Finisher SR4110
Machine Code: D707
Field Service Manual
Ver 1.01

Latest Release: Jan, 2017
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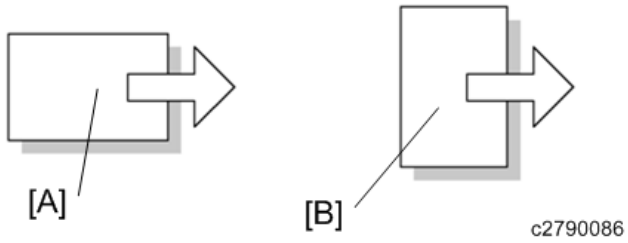
Symbols, Abbreviations

This manual uses several symbols and abbreviations. The meaning of those symbols and abbreviations are as follows:

Symbol	What it means
	Clip ring
	Screw
	Connector
	Clamp
	E-ring
	Flat Flexible Cable
	Timing Belt
SEF	Short Edge Feed
LEF	Long Edge Feed
K	Black
C	Cyan
M	Magenta
Y	Yellow
B/W, BW	Black and White
FC	Full color



[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

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1. Detailed Descriptions

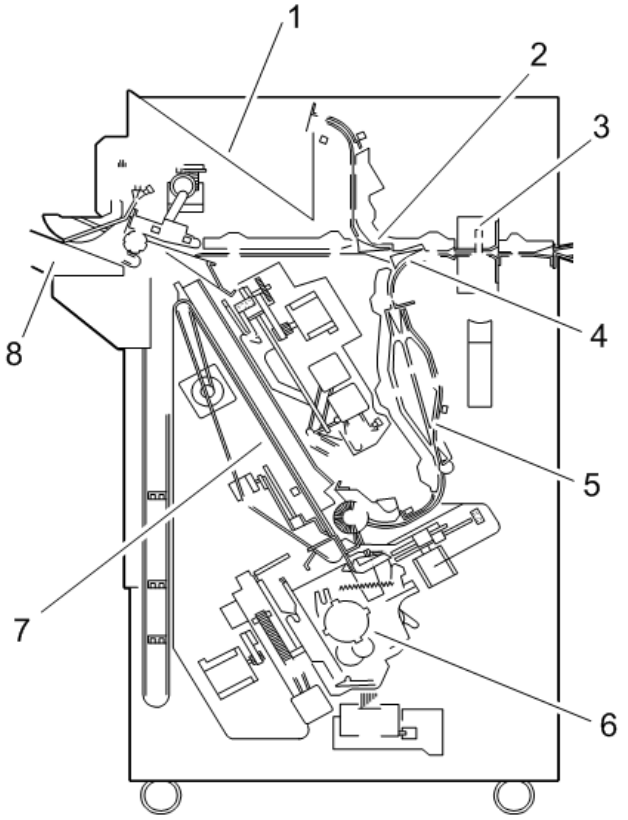
Mechanism Descriptions

Fuse List

Fuse Name	Output Connector	Capacity	Voltage	Parts No.	Affected Part	Remarks	Removability
FU100	CN120 CN120 CN113 CN121 CN120 CN122 CN123 CN123 CN124 CN146 CN134 CN125 CN128 CN126 CN126 CN127 CN127 CN128 CN129 CN129 CN130 CN130 CN131 CN125 CN133 - CN118 CN119 CN610 CN710	5A	250V	11071006	M1: Shift Paper Output M M2: Tray Upper/Lower M M3: Paper Exit Open/Close M M4: Staple Paper Exit M M5: Proof Paper Exit M M6: Shift M M7: Proof Switch M M8 Staple Switch M M9: Press Tuck Switch M M10: Press Tuck Transfer M M11: Press Tuck Paw Release M M12: Beat Drive M M13: Beat Transfer M M14 Return Drive M M15: Return Drive M M16: Jogger M	Full Load Punch: Punch Board Shift Jogger part M: Shift Jogger Board	Yes

	CN710 CN132				M17: Release M M18: Holder M M18: Holder Front M M20: Holder Rear M M21: Stapler Front/Rear M M22: Stapler Opposite Corner M M23: Staple M M24: Leading Edge Stopper M M25: Movable Fence M - M27: Upper Transfer M M28: Lower Transfer M M29: Punch M M30: Shift Jogger M M31: Shift Jogger Retracted M SOL1: Shooter Open/Close SOL		

Component Layout



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No.	Description	No.	Description
1	Proof Tray	5	Pre-stack Tray
2	Proof Junction Gate	6	Stapler
3	Punch Unit	7	Stapler Unit
4	Stapler Junction Gate	8	Shift Tray

- Inverter

  Distributes paper to the proof tray, the shift mode, or the staple mode. The destination varies depending on whether the paper is sorted or stapled, or not.

- Pre Stack Tray

  When stapling two or more sheets, the 1st to 3rd sheets wait in the pre stack tray and are then transferred together to the stapler. The following sheets (4th, 5th…) are sent to the staple tray two by two. This method contributes to reducing waiting time to enhance productivity for stapling.

  Supported Sizes: A4 SEF, B5 SEF, LT SEF

- Proof Tray

  The tray to which paper is output when the sort mode or the staple mode isn't chosen

- Shift Tray

  Moves up and down depending on the number of outputs printed, and side-to-side shift in sort mode

- Staple Tray Jogger

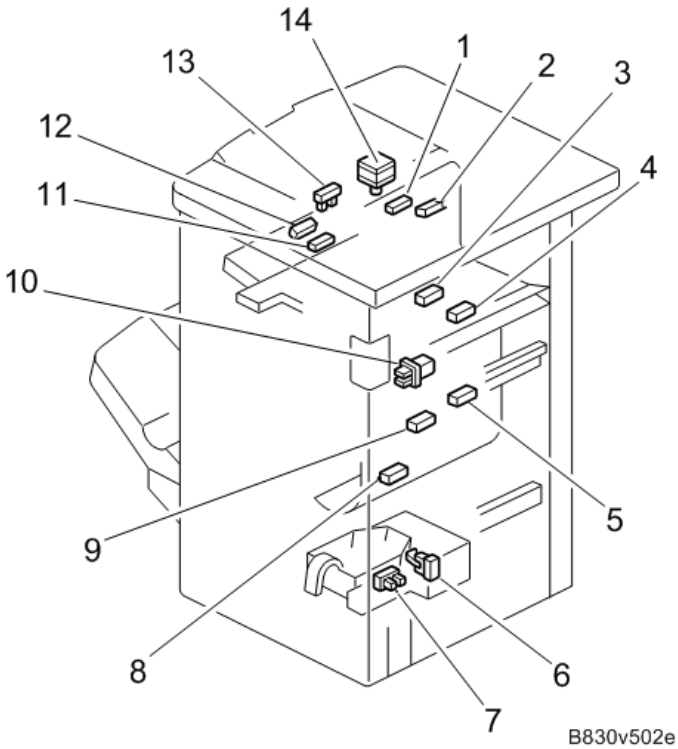
  With the paper leading edge stopper (supports only the sizes that go in the pre-stack tray), the alignment

brush roller, the positioning roller and the jogger fence, the staple tray jogger tidies the edges of the stack before stapling.

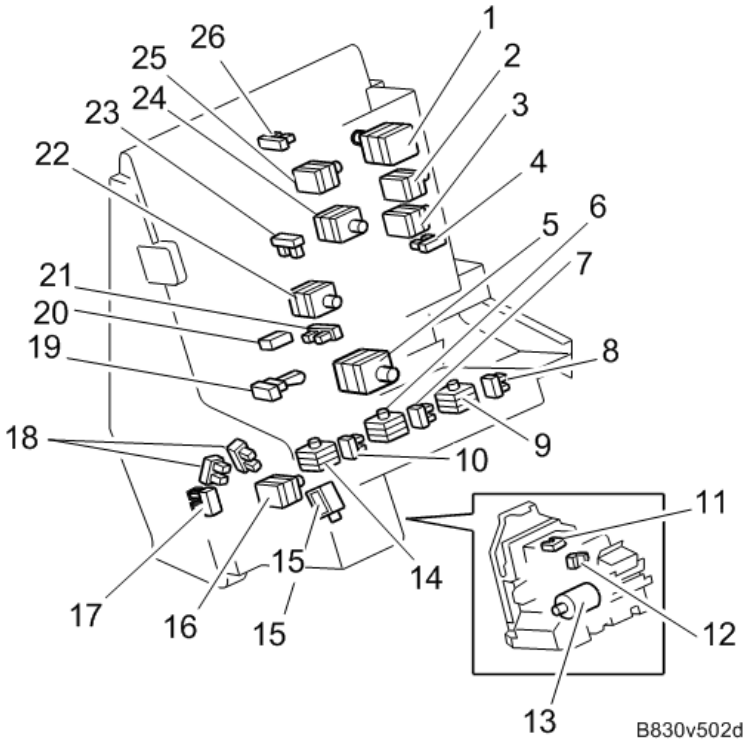
- Punch Unit

  Punches and makes holes with the punch motor.

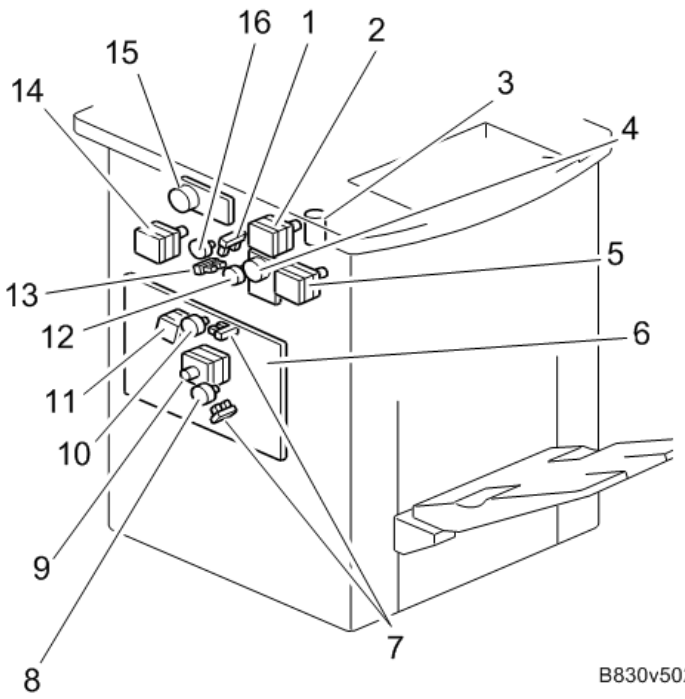
Electrical Components



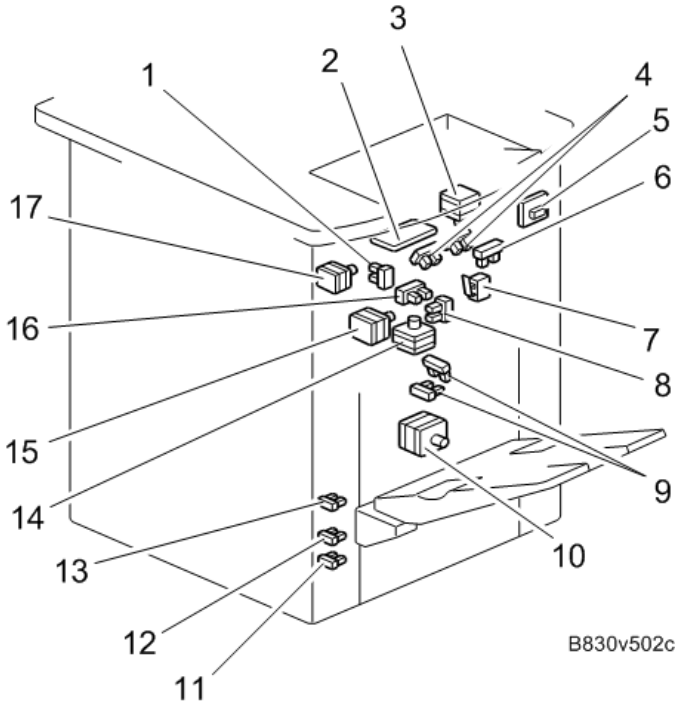
No.	Description	No.	Description
1	Proof Tray Exit Sensor	8	Stapler Exit Sensor
2	Proof Tray Full Sensor	9	Staple Tray Paper Sensor
3	Jam Sensor	10	Interlock Switch
4	Entrance Sensor	11	Shift Tray Paper Sensor
5	Pre-stack Sensor	12	Staple Paper Sensor
6	Used Staple Hopper Set Sensor	13	Exit Open/close Sensor
7	Used Staple Hopper Full Sensor	14	Exit Open/close Motor



