

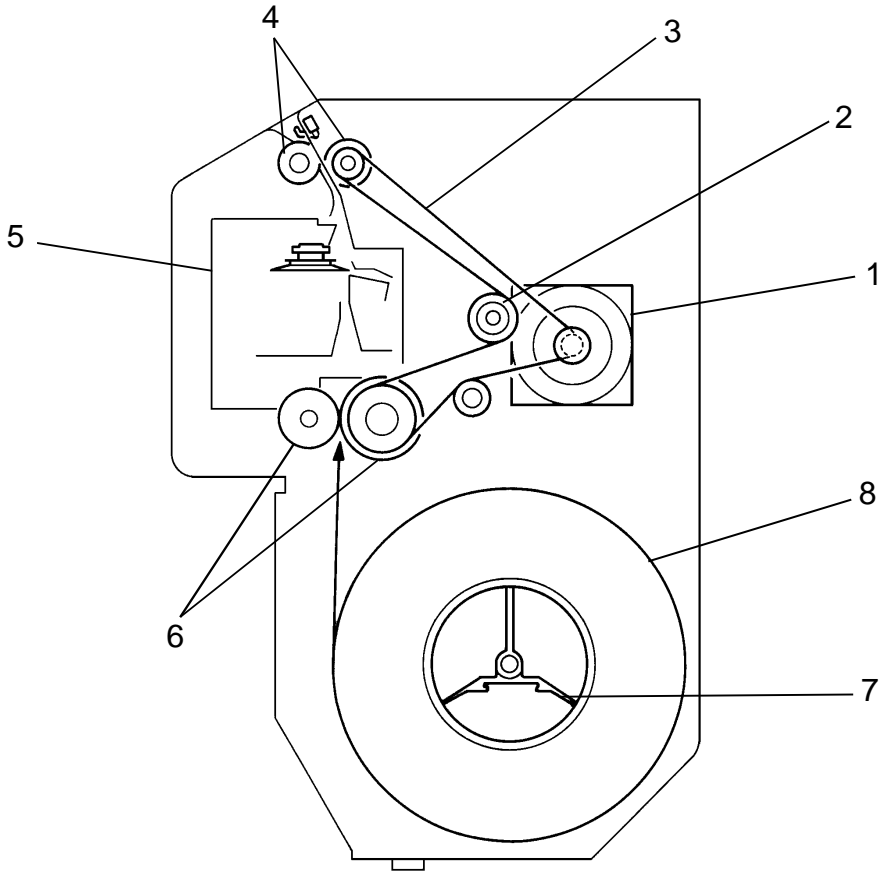
ROLL FEEDER
(Machine Code: A454)

AND CONNECTOR
(Machine Code: A384)

1. SPECIFICATIONS

Roll Paper Size:	Width: 210 mm to 914 mm, 8 ¹ / ₂ " to 36" Length: 150 meters
Cut Size:	Synchronized with original length up to 3600 mm (142") –Preset Cut: 1189 mm, 841 mm, 594 mm, 420 mm, 297 mm 48", 36", 24", 18", 12" –Selected Length Cut: 280 mm to 3600 mm (1 mm per step) 11" to 142" (0.1" per step)
Cutting Time:	0.69 seconds
Paper Transport Velocity:	100 mm/s
Repeat Quantity:	1 to 10
Control:	Microprocessor
Power Source:	+24 volts and +5 volts from the copier
Power Consumption:	Maximum 70 W
Dimensions (W x D x H):	1,355 mm x 255 mm x 385 mm 53.15" x 9.84" x 14.21"
Weight:	32 kg, 70 lb

2. MECHANICAL COMPONENT LAYOUT



- | | |
|---------------------|-----------------------|
| 1. Paper Feed Motor | 5. Cutter Unit |
| 2. Idle Pulley | 6. Paper Feed Rollers |
| 3. Timing Belt | 7. Paper Roll Spool |
| 4. Exit Rollers | 8. Paper Roll |

3. ELECTRICAL COMPONENT DESCRIPTIONS

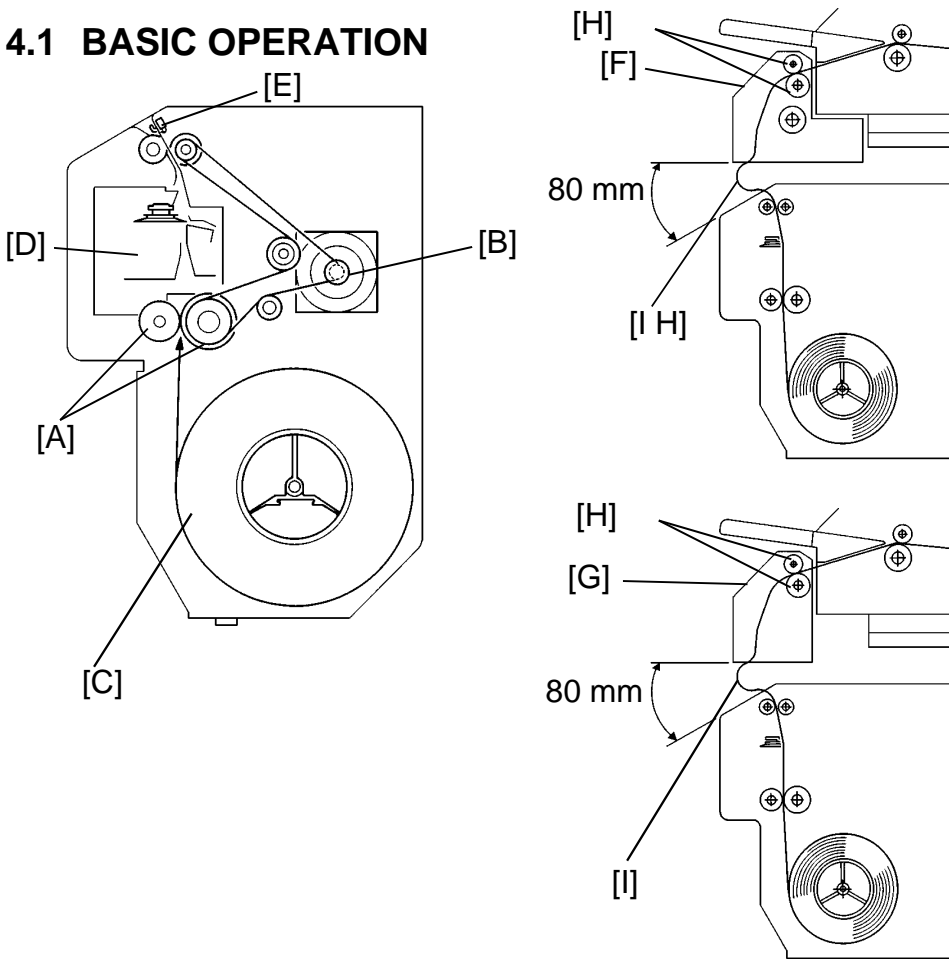
Refer to the electrical component layout on the reverse side of the Point to Point (Water proof paper) index numbers.

Name	Function	Index No.
Motors		
Paper Feed	Drives all mechanical components except the cutter unit.	77
Cutter	Drives the cutter.	83
Switches		
Unit Set	Cuts power when the entire roll cutter unit is lifted.	81
Upper Door Safety	Cuts power when the upper cover is opened.	86
Middle Door Safety	Cuts power when the middle cover is opened.	84
Lower Door Safety	Cuts power when the lower cover is opened.	85
Sensors		
Paper End	Detects when the roll paper runs out.	82
Left Cutter	Detects whether or not the cutter is at the left home position.	87
Right Cutter	Detects whether or not the cutter is at the right home position.	80
Leading Edge	Misfeed detector. Also detects the leading edge of paper to start paper length pulse count.	78
Pulse Generator	Supplies timing pulses to the main board. (Photointerruptor)	88
Paper Entrance	Detect misfeeds in the roll feeder connector.	90
Printed Circuit Board		
Main	Controls all roll cutter unit functions in accordance with copier CPU.	79
Solenoid		
Paper Pull Out	Turns the paper pull-out rollers of the roll feeder connector.	89

Roll Feeder & Connector

4. MECHANICAL OPERATION

4.1 BASIC OPERATION

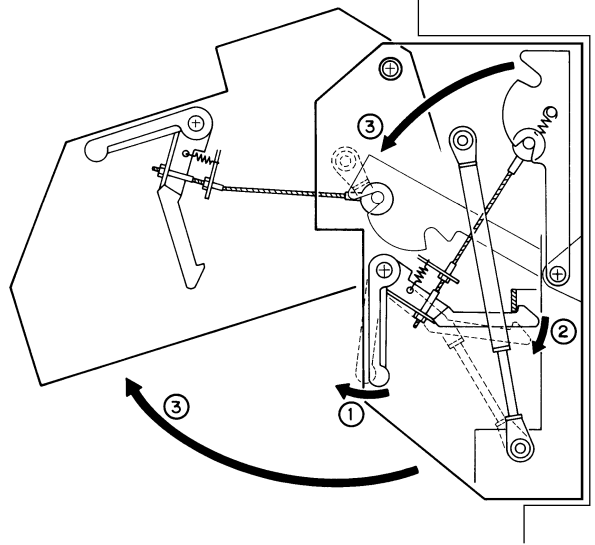


The paper feed rollers [A], which are turned by the paper feed motor [B], feed paper from the paper roll [C] through the cutter unit [D] to the paper leading edge sensor [E] according to the signal from the copier. When the paper leading edge sensor detects the leading edge of the paper, the copier CPU starts measuring the length of the paper. (The paper length is measured by counting the number of steps as the paper feed motor [stepper motor] turns.) The paper is directed to the sheet feeder [F] or roll feeder connector [G] after the leading edge of the paper reaches the relay rollers [H]. These rollers stop rotating for a moment, then they start rotating again.

A paper buckle [I] forms between the roll feeder and sheet feeder (or roll feeder connector). When the paper reaches the proper length, paper feed stops and the cutter unit cuts the paper. During this period, the paper is fed to the copier from the roll feeder continuously. The paper is cut during the time it takes for the paper buckle to be pulled straight. This allows for a neat cut. After that, the paper is delivered to the sheet feeder or roll feeder connector, the roll feeder returns to the stand-by condition.

