

3,000-SHEET FINISHER
(Machine Code: B312/B586)

1. OVERALL MACHINE INFORMATION

1.1 SPECIFICATIONS

Paper Size:

Tray	Modes	Sizes
Upper tray		A3 to A6 lengthwise, DLT to HLT
Shift tray	Sort/stack mode	A3 to A5, DLT to LT
	No sort/stack mode	A3 to A6 lengthwise, DLT to LT
Staple tray		A3 to B5, DLT to LT

Paper Weight:

Tray	Weight
Shift tray	52 g/m ² to 157 g/m ² , 14 to 42 lb
Upper tray	52 g/m ² to 157 g/m ² , 14 to 42 lb
Staple tray	64 g/m ² to 80 g/m ² , 17 to 21 lb

Paper Capacity (in case of 80 g/m², 20 lb):

Tray	Modes	Paper size	Punch mode	No punch mode
Shift tray	No staple	A4-S, LT-S	2,500 sheets	3,000 sheets
		A5	100 sheets	100 sheets
		Others	1,500 sheets	1,500 sheets
Upper tray		A4/LT or smaller	200 sheets	250 sheets
		Larger than A4/LT	50 sheets	50 sheets
Staple tray	One size	A4/LT or smaller	40 sheets	50 sheets
		Larger than A4/LT	25 sheets	30 sheets
	Mixed sizes	A3 and A4-S DLT and LT-S	25 sheets	30 sheets

(-S: Sideways)

Tray	Modes	Paper size	Sheets/ set	Sets	Total capacity
Shift tray	Staple No punch One size	A4-S	2 to 9	150	300 to 1,350
		LT-S	10 to 50	300 to 60	3,000
		A4, B5-S	2 to 9	150	300 to 1,350
		LT	10 to 50	150 to 30	1,500
		A3, B4	2 to 9	100	200 to 900
		DLT, LG	10 to 30	150 to 50	1,500
	Staple Punch One size	A4-S	2 to 9	150	300 to 1,350
		LT-S	10 to 40	250 to 63	2,500
		A4, B5-S	2 to 9	150	300 to 1,350
		LT	10 to 40	150 to 37	1,500
		A3, B4	2 to 9	100	200 to 900
		DLT, LG	10 to 25	150 to 60	1,500
	Staple No punch Mixed sizes	A3 and A4-S B4 and B5-S	2 to 30	50	100 to 1,500
	Staple Punch Mixed sizes	A3 and A4-S B4 and B5-S	2 to 25	50	100 to 1,250

(-S: Sideways)

Punch Unit (option):

Type

Version	Holes	Distance between holes	Diameter
American	2	2.76 inches	0.31 inches
	3	4.25 inches	0.31 inches
European	2	80 mm	6.5 mm
	4	80-80-80 mm	6.5 mm
Nordic	4	21-70-21 mm	6.5 mm

Paper Size

Type	Sizes
American 2	A3 to A5, DLT to LT
American 3	A3, B4, A4-S, B5-S, DLT, LT-S
European 2	A3 to A5, DLT to LT
European 4	A3, A4-S, DLT, LT-S
Nordic 4	A3 to A5, DLT to LT

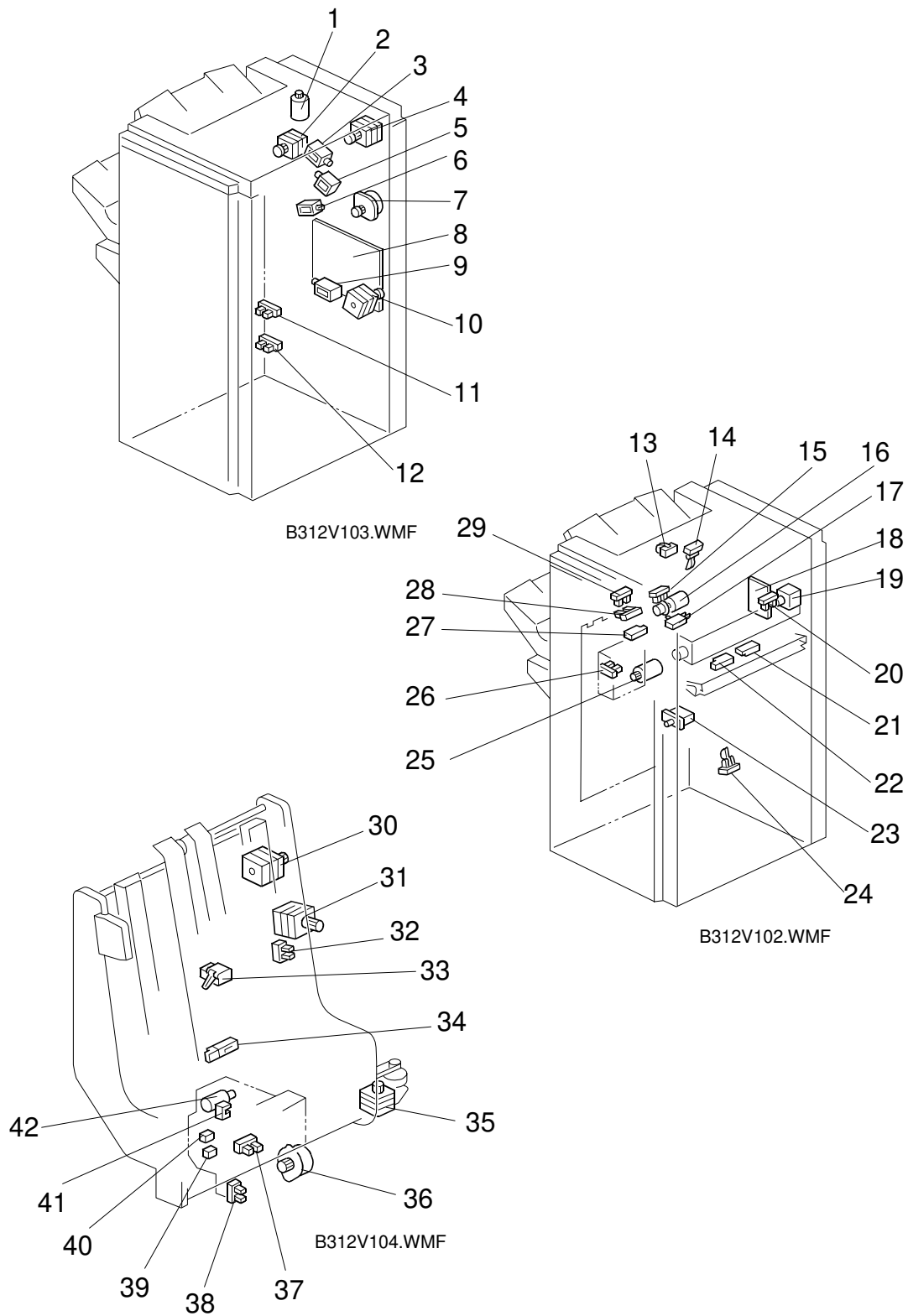
(-S: Sideways)

Paper Weight

Type	Weight
American 2	52 g/m ² to 163 g/m ² , 14 to 42 lb
American 3	
European 2	
European 4	52 g/m ² to 128 g/m ² , 14 to 34 lb
Nordic 4	

Staple Position:	4 positions 1 staple: 3 positions (Front, Rear and Rear-Oblique) 2 staples: 1 position
Staple Replenishment:	Cartridge (5,000 staples)
Power Source:	24Vdc (from copier)
Power Consumption:	48 W (without Punch unit) 60 W (with Punch unit)
Dimensions (W x D x H):	625 x 545 x 960 mm, 24.61 x 21.46 x 37.80 inches
Weight:	45 kg (without Punch unit) 47.4 kg (with Punch unit)

1.2 ELECTRICAL COMPONENT LAYOUT



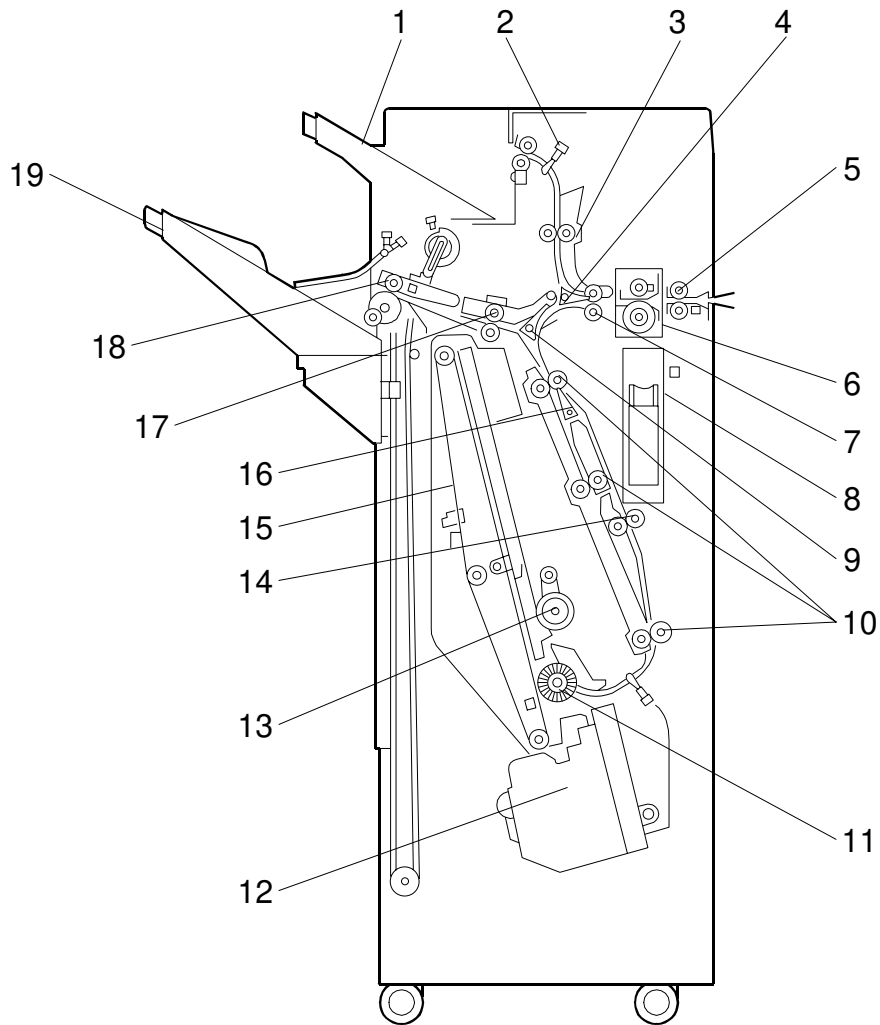
- | | |
|-------------------------------------|-----------------------------------|
| 1. Shift Tray Lift Motor | 22. Entrance Sensor |
| 2. Shift Tray Exit Motor | 23. Front Door Safety Switch |
| 3. Tray Junction Gate Solenoid | 24. Stapler Tray Entrance Sensor |
| 4. Upper Transport Motor | 25. Shift Motor |
| 5. Stapler Junction Gate Solenoid | 26. Shift Tray Half-turn Sensor |
| 6. Pre-stack Junction Gate Solenoid | 27. Shift Tray Exit Sensor |
| 7. Pre-stack Motor | 28. Stack Height 2 Sensor |
| 8. Main Board | 29. Stack Height 1 Sensor |
| 9. Positioning Roller Solenoid | 30. Stack Feed-out Motor |
| 10. Lower Transport Motor | 31. Jogger Motor |
| 11. Shift Tray Lower Limit 1 Sensor | 32. Jogger Fence HP Sensor |
| 12. Shift Tray Lower Limit 2 Sensor | 33. Stack Feed-out Belt HP Sensor |
| 13. Upper Tray Paper Limit Sensor | 34. Stapler Tray Paper Sensor |
| 14. Upper Tray Exit Sensor | 35. Stapler Motor |
| 15. Shift Tray Exit Plate HP Sensor | 36. Stapler Rotation Motor |
| 16. Shift Tray Exit Plate Motor | 37. Stapler Rotation HP Sensor |
| 17. Shift Tray Upper Limit Switch | 38. Stapler HP Sensor |
| 18. Punch Board | 39. Staple End Switch |
| 19. Punch Motor | 40. Cartridge Set Switch |
| 20. Punch HP Sensor | 41. Staple Hammer HP Sensor |
| 21. Hopper Sensor | 42. Staple Hammer Motor |

