SORTER STAPLER
TS20A, TS20B
(C560, C561)

SECTION 1

OVERALL MACHINE INFORMATION

1. SPECIFICATIONS

Configuration: Console (up to 2 units can be installed; one each of TS20A and TS20B)

Number of Bins: 20 bins per sorter + proof tray

Paper Size:

Proof tray	Maximum: 320 x 447 mm, 12.6" x 17.6"
	A3 ▭, B4 ▭, A4 ▯▭, B5 ▯▭ 11" x 17" ▭, 8 1/2" x 14" ▭, 8 1/2 x 11" ▯▭
Sort mode	Maximum: 300 x 432 mm, 11.9" x 17.1"
	A3 ▭, B4 ▭, A4 ▯▭, B5 ▯▭, A5 ▭ 11" x 17" ▭, 8 1/2 x 14" ▭, 8 1/2" x 11" ▯▭
Staple mode	Maximum: 300 x 432 mm, 11.9" x 17.1"
	A3 ▭, B4 ▭, A4 ▯▭, B5 ▯ 11" x 17" ▭, 8 1/2" x 14" ▭, 8 1/2" x 11" ▯▭
Class mode	Maximum: 300 x 432 mm, 11.9" x 17.1"
	A3 ▭, B4 ▭, A4 ▯▭, B5 ▯▭, A5 ▭ 11" x 17" ▭, 8 1/2" x 14" ▭, 8 1/2" x 11" ▯▭, 5 1/2" x 8 1/2" ▭

Paper Weight:

Non-sort tray	47 ~ 210 g/m^2, 12.6 ~ 55.8 lb
Sort mode	64 ~ 82 g/m^2, 17.1 ~ 21.8 lb
Staple mode	64 ~ 82 g/m^2, 17.1 ~ 21.8 lb
Class sort mode	64 ~ 82 g/m^2, 17.1 ~ 21.8 lb

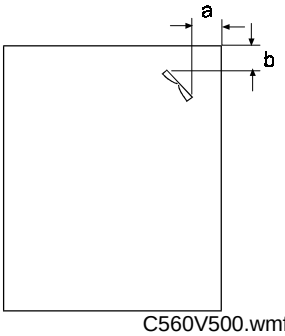
Printing Speed: Non-sort tray: 60 ~ 120 cpm
Sort, Staple, or Class sort mode: 60 cpm

Proof Tray Capacity: 300 sheets
(Less than 64 g/m^2, 17.0 lb)
200 sheets
(Less than 157 g/m^2, 41.7 lb)
150 sheets
(Less than 210 g/m^2, 558 lb)

Bin Capacity:

Sorting
50 sheets
(64 ~ 82 g/m^2, 17.1 ~ 21.8 lb, smaller than B4, 8 1/2" x 14")
25 sheets
(64 ~ 82 g/m^2, 17.1 ~ 21.8 lb, smaller than A3, 11" x 17" and paper sizes other than those mentioned under "Paper size")

Stapling Position:



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a = 5 ± 2.5 mm, 0.2" ± 0.1"
b = 5 ± 2.5 mm, 0.2" ± 0.1"

Stapler Capacity:

50 sheets (64 g/m^2, 17.1 lb)
40 sheets (80 g/m^2, 21.3 lb)
42 sheets (75 g/m^2, 20 lb)

Staple Replenishment: Cartridge exchange (5,000 staples/cartridge)

Dimension (sorter stapler only):

	Width	Depth	Height
One sorter stapler: bins down	908 mm, 35.8"	597 mm, 23.6"	926 mm, 36.5"
One sorter stapler: bins up	908 mm, 35,8"	597 mm, 23.6"	1,082 mm, 42.6"
Two sorter staplers: bins down	1,507 mm, 59.4"	617 mm, 24.3"	926 mm, 36.5"
Two sorter staplers: bins up	1,507 mm, 59.4"	617 mm, 24.3"	1,082 mm, 42.6"

Weight:

57.5 kg, 127 lb (One sorter stapler)
106.5 kg, 235 lb (Two sorter staplers)

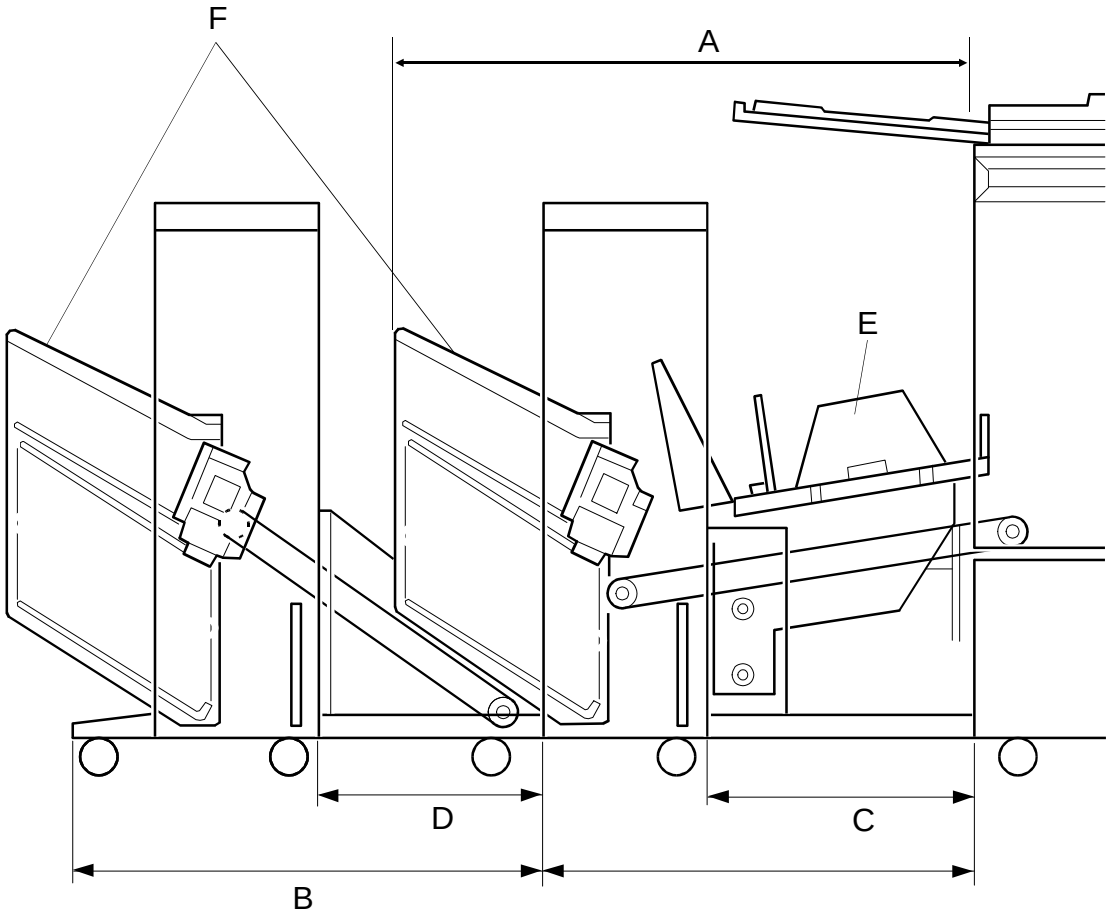
Power Source:

AC 120 V 50/60Hz
AC 220 ~ 240 V, 50/60 Hz, 1.6A
(1st Sorter Stapler)
DC 24 V
(2nd Sorter Stapler, from the 1st Sorter Stapler)

Power Consumption: One sorter: 140 W; Two sorters: 160 W

Noise Emission: Less than 70 dB(A): the measurements are to be made in accordance with ISO7779.

2. MECHANICAL COMPONENT LAYOUT



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A: 1st Sorter

B: 2nd Sorter

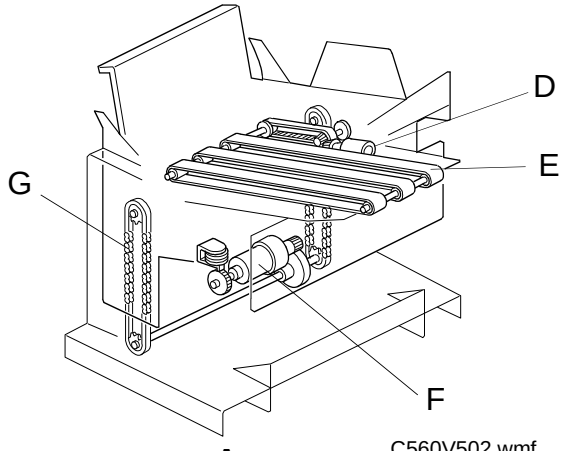
C: 1st Transport Unit

D: 2nd Transport Unit

E: Paper Delivery Table

F: Bins

3. DRIVE LAYOUT



A

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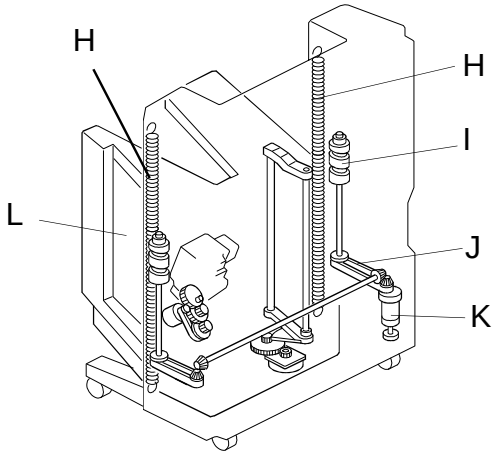

B

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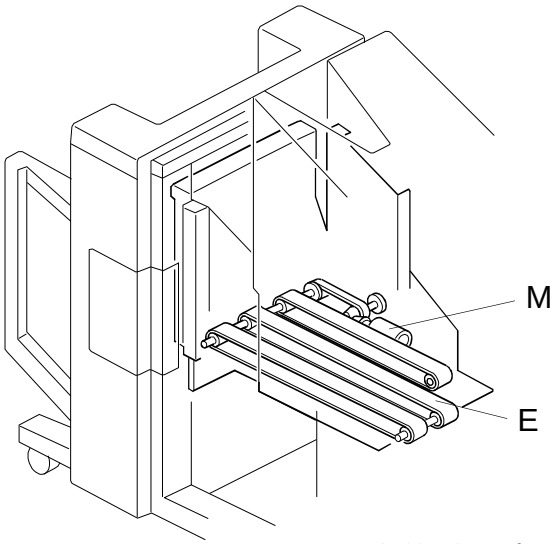

C

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A: 1st Transport Unit

B: Sorter

C: 2nd Transport Unit

D: 1st Transport Motor

E: Transport Belts

F: Paper Delivery Table Motor

G: Drive Chains

H: Springs

I: Helical Wheels

J: Bin Shift Belts

K: Bin Shift Motor

L: Bins

M: 2nd Transport Motor

4. ELECTRICAL COMPONENT DESCRIPTION

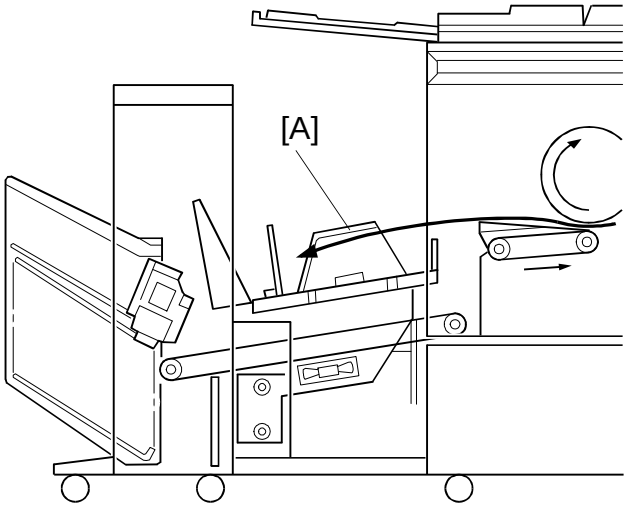
Refer to the electrical component layout on the reverse side of the point-to-point diagram (on waterproof paper)

Name	Function	Index No.
Switch		
Manual Staple Key	Allows the paper stack to be stapled manually in the top bin (manual stapling is only done in the top bin).	1
Paper Stack Holding Arm	Detects when the paper stack holding arm is in the bins and cuts the dc line to the bin shift motor.	2
Bin Upper Limit	Turns off the 24V line to the bin shift motor when the bin unit reaches the upper limit position.	3
Bin Lower Limit	Turns off the 24V line to the bin shift motor when the bin unit reaches the lower limit position.	8
Staple Cover Open	Detects when the staple cover is open and cuts power to the stapler.	12
Staple Position	Detects when the staple unit is at the stapling position.	13
Staple Unit Movement	Detects while the staple unit is moving between the staple unit home position and the stapling position.	14
Staple Safety	Turns off the 24V line to the staple motor when there is an obstacle at the stapling position.	19
Bin Unit Obstacle	Turns off the 24V line to the paper delivery table motor when the bin unit cannot be lowered as a result of an obstacle.	20
1st Transport Upper Limit	Turns off the 24V line to the paper delivery table motor when the 1st transport unit reaches the upper limit position.	32
1st Transport Cover Open	Detects whether the cover is open.	33
1st Transport Safety	Turns off the 24V line to the paper delivery table motor when the paper delivery table cannot be raised as a result of an obstacle.	34
Sensor		
Helical Wheel H.P.	Detects when the helical wheel is at the home position.	4
Bin Unit H.P.	Detects when the bin unit is at the home position.	5
Bin Shift Motor Rotation	Monitors bin shift motor rotation by detecting the movement of a timing disk.	7
Staple H.P.	Detects if the staple hammer is in the home position.	17
Staple End	Detects staple end.	18
Paper	Detects whether there are copies under the hammer.	21
2nd Transport Motor Rotation	Monitors and controls 2nd transport motor rotation by detecting the movement of a timing disk.	22

Name	Function	Index No.
2nd Transport	Determines the bin shift timing and detects the paper count. This is also a jam detector.	25
Bin/Jam (LED)	Detects if there is paper in the bins (light emitting element). This is also a jam detector.	26
Bin /Jam (Photo Tr.)	Detects if there is paper in the bins (light receiving element). This is also a jam detector.	30
Jogger Bar H.P.	Detects if the jogger bar is in the home position.	27
Trailing Edge	Detects a paper jam if the paper does not exit to the bin completely (the trailing edge is left between the transport unit and bin.)	29
1st Transport Sort Mode Position	Stops the 1st transport unit in the sort mode position when it detects that the 1st transport unit is in the sort mode position.	31
1st Transport Non-Sort Mode Position	Stops the 1st transport unit in the non-sort mode position when it detects that the 1st transport unit is in the non-sort mode position.	38
1st Transport Motor Rotation	Monitors and controls 1st transport motor rotation by detecting the movement of a timing disk.	35
1st Transport	Determines the bin shift timing and detects the paper count. It also detects paper jams.	41
Motor		
Bin Shift	Drives the helical wheel to shift the bin unit up/down.	6
Staple Unit Shift	Moves the staple unit between the staple unit home position and the stapling position.	15
Staple	Drives the staple hammer.	16
2nd Transport	Drives the transport rollers and belts.	23
2nd Transport Fan	Sucks air through the holes in the transport belt to hold the paper on the transport belts.	24
Jogger Bar	Drives the jogger bar to jog the stack of paper against the bin side plate (stepper motor).	28
1st Transport	Drives the transport rollers and belts.	36
Paper Delivery Table	Drives the paper delivery table up/down.	39
1st Transport Fan	Sucks air through the holes in the transport belt to hold the paper on the transport belts.	37
PCB		
DC Power Supply (1st Sorter only)	Rectifies the ac input and outputs dc voltage.	9
Sorter Main Control	Controls all sorter stapler functions.	11
Solenoid		
Paper Stack Holding Arm	Drives the paper stack holding arm to hold the stack of paper in the bin.	10
Paper Delivery Table Motor Stop	Prevents the paper delivery table motor from rotating under the weight of the table at the sort mode or non-sort mode position.	40

5. BASIC OPERATION

5.1 NON-SORT MODE



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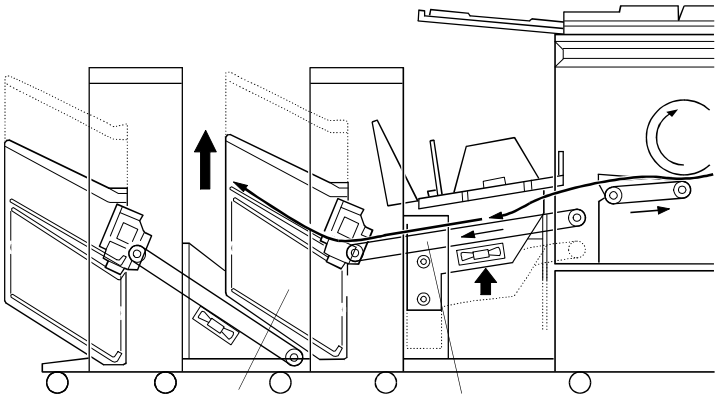
Non-sort mode copies exiting the printer enter the paper delivery table [A], which has been lowered to the non-sort mode position when this mode has been selected.

5.2 SORT MODE



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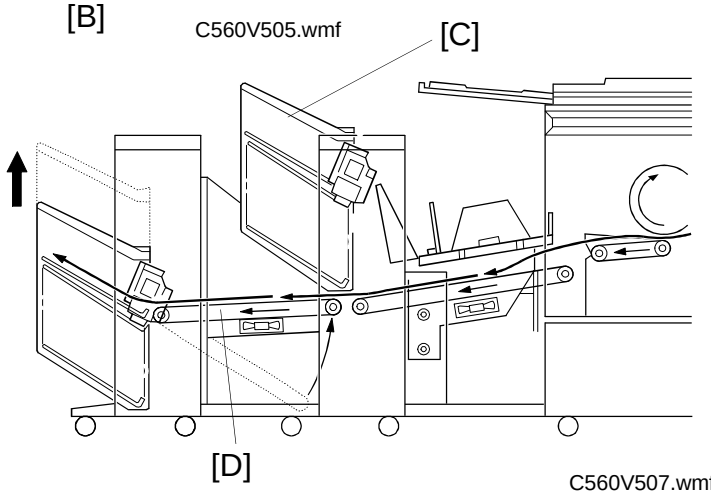

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Copies exiting the printer enter the sorter. The paper delivery table has been raised to the sort mode position when this mode has been selected. Copies are delivered to the bins [A] through the 1st transport belt [B] in the correct order. The copies in the bins are arranged by the jogger bar.

The 1st sorter can hold 20 sorted copies. If the 2nd sorter is installed next to the 1st sorter, an additional 20 copies can be sorted.

When the 20th copy has been fed to the 1st sorter, the bin unit [C] is at its top position and the bin unit has raised the 2nd transport unit [D] to its ready position. The 21st to 40th copies are transported to the 2nd sorter. After the final copy of an original page has passed the 2nd transport unit, the 2nd transport unit and 1st sorter bin unit and 2nd sorter bin unit are lowered to the initial position, and the machine will transport copies to the bins of the 1st sorter again.

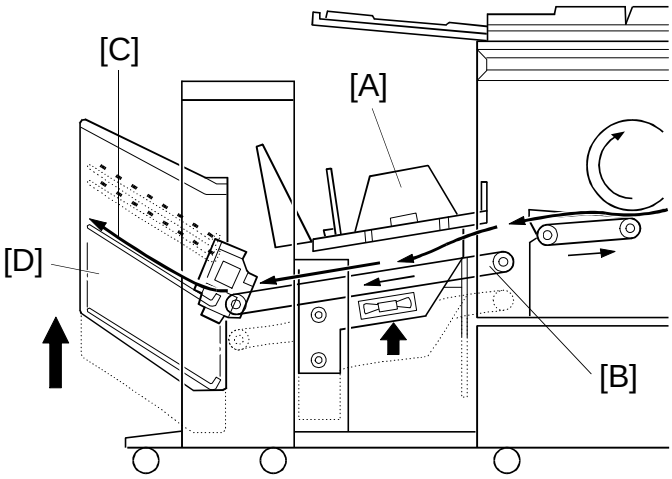
When the final set of copies has been jogged, the bins all go to home position, then the staple unit staples the copies stacked in the 1st bin. Then, the bin unit is moved up so that the next bin is at the stapling position. When the final set of copies has been stapled, the bin unit is lowered to the home position.

