

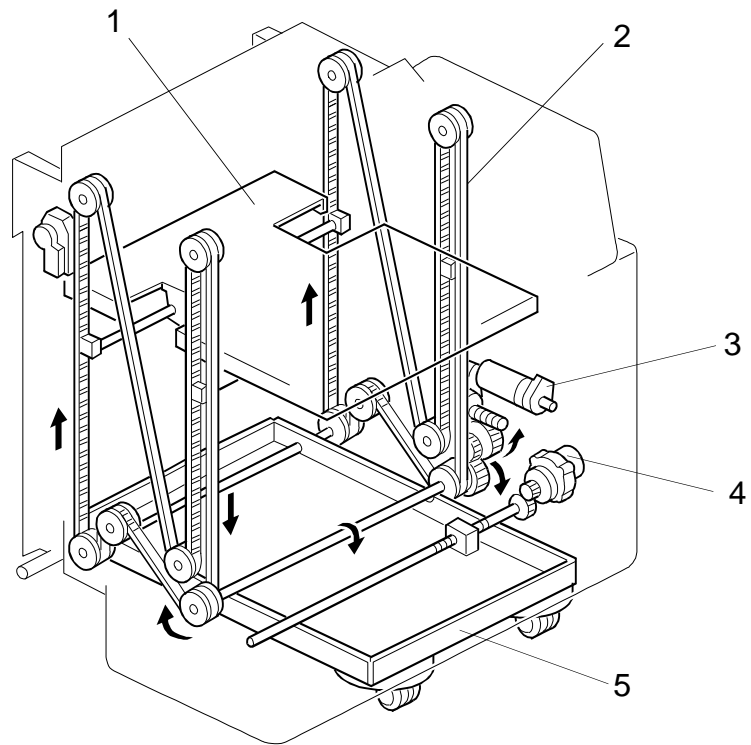
**LARGE CAPACITY TRAY
LT4000
(C563)**

1. OVERALL MACHINE INFORMATION

1.1 SPECIFICATIONS

Paper Size:	The following sizes can be placed in the large capacity tray and the LCT cassette. A3 ☐, B4 ☐, A4 ☐☐, B5 ☐☐, A5 ☐, 11" x 17" ☐, 8 1/2" x 14" ☐, 8 1/2" x 11" ☐☐ In addition, the following size can be placed in the LCT cassette. A6 ☐.
Paper Capacity:	LCT: 4,000 sheets (64 g/m ² , 17 lb) 3,000 sheets (80 g/m ² , 20 lb) Cassette: 500 sheets (64 g/m ² , 17 lb) 400 sheets (80 g/m ² , 20 lb)
Copy Paper Weight	47.1 g/m ² to 209.3 g/m ² , 12.5 lb to 55.6 lb
Power Source:	(DC) 24 V, 5 V
Power Consumption:	Less than 100W
Weight:	Less than 37 kg, 82 lb
Dimensions: (W x D x H)	550 x 500 x 688 mm, 21.7" x 19.7" x 27.1"
Image Shifting:	±10 mm (±3 mm if the optional sorter is installed)

1.2 MECHANICAL COMPONENT LAYOUT



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1. Bottom Plate
2. Tray Drive Belt
3. Tray Drive Motor
4. Tray Shift Motor
5. Feed Unit Base

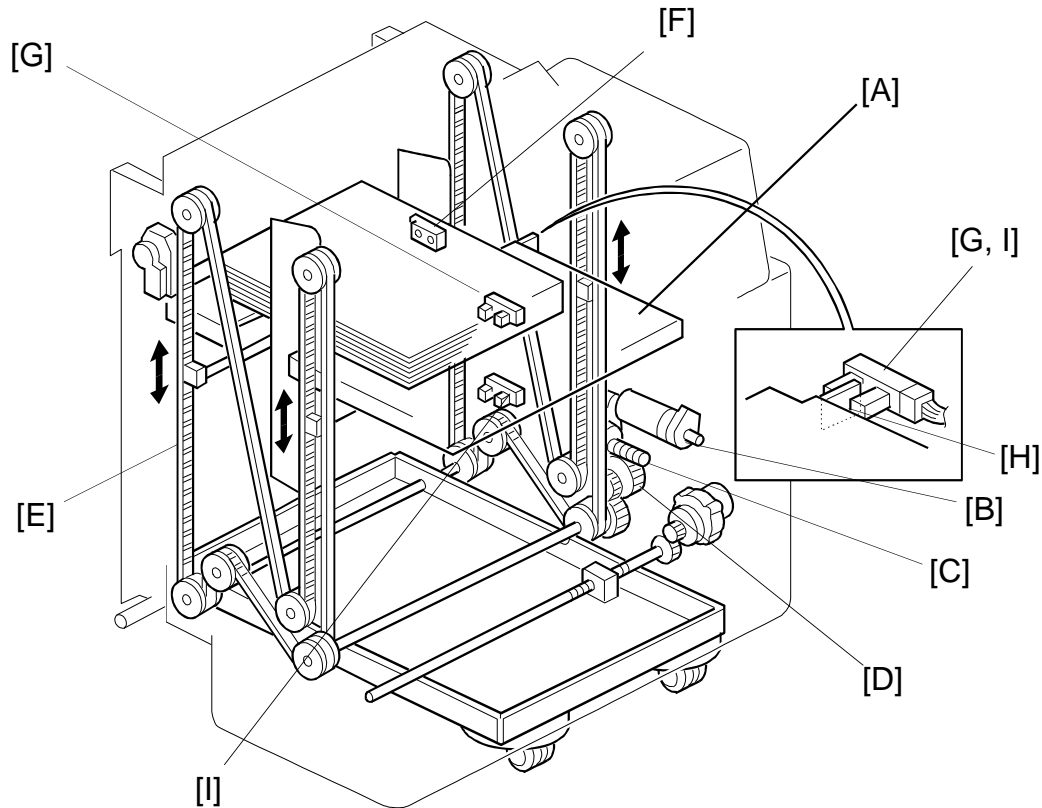
1.3 ELECTRICAL COMPONENT DESCRIPTION

Refer to the electrical component layout on the reverse side of the point-to-point diagram (on the waterproof paper).

Index. No.	Description	Note
Sensors		
1	Cassette Size	Determines what size paper is in the cassette.
3	Paper Length	Detects the paper length.
5	Maximum Paper Load	Informs the printer CPU when the LCT bottom plate is at the lowest position for loading paper, and that no more can be loaded.
10	Paper Size 0	Determines what paper size is in the tray.
11	Paper Size 1	Determines what paper size is in the tray.
12	Paper Size 2	Determines what paper size is in the tray.
13	Paper Size 3	Determines what paper size is in the tray.
9	Tray Lower limit	Turns off the tray drive motor when the tray reaches the lowest possible position (for loading the cassette).
20	LCT Paper End	Detects the presence of paper in the LCT.
21	Cassette Paper End	Detects the presence of paper in the cassette.
17	Tray Paper Position	Detects the top of the LCT tray or the paper stack when adding paper.
Switches		
2	Cassette	Informs the printer CPU when the cassette is installed.
4	Cover Open	Detects if the LCT cover is open or not.
8	Rear Shift Limit	Cuts the line to the tray shift motor when the feed unit base reaches the rear end.
14	Front Shift limit	Cuts the line to the tray shift motor when the feed unit base reaches the front end.
16	Tray Down	The LCT bottom plate lowers when the user presses this.
19	Image Position	The tray shift motor moves forward or in reverse when the user presses this.
Motors		
6	Tray Drive	Lifts the LCT bottom plate to bring paper to the feed position and and lowers it to allow paper to be loaded.
7	Tray Shift	Shifts the feed unit base from front to rear to shift the LCT bottom plate, in order to shift the image position.
18	Cassette Bottom Plate Drive	Lifts the cassette bottom plate.
PCBs		
15	I/O Control	Controls all the LCT operations.