1.3 ELECTRICAL COMPONENT DESCRIPTION

Symbol	Name	Function	Index No.
Motors			
M1	Upper Transport	Drives the entrance rollers, the middle and upper transport rollers, and upper tray exit roller.	4
M2	Lower Transport	Drives the lower transport rollers, the alignment brush roller, and the positioning roller.	9
M3	Jogger	Moves the jogger fence.	31
M4	Stapler	Moves the stapler unit from side to side.	35
M5	Stapler Rotation	Rotates the stapler 45 degrees.	36
M6	Staple Hammer	Drives the staple hammer.	42
M7	Stack Feed-out	Drives the stack feed-out belt.	30
M8	Shift Tray Exit	Drives the exit roller for the shift tray.	2
M9	Shift	Moves the shift tray from side to side.	25
M10	Shift Tray Lift	Moves the shift tray up or down.	1
M11	Punch	Drives the punch shaft and roller.	19
M12	Pre-stack	Drives the pre-stack roller.	7
M13	Shift Tray Exit Plate	Moves the exit plate up or down.	16
Sensors			
S1	Entrance	Detects the copy paper entering the finisher and checks for misfeeds.	22
S2	Stapler Tray Entrance	Detects the copy paper entering the staple tray and checks for misfeeds.	24
S3	Jogger Fence HP	Detects the home position of the jogger fence.	32
S4	Stapler Tray Paper	Detects the copy paper in the staple tray.	34
S5	Stapler HP	Detects the home position of the staple unit for side-to-side movement.	38
S6	Stapler Rotation HP	Detects the home position of the stapler unit for 45-degree rotation.	37
S7	Staple Hammer HP	Detects the home position of the staple hammer.	41
S8	Stack Feed-out Belt HP	Detects the home position of the stack feed-out belt.	33
S9	Shift Tray Exit	Checks for misfeeds at the shift tray.	27
S10	Stack Height 1	Detects when the top of the copy paper stack in the shift tray is at the correct position.	29
S11	Stack Height 2	Detects when the top of the copy paper stack in the shift tray has become too high.	28
S12	Upper Tray Exit	Checks for misfeeds at the upper tray.	14
S13	Upper Tray Paper Limit	Detects when the paper stack height in the upper tray is at its upper limit.	13

Symbol	Name	Function	Index No.
S14	Shift Tray Half-turn	Detects the return position for side-to-side movement of the shift tray.	26
S15	Shift Tray Lower Limit 1	Detects when the shift tray is nearly at its lower limit.	11
S16	Shift Tray Lower Limit 2	Detects when the shift tray is at its lower limit.	12
S17	Hopper	Detects when the punch waste hopper is full and detects when the punch tray is set.	21
S18	Punch HP	Detects the home position of the punch shaft and roller.	20
S19	Shift Tray Exit Plate HP	Detects the home position of the exit plate.	15
Switches			
SW1	Front Door Safety	Cuts the dc power when the front door is opened.	23
SW2	Shift Tray Upper Limit	Cuts the power to the shift tray lift motor when the shift tray position is at its upper limit.	17
SW3	Staple End	Detects the staples in the cartridge.	39
SW4	Cartridge Set	Detects the staple cartridge in the stapler.	40
Solenoids			
SOL1	Tray Junction Gate	Drives the tray junction gate.	3
SOL2	Stapler Junction Gate	Drives the stapler junction gate.	5
SOL3	Positioning Roller	Moves the positioning roller against the stapling tray.	10
SOL4	Pre-stack Junction Gate	Drives the pre-stack junction gate.	6
PCBs			
PCB1	Main	Controls the finisher and communicates with the copier.	8
PCB2	Punch	Passes signals between the punch unit and the finisher main board.	18

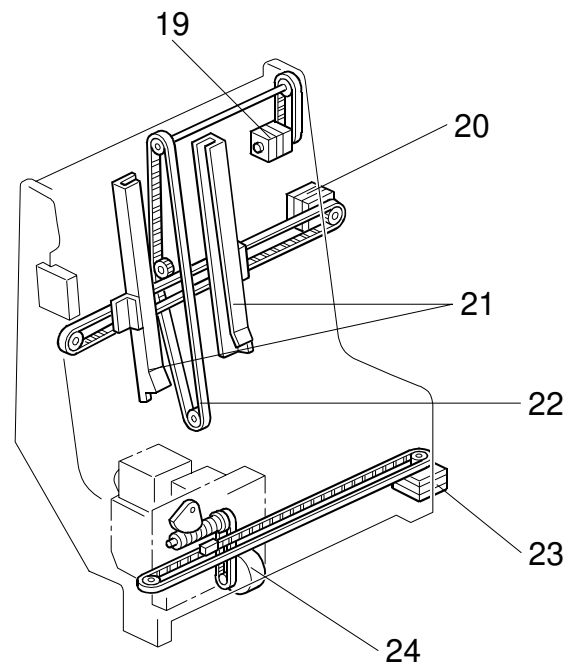
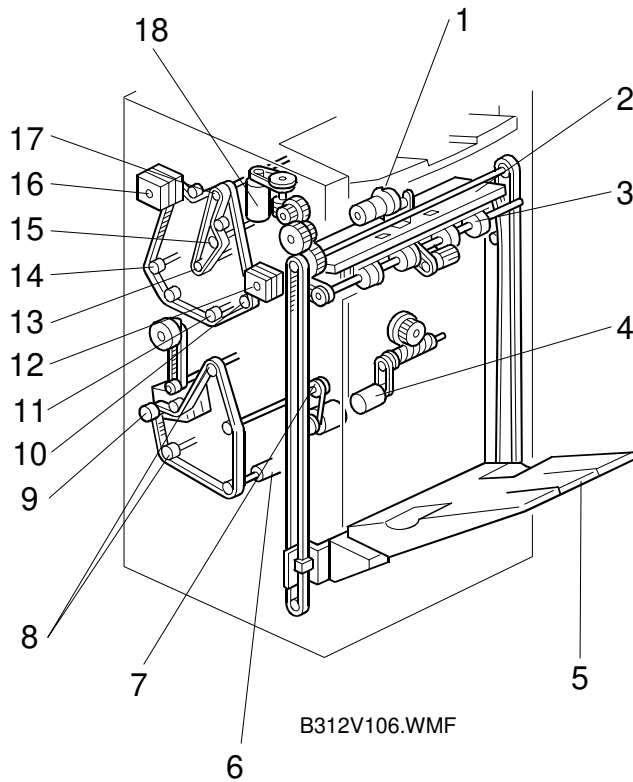
1.4 MECHANICAL COMPONENT LAYOUT



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- | | |
|-----------------------------|-----------------------------|
| 1. Upper Tray | 11. Alignment Brush Roller |
| 2. Upper Tray Exit Roller | 12. Stapler |
| 3. Upper Transport Roller | 13. Positioning Roller |
| 4. Tray Junction Gate | 14. Pre-stack Roller |
| 5. 1st Entrance Roller | 15. Stack Feed-out Belt |
| 6. Punch Unit | 16. Pre-stack Junction Gate |
| 7. 2nd Entrance Roller | 17. Middle Transport Roller |
| 8. Punch Waste Hopper | 18. Shift Tray Exit Roller |
| 9. Stapler Junction Gate | 19. Shift Tray |
| 10. Lower Transport Rollers | |

1.5 DRIVE LAYOUT



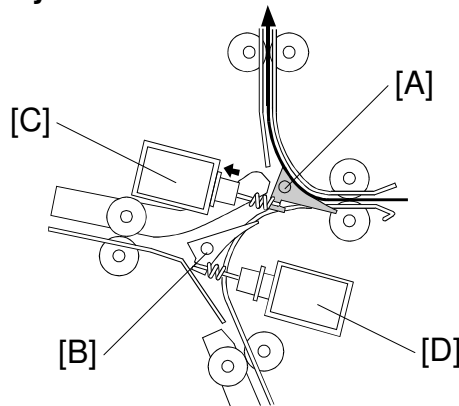
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|------------------------------------|----------------------------|
| 1. Shift Tray Exit Plate Motor | 13. 2nd Entrance Roller |
| 2. Shift Tray Exit Plate | 14. 1st Entrance Roller |
| 3. Shift Tray Exit Roller | 15. Upper Transport Roller |
| 4. Shift Motor | 16. Upper Transport Motor |
| 5. Shift Tray | 17. Upper Tray Exit Roller |
| 6. Alignment Brush Roller | 18. Shift Tray Lift Motor |
| 7. Positioning Roller | 19. Stack Feed-out Motor |
| 8. Lower Transport Rollers 2 and 3 | 20. Jogger Motor |
| 9. Lower Transport Motor | 21. Jogger Fence |
| 10. Middle Transport Roller | 22. Stack Feed-out Belt |
| 11. Lower Transport Roller 1 | 23. Stapler Motor |
| 12. Shift Tray Exit Motor | 24. Stapler Rotation Motor |

