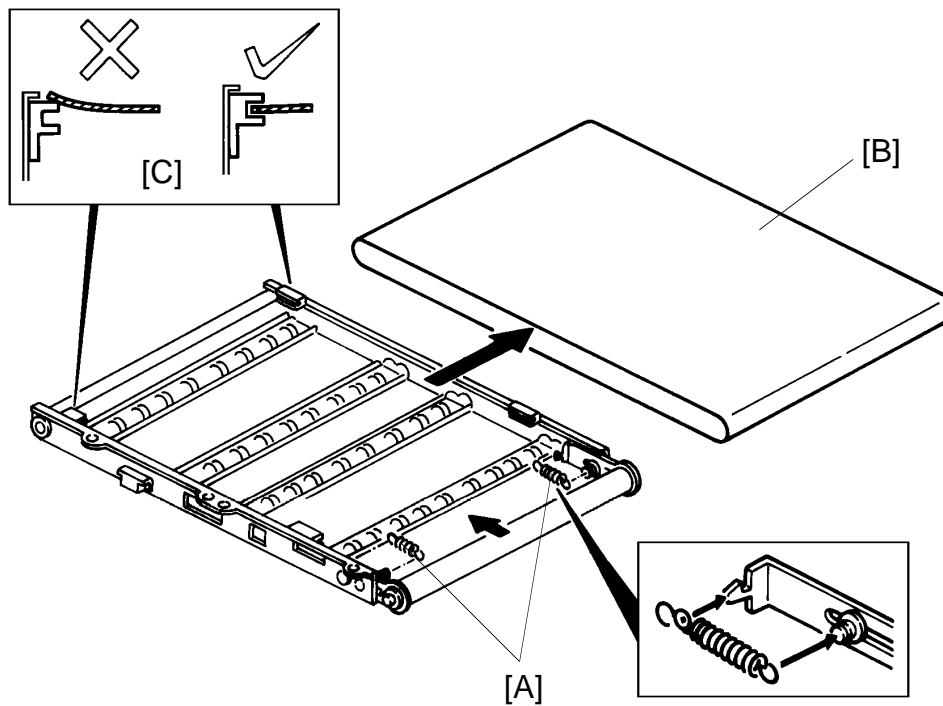
12. REPLACEMENT AND ADJUSTMENT

12.1 FEED-IN UNIT

12.1.1 Transport Belt Replacement



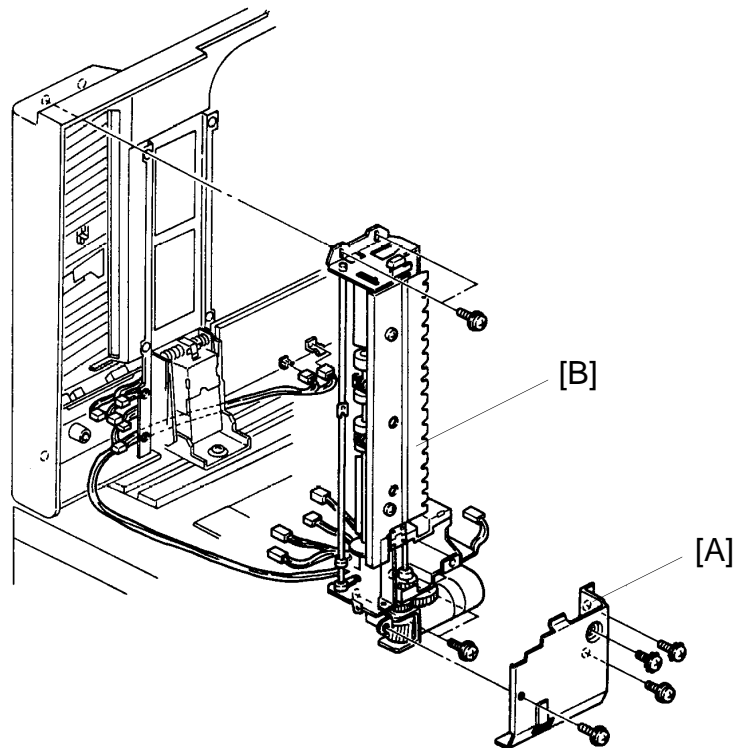
1. Turn off the main switch and remove the grip [A] (3 screws).
2. Remove the DF main PCB cover [B] (1 screw, 1 connector).
3. Open the entrance guide [C] and remove the transport belt assembly [D] (5 screws).