 LCT

1.4 BASIC OPERATION



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- Overview -

The LCT bottom plate [A] is lifted up and down by the tray drive motor (a reversible motor) [B]. Drive from the tray drive motor is transmitted through the worm gear [C], worm wheel, drive pulley [D] to the drive belts [E]. The drive belts connect the ends of the LCT bottom plate.

The bottom plate is controlled so that the top of the paper stack is in one of two basic positions: the paper feed position or the standby position. The paper feed position is used during printing, and at all other times, the standby position is used. When the top of the paper stack is in the standby position, there is enough room for the user to add about 1,000 sheets of paper.

- Power-up -

When the main switch is turned on, the tray drive motor lifts the LCT bottom plate until the top of the paper stack is at the standby position. This is the initialization procedure for the bottom plate position.

The bottom plate is lifted until the top sheet pushes up the feed roller and the paper table height sensor in the main body is de-actuated (this is the paper feed position; refer to "Printing" below for more details). Then, the tray drive motor lowers the bottom plate until the top of the paper stack just passes the

tray paper position sensor [F] (a photocoupler), which turns off at this time. This is the standby position.

If there is no paper or only a small amount of paper on the bottom plate, the tray paper position sensor turns on then off soon after (because the bottom plate passes the sensor), before the top sheet pushes up the feed roller. When this happens, the bottom plate stops rising immediately and is lowered until the top of the paper stack comes to the standby position (the tray paper position sensor turns on then back off again). This process allows initialization to be completed more quickly.

- Printing -

When the Print Start key is pressed, the bottom plate starts rising from the standby position. It stops when the top sheet pushes the paper feed roller and the paper table height sensor in the main body is deactuated (this is the paper feed position). The machine can now start to feed.

As pages are printed, the top sheet position becomes lower, and eventually the main body's paper table height sensor is actuated. When this happens, the tray drive motor raises the bottom plate until the paper height sensor is de-actuated again; this keeps the top sheet at the paper feed position.

When a printing job finishes or a paper misfeed occurs, the tray drive motor slightly lowers the bottom plate (for 500 ms). If the tray paper position sensor turns off (this is possible when there is only a small amount of paper on the bottom plate and the paper stack is in between the sensor and the paper feed roller), the bottom plate moves down until the tray paper position sensor is just activated by the bottom plate. This is to allow the user to add paper. It is not possible to add paper by pressing the tray down switch if the tray paper position sensor remains off (refer to the Adding Paper section below).

Unlike after a normal printing job, after a proof printing job made with the Proof Printing key finishes (one sheet is fed each time the Proof Printing key is pressed), the bottom plate is not lowered. This is to save time for the top sheet to reach the paper feed position when the next job starts.

If paper runs out during printing, the paper end condition is detected by the LCT paper end sensor (a photocoupler). The bottom plate moves down until the tray paper position sensor turns on then off (it stops in the standby position). Then, the user can add some paper.



LCT

- Adding Paper -

The bottom plate can be lowered by pressing the tray down switch only when the tray paper position sensor turns on. This is because if the sensor stays off, the top of the paper stack (or the bottom plate if there is no paper) is in the standby position. The user can add paper without lowering the bottom plate in this case.

When the top of the paper stack is above the tray paper position sensor (the sensor is On) and the tray down switch is pressed, the tray drive motor lowers the bottom plate until the top sheet of the remaining paper stack just passes the tray paper position sensor (the sensor turns off). This gives enough space for the user to add about 1,000 sheets of paper.

If the tray down switch is then pressed again after adding paper (the tray paper position sensor comes on), the bottom plate moves down and again stops once the top sheet just passes the tray paper position sensor. This operation can be repeated until the maximum paper load sensor [G] is actuated by the actuator [H] on the bottom plate. Then, the bottom plate cannot be lowered any more and no more paper can be added.

- Installing the Cassette -

When the tray down switch is pressed for around 2 seconds (when the user wants to load the cassette), the bottom plate lowers until the tray lower limit sensor [I] detects the actuator on bottom plate.

2. DETAILED SECTION DESCRIPTIONS

2.1 TRAY SHIFT MECHANISM

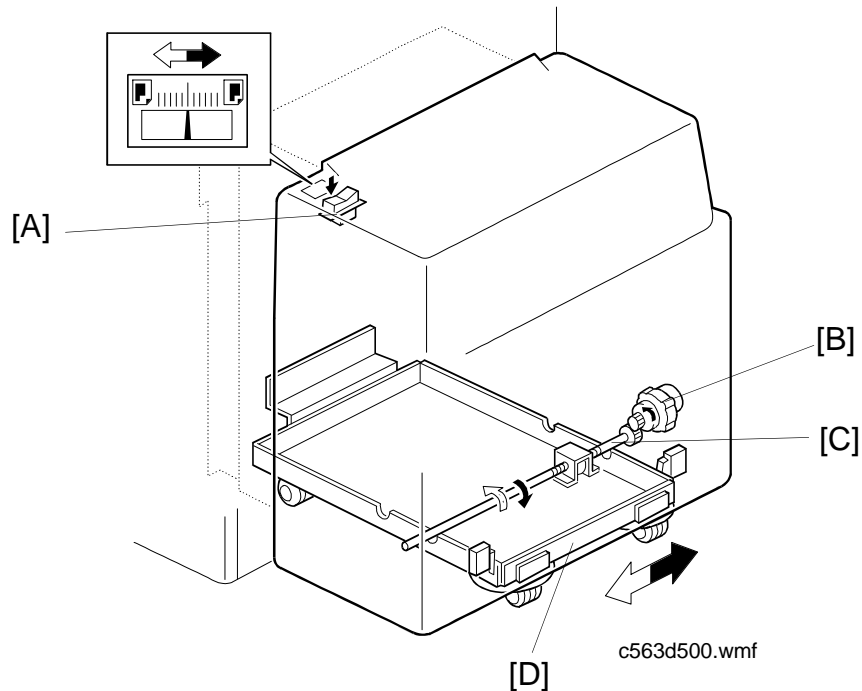
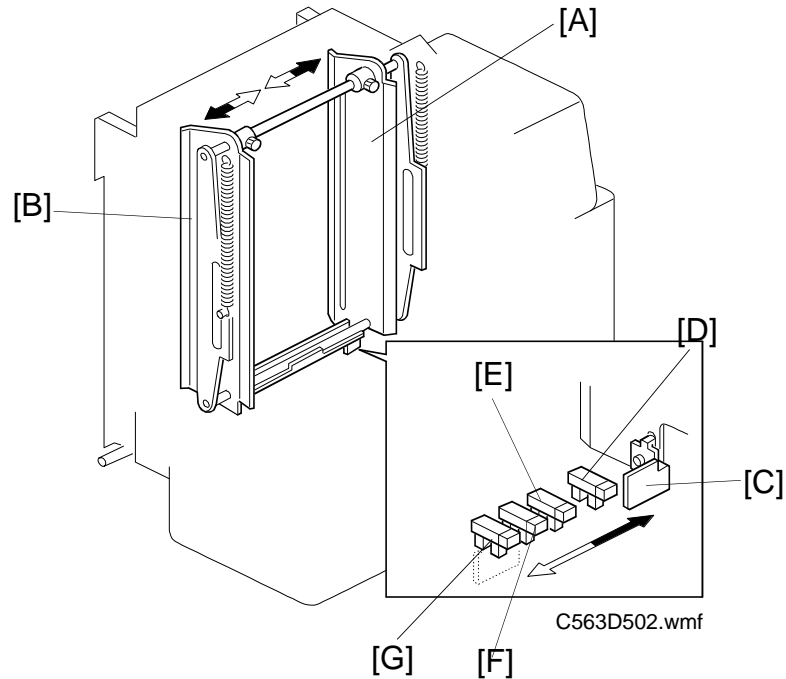