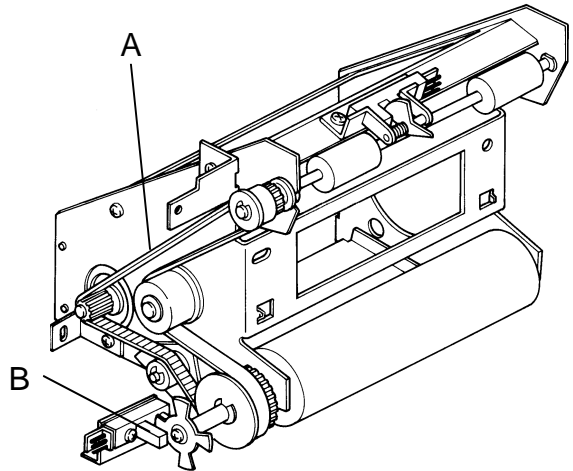
4.2 OPENING AND CLOSING MECHANISM

To load a roll of paper the roll cutter must be opened as shown in the illustration. Gas springs on either end of the machine aid in opening the unit, and lock pins hold the unit in place when it is in either the fully opened position or when it is closed.

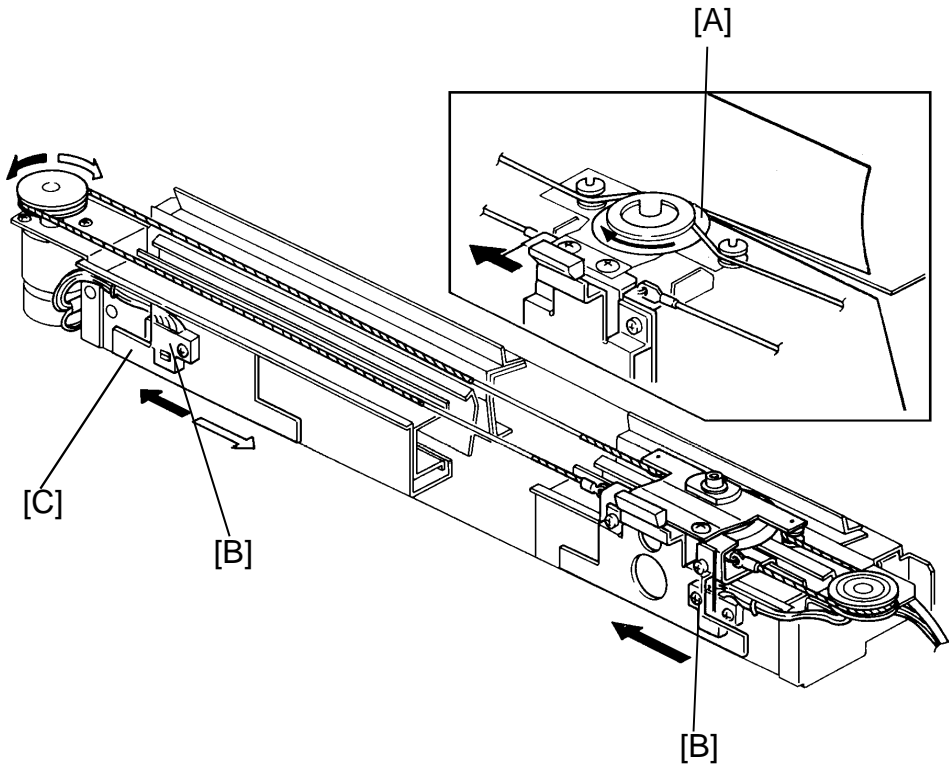


4.3 DRIVE MECHANISM

All rollers are driven by the paper feed motor (stepper motor) through a timing belt [A]. A pulse generator [B] produces timing pulses as the paper feed motor turns. These pulses are used to control all machine operations.



4.4 CUTTER OPERATION



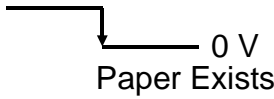
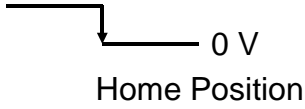
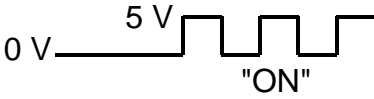
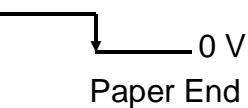
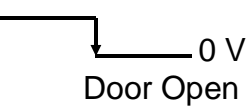
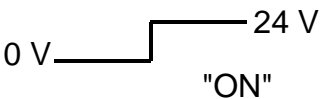
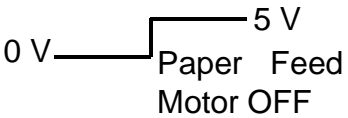
The cutter unit uses a sliding rotary cutting blade [A] which is pulled past a fixed blade by a drive wire. The rotary cutting blade allows the cutter unit to cut paper in both directions. There are home position sensors [B] at both ends of the cutter unit. The cutter motor turns off, stopping the cutting action, when the rotary cutting blade knob plate [C] turns on one of these sensors.

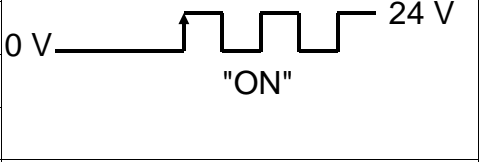
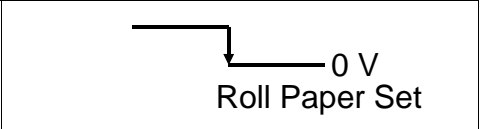
5. SERVICE TABLES

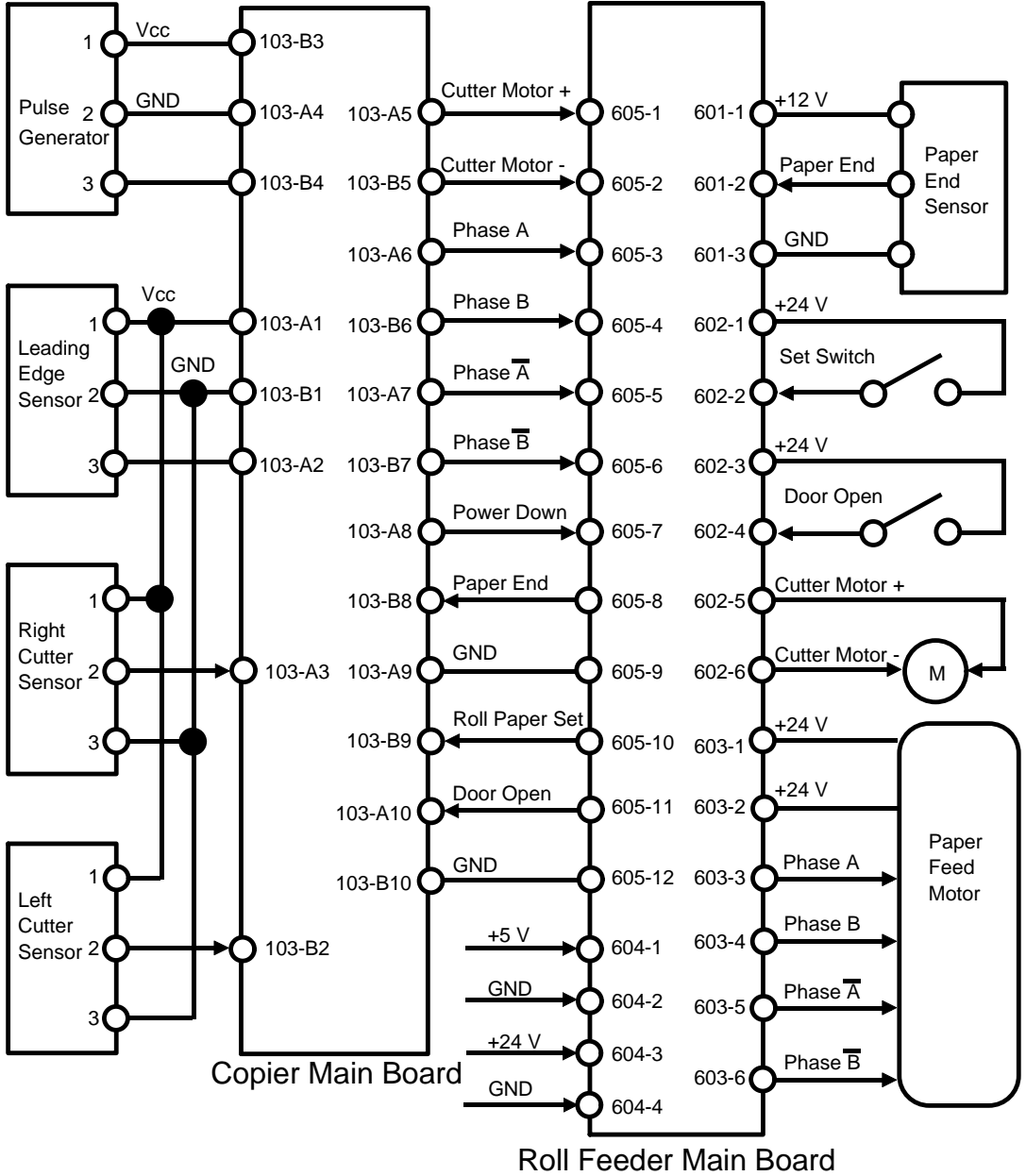
5.1 TEST POINTS

Function	TP No.
GND	TP104, 105
V _A (24 V)	TP102
Paper End Sensor	TP101
V _C (5 V)	TP103

5.2 SIGNAL LEVELS

Signal name	In or Out	CN No.	Signal Level
Leading Edge sensor	I	103-A2	
Left Cutter sensor	I	103-B2	
Right Cutter sensor	I	103-A3	
Pulse Generator	I	103-B4	
Paper End	I	103-B8	
Door Open	I	103-A10	
Cutter Motor +	O	103-A5	
Cutter Motor -	O	103-B5	
Power Down	O	103-A8	

Signal name	In or Out	CN No.	Signal Level
Phase A	O	103-A6	 <p data-bbox="714 231 1195 392">0 V 24 V "ON"</p>
Phase B	O	103-B6	
Phase \bar{A}	O	103-A7	
Phase \bar{B}	O	103-B7	
Set switch	O	103-B9	 <p data-bbox="714 390 1195 519">0 V Roll Paper Set</p>



6. INSTALLATION PROCEDURE

6.1 ACCESSORY CHECK – ROLL FEEDER

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

- 1. Paper Spool1 pc
- 2. Pan Head Screw8 pcs
- 3. Clamp.....1 pc

CAUTION:

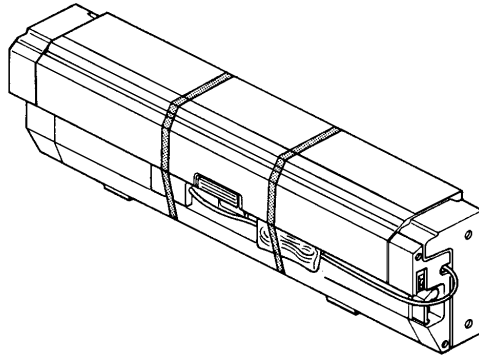
- The A098 copier must be placed on the table before the roll feeder is installed. Otherwise, the table may become unbalanced during installation.