4. Remove the 2 tension springs [A] and pull off the transport belt [B].

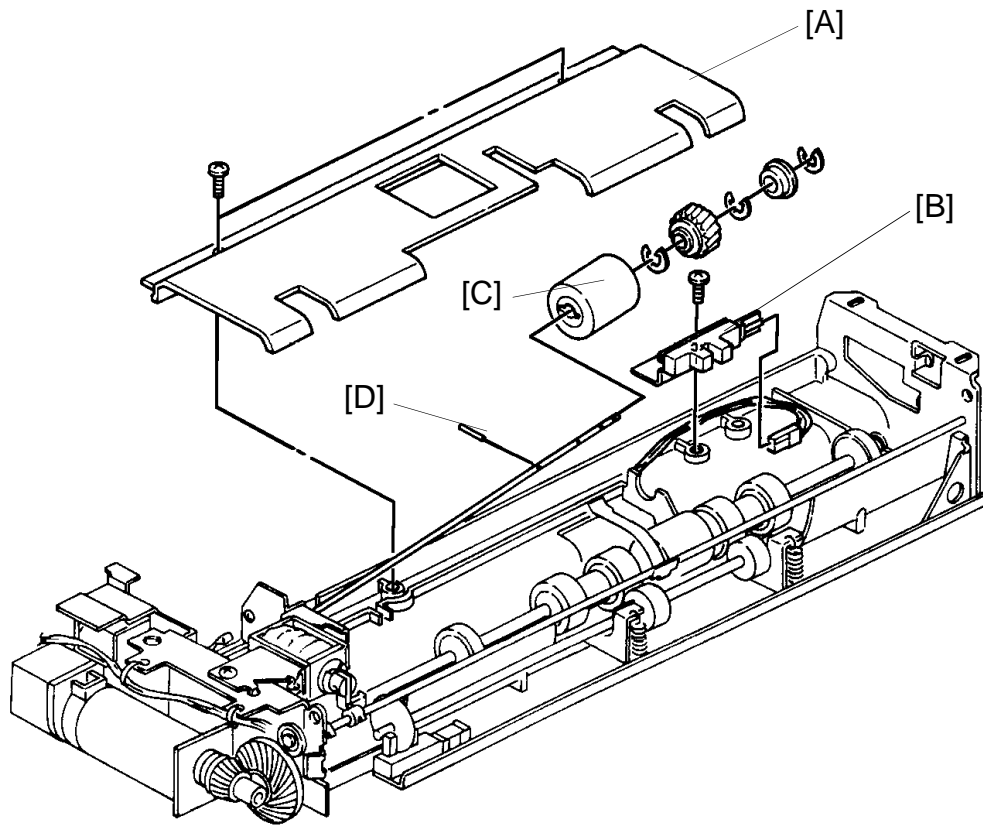
- NOTE:** a) When installing the transport belt, make sure the belt lies between the belt guide spacers [C].
- b) When installing the transport belt assembly, make sure the positioning pin correctly fits in the DF frame, and hold open the exit guide to prevent the mylar strip from becoming damaged.

12.1.2 Feed-in Unit Removal



1. Turn off the main switch.
2. Remove the transport belt assembly. (See Transport Belt Replacement.)
3. Remove the belt drive motor cover [A] (4 screws).
4. Remove the feed-in unit [B] (4 screws, 8 connectors).

12.1.3 Pick-up Roller Replacement



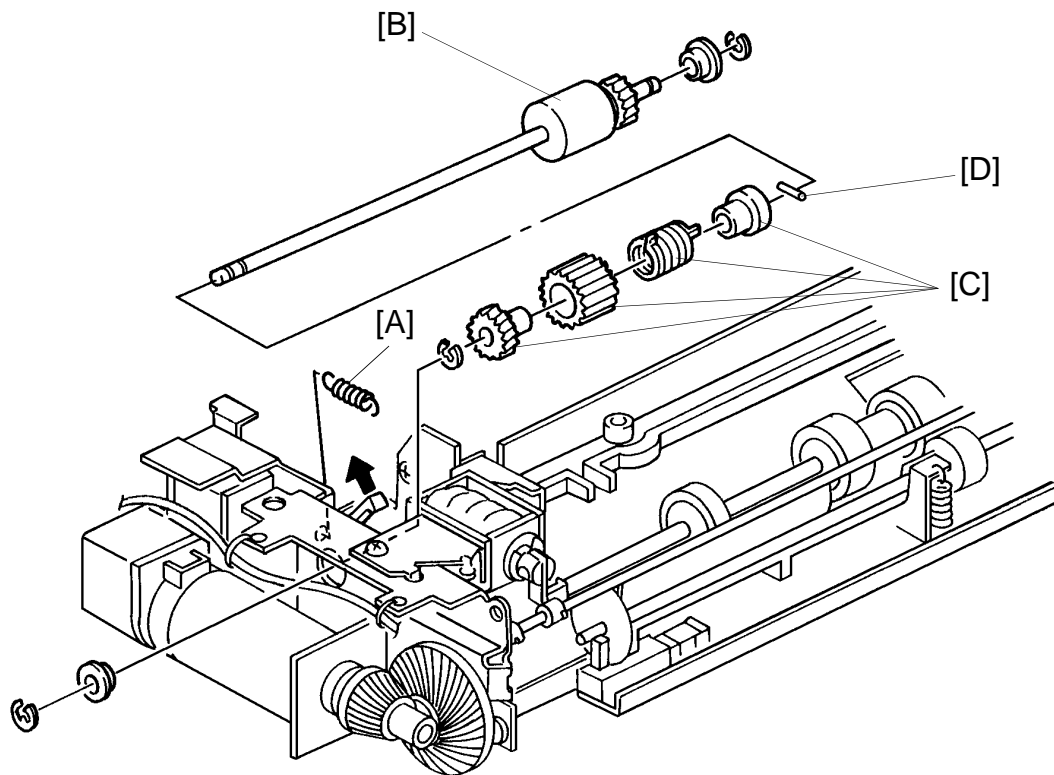
1. Turn off the main switch.
2. Remove the feed-in unit. (See Feed-in Unit Removal.)
3. Remove the lower entrance guide [A] (2 screws).
4. Remove the original set sensor assembly [B] (1 screw, 1 connector).
5. Remove the pick-up roller [C] (3 E-rings, 1 bushing, 1 gear).