Image shifting is carried out by shifting the LCT unit to the front or to the rear. When the image position switch [A] is moved to the front, the tray shift motor (a reversible motor) [B] rotates counterclockwise to rotate the shift shaft [C] clockwise. The shaft moves the feed unit base [D] of the LCT unit to the rear. Thus, the image is shifted to the front.

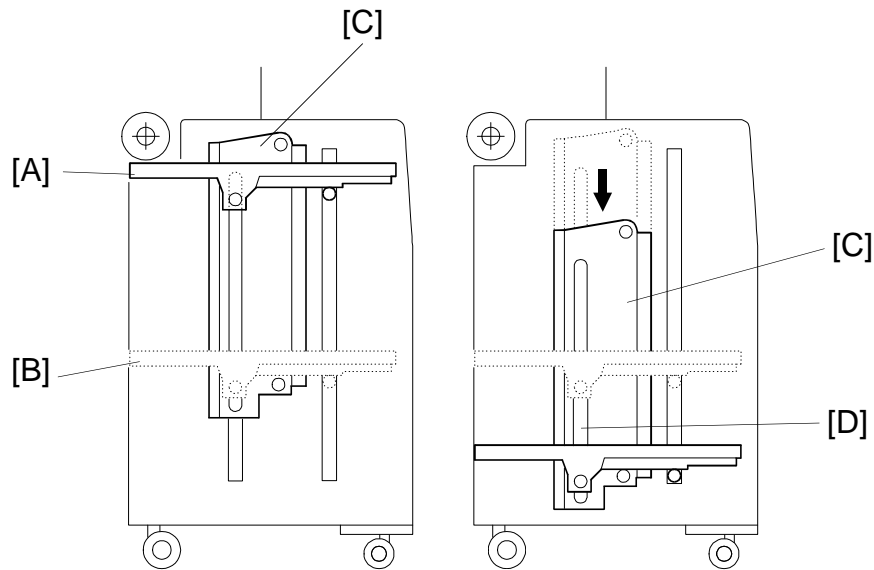
2.2 PAPER SIZE DETECTION



The rear side fence [A] and front side fence [B] can be slid to change the paper size. This is accomplished by loosening a knob screw and sliding the rear end fence to another paper size. The rear side fence has an actuator plate [C] mounted on its underside. There are four sensors (photo-interrupters: paper size sensor 0 [D], 1 [E], 2 [F], and 3 [G]) on the bottom shaft for detecting paper width and one sensor (a reflective photosensor, the paper length sensor) on the bottom plate for detecting the paper length. The printer CPU determines the paper size by reading the combination of signals from the sensors.

2.3 CASSETTE LOADING MECHANISM

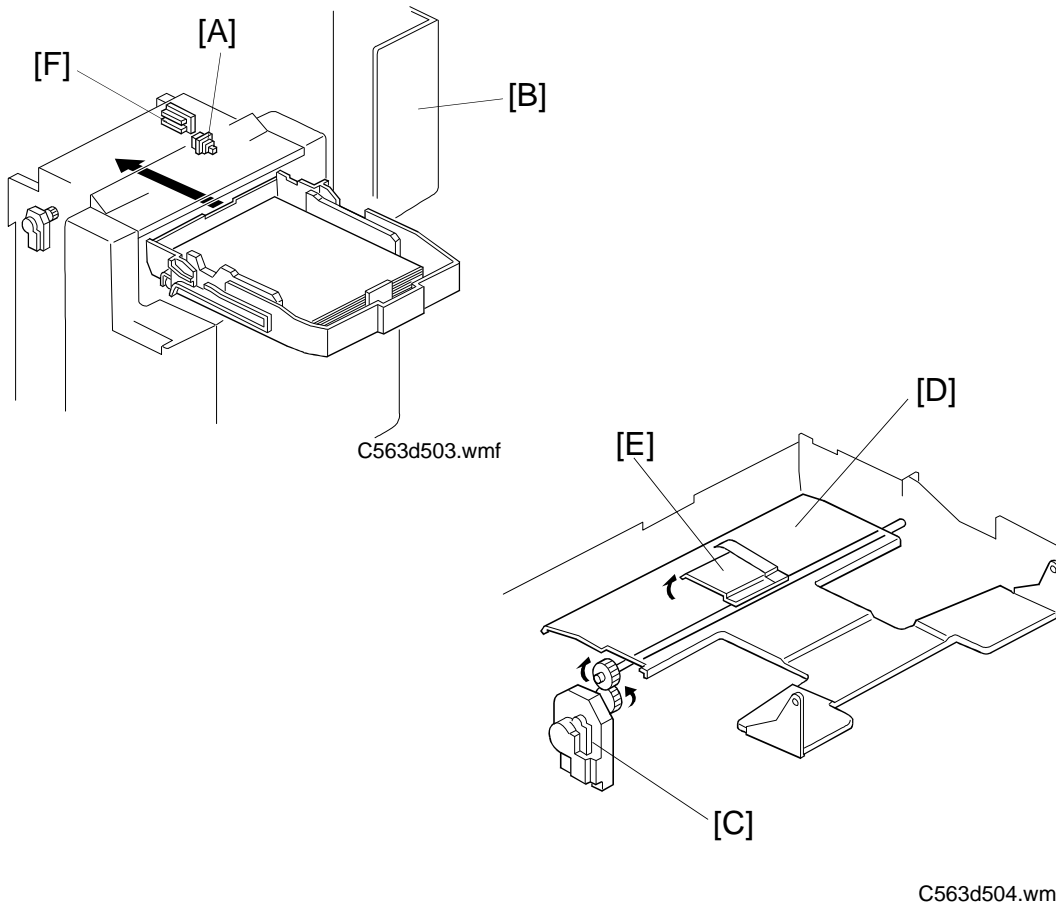
2.3.1 BOTTOM PLATE DOWN



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When the tray down switch is held down for longer than 2 seconds, the bottom plate [A] lowers until the tray lower limit sensor detects the actuator on the bottom plate (refer to "Basic Operation"). When the bottom plate passes the position of the maximum paper load sensor [B], the side fences [C] are lowered together with the bottom plate until the tray lower limit sensor detects the bottom plate. The openings [D] in the side fences allow the bottom plate to be lowered to the maximum paper load sensor position and allow the side fences to be lowered together with the bottom plate.

