LCIT RT3000/RT3020
Machine Code: D353/D631

Field Service Manual

September, 2011
Subject to change

Safety and Symbols

Replacement Procedure Safety

⚠CAUTION

- Turn off the main power switch and unplug the machine before beginning any of the replacement procedures in this manual.

Symbols Used in this Manual

This manual uses the following symbols.

☛: See or Refer to

: Screws

: Connector

: Clip ring

: E-ring

: Clamp

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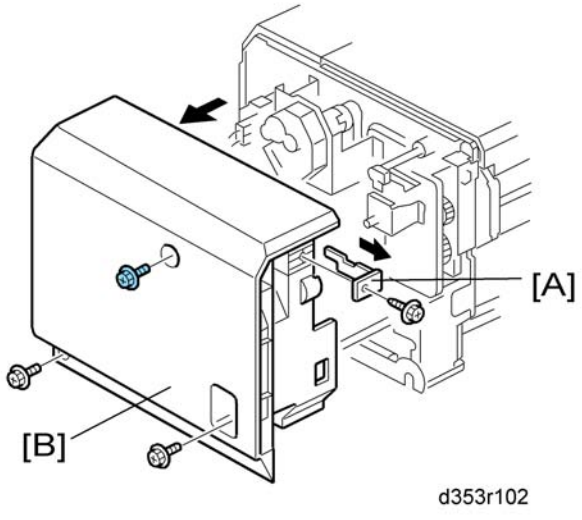
1. Replacement and Adjustment