Options

2. DETAILED DESCRIPTIONS

2.1 TRAY AND STAPLER JUNCTION GATE MECHANISM

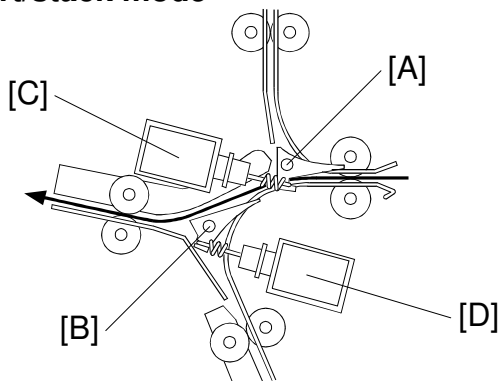
- Upper tray mode -



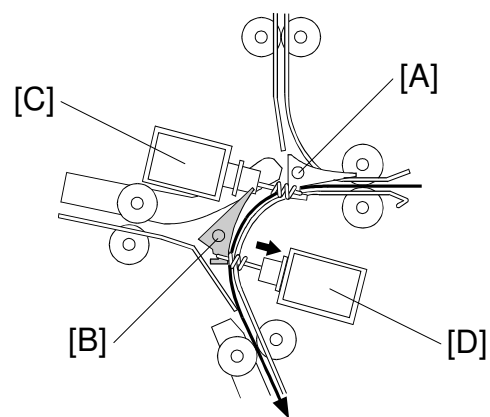
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- Staple mode -

- Sort/stack mode -



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Depending on the finishing mode, the copies are directed up, straight through, or down by the combination of the tray junction gate [A] and stapler junction gate [B]. These gates are controlled by the tray junction gate solenoid [C] and stapler junction gate solenoid [D].

Upper tray mode

The tray junction gate solenoid turns on. The copies go up to the upper tray.

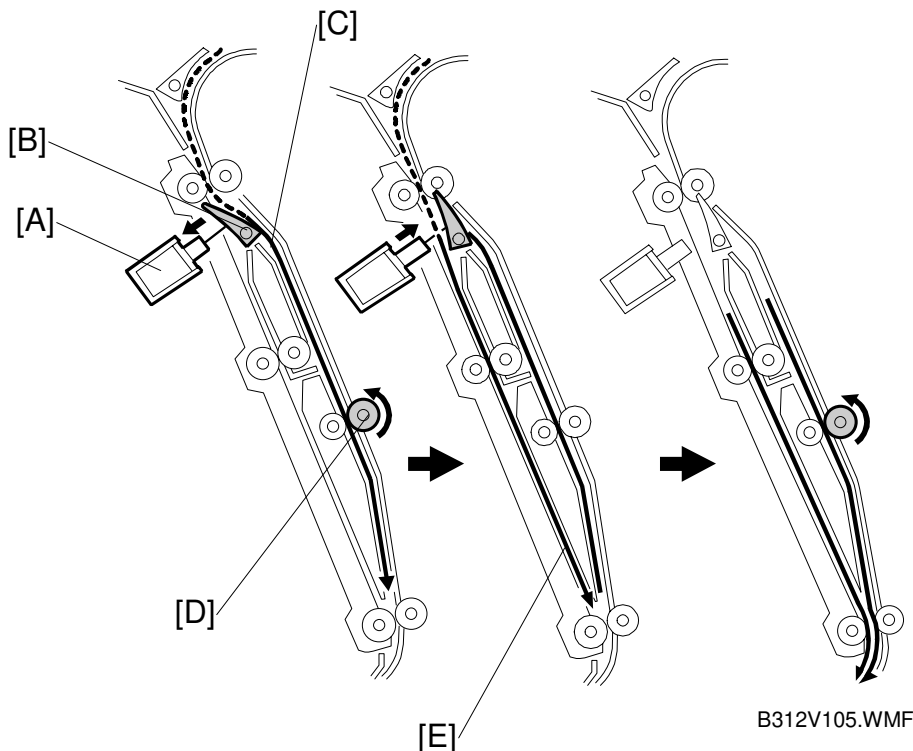
Sort/stack mode

The tray junction gate solenoid and the stapler junction gate solenoid remain off. The copies are sent to the shift tray directly.

Staple mode

The tray junction gate solenoid remains off and the stapler junction gate solenoid turns on. The copies go downwards to the jogger unit.

2.2 PRE-STACK MECHANISM



This mechanism improves productivity in staple mode.

During stapling, the copier has to wait. This mechanism reduces the wait by holding the first two sheets of a job while the previous job is still being stapled. It only works during the second and subsequent sets of a multi-set copy job.

The pre-stack junction gate solenoid [A] turns on shortly after the 1st sheet of paper enters the finisher. This opens the junction gate [B], and directs the sheet to the pre-stack path [C]. (This sheet cannot be fed to the stapler yet, because the first set is still being stapled.)

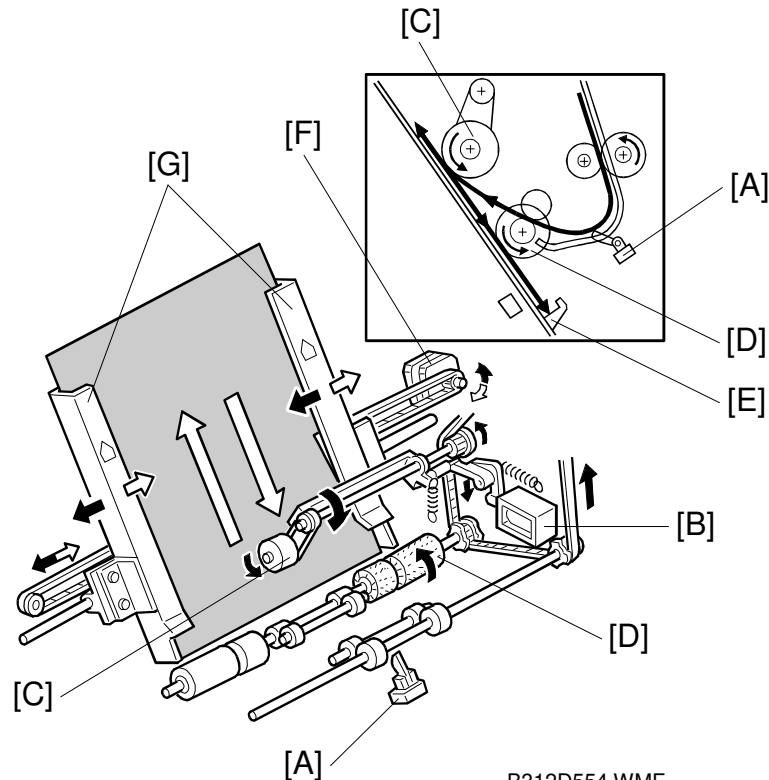
When the sheet has passed the pre-stack roller [D], the pre-stack motor turns off to stop the sheet until the second copy comes in.

The pre-stack junction gate solenoid turns off again shortly after the trailing edge of the 1st sheet enters the finisher, and the 2nd sheet is sent to the main paper path [E].

Then the pre-stack motor turns on again to feed the first copy that is stopped in the pre-stack path [C], and the first and second copies are delivered together to the staple tray.

All sheets after the 2nd sheet go to the stapler tray via the main paper path [E].

2.3 JOGGER UNIT PAPER POSITIONING MECHANISM



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In staple mode, each sheet of copy paper is vertically and horizontally aligned when it arrives in the jogger unit.

Vertical Paper Alignment

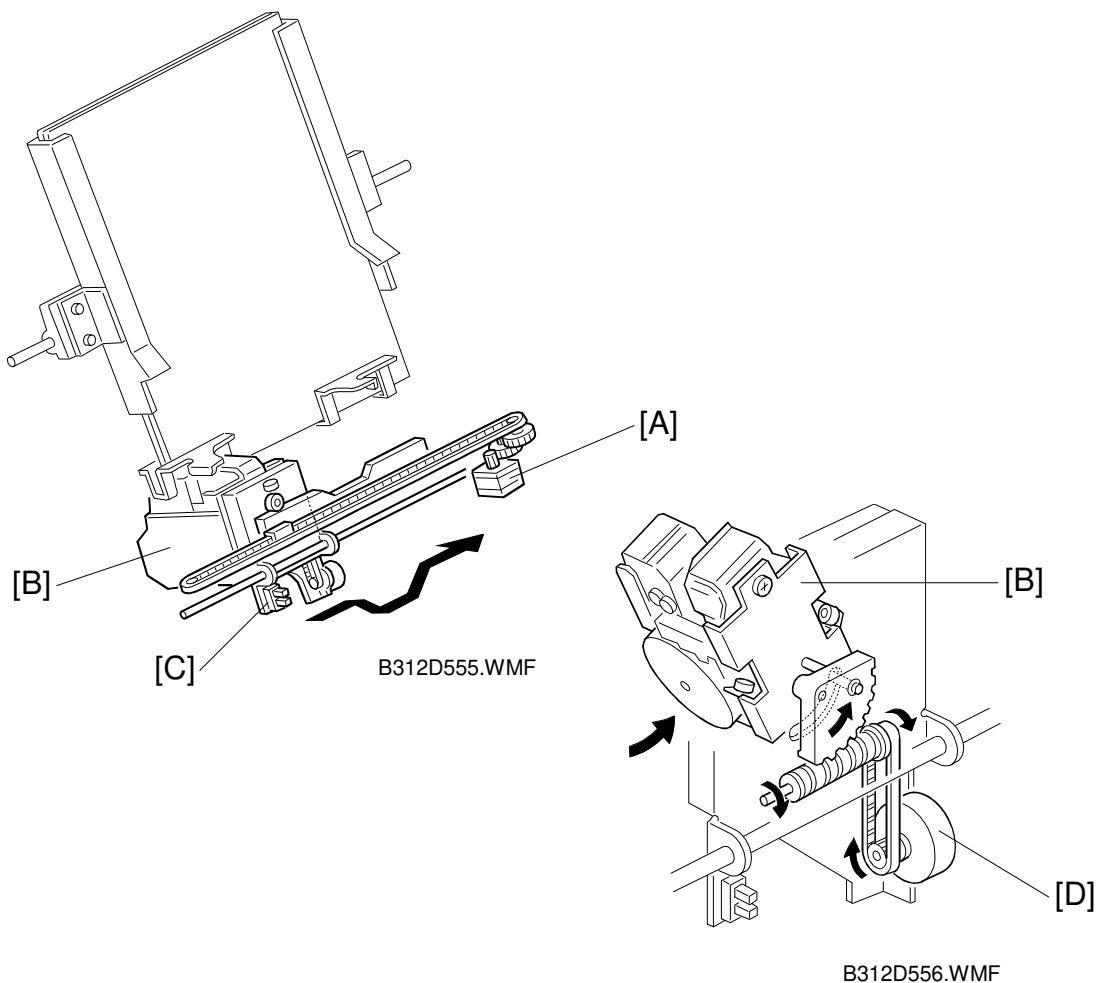
After the trailing edge of the copy passes the stapler tray entrance sensor [A], the positioning roller solenoid [B] is energized for 280 ms to push the positioning roller [C] into contact with the paper. The positioning roller and alignment brush roller [D] rotate to push the paper back and align the trailing edge of the paper against the stack stopper [E].