2.3.2 CASSETTE LOADING



The printer cpu detects that the cassette is loaded in the printer when the cassette switch [A] is pressed. When the cassette is loaded and the LCT cover [B] is closed, the cassette bottom plate drive motor [C] raises the bottom plate [D] by lifting the bottom plate lever [E] until the top sheet pushes up the feed roller and the main body's paper table height sensor is de-actuated. Then, the cassette bottom plate drive motor stops.

When the LCT cover is opened, the cassette bottom plate drive motor rotates in reverse for 5 seconds to lower the bottom plate. The cassette size sensor (composed of 5 photointerrupters) [F] detects the cassette tray paper size. The cassette size sensor is actuated by a plate on one corner of the cassette. Each paper size has its own unique combination of notches in the actuator plate. The CPU reads which photointerrupters have been deactivated by the actuator plate to determine which paper size has been loaded in the cassette.

3. INSTALLATION PROCEDURE

If the sorter will be installed on the same visit as the LCT installation, install the LCT first.

NOTE: The optional table (unit code C564) is necessary to install this LCT.

3.1 ACCESSORY CHECK

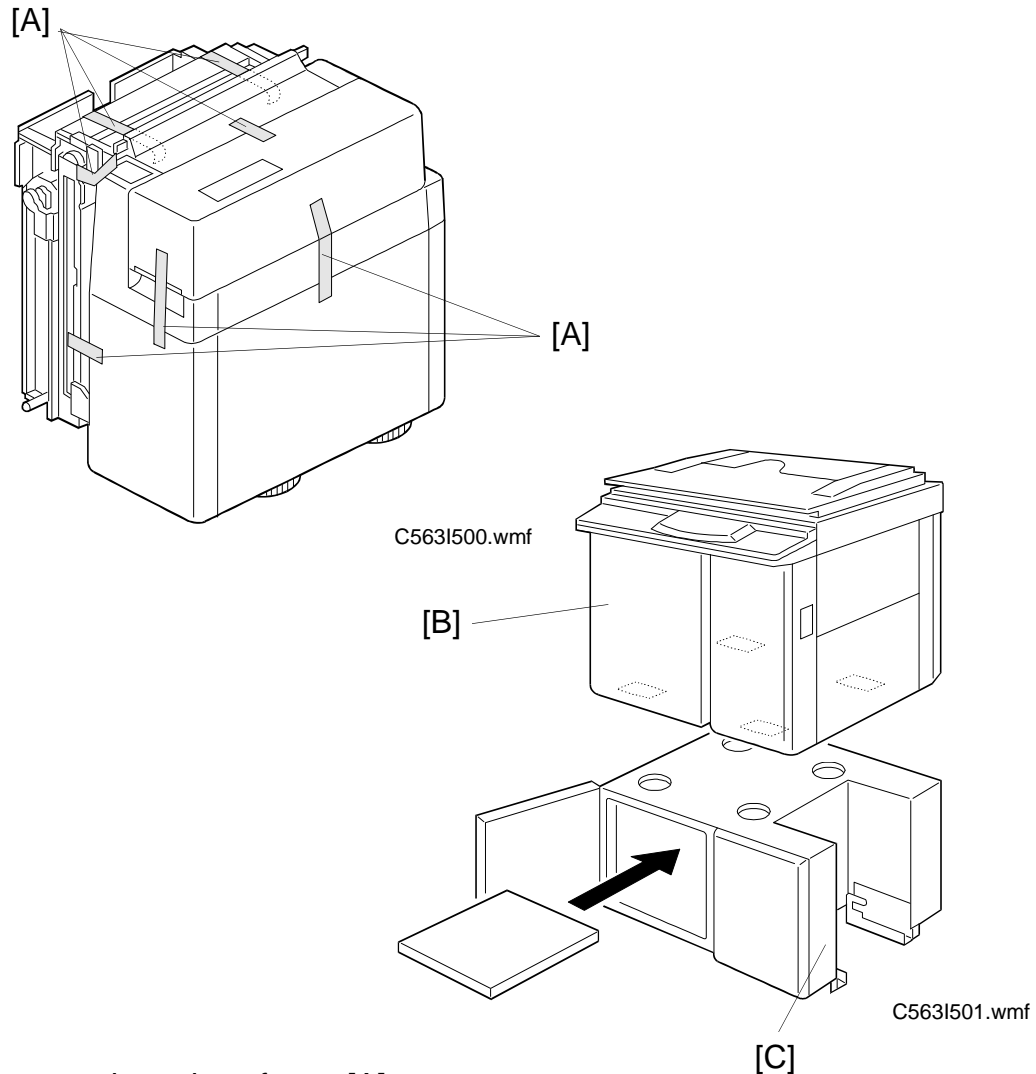
Check the accessories in the box against the following list.

1. Installation Procedure.....	1
2. Decal Sheet.....	1
3. Paper Change Decal	1
4. Right Paper Guide Plate.....	1
5. Left Paper Guide Plate	1
6. Paper Feed Small Cover	1
7. Positioning Bracket.....	1
8. Short Connector	1
9. Knob Screw	2
10. Nylon Clamp	1
11. Flange Head Screw - M4 x 8.....	1
12. Philips Screw with Flat Washer - M4 x 6.....	3
13. Cassette	1