No.	Description	No.	Description
1	Leading Edge Stopper Motor	14	Paper Hold Front Motor
2	Positioning Roller Motor	15	Used Staple Disposing Solenoid
3	Drag-in Motor	16	Stapler Rotation Motor
4	Drag-in HP Sensor	17	Stapler Movement HP Sensor
5	Stapler Front/rear Motor	18	Stapler Rotation Sensor
6	Paper Hold Center Motor	19	Feed Out Belt HP Sensor
7	Paper Hold HP Sensor	20	Staple Tray Paper Sensor
8	Paper Hold Rear HP Sensor	21	Bottom Fence HP Sensor
9	Paper Hold Rear Motor	22	Bottom Fence Motor
10	Paper Hold Front HP Sensor	23	Jogger HP Sensor
11	Staple Hammer HP Sensor	24	Jogger Motor
12	Staple Cartridge Set Sensor	25	Feed Out Belt Motor
13	Staple Motor	26	Leading Edge Stopper HP Sensor

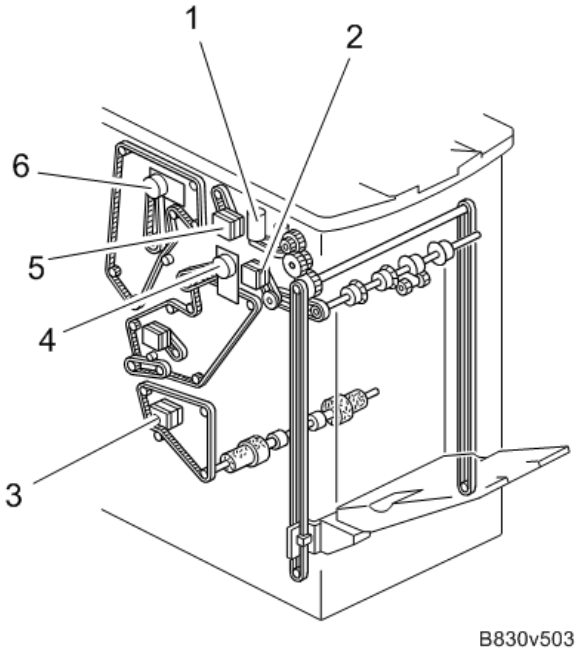


No.	Description	No.	Description
1	Stapler Junction Gate HP Sensor	9	Transport Motor
2	Proof Exit Motor	10	Pre-stack Junction Gate
3	Tray Upper/lower Motor	11	Vertical Transport Motor
4	Lower Transport Motor	12	Proof Junction Gate Motor
5	Shift Exit Motor	13	Proof Junction Gate HP Sensor
6	Main Controller Board	14	Punch Unit Motor
7	Pre-stack Junction Gate HP Sensor	15	Upper Transport Motor
8	Pre-stack Junction Gate Motor	16	Stapler Junction Gate Motor

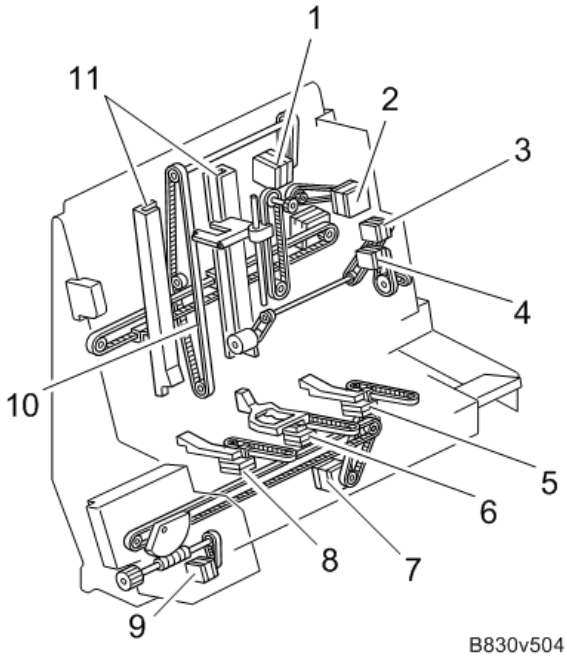


No.	Description	No.	Description
1	Jogger HP Sensor	10	Shift Motor
2	PCB	11	Tray Lower Limit Sensor
3	Jogger Motor	12	Tray Near-limit Sensor
4	Shift Paper Sensor	13	Tray Lower Sensor
5	PCB	14	Drag-in Drive Motor
6	Staple Paper Sensor	15	Drag-in Transport Motor
7	Emergency Stop Switch	16	Paper Sensor
8	Drag-in Drive HP Sensor	17	Jogger Motor
9	Shift Tray HP Sensor		

Drive Layout



No.	Description	No.	Description
1	Tray Shift Motor	4	Lower Transport Motor
2	Shift Exit Motor	5	Proof Exit Motor
3	Staple Transport Motor	6	Upper Transport Motor



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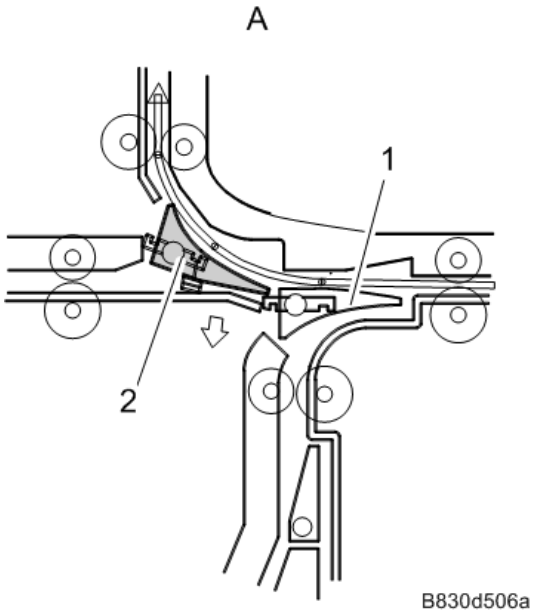
No.	Description	No.	Description
1	Feed Out Motor	7	Stapler Front/Rear Motor
2	Jogger Motor	8	Paper Hold Front Motor
3	Positioning Roller Motor	9	Staple Rotation Motor
4	Drag-in Motor	10	Feed Out Belt
5	Paper Hold Rear Sensor	11	Jogger Fence
6	Paper Hold Center Motor		

Mechanism Details

Inverter

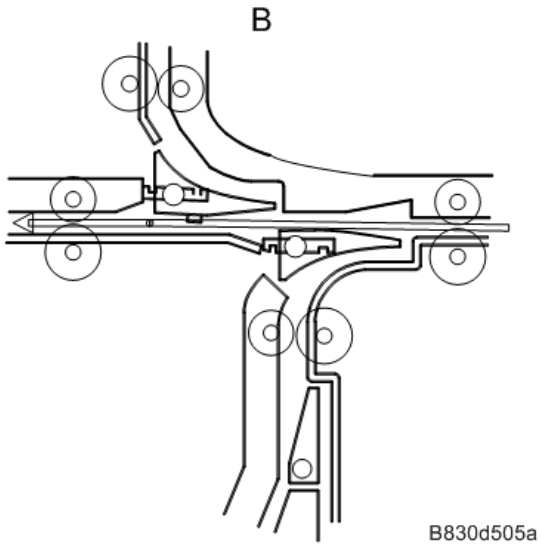
The inverter mechanism has two junction gates that can send paper in one of three ways. For proof tray output, a motor moves the proof junction gate into position to send paper to the proof tray. In staple mode, another motor moves the stapler junction gate into position to send paper to the stapler. In shift mode, paper is sent to the shift tray, and neither junction gate changes over.

Proof Mode

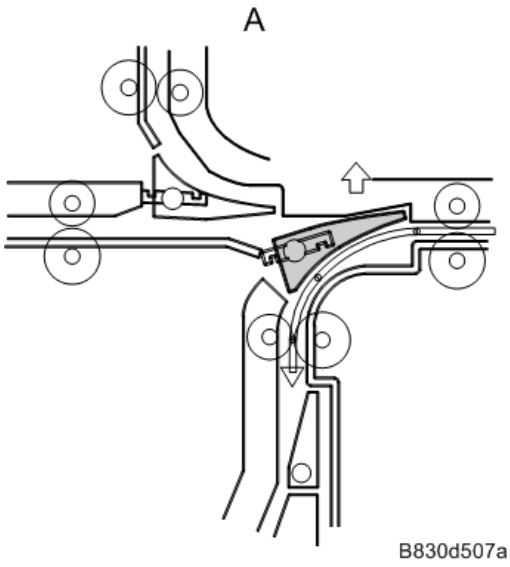


No.	Description	No.	Description
1	Proof Junction Gate	2	Stapler Junction Gate

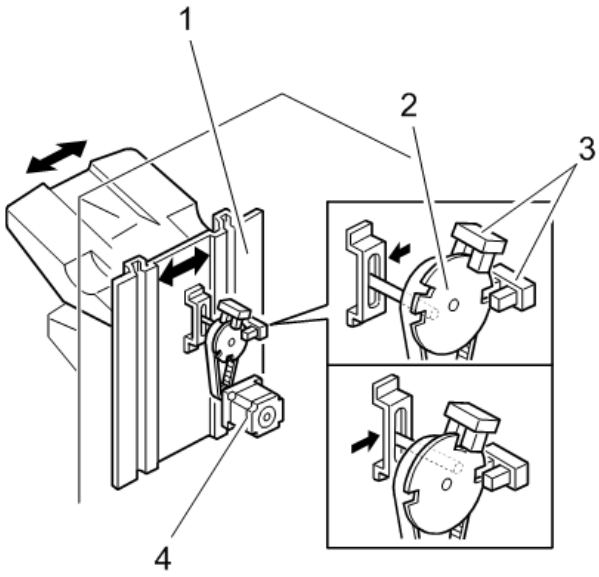
Shift Mode



Staple Mode



Shift Tray



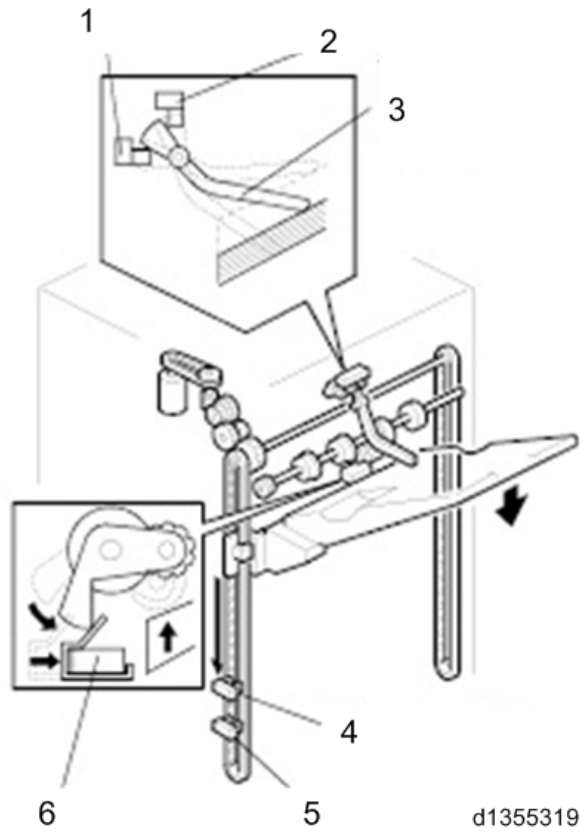
No.	Description	No.	Description
1	Shift Tray End Fence	3	HP Sensor
2	Shift Gear Disk	4	Shift Tray Half-turn Sensors

- **Shift Tray**

  In shift mode, when the last printed paper has been output, the shift motor moves the shift tray to the left or the right. When one of the half-turn sensors detects one of the slots in the shift gear disk, the motor stops. The shift amount is 15mm..