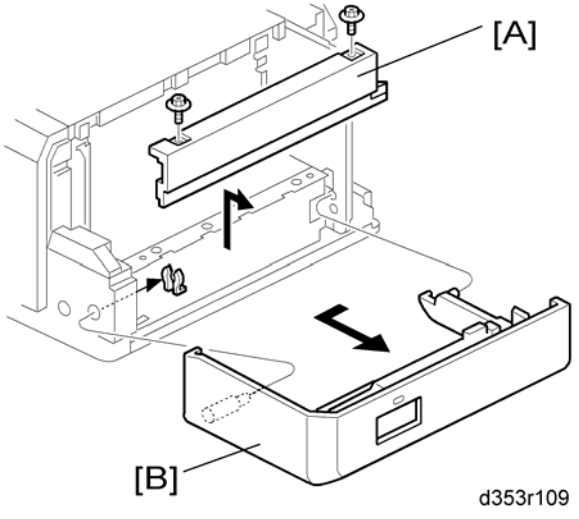
Covers

Rear Cover



1. Cover [A] (☞ x 1)
2. Rear cover [B] (☞ x 3)

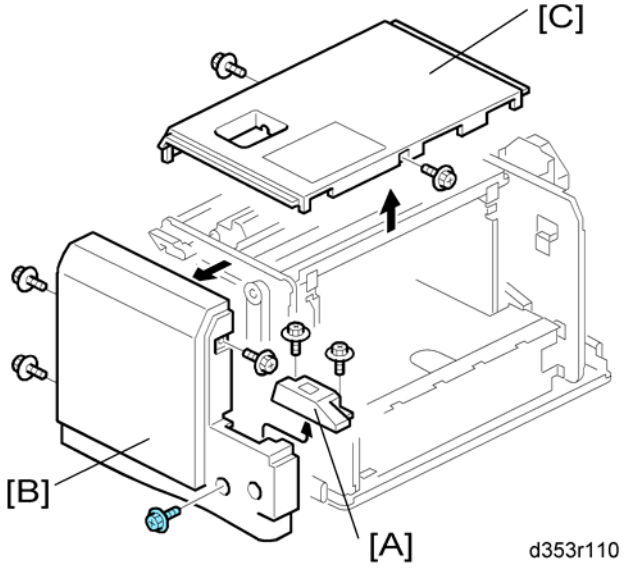
Right Door



1. Right lower cover [A] (x 2)
2. Right door [B] (x 1)

Front and Top Covers

1. Right door (p.3 "Rear Cover")



2. Switch cover [A] (x 2)

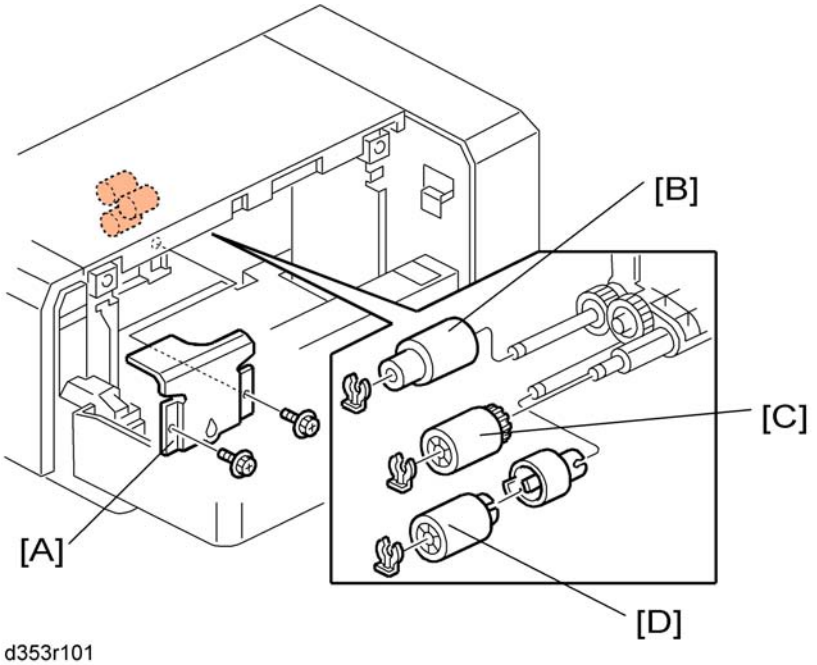
3. Front cover [B] (x 4)
4. Top cover [C] (x 2)

Paper Feed

1

Pick-up, Paper Feed and Separation Rollers

1. Open the right door.



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2. Sensor bracket [A] (x 2)
3. Rollers [B], [C], [D] (x 1 each)

   [B]: Paper feed roller

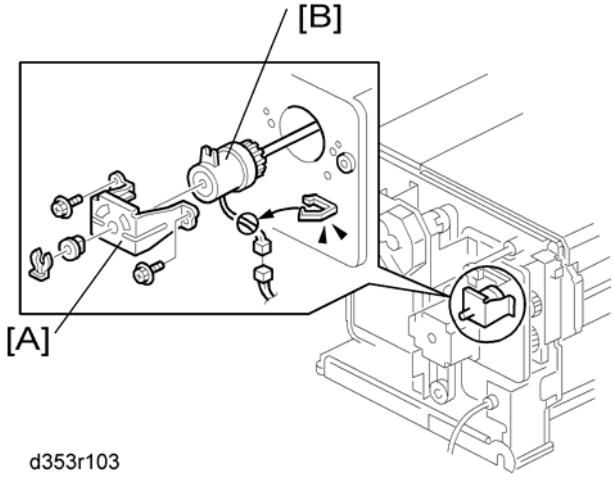
   [C]: Pick-up roller

   [D]: Separation roller

Drive

Paper Feed Clutch

1. Rear cover (☛ p.3 "Rear Cover")



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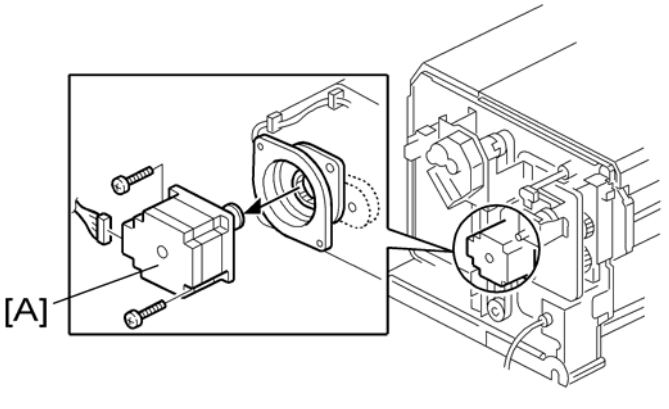
2. Bracket [A] (x 1, x 2, bushing x 1)
3. Paper feed clutch [B] (x 1, x 1)

Paper Feed Motor

1. Rear cover (☛ p.3 "Rear Cover")



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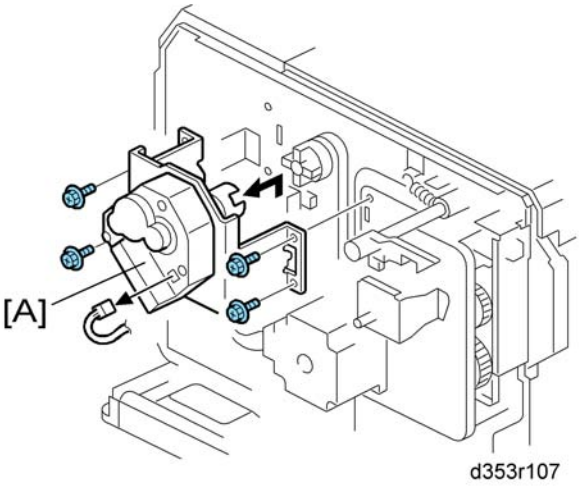
1. Paper feed motor [A] (x 2)