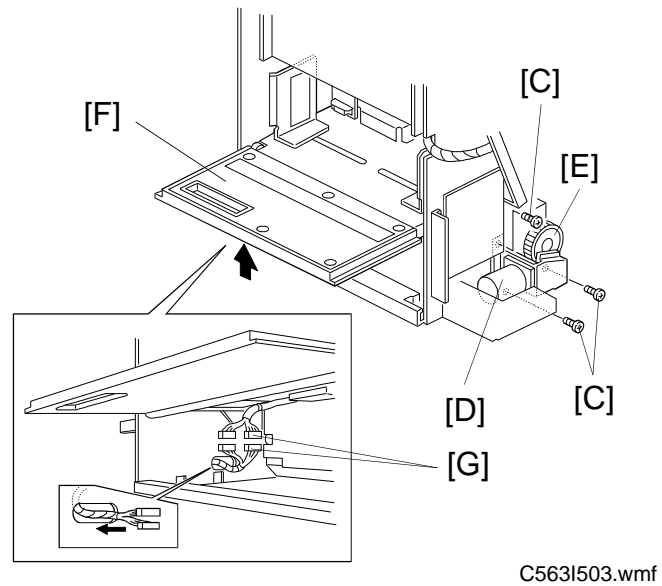
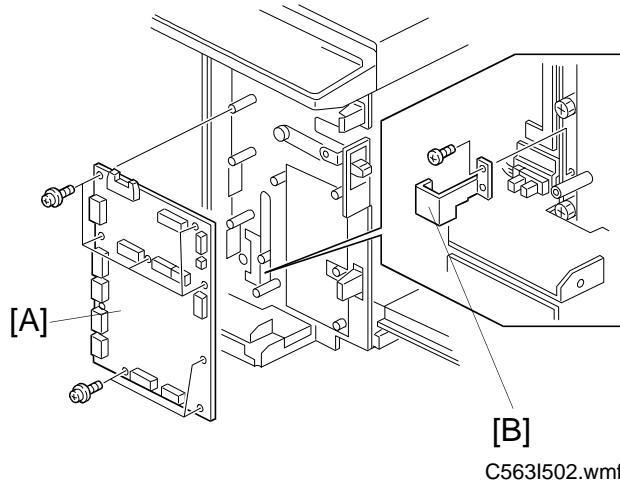
3.2 INSTALLATION PROCEDURE

⚠ CAUTION

Unplug the power cord of the printer before starting the following procedure.

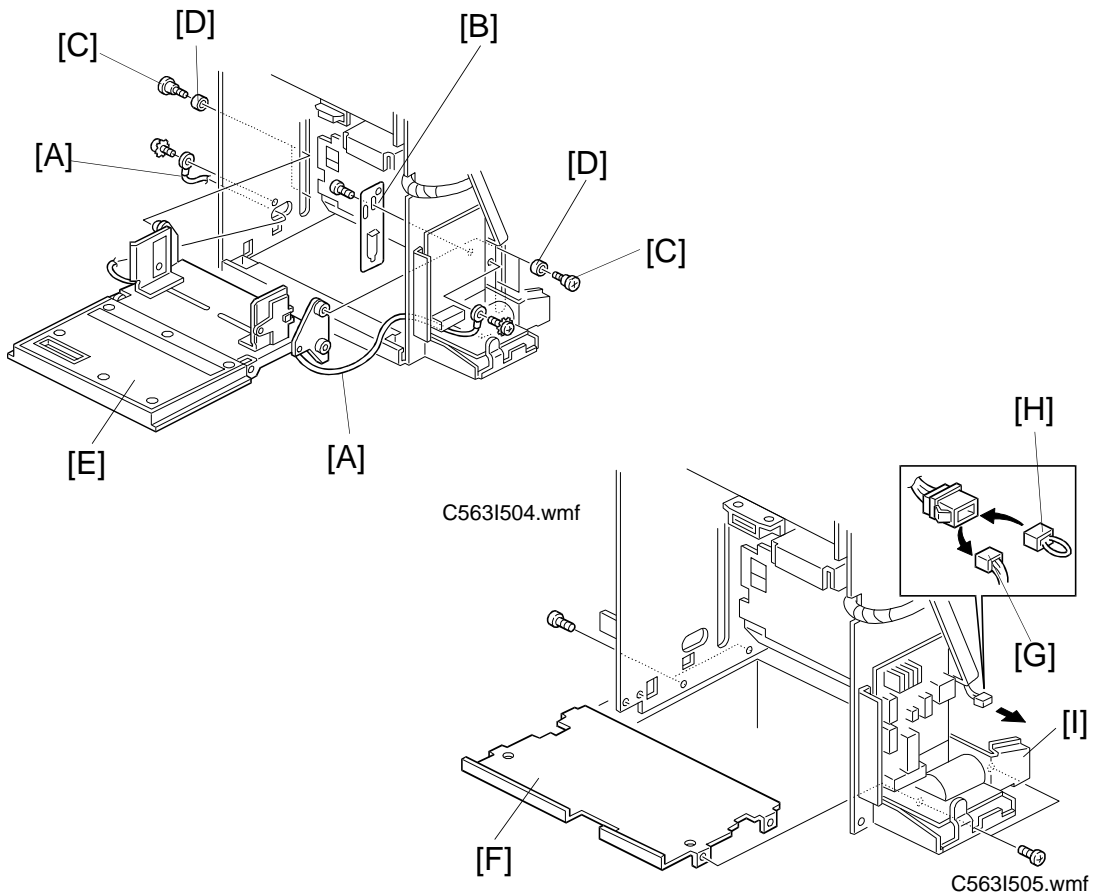


1. Remove the strips of tape [A].
2. Put the printer [B] on the table (C564) [C]. Put the shelf in if required by the user.
3. Remove the following covers from the printer: right front cover, left upper cover, right cover, and rear cover.