NOTE: a) Be careful not to loose the pin [D].

b) When installing the roller, make sure the positioning pin is correctly inserted in the cut-out of the roller.

c) When installing the gear, make sure the flat side of the gear is facing away from the roller.

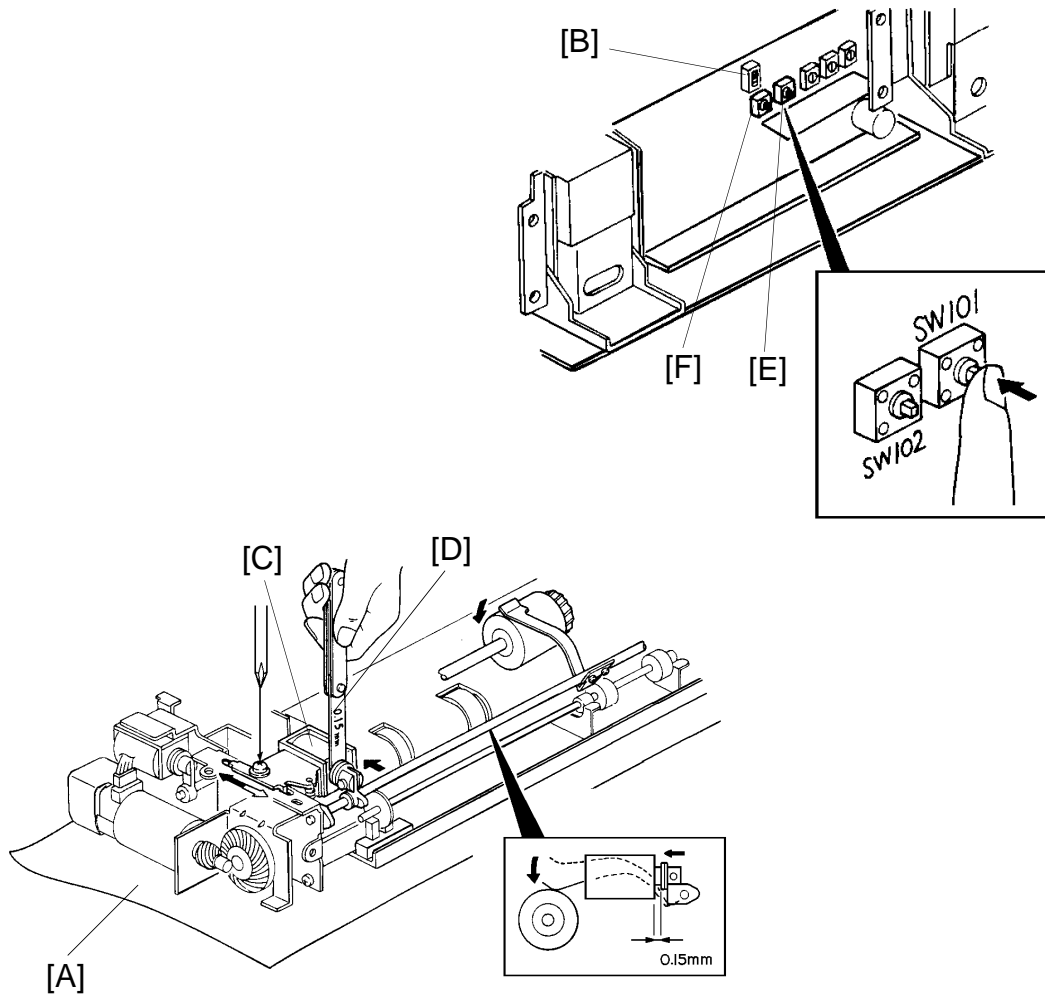
12.1.4 Feed-in Clutch Lubrication



1. Turn off the main switch.
2. Remove the original set sensor assembly. (See Pick-up Roller Replacement.)
3. Remove the feed-in solenoid lever spring [A].
4. Remove the pick-up roller assembly [B] (2 E-rings, 2 bushings).
5. Disassemble and lubricate the feed clutch [C] (1 E-ring) with Mobil Temp. 78.

NOTE: a) Be careful not to loose the pin [D].
b) When installing the feed clutch, make sure the positioning pin is correctly inserted in the cut-out of the clutch.

12.1.5 Pick-up Solenoid Adjustment



1. Turn off the main switch.
2. Place several sheets of paper [A] over the exposure glass area.
3. Lower the feed-in unit (see Feed-in Unit Removal) without disconnecting the eight connectors.
4. Turn on the main switch.

