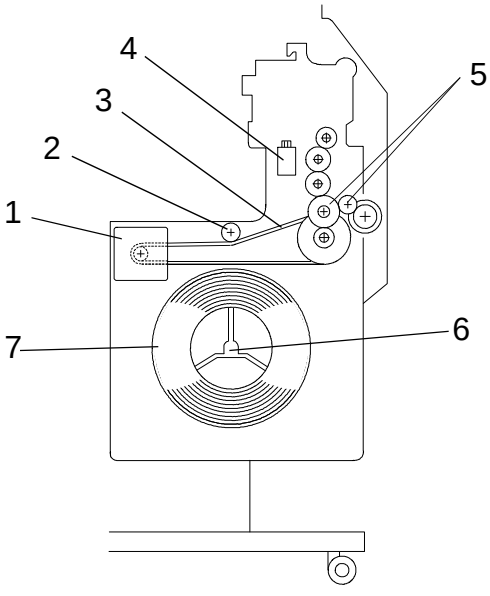
ROLL FEEDER

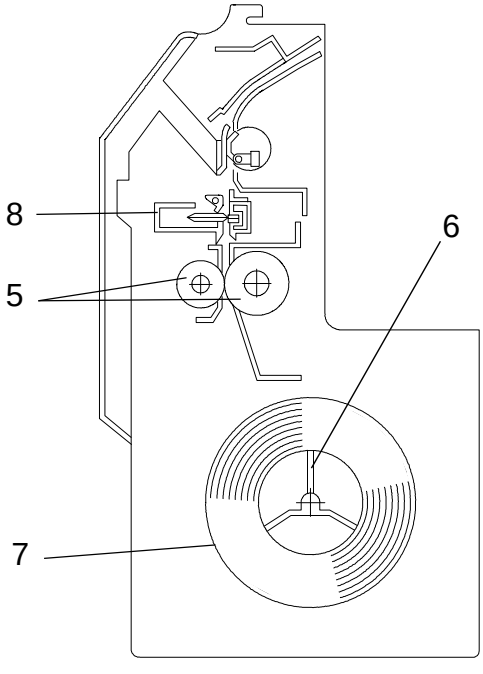
(Machine Code: A571)

1. SPECIFICATIONS

Roll Paper Size:	Width:	210 mm to 914 mm, 8 1/2" to 36"
	Length:	150 meters
	Diameter:	Less than ϕ170 mm
Cut Size:	–Preset Cut:	1189 mm, 841 mm, 594 mm, 420 mm, 297 mm 48", 36", 24", 18", 12" 46", 34", 22", 17", 11" Up to 10 extra preset cut length can be specified by SP23 ~ 32.
	–Selected Length Cut:	245 mm to 2000 mm (1 mm per step) 9.6" to 80" (0.1" per step)
Cutting Time:	Within 0.80 second	
Paper Transport Velocity:	50 mm/s	
Repeat Quantity:	1 to 99	
Control:	Microprocessor	
Power Source:	+24 volts and +5 volts from the copier	
Power Consumption:	Maximum 110 W	
Dimensions (W x D x H):	1,080 mm x 475 mm x 295 mm 42.71" x 18.70" x 11.61"	
Weight:	29 kg, 63.8 lb	

2. MECHANICAL COMPONENT AND DRIVE LAYOUT





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

3. ELECTRICAL COMPONENT DESCRIPTIONS

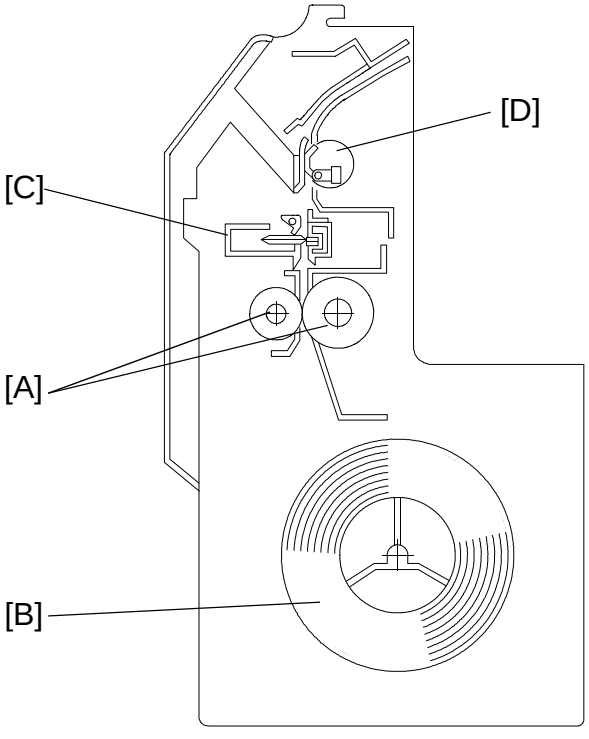
The index numbers refer to the electrical component layout on the reverse side of the Point to Point (Water proof paper).

Name	Function	Index No.
Motors		
Paper Feed	Drives all mechanical components except the cutter unit (DC Stepper Motor).	43
Cutter	Drives the cutter (DC Reversible Motor).	39
Switches		
Door	Indicates "Door Open" on the operation panel and disables the key operation.	38
Left Cutter	Detects whether or not the cutter is at the left home position.	40
Right Cutter	Detects whether or not the cutter is at the right home position.	33
Sensors		
Paper End	Detects when the roll paper runs out.	35
Leading Edge	Misfeed detector. Also detects the leading edge of the paper to start the paper length pulse count.	42
Humidity	Detects humidity and turns on the RF antihumidity heaters while copying is not being done (if the humidity is lower than 45%).	34
Printed Circuit Board		
RF Control	Controls all roll cutter unit functions in accordance with copier CPU.	37
Others		
Upper RF Antihumidity Heater	Removes humidity from the roll paper	41
Lower RF Antihumidity Heater	Removes humidity from the roll paper	36