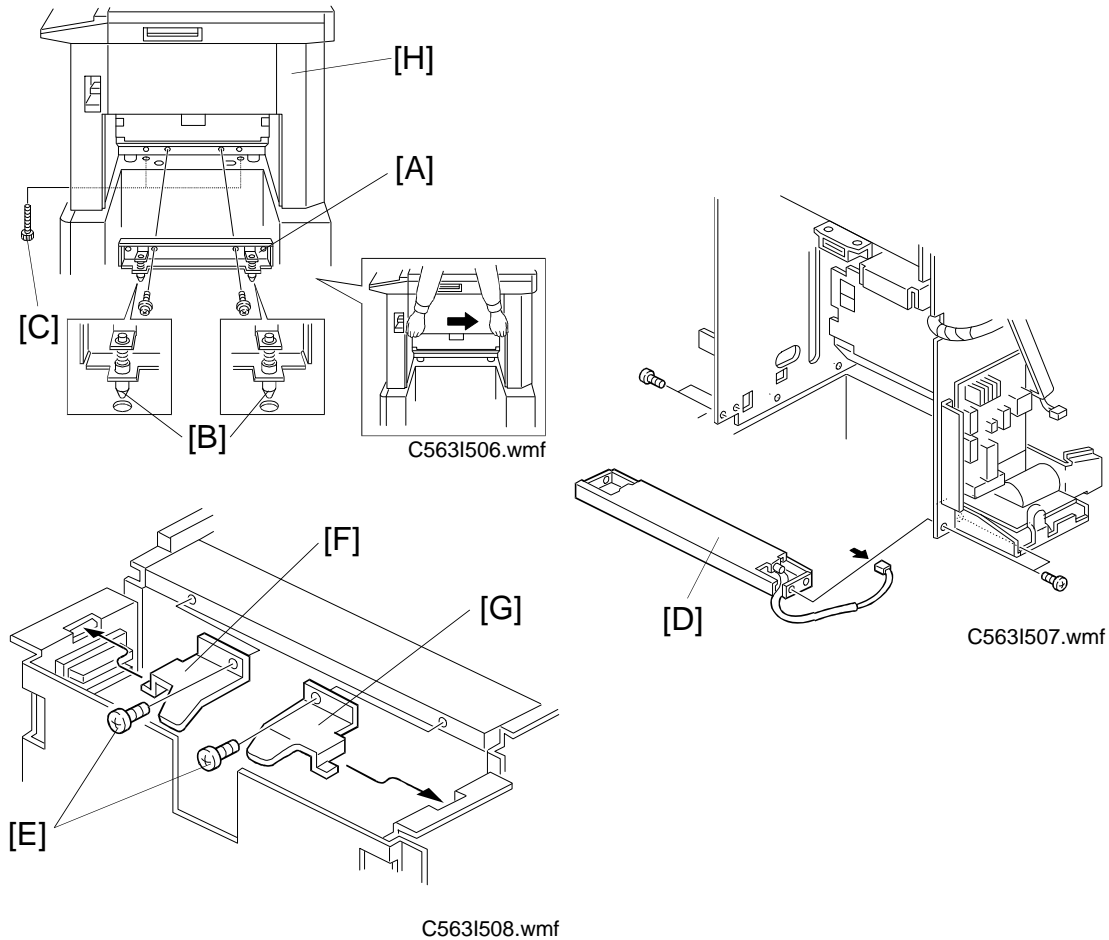


4. Remove the main board [A] (8 screws).
5. Remove the actuator bracket [B] for the paper table lower limit sensor (1 screw). (This actuator is not necessary after installing the LCT.)
6. Remove the three screws [C] that hold the paper table drive motor [D] bracket. Disengage the motor gear from the table drive gear [E] to enable free movement of the paper table [F].
7. Raise the paper table and disconnect the two connectors [G] at the front.

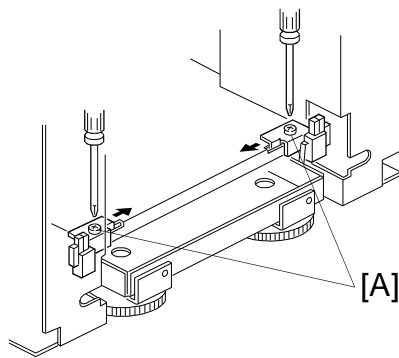
LCT



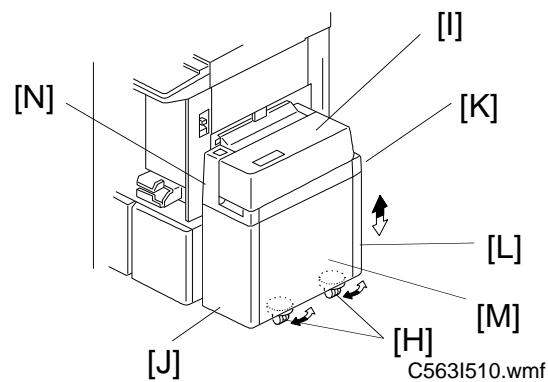
8. Remove the two screws that hold the grounding wires [A]. (Keep one of the two screws for installing the grounding wire in step 22).
9. Remove the paper table holder [B] (1 screw). (This is not necessary after installing the LCT.)
10. Remove the four rack shafts [C] and rollers [D]. (These are not necessary after installing the LCT.)
11. Remove the paper table [E]. (This table is not necessary after installing the LCT.)
12. Remove the paper feed bottom plate [F] (4 screws). (This is not necessary after installing the LCT.)
13. Disconnect the connector [G] of the paper table safety switch and install the short connector [H] packed with the LCT.
14. Put back the three screws (removed in step 6) to secure the paper table drive motor bracket [I]. Reinstall the main board.



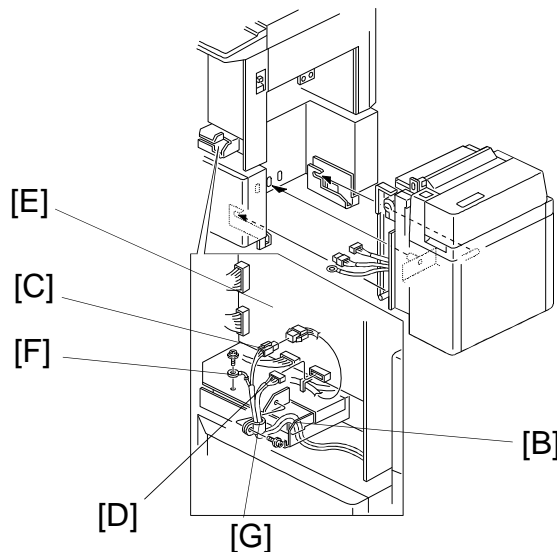
15. Install the positioning bracket [A] from the LCT accessories (2 Philips screws with flat washers from the LCT accessories). Secure the bracket to the copier first, then slide it into position until the two spring pins click into the holes in the cabinet.
16. Position the main body so that the two pins [B] on the bracket fit into the two openings in the table. Then fix the main body to the table with the two knob screws [C] (packed with the table).
17. Remove the support bracket/safety switch assembly [D] (4 screws). (This is not needed after installing the LCT.)
18. Remove the two screws [E] installed on the stay at the back side of the LCT.
19. Attach the left and right guide plates [F and G] to the LCT (from the LCT accessories), and secure them with the 2 screws [E].
20. Reinstall the main body's right cover [H].



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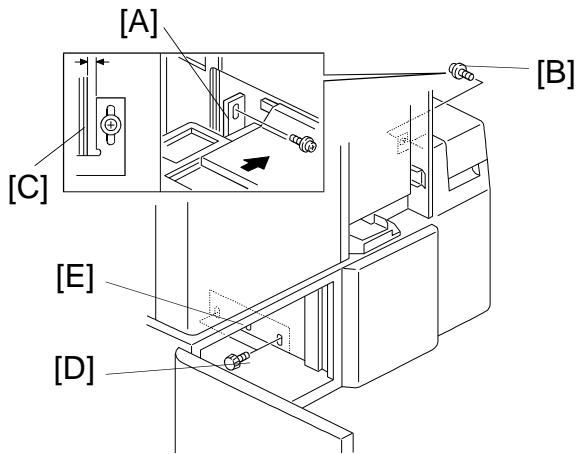


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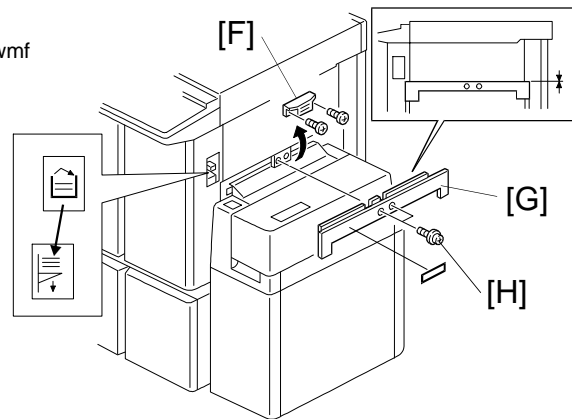
NOTE: When the sorter is already installed, or will be installed immediately after LCT installation, carry out step 21.

NOTE: Take care not to damage the connector of the harness where the front upper cover [N] is connected.