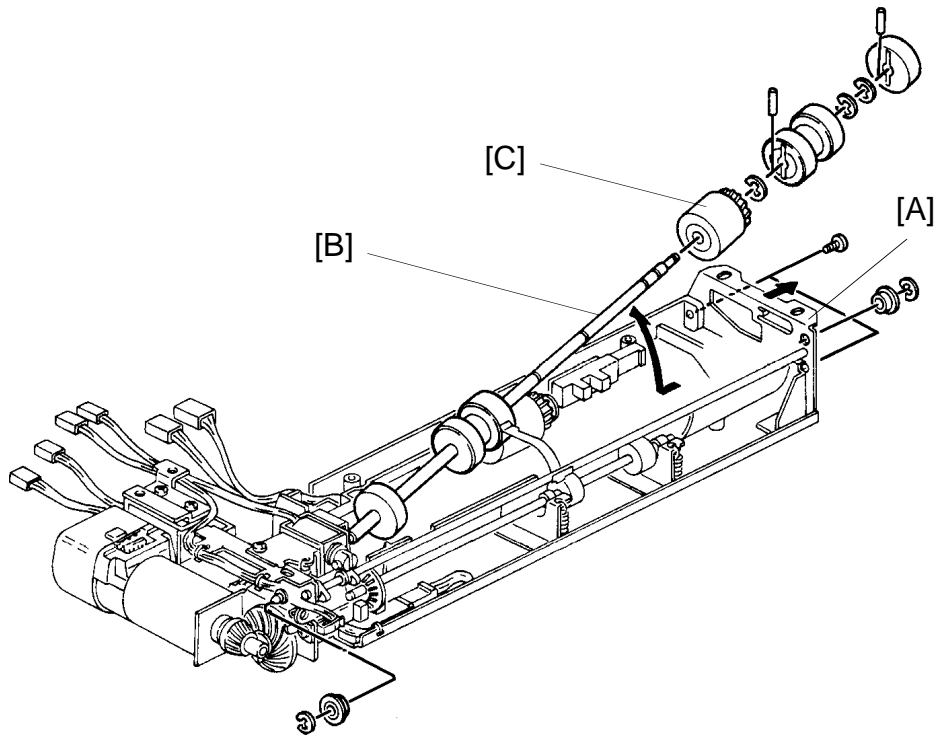
NOTE: When the main switch is turned on, the DPS101 setting on the DF main PCB must be as follows:

1 = ON	3 = OFF
2 = ON	4 = OFF

This is so that the initial check sequence can take place.

5. Turn off DPS101-1 and 2, then turn on DPS101-3 and 4 [B].
6. Loosen the screw fixing the pick-up solenoid [C].
7. Place the 0.15 mm thickness gauge [D] between the plunger and the solenoid.
- 8 While holding the solenoid, press SW101 [E] on the DF main PCB to engage all DF solenoids.
9. Holding the solenoid securely, move it slowly towards the left, until the plunger is attracted to the solenoid. Just at this point, tighten the screw.
NOTE: Make sure the pick-up lever is touching the pick-up roller during this adjustment.
10. Press SW 102 [F] to turn off the solenoids.
11. Turn off DPS101-3 and 4, then turn on DPS101-1 and 2.
12. Turn off the main switch and reassemble the DF.
13. Check the original feed-in operation.

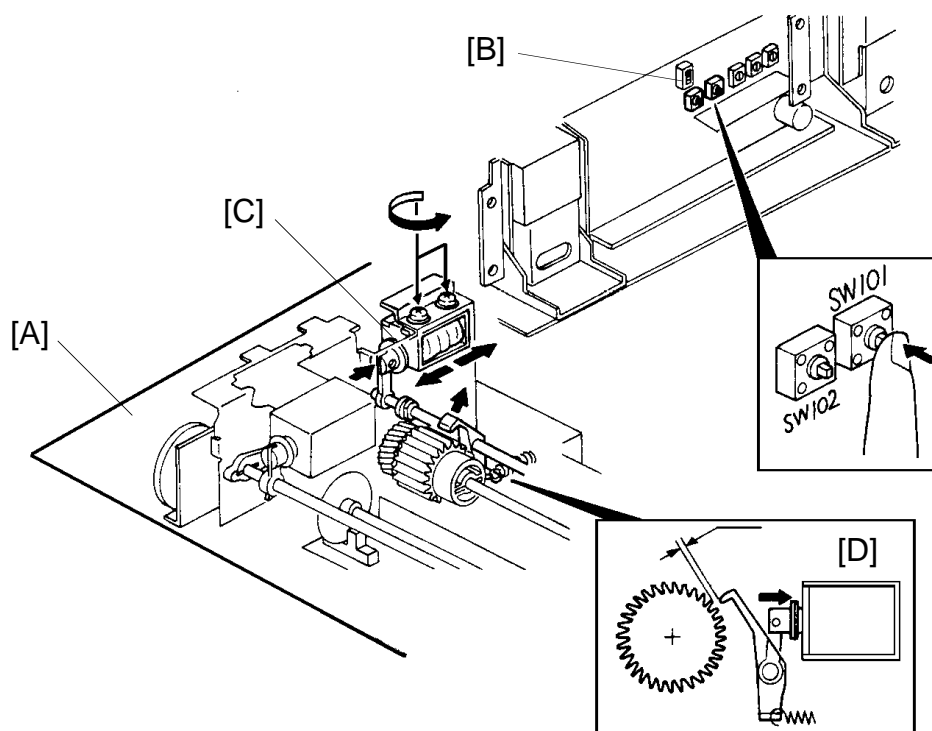
12.1.6 Feed Roller Replacement



1. Turn off the main switch.
2. Remove the lower entrance guide. (See Pick-up Roller Replacement.)
3. Loosen the front bracket [A] (2 screws).
4. Release the feed roller shaft [B] from the front bracket (1 E-ring, 1 bearing).
5. Remove the feed roller [C] (3 E-rings, 1 side roller, 1 pull-out roller).