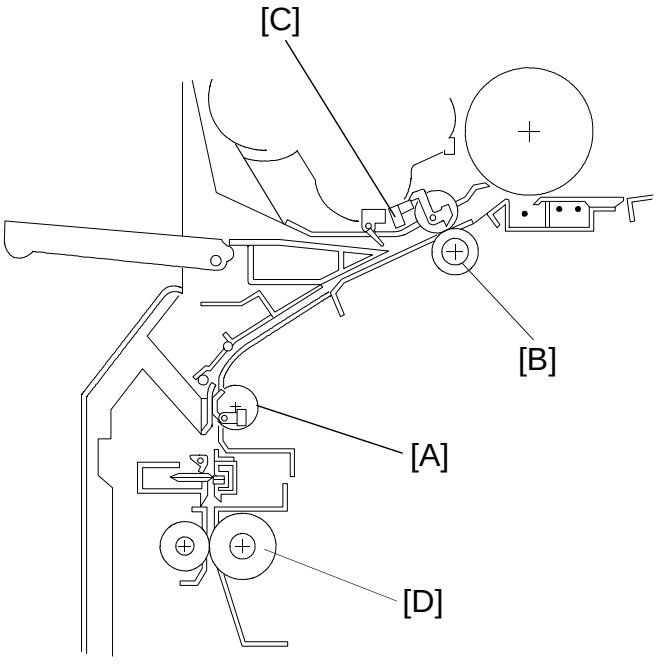


4. MECHANICAL OPERATION

4.1 BASIC OPERATION

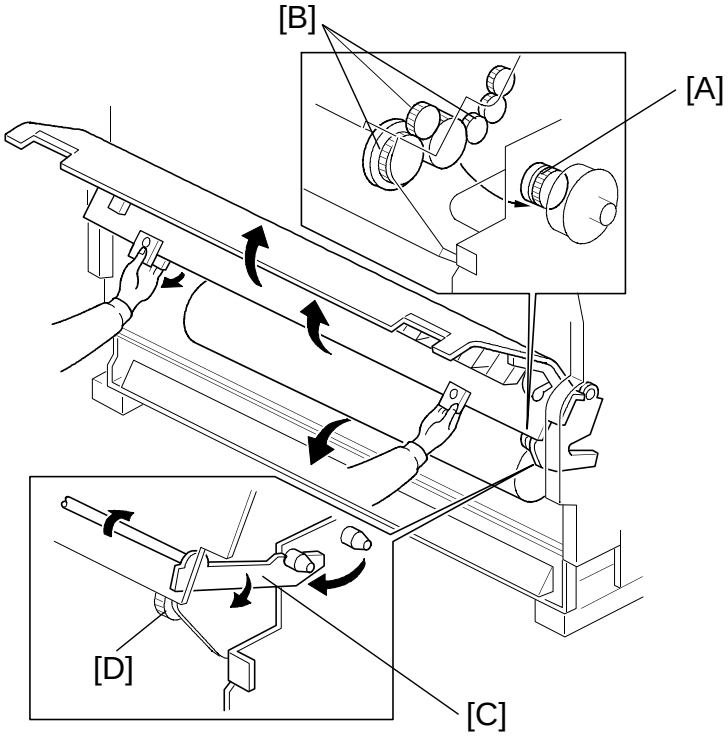


The paper feed rollers [A], which are turned by the paper feed motor, feed paper from the paper roll [B] through the cutter unit [C] to the paper leading edge sensor [D] according to the signal from the copier. When the paper feed motor starts, the copier CPU starts measuring the length of the paper. (The paper length is measured by counting the number of steps as the paper feed motor [stepper motor] turns.)



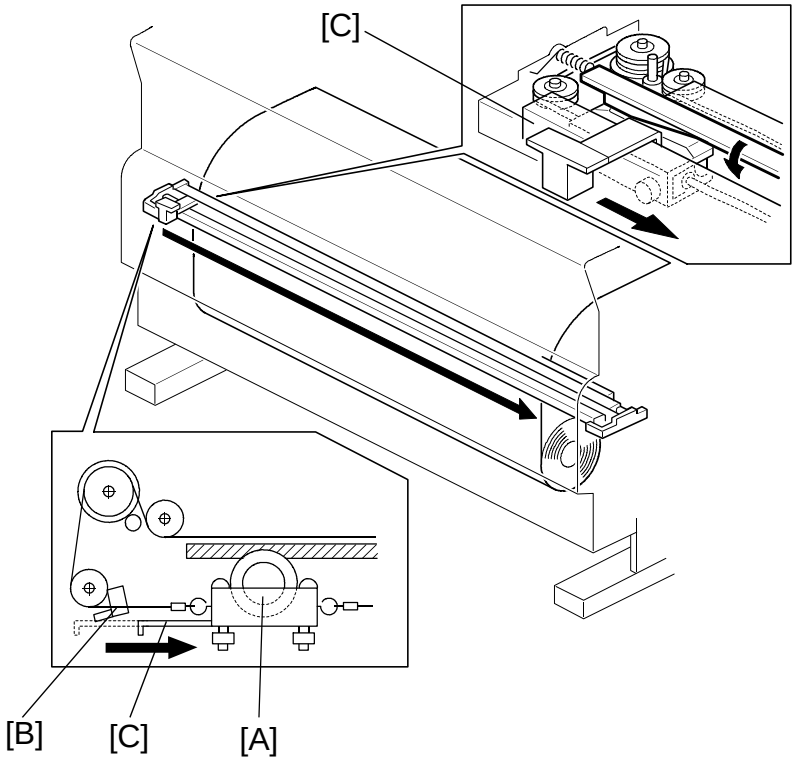
After the leading edge of the paper reaches the exit rollers [A], the paper is directed to the copier registration roller [B]. The registration roller stops rotating after the registration sensor [C] detects the leading edge of the copy paper. The copy paper is fed to the registration roller and stops to wait for the original. At the appropriate timing after the original registration sensor is activated by the original, the registration roller and roll paper feed motor start to rotate. The copy paper starts to be fed again. Just before the cut length of copy paper is fed, the speed of the roll paper feed motor is doubled. A paper buckle forms at the trailing edge of the copy paper. When the paper reaches the proper length, paper feed motor stops and the cutter unit cuts the paper. During the time that paper feed motor has stopped, the registration roller continues to feed the copy paper forward. The paper is cut during the time it takes for the paper buckle to be pulled straight. This allows for a neat cut. When the selected cut length is between 245 mm and 309 mm, the roll cutter unit cuts the paper after the first rotation of the roll paper feed roller [D], as the paper reaches the selected length before the registration roller starts to rotate again. After the registration roller stops rotating, the roll paper feed motor continues to rotate and a paper buckle forms at the trailing edge of the paper. When the selected cut length is between 309 mm and 410 mm, the roll cutter unit cuts the paper after the second rotation of the roll paper feed roller. The paper buckle forms after the first rotation of the roll paper feed motor, because the paper feed roller is still rotating after the registration roller has stopped. The registration roller brake ensures that the very stiff types of paper will not rotate the registration rollers when the paper buckles while it is stopped at these rollers.