- **Up / Down**

  The shift tray moves up or down depending on the stack height of the output paper. The degree of motion is adjusted to keep the paper height sensor actuator (3) between the two paper height sensors (1, 2).



No.	Description	No.	Description
1	Paper Height Sensor – Standby Mode	4	Shift Tray Full Sensor (Large Paper)
2	Paper Height Sensor – Staple Mode	5	Shift Tray Full Sensor
3	Paper Height Sensor Actuator	6	Paper Height Sensor – Shift Mode

- **Shift Up**

  When paper is removed from the shift tray, the feeler moves down and the paper height sensor (staple mode) turns ON. Then the shift tray lifts until the sensor turns “OFF”.

- **Shift Down (Shift Mode)**

  With stacked paper on the tray, the paper height sensor (standby mode) is turned “OFF”. Then the shift tray lift motor turns “ON” to lift the tray until the sensor turns “ON”.

- **Shift Down (Staple Mode)**

  When a stapled stack of paper has been output, the shift tray lift motor turns ON for a certain time to move the tray down a set distance. Then the motor lifts the tray until the paper height sensor (staple mode) turns from “ON” to “OFF”. The tray is now at the home position. This is done every time after a stapled stack of paper is output. There are three shift tray full sensors, but only two of these (4, 5 in the above diagram) are used for the machine display.

  Rough Indication:

  Larger Size (B4 or larger): 1,500 sheets

  Smaller Size (less than B4): 3000 sheets

- **Drag Roller Operation**

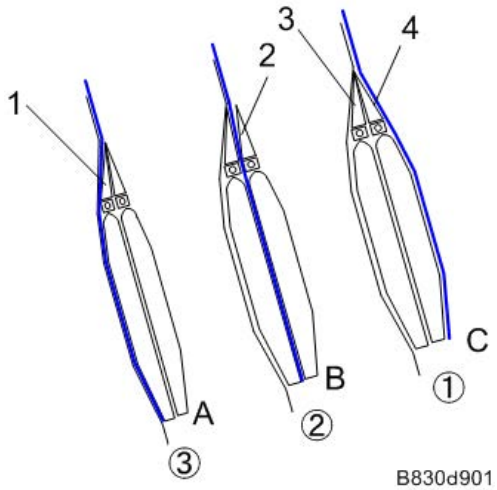
  The drag roller mechanism improves the accuracy of paper stacking on the tray by pushing the output paper

back against the end fence. The drag roller motor drives the roller.

Pre-stack

The First Three Sheets

1. The rear edge of the 1st sheet passes the entrance sensor. Then the left and right pre-stack inverter plates shift to the left. This closes the 2nd and 3rd paths to send paper to the 1st path.
2. The rear edge of the 2nd sheet passes the entrance sensor. Then the pre-stack inverter plate (right) shifts to the right. This opens the 2nd path to send the 2nd sheet to the 2nd path.
3. The rear edge of the 3rd sheet passes the entrance sensor. Then, the pre-stack inverter plate (left) shifts to the right. This opens the 3rd path to send 3rd sheet to the 3rd path. Then, after the leading edge of the 3rd sheet passes the pre-stack sensor, the three sheets of paper (1st, 2nd, 3rd) are sent to the stapler tray at the same time.



1. Junction Gate (JG) Left
2. JG Right
3. JG Left
4. JG Right

A: 3rd Transport Path

B: 2nd Transport Path

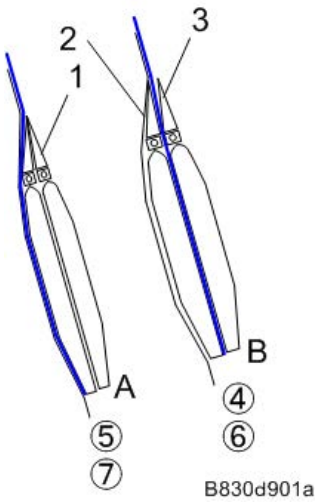
C: 1st Transport Path

Pre-stacking for Subsequent Sheets

When the rear edge of the 4th sheet passes the entrance sensor, the pre-stack inverter plate (left) shifts to the left to open the 2nd path. This sends the 4th sheet to the 2nd path.

Then, after the leading edge of the 5th sheet passes the entrance sensor, the pre-stack inverter plate (left) shifts to the right to open the 3rd path. This sends the 5th sheet to the 3rd path. When the leading edge of the 5th sheet passes the pre-stack sensor, both sheets of paper are sent to the staple tray.

From now on until the end of the stack of paper to be stapled, paper is fed to the stapler two by two in this way.



1. Junction Gate (right)
2. JG Left
3. JG Right

A: 3rd Transport Path

B: 2nd Transport Path

Staple Tray Jogger

1. Stacking

   Paper is sent to the staple tray by the alignment brush roller.

   - For paper of sizes which can go into the pre-stack tray (A4 SEF, B5 SEF, LT SEF): The top fence moves down and presses the leading edge of the paper to straighten the leading edge of the paper. When more than 50 sheets of paper are sent to the staple tray, the positioning roller presses the paper to prevent the paper from falling down.
   - For paper of sizes which cannot go into the pre-stack tray: After the stapler tray entrance sensor turns off (A4 size paper: 55 to 65 ms after the trailing edge of the copy passes the stapler tray entrance sensor), the positioning roller motor is energized to push the positioning roller into contact with the paper. Then the positioning roller rotates to push the paper back and align the trailing edge of the paper against the stack stopper. The alignment brush roller guides paper to the stack stopper.

2. Jogging

   Stacking straightens the rear edge of paper. Then jogging straightens the sides of the paper. At the start of a copy job, the jogger fences move 7.2mm from the width of paper and wait. When the rear edge of the paper passes the stapler entrance sensor, the jogger fence moves 3.7mm inward while stacking straightens the rear edges of the stack. Then the jogger fences move another 3.5mm inward to straighten the side edges. When jogging is completed, the jogger fences wait 7.2mm away from the width of the paper until the next operation.

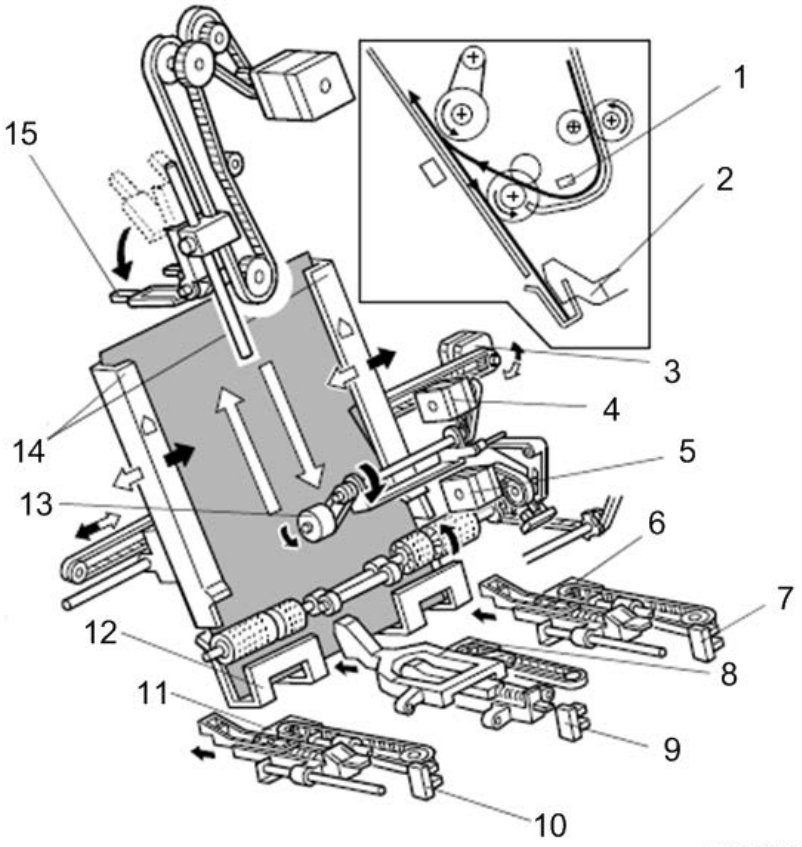
   Note

   - A plate spring extends from the front and the rear edges to improve the straightening mechanism.

3. Paper Holding

To staple up to 100 sheets of paper, the machine holds paper so that the edge of the stack that will be stapled is flattened. When the jogger returns to the home position, the stack plate motors operate the stack plates that hold the paper. When the next following sheet turns the stapler entrance sensor OFF, the stack plate motors turn ON to return the stack plates back to the home position. The home position is detected with the stack plate HP sensors. This process is done every sheet, so that the front and rear stack plates hold down the curled parts at the corners of the stack. The front and the rear stack plates cannot operate if the stapler is there, so they only operate when the stapler is not there. This is monitored every sheet. The central stack plate always operates regardless of the location of the stapler.