SECTION 2

DETAILED SECTION DESCRIPTIONS

1. 1ST TRANSPORT UNIT

1.1 OVERVIEW



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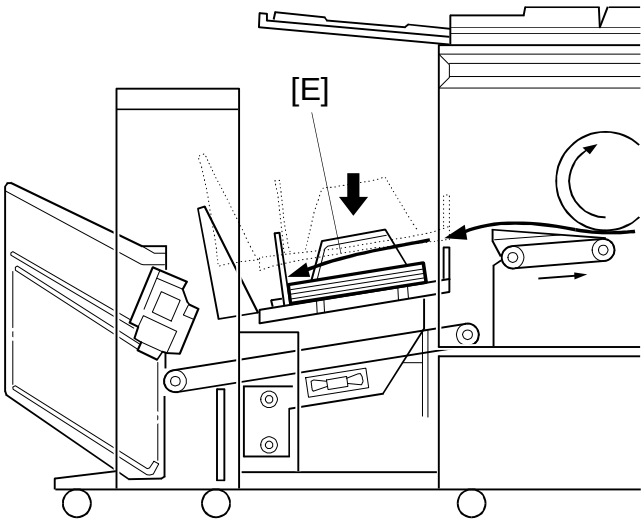

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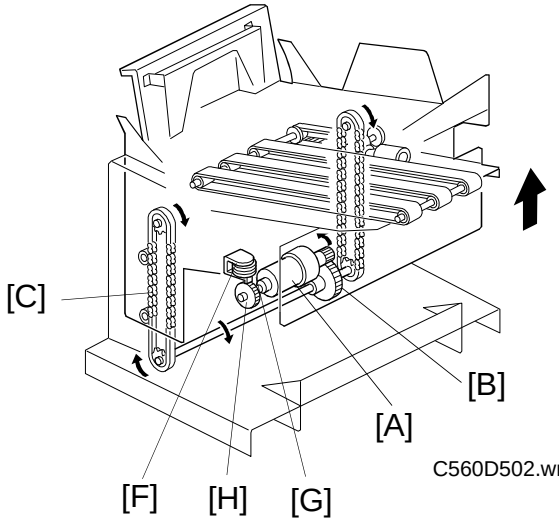
The 1st transport unit consists of the paper delivery table [A] and paper transport belt unit [B]. These two units shift to either the upper or lower position together. The upper position is used for the sort mode; the paper [C] passes through the paper transport belt unit to the bin unit [D]. The lower position is used for the non-sort mode; the paper [E] is delivered to the paper delivery table.

1.2 1ST TRANSPORT UNIT DRIVE MECHANISM



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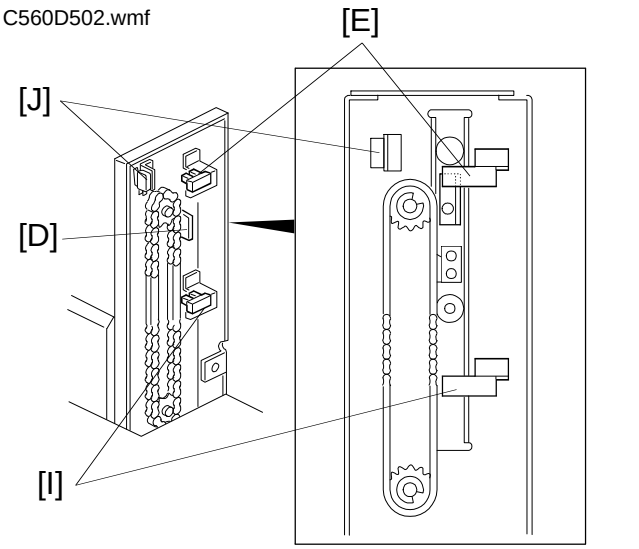

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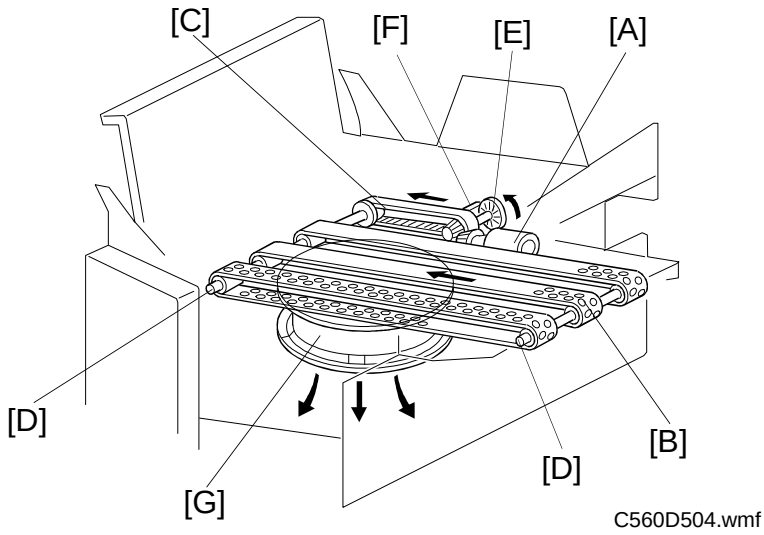
When the paper delivery table motor [A] rotates counterclockwise, the 1st transport unit is raised through the gears [B] and drive chains [C]. The motor stops when the actuator [D] on the chain enters the 1st transport sort mode position sensor [E]. The paper delivery table motor stop solenoid [F] turns on/off at the same time as the paper delivery table motor. When the solenoid turns off, the solenoid lever [G] engages the motor gear [H]. This locks the 1st transport unit at either the upper or the lower position. If the paper delivery table motor does not stop its counterclockwise rotation, the 1st transport upper limit switch [J] turns off the 24 V line to the motor.

When the paper delivery table motor rotates clockwise, the 1st transport unit is lowered. The motor stops when the actuator actuates the 1st transport non-sort mode position sensor [I].

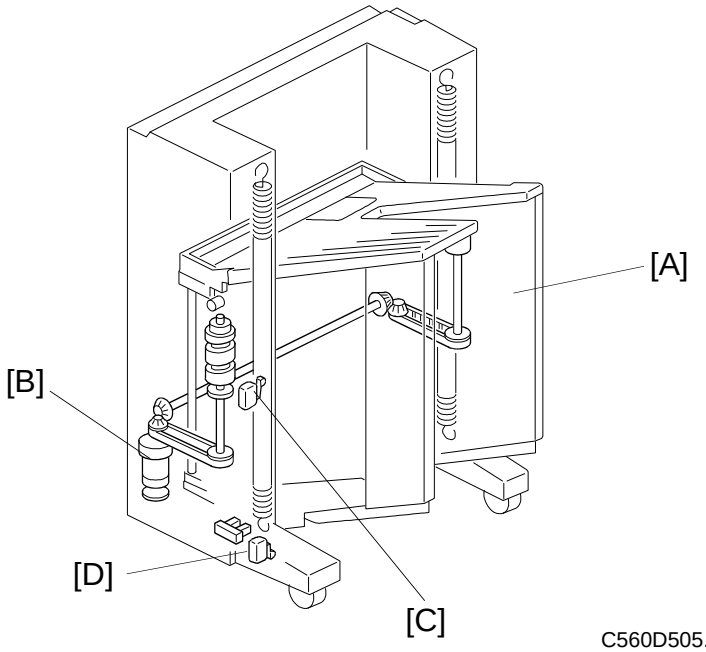
1.3 1ST TRANSPORT BELT DRIVE MECHANISM



The 1st transport motor [A] drives the transport belts [B] through the timing belt [C] and transport rollers [D]. The motor has a timing disk [E], and the 1st transport motor rotation sensor [F] uses this for monitoring and controlling the 1st transport motor rotation speed. The 1st transport fan motor [G] is installed below this unit. This fan motor sucks air through the holes in the transport belt to hold the paper on the transport belts.

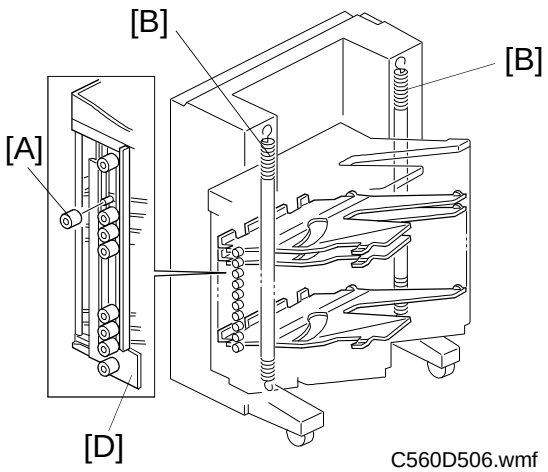
2. BIN UNIT

2.1 OVERVIEW



The sorter bin unit [A] is raised and lowered by the bin shift motor [B]. If the bin shift motor fails to stop, the bin unit drive power is cut by the upper or lower limit switches [C] and [D].

2.2 BIN MOVEMENT



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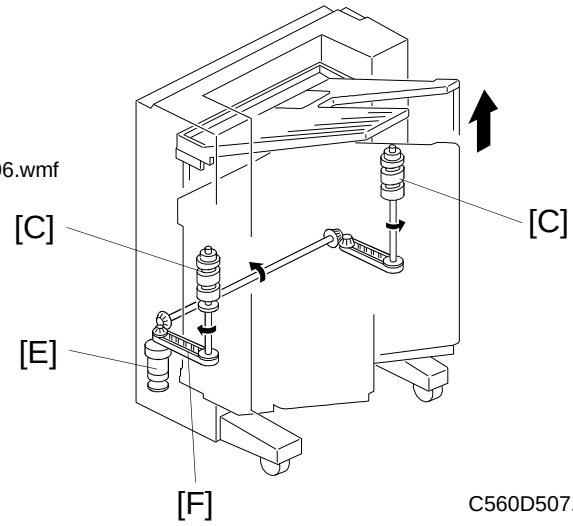

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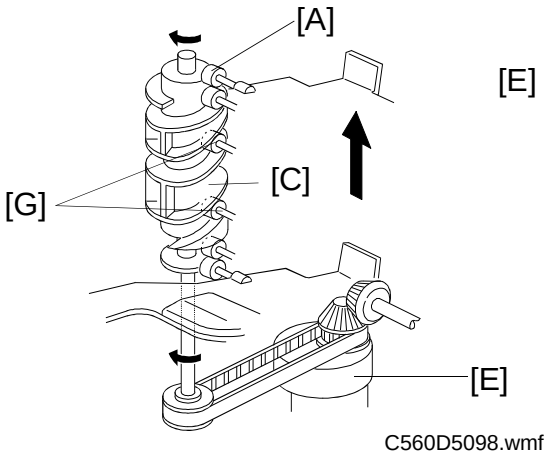

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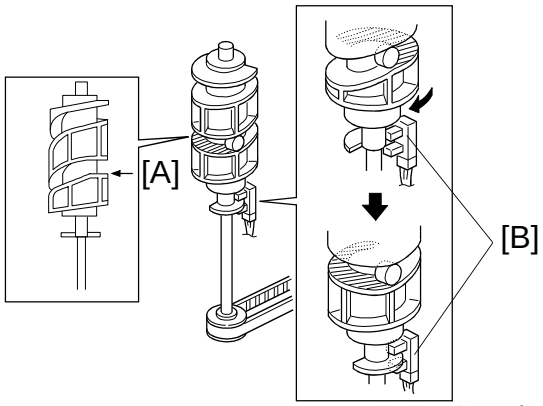
Each bin has a small roller [A] at each end. The bin unit is supported by springs [B] which are attached to the sorter main body. There are two helical wheels [C] on each side. The slit in the helical wheel engages the small rollers [A] at both ends of each bin. The bins are attached to the sorter main body at the cutouts in the main body side plates [D] and by engaging the small rollers to the helical wheels. The load on the helical wheels during lifting is decreased by the two springs.

The bin shift motor [E] rotates the helical wheels forward and in reverse through the timing belt [F]. When the helical wheels rotate, the small rollers move up and down along the grooves [G] in the helical wheels. This enables the bin unit to move up and down.



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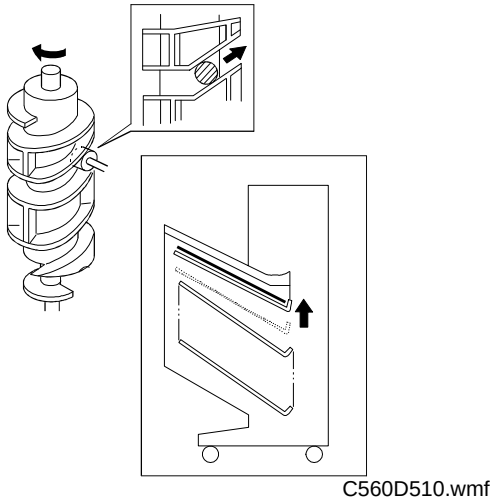

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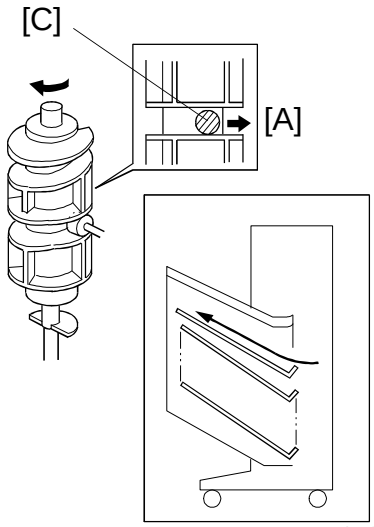

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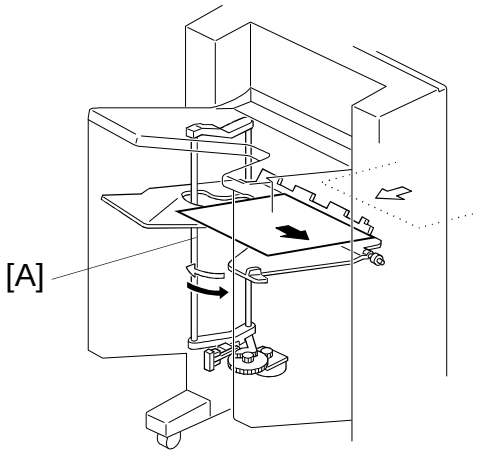
There is a flat portion [A] in the center of the groove in each helical wheel. Without this, the helical wheels would rotate in reverse at the bin stop position due to the weight of the the bin unit. The helical wheel home position sensor [B] is actuated while the small rollers [C] are on the flat portion of the helical wheel. The bin shift motor stops, and the bins do not move so that paper can exit to the bin at this moment.

2.3 JOGGER BAR CONTROL



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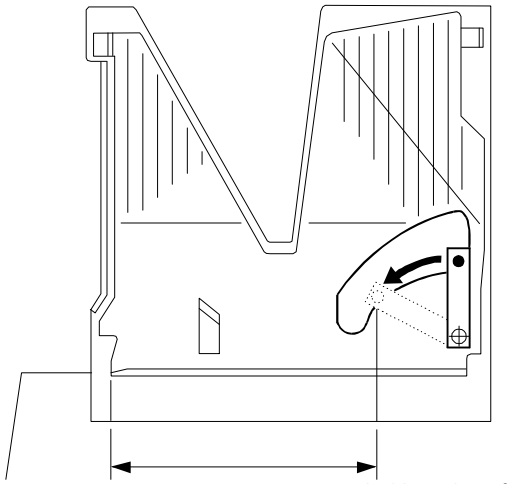

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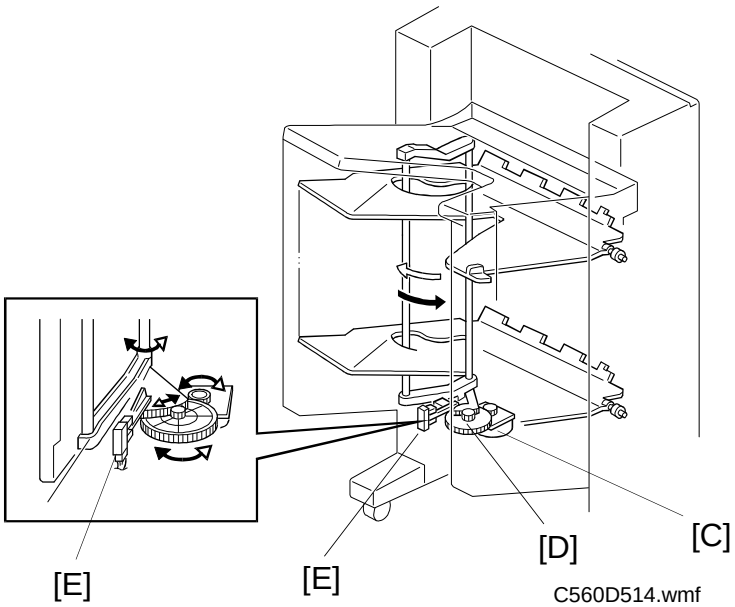

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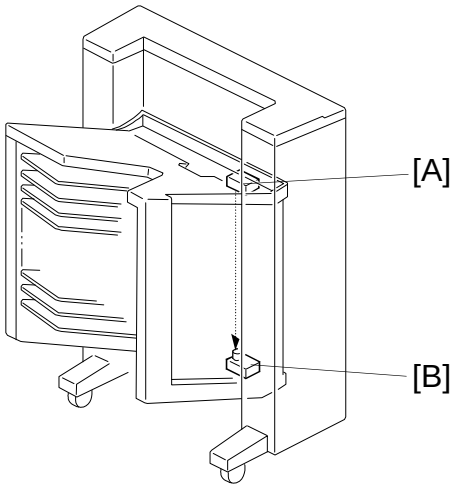
The jogger bar [A] is driven by the jogger bar motor [C] (a stepper motor) through the gear [D]. The jogger bar moves as shown in the illustration whenever paper is fed out to the bin. Also the jogger bar moves and holds the paper stack for stapling. Ordinarily, the jogger bar is at the home position. It moves to the rear of the stack (the distance moved by the jogger bar depends on the selected paper size [B]). Then, after jogging, the motor moves the jogger bar back to its home position. The motor stops when the actuator actuates the jogger bar home position sensor [E].

2.4 BIN/JAM SENSOR



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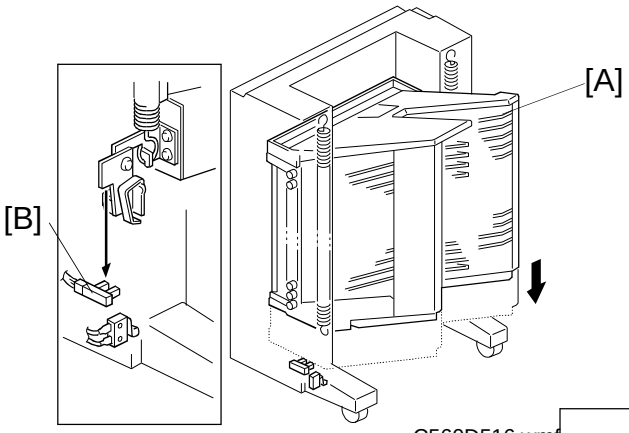
The bin jam sensor consists of an LED ([A]: light emitting element) and a photo-transistor ([B]: light receiving element). The sensor detects whether there is any paper in the bins.