Tray Lift Motor

1. Rear cover (☛ p.3 "Rear Cover")

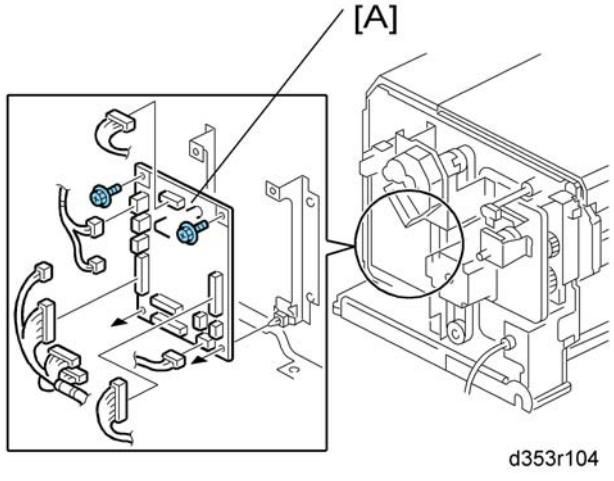


2. Tray lift motor unit [A] (x 4, x 1)

Electrical Components

Main Board

1. Rear cover (☛ p.3 "Rear Cover")

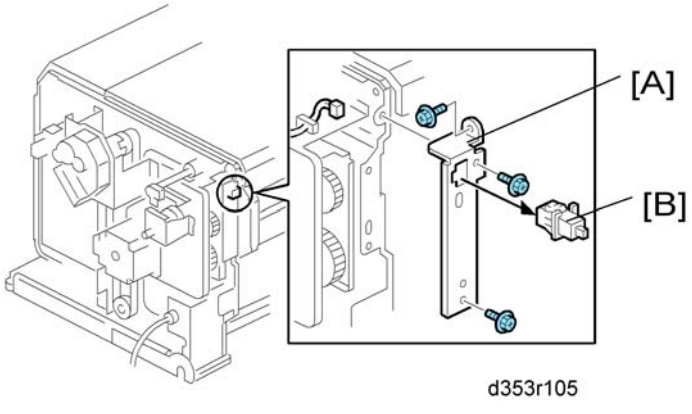


2. Main board (🔩 x 2, all 🖐's)

LCT Set Switches

Rear

1. Rear cover (☛ p.3 "Rear Cover")

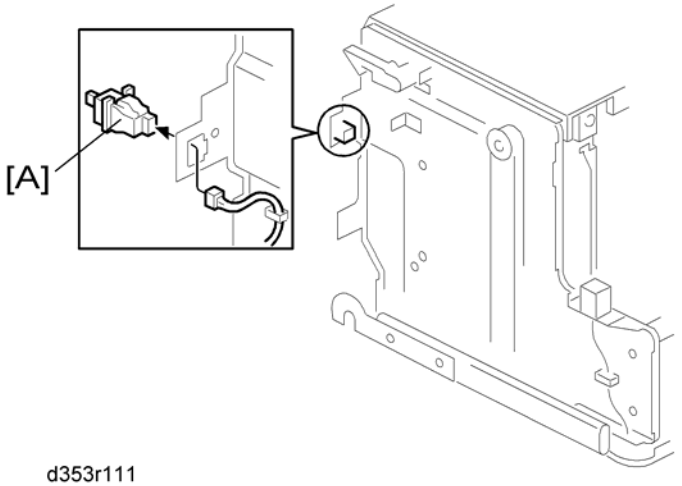


2. Switch bracket [A] (🔩 x 3)

3. Rear LCT set switch [B]

Front

1. Front cover (☛ p.4 "Front and Top Covers")



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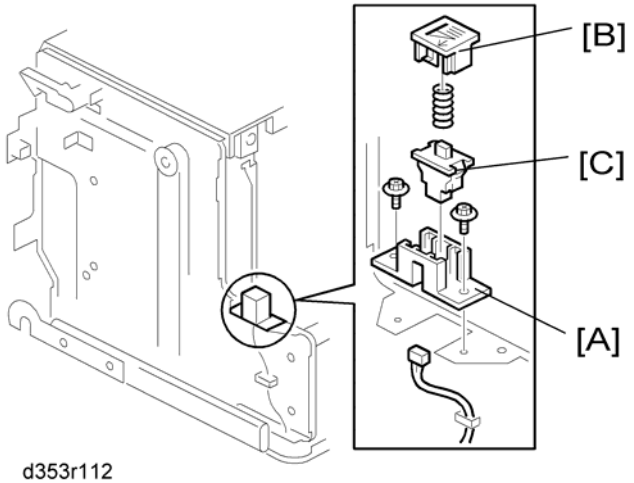
2. Front LCT set switch [A] (✋ x 1)