- **Front Corner Stapling:** Center + Rear
- **Rear Corner Stapling:** Front + Center
- **2-position Stapling:** Front + Center + Rear



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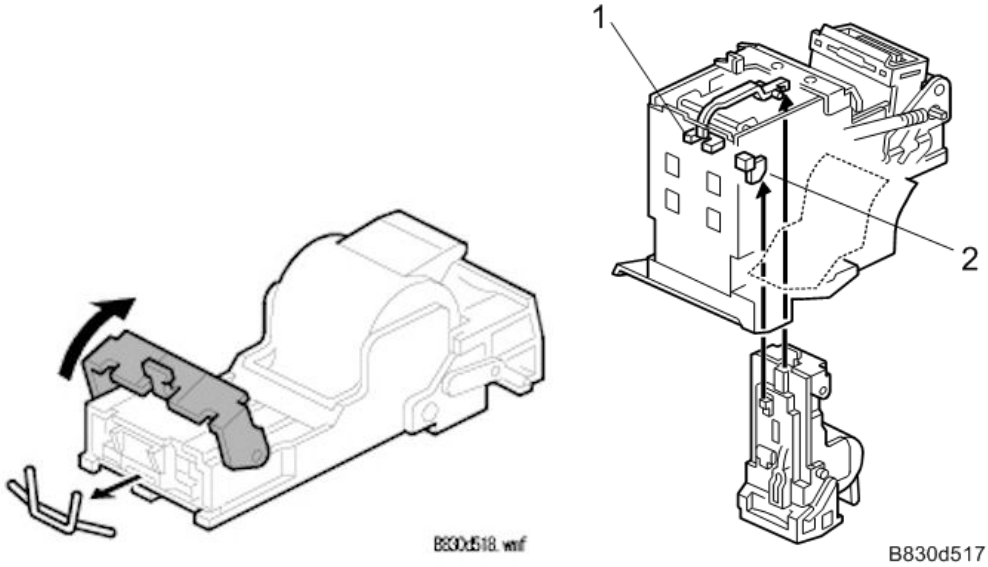
No.	Description	No.	Description
1	Stapler Tray Entrance Sensor	9	Stack Plate HP Sensor (Center)
2	Stack Stopper	10	Stack Plate HP Sensor (Front)
3	Jogger Motor	11	Stack Plate Motor (Front)
4	Positioning Roller Drive Motor	12	Stack Stopper
5	Positioning Roller Motor	13	Positioning Roller
6	Stack Plate Motor (Rear)	14	Jogger Fences
7	Stack Plate HP Sensor (Rear)	15	Top Fence
8	Stack Plate Motor (Center)		

Stapling

Stapler

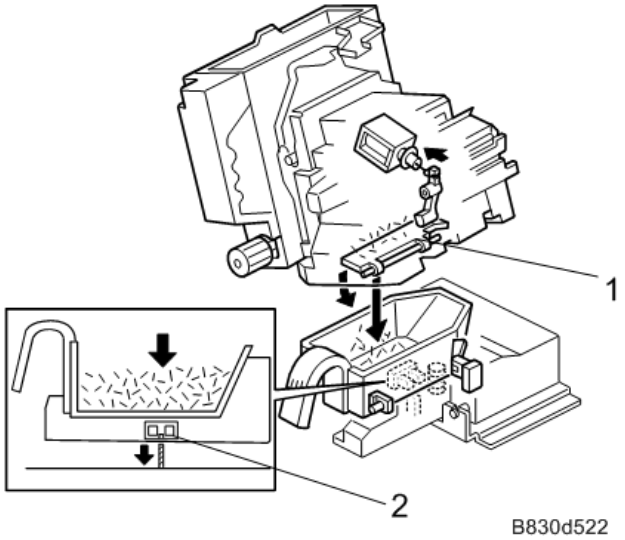
The drive motor in the stapler performs stapling. If motor overload occurs such as for a staple jam, the operation panel shows that a jam was detected. The stapler has a cartridge set sensor and a staple end sensor. The operation panel shows that more staples are needed if staple end occurs during copying. If a staple jam occurs, copying stops. You can remove a jammed staple by releasing the curved part in the picture below..



No.	Description	No.	Description
1	Staple Cartridge Set Sensor	2	Staple End Sensor

Staple Trimming

This machine's stapler uses longer staple needles so that up to a hundred sheets can be stapled. When the stack has only a few sheets, the machine trims the needles to the required length. The cut-off extra part is sent to the staple trimmings tray. ①When the main power is turned ON, ②when the door is opened/closed, or ③after the end of a job that staples over 100 times, the solenoid next to the stapler opens the lever to dump the trimmings into the waste hopper. The staple trimmings hopper descends as it fills, until the staple trimmings hopper full sensor is activated. A message asks the user to empty the staple trimmings.



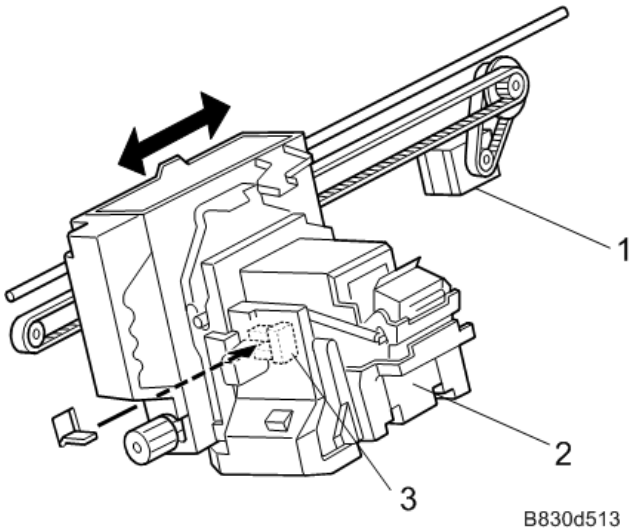
No.	Description	No.	Description
1	Staple Trimmings Tray	2	Staple Trimmings Hopper Full Sensor

Stapler Movement

The stapler moves horizontally or rotates, depending on the stapling mode.

- Horizontal Shift

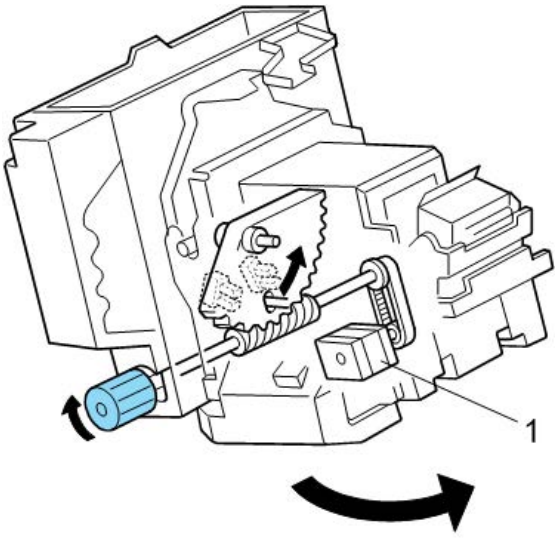
  The stapler moves in the horizontal direction along a rod, driven by a timing belt. The home position of the stapler is the front side. For 2-position stapling, the stapler staples the front side first and then shifts to the rear side to staple there.



No.	Description	No.	Description
1	Stapler Movement Motor	3	Stapler Movement HP Sensor
2	Stapler		

Staple Rotation

For the rear corner stapling mode, the stapler shifts to the corner and waits to staple after horizontal shift. The staple rotation motor rotates the stapler to the correct angle.



No.	Description
1	Stapler Rotation Motor

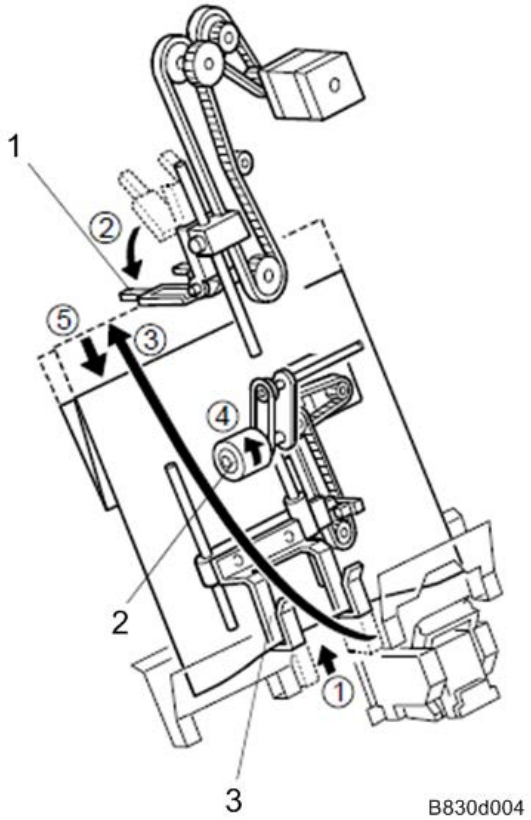
Stapling Z-folded Paper

The top fence moves before the transferred paper is stacked.

The stack stopper moves to the location that is suitable for the size.

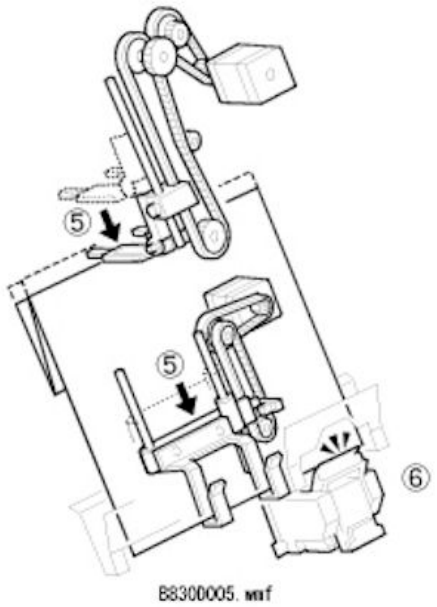
The leading edge of Z-folded paper bumps against the stack stopper.

The positioning roller drops the paper and it is stacked.



No.	Description	No.	Description
1	Top Fence	3	Stack Stopper
2	Positioning Roller		

When the specified amount of paper is stacked, the top fence moves down. The stack stopper also moves down to straighten the leading edge of the paper.



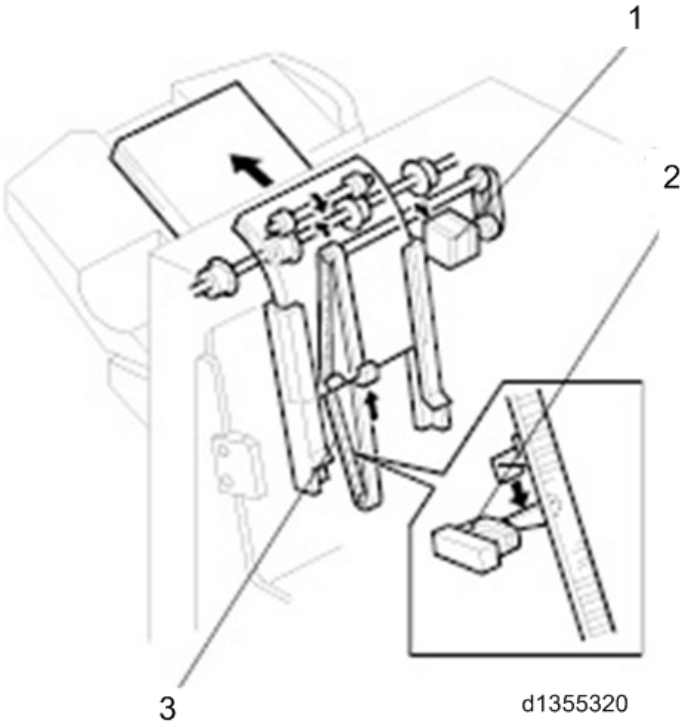
Output Exit Open/Close

The machine opens the output exit when outputting paper in order to output up to one hundred stapled sheets of paper to the tray.

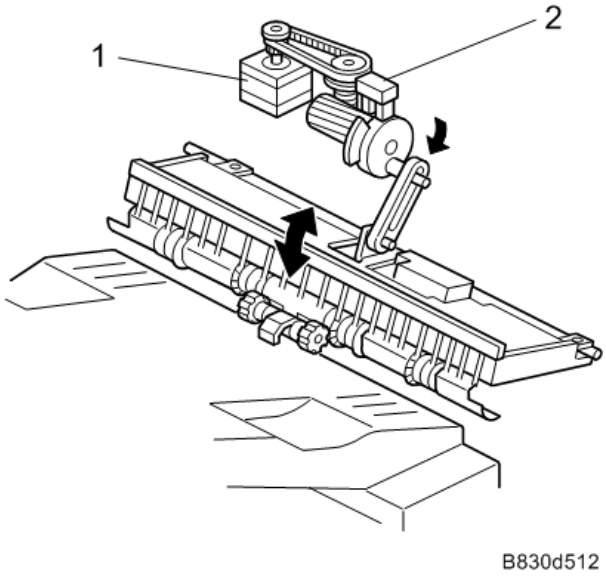
When the stapler turns ON, the exit open/close motor turns OFF to open the exit, and the feed out motor turns ON after the stapler turns OFF. The feed out motor drives the stack feed-out belt, and the pawl attached to the belt lifts the paper to the exit. A certain time after the stapler turns OFF, the output exit open/close motor turns ON to close the exit, where the paper is output to the shift tray by the exit roller.