2.5 BIN UNIT HOME POSITION SENSOR



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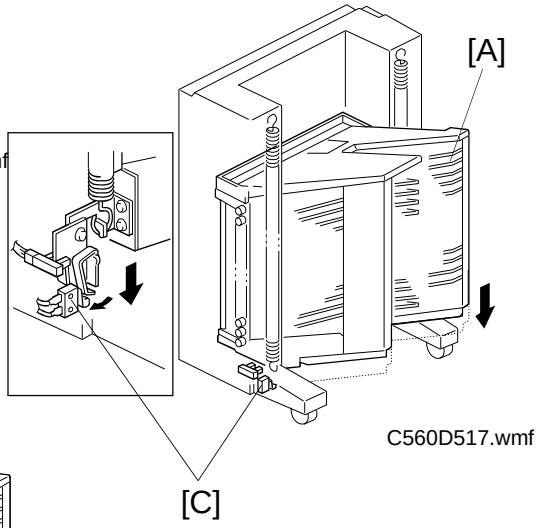

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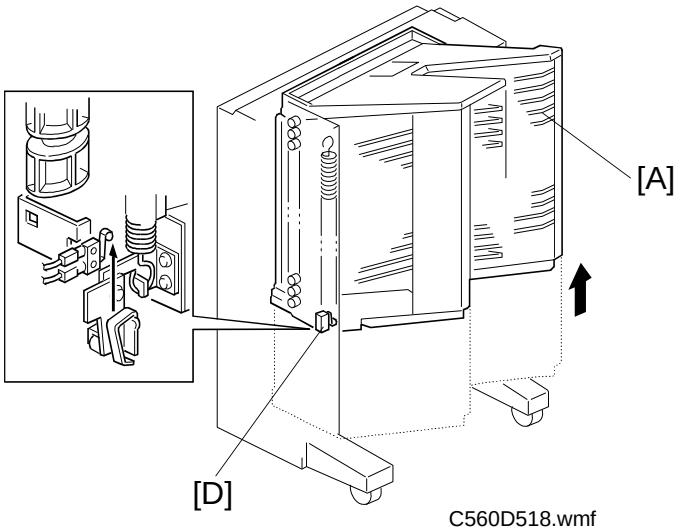

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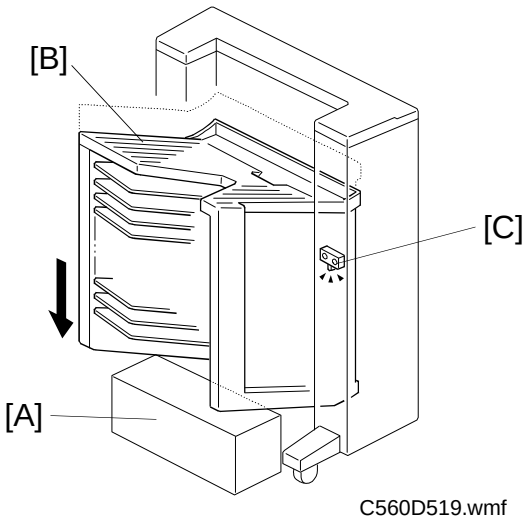
When the Print Start key is pressed or when all paper left in the bin unit is removed, the bin unit [A] returns to the home position. The bin unit stops at the home position when it actuates the bin unit home position sensor [B]. Even if the bin unit [A] overruns due to something wrong, the bin lower limit [C] or bin upper limit [D] switch will cut the 24V line to the bin shift motor. Then, the bin unit stops. To reset this condition, turn the main switch off and on.

2.6 BIN UNIT OBSTACLE SWITCH



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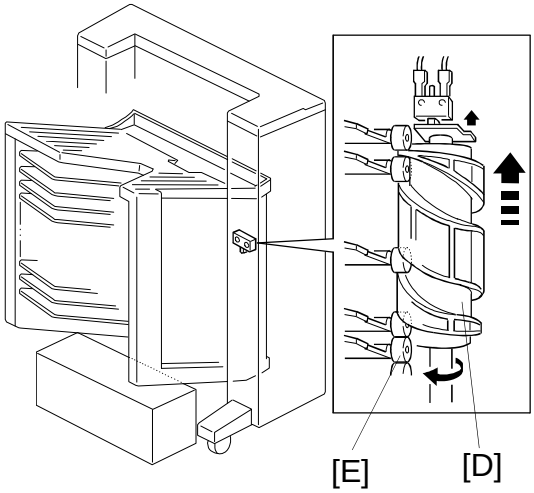

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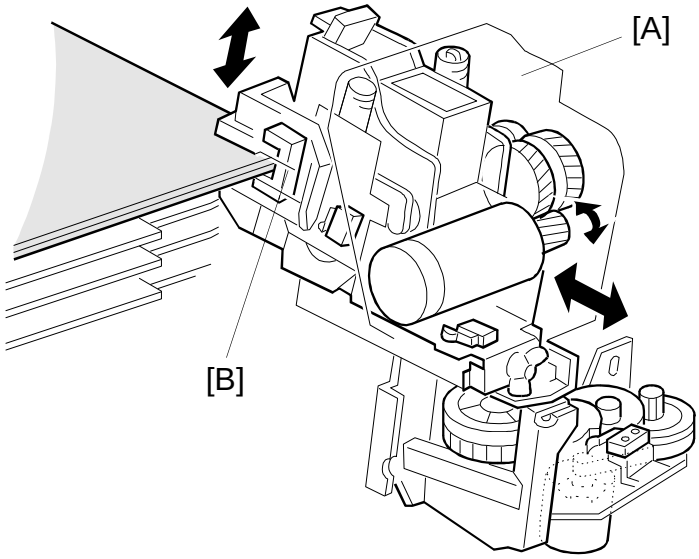
If there is an obstacle [A] under the bin unit [B] and the bin unit cannot be lowered, the bin unit obstacle switch [C] cuts the 24V line to the bin shift motor. This happens when the helical wheel [D] is rotated by the bin shift motor without moving the bins. In such a case, the helical wheel is raised by the small rollers [E] and it pushes the bin unit obstacle switch [C].

3. STAPLE UNIT

3.1 OVERVIEW



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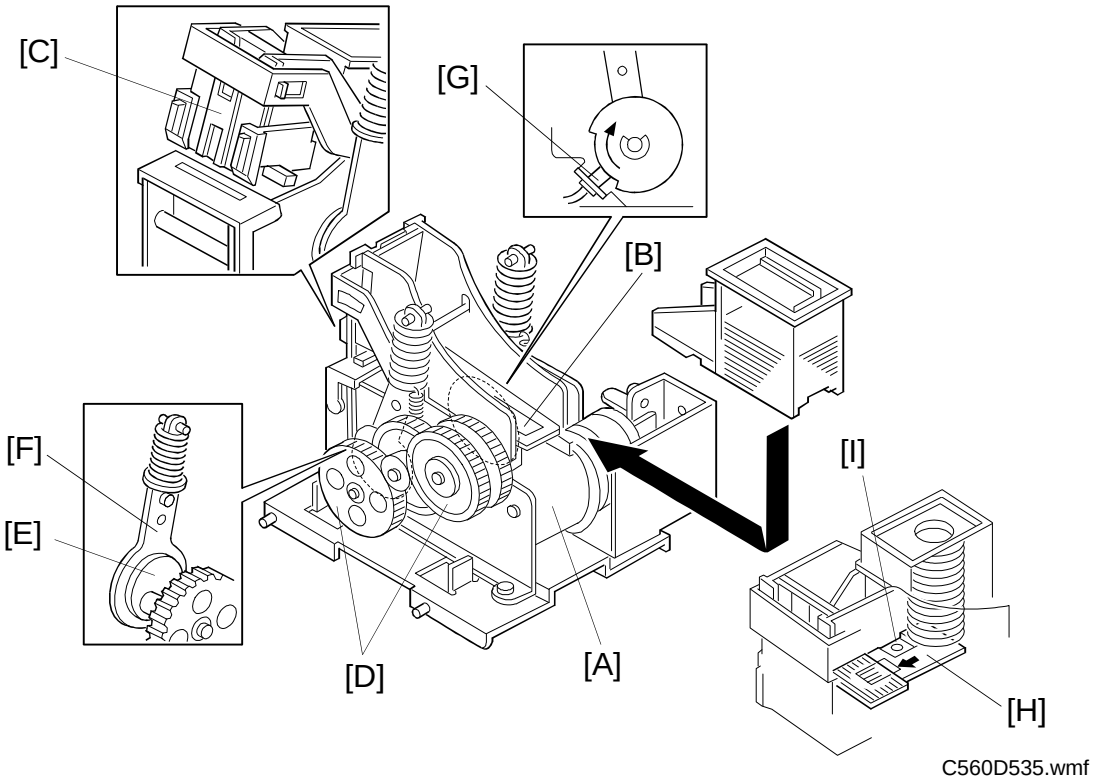
The staple unit [A] staples the stack of paper in the bins. The staple unit shift motor shifts the staple unit to the stapling position. The staple motor drives the staple hammer only when the paper sensor [B] detects that there are copies under the hammer. While the bin unit is shifting up or down, the staple unit returns to the home position to prevent the staple unit from interfering with copies in the bins.

3.2 STAPLER



C560D535.wmf

The stapler motor [A] drives the staple sheet drive belt [B].

The staple sheets are fed under the hammer [C].

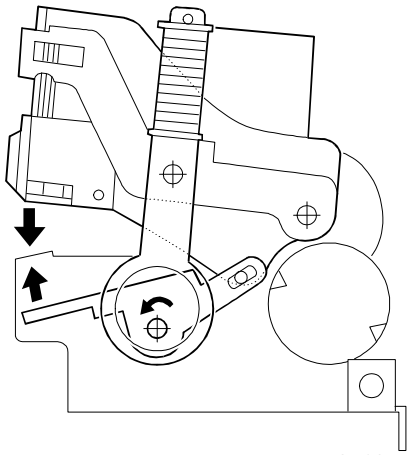
The stapler motor drives the staple hammer via gears [D], and an eccentric cam [E] and link [F] at each side.

When the aligned copies have been brought to the stapling position, the stapler motor starts. When the cams complete one rotation, the staple home position sensor [G] is de-actuated. The stapler motor then stops.

When the paper sensor ([B] on the previous page) does not detect any copies under the hammer, the stapler motor does not turn on.

A paper sheet [H] with a notch cut-out is positioned at the bottom of the staple cartridge. This paper sheet is fed out after the last staple sheet. When the leading edge of the notch in the sheet is detected by the staple end sensor [I], the sorter stapler unit recognizes the staple near-end condition. After the job is completed, the Add Staples indicator lights on the printer operation panel and the Print Start key is disabled whenever the staple sort mode is selected.

3.3 STAPLER OPERATION



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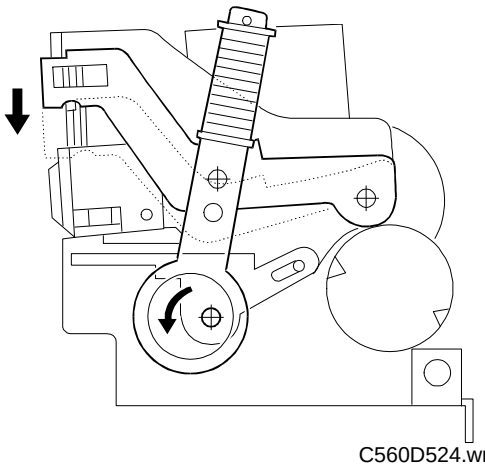

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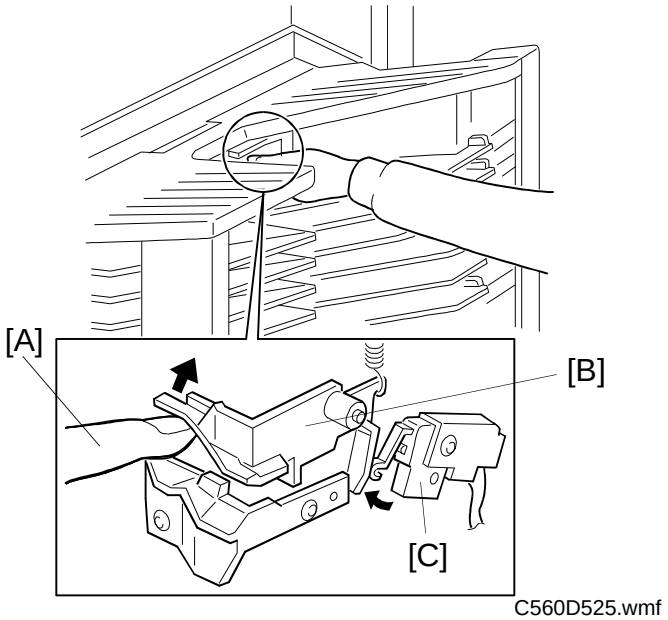
The above drawings illustrate the motion of the stapler when copies are being stapled.

3.4 STAPLE JAM CONTROL

When a staple jam occurs in the staple unit, the machine operates as follows:

1) The staple motor locks. As a result, the staple hammer cannot return to home position within 1 second.
2) The staple motor rotates in reverse to return the staple hammer to home position.
3) The printer detects a staple jam condition.

3.5 STAPLE SAFETY SWITCH



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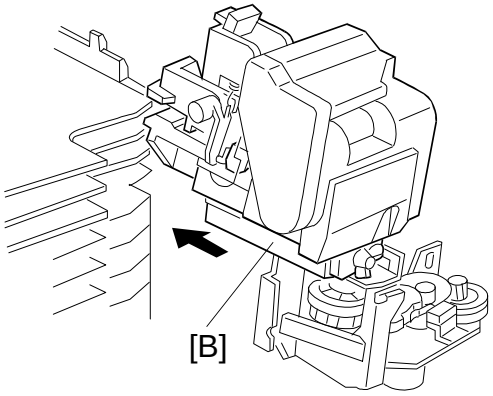
If there is an obstruction such as a finger [A] at the staple position pushing up the actuator [B], the staple safety switch [C] cuts the 24V line to the staple motor.

3.6 STAPLE UNIT SHIFT MECHANISM



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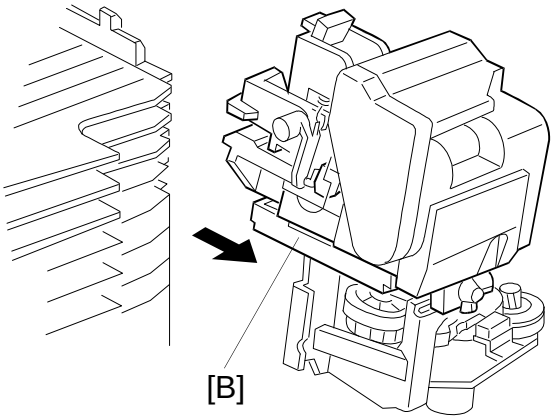

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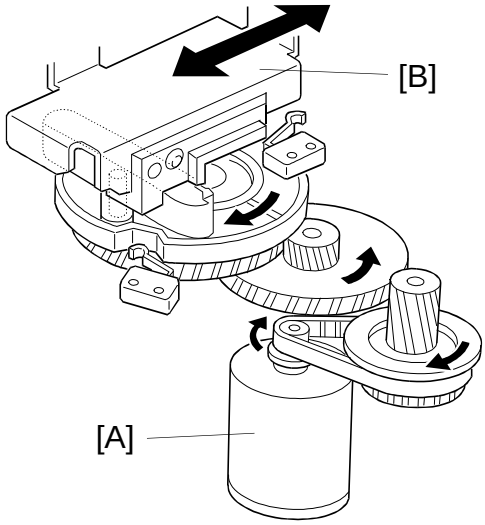

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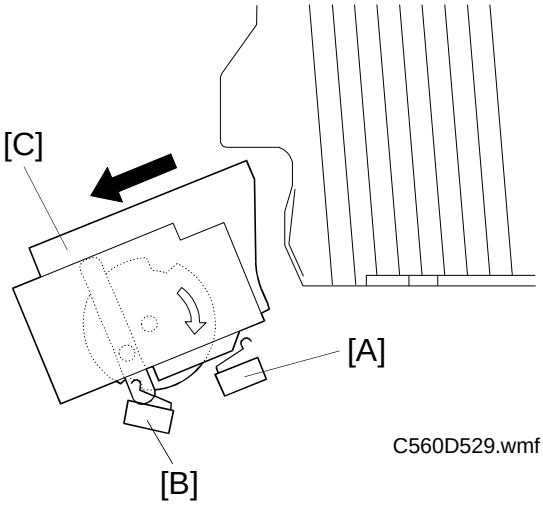
The staple unit shift motor [A] shifts the staple unit stand [B] to the stapling position. Before moving the bin unit up or down, the staple unit shift motor returns the staple unit stand to the home position to prevent the staple unit from interfering with copies in the bins.

3.7 STAPLE UNIT POSITION DETECTION



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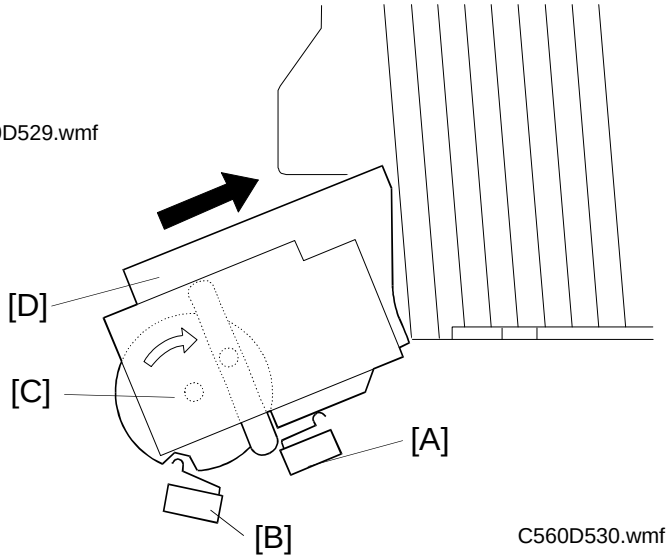

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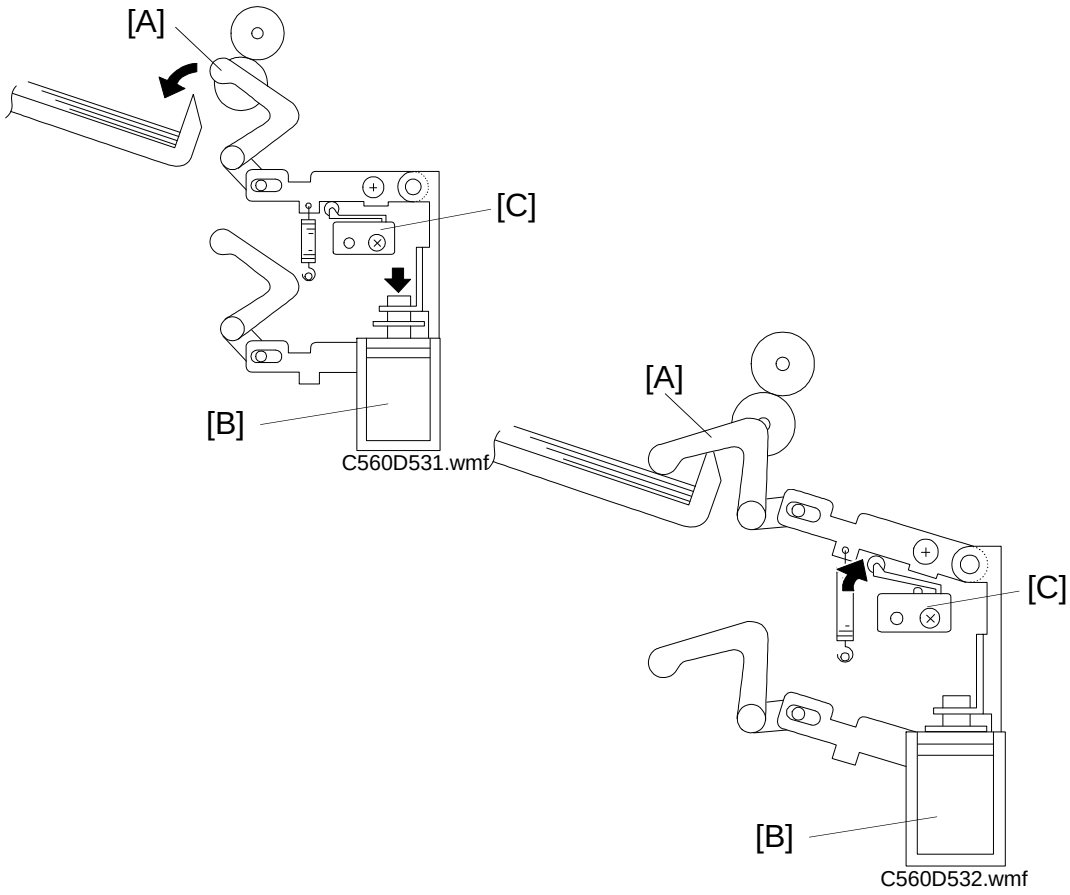
The position of the staple unit is detected by the staple position switch [A] and the staple unit movement switch [B]. When the staple unit is in the home position [C], both the switches are off. When the staple unit is in the stapling position [D], the stapling position switch is on and the staple unit movement switch is off. While the staple unit is moving between the two positions, both the switches are on.

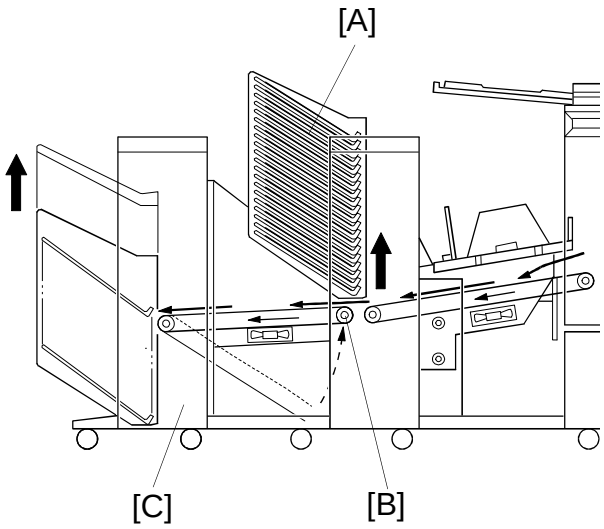
3.8 PAPER STACK HOLDING ARM



During stapling, the jogger bar holds the stack of paper from the side and the paper stack holding arm [A] holds the stack of paper from above. The paper stack holding arm solenoid [B] turns on to lower the paper stack holding arm. To prevent the paper stack holding arm from being damaged by the bin unit if the bin unit is shifted while the arm is holding the stack, the paper stack holding arm switch [C] cuts off the 24V line to the bin shift motor.