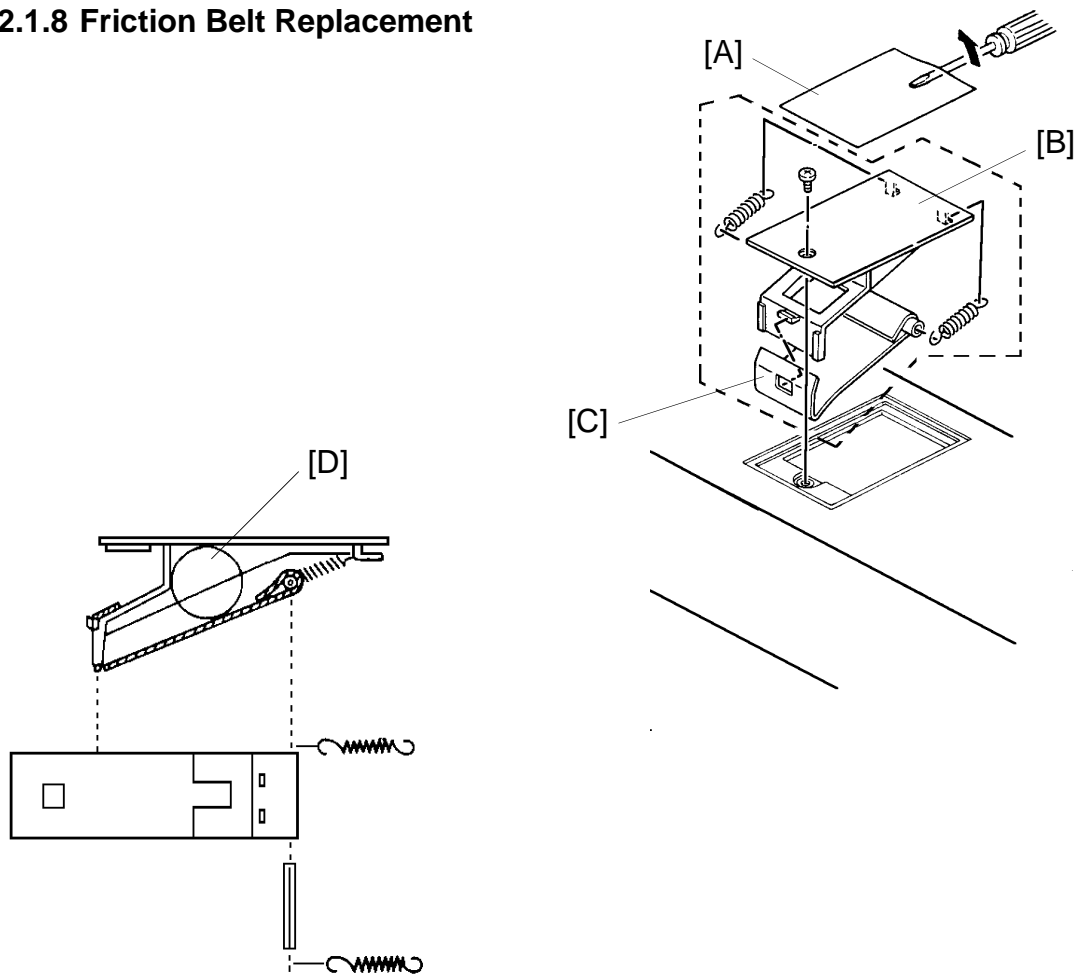
NOTE: a) Take care not to lose the pins.
b) When installing the feed roller, make sure the gear side of the roller faces the front (see illustration).
c) When installing the side and pull-out rollers, make sure the pins are correctly inserted in the cut-outs of the rollers.

12.1.7 Feed-in Solenoid Adjustment



1. Turn off the main switch.
2. Place several sheets of paper [A] over the exposure glass area.
3. Lower the feed-in unit (see Feed-in Unit Removal) without disconnecting the eight connectors.
4. Check that DPS101 is set for the normal mode (1 = ON, 2 = ON, 3 = OFF, 4 = OFF).
5. Turn on the main switch.
6. Turn off DPS101-1 and 2, then turn on DPS101-3 and 4 [B].
7. Loosen the 2 screws securing the feed-in solenoid [C].
8. Press SW101 on the DF main PCB (to engage all DF solenoids) and adjust the position of the solenoid until the gap [D] (see illustration) is within 1.0 – 2.0 mm.
9. Press SW102 on the DF main PCB to turn off all DF solenoids.
10. Turn off DPS101-3 and 4, then turn on DPS101-1 and 2.