In staple mode, the exit opens and close when sixteen or more sheets of paper need to be output.

OFF timing for the output exit open/close motor is detected by the HP sensor.



No.	Description	No.	Description
1	Feed Out Motor	3	Feed Out Belt
2	Feed Out Belt HP Sensor		



No.	Description	No.	Description
1	Exit Open/close Motor	2	Exit Open/close Sensor

Punch (2-hole Punch Unit)

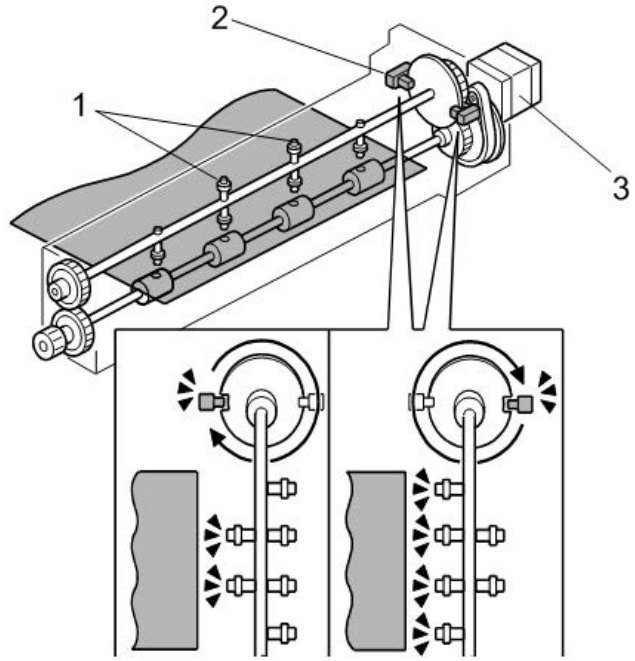
Note: MP1350 cannot punch

The punch unit makes holes in the rear edge of each sheet, one sheet at a time.

3-hole punching can be enabled by a UP mode switch.

- Punch Drive

  The punch shaft waits at the home position. After the finisher entrance sensor detects the rear edge of the paper (OFF), the motor turns on to punch the paper at the specified time. The adjustment of the punch hole position is done by SP mode and by spacers.



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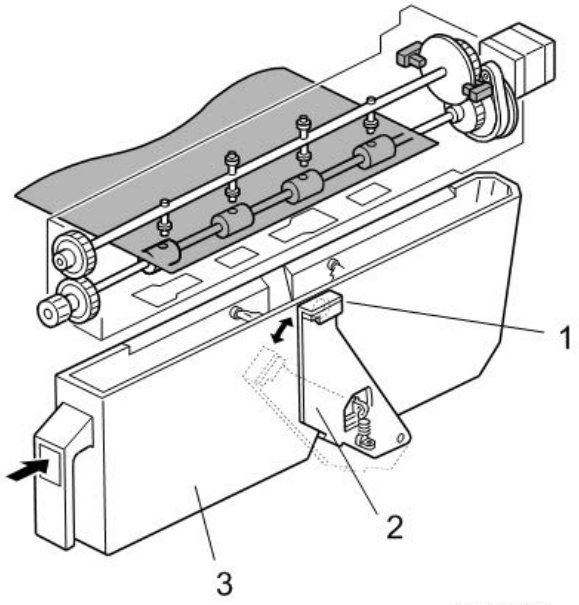
No.	Description	No.	Description
1	Hole Puncher	3	Punch Motor
2	Punch Shaft HP Sensor		

- Punch Waste Collection

  Punch waste is collected in the punch waste hopper under the punch unit. When the level of the punch waste in the hopper rises as far as the hole in the hopper, the punch waste hopper full sensor turns on, stops the job, and triggers a message on the operation to indicate that the hopper is full and must be removed and emptied. The punch waste hopper full sensor also detects whether the punch waste hopper is in the correct place or not.



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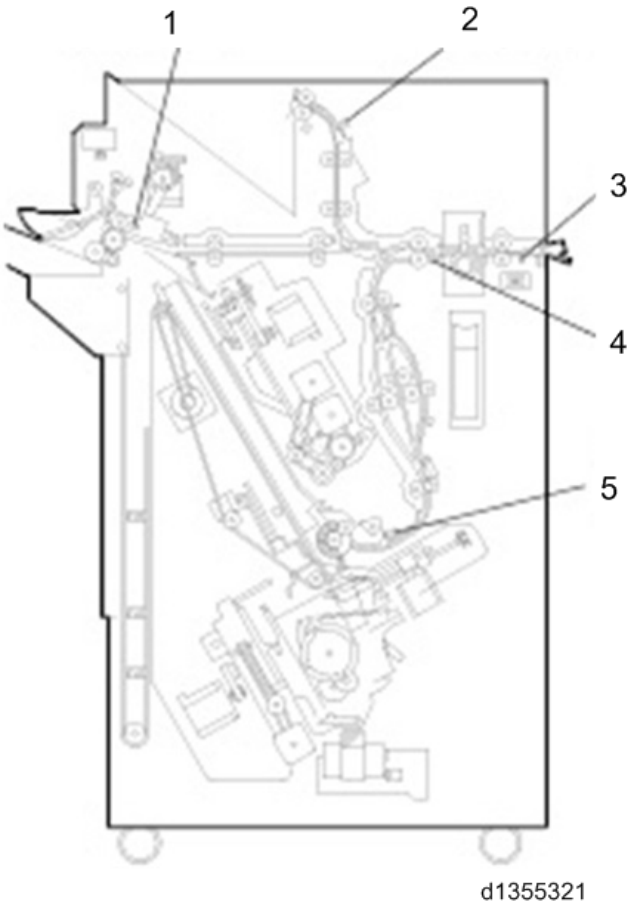
No.	Description	No.	Description
1	Punch Waste Hopper Full Sensor	3	Punch Waste Hopper
2	Sensor Bracket		

Jam Detection



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No.	Description	No.	Description
1	Shift Tray Exit Sensor	4	Jam Sensor
2	Proof tray Exit Sensor	5	Staple Tray Exit Sensor
3	Entrance Sensor		

Type	Relevant Sensor	Detecting Condition
Detention	Entrance Sensor	Paper turns the sensor ON but not turns the sensor OFF after paper passes 1.5 times length of paper.
	Proof Output Sensor	
	Shift Tray Output Sensor	
	Staple Tray Output Sensor	
Unreachable	Entrance Sensor	After the main machine exit sensor turns ON, the entrance sensor doesn't turn ON even when paper passes 426 mm.
	Proof Tray Exit Sensor	After the entrance sensor turns ON, the proof output sensor doesn't turn ON even when paper passes 574 mm.
	Shift Tray Output Sensor	After the entrance sensor turns ON, the shift tray output sensor doesn't turn ON even when paper passes 733 mm.
	Staple Tray Output Sensor	After the entrance sensor turns ON, the staple tray output sensor doesn't turn ON even when paper passes 835 mm.

DIP SW

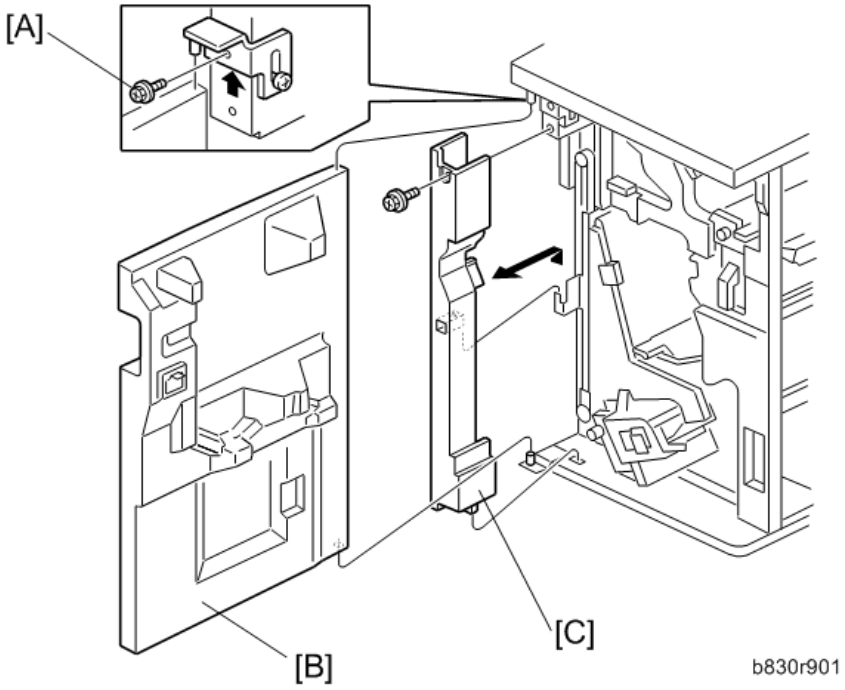
DPS101				Contents
1	2	3	4	
0	0	0	0	Default
1	0	0	0	System Free Run
0	1	0	0	Lasting Free Run
0	0	1	0	Package Free Run
0	0	0	1	Shift Free Run

2. Replacement and Adjustment

Covers

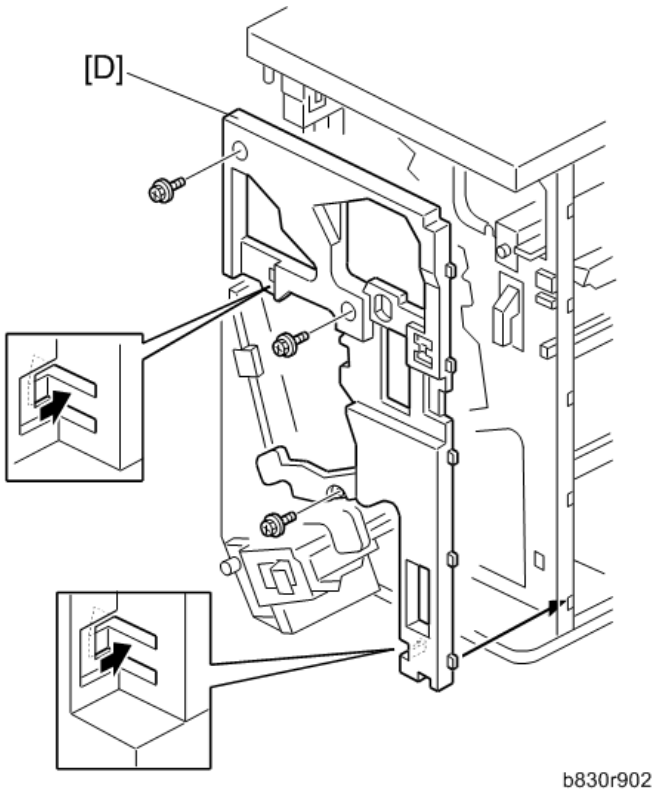
Front Door, Left Inner Cover, Inner Cover

1. Remove the following items:
   Front door screw [A]. (x 1)
   Front door [B].
   Left inner cover [C]. (x 1)



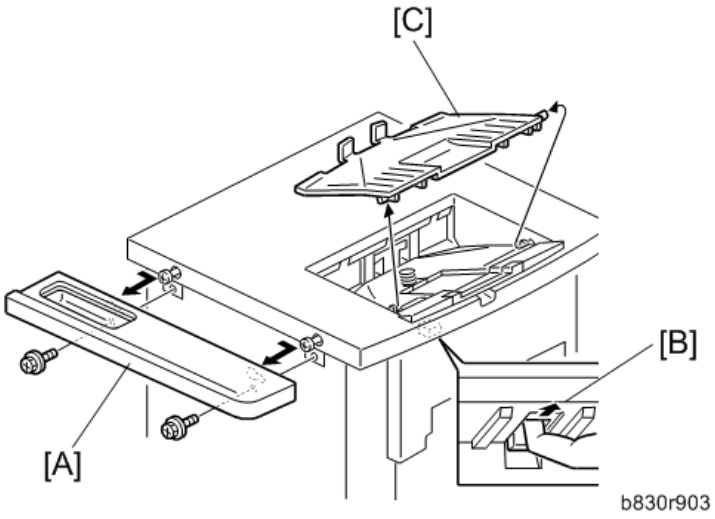
Inner Cover

1. Remove the inner cover [D]/\. (x 3)



Side Table and Upper Tray

1. Remove the side table [A]. (x 2). Slide to the right to remove it.
2. Click the release lever [B] and remove the upper tray [C].