- Unplug the copier power cord before starting the following procedure.

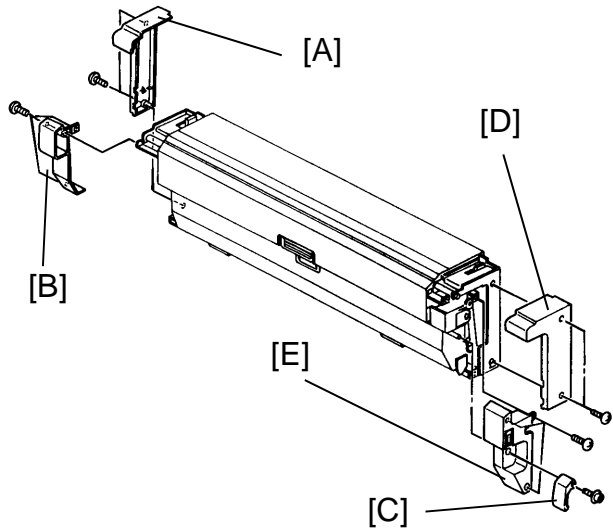
NOTE: The roll feeder connector (A384) should be installed after the roll feeder is installed if the sheet feeder (A453) is not installed.

6.2 INSTALLATION PROCEDURE – ROLL FEEDER

1. Remove all strips of shipping tape from the unit.



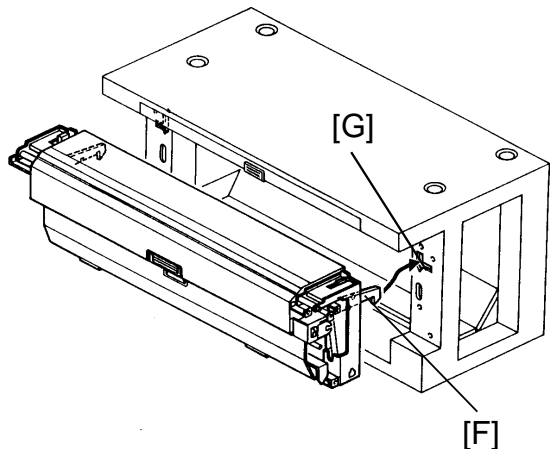
2. Remove the left covers [A,B] (5 screws), the release knob [C] (1 screw), and the right covers [D,E] (5 screws).



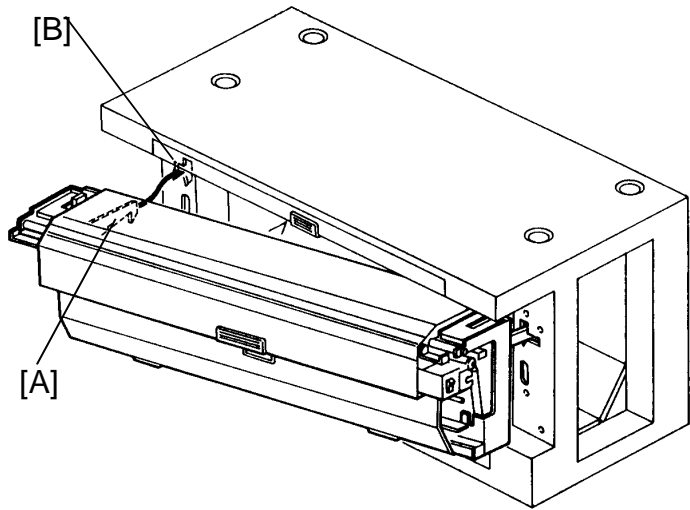
3. Hook the right mounting arm [F] in the right mounting slot [G].

NOTE:

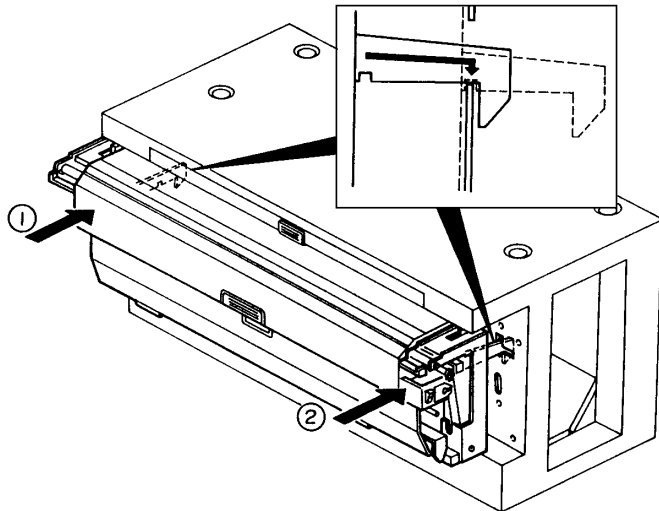
The right mounting arm must be set first for proper alignment.



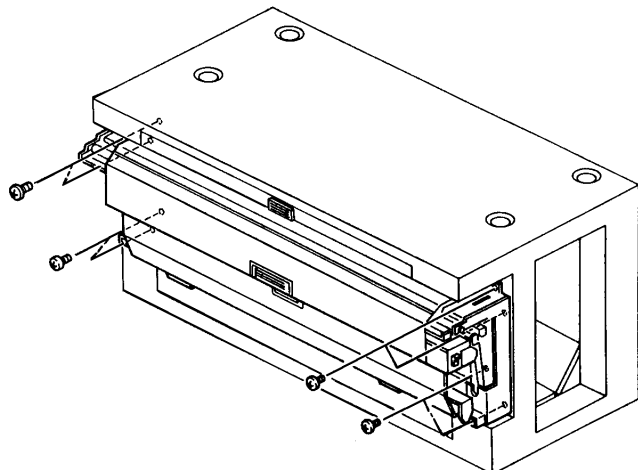
- 4. Hook the left mounting arm [A] in the left mounting slot [B].



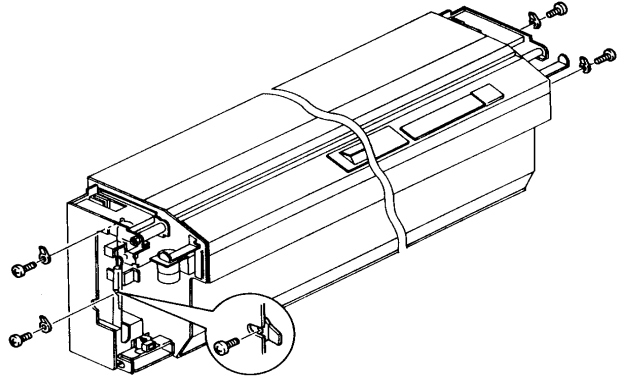
- 5. Push the roll cutter in at position (1) until the left mounting arm is set securely. Then, push in at position (2) until the right mounting arm is set securely.



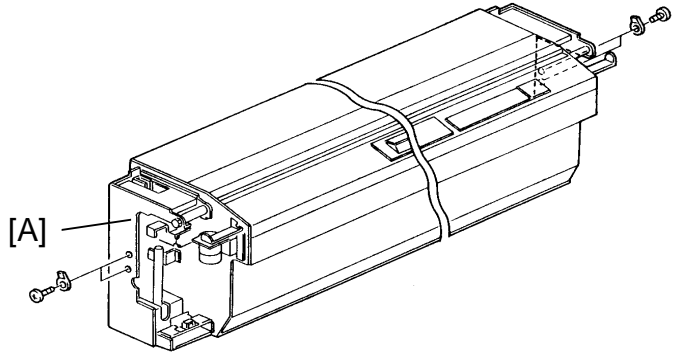
- 6. Secure the roll feeder to the table with 8 screws.



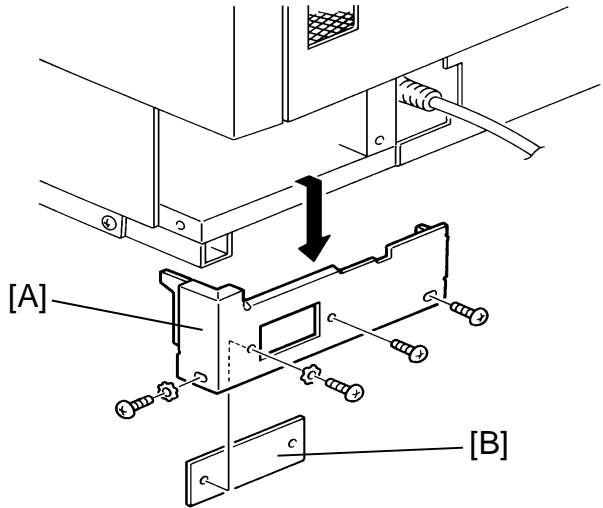
- 7. Remove 4 spacers from the right and left sides (2 spacers each) of the unit.



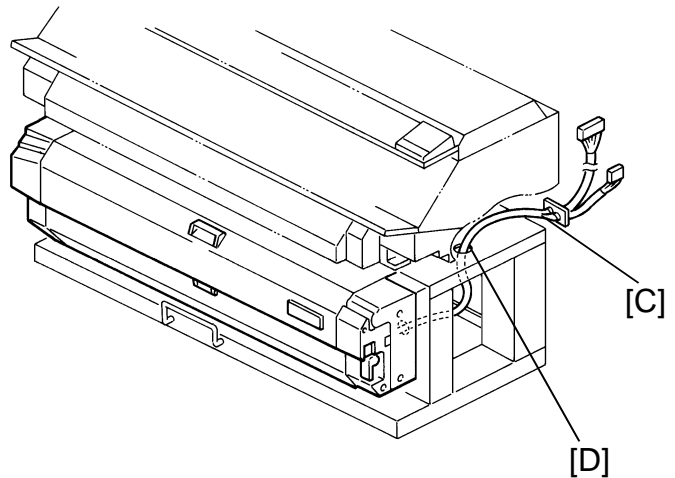
- 8. Secure the 2 spacers to the left and right side brackets [A] respectively. (For future use if the machine is moved.)



- 9. Remove the lower unit right rear cover [A] (rear view, 2 screws).
- 10. Remove the plate [B] from the lower unit right rear cover (2 screws).