Horizontal Paper Alignment

When the print key is pressed, the jogger motor [F] turns on and the jogger fences [G] move to the waiting position, which is 7 mm wider on both sides than the selected paper.

When the trailing edge of the paper passes the staple unit entrance sensor, the jogger motor turns on for approximately 70 ms to move the jogger fences 5 mm towards the paper. After a short time, the jogger motor turns on again approximately for 60 ms for the horizontal paper alignment then goes back to the waiting position.

2.4 STAPLER UNIT MOVEMENT MECHANISM



Side-to-side:

The stapler motor [A] moves the stapler [B] from side to side. After the start key is pressed, the stapler moves from its home position to the stapling position.

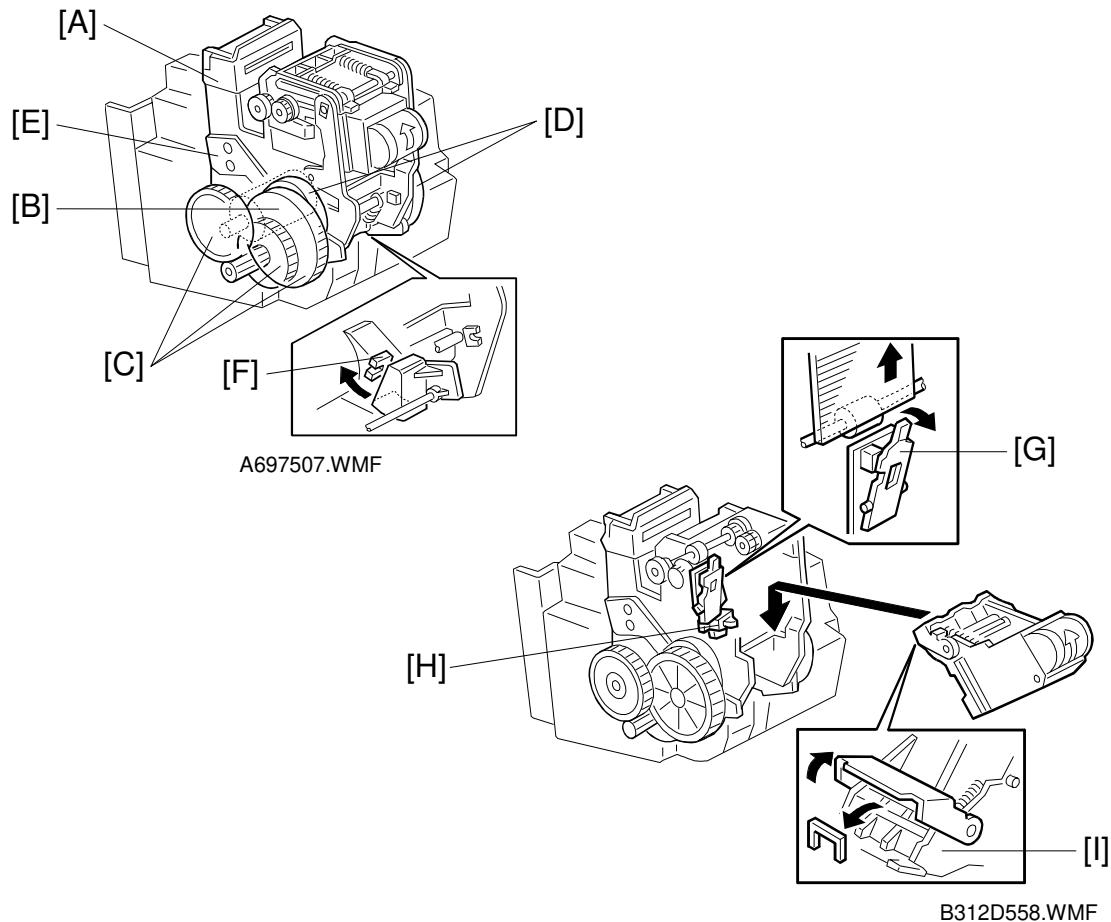
If two-staple-position mode is selected, the stapler moves to the front stapling position first, then moves to the rear stapling position. However, for the next copy set, it staples in the reverse order (at the rear side first then at the front side).

After the job is completed, the stapler moves back to its home position. This is detected by the stapler HP sensor [C].

Rotation:

In the oblique staple position mode, the stapler rotation motor [D] rotates the stapler 45° after it moves to the stapling position.

2.5 STAPLER



The staple hammer [A] is driven by the staple hammer motor [B] via gears [C], two cams [D], and two links [E].

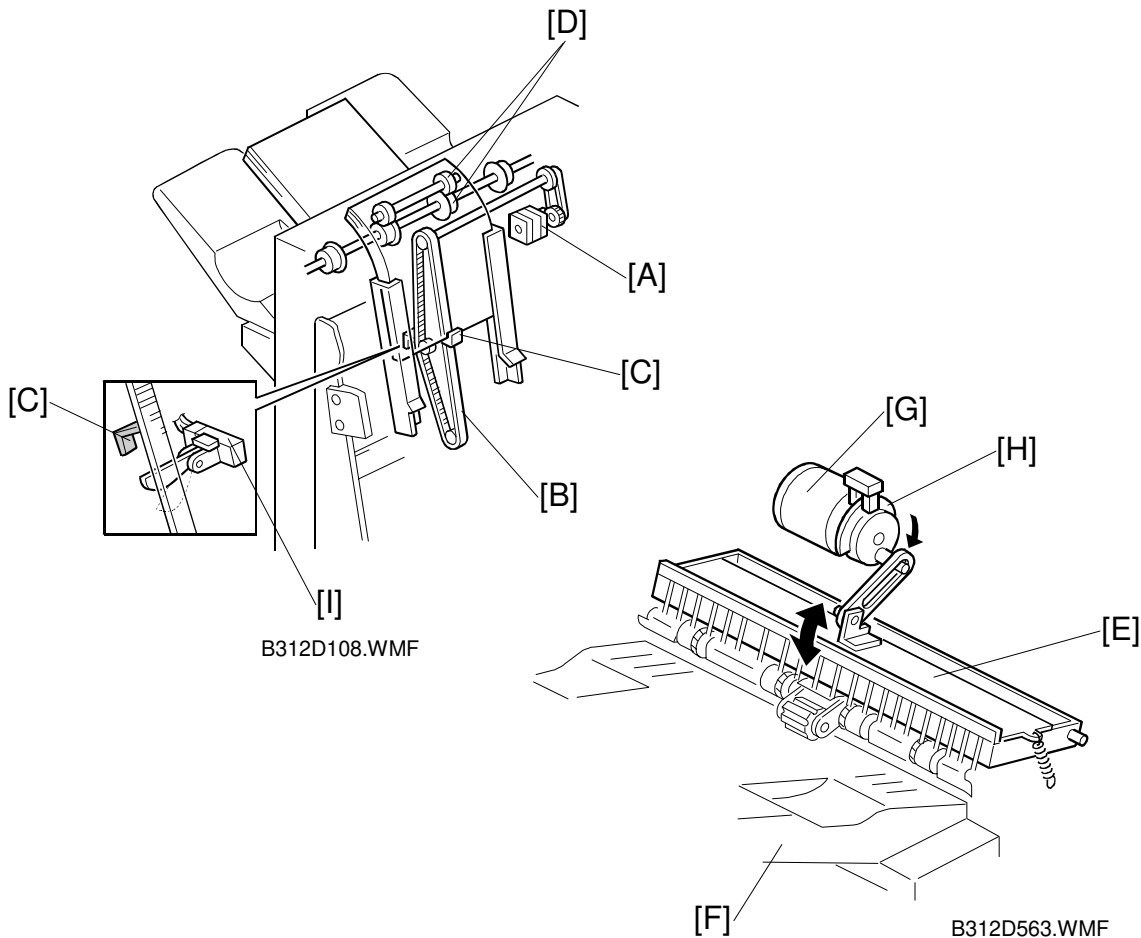
When the aligned copies are brought to the stapling position by the positioning roller, alignment brush roller and jogger fences, the staple hammer motor starts. When the cams complete one rotation, the staple hammer home position sensor [F] turns on, detecting the end of the stapling operation. The staple hammer motor then stops.

There are two sensors in the stapler. One is the staple end switch [G] for detecting staple end conditions (it detects when there is only one sheet of staples left in the cartridge). The other is the cartridge set switch [H] for detecting whether a staple cartridge is installed.

When a staple end or no cartridge condition is detected, a message is displayed advising the operator to install a staple cartridge. If this condition is detected during a copy job, the indication will appear, but the copy job will not stop.