Left Covers, Rear Cover, Top Cover, Shift Cover

Left Covers, Rear Cover

1. Remove the following.
   - Shift tray jogger unit (Jogger Unit)
   - Front door and left inner cover (Front Door, Left Inner Cover, Inner Cover)
2. Remove the left upper cover [A]. (x 2, x 2)
3. Remove the rear cover [B]. (x 2)
4. Remove the left lower cover [C]. (x 4)

Top Cover

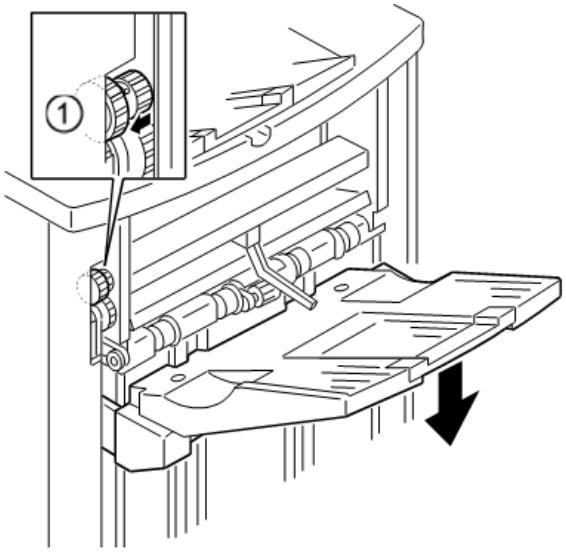
1. Remove the side table and upper tray. (Side Table and Upper Tray)
2. Remove the step screws [D]. (x 2).
3. Remove the top cover [E]. (x 2)
   Slide it to the right to remove.

Shift Tray

1. Remove the shift tray [F]. (x 4)

Note

- If you need to lower the shift tray, support the bottom of the tray with your hand, then pull the gear toward you ① to release the tray and lower it.



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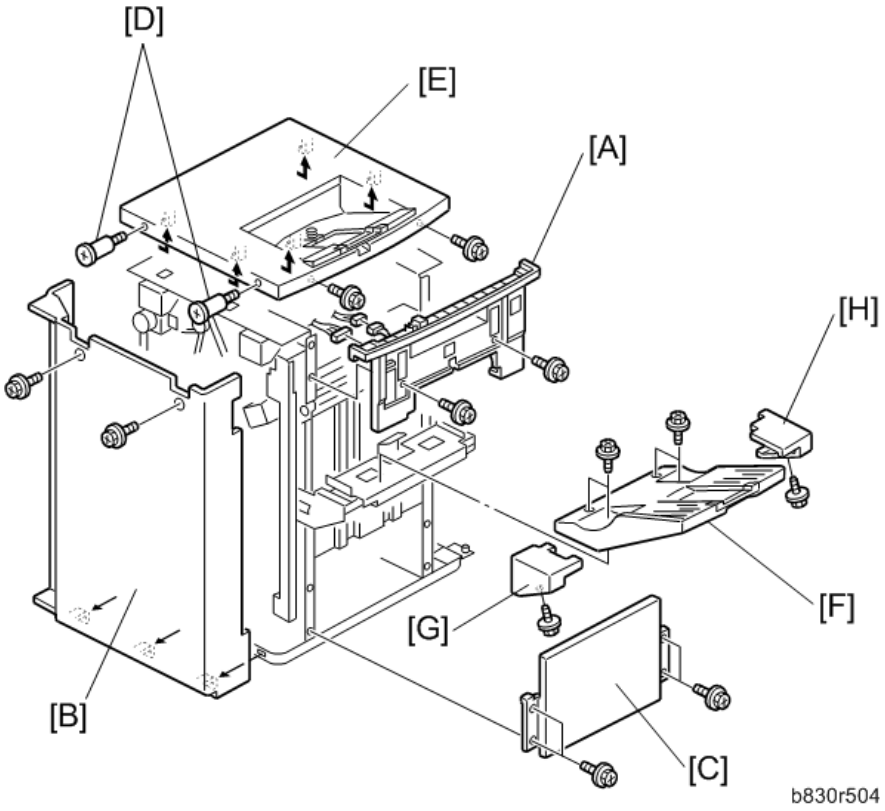
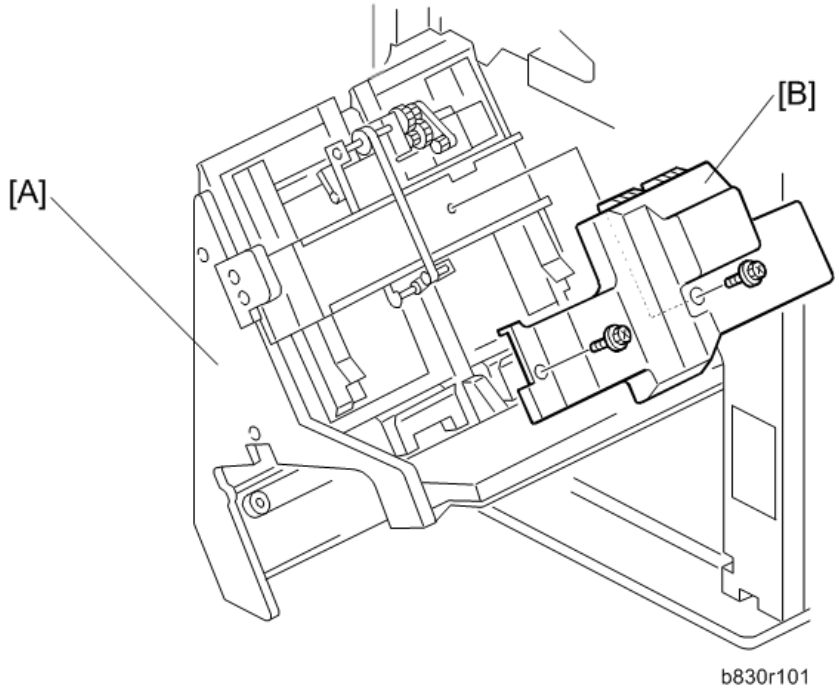
1. Remove the shift tray rear cover [G]. (x 1)
2. Remove the shift tray front cover [H]. (x 1)



Jogger Unit Cover

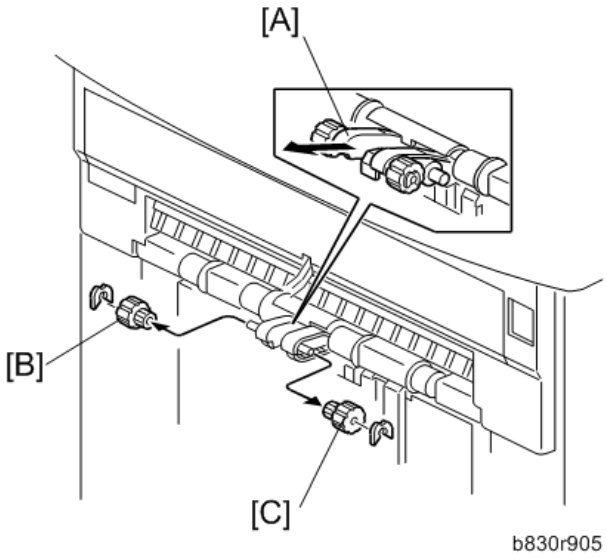
1. Open the front door.
2. Pull out the stapler tray unit [A].
3. Remove the jogger unit cover [B]. (x2)



Rollers

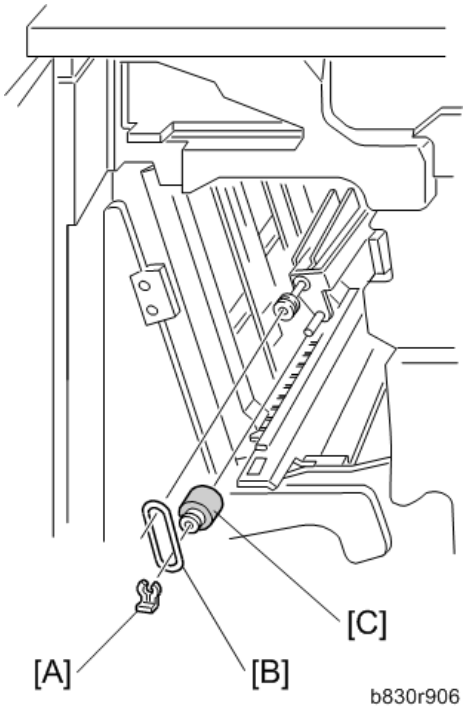
Drag Roller

1. Above the shift tray, pull the roller mount [A] out.
2. Remove the rollers [B] and [C]. (x 1 each)



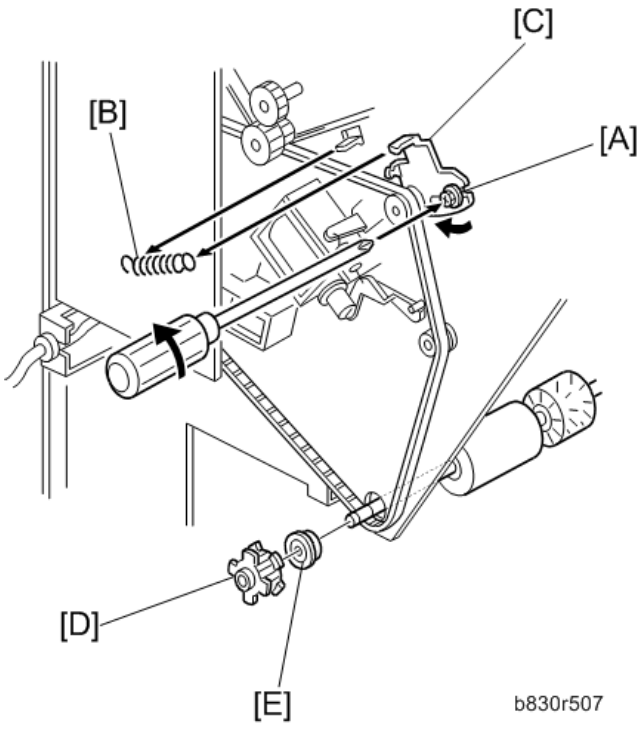
Positioning Roller

1. Jogger unit cover (Jogger Unit Cover)
2. Rermove the following parts:
   Snap ring [A]
   Rubber belt [B]
   Positioning roller [C]



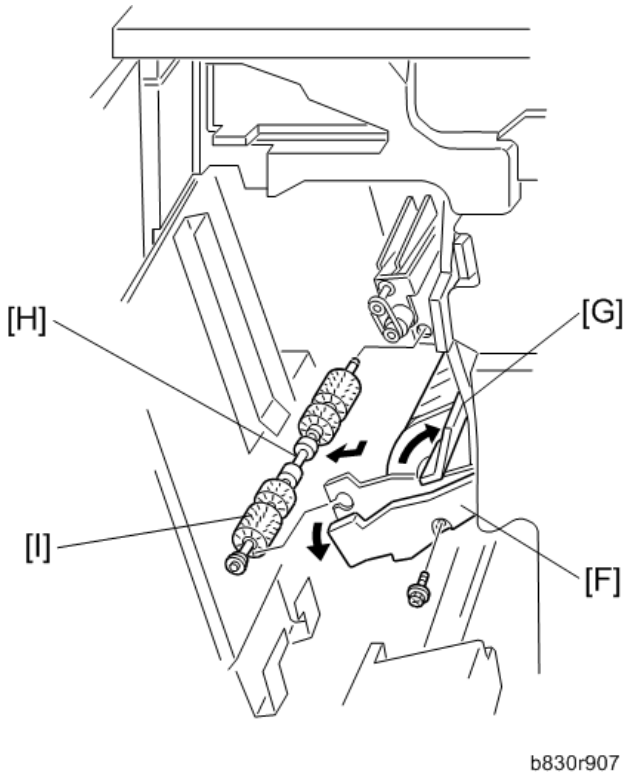
Alignment Brush Roller

1. Open the front door and pull out the staple unit.
2. Remove the rear cover.
3. Remove the main board bracket and all connectors (x 8). (Main Board, Pre-Stack Paper Sensor)
4. Remove the screw [A] and tension spring [B] for the tension bracket [C], and release the tension of the timing belt. Then remove the pulley [D] and bearing [E].