Down Switch

1. Front cover (☛ p.4 "Front and Top Covers")



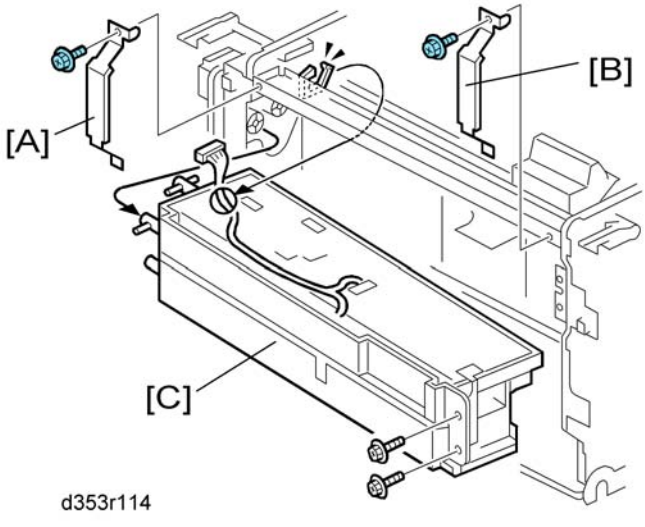
d353r112

2. Switch base [A] (🔩 x 2, ✋ x 1)
3. Down button [B] (spring x 1)

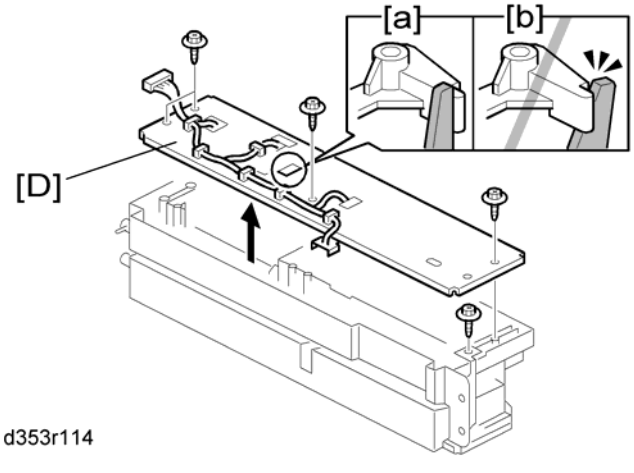
4. Down switch [C] (hook)

Paper Feed, Paper End, Tray Lift and Relay Sensors

1. Front cover (☛ p.4 "Front and Top Covers")
2. Top Cover (☛ Front and Top Covers)



3. Rear ground plate [A] (x 1)
4. Front ground plate [B] (x 1)
5. Paper feed unit [C] (x 2, x 1, x 1)

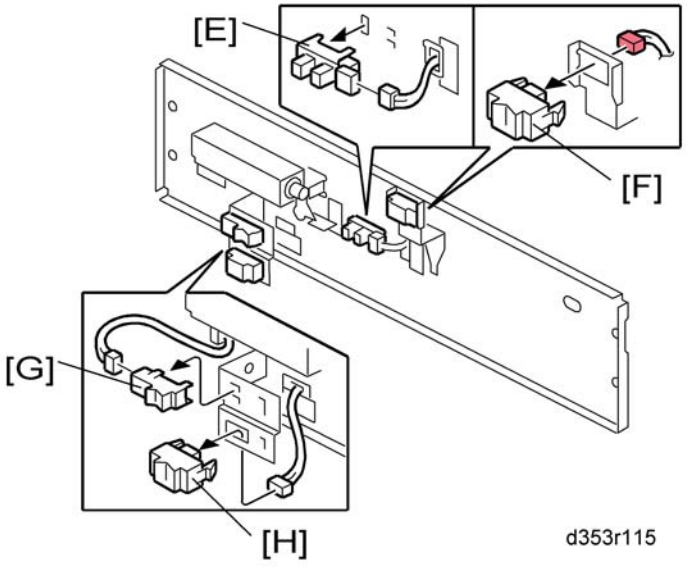


6. Paper feed unit cover [D] (x 5, x 1)

1

Note

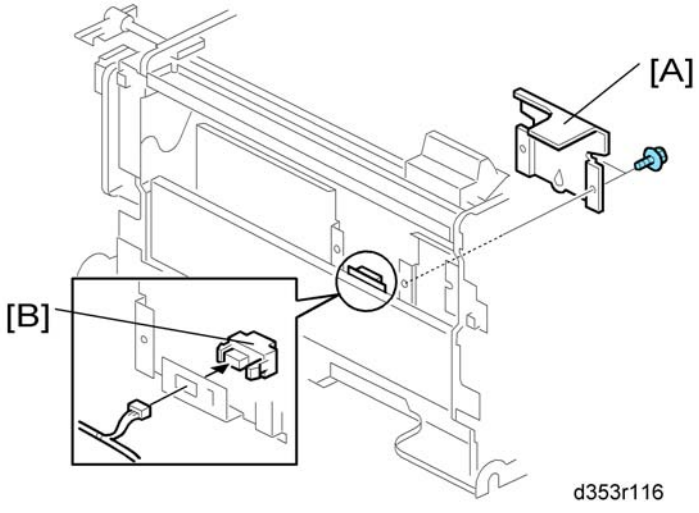
- Before you re-install the paper feed unit cover, make sure that the pick-up solenoid holds the pick-up roller lever ([a]: correct, [b]: incorrect) and the pick-up roller works properly.