4.2 CUTTER UNIT OPENING AND CLOSING MECHANISM



The gear [A] from the paper feed motor disengages from the cutter unit gears [B] when the roll cutter unit is unlocked from the lower position and lifted up. At this time, the cutter unit is locked at the upper position by the lock lever [C], and the wheel [D] on the right side can be rotated manually to position the leading edge of the roll paper.

4.3 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 switches [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 off one of these switches.

5. SERVICE TABLES

5.1 TEST POINTS

Function	TP No.
GND	TP903
V_A (24 V)	TP901
V_C (5 V)	TP902

5.2 BLOWN FUSE CONDITION

Component	Unit	Symptom
F901 (250V/1.0A)	RF Main board	The AC line for the R/F antihumidity heaters is cut. The heaters are not turned on.

6. INSTALLATION PROCEDURE

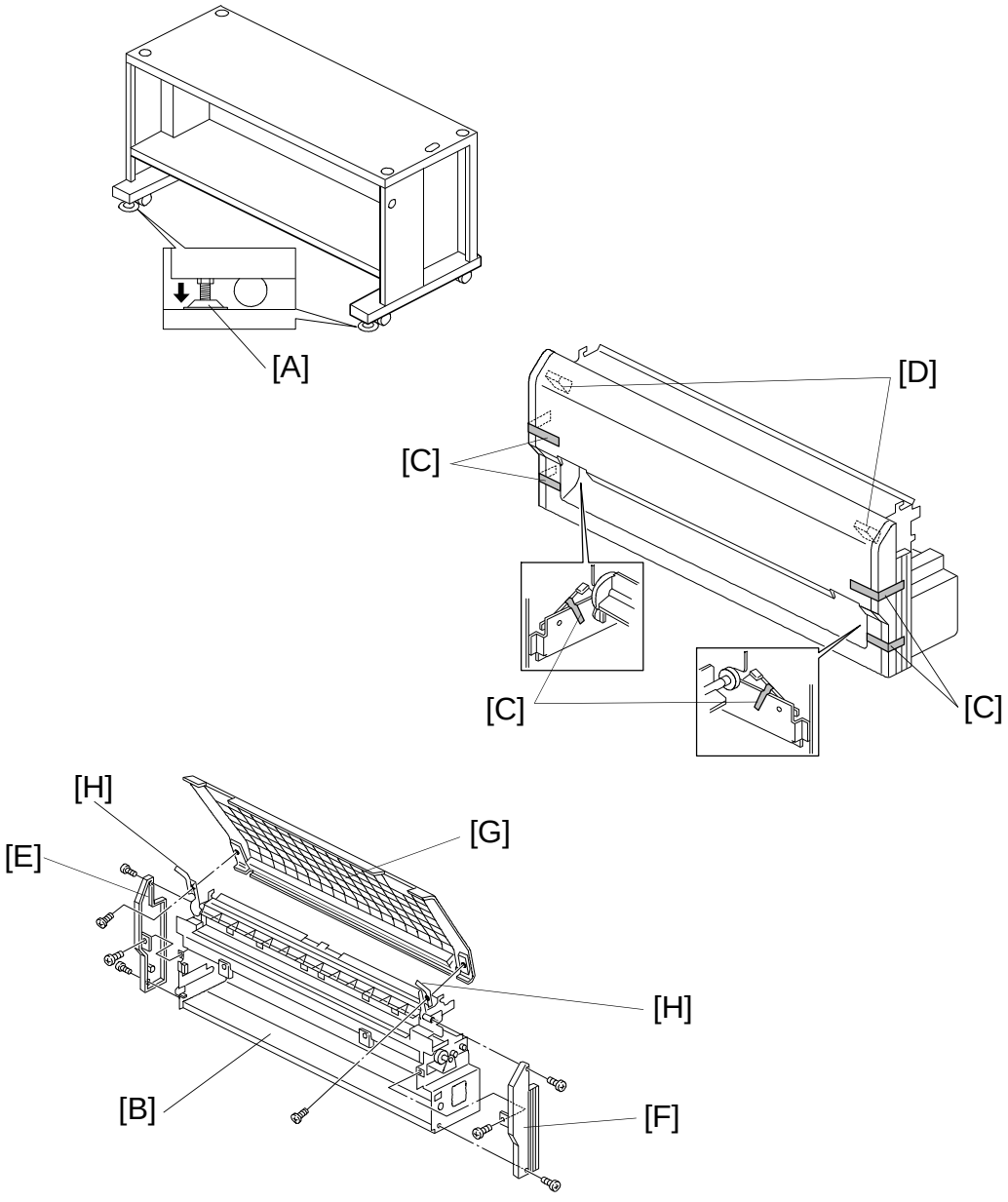
Roll Feeder (A571)