5. Remove the inner cover [F]. (x 1)

6. Open the guide [G], then remove the alignment brush roller assembly [H].
7. Remove the alignment brush roller [I]. (x2, Bearing x 1 front/back, x1).

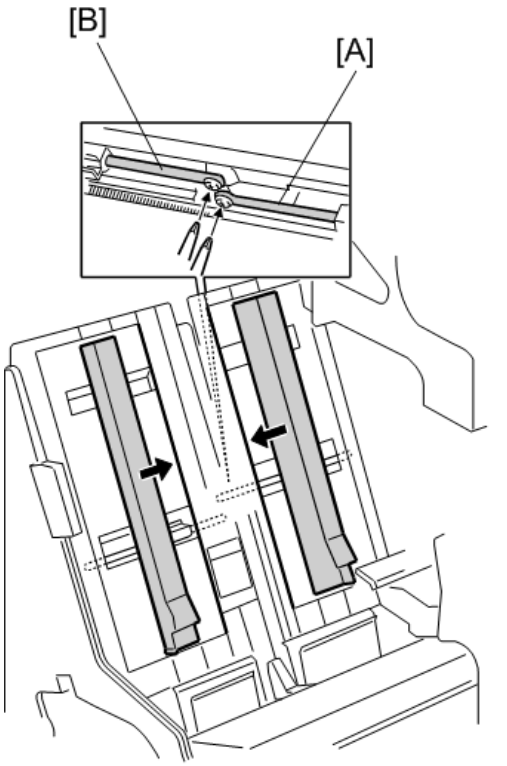


Jogger Fence

1. Open the front door.
2. Pull out the jogger and stapler unit.
3. Push both fences to the center.
4. Remove the left jogger fence [A]. (x 1)
5. Remove the right jogger fence [B]. (x 1)

Note

- If the screws are difficult to remove or re-attach, remove the jogger fence belt and spring plate.


[B]
[A]
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Sensors

Paper Height Sensors

1. Remove the following.
   - Top cover (Left Covers, Rear Cover, Top Cover, Shift Cover)
   - Left upper panel and left upper cover (x 2, x 2) (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the following parts:

   Protector plate [A] (x 1)

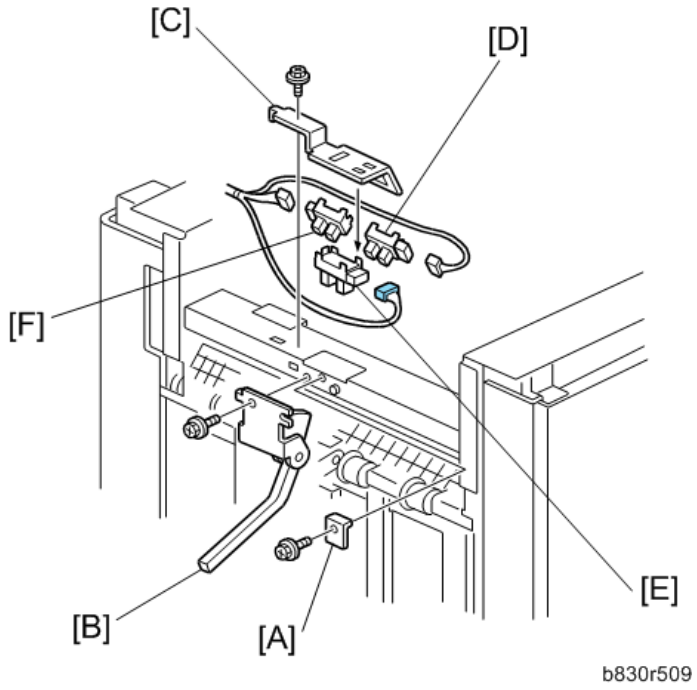
   Feeler [B] (x 1)

   Sensor bracket [C] (x 1)

   Paper height sensor – staple mode [D] (x 1, Pawls x4)

   Paper height sensor – standby mode [E] (x 1, Pawls x4)

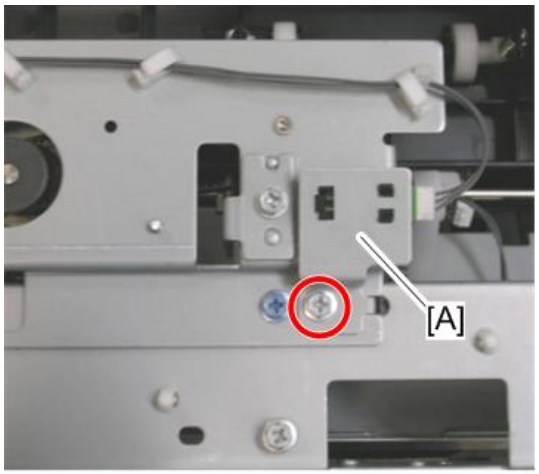
   Paper height sensor – shift/Z-Fold [F] (x 1, Pawls x4)



Exit Guide HP Sensor

1. Remove the top cover (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the left upper panel and left upper cover. (x 2, x 2)

3. Remove the sensor bracket [A]. (x 1)



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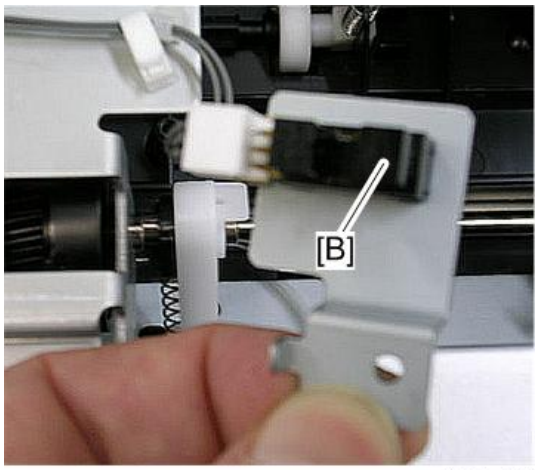
4. Remove the exit guide HP sensor [B]. (x 1, Pawls x3)



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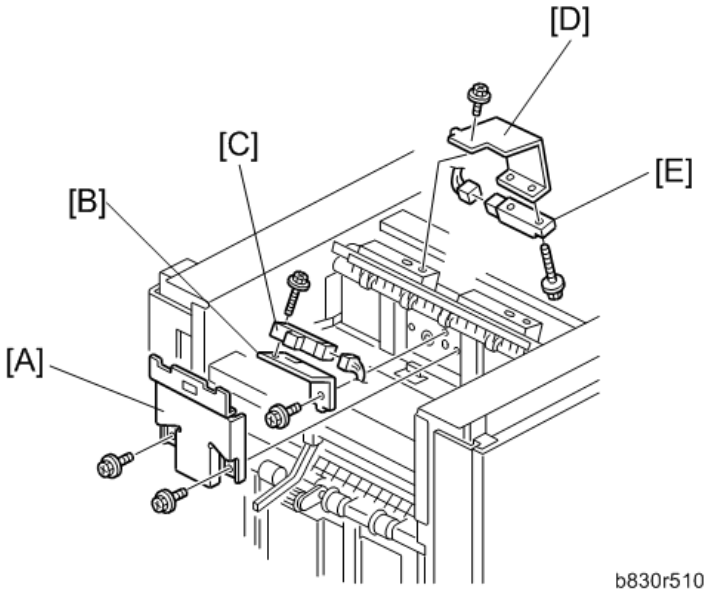
Upper Tray Full and Exit Sensors

Upper Tray Full Sensor

1. Remove the top cover (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the following parts :
   Sensor cover [A] (x 2)
   Sensor bracket [B] (x 1)
   Upper tray full sensor [C] (x 1, x1)
   * See the diagram below.

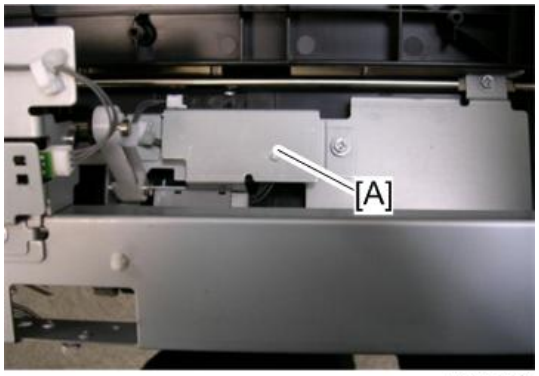
Upper Tray Exit Sensor

1. Remove the sensor bracket [D] (x 1) and upper tray exit sensor [E]. (x 1, x 1)

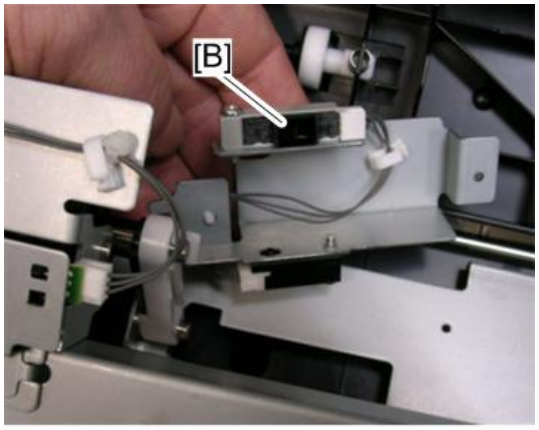


Shift Tray Exit Sensor

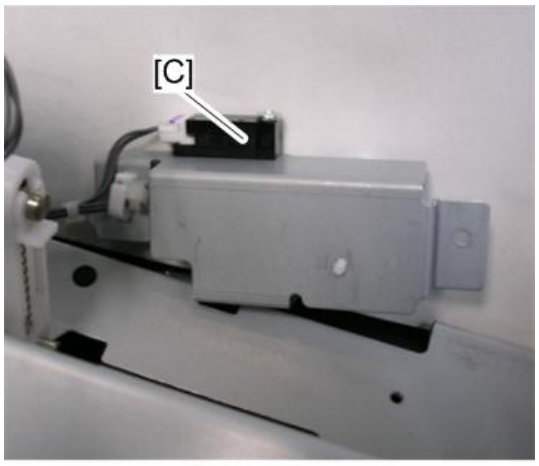
1. Remove the top cover (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the sensor bracket [A]. (x1)