7. Sensors [E], [F], [G], [H] (☞ x 1, hooks each)
   [E]: Tray lift sensor
   [F]: Relay sensor
   [G]: Paper feed sensor
   [H]: Paper end sensor

Stack Sensor

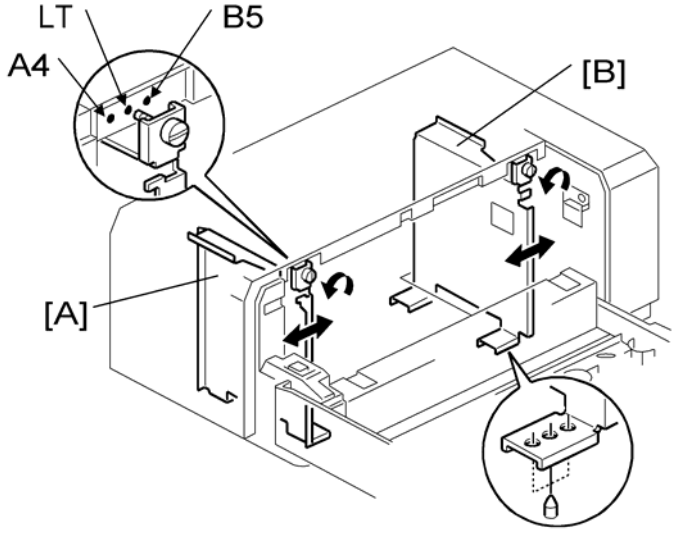
1. Open the right door
2. Paper feed unit (☛ p.11 "Paper Feed, Paper End, Tray Lift and Relay Sensors")



3. Sensor bracket [A] (x 2)
4. Stack sensor [B] (x 1)

Side Fence Position Change

1. Open the right door of the LCT.
2. Push the down switch to lower the tray bottom plate until it reaches its lowest position.



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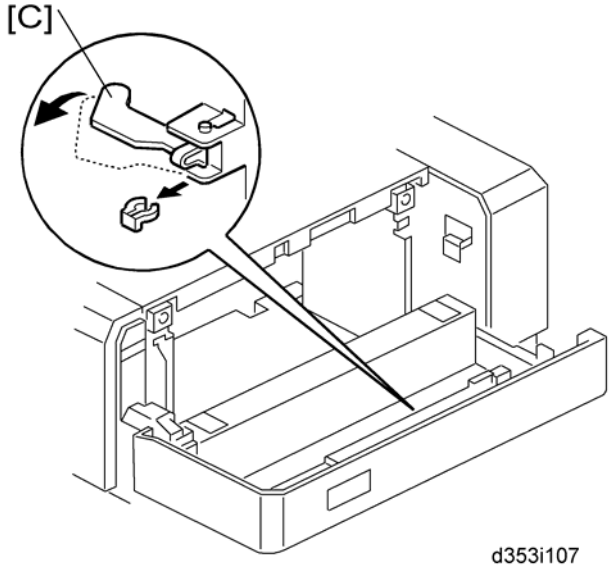
3. Remove the front and rear side fences [A, B] (x 1 each).
4. Install the side fences in the correct position (A4 LEF/ LT LEF/ B5 LEF).