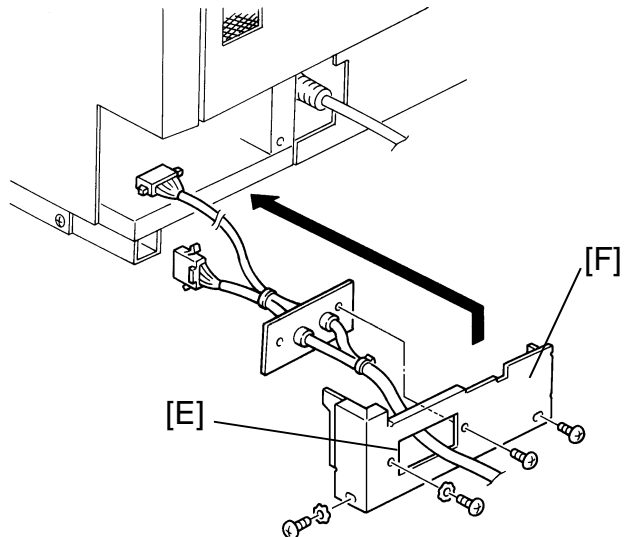


- 11. Pass the roll feeder harness [C] through the table hole [D].



- 12. Pass the roll feeder harness through the cutout [E] of the lower unit right rear cover and install the harness to the cover (2 screws and 1 washer).

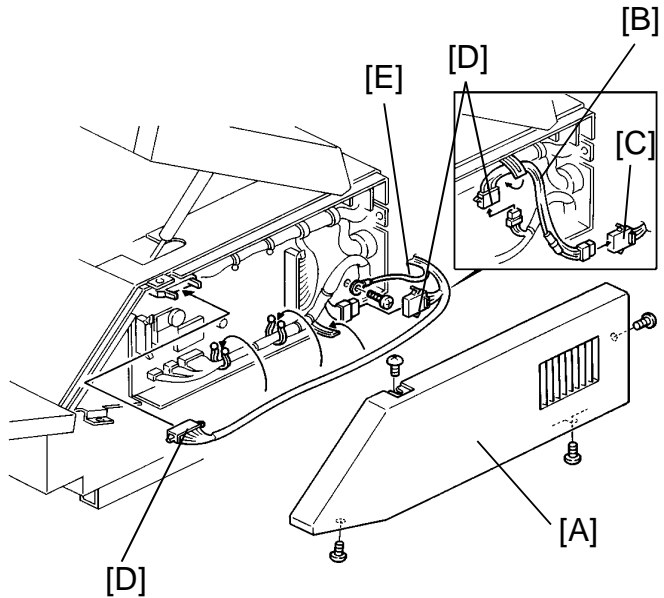
- 13. Install the lower unit right rear cover [F] (2 screws and 1 washer).



14. Open the original feed unit and remove the right middle cover [A] (4 screws).

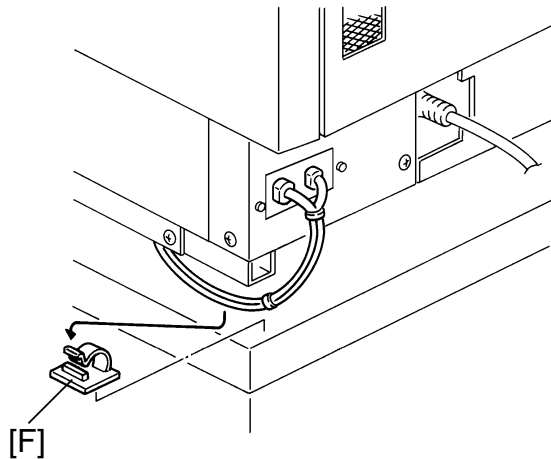
NOTE:

U.S.A. version only
To comply with C.S.A. standards, the sub harness [B] is connected to the 4P connector [C] of the roll feeder harness.

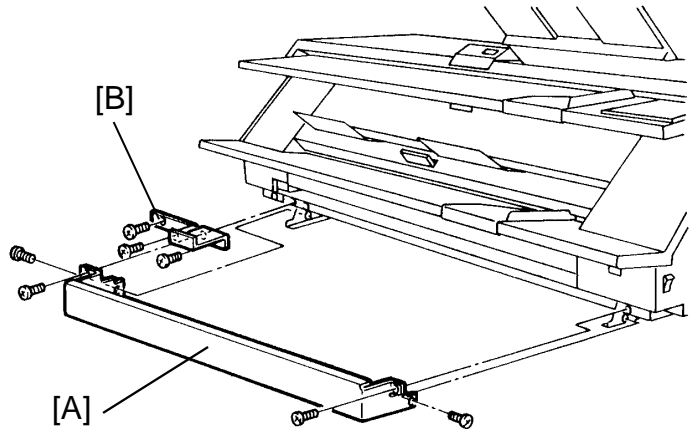


15. Set the 2 connectors [D] of the roll feeder harness to the connectors of the copier main board and secure the grounding wire [E] (1 screw). Then, clamp the harness as shown.

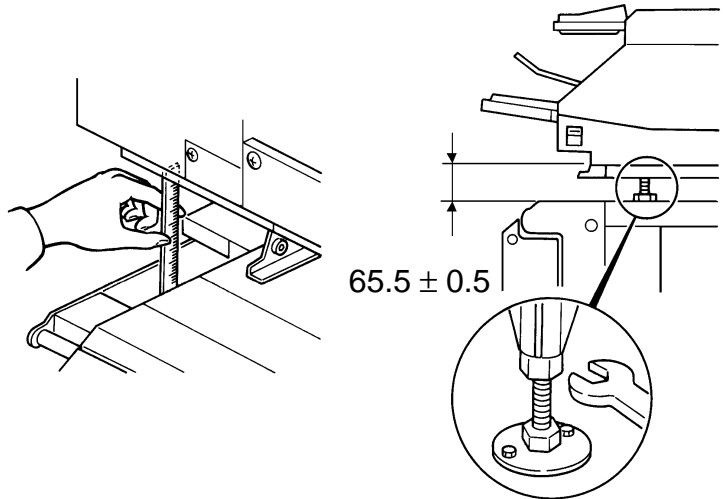
16. Clamp the roll feeder harness to the table (1 clamp [F]).



- 17. Remove the lower front cover [A] (4 screws) and the gear cover [B] (3 screws) from the copier.



- 18. Adjust the gap between the copier base and roll feeder upper plate to 65.5 ± 0.5 mm by turning the bolts on the machine front feet (both right and left).



- 19. Adjust the rear feet height in accordance with the front feet height by turning the bolts on the machine rear feet (both right and left).

<Example>

SP No. \ Temp.	NORMAL	HIGH	LOW
80, 90	1	1	1
81, 91	1	1	1
82, 92	4	6	6
83, 93	1	1	1
84, 94	0	0	0
85, 95	4	7	5

20. Plug in the copier power supply cord.

21. Turn on DIP101-8 on the main board and turn on the main switch.

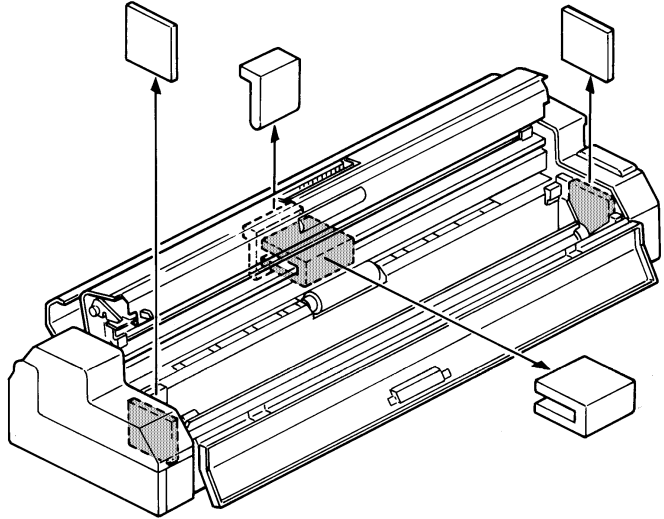
22. Input the data according to the decal stuck on the roll feeder right covers.

- a) Set the leading margin indicator to 08
and the trailing margin indicator to 00.
- b) Set the data of SP No. 80 to the NORMAL column entry in the decal.
- c) Set the leading margin indicator to 08
and the trailing margin indicator to 01.
- d) Set the data of SP No. 81 to the NORMAL column entry in the decal.
- e) Follow the same procedure for programs 82 to 85 and 90 to 95.
- f) Change the mode to high and low mode and input the corresponding data from the high and low columns in the same way.

23. Turn off the main switch and DIP101-8.

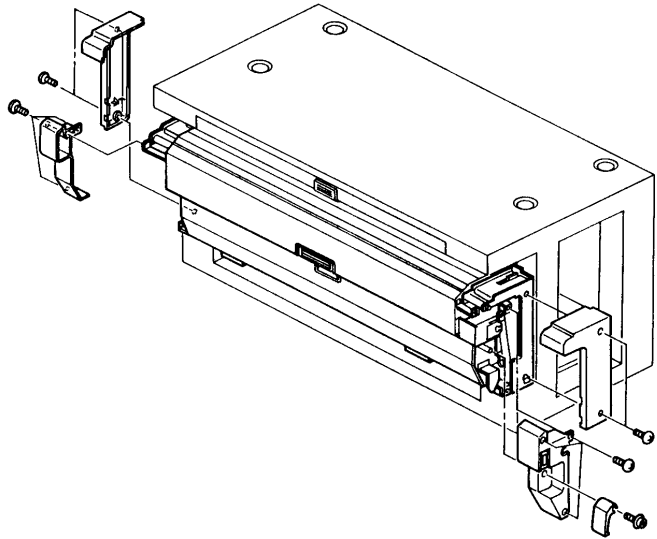
24. Remove all shipping retainers from the roll cutter.