12.1.8 Friction Belt Replacement

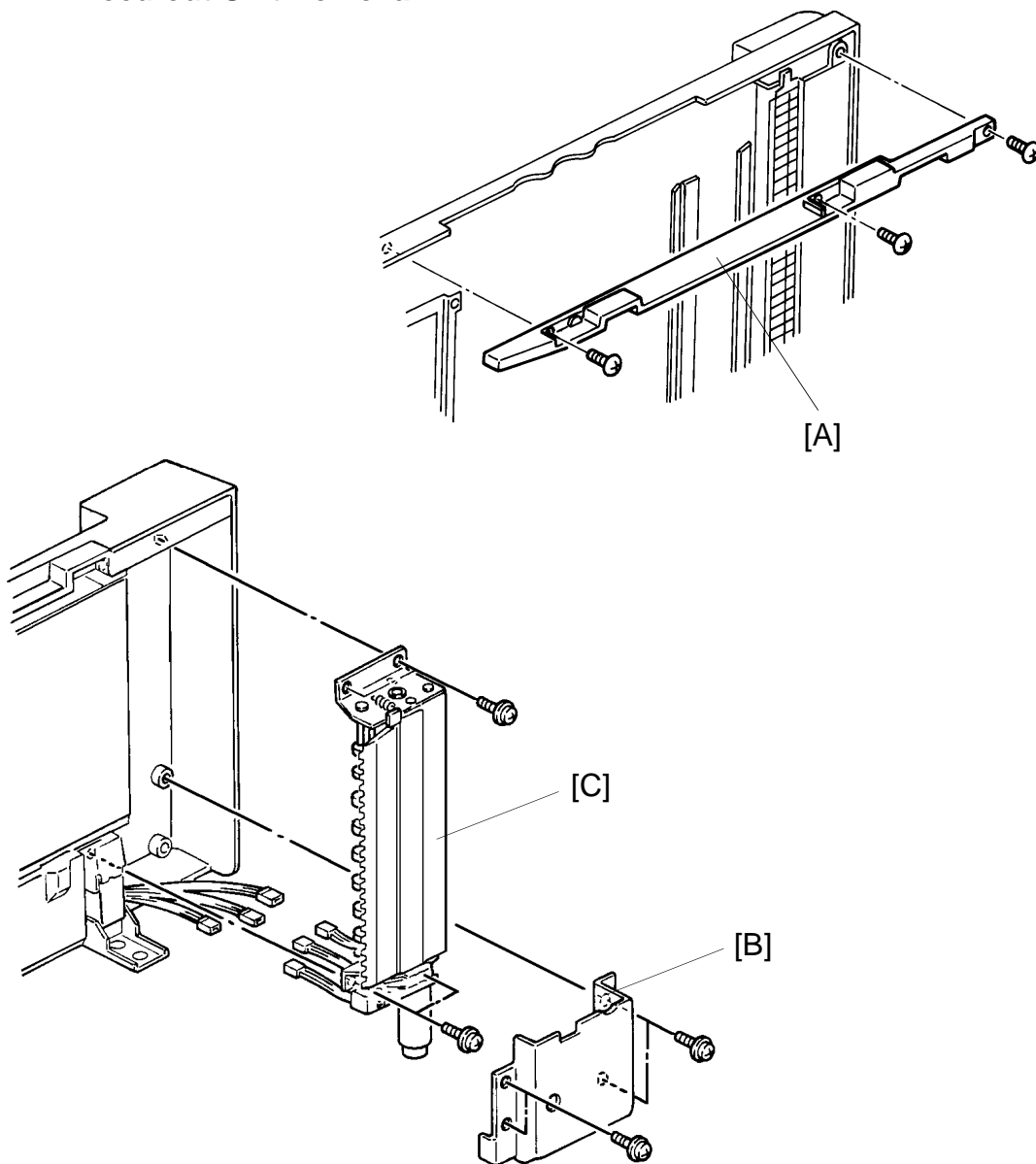


1. Turn off the main switch.
2. Remove the seal cover [A] on top of the DF cover.
3. Remove the friction belt assembly [B] (1 screw).
4. Remove the friction belt [C] (2 springs, 1 pin).

NOTE: a) When installing the friction belt assembly, make sure the friction roller [D] is set in the correct position (see illustration).
b) If the seal cover becomes dirty or deformed, replace it with a new one.