3. Remove the shift tray exit sensor 1 [B]. (x1, x1)



4. Remove the shift tray exit sensor 2 [C]. (x1, x1)



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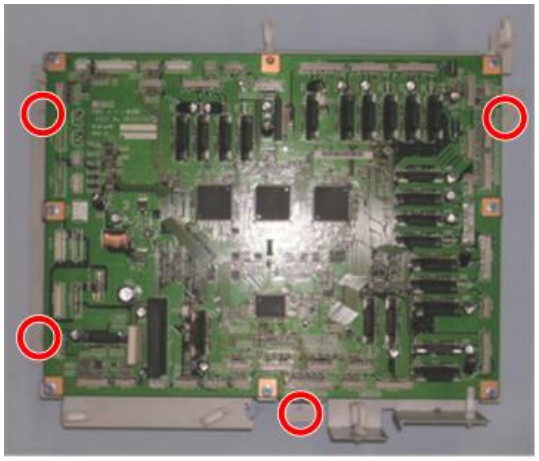
Main Board, Pre-Stack Paper Sensor

1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the main board bracket. (x 4, x8, x All)



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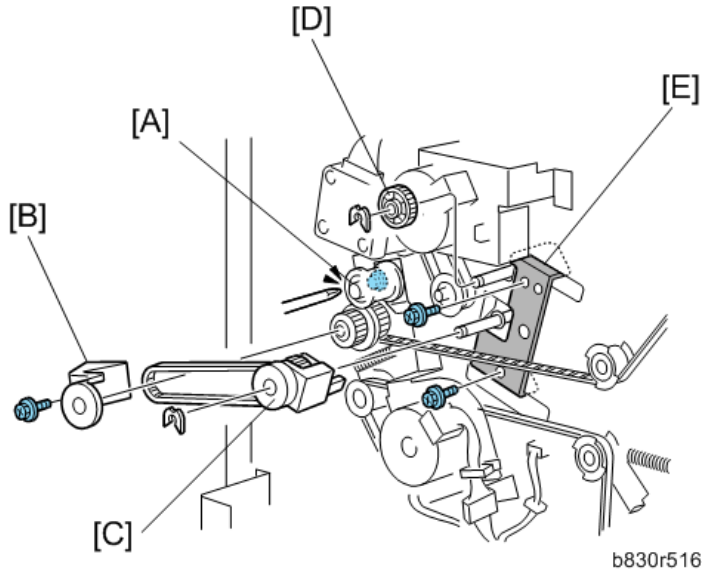
3.
4. Open the front door.
5. Do the following:

   Loosen the screw [A] (x1)

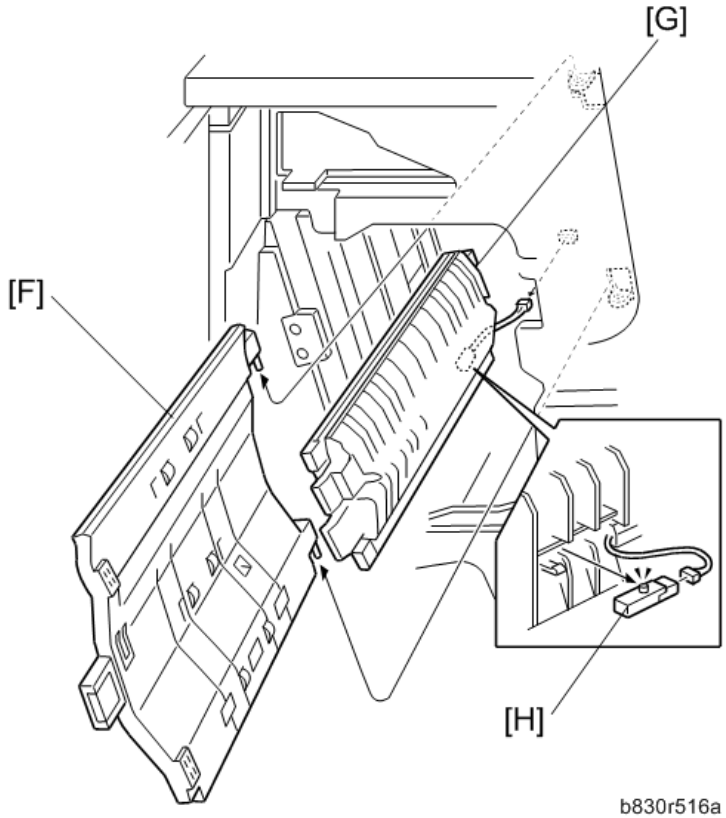
   Remove the gear cover [B] (x1)

   Remove the gear [C] (x1, Timing belt x1) and gear [D] (x1)

   Remove the plate [E] (x2)



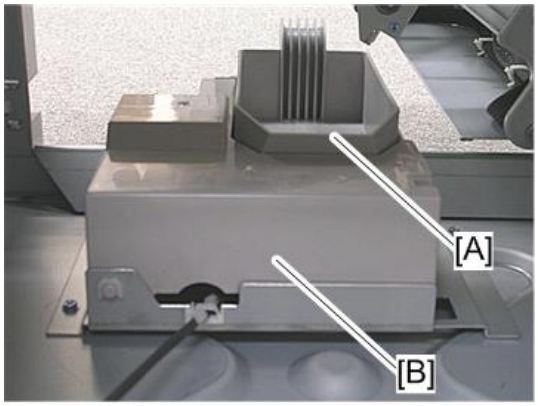
6. Remove the following parts:
   Left vertical transport guide [F]
   Middle vertical transport guide [G]
   Pre-stack paper sensor [H] (x1)



Staple Trimmings Hopper Full Sensor

1. Open the front door.
2. Pull out the stapler unit.
3. Remove the rear cover. (x 2)

4. Remove the staple trimmings hopper [A] and then, remove the hopper holder [B]. (x1, Hook x1, x1)



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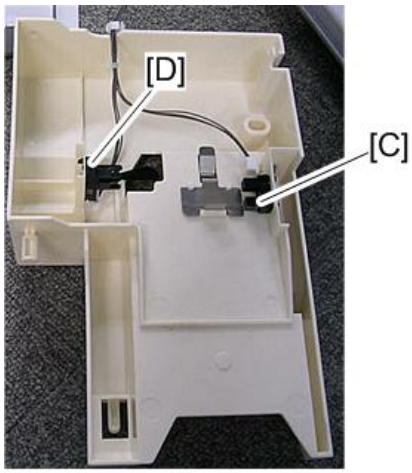
5. Remove the hopper full sensor [C] (x 1) and hopper set sensor [D]. (x 1)



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Stapler Rotation HP and Stapler Return Sensors

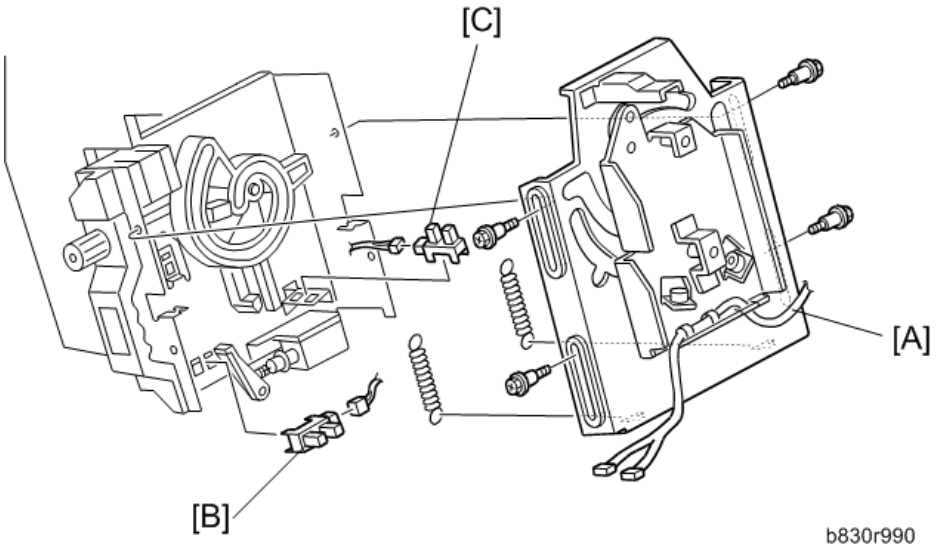
1. Remove the following parts:

   Stapler unit (Stapler)

   Stapler mount bracket [A] (x 4) (Springs x 2)

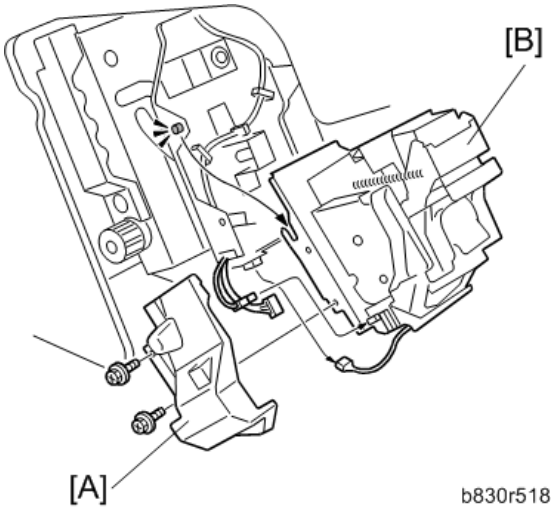
   Stapler rotation HP sensor [B] (x 1)

   Stapler return sensor [C] (x 1)

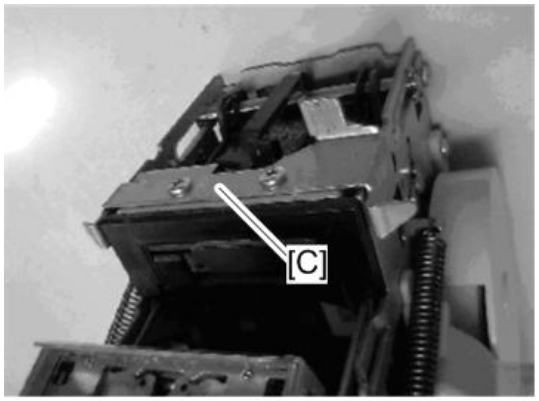


Stapler

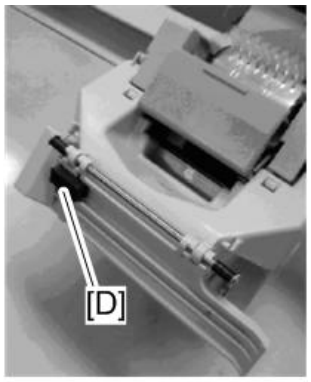
1. Open the front door and pull out the staple tray.
2. Remove the stapler unit harness cover [A]. (x 2)
3. Lift the stapler [B] off of its pegs. (x 2)



4. Remove the plate [C]. (x 2)
5. Attach this plate to the new stapler with the same screws. (x 2)



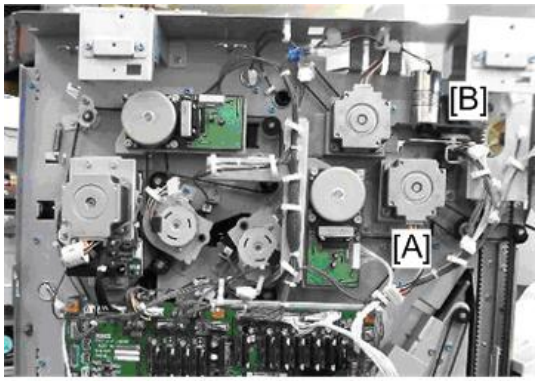
6. Replace the frame guard [D] with the one provided with the new stapler.



b830r422

Shift Tray

Shift Tray Exit, Shift Tray Lift Motor



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