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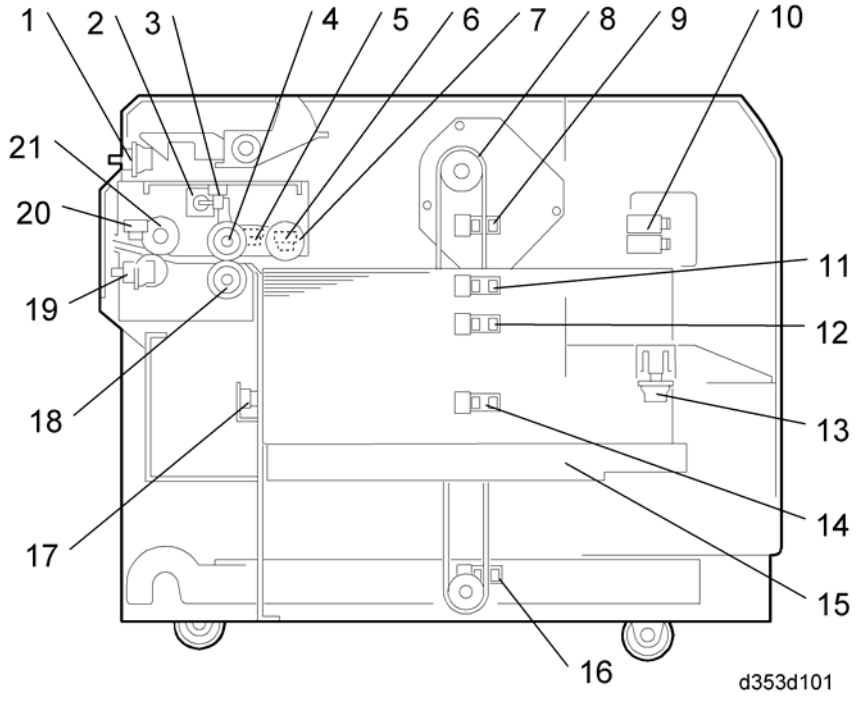
5. Pull the end fence [C] for B5 size paper as shown ( x 1) if the the side fences are adjusted for B5 size paper.
6. Close the right door.
7. Turn on the main power switch, and then go into the SP mode.
8. Input the correct paper size for the1200-sheet LCT with SP5181-017.

2. Details

Component Layout

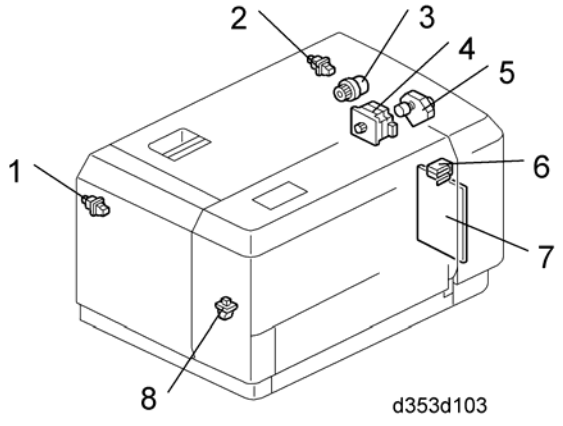
Component Layout

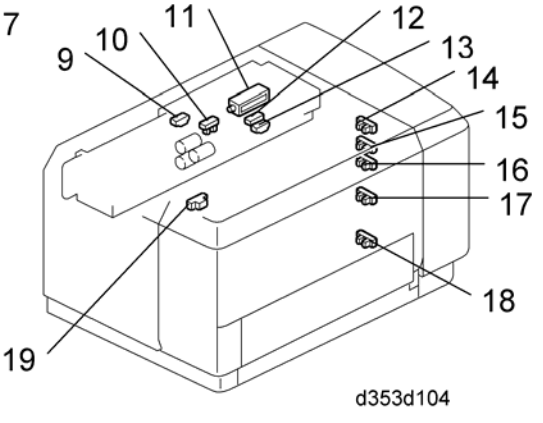


1. Rear LCT Set Switch	12. Sub Paper Height Sensor
2. Pick-up Roller Solenoid	13. Tray Down Switch
3. Tray Lift Sensor	14. Paper Height Sensor 3
4. Paper Feed Roller	15. Paper Tray
5. Paper Feed Sensor	16. Lower Limit Sensor
6. Paper End Sensor	17. Stack Sensor
7. Pick-up Roller	18. Separation Roller
8. Tray Lift Motor	19. Front LCT Set Switch
9. Paper Height Sensor 1	20. Relay Sensor 5
10. Interlock Switches	21. Relay Roller

11. Paper Height Sensor 2	

Electrical Component Layout





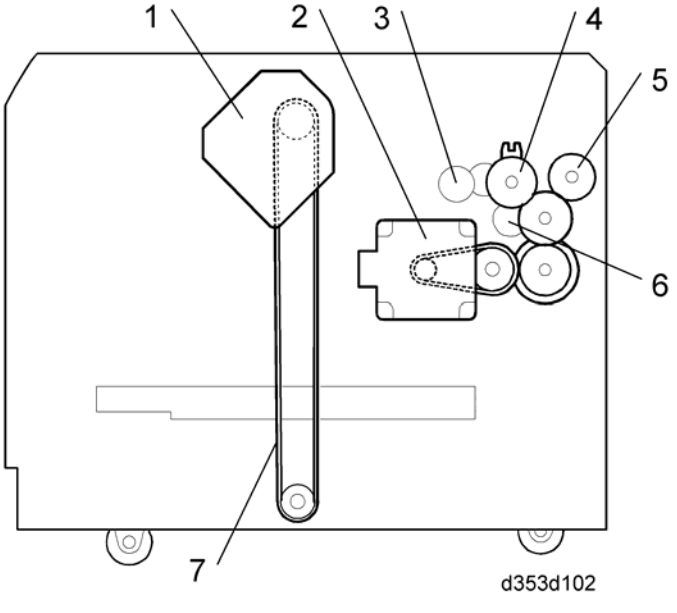
1. Front LCT Set Switch	11. Pick-up Roller Solenoid
2. Rear LCT Set Switch	12. Paper Feed Sensor
3. Paper Feed Clutch	13. Paper End Sensor
4. Paper Feed Motor	14. Paper Height Sensor 1
5. Tray Lift Motor	15. Paper Height Sensor 2
6. Interlock Switches	16. Sub Paper Height Sensor
7. Main Board	17. Paper Height Sensor 3
8. Tray Down Switch	18. Lower Limit Sensor
9. Relay Sensor	19. Stack Sensor
10. Tray Lift Sensor	