The staple cartridge has a clinch area [I], in which jammed staples are left. Operators can remove the jammed staples from this area.

2.6 FEED-OUT MECHANISM



After a set of copies has been stapled, the stack feed-out motor [A] starts rotating to drive the stack feed-out belt [B]. The pawl [C] on the belt lifts the stapled copies up and transports it to the shift tray exit rollers [D].

The shift tray exit plate [E] is opened until the leading edge of the stapled copies has passed the shift tray exit rollers by a certain distance. Then the shift tray exit plate is closed and the stapled copies are fed out to the shift tray [F].

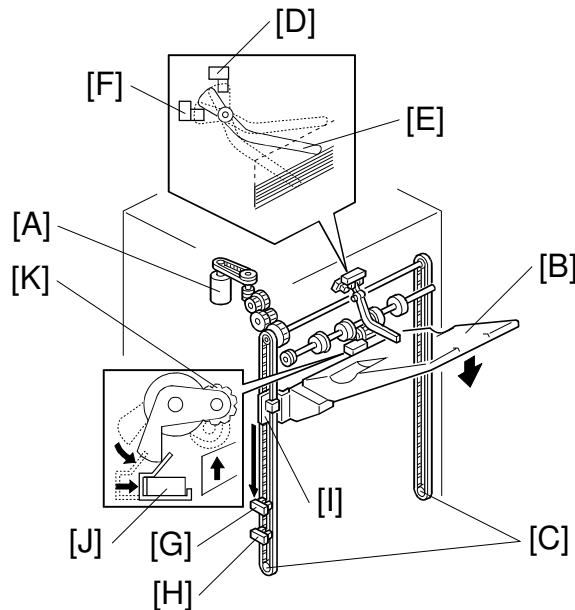
The shift tray exit plate is opened and closed by the shift tray exit plate motor [G] through a cam [H].

The stack feed-out motor stops for 300 ms until the exit rollers have completely fed out the stapled copies to the shift tray. This is to prevent the copies from being pushed out too far on the tray.

Then, the motor turns on again and stops when the pawl actuates the stack feed-out belt home position sensor [I].

There are two pawls on the belt so that the productivity for a smaller number of copies for a stapled set can be kept high.

2.7 SHIFT TRAY UP/DOWN MECHANISM



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The shift tray lift motor [A] controls the vertical position of the shift tray [B] through gears and timing belts [C]. When the main switch is turned on, the tray is initialized at the upper position. The tray is moved up until stack height sensor 1 [D] is de-actuated.

During copying, the actuator feeler [E] gradually rises as the copy stack grows, and the actuator gradually moves towards stack height sensor 2 [F].

In sort/stack mode, if stack height sensor 2 is actuated for 3 seconds, the shift tray lift motor lowers the shift tray for 15 ms.

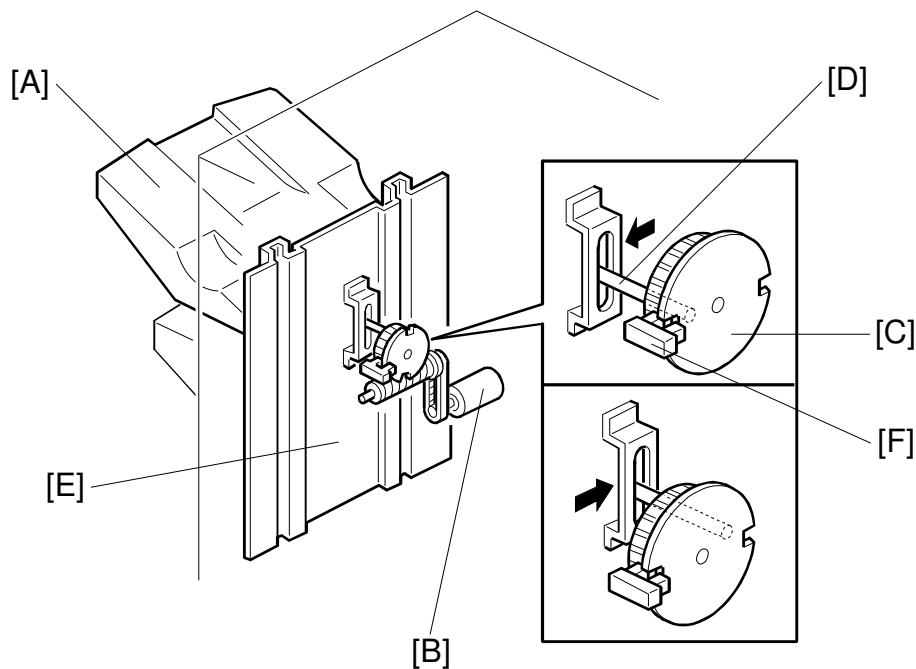
In staple mode, when the stack feed-out motor starts, the tray is moved down until stack height sensor 1 is actuated and then moved up until stack height sensor 1 is de-actuated. This corrects the current tray position. Then, the tray is moved down again until stack height sensor 1 is actuated to make space for the coming set of copies and then moved up until stack height sensor 1 is de-actuated. This means the tray lowers earlier in staple mode, to prevent the next copy suddenly exceeding the space currently available on the tray.

For both modes, the shift tray will rise until stack height sensor 1 is de-actuated when the user takes the stack of paper from the shift tray.

This machine has two shift tray lower limit sensors 1 [G], 2 [H]. Shift tray lower limit sensor 1 detects the near lower limit and sensor 2 detects the lower limit. When the actuator [I] enters sensor 1, a message will be displayed and copying will continue. When the actuator enters sensor 2, a message will be displayed and copying will stop.

The shift tray upper limit switch [J] prevents the drive gear from being damaged if stack height sensor 1 fails. When the shift tray pushes up the shift tray positioning roller [K], the switch will cut the power to the shift tray lift motor.

2.8 SHIFT TRAY SIDE-TO-SIDE MECHANISM



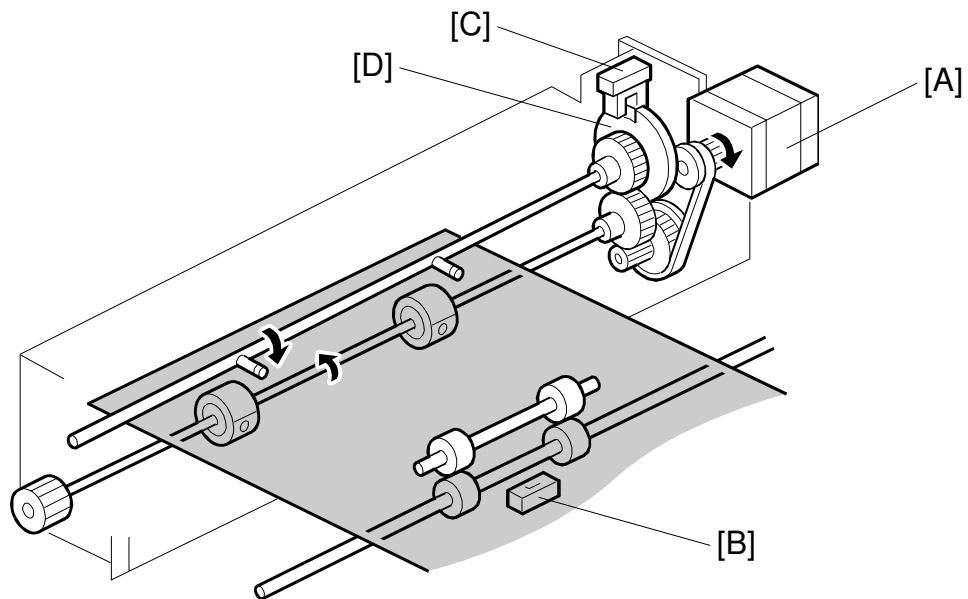
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In sort/stack mode, the shift tray [A] moves from side to side to separate the sets of copies.

The horizontal position of the shift tray is controlled by the shift motor [B] and shift gear disk [C]. After one set of copies is made and delivered to the shift tray, the shift motor turns on, driving the shift gear disk and the shaft [D]. The end fence [E] is positioned by the shaft, creating the side-to-side movement.

When the shift gear disk has rotated 180 degrees (when the shift tray is fully shifted across), the cut-out in the shift gear disk turns on the shift tray half-turn sensor [F] and the shift motor stops. The next set of copies is then delivered. The motor turns on, repeating the same process and moving the tray back to the previous position.

2.9 PUNCH UNIT DRIVE MECHANISM



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The punch unit makes 2 or 3 holes (depending on the type of punch unit) at the trailing edge of the paper.

The punch unit is driven by the punch motor [A]. The punch motor turns on 78 ms after the trailing edge of the paper passes through the entrance sensor [B], and makes the punch holes.

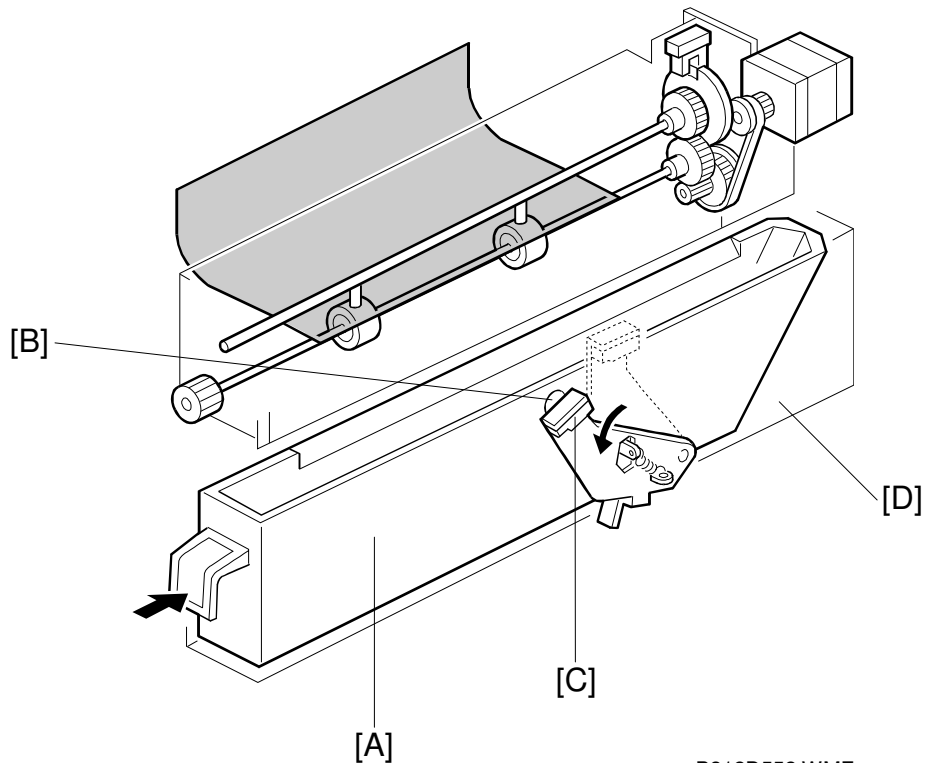
The home position is detected by the punch HP sensor [C]. When the cut-out on the punch shaft gear disk [D] enters the punch HP sensor, the punch motor stops.