25. Mount a roll of paper on the paper spool and place it in the cutter unit.



26. Install the left and right covers and the release knob.

27. Follow the roll feeder connector or sheet feeder installation.



6.3 ACCESSORY CHECK – ROLL FEEDER CONNECTOR

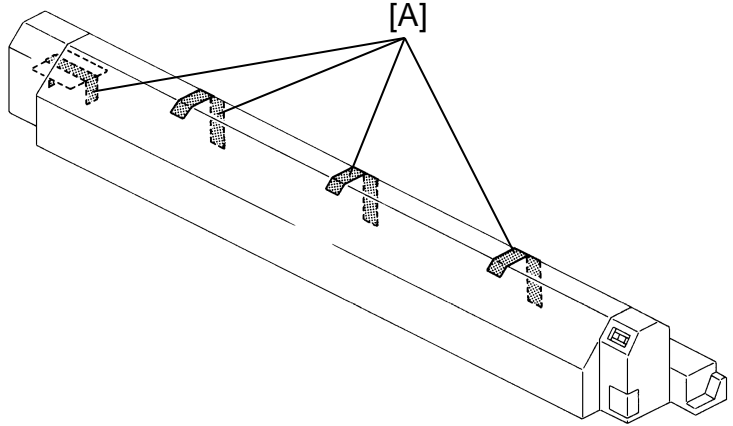
Check the accessories and their quantities according to the following list:

- 1. Harness Holder Bracket.....1 pc
- 2. Replay Harness Bracket.....1 pc
- 3. Pan Head Screw with Flat Washer (M4 x 12).....2 pcs

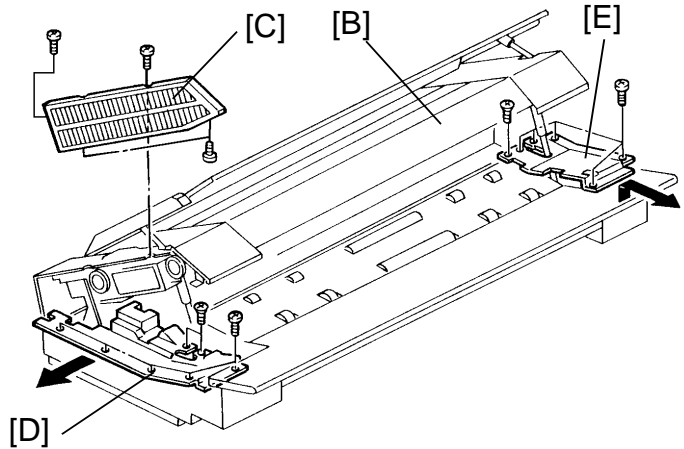
6.4 INSTALLATION PROCEDURE – ROLL FEEDER CONNECTOR

CAUTION: Unplug the copier power cord before starting the following procedure.

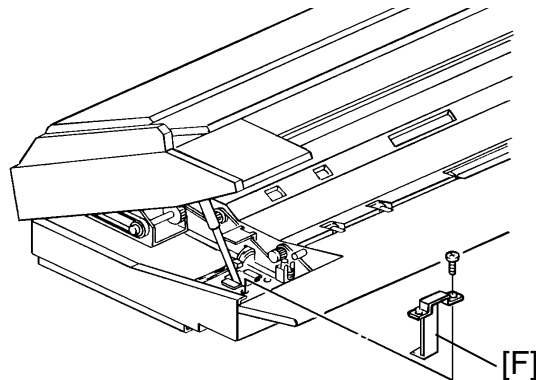
1. Remove the strips of tape [A] as shown.



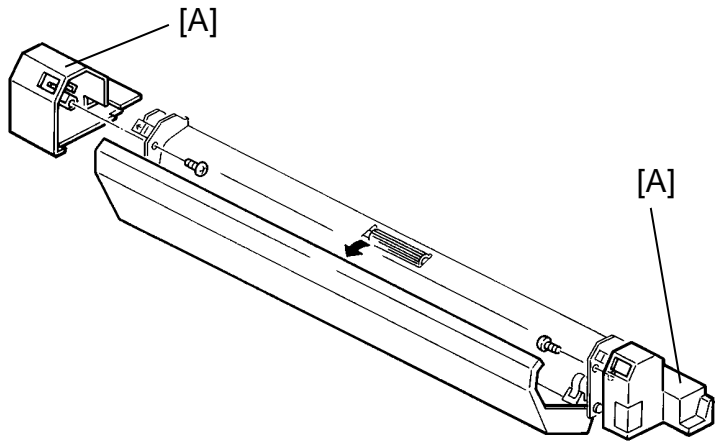
2. Open the upper unit [B] of the copier and remove the left middle cover [C] (4 screws), the left inner cover [D] (7 screws), and the right inner cover [E] (6 screws).



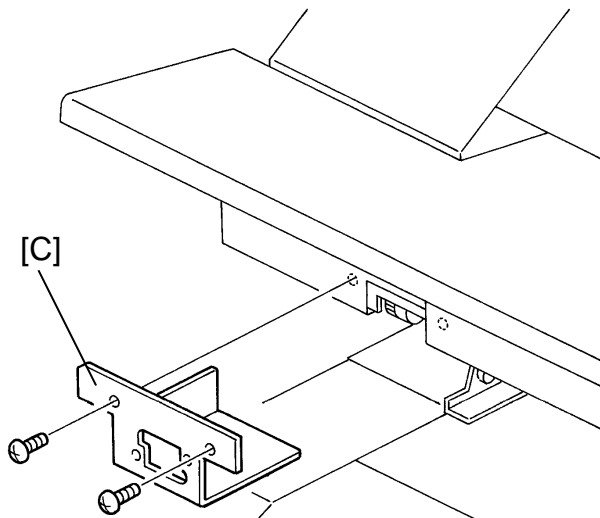
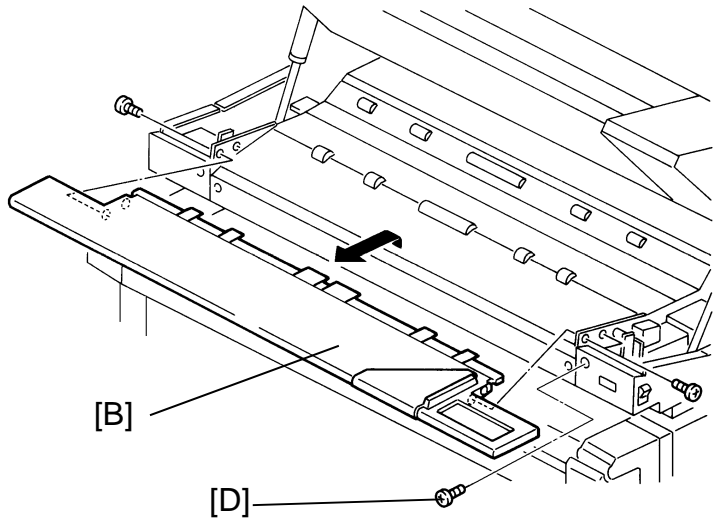
3. Remove the left harness holder bracket [F]. (1 screw)



- 4. Remove the left and right covers [A] of the roll feeder connector (1 screw each).



- 5. Remove the manual feed table [B] (4 screws).
- 6. Install the relay harness bracket [C] (2 screws) and remove the screw [D].



7. Remove the 2 screws [A] and install the 2 M4 x 10 screws temporarily as shown.

8. Mount the roll feeder connector [B] on the temporarily fixed screws. (Sit the end cutouts [C] of the bracket on the temporary screws.)

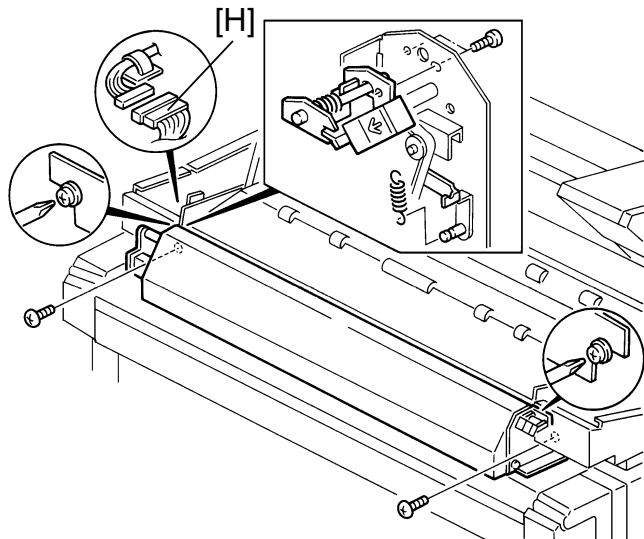
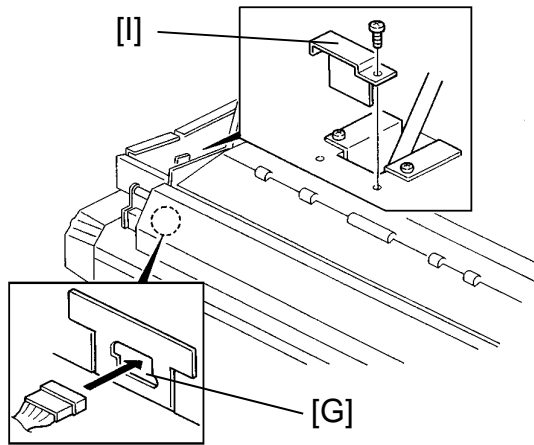
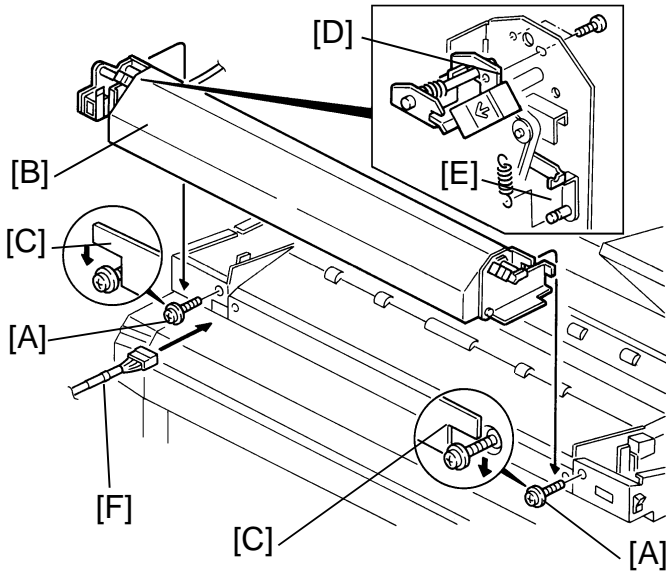
9. Remove the lock lever unit [D] (2 screws) and unhook the spring [E].