Electrical Component Descriptions

Symbol	Name	Function	Index No.
Motors			
M1	Paper Feed	Drives all rollers.	4
M2	Tray Lift	Drives the paper tray up or down.	5
Sensors			
S1	Paper Feed	Detects whether the paper is jammed at the LCT.	12
S2	Relay	Detects the copy paper coming to the relay roller and checks for misfeeds.	9
S3	Paper End	Informs the mainframe when the paper in the tray has been used up and indicates paper end.	13
S4	Tray Lift	Detects when the paper is at the correct paper feed height.	10
S5	Paper Height 1	Detects the amount of paper remaining in the tray.	14
S6	Paper Height 2		15
S7	Sub Paper Height		16
S8	Paper Height 3		17
S9	Lower Limit	Detects when the tray is completely lowered, to stop the tray lift motor.	18
S10	Stack	Detects a) when the tray has moved down to the paper supply position after paper end, to stop the tray lift motor or b) when the top of the paper stack has moved down to the paper supply position, to stop the tray lift motor after the down switch has been pressed.	19
Switches			
SW1	Right Door	Detects whether the right door is open and starts to drive the tray lift motor.	6
SW2	Front LCT Set	Detects whether the LCT is correctly set.	1

Symbol	Name	Function	Index No.
SW3	Rear LCT Set	Detects whether the LCT is correctly set.	2
SW4	Down	Lowers the tray to the paper supply position if pressed.	8
Magnetic Clutches			
MC1	Paper Feed	Drives the paper feed unit.	3
Solenoids			
SOL1	Pick-up	Pushes the pick-up roller up or down.	11
PCBs			
PCB1	Main	Controls the LCT and communicates with the copier/printer.	7

Drive Layout

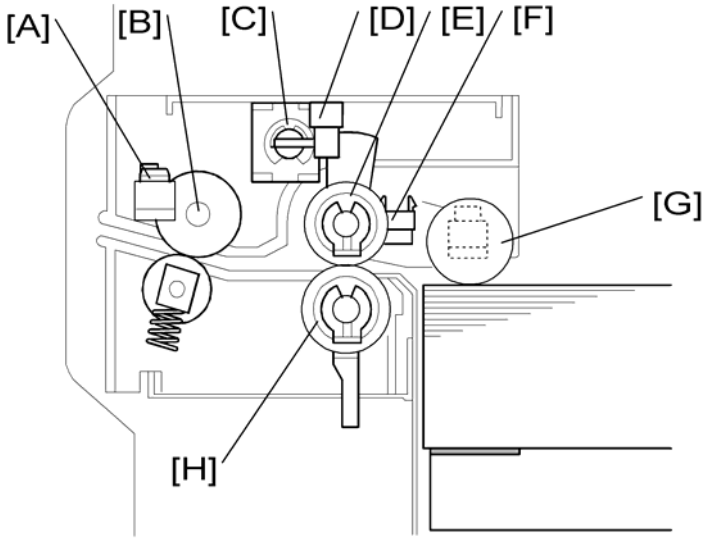


1. Tray Lift Motor	5. Relay Roller
2. Paper Feed Motor	6. Separation Roller

3. Pick-up Roller 4. Paper Feed Clutch	7. Tray Drive Belt

Paper Feed

Paper Feed Mechanism



This machine uses the FRR paper feed system (paper feed roller [E], separation roller [H], pick-up roller [G]).

When the right door is closed, the tray lift motor raises the tray to the position where the top of the paper stack in the tray interrupts the tray lift sensor [D]. The paper feed motor switches on, then the pick-up solenoid [C] switches off and the pick-up roller drops onto the top of the stack of paper. The paper feed clutch transfers drive to the paper feed roller [E], pick-up roller [G] and separation roller [H].

The rotating pick-up roller lowers and feeds the first sheet when it contacts the top of the stack.