The punch position is adjusted as follows:

Right to left: SP mode

Front to rear: Spacers

2.10 PUNCH WASTE COLLECTION MECHNISM



B312D552.WMF

The punch waste is collected in the punch waste hopper [A], which is under the punch unit.

When the punch waste covers the hole [B] in the hopper, the hopper sensor [C] turns on and a message will be displayed after the copy job finishes.

The hopper sensor also works as the hopper set sensor. If the punch waste hopper is not set, the hopper sensor moves away from the hole in the hopper holder [D] and a message is displayed. This message is the same as for the hopper full condition.

2.11 JAM CONDITIONS

1. The entrance sensor does not turn on within 2.0 s after the copier exit sensor turns off.
2. The entrance sensor does not turn off within 850 ms after it turns on.
3. The upper tray exit sensor does not turn on within 1,050 ms after the entrance sensor turns on.
4. The upper tray exit sensor does not turn off within 850 ms after it turns on.
5. In sort/stack mode, the shift tray exit sensor does not turn on within 1,345 ms after the entrance sensor turns on.
6. In sort/stack mode, the shift tray exit sensor does not turn off within 850 ms after it turns on.
7. In staple mode, the stapler tray entrance sensor does not turn on within 2,405 ms after the entrance sensor turns on.
8. In staple mode, the stapler tray entrance sensor does not turn off within 850 ms after it turns on.
9. In staple mode, the stapler tray paper sensor does not turn off within 466 pulses of the stack feed-out motor after it starts.
10. In staple mode, the shift tray exit sensor does not turn off within 1,260 ms after the stack feed-out motor starts.

3. SERVICE TABLES

3.1 DIP SWITCHES

DPS101				Description
1	2	3	4	
0	0	0	0	Default
1	1	1	0	Free run: one staple (rear-oblique)

NOTE: Do not use any other settings.

3.2 TEST POINTS

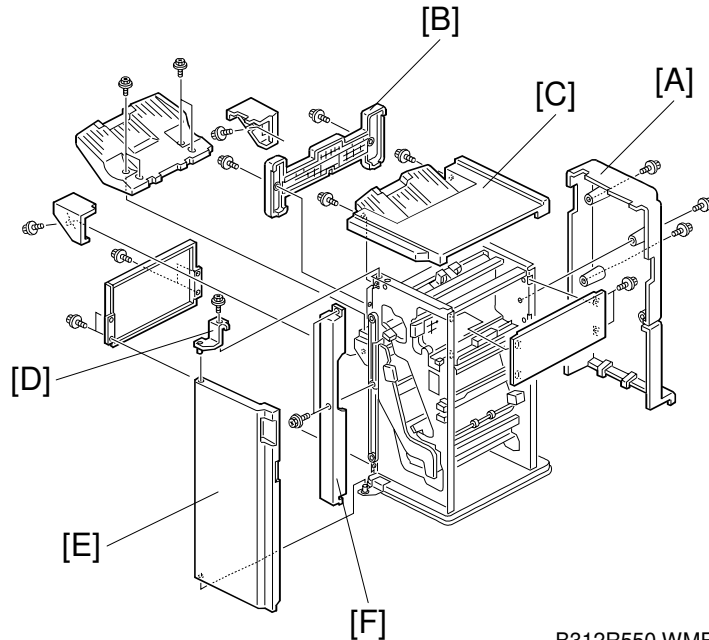
No.	Label	Monitored Signal
TP101	(GND)	Ground
TP102	5V	5V
TP103	TXAO	TXD
TP104	RXD	RXD

3.3 FUSES

No.	Function
FU101	Protects 24 V.

4. REPLACEMENT AND ADJUSTMENT

4.1 COVER REPLACEMENT



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Rear Cover

1. Remove the rear cover [A] (3 screws).

Upper Left Cover

1. Remove the upper left cover [B] (2 screws).

Upper Cover

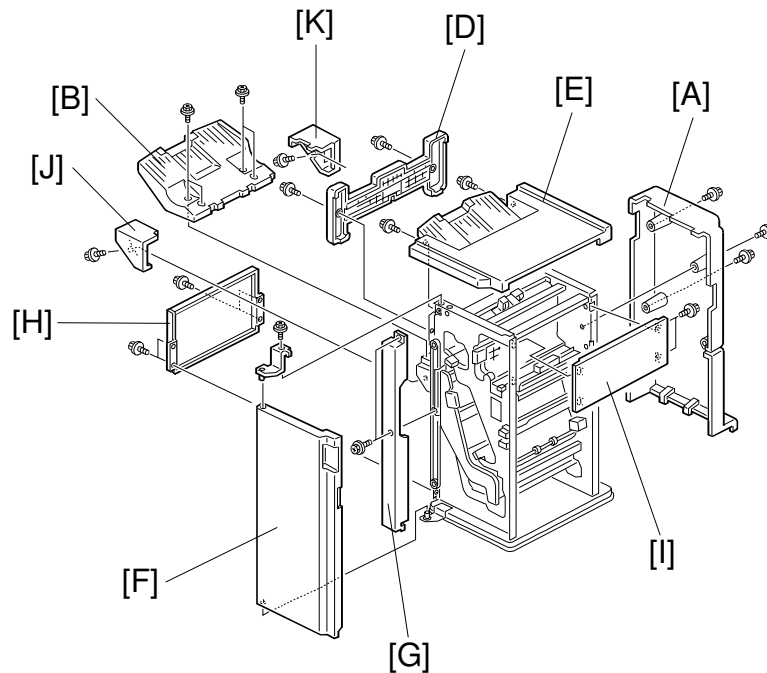
1. Remove the upper left cover.
2. Remove the upper cover [C] (2 screws).

Front Door

1. Remove the upper left cover.
2. Remove the upper cover.
3. Remove the upper bracket [D] (1 screw).
4. Remove the front door [E].

Left Front Cover

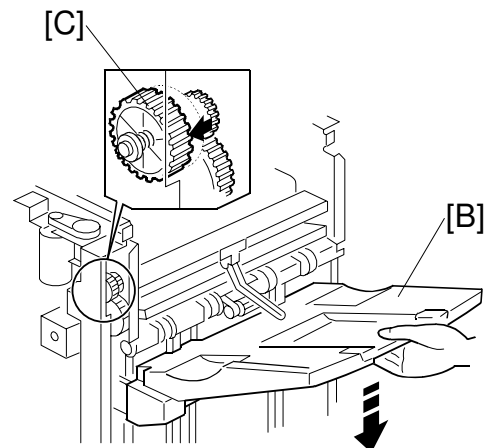
1. Remove the rear cover.
2. Remove the upper cover.
3. Remove the front door.
4. Remove the left front cover [F] (2 screws).



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Shift Tray

1. Remove the rear cover [A].
2. While holding the shift tray [B], move the gear [C] to release the engagement.
3. Lower the shift tray.
4. Remove the shift tray (4 screws).



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Lower Left Cover

1. Remove the shift tray.
2. Remove the upper left cover [D].
3. Remove the upper cover [E].
4. Remove the front door [F].
5. Remove the left front cover [G].
6. Remove the lower left cover [H] (4 screws).