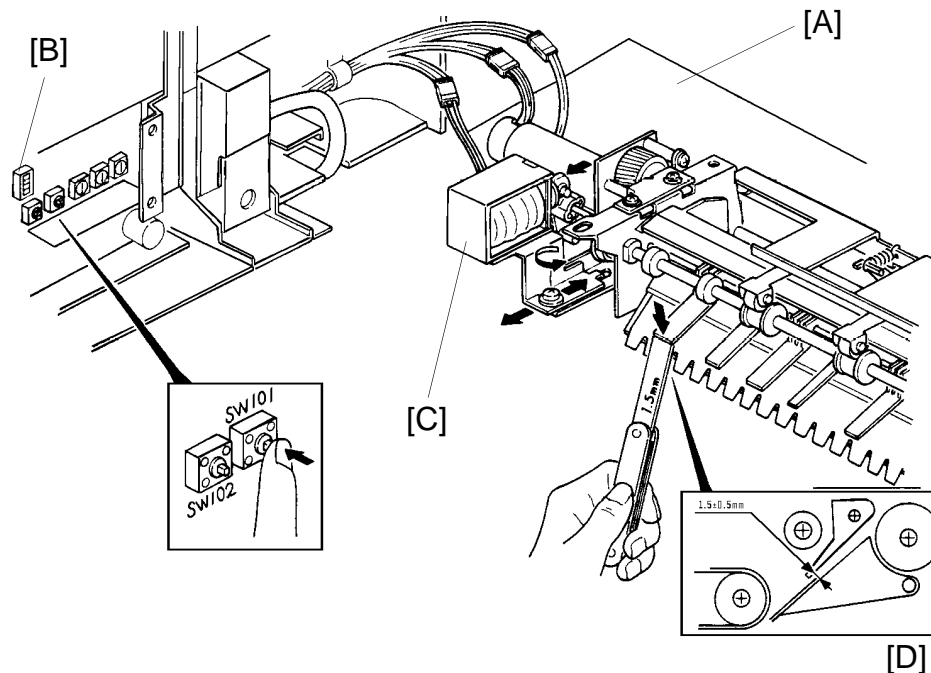
12.2 FEED-OUT UNIT

12.2.1 Feed-out Unit Removal



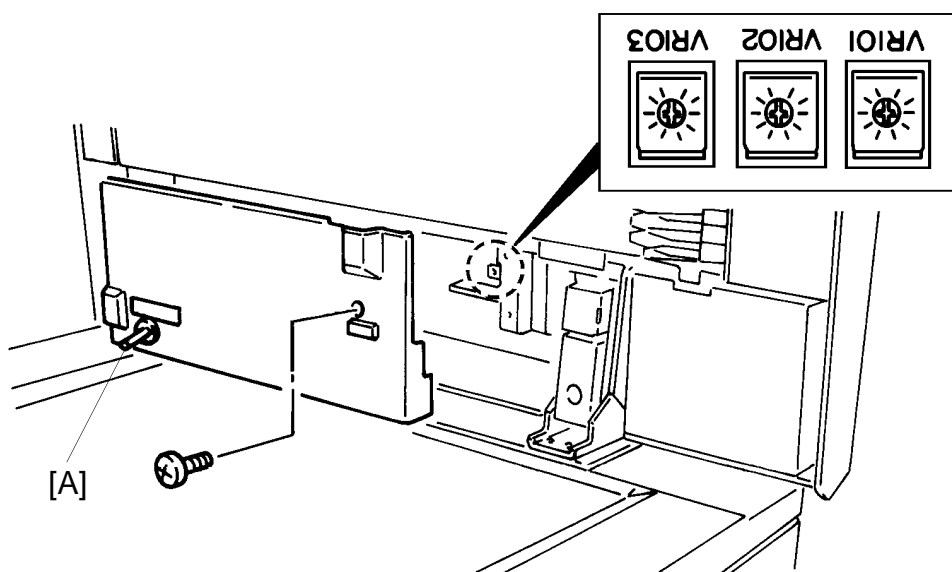
1. Turn off the main switch.
2. Remove the DF grip [A] (3 screws).
3. Remove the feed-out motor cover [B] (4 screws).
4. Remove the feed-out unit [C] (4 screws, 3 connectors).

12.2.2 Inverter Solenoid Adjustment



1. Turn off the main switch.
2. Place several sheets of paper [A] over the exposure glass area.
3. Lower the feed-out unit (See Feed-out Unit Removal) without disconnecting the three connectors.
4. Check that the DPS101 is set for the normal mode (1 = ON, 2 = ON, 3 = OFF, 4 = OFF).
5. Turn on the main switch.
6. Turn off DPS101-1 and 2, then turn on DPS101-3 and 4 [B].
7. Loosen the screw securing the inverter solenoid [C].
8. Press SW101 on the DF main PCB (to engage all DF solenoids), and adjust the position of the solenoid until the gap [D] (See illustration) is within 1.5 ± 0.5 mm.
9. Press SW102 on the DF main PCB to turn off all DF solenoids.
10. Turn off DPS101-3 and 4, then turn on DPS101-1 and 2.

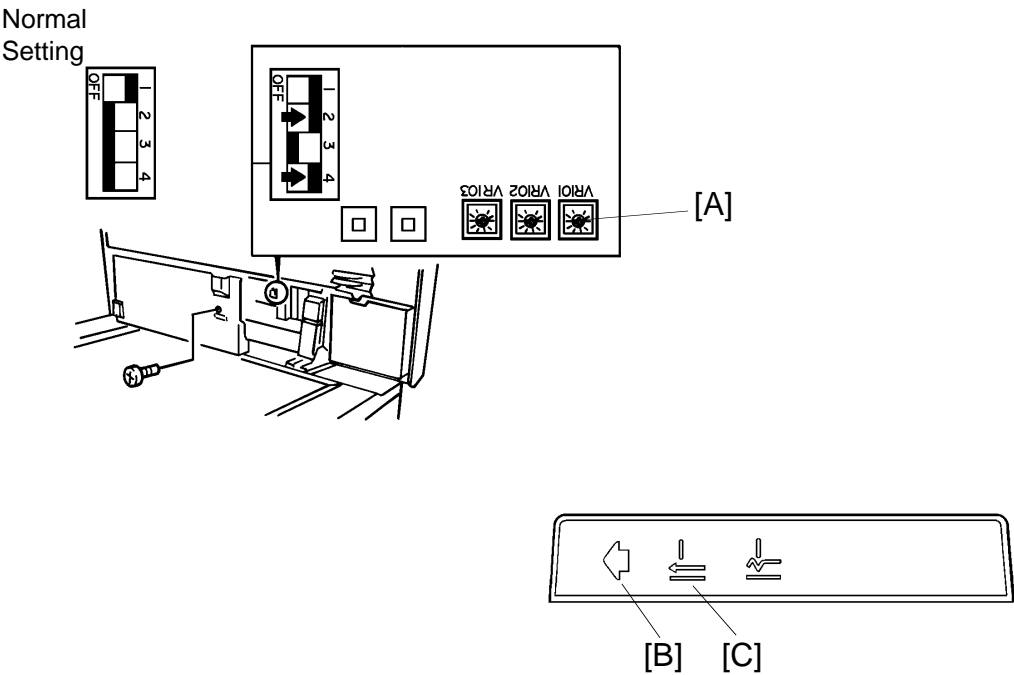
12.2.3 DF Leading Edge Registration Adjustment