21. a) Remove the upper [I], front lower [J], rear upper [K], rear lower [L], right [M], and front upper [N] covers of the LCT.
 b) Move both switch brackets [A] fully inward and tighten the screws.
 c) Put back all the LCT covers except for the front upper cover [N].
22. Pass the LCT connector harness [B] through the bracket cutout as shown. Connect the 6-pin connector [C] from the LCT to the harness connector from the printer. Connect the 22-pin connector [D] to the main board [E]. Attach the grounding wire [F] as shown (1 screw removed in step 8).
23. Secure the LCT harness with the harness clamber [G] and flange head screw - M4 x 8 (both from the LCT accessories).
24. Push the LCT against the printer to connect them. Turn the LCT legs [H] until each leg just contacts the floor.



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25. Attach the LCT position indicator arm [A] to the inside of the printer side plate (Philips screw with flat washer M4 x 6 [B], packed with the LCT).

NOTE: If the screw cannot be secured, readjust the LCT leg height. Make sure that the indicator arm and the edge [C] of the printer side plate are parallel.

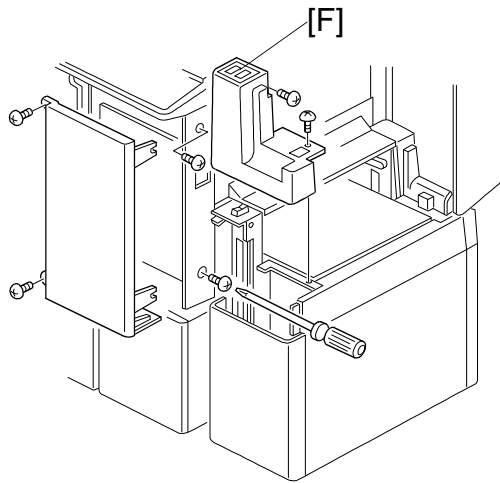
26. Secure the LCT to the table with the two knob screws [D] (from the LCT accessories).

NOTE: Make sure that the positioning pin projects from the opening [E] between the two knob screws.

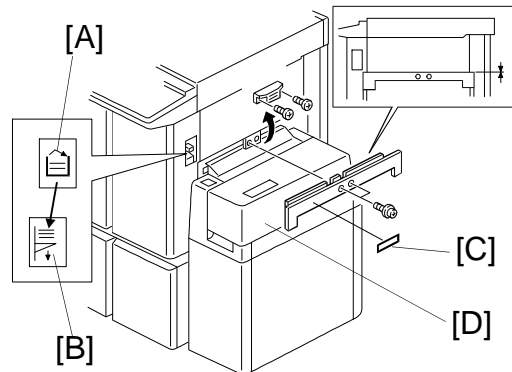
27. Remove the magnet [F] (2 screws). Then install the paper feed small cover [G] in its place with two Philips screws with flat washer M4 x 6 [H] (all LCT accessories).

NOTE: Push the paper feed small cover to the uppermost position, then secure it.

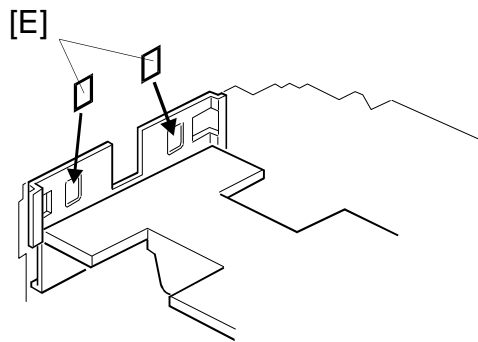
LCT



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28. Stick the paper change decal [A] from the accessories on top of the lower paper table decal [B] (the function of the button has changed).
29. Attach the operation decal [C] just below the decal already attached to the small cover. (Operation decals for 5 languages are included on the decal sheet in the accessories; select the appropriate one.)
30. Open the LCT cover [D] and attach the lever position decals [E] as shown. These decals are included on the decal sheet in the accessories.
31. Put back the printer's left and right front covers.
32. Reinstall the front upper cover [F] of the LCT and the rear cover of the printer.
32. Check the LCT's operation.

4. SERVICE TABLES

4.1 SERVICE REMARKS

1. When the printer and LCT are moved to another place to comply with a customer request, remove the LCT from the printer first.
2. If any adjustment or operation check has to be made with exterior covers off or open, note that the LCT bottom plate may move down and up while the main switch is turned on. Keep hands away from mechanically driven components, especially under the LCT bottom plate and the space between the right cover and LCT bottom plate.
3. Do not raise the LCT bottom plate while the LCT is removed from the printer and the LCT harness is connected to the printer. Otherwise, the bottom plate continues to be lifted up and mechanical damage may occur.

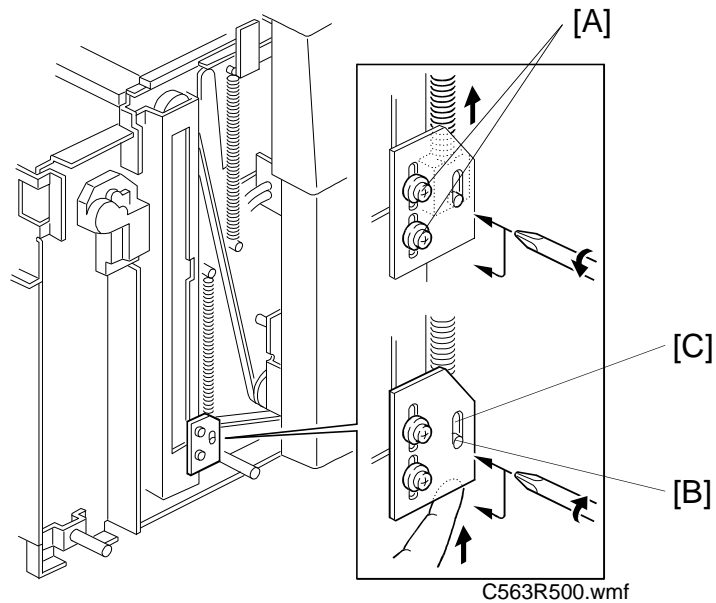
4.2 PM TABLE (Every 6 months)

I: Inspect L: Lubricate C: Clean

Section	6 Months	Notes
All Sensors & Switches	I,C	Clean with a blower brush.
bottom Plate	C	Clean with a dry cloth and blower brush.
Tray Drive Worm Gear, Wheel	I, L	Grease (Shell Albania No. 2): Lubricate after cleaning. Make sure that the bottom plate is lifted up and down smoothly without abnormal noise.
Tray Shift Shaft	I, L	Oil: Lubricate after cleaning. Make sure that the LCT is shifted front to rear smoothly without abnormal noise.
Bushings	L	Oil: Lubricate after cleaning.
Gears	L	Grease (Shell Albania No. 2): Lubricate after cleaning.