Right Cover

1. Remove the right cover [I] (2 screws).

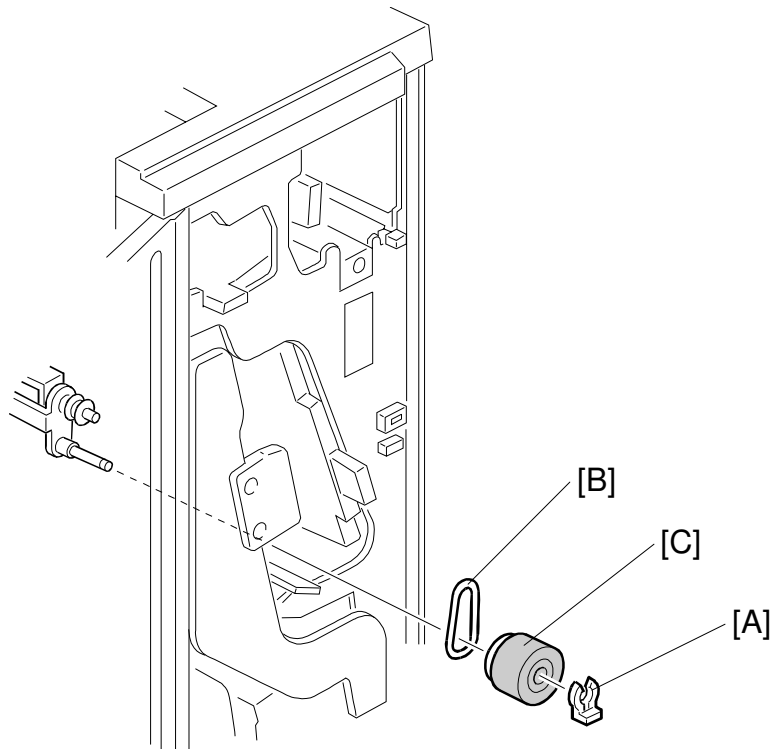
Front Shift Tray Cover

1. Remove the front shift tray cover [J] (1 screw).

Rear Shift Tray Cover

1. Remove the rear shift tray cover [K] (1 screw).

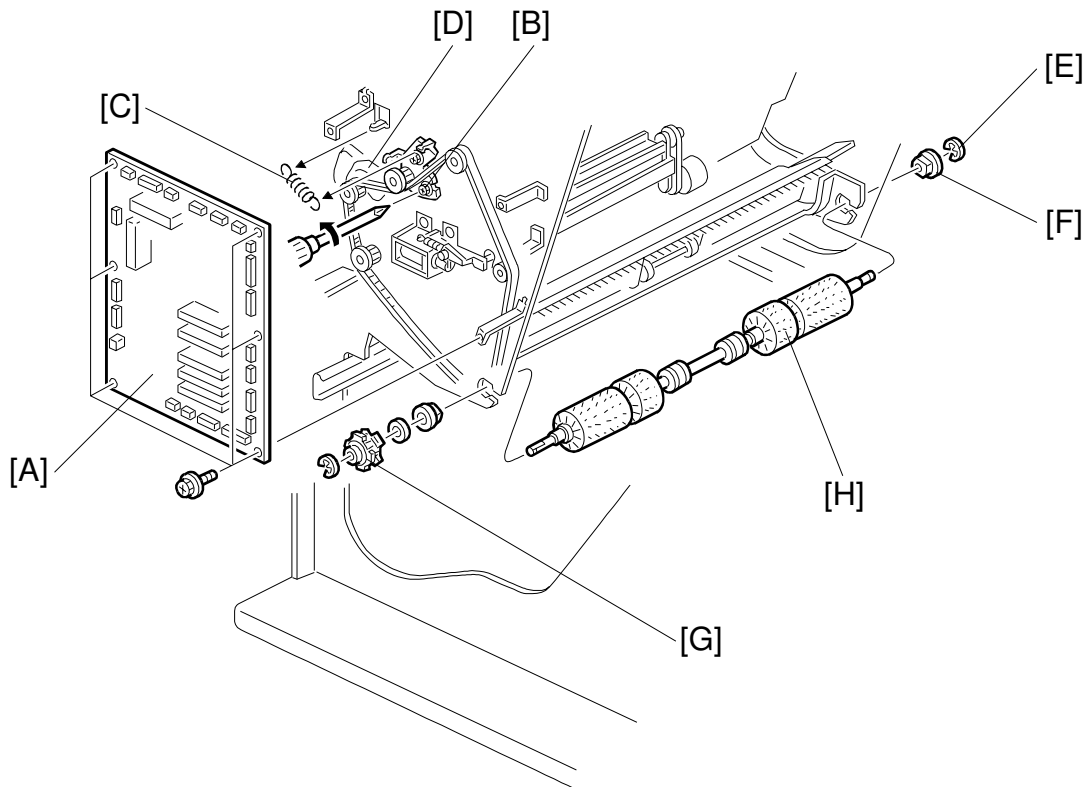
4.2 POSITIONING ROLLER REPLACEMENT



B312R551.WMF

1. Open the front door.
2. Remove the snap ring [A].
3. Release the rubber belt [B].
4. Replace the positioning roller [C].

4.3 ALIGNMENT BRUSH ROLLER REPLACEMENT

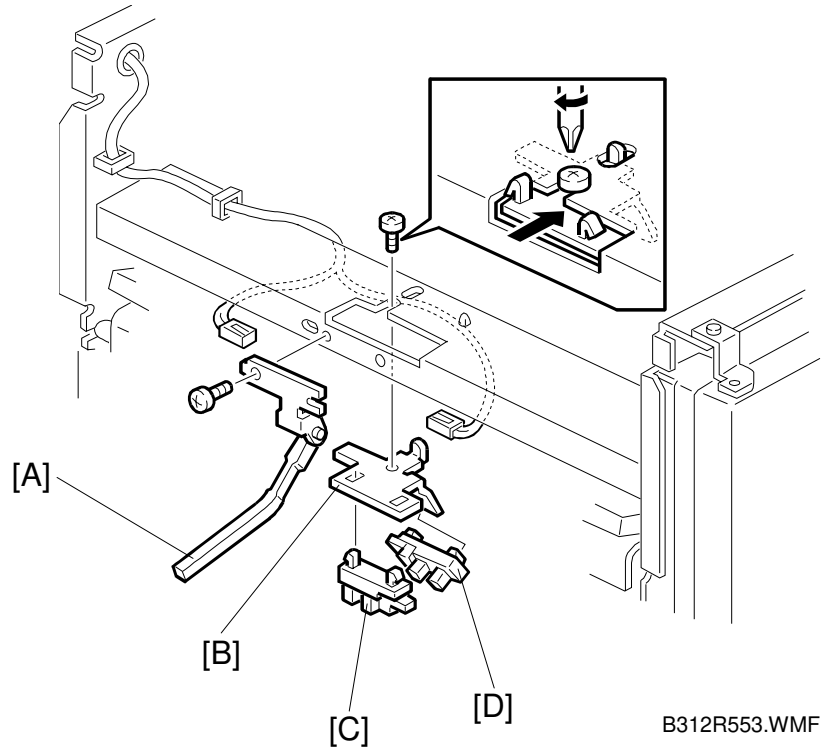


B312R552.WMF

1. Open the front door and pull out the jogger unit.
2. Remove the rear cover.
3. Remove the main board [A] (6 screws, all connectors).
4. Remove a screw [B] and a tension spring [C] for the tension bracket [D], and release the tension of the timing belt.
5. Remove the front side E-ring [E] and bushing [F].
6. Remove the alignment brush roller assembly.
7. Remove the timing pulley [G] (1 E-ring).
8. Replace the alignment brush roller [H] (1 spacer, 1 bushing).

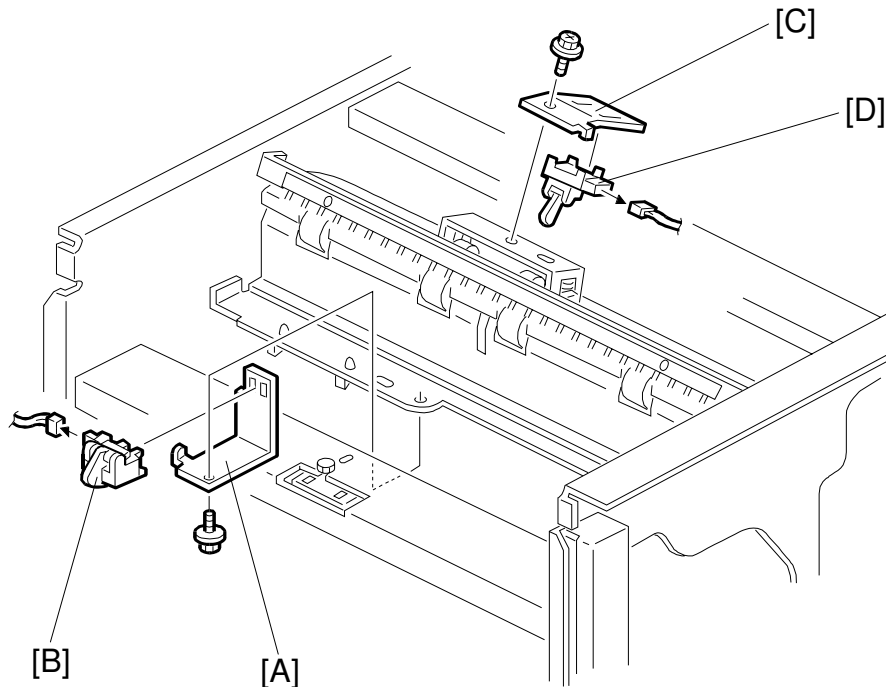
4.4 SENSOR REPLACEMENT

4.4.1 STACK HEIGHT SENSOR 1 AND 2



1. Remove the upper left cover.
2. Remove the upper cover.
3. Remove the sensor feeler [A] (1 screw, 1 connector).
4. Remove the sensor bracket [B] (1 screw).
5. Replace the stack height sensor 1 [C] or 2 [D].