4. 2ND TRANSPORT UNIT

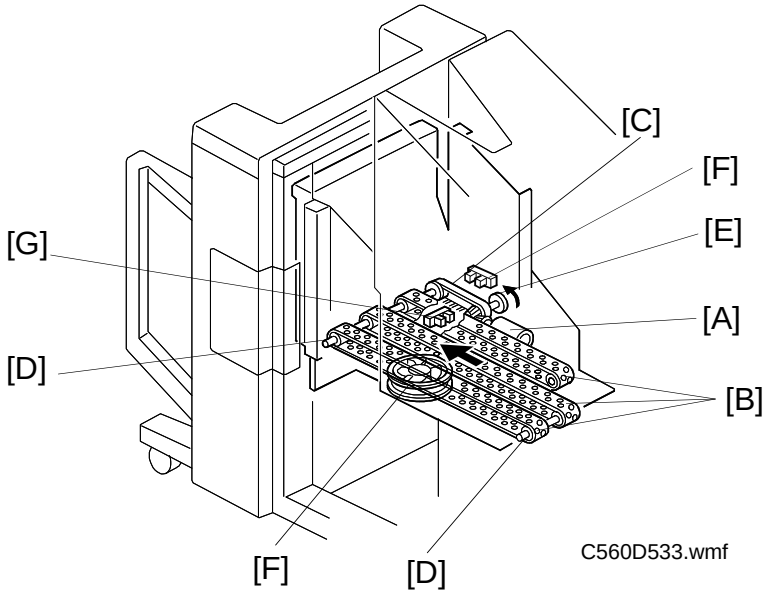
4.1 OVERVIEW



C560D534.wmf

When the 20th copy has been fed to the 1st sorter, the bin unit [A] is at its top position and the bin unit has raised the 2nd transport unit [B] to its ready position. The 21st to 40th copies are transported to the 2nd sorter [C] through the 2nd transport unit.

4.2 2ND TRANSPORT BELT DRIVE MECHANISM



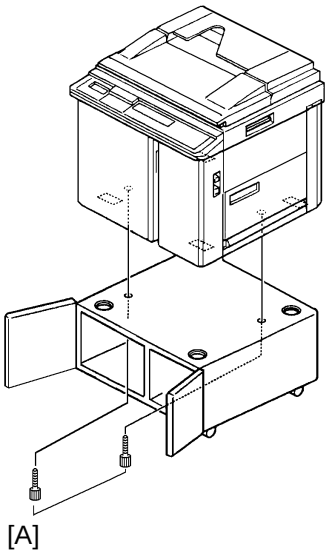
The 2nd transport motor [A] drives the transport belts [B] through the timing belt [C] and transport rollers [D]. The motor has a timing disk [E], which the 2nd transport motor rotation sensor uses for monitoring and controlling the 2nd transport motor rotation speed. The 2nd transport fan motor [F] is installed below this unit. This fan motor sucks air through the holes in the transport belt to hold the paper on the transport belts.

The 2nd transport sensor [G] determines the 2nd sorter bin shift timing and counts the copies by detecting the leading and trailing edges of copies passing through the sensor.

SECTION 3

INSTALLATION

1. INSTALLATION PROCEDURE



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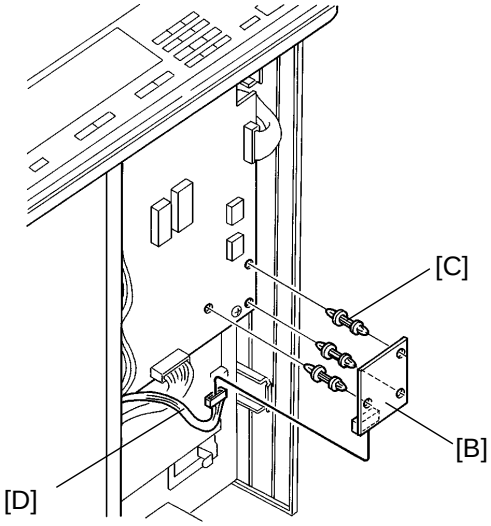

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1.1 FIRST SORTER ONLY, OR FIRST AND SECOND SORTERS

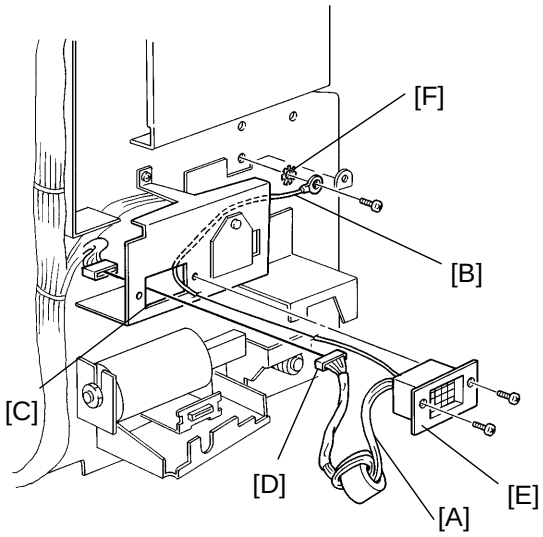
NOTE: 1. When both the sorter and LCT are to be installed, install the LCT first. Otherwise it will be difficult to adjust the LCT side registration.

2. If the LCT has been previously installed, it is required to change the positions of both the front and rear switch brackets inwards. Remove the LCT unit from the printer and carry out this step (refer to the LCT installation).

1. Turn off the main switch and unplug the power cord.
2. Make sure that the machine is secured to the table with 2 screws [A]. Also, make sure that the machine does not overhang the edge of the table.
3. Remove the Right Front Cover (loosen 2 screws and remove 2 screws) and the Rear Cover (remove 7 screws).

   NOTE: When installing the interface board [B] to the main board, the right side connector of main board should to meet the connector of the interface board.

4. At the front side of the machine, attach the Sorter Interface Board [B] to the Main Board with 3 Locking Spacers [C] and connect the connector [D] as shown in the diagram.



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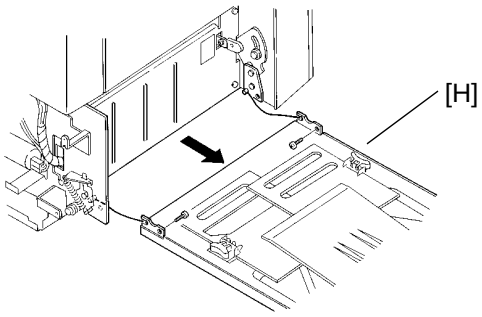

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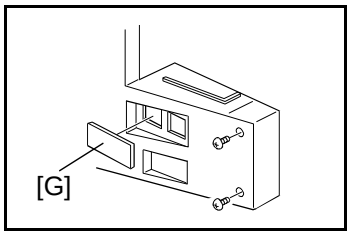

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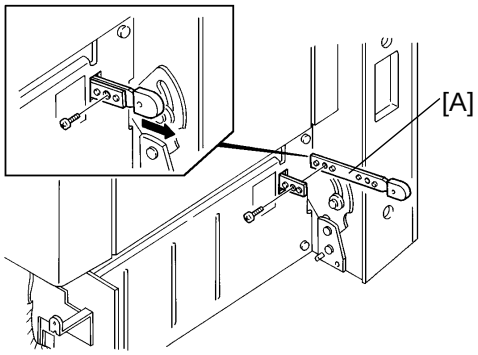
5. At the rear side of the machine, pass the Line Cable Connector harness [A] and wire [B] through the hole [C], connect the connector [D] and attach the Line Cable Connector [E] to the machine with 2 small screws (M3 X 6). Secure the wire [B] with 1 screw and a toothed washer [F].
6. Remove the upper cover plate [G] on the Rear Cover. Reinstall the Right Front Cover and the Rear Cover.
7. Remove the Delivery Table [H] (2 screws).



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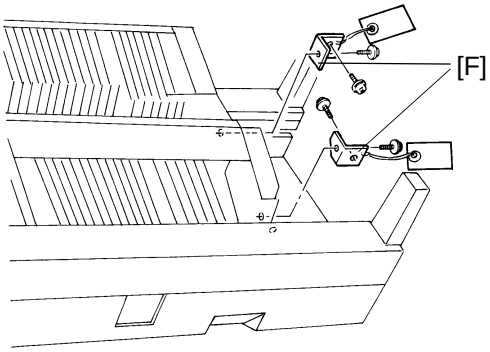

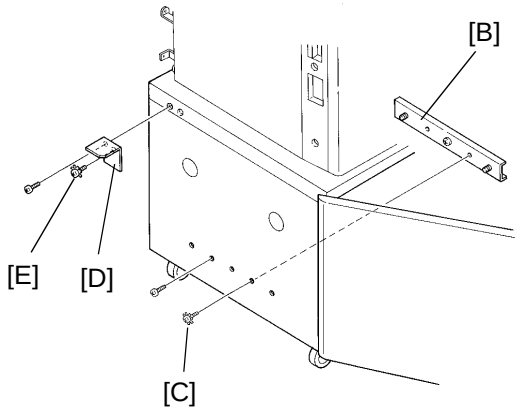

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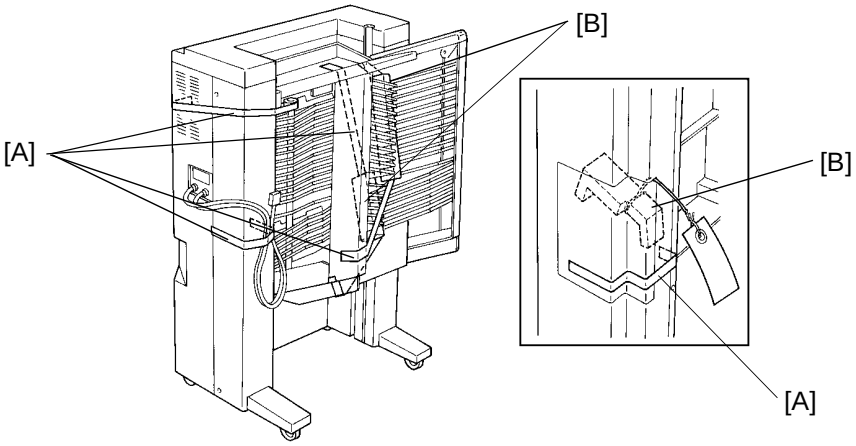
Note: Skip step 8 if the printer does not have the Wing Guide Release Lever [A].

8. Adjust the Wing Guide Release Lever [A] to the long position as shown in the diagram.
9. Attach the Table Bracket Plate [B] to the side of the table with 1 screw and 1 screw with a toothed washer [C]. Secure the Stay Bracket [D] with 1 screw (left, left view) and 1 screw with a toothed washer [E] (right, left view).
10. Remove the two brackets [F] securing the sorter bins (4 screws).



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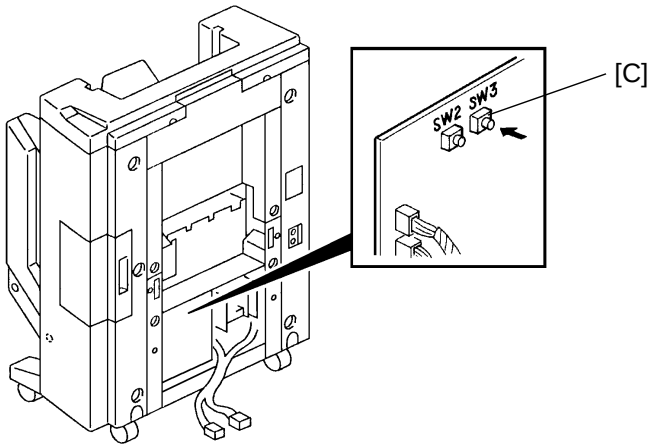

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11. Raise the sorter into the upright position and remove the tape strips [A] and the protection pads [B].

    NOTE: Skip steps 12 to 28 if the 2nd sorter is not installed.

12. If you are installing the second sorter at the same time, carry out the following procedure.

Plug in the power cord of the sorter unit.

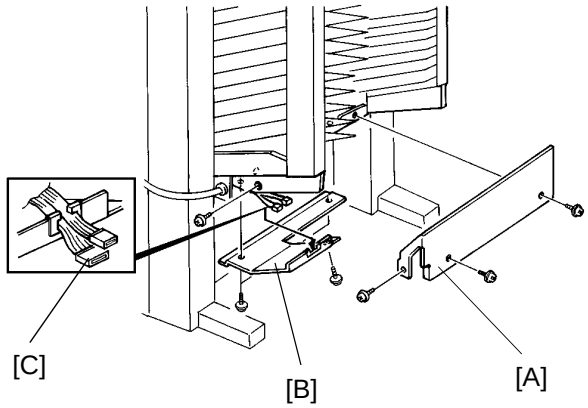
Raise the bin unit of the sorter unit to the top (to the 21st bin) by pressing SW3 on the sorter PCB [C] as shown in the diagram.

Unplug the power cord after step 12.

NOTE: Disregard this procedure if you are installing only the first sorter.

13. Turn off the main switch of the machine and unplug the power cord. Also, unplug the power cord of the first sorter.

    NOTE: It is easier to carry out steps 14 to 16 if the first sorter is laid down.



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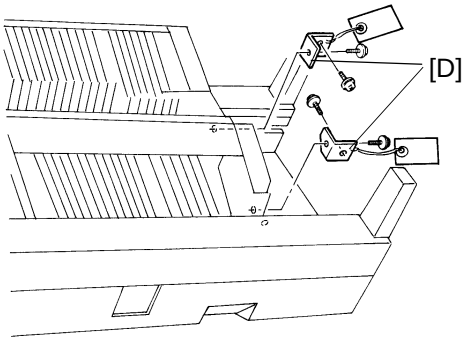

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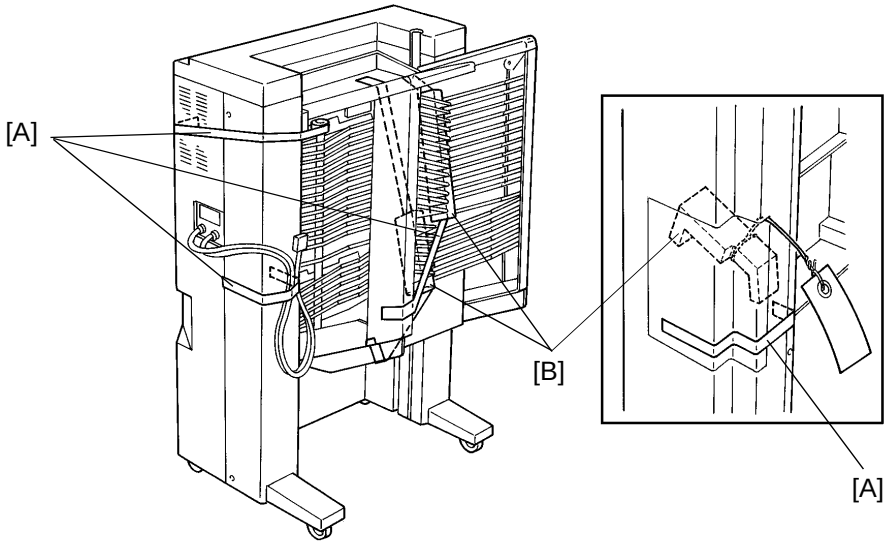
14. Remove the Bin Cover [A] (3 screws) from the first sorter.

    NOTE: Keep 2 screws and discard the Bin Cover. You will need the screws later in step 19.

15. Remove the Bottom Cover [B] (3 screws) from the first sorter. Pass the connector [C] through the cut-out as of the bottom cover shown in the diagram.

16. Reinstall the Bottom Cover with the 3 screws that you removed in the previous step.

17. Remove the 2 brackets [D] securing the sorter bins of the second sorter unit (4 screws).



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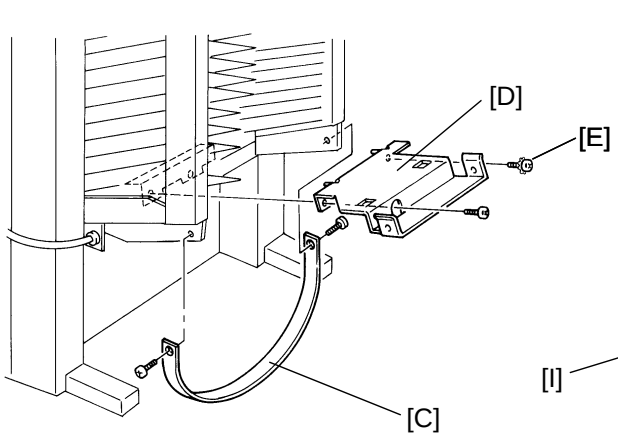

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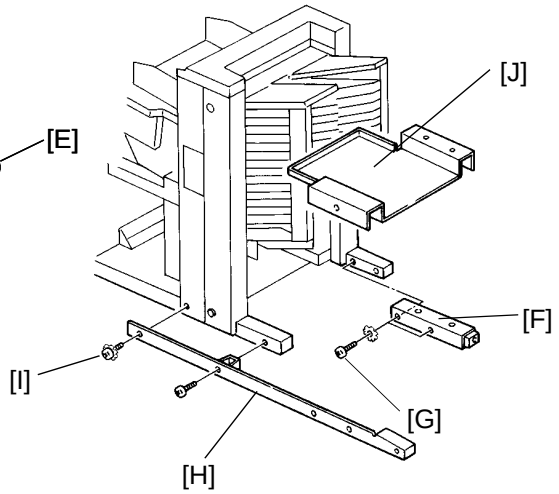

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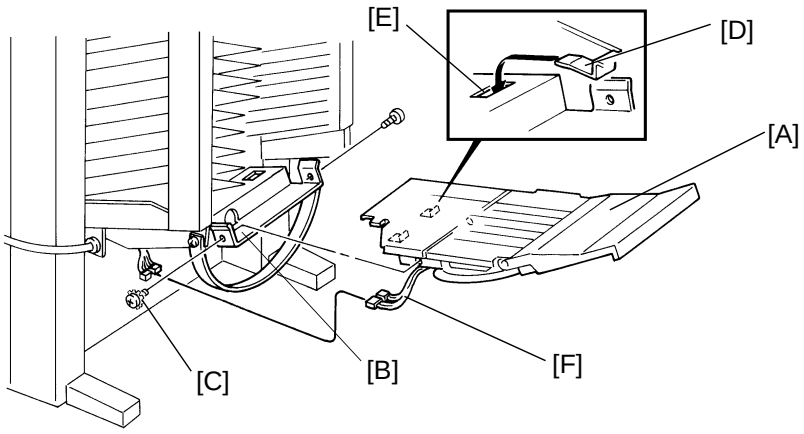
18. Raise the second sorter unit into an upright position and remove the tape strips [A] and the protection pads [B].

19. Attach the Holding Tape [C] to the first sorter unit with the 2 screws that you removed in step 14. Attach the Joint Bracket [D] to the Bottom Plate with 1 screw (left, left view) and 1 screw with a toothed washer [E] (right, left view).

20. Attach the Front Joint Stay [F] with 2 long screws (M4X10) and 1 toothed washer [G]. Attach the Rear Joint Stay [H] with 1 screw with a toothed washer [I] and 1 long screw (M4X10). Put the Joint Stay Cover [J] on top but do not screw it into place.