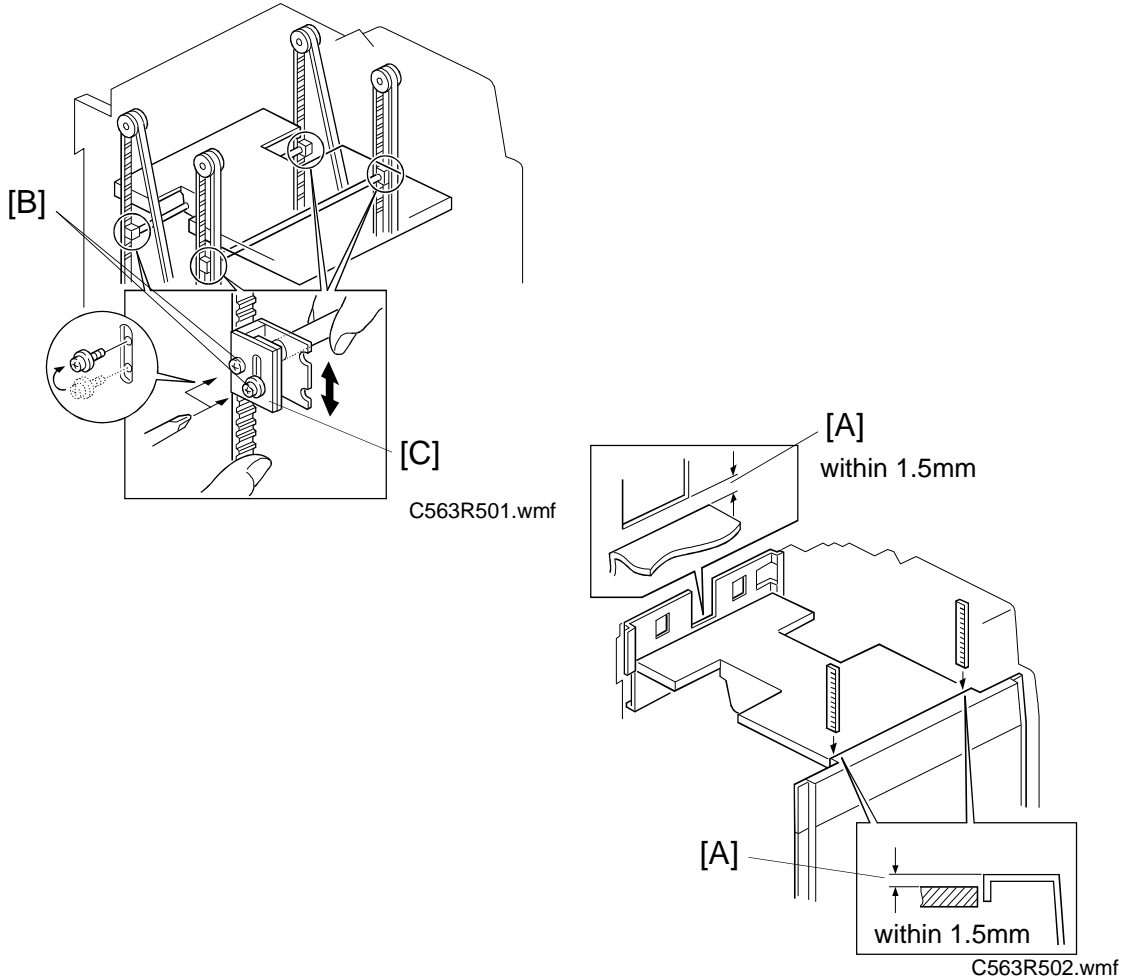
5. REPLACEMENT AND ADJUSTMENT

5.1 TRAY DRIVE BELT TENSION ADJUSTMENT



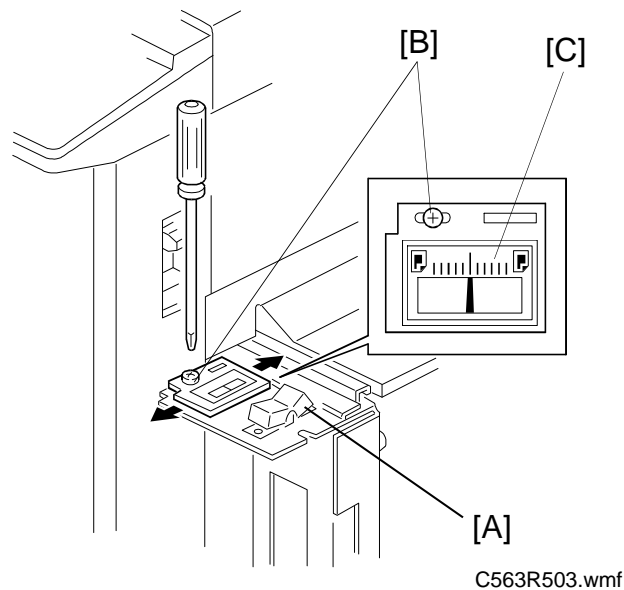
1. Remove the LCT from the printer.
2. Loosen the tension plate screws [A].
3. Push the tension plate up, so that the tension shaft [B] contacts the bottom of the opening [C] and secure the screws.

5.2 HORIZONTAL ADJUSTMENT OF THE BOTTOM PLATE



1. Remove the paper from the LCT bottom plate.
2. Raise the bottom plate until the tray paper position sensor detects the bottom plate, then turn off the printer main switch.
3. Remove the LCT from the printer.
4. Confirm that the heights [A] at the three indicated positions are within 1.5 mm.
5. If they are not, loosen the screws [B] on the joints [C] and adjust the joint positions so that the heights [A] at the three positions are within 1.5 mm.

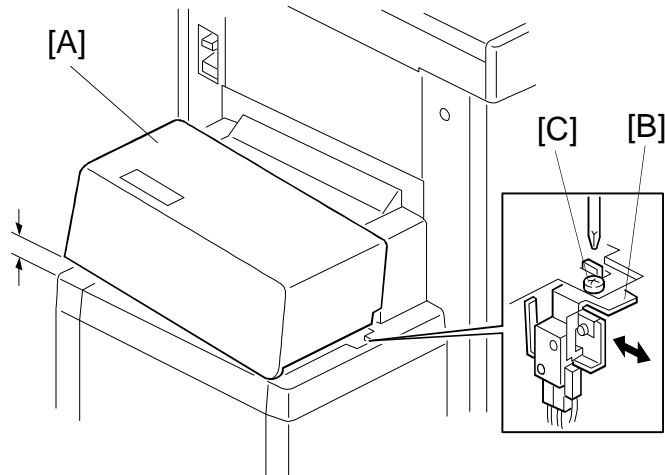
5.3 IMAGE POSITION INDICATOR ADJUSTMENT



NOTE: Take care not to damage the harness in step 1.

1. Using the Image Position switch [A], position the paper tray at the center. (The paper tray is at the center when the distance between the base and the front shift limit switch equals the distance between the base and the rear shift limit switch.)
2. Remove the indicator cover (2 screws and 1 connector).
3. Loosen the screw [B].
4. Adjust the indicator [C] to the center.
5. Re-tighten the screw.
6. Reassemble the machine.
7. Carry out the image center adjustment in the platen mode (SP9-2) and image center adjustment in the ADF mode (SP9-52).

5.4 COVER OPEN SWITCH BRACKET POSITION ADJUSTMENT



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1. Lift up the LCT cover [A] 20 mm as shown. Check whether the cover open switch has turned off.
2. If it has not, move the bracket [B] by loosening the screw [C].