10. Pass the roll feeder connector harness [F] through the harness hole [G].

11. Fix the roll feeder connector to the copier (4 screws).

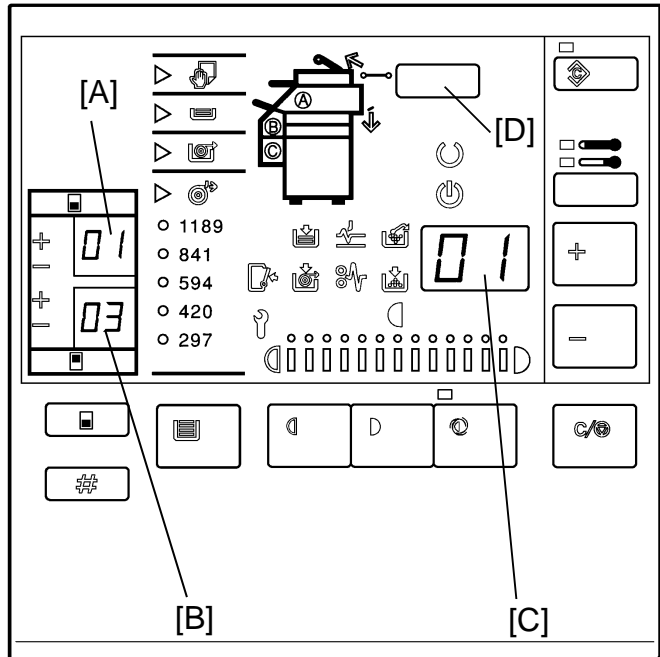
12. Set the connector [H] of the roll feeder harness to the connect of the copier.

13. Reassemble the lock lever unit and spring and install the harness holder bracket [I].



14. Plug in the copier power supply cord and turn on DIP101-8 on the main board. Then, turn on the main switch.

15. a) Set the leading margin indicator [A] to 01 and the trailing margin indicator [B] to 03.
 b) Select the copy counter indicator [C] to 01 (without sheet feeder).
 c) Press the copy exit way key [D].



16. Turn off the main switch and DIP101-8.

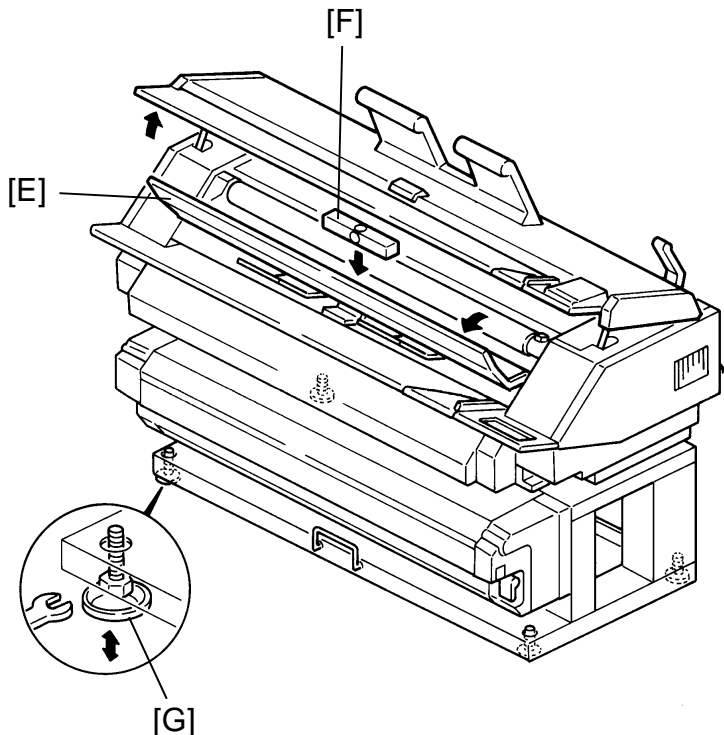
17. Open the toner cartridge cover [E].

18. Place a level [F] in the space between the cartridge cover and the developer entrance.

19. Adjust the level of the machine by turning the bolts on the 4 table feet [G].

20. Reinstall all the parts and turn on the main switch.

21. Check machine operation.

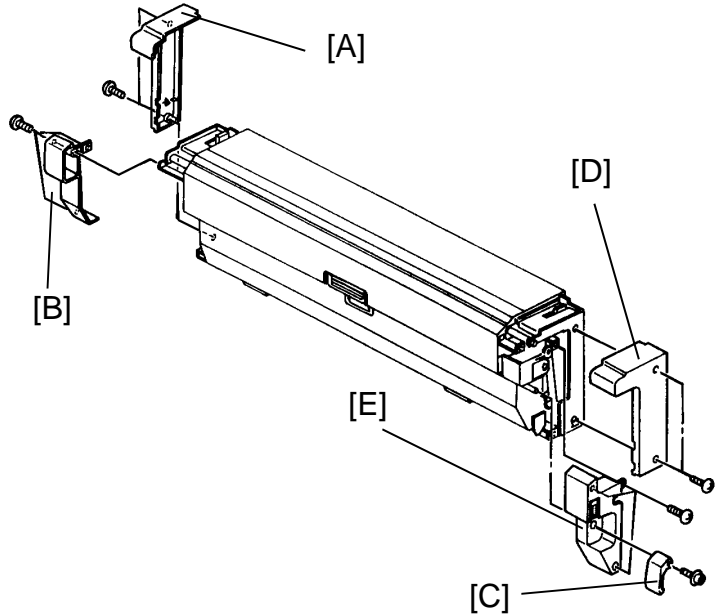


Roll Feeder & Connector

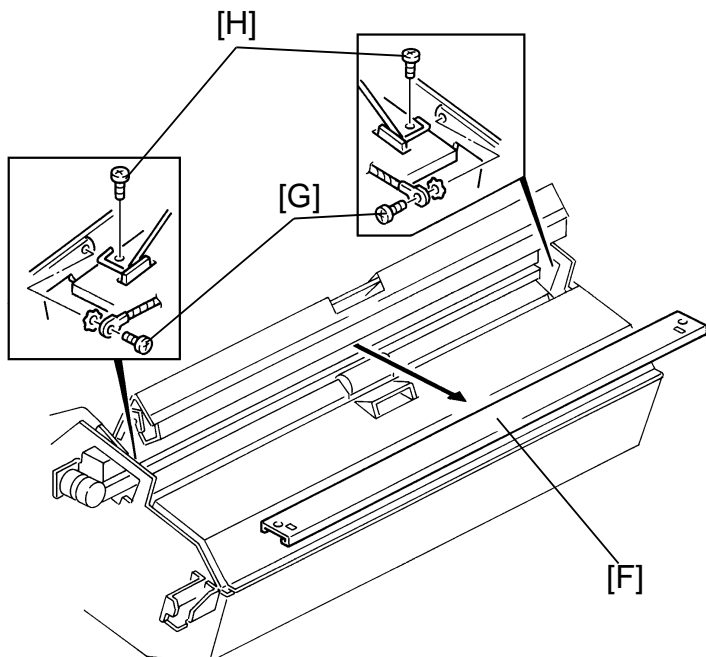
7. REPLACEMENT AND ADJUSTMENT

7.1 CUTTER UNIT REMOVAL

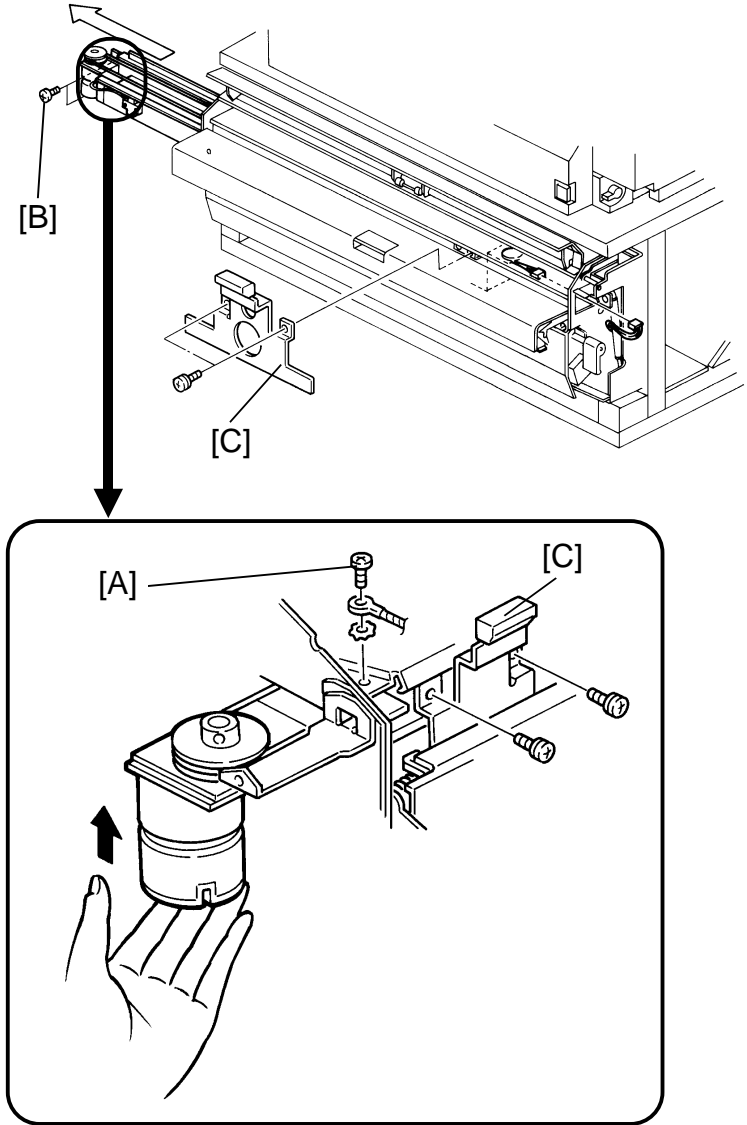
1. Remove the left covers [A,B] (5 screws), the release knob [C] (1 screw), and the right covers [D,E] (5 screws).



2. Remove the cutter front cover [F] (2 screws [G] with washer and 2 screws [H]).

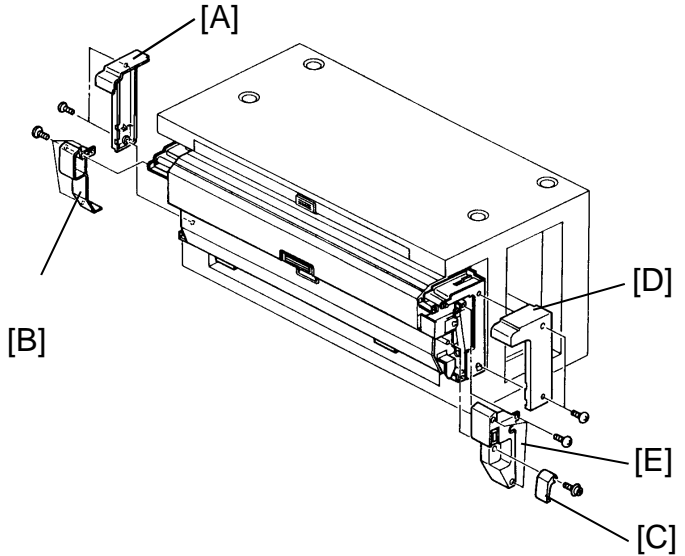


3. Remove the 2 screws [A] (1 at each end) of the upper cutter cover.
4. Remove the 4 screws [B] (2 at each end) that secure the cutter unit.
5. While lifting up the cutter unit, remove the knob plate [C] (2 screws).
6. Slide out the cutter unit in the white arrow's direction (2 connectors).