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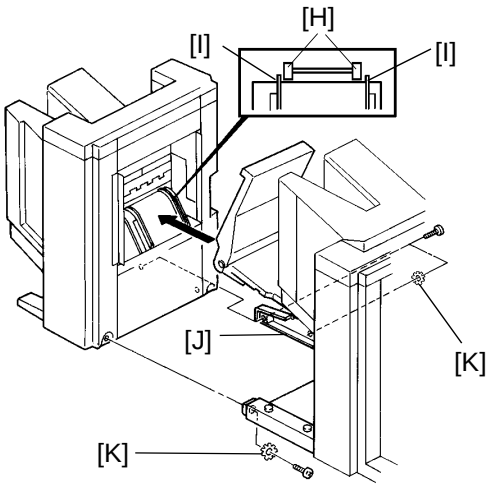

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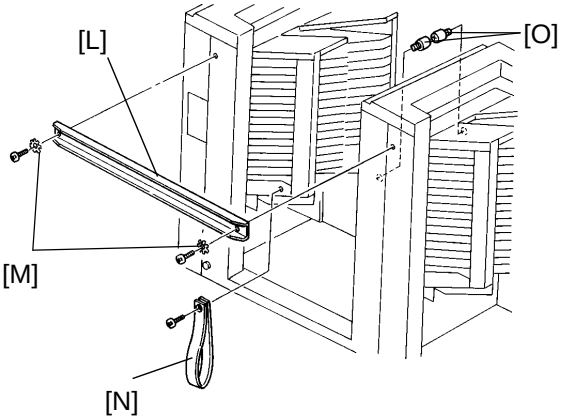

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21. Attach the Second Sorter Adapter Unit [A] to the Joint Bracket [B] with 1 screw and 1 screw with a toothed washer [C]. (Insert the 2 positioning tabs [D] into the docking holes [E].)
    Connect 2 connectors [F] as shown in the diagram.

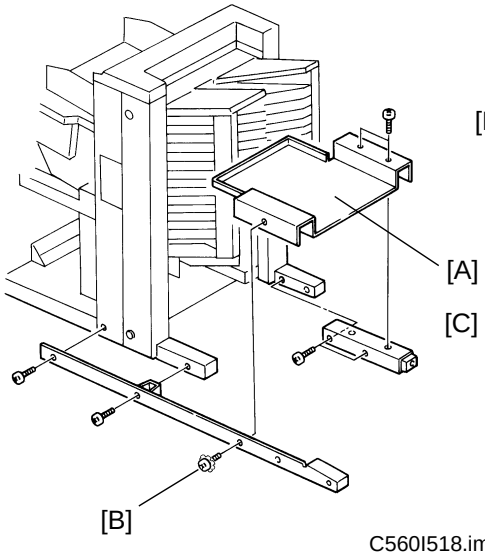
    NOTE: When attaching the Front Joint Stay [G], the 2 rollers [H] on the Adapter Unit should be inside the guide rails [I] on the second sorter.

22. Attach the Front Joint Stay [G] and the Rear Joint Stay [J] to the 2nd sorter with 3 long screws (M4X10) and 2 toothed washers [K].

23. Remove 2 screws on the rear side of the sorters. (Discard these screws.) Attach the Upper Joint Stay [L] with 2 long screws (M4X10) and 2 toothed washers [M].

24. Remove the Holding Tape [N] and add it to the rear side of the first sorter for any required later use.

25. Attach the Stopper Screws [O] to the second sorter.



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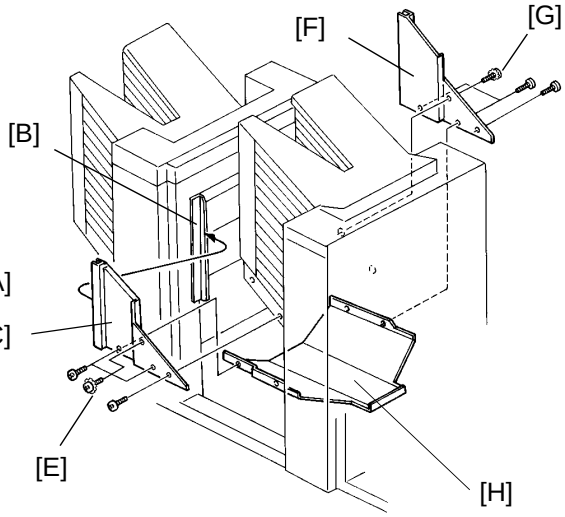

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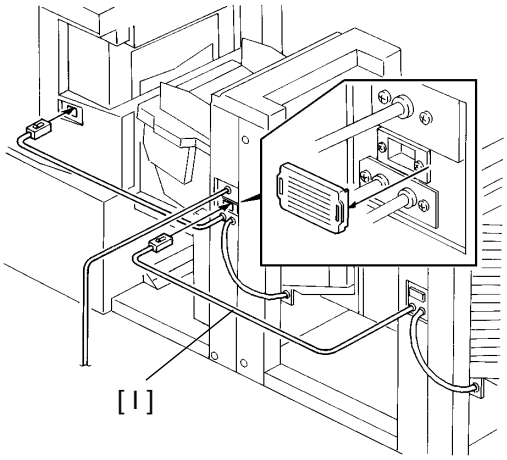

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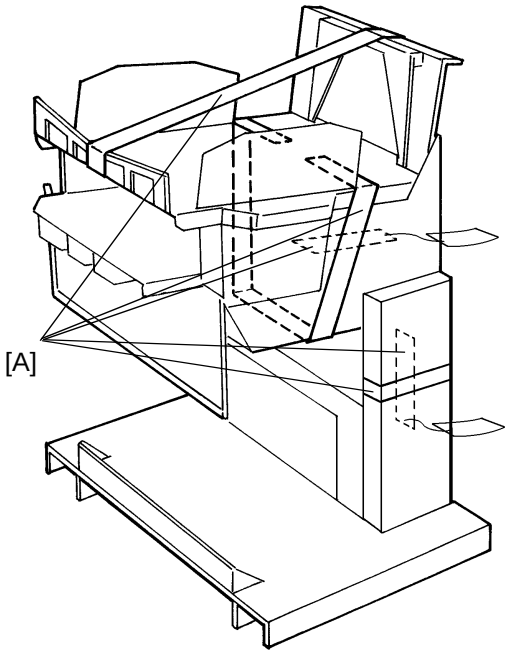
26. Secure the Joint Stay Cover [A] that you positioned in step 10 with 2 screws and 1 screw with a toothed washer [B].
27. Slide the Lower Front Cover [C] up the guide rails [D] and secure it with 1 screw and 1 screw with a 1 toothed washer [E]. Attach the Lower Rear Cover [F] in the same way with 1 screw and 1 screw with a toothed washer [G]. Attach the Second Sorter Bottom Cover [H] with 3 screws and 1 screw with a toothed washer [G].
28. Connect the 2nd Sorter Line Cable [I] into the 1st sorter.



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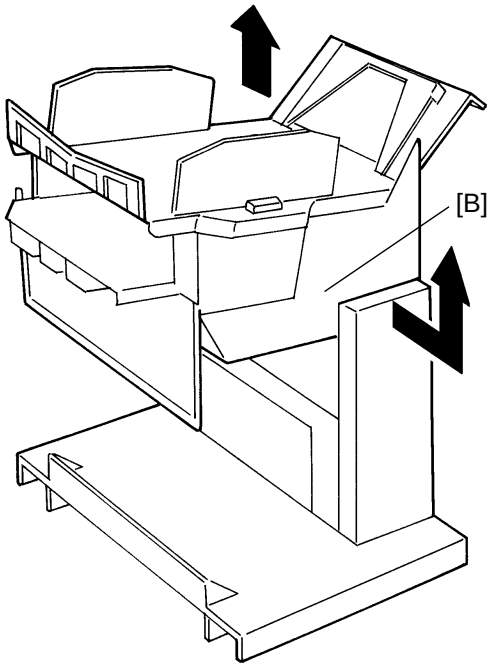

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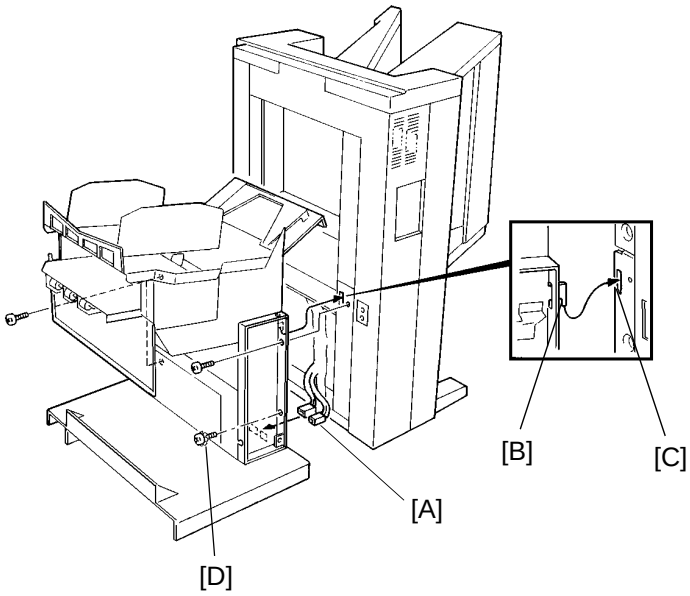
29. Remove the tape strips [A] on the Sorter Adapter Unit.
30. Holding the upper body of the Adapter Unit [B] as shown in the diagram, lift it up to the highest position (there should be three clicks).



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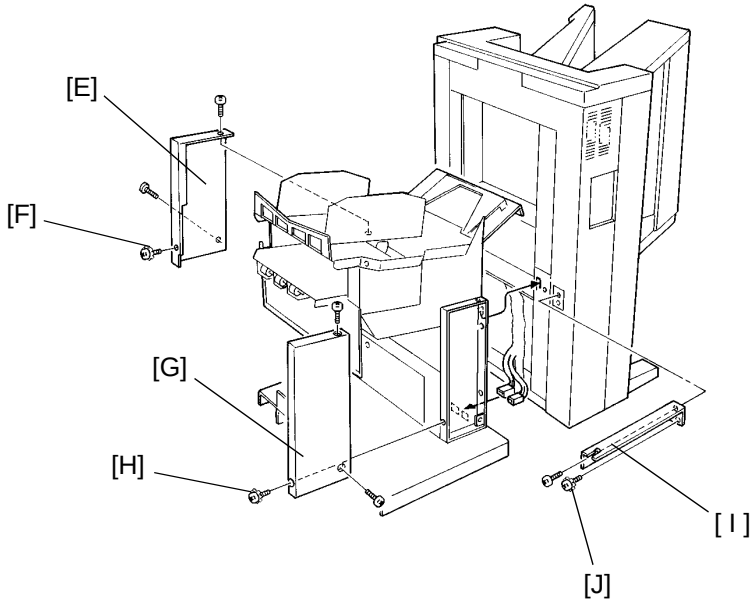

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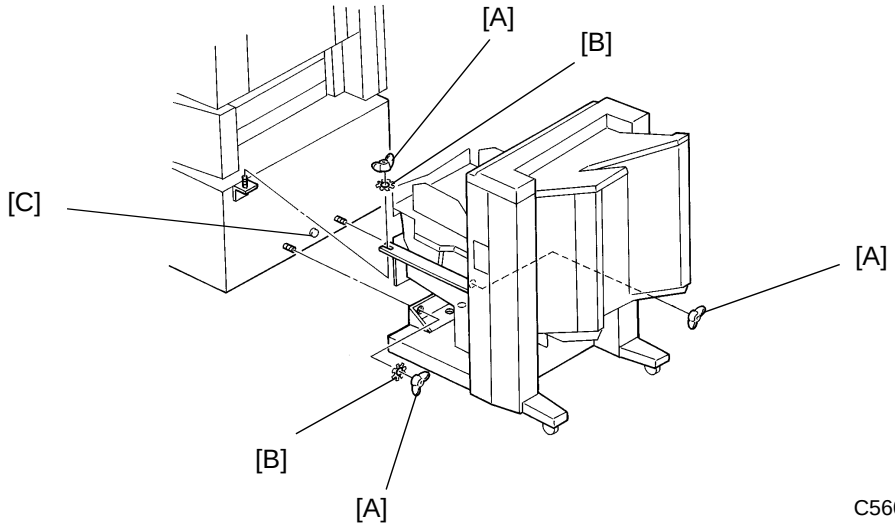
31. Connect the connector [A] from the Sorter to the Adapter Unit. Hook the docking tabs [B] on the cutouts [C] and secure the Adapter Unit to the Sorter Unit with 3 screws and 1 screw with a toothed washer [D].

32. Attach the Front Side Cover [E] with 2 screws and 1 screw with a toothed washer [F]. Attach the Rear Side Cover [G] with 2 screws and 1 screw with a toothed washer [H]. Attach the Sorter Table Stay [I] to the Sorter with 1 screw and 1 screw with a toothed washer [J].



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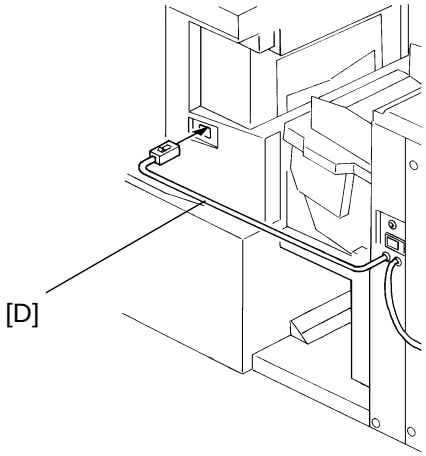

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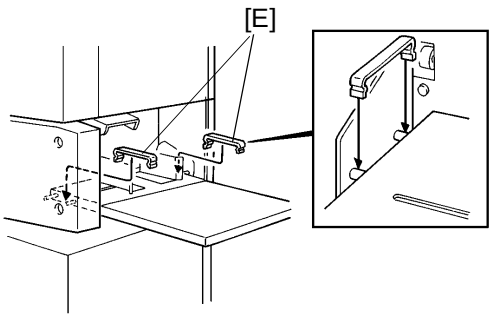

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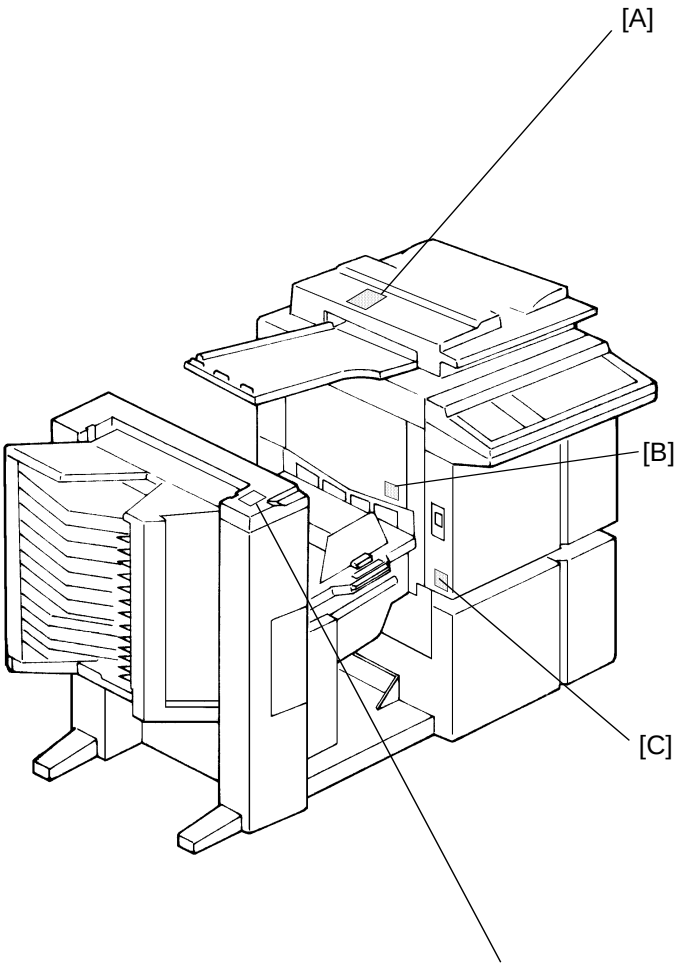
33. Secure the Sorter Unit to the machine with 3 wing nuts [A] and 2 toothed washers [B]. Make sure that the Positioning Pin [C] fits through the hole in the Adapter Unit.
34. Connect the Line Cable [D] from the Sorter Unit to the machine.

    Note: Skip step 35 when the LCT is installed.
35. Open the Paper Feed Table and place the Movement Eliminators [E] on both sides of the Paper Table.(When the LCT is installed).



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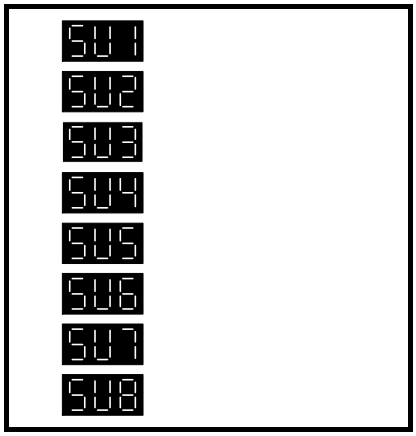

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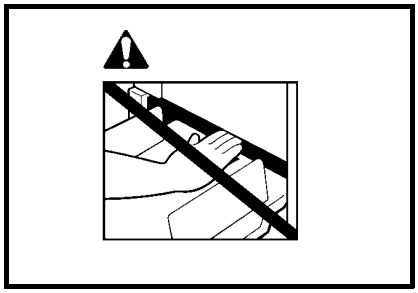

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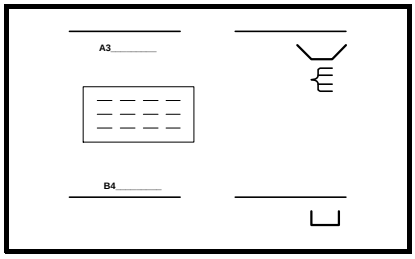

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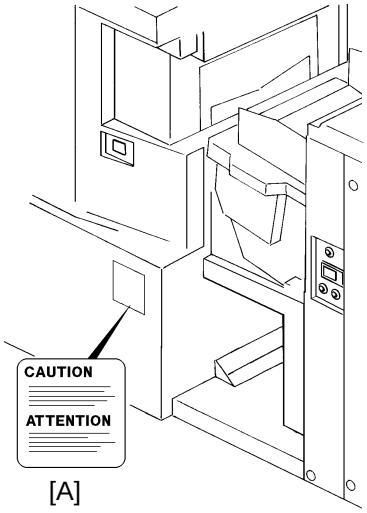
4. Pull the lock lever right and close the tray. After removing the jammed paper, press the reset button on the operation panel.

4. Tirer la manette de droite et fermer le plateau. Après avoir retiré le papier coinoé, appuyer sur la touche Reset sur le tableau de bord.

4. Raste nach rechts zlehen und Auffangtlsch schließen. Nach Entfernung des Paplerstaus die Rücksetztaste am Bedlenungsfeld drücken

36. Place 4 decals [A] [B] [C] and [D] on the machine.

Note: 1. Skip placing the decal [A] if the printer has a guidance display.
2. Skip placing the decal [C] if the printer does not have the wing guide release lever.



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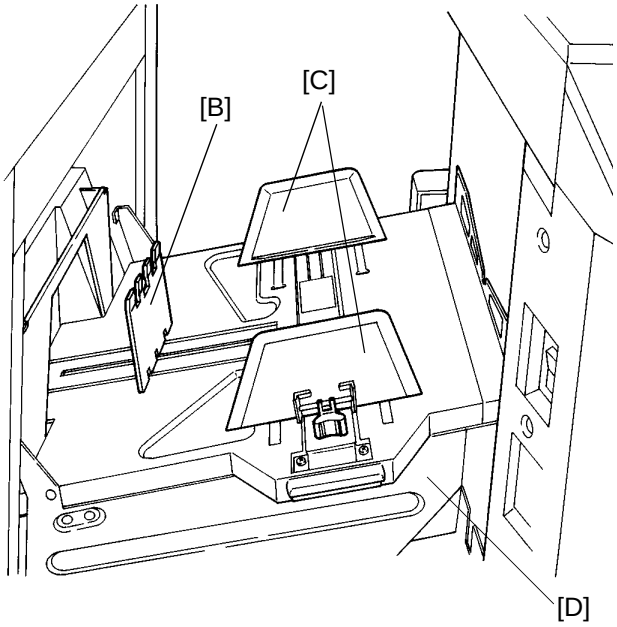

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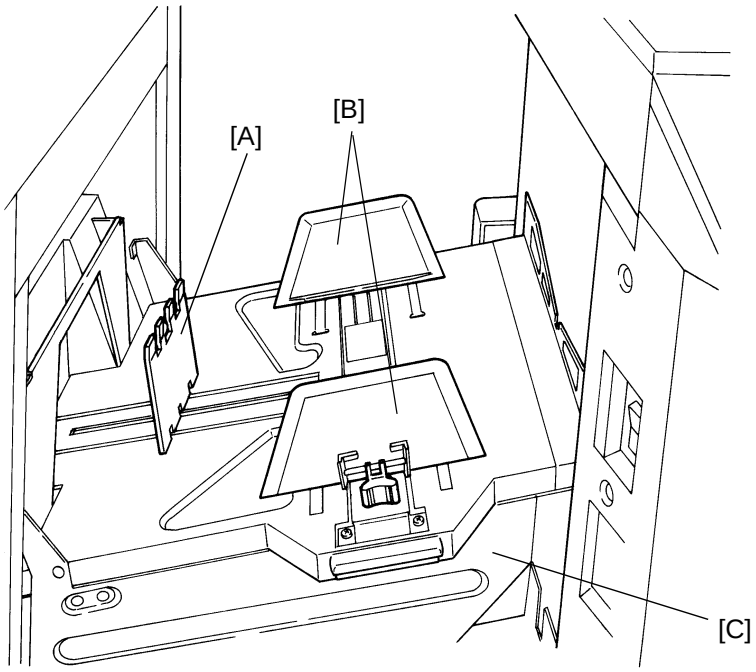
Note: Step 37 is only for the U.S.A. version.