1. Using the DF test chart, make a copy in the platen cover mode (A4 width).
 2. Confirm that the original select switch [A] is in the thin mode and again using the test chart, make a copy in the DF mode (A4 width).
 3. Compare the leading edge registration of both copies, and check that the difference between the two copies is within 2.5 mm.
 4. If the difference is more than 2.5 mm, remove the DF main PCB cover (1 screw) and adjust VR102 on the DF main PCB until the leading edge registration is within specification.
- NOTE:** Turning VR102 clockwise results in stopping the original later.
5. Using the DF test chart, make a copy in the DF two sided-original mode. (Insert the original face down.)
 6. Compare the leading edge registration with that of the platen cover mode copy, and check that the difference between the two copies is within 2.00 mm.
 7. If out of specification, adjust VR103 on the DF main PCB until the leading edge registration is correct.

- NOTE:** a) The test sheet stops pressed against the left scale in DF two-sided original mode.
 b) Turning VR103 clockwise results in the original stopping later.

12.3 BELT DRIVE MOTOR SPEED ADJUSTMENT



NOTE: The belt drive speed adjustment is required when the main board is replaced.

- 1. Turn off the main switch.
- 2. Check that DIP switch 101 is set for the normal setting as follows:

101-1	101-2	101-3	101-4
ON	OFF	OFF	OFF

- 3. Turn on the main switch and DIP switch 101-2 and -4.
- 4. While turning on the lift switch manually, adjust the belt drive motor speed using VR101 [A] so that both the Insert Original indicator [B] and Auto Feed indicator [C] turn off.

- NOTE:**
- a) When the Insert Original indicator lights, turn VR101 clockwise to reduce the motor speed.
 - b) When the Auto Feed indicator lights, turn VR101 counterclockwise to increase the motor speed.
 - c) Confirm that both indicators remain off for approximately 5 seconds in order to stabilize the motor speed.

- 5. Turn off DIP switch 101-2 and -4.

NOTE: Do not use VR106. This variable resistor is for adjusting feed-out motor speed. This is preset by the vendor.

Document Feeder Electrical Components

Index No.	Description	Symbol	P to P
1		S1	B17
2	Original Set Sensor	S2	B18
3	Registration Sensor	S4	B17
4	Pulse Generator Sensor	S3	B17
5	Original Width Sensor	SOL1	B20
6	Pick-up Solenoid	M1	B15
7	Belt Drive Motor	PCB2	B19
8	Indicator Panel	SW1	B20
9	Lift Switch	PCB1	C15 — C21
10	DF Main Board	M2	B16
11	Feed-out Motor	SOL3	B21
12	Inverter Solenoid	S5	B18
13	Feed -out Sensor	SW2	B19
14	Original Select Switch	SOL2	B21
	Feed-in Solenoid		

Document Feeder Connectors

Index No.	CN No.	Component	Symbol	Type	P to P
1	CN118	—	—	3P/R	B17
2	CN200	Indicator Panel	PCB2	4P/W	B19
3	CN119	—	—	6P/W	B19
4	CN111	Belt Drive Motor	M1	6P/W	B15
5	CN104	DF Main Board	PCB1	34P/B	C15 — C21
6	CN103	DF Main Board	PCB1	4P/W	C15 — C21
7	CN102	DF Main Board	PCB1	2P/W	C15 — C21
8	CN106	DF Main Board	PCB1	2P/B	C15 — C21
9	CN101	DF Main Board	PCB1	5P/W	C15 — C21
10	CN110	Inverter Solenoid	SOL3	2P/R	B21
11	CN108	Feed-out Motor	M2	4P/W	B16
12	CN109	—	—	3P/W	B18
13	CN119	Feed-out Sensor	S5	3P/W	B18
14	CN120	Original Select Switch	SW2	2P/W	B19
15	CN115	Feed-in Solenoid	SOL2	2P/Y	B21
16	CN116	—	—	3P/W	B17
17	CN114	Pick-up Solenoid	SOL1	2P/R	B20
18	CN121	—	—	3P/W	B17
19	CN117	—	—	3P/Y	B18
20	CN31	Original Width Sensor	S3	3P/B	B17
21	CN27	Registration Sensor	S2	3P/B	B18
22	CN26	Original Set Sensor	S1	3P/W	B17