4.4.2 UPPER TRAY PAPER LIMIT AND EXIT SENSOR



B312R554.WMF

1. Remove the upper left cover.
2. Remove the upper cover.

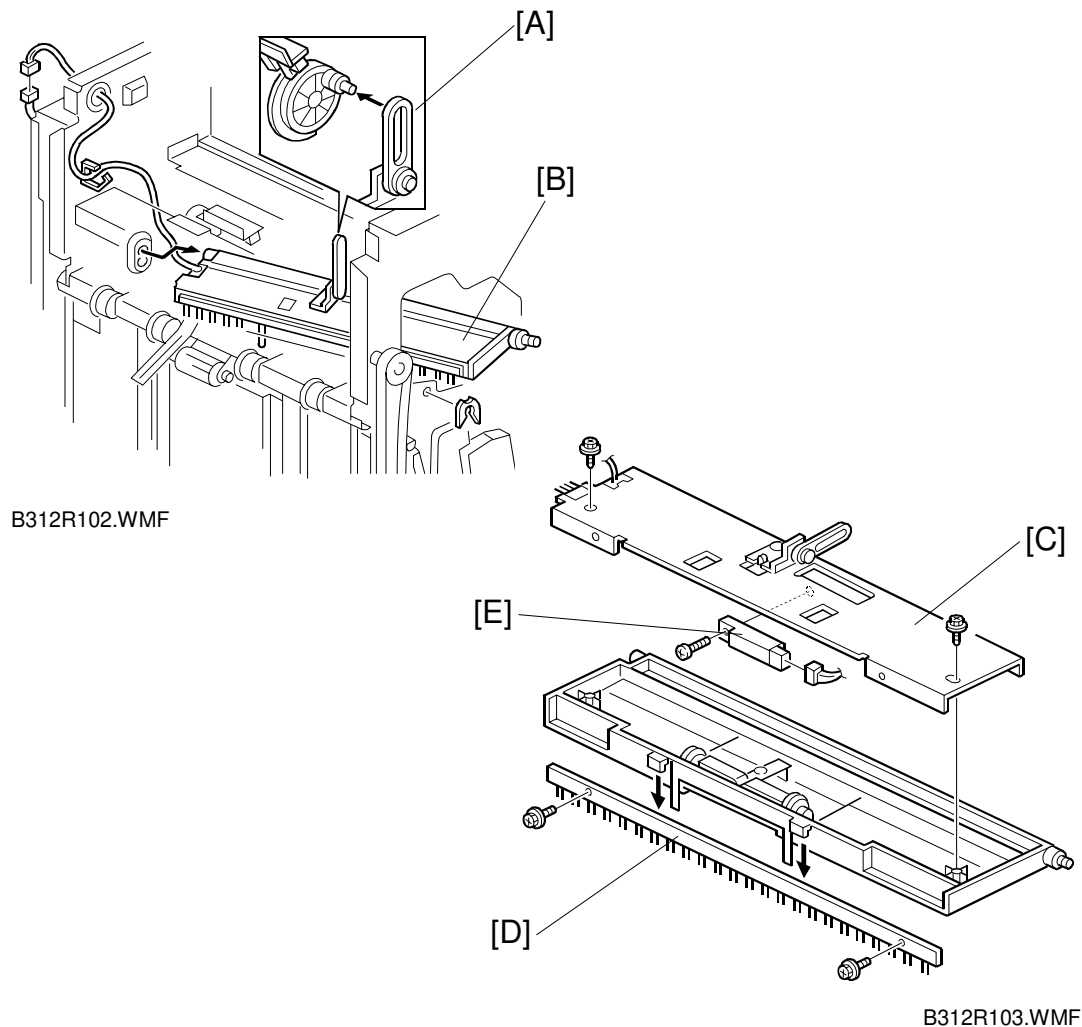
Upper Tray Paper Limit Sensor

3. Remove the sensor bracket [A] (1 screw).
4. Replace the upper tray paper limit sensor [B] (1 connector).

Upper Tray Exit Sensor

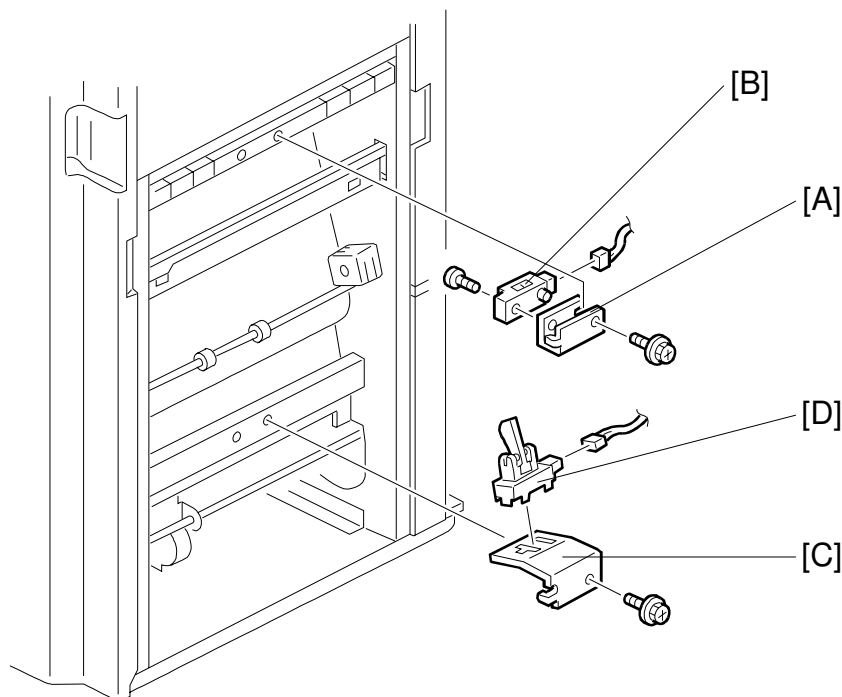
3. Remove the sensor bracket [C] (1 screw).
4. Replace the upper tray exit sensor [D] (1 connector).

4.4.3 SHIFT TRAY EXIT SENSOR



1. Remove the rear cover.
2. Remove the upper left cover.
3. Remove the upper cover.
4. Open the front door, unhook the joint [A] and remove the upper exit guide [B] (1 plastic clip, 1 connector).
5. Remove the guide stay [C] (2 screws).
6. Remove the discharge brush [D] (2 screws).
7. Replace the shift tray exit sensor [E] (1 screw, 1 connector).

4.4.4 ENTRANCE AND STAPLER TRAY ENTRANCE SENSOR



B312R557.WMF

1. Remove the finisher from the copier.

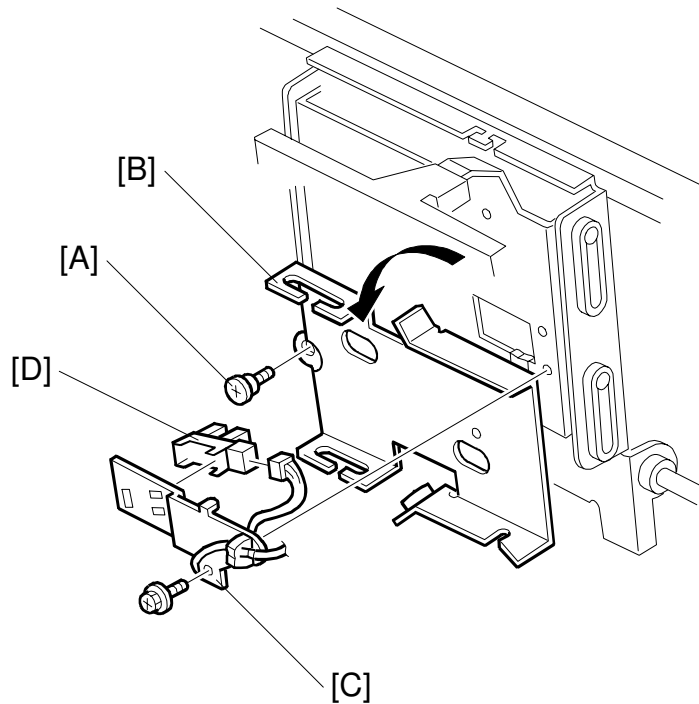
Entrance Sensor

2. Remove the sensor bracket [A] (1 screw).
3. Replace the entrance sensor [B] (1 screw, 1 connector).

Stapler Tray Entrance Sensor

2. Remove the sensor bracket [C] (1 screw).
3. Replace the stapler tray entrance sensor [D] (1 screw, 1 connector).

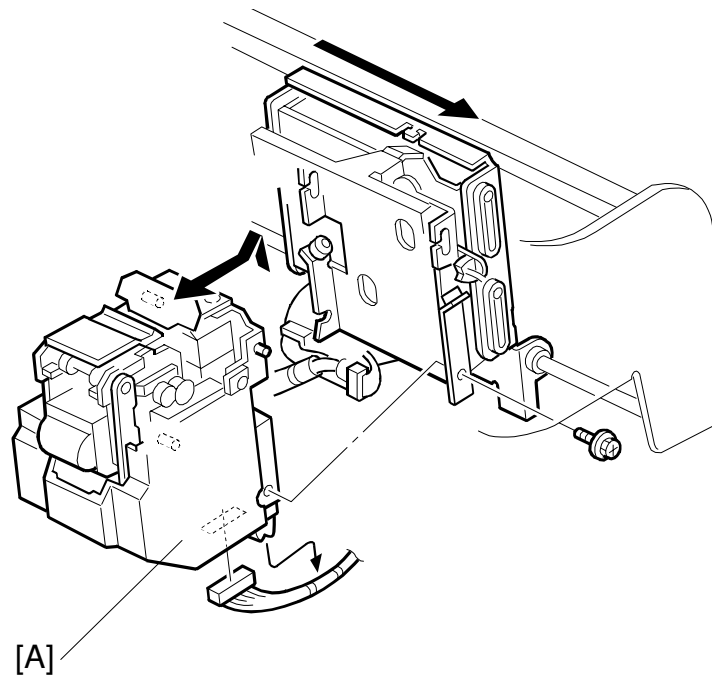
4.4.5 STAPLER ROTATION HP SENSOR



B312R560.WMF

1. Remove the stapler unit.
2. Remove the screw [A] and rotate the stapler bracket [B].
3. Remove the sensor bracket [C] (1 screw).
4. Replace the stapler rotation HP sensor [D] (1 connector).

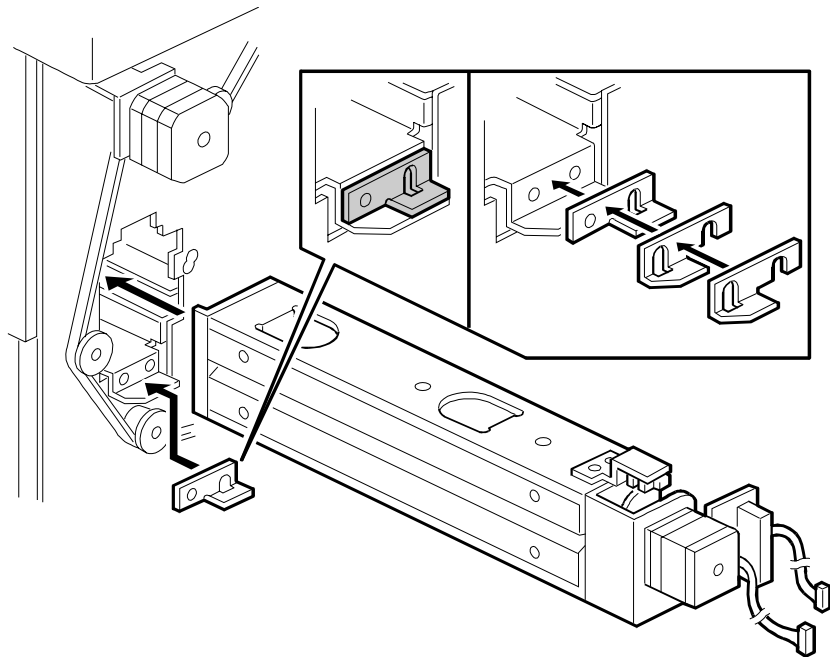
4.5 STAPLER REMOVAL



B312R559.WMF

1. Open the front door and pull out the jogger unit.
2. Move the stapler to the front.
3. Remove the stapler [A] (1 screw, 1 connector).

4.6 PUNCH POSITION ADJUSTMENT



B312R558.WMF

Right to left

This position is adjusted by SP modes.

Front to rear

The optional punch units have the following 3 spacers as accessories.

1 mm thickness: 2 pcs

2 mm thickness: 1 pc

The punch position can be adjusted by up to 4 mm by combinations of the 3 spacers.