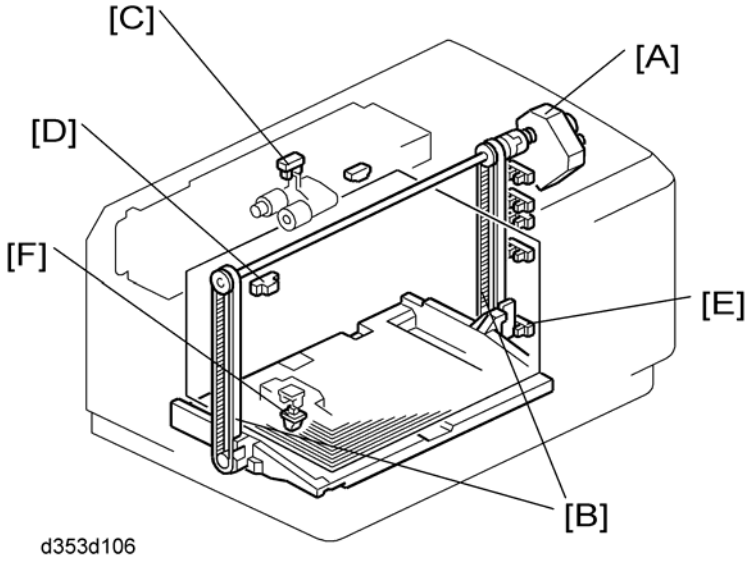
The separation roller [H], in contact with the feed roller, only allows one sheet out of the tray.

As soon as the paper feed sensor [F] detects the leading edge of the paper, it switches off the pick-up solenoid which raises the pick-up roller. The feed roller feeds the sheet to the registration roller in the main machine through the relay roller [B].

This process is repeated for each sheet.

The paper feed sensor [F] detects "JAM7" and the relay sensor [A] detects "JAM58".

Tray Lift Mechanism



The lift motor [A] controls the vertical position of the tray through the timing belts [B].

Tray lifting conditions

When the tray lift sensor [C] turns off in the following conditions, the tray lift motor raises the tray bottom plate until the tray lift sensor [C] turns on again.

- Just after the main switch is turned on
- During copying
- Just after the tray cover is closed
- Just after leaving the energy saving mode

Tray lowering conditions (Paper supply position)

In the following conditions, the tray lift motor lowers the tray until the stack sensor [D] turns on (this is the correct tray position for supplying paper).

- Just after the paper end sensor turns on
- Just after the down switch is pressed by the user

Tray lowering conditions (Full-down position)

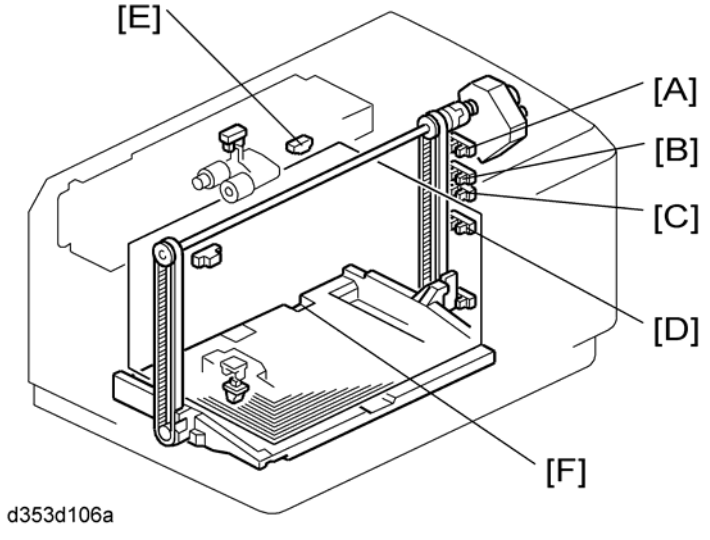
In the following condition, the tray lift motor lowers the tray until the lower limit sensor [E] turns on (this is the correct tray position for adding 500 sheets of paper after installing the first stack of paper in the LCT tray).

- Just after the down switch [F] is pressed for 3 seconds or more when the tray is at the paper supply position.

2

Paper Height and End Detection

Paper Height



The amount of the paper in the tray is detected by combination of high (1)/low (0) outputs from three sensors (paper height sensor 1 [A], 2 [B], 3 [D] and sub paper height sensor [C]).

Amount of paper	PH S-1	PH S-2	PH S-3	Sub PH S	Indicator on the operation panel
100%	0	0	0	0	Four lines
70%	0	0	1	-	Three lines
	0	0	0	1	
30%	0	1	-	-	Two lines
10%	1	-	-	-	One line

End	-	-	-	-	No line

0: No interruption (low), 1: Interruption (high), -: No checking

PH S: Paper Height Sensor

Paper End

The paper end sensor [E] monitors the light reflected by each sheet on top of the stack.

When the last sheet feeds, the cutout [F] is exposed, and the paper end sensor receives no reflected light from below because there is no paper. As a result, this signals paper end.

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