37. Place the caution decal [A] on the machine table (Except C560-22, C560-27).
38. Neatly stack the printing paper on the table and adjust the Side Plates.
39. Adjust the position of the End Fence [B] and the Side Fences [C] on the Non-Sort Tray [D] according to the printing paper size.
40. Plug in the power cord of the Sorter Unit.
    The socket-outlet shall be installed near the equipment and shall be easily accessible.
41. Plug in the power cord of the machine and turn on the main switch.
42. Access the SP mode and change the setting of SP7 from 0 to 1.
43. Make some test prints to check the machine.

1.2 ADDING A SECOND SORTER



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1. Follow steps 12 to 28 of the first sorter installation.
2. Neatly stack the printing paper on the table and adjust the Side Plates.
3. Adjust the position of the End Fence [A] and the Side Fences [B] on the Non-Sort Tray [C] to match the printing paper size.
4. Plug in the power cord of the 1st Sorter Unit.
   The socket-outlet shall be installed near the equipment and shall be easily accessible.
5. Plug in the power cord of the machine and turn on the main switch.
6. Store the sorter settings in the machine using the Service Program Mode.
7. Make some test prints to check the machine.

SECTION 4

SERVICE REMARKS

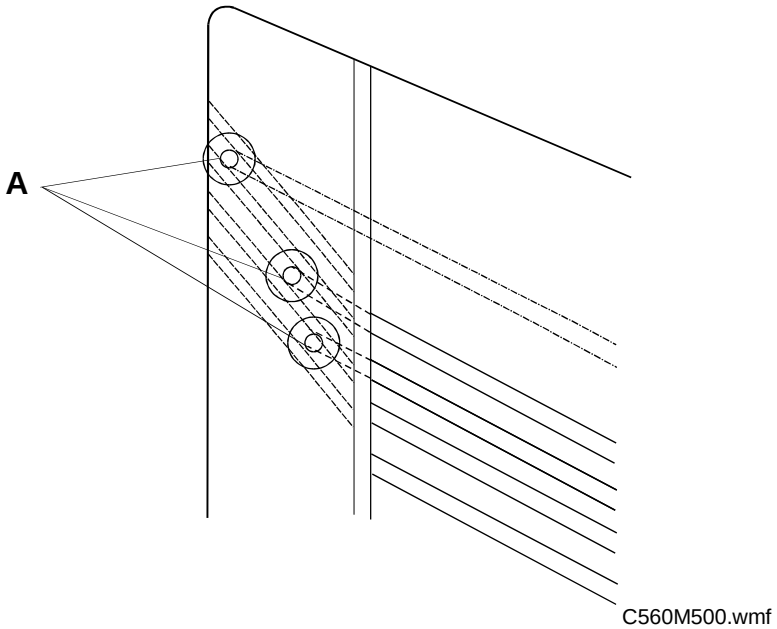
1. SERVICE REMARKS

1. Disconnect the power plugs of the main frame and the sorter during maintenance.
2. If a circuit breaker or a fuse opens, check and remove the cause of the overcurrent before resetting the breaker or replacing the fuse.
3. Do not operate SW2 or SW3 on the sorter main control board to rise or lower the bin unit if the 1st transport unit is installed. There is a danger of the 1st transport unit dropping suddenly.
4. Do not transport the machine up or down stairs or over a step while the main frame and sorter unit are connected. Otherwise, the connecting rails will be deformed.
5. Do not put your hand under the master eject unit during machine operation, because it may get trapped when the 1st transport unit lifts up.
6. Do not put your hand or leg on the 2nd transport unit during machine operation.

2. LUBRICATION POINTS

Lubricate after removing adhering ink and paper dust every two years.

Section	Item	Type
Sorter	Helical wheels	Grease (G-501)
	Bin shift motor pinion gears	Grease (G-501)
	Bin rollers	Grease (G-501)
	Bin roller guide	Grease (G-501)
	Bin guide plates (A in the illustration below)	Oil (Cosmo Allpus 56)
1st/2nd transport unit	Transport belt drive pinion gears	Grease (G-501)
	Paper delivery table drive pinion gears	Grease (G-501)



C560M500.wmf

3. SWITCH/VR/LED TABLES

SWITCHES

Switch No.	Function	Remarks
SW 1	DIP switches for test mode	Refer to the test mode section.
SW 2	Bin unit down	Press this switch to lower the bin unit.
SW 3	Bin unit up	Press this switch to raise the bin unit.

Do not operate SW2 or SW3 to raise or lower the bin unit when the 1st transport unit is installed. There is a danger of the 1st transport unit dropping suddenly.

VRs

VR No.	Function	Remarks
VR 100	Bin/jam sensor adjustment	Refer to the test mode section.

LEDs

LED No.	Function	Remarks
LED 100	Bin/jam sensor	Use to check the bin/jam sensor or the staple end sensor. Refer to the test mode section.

4. TEST MODE

The following tests can be used to test sorter operation instead of using SP modes, only when the sorter is not connected to the main frame. The following table shows the DIP SW 1 setting for each test mode.

Test No.	Function	DIP SW 1 (Sorter Main Board)					
		1	2	3	4	5	6
0	Normal mode (Default setting)	OFF	OFF	OFF	OFF	OFF	OFF
1	Bin/jam sensor check	OFF	OFF	OFF	OFF	OFF	ON
2	1st transport motor test	OFF	OFF	OFF	OFF	ON	OFF
3	Staple end sensor check	OFF	OFF	OFF	OFF	ON	ON
4	2nd transport motor test	OFF	OFF	OFF	ON	ON	ON
5	Sorter unit operation test	OFF	OFF	ON	OFF	OFF	ON
6	Paper delivery table motor test	OFF	OFF	OFF	ON	OFF	OFF
7	Sort operation test	OFF	OFF	OFF	ON	OFF	ON

Disconnect the power plugs of the sorter and main frame while changing the DIP switch settings.

1. Bin/jam sensor check

This test is equivalent to main frame input check mode (SP130) No. 74 (1st sorter) or No. 90 (2nd sorter).

1-1. Confirm that LED 100 is off.

1-2. Put a sheet of translucent paper (TA80) on the top bin.

1-3. Confirm that LED 100 blinks.

1-4. If the LED indication is incorrect, adjust using VR 100.

2. 1st transport motor check

This test is equivalent to main frame output check mode (SP131) No. 61.

2-1. Press the manual staple key to turn on the 1st transport motor.

2-2. Press the manual staple key again to stop the motor.

NOTE: E-21 will be displayed if the 1st transport motor speed is abnormal.

3. Staple end sensor check

This test is equivalent to main frame input check mode (SP130) No. 70 (1st sorter) or No. 86 (2nd sorter).

3-1. Confirm that LED 100 is off when there are no staples.

3-2. Put a sheet of translucent paper (TA80) on the top bin.

3-3. Confirm that LED 100 blinks when there are staples present.

If the LED indication is incorrect, check the circuit and replace any defective parts.

4. 2nd transport motor test

This test is equivalent to main frame output check mode (SP131) No. 62.

4-1. Press the manual staple key to turn on the 2nd transport motor.

4-2. Press the manual staple key again to stop the motor.

NOTE: The bins return to home position, then rise to the uppermost position. If the staple cover or 2nd transport cover is opened, the motor stops. E-34 will be displayed if the 1st transport motor speed is abnormal.

5. Sorter unit operation test

Main frame output check mode (SP131) No. 71 is also a sorter operation test.

5-1. Press the manual staple key to start the sort with stapling simulation.

5-2. Press the manual staple key again to stop the machine operation.

6. Paper delivery table motor test

This test is equivalent to main frame output check mode (SP131) No.60.

6-1. Press the manual staple key to start the paper delivery table motor. The paper delivery table moves between the sort position and the non-sort position.

6-2. Press the manual staple key to stop the motor.

7. Sort operation test

Main frame output check mode (SP131) No. 71 also a sorter operation test.

7-1. Press the manual staple key to start the sort staple mode simulation. The machine works as if 20 sets (40 sets if the 2nd sorter is installed) of 5 A3 sheets are sorted and stapled after the proof print is delivered.

7-2. Press the manual staple key again to stop the machine operation.

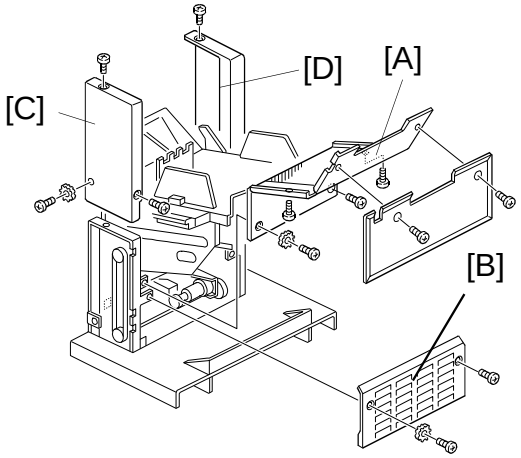
NOTE: If the staple cover or the 1st transport cover is opened, the operation stops.

SECTION 5

REPLACEMENT AND ADJUSTMENT

1. REPLACEMENTS

1.1 PAPER DELIVERY TABLE UNIT REMOVAL



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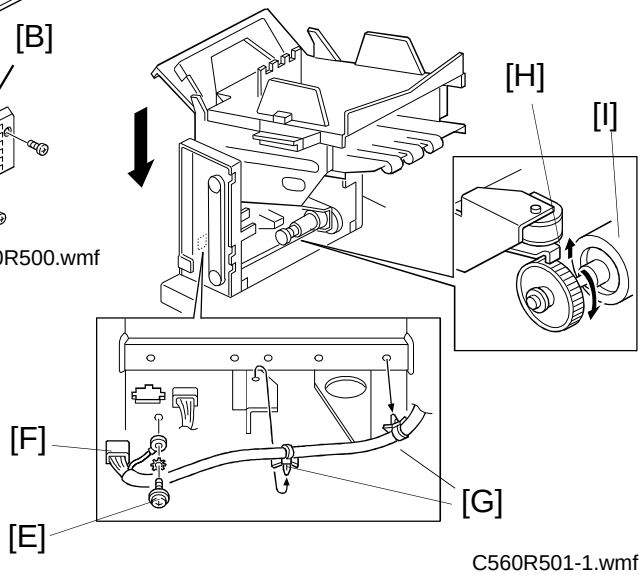

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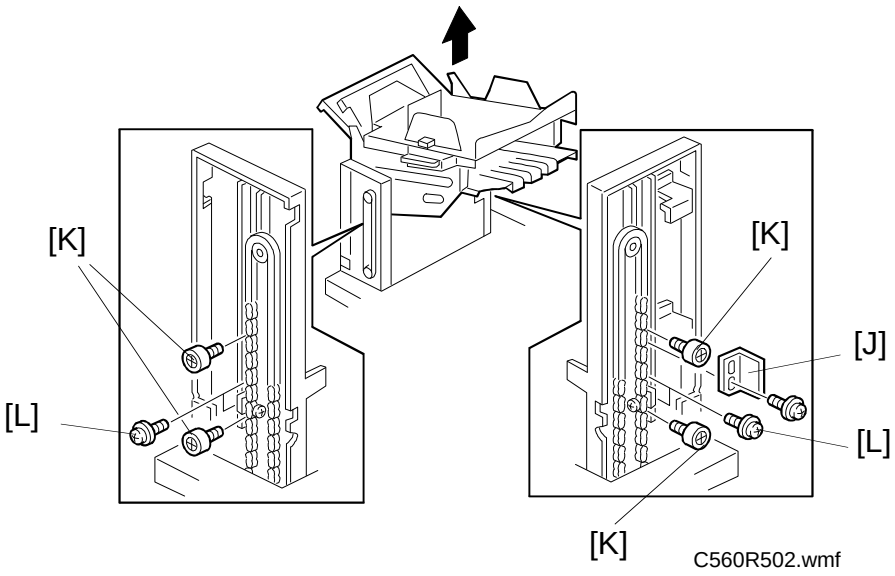
1. Remove the transport fan under cover [A]. Remove the delivery table drive unit's right under cover [B].
2. Remove the front cover [C] and the rear cover [D] of the paper delivery table drive unit.
3. Remove the screw [E] holding the grounding wire.
4. Remove the 15-pin connector [F] and pull the wire with two clamps [G] away from the machine.
5. Manually release the paper delivery motor stopper [H]. Carefully lower the paper delivery table unit by turning the paper delivery motor [I].

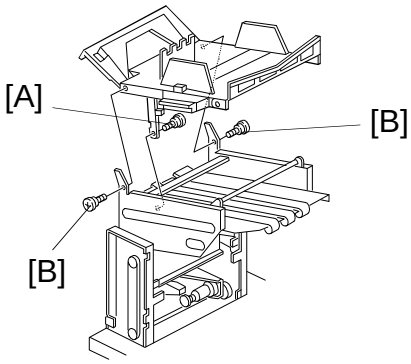
⚠CAUTION:

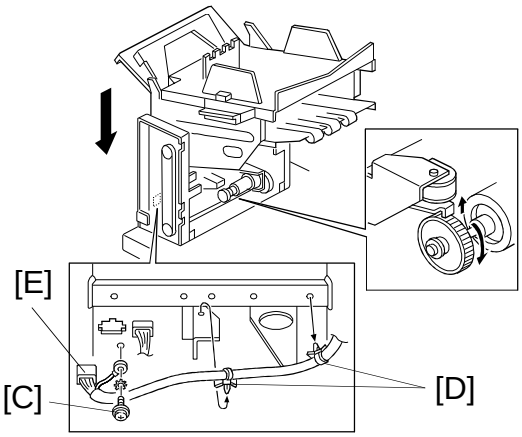
Be careful not to have your hand caught when the paper delivery table moves down.



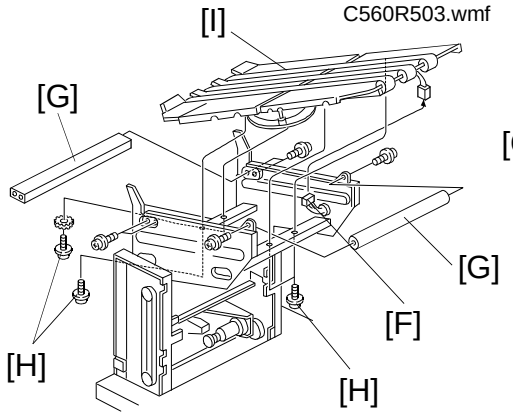
6. Remove the actuator bracket [J] (2 screws). Remove the four slide guide rollers [K] while supporting the delivery table unit.
7. Remove the 4 screws [L] (2 front and 2 rear) holding the chain bracket to the paper delivery table unit.
8. Remove the paper delivery table unit.

1.2 TRANSPORT BELT UNIT REMOVAL





C560R501-2.wmf

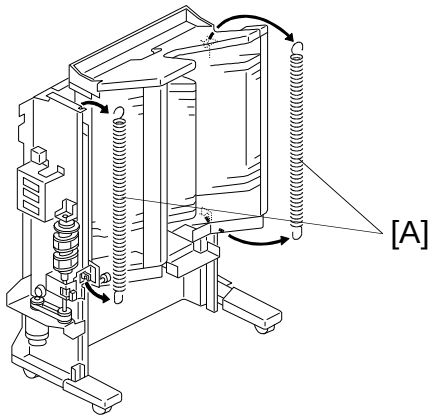


C560R503.wmf

C560R543.wmf

1. Raise the paper delivery table unit to the highest position.
2. Remove the transport fan under cover and the lower right cover of the delivery table drive unit.
3. Remove the stepper screw [A] supporting the paper delivery table open link.
4. Remove the two stepper screws [B] supporting the paper delivery table. Remove the paper delivery table.
5. Remove the screw [C] holding the grounding wire. Pull the wire with two clamps [D] away from the machine and disconnect the 15-pin connector [E].
6. Disconnect the 4-pin connector [F].
7. Remove the two stays [G].
8. Remove the 4 screws [H] holding the transport belt unit.
9. Remove the transport belt unit [I].

1.3 BIN UNIT REMOVAL



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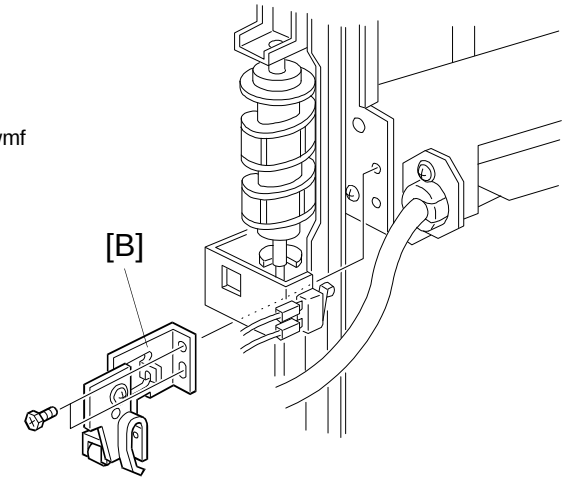

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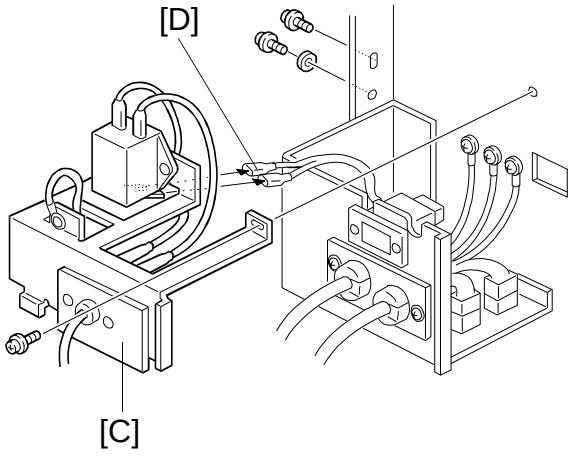
1. Raise the paper delivery table unit to the highest position (for removal of the 1st sorter bin unit only).
2. Raise the bin unit to the upper position using output check mode (SP131) No. 63 (1st sorter) or 67 (2nd sorter).

⚠CAUTION:

Do not use SW3 on the sorter main board to raise the bin unit when the 1st transport unit is installed. There is a danger of the 1st transport unit dropping suddenly.

3. Disconnect the power plugs of the sorter and the printer's main body.
4. Remove the upper cover, front cover, and the rear cover.
5. Remove the front and rear springs [A] of the bin unit.
6. Remove the frame holder [B] (2 screws).



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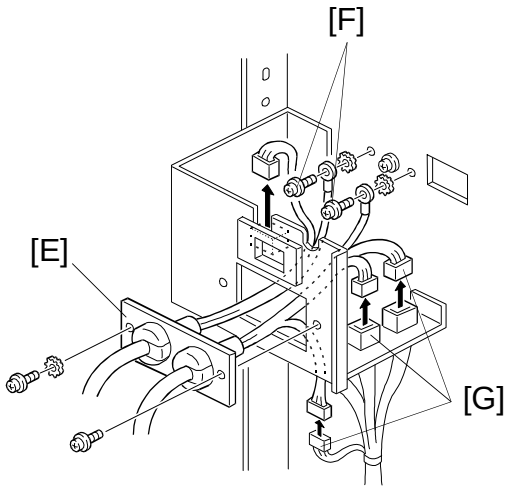

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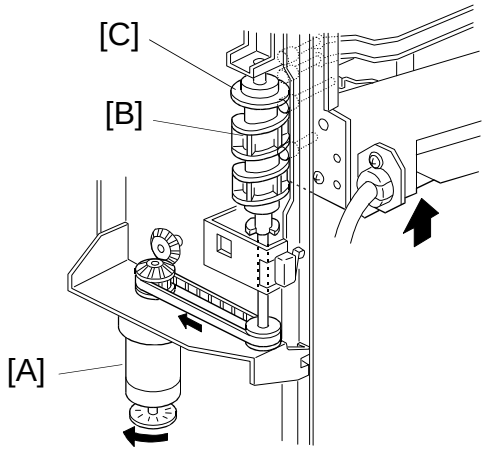
7. Remove the power cord unit [C] (3 screws) (1st sorter only).