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

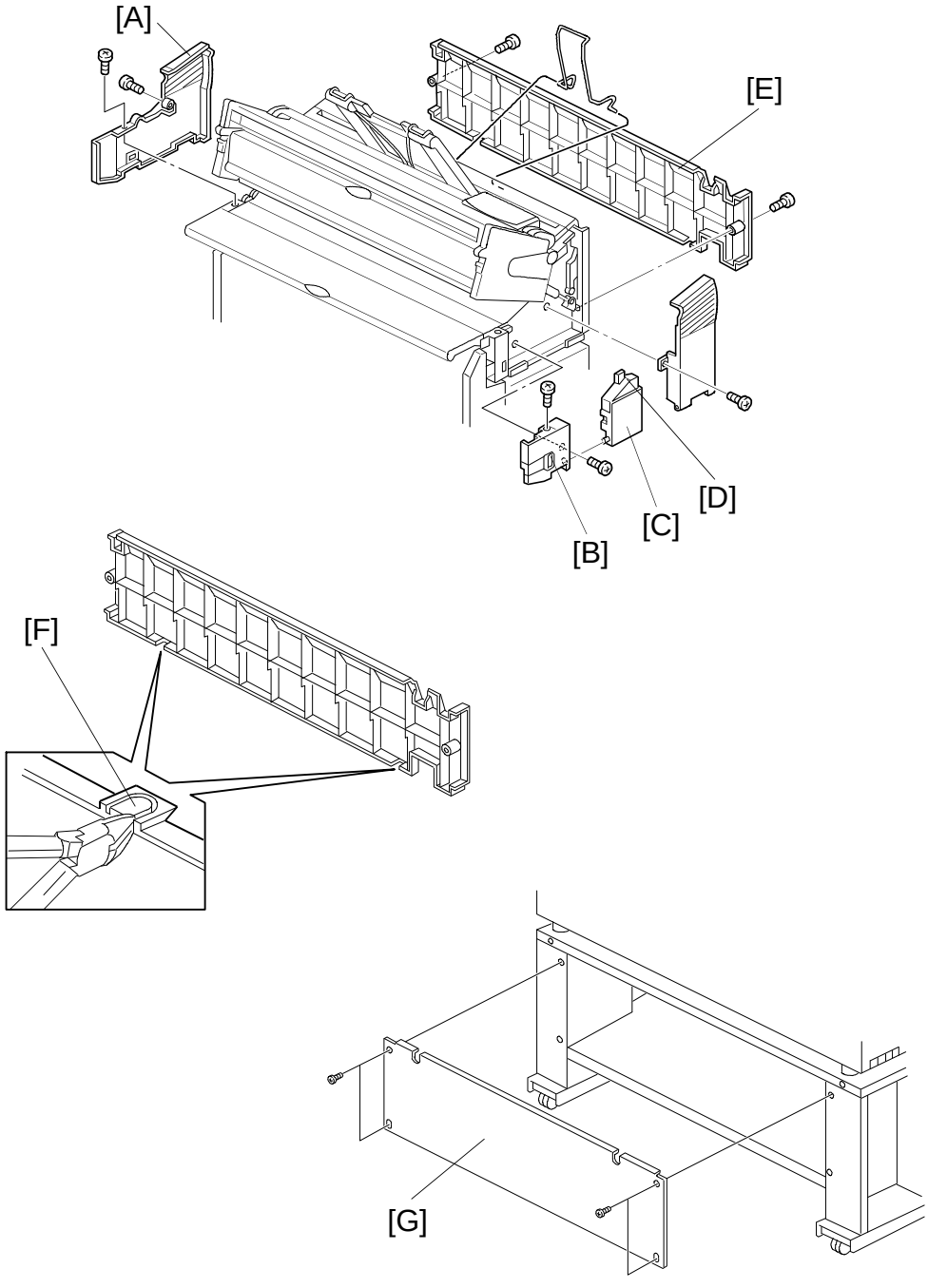
Check the accessories and their quantities according to the following list:

- Harness Cover .....2 pcs
- Angle Bracket .....1 pc
- Spacer .....1 pc
- Small Cap .....1 pc
- Screws - M4x8 .....8 pcs
- Screws with Spring Washer - M4x8.....2 pcs

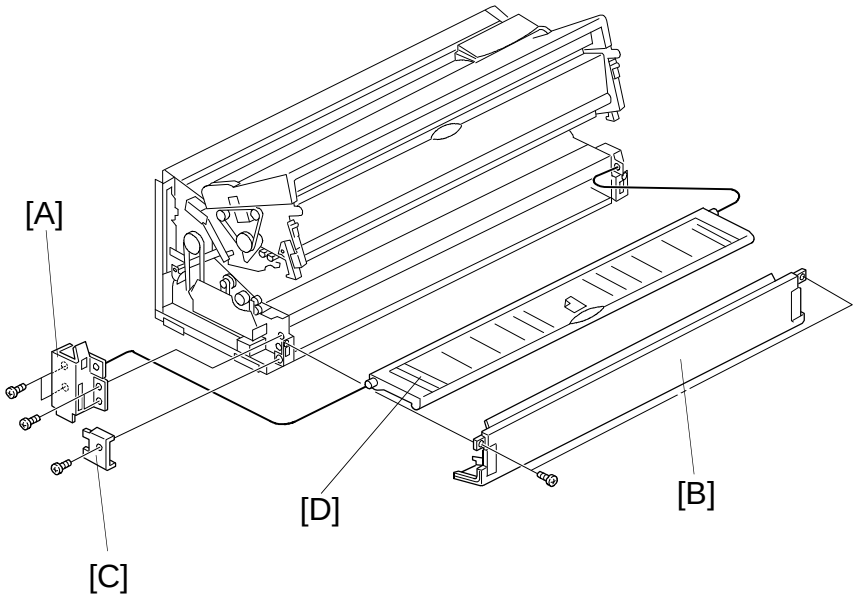
NOTE: When the Roll Feeder is installed on the copier, the table (A714) is required.