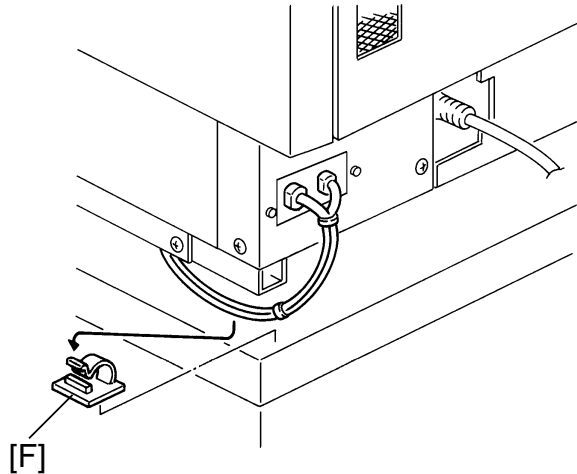


7.2 ROLL FEEDER UNIT REMOVAL

1. Remove the left covers [A, B] (5 screws), the release knob [C] (1 screw), and the right covers [D, E] (5 screws).

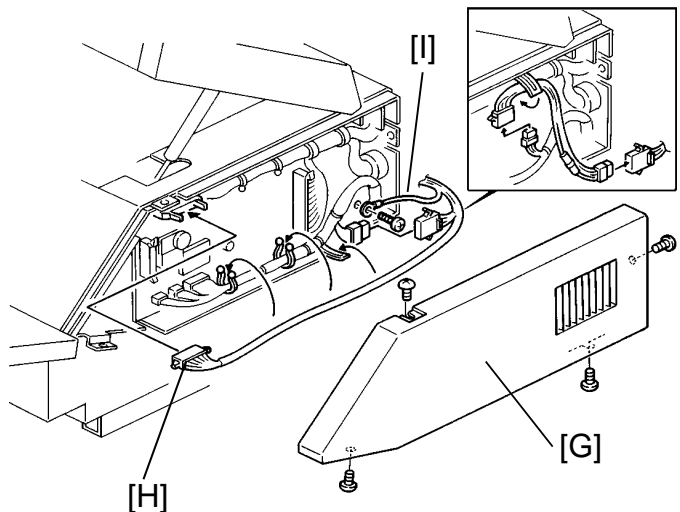


2. Remove the roll feeder harness from the clamp [F].

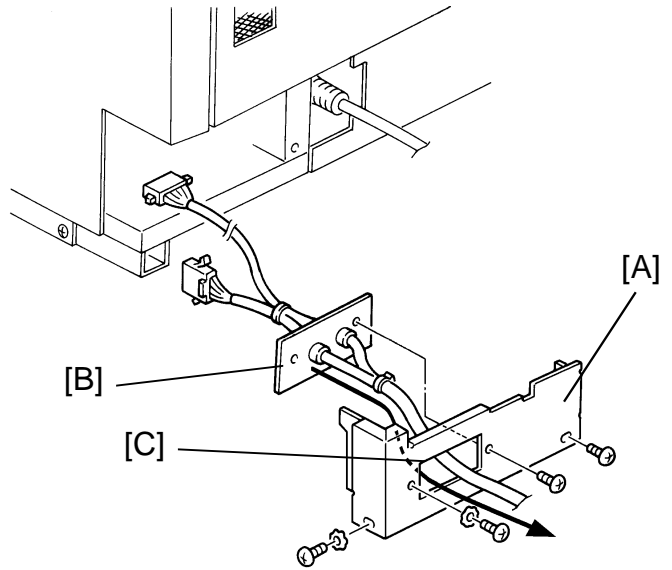


3. Open the original feed unit and remove the right middle cover [G] (4 screws).

4. Remove the roll feeder harness [H] from the copier main board (2 connectors, 1 screw, and grounding wire [I]).

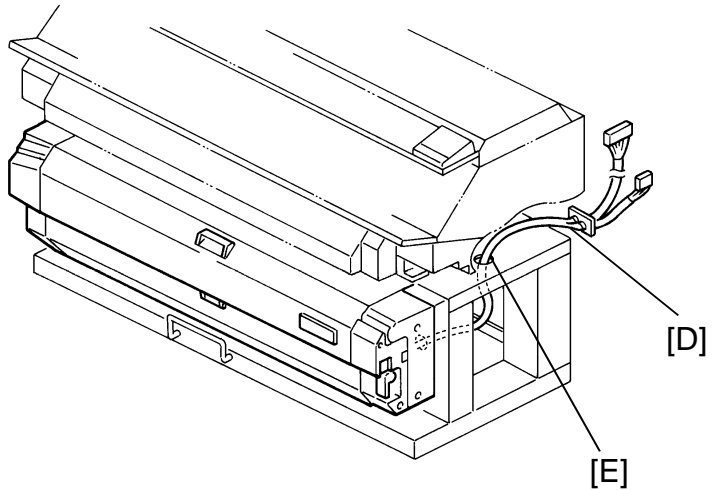


5. Remove the lower unit right rear cover [A] and harness plate [B] from the cover (2 screws and 1 washer each).

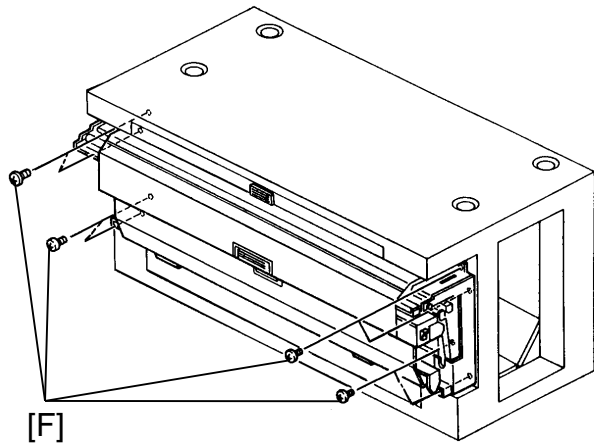


6. Pass the roll feeder harness through the cutout [C] of the lower unit right rear cover.

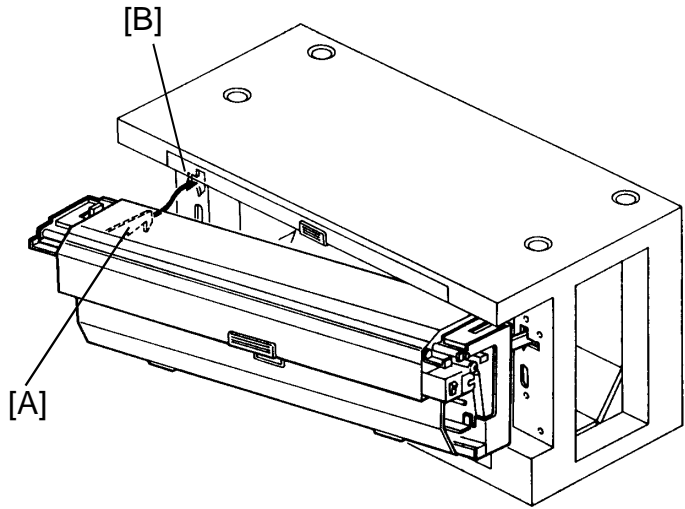
7. Pass the roll feeder harness [D] through the table hole [E].



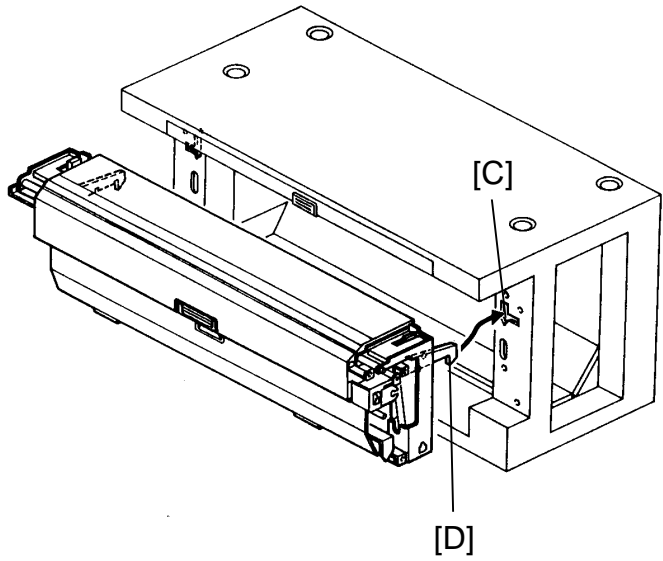
8. Remove 8 screws [F] of the roll feeder.



- 9. Unhook the left mounting arm [A] in the left mounting slot [B].

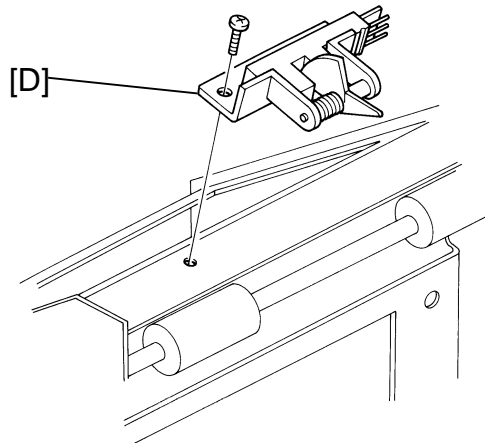
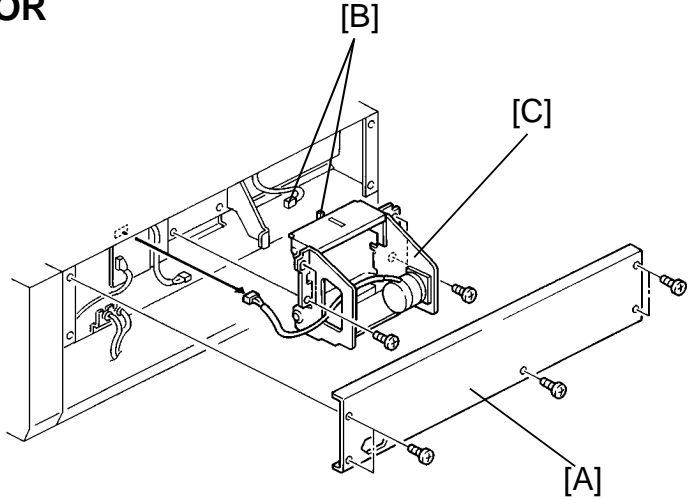


- 10. Unhook the right mounting arm [C] in the right mounting slot [D].