   NOTE: The connectors [D] of the 115V machines cannot be disconnected. Allow the power cord unit to hang from the harness.

8. Remove the cable holder [E] (2 screws).

9. Remove the two screws [F] holding the grounding wires. Disconnect the three connectors [G].



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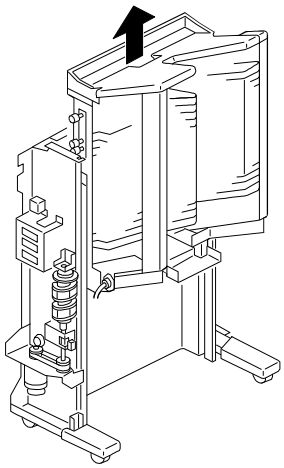

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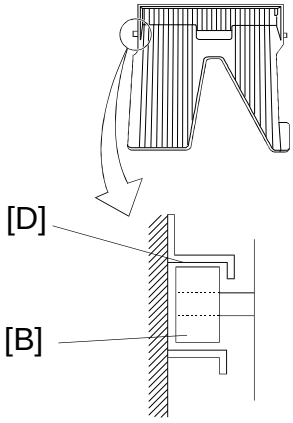

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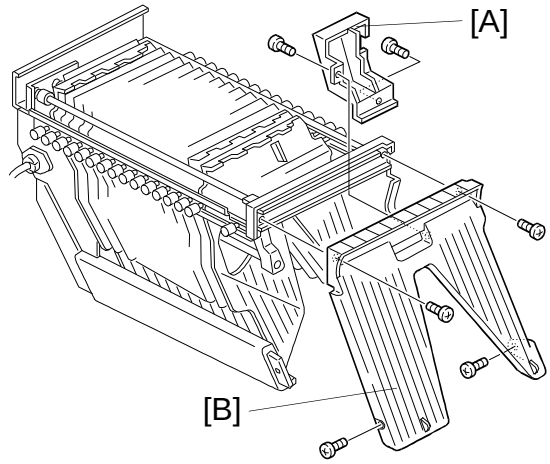
10. Manually turn the bin shift motor [A] while pushing up the bin unit until all the bin rollers [B] are above the helical cam [C].

11. Remove the bin unit.

    NOTE: When reinstalling the bin unit, check that each bin roller [B] is set properly in the roller guide [D].

1.4 BIN REMOVAL



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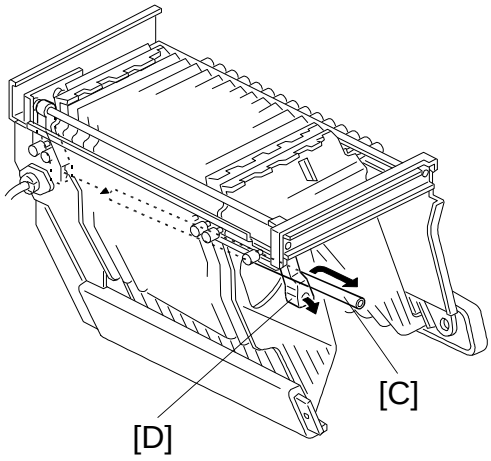

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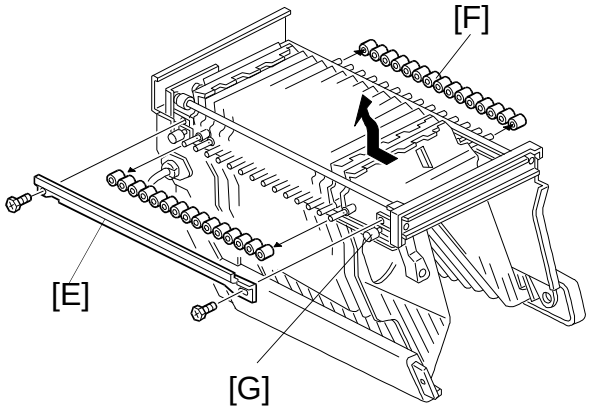

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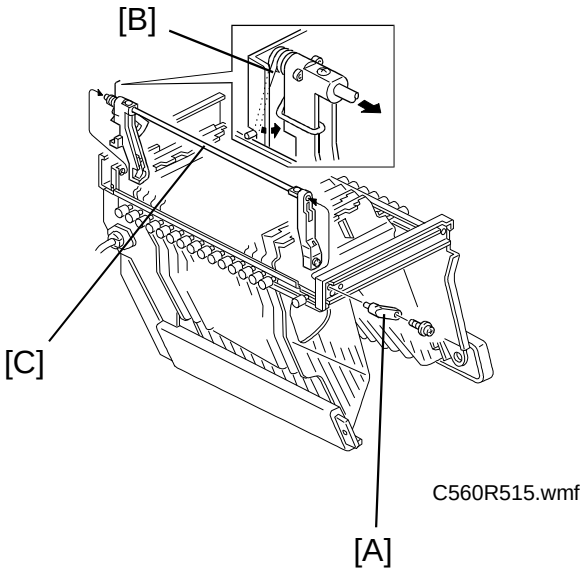
1. Remove the bin unit (see Bin Unit Removal).
2. Remove the dummy bin under cover [A]. Remove the dummy bin [B] (4 screws).
3. Take the guide bar [C] off the holder [D], and remove it.
4. Remove the bin roller guide plate [E] (2 screws).
5. Remove all the bin rollers [F] and remove the bins.

NOTE: Do not loosen the screw that holds the bin unit guide shaft [G]. If you must move the guide shaft, mark the screw position before loosening the screw.

1.5 JOGGER BAR UNIT REMOVAL



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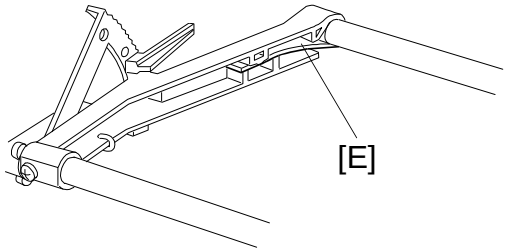

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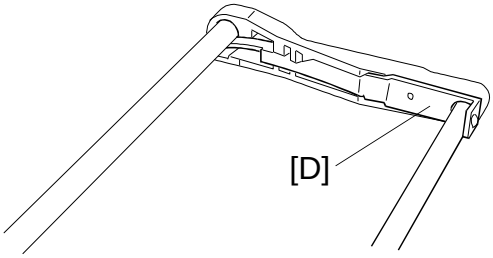

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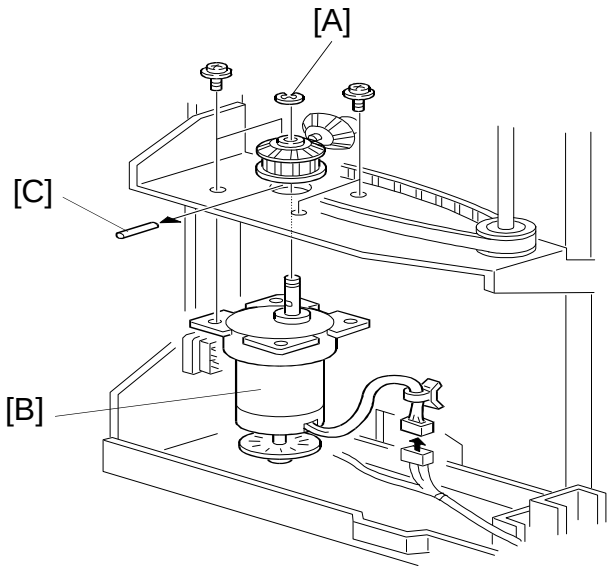
1. Remove the bin unit.
2. Remove the dummy bin under the cover (2 screws). Remove the dummy bin (4 screws). See Bin Removal.
3. Remove the jogger bar holder [A] (1 screw).
4. Unhook the spring [B] and slide out the jogger bar unit [C].

NOTE: When reinstalling the jogger bar, be sure to install the spring plates [D and E] correctly as shown above.

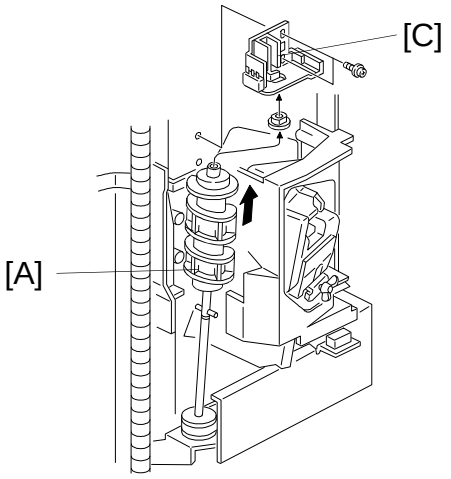
1.6 BIN SHIFT MOTOR REMOVAL



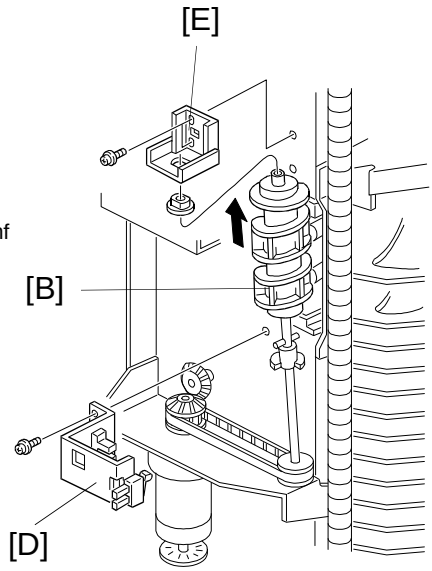
C560R518.wmf

1. Remove the upper cover and rear cover of the sorter unit.
2. Remove the E-ring [A] on the bin shift motor [B] shaft.
3. Remove the pin [C] and remove the bin shift motor (4 screws).

1.7 HELICAL WHEEL REMOVAL



C560R519.wmf



C560R520.wmf

1. Lower the bin unit to the bottom position using output check mode (SP131) No. 66 (1st sorter) or 70 (2nd sorter).

⚠CAUTION:

Do not use SW2 on the sorter main board to lower the bin unit when the 1st transport unit is installed. There is a danger of the paper delivery unit dropping suddenly.

NOTE: Do not remove both front [A] and rear [B] helical wheels at the same time. The bin unit will drop.

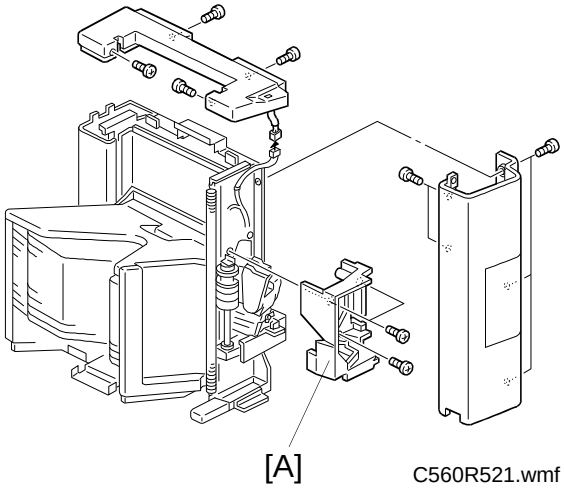
- Front helical wheel -

2. Remove the holder [C] (2 screws) and remove the helical wheel.

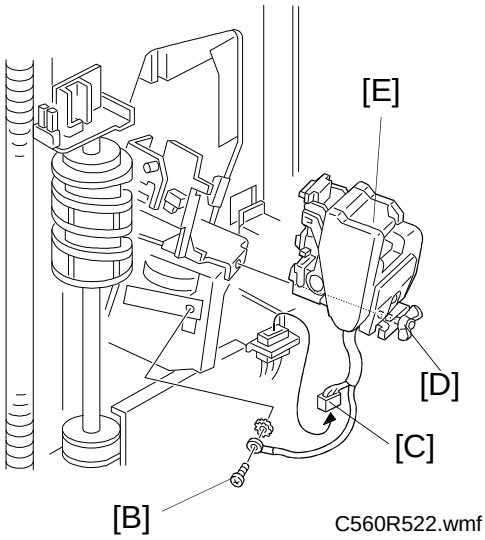
- Rear helical wheel -

2. Remove the helical wheel home position sensor bracket [D] (2 screws).
3. Remove the holder [E] (2 screws) and remove the helical wheel.

1.8 STAPLE UNIT REMOVAL



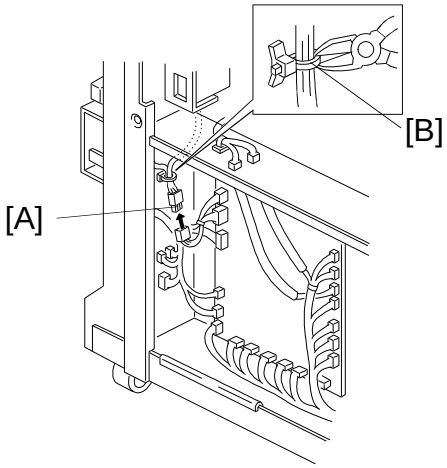
C560R521.wmf



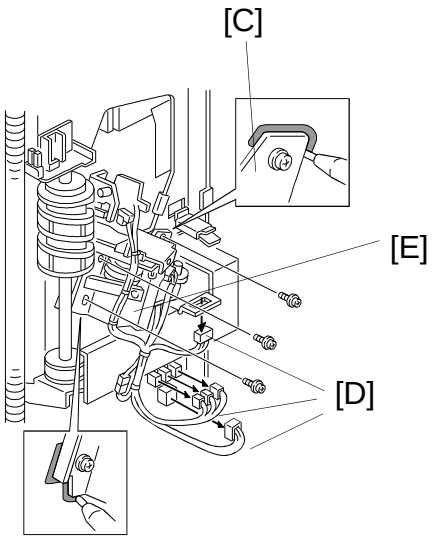
C560R522.wmf

1. Remove the upper cover and the front cover of the sorter unit.
2. Remove the inner cover [A] (3 screws).
3. Remove the screw [B] holding the grounding wire.
4. Disconnect the connector [C].
5. Loosen the wing nut [D] and remove the staple unit [E].

1.9 STAPLE MOVEMENT UNIT REMOVAL



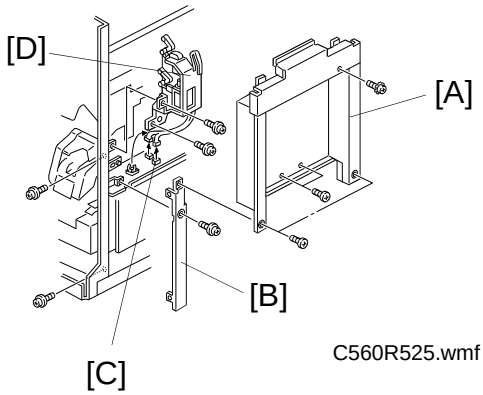
C560R523.wmf



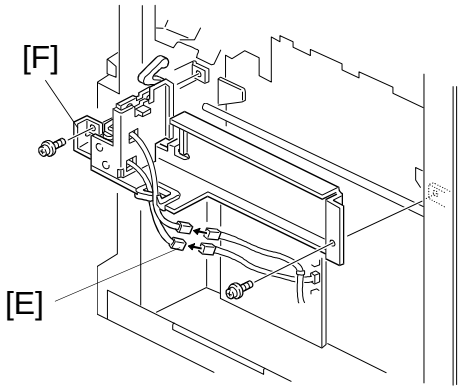
C560R524.wmf

1. Remove the upper cover, front cover and the inner cover.
2. Remove the staple unit (see Staple Unit Removal).
3. Remove the lower right cover.
4. Disconnect the 3-pin connector [A] for the staple position sensor. Cut the harness clamper [B].
5. Mark the bracket position [C].
6. Disconnect the 5 connectors [D] and remove the staple movement unit [E] (3 screws).

1.10 PAPER STACK HOLDING ARM SOLENOID REMOVAL



C560R525.wmf



C560R526.wmf

- 1st sorter -

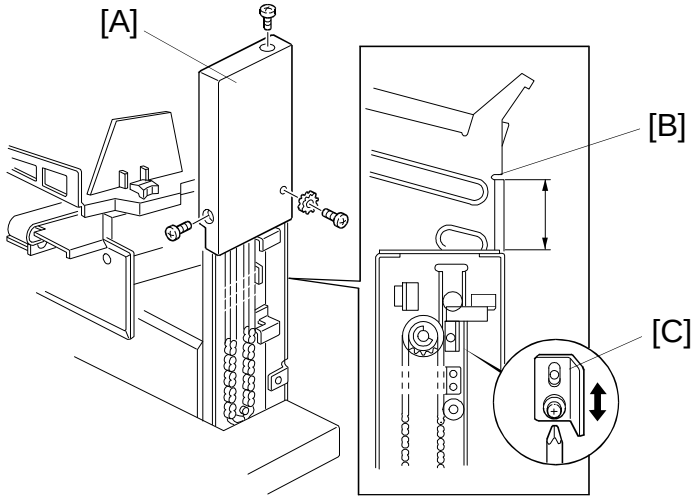
1. Disconnect the 1st transport unit from the printer.
2. Disconnect the 1st transport unit from the 1st sorter.
3. Remove the upper cover and the front cover of the sorter.
4. Remove the inner cover. Remove the staple unit (see Staple Unit Removal).
5. Remove the right upper cover [A] (5 screws).
6. Remove the bracket [B] (3 screws).
7. Disconnect the two connectors [C] of the paper stack holding arm solenoid.
8. Remove the solenoid bracket [D] (2 screws).
9. Remove the paper stack holding arm solenoid (2 screws) from the bracket.

- 2nd sorter -

1. Disconnect the 2nd transport unit from the 2nd sorter.
2. Remove the upper cover and the front cover.
3. Remove the upper right cover and the lower right cover.
4. Disconnect the two connectors [E] and remove the paper stack holding arm solenoid [F].

2. ADJUSTMENTS

2.1 1ST TRANSPORT UNIT SORT POSITION ADJUSTMENT



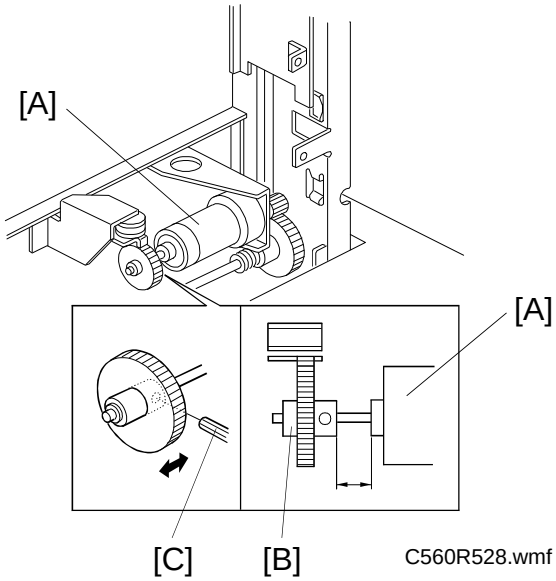
C560R527.wmf

Purpose: To ensure proper paper feed to the 1st sorter unit.

Adjustment Standard: 87.4 ± 0.2 mm

1. Access output check mode (SP131) and select No. 60.
2. Hold the Print Start key until the paper delivery table stops at the uppermost position.
3. Disconnect the sorter power plug and remove the rear cover [A] of the 1st transport unit.
4. Measure the distance between the notch [B] and the top of the paper table drive unit. The specified distance is 87.4 ± 0.2 mm.
5. If the distance is not within the specification, loosen the screw holding the slitter bracket [C] and adjust the bracket position.