1. Lower the feet [A] so that the table does not move while the roll feeder is being installed on the table and the copier.
   NOTE: Do not place the roll feeder unit [B] onto the floor roughly, to prevent the left and right covers from being damaged.
2. Remove the shipping tapes [C] and shipping cushions [D].
3. Remove the left and right covers [E and F] (3 screws each).
4. Remove the front cover [G] (2 screws) and lower the front cover arms [H] to the down position.

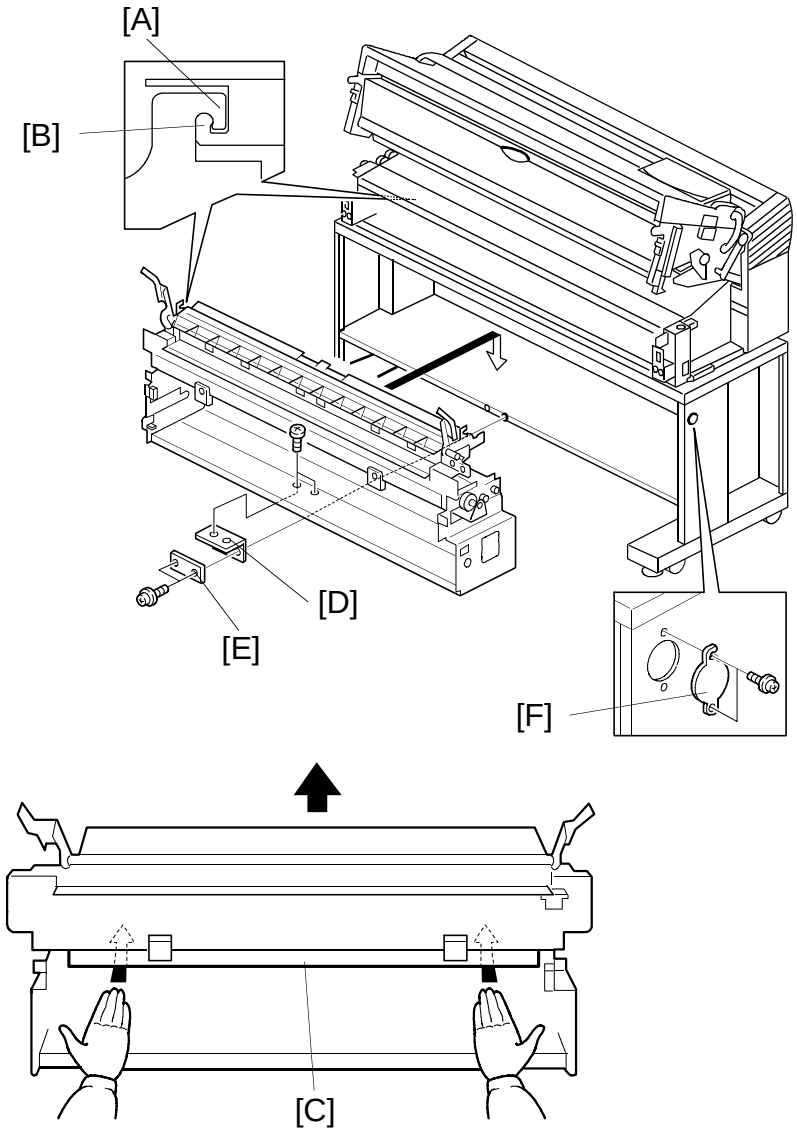


5. Open the copier paper path section and remove the copier left lower cover [A] (2 screws), lower right front cover [B] (2 screws), lower right middle cover [C], toner collection bottle [D], and rear cover [E] (2 screws).
6. Remove the small caps [F] from the copier rear cover using cutting pliers.
7. Remove the table rear cover [G] (4 screws).

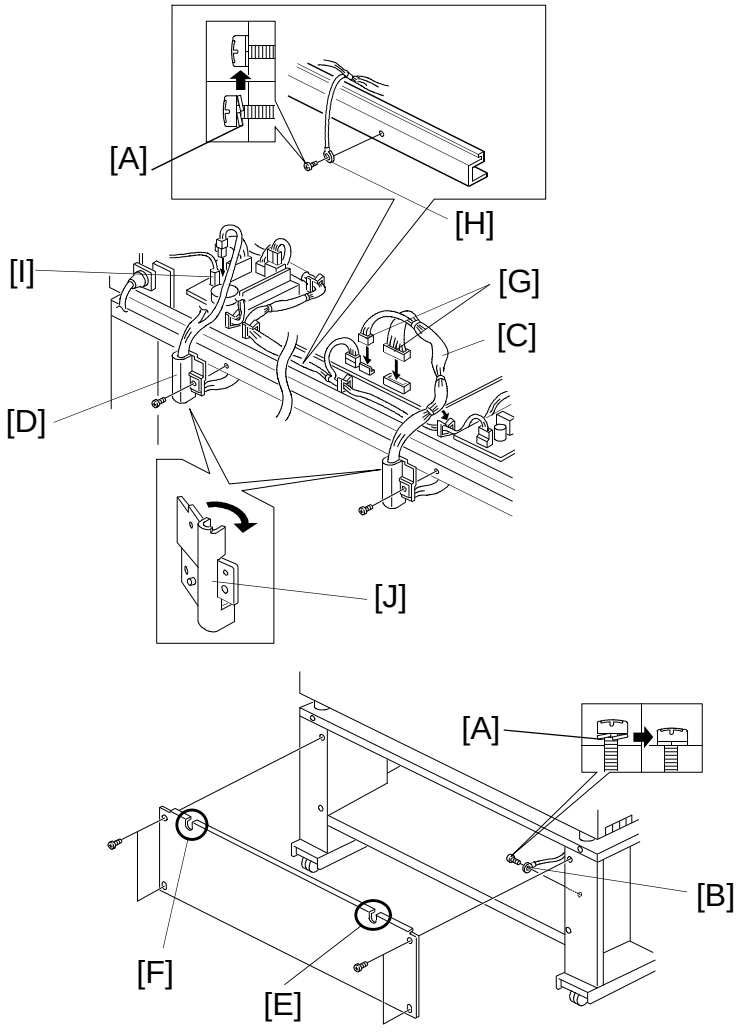


NOTE: Take care not to drop the manual feed table when removing the bracket [A].