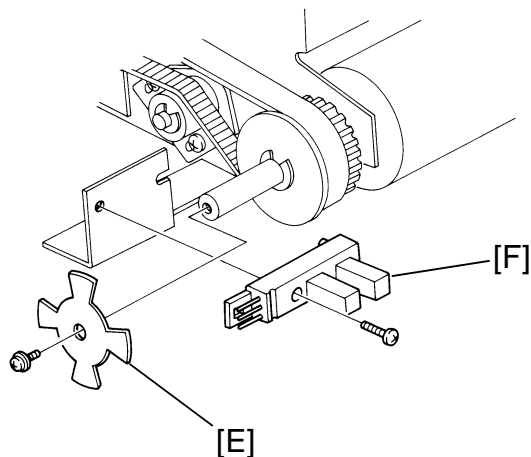


7.3 REPLACEMENT OF THE LEADING EDGE SENSOR AND PULSE GENERATOR

1. Remove the roll feeder unit from the table.
2. Remove the rear cover [A] (5 screws).
3. Disconnect the connectors [B] of the leading edge sensor and the pulse generator.
4. Remove the paper feed motor unit [C] (4 screws and 1 connector).
5. Remove the leading edge sensor [D] from the paper feed motor unit.



6. Remove the pulse generator disc [E] and the pulse generator photointerruptor [F].



7.4 CUT LENGTH ADJUSTMENT

The cut length adjustment should be done when the roll feeder is installed to correct cut errors. The cut error correction data is determined in the factory without the copier installed. The cut length varies depending on the copier on which it is installed. If required, adjust the cut length as follows:

Note: The cut length should be measured 10 minutes or later after copying because the fusing unit dries the paper and reduces its length temporarily.

7.4.1 Preset Cut : Adjustment standards: ± 3 mm (shorter than 420 mm) ± 5 mm (420 to 1189 mm)

1. Make 5 copy samples of A0 lengthwise (1189) and A3 sideway (297) in the preset cut mode.
2. Measure the difference of the length between the each copy sample and preset cut length (1189 and 297). Then, calculate the average difference.
3. Input the average value data by SP mode #80 to 85 so that the cut length is within the adjustment standards.

Example: Current SP data #80....1, #81....1, #82....4 (+1.1)
Copy sample length $-297 = -4$.
Set SP mode #80....1, #81....4, #82....4 (+4.1)

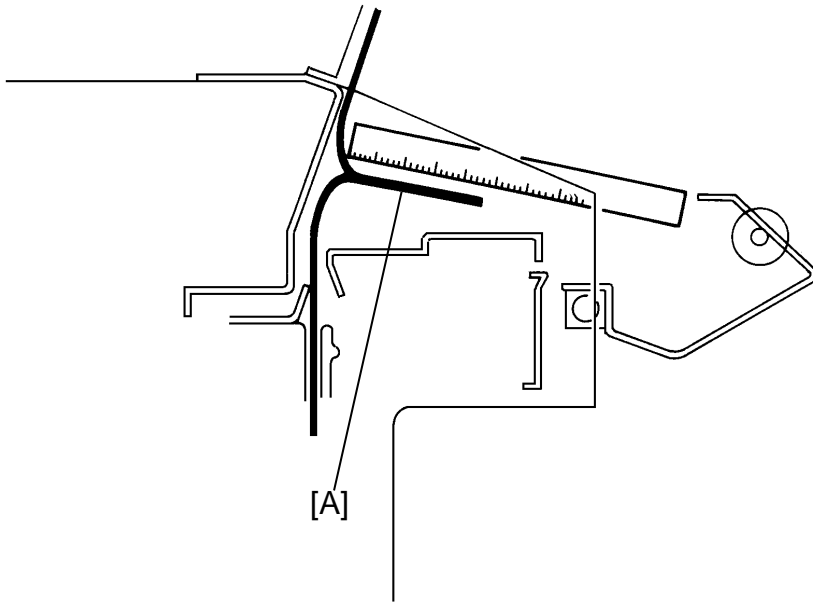
4. Make A0 lengthwise and A3 sideway copies by preset cut mode and check their length.
5. Repeat steps 1 to 5 if necessary.

7.4.2 Synchro Cut: Adjustment standard

Shorter than 420 mm	± 4.5 mm
~ 594 mm	± 5 mm
~ 841 mm	± 6.5 mm
~ 1189 mm	± 8.5 mm
~ 2500 mm	± 18 mm
~ 3600 mm	± 25.5 mm

1. Make 5 copy samples of A0 lengthwise and A3 sideways in the synchro cut mode.
2. Measure the difference of the length between each copy sample and original length. Then, calculate the average difference.
3. Input the average value data by SP mode #90 to 95 so that the cut length is within the adjustment standard.
4. Make copies in synchro cut mode and check their length.
5. Repeat steps 1 to 5 if necessary.

7.5 PAPER BUCKLE ADJUSTMENT



Excessive paper buckle may cause the 1st copy to be longer than the 2nd and following copies making repeat copies in the synchro cut mode. Insufficient paper buckle may cause the 1st copy to be cut diagonally.

Adjustment standard: Paper buckle length: 80 mm

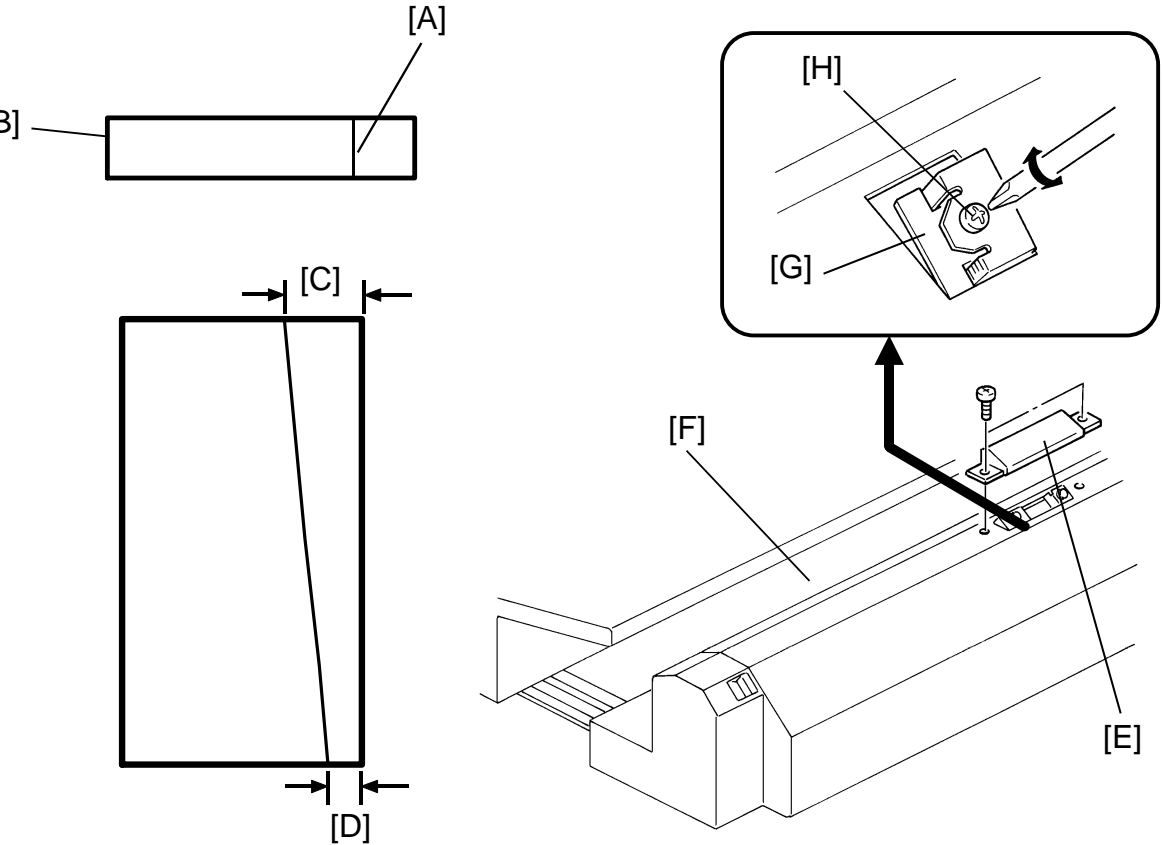
1. Turn off the copier main switch after the buckle forms between the roll feeder and sheet feeder (or roll feeder connector) in the synchro cut mode.
2. Fold the paper buckle [A] in two and measure it as shown.
3. Double the measured length and add 4 mm to it. This is paper buckle length.

Example: The measured length is 40 mm. $40 \times 2 + 4 = 84$ The paper buckle length is 84mm.

4. Input the correction data by SP mode #86 so that the paper buckle length is 80 mm.

Example: If the paper buckle length is 84 mm, input 5 (-4 mm) by the SP mode.

7.6 ROLL FEED PAPER SKEW ADJUSTMENT



Adjustment standard: Within 1 mm / 1189 mm

1. Mark the line [A] on the exposure glass [B].

2. Make 594 x 1189 mm copies from the roll feeder unit.

Note: 594 wide paper is easier to be adjusted than 841 wide paper.

3. Measure the length [C] and [D].

4. Remove the adjustment screw cover [E] on the sheet feeder front cover [F] (or roll feeder connector front cover).

5. If $C > D$, lower the right side pressure plate [G] by turning the adjusting screw [H] counterclockwise. Then, raise the left side plate by the same scale of the right side pressure plate lowered. If $C < D$, do the opposite.

6. Check the length [C] and [D].

7. Repeat steps 1 to 6 if necessary.

Note: If the 10 or more copies are made continuously, the nip band width of the fusing unit may change. For correct adjustment, do this procedure 10 minutes after a 10 continuous copy.