2.2 PAPER DELIVERY MOTOR STOPPER POSITION ADJUSTMENT

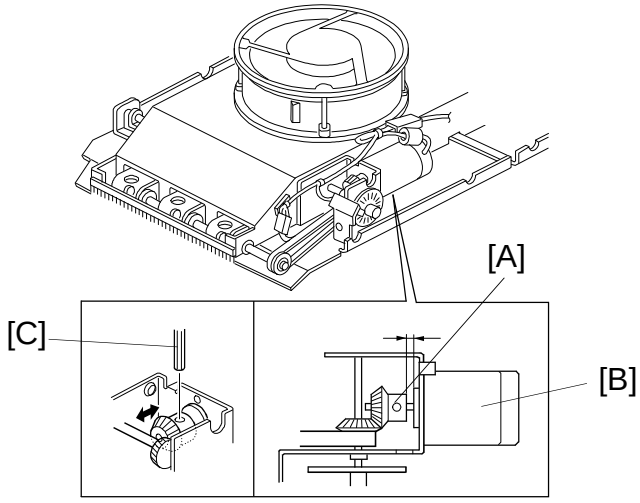


Purpose: To ensure that the stopper keeps the delivery unit in position when the paper delivery table motor is off.

Adjustment standard: 17.5 ± 0.5 mm

1. Remove the fan cover and the the under cover.
2. Measure the distance between the motor [A] and the gear [B]. The specified distance is 17.5 ± 0.5 mm.
3. If the distance is not within the specification, loosen the Allen screw [C] and adjust the gear position.

2.3 TRANSPORT MOTOR PINION GEAR POSITION ADJUSTMENT (1ST AND 2ND)



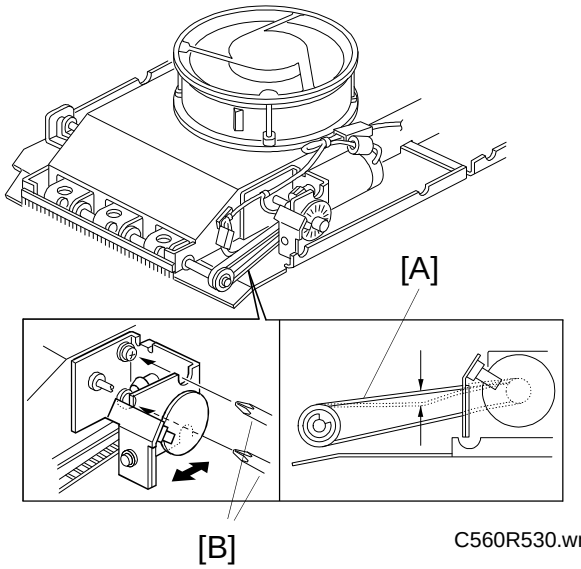
C560R529.wmf

Purpose: To ensure proper engagement between the pinion gears.

Adjustment Standard: 3.5 ± 0.1 mm

1. Remove the transport belt unit (see Transport Belt Unit Removal).
2. Measure the distance between the pinion gear [A] and the motor [B]. The specified distance is 3.5 ± 0.1 mm.
3. If the distance is not within the specification, loosen the Allen screw [C] and adjust the gear position.

2.4 TRANSPORT MOTOR POSITION ADJUSTMENT (1ST AND 2ND TRANSPORT UNIT)

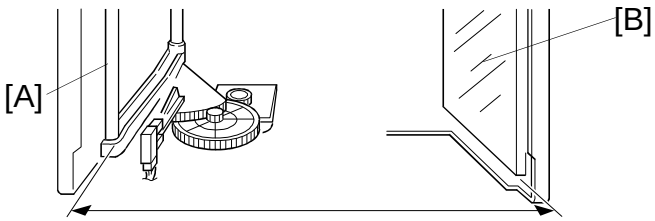


Purpose: To ensure proper transmission of force from the motor to the belts.

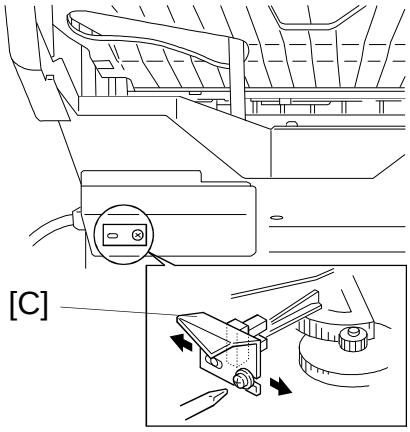
Adjustment Standard: 4 mm when a 100 g pressure is applied.

1. Remove the transport belt unit (see Transport Belt Unit Removal).
2. Apply a 100 g pressure to the center of the belt [A]. Make sure the belt deflects 4 mm.
3. If the distance is not within the specification, loosen the two screws [B] and adjust the transport motor bracket position.

2.5 JOGGER BAR HOME POSITION SENSOR POSITION ADJUSTMENT



C560R531.wmf



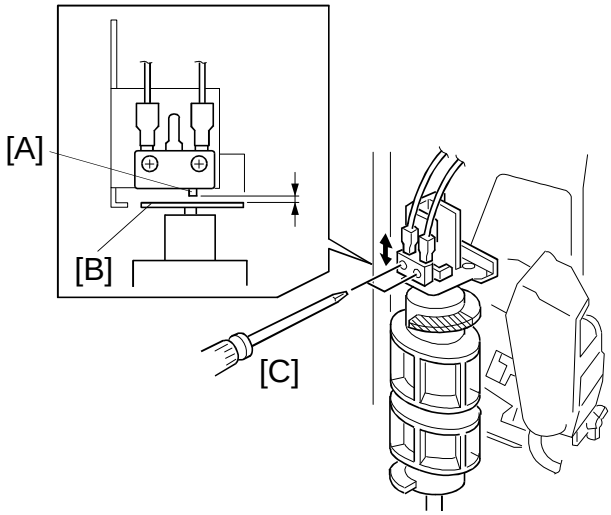
C560R532.wmf

Purpose: To ensure that the paper stacks in the bins are arranged properly.

Adjustment Standard: 315.5 mm

1. Confirm that the distance between the jogger bar [A] and the plate [B] is 315.5 ± 0.5 mm.
2. If the distance is not within the specification, loosen the screw holding the jogger bar H. P. sensor bracket [C] and adjust the sensor position.
   - To adjust the sensor position for the 1st sorter, raise the bins to the highest position using output check mode (SP131) No. 63.
   - To adjust the sensor position for the 2nd sorter, remove the bin's bottom cover.

2.6 BIN UNIT OBSTACLE SWITCH ADJUSTMENT



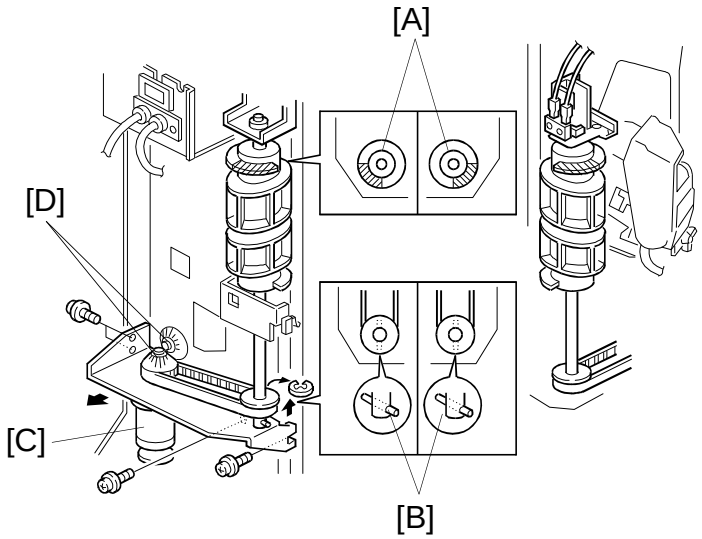
C560R533.wmf

Purpose: To ensure that the bin shift motor stops immediately when an obstacle interrupts the bin's downward movement.

Adjustment Standard: 1.5 mm

1. Remove the upper cover and the front cover.
2. Confirm that the distance between the switch actuator [A] and the top of the helical wheel [B] is 1.5 mm.
3. If the distance is incorrect, loosen the two screws [C] holding the switch bracket, and adjust the switch position.

2.7 HELICAL WHEEL POSITION ADJUSTMENT

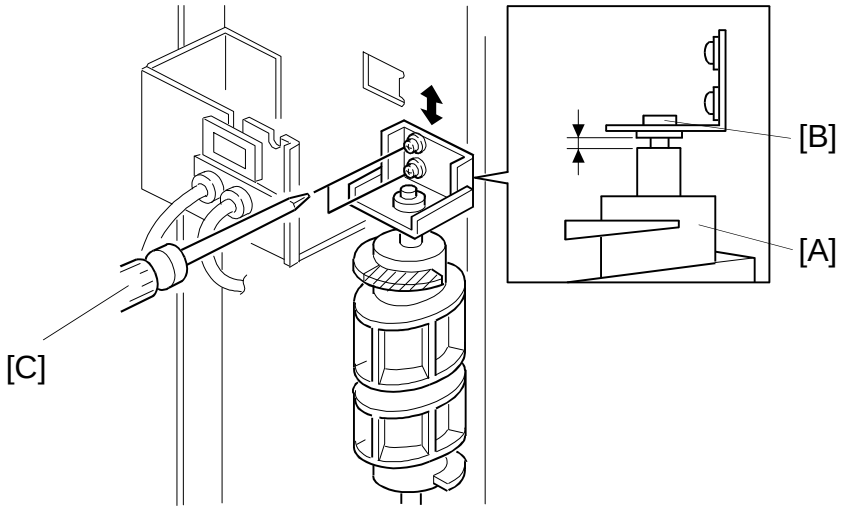


C560R535.wmf

Purpose: To ensure that the bins keep level during vertical movement.

1. Remove the upper and lower rear stays.
2. Remove the upper cover, front cover, and rear cover.
3. Confirm that the positions of the metal plates [A] on the front and rear helical cams are as shown in the illustration. At this time, the pins [B] on the helical cams should be parallel to each other.
4. If the relationship of the two helical wheel positions is incorrect, remove the bin shift motor rotation sensor bracket (near the pulse disk immediately below the bin shift motor; 1 screw). Loosen the 4 screws that hold the bin shift motor [C]. Change the relationship of the pinion gears [D] until the helical wheel positions are correct.

2.8 HELICAL CAM HOLDER POSITION ADJUSTMENT



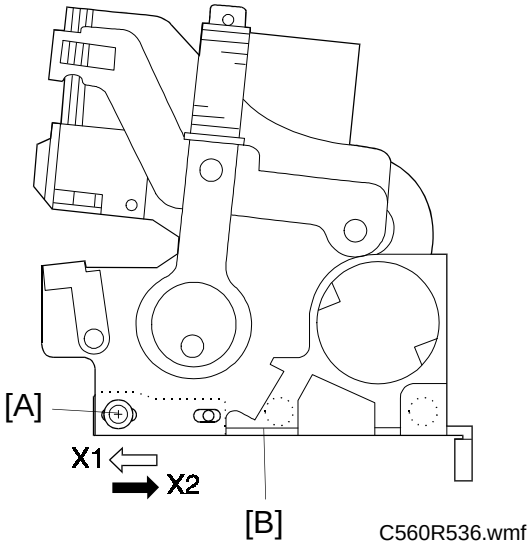
C560R534.wmf

Purpose: To ensure that the helical wheel moves smoothly and the bin obstacle switch functions properly.

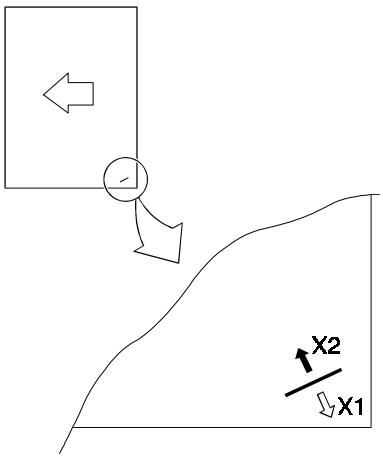
Adjustment standard: 0.4 mm to 0.5 mm

1. Remove the upper cover and the front cover.
2. Confirm that the gap between the helical wheel [A] and the bearing [B] is 0.4 mm to 0.5 mm.
3. If the gap is not within the specification, loosen the two screws [C] and adjust the helical wheel holder position.

2.9 STAPLE POSITION ADJUSTMENT



C560R536.wmf

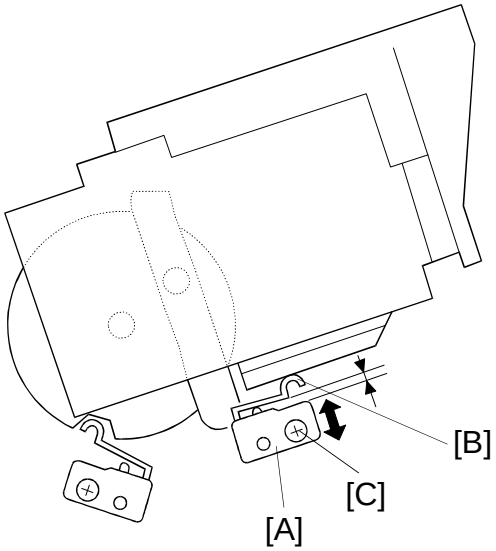


C560R537.wmf

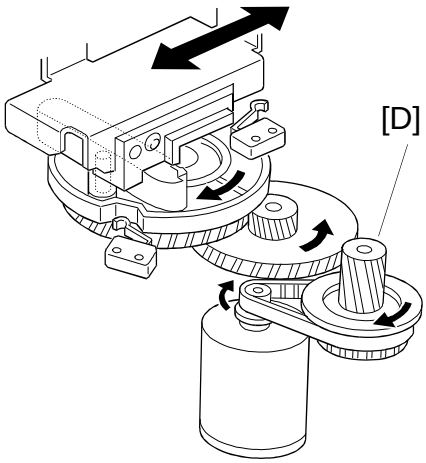
NOTE: Before changing the staple position, mark the original position on the bracket.

1. Remove the staple unit (see Staple Unit Removal).
2. Loosen the 3 screws (1 front [A] and 2 rear) holding the staple unit to the bracket [B].
3. Change the position of the staple unit on the bracket. The relationship between the bracket position and the staple position is as shown in the illustration (black and white arrows).

2.10 STAPLE POSITION SWITCH ADJUSTMENT



C560R538.wmf



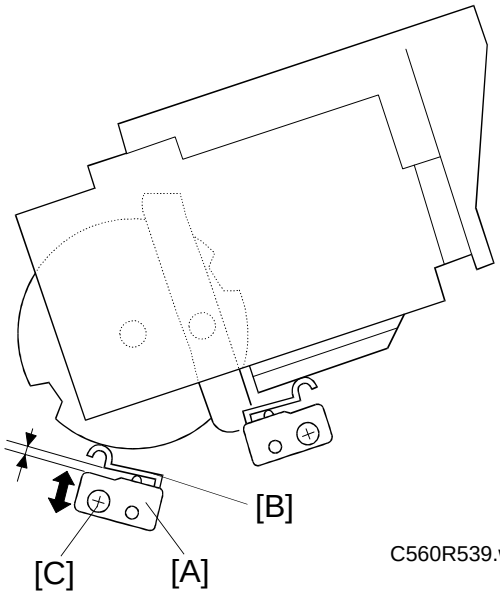
c560d528.wmf

Purpose: To ensure that the staple position sensor detects the staple position properly.

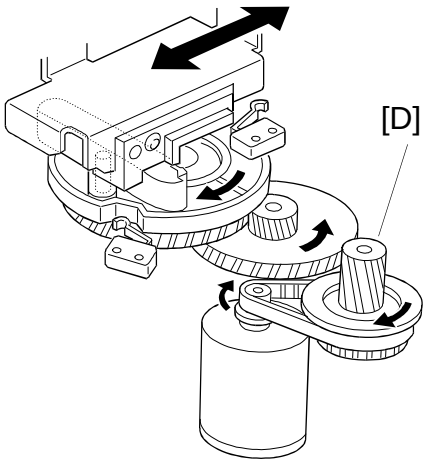
Adjustment Standard: 0.2 mm to 0.5 mm

1. Remove the staple unit (see Staple Unit Removal).
2. Turn the staple unit movement motor gear [D] manually. Check the distance between the switch [A] and actuator [B] when the switch is actuated.
3. If the distance is not within the specification, loosen the screw [C] and adjust the switch position.

2.11 STAPLE UNIT MOVEMENT SWITCH ADJUSTMENT



C560R539.wmf



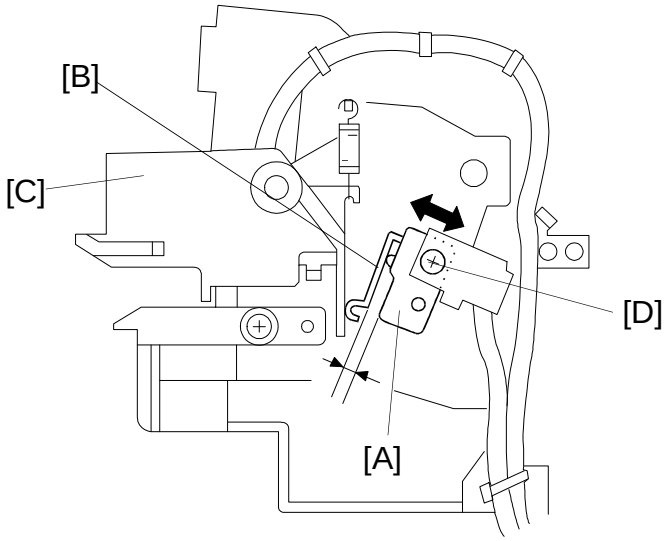
C560D528.wmf

Purpose: To ensure that the staple unit movement switch properly detects the home position and the staple position.

Adjustment Standard: 0.2 mm to 0.5 mm

1. Remove the staple unit (see Staple Unit Removal).
2. Turn the staple unit movement motor gear [D] manually. Check the distance between the switch [A] and actuator [B] when the switch is actuated.
3. If the distance is not within the specification, loosen the screw [C] and adjust the switch position.

2.12 STAPLE SAFETY SWITCH ADJUSTMENT



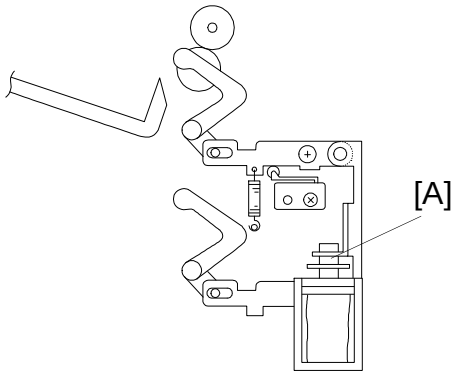
C560R540.wmf

Purpose: To ensure that the staple safety switch functions properly.

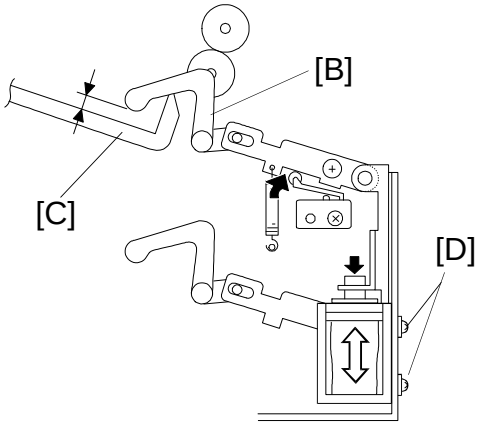
Adjustment Standard: 0.3 mm to 0.7 mm

1. Remove the upper cover, front cover, and the staple unit cover.
2. Confirm that the distance between the switch [A] and the actuator [B] is 0.3 to 0.5 mm when the feeler [C] is not pushed down. The switch must be closed when the feeler is pushed down.
3. If incorrect, loosen the screw [D] and change the switch position.

2.13 PAPER STACK HOLDING ARM SOLENOID ADJUSTMENT



C560541.wmf



C560R542.wmf

Purpose: To ensure that the paper stack is properly held by the paper stack holding arm when it is being stapled.

Adjustment standard: 4 ± 1 mm

1. Remove the upper cover, front cover inner cover, staple unit cover, and the staple unit.
2. Manually press the solenoid plunger [A] and confirm that the distance between the arm [B] and the bin [C] is 4 ± 1 mm.
3. If the distance is not within the specification, remove the transport fan under cover (see Paper Delivery Table Unit Removal). Loosen the screws [D] that hold the solenoid. Adjust the solenoid position.

   To adjust the solenoid position for the 1st sorter:

   a. Raise the 1st transport unit to its uppermost position.

   b. Remove the 1st transport fan under cover.

   To adjust the solenoid position for the 2nd sorter:

   a. Lower the bins of the 2nd sorter to the bottom position.

   b. Remove the 2nd transport fan under cover.
4. After adjusting the solenoid position, confirm that the paper stack holding arm switch is actuated when the solenoid is off.