8. Remove the lower front cover [B] (2 screws), reinforcement plate [C] (1 screw), bracket [A] (4 screws) (which is changed by the harness), and the manual feed table [D].

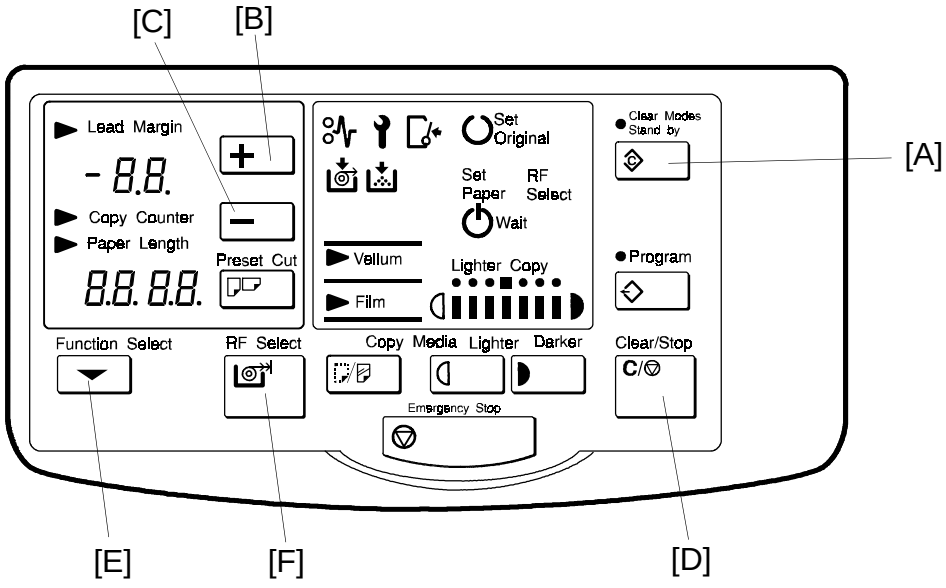


9. Mount the roll feeder unit on the copier (hook the mounting arms [A] on both sides into the mounting rail [B]).
   NOTE: Lift the unit by holding the plate [C] just under the size marks.
10. Install the angle bracket [D] and spacer [E] (4 screws).
11. Install the small cap [F] (2 screws).



NOTE: To ensure grounding, tighten the screws for the ground wire until the spring washers [A] are flattened.

12. Secure the grounding wire [B] (1 screw with spring washer) to the inside of the table.
13. Run the roll feeder harness [C] and roll feeder heater harness [D] through the holes in the table rear cover (right [E] and left [F])
14. Connect the roll feeder harness to the copier main board {2 connectors [G] and 1 grounding wire [H] (1 screw with spring washer)}.
15. Connect the roll feeder heater harness connector [I] to the copier ac drive board connector.
16. Install the harness covers [J] (1 screw each).
17. Reattach all the covers and manual feed table excluding the roll feeder right cover.



Length / Temperature	300	PRG. No.	1100	PRG. No.
NORMAL	XX	42	XX	45
HIGH (VELLUM)	XX	43	XX	46
LOW (FILM)	XX	44	XX	47

18. Plug in the power supply cord and turn on the main switch.

19. Press the following keys on the operation panel:
    Clear Modes key [A]
    + key [B]
    - key [C]
    Clear/Stop key [D]

20. Press the Clear/Stop key again and hold it down for longer than 3 seconds. The roll paper end and call service indicators will blink (SP mode).

21. Select 40 using the + and - keys. Enter "1" by pressing the following keys.
    Function Select key [E]
    + key
    RF Select key [F].

22. Input values into SP modes 42 to 47 in accordance with the decal that is attached to stuck on the right side plate.

23. Press the Clear Modes key 3 times to leave the SP mode.

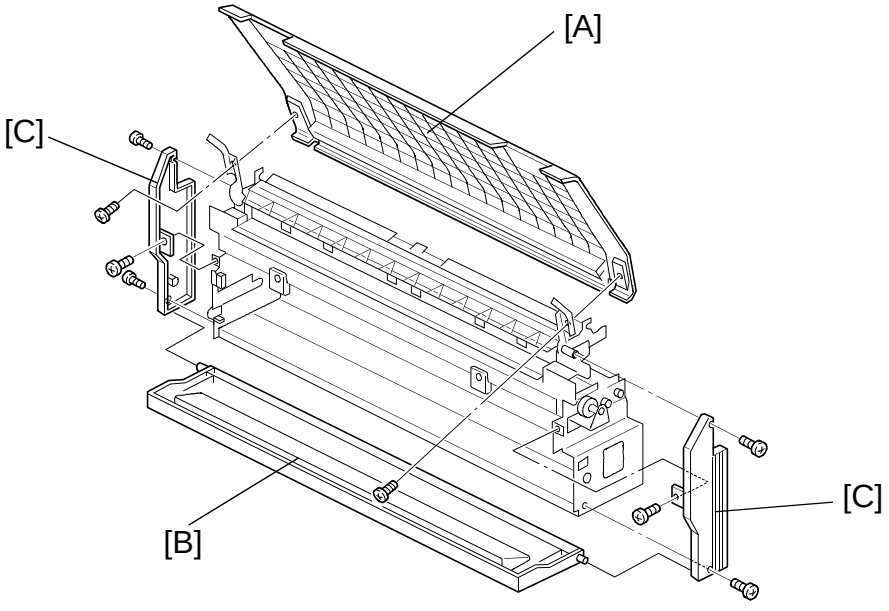
24. Reattach the roll feeder right cover.

25. Check the roll feeder operation.

7. REPLACEMENT AND ADJUSTMENT

7.1 EXTERIOR COVER REMOVAL

7.1.1 Front Cover Removal



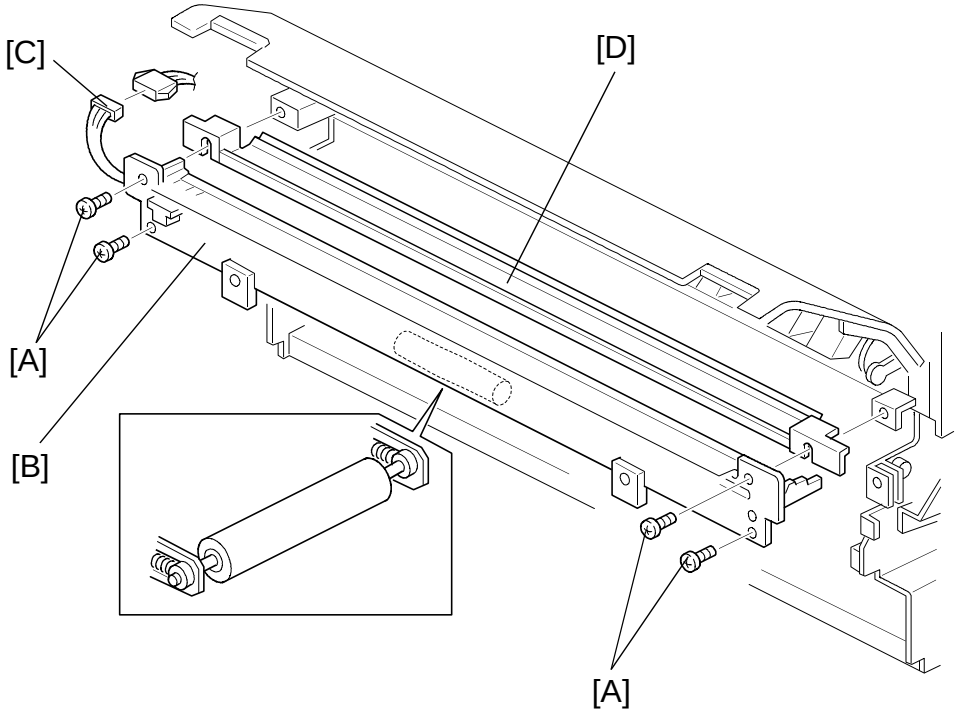
1. Remove the front cover [A] (2 screws).
   NOTE: If the screw holes for the front cover become worn by the screws, extra holes are provided next to the original screw holes.

7.1.2 Left and Right Cover

NOTE: Be careful not to drop and damage the lower front cover [B].

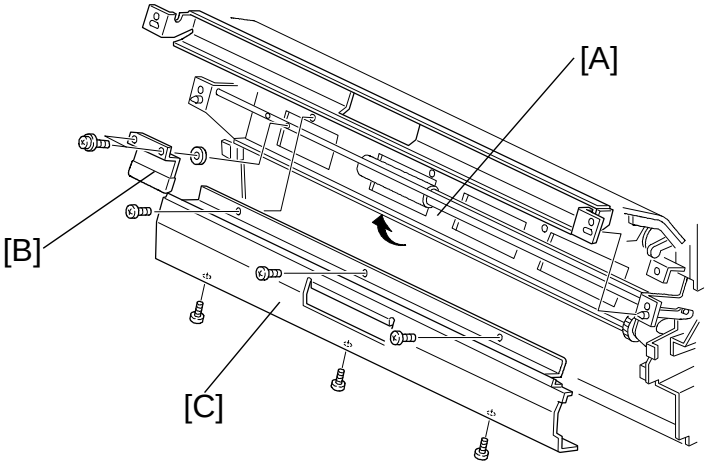
1. Remove the left and right covers [C and D] (3 screws each).
   NOTE: When reattaching the left and/or right covers, unlock and lift the cutter unit for easier assembly.

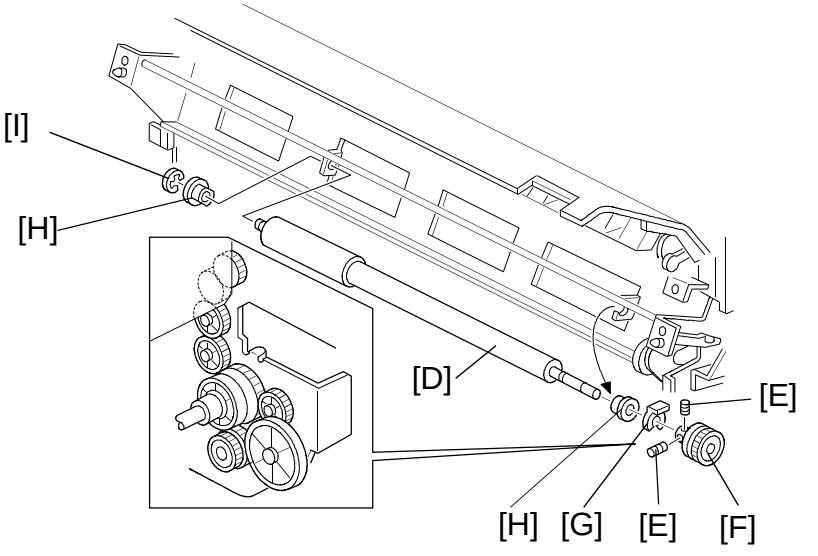
7.2 CUTTER UNIT REMOVAL



1. Remove the roll feeder left and right covers.
2. Remove the 4 screws [A] of the cutter unit.
3. Take out the cutter unit [B] (1 connector [C]).
   NOTE: When reinstalling the cutter unit, attach the cutter unit cover [D] with the cutter unit.

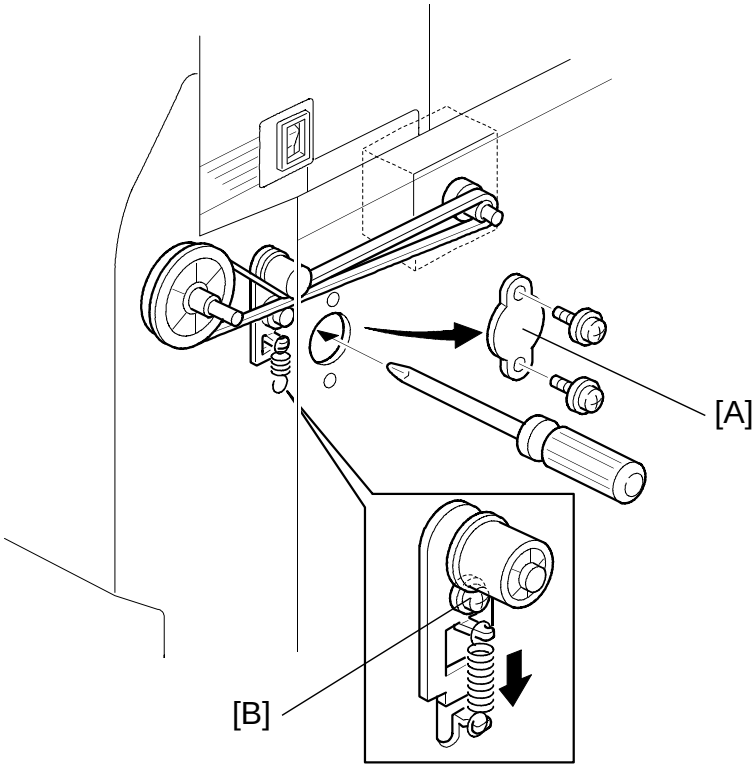
7.3 PAPER FEED ROLLER REPLACEMENT





1. Remove the cutter unit.
2. Unlock and lift the paper feed roller unit [A] using the release lever [B].
3. Remove the release lock lever [B] (2 screws).
4. Remove the feed roller guide plate [C] (6 screws).
5. Replace the paper feed roller [D] (2 allen screws [E], 1 gear [F], 1 snap ring [G], 2 bushings [H], and 1 retaining ring [I]).

7.4 PAPER FEED MOTOR TIMING BELT TENSION ADJUSTMENT



If the timing belt tension for the paper feed motor is not correct, the paper cut length varies for each copy paper. Readjust the timing belt tension for the paper feed if this occurs.

1. Remove the small cap [A] (2 screws).
2. Loosen the screw [B] and re-tighten it.

7.5 CUT LENGTH ADJUSTMENT

The cut length adjustment should be done when the roll feeder is installed to correct cutting 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 and/or paper type used. If required, adjust the cut length as follows:

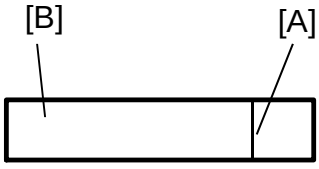
NOTE: The cut length should be measured 10 minutes or later after copying because the fusing unit dries the paper and reduces its length temporarily.

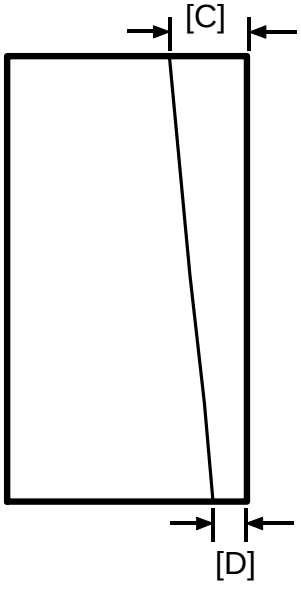
7.5.1 Preset Cut : Adjustment standards: ± 3 mm (for length shorter than 420 mm) ± 5 mm (for 420 to 1189 mm)

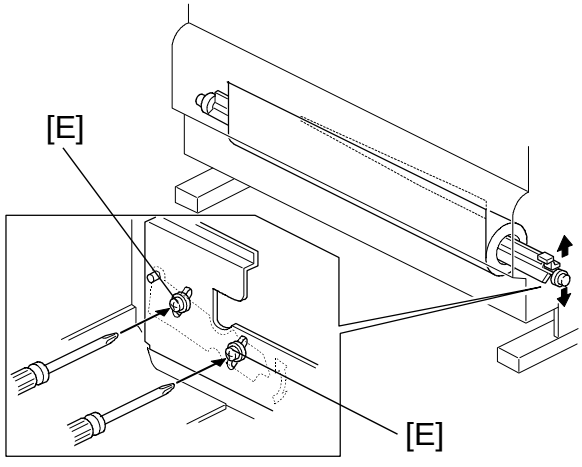
NOTE: There are three settings of the cut length depending on the temperature mode. They are set in the factory to match a standard paper type. [Normal (SP#42, 45), High (SP#43, 46), Low (SP#44, 47)].

1. Make 5 copy samples of A0 lengthwise (1189) and A3 sideways (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 using SP modes #42 to 47 so that the cut length is within the adjustment standards.
   Example:
   1. Current SP data #42....0
      Copy sample length = 297 – 4
      Set SP mode #42...4.0
   2. Current SP data #42....0
      Copy sample length = 297 – 4
      Set SP mode #42...+ 4.0
4. Make A0 lengthwise and A3 sideways copies using preset cut mode and check their length.
5. Repeat steps 2 to 4 if necessary.

7.6 ROLL FEED PAPER SKEW ADJUSTMENT







1. Mark a line [A] on the exposure glass [B].
2. Make 594 x 1189 mm copies from the roll feeder unit.
   NOTE: 594 mm wide paper is easier to adjust than 841 mm wide paper.
3. Measure the lengths [C] and [D].
4. Loosen the 2 screws [E] which determine the paper spool height.
5. If C > D, lower the right side of the paper spool. If C < D, do the opposite.
6. Make another copy. Check the lengths [C] and [D].
7. Repeat steps 4 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 at least 10 minutes after a continuous copy run of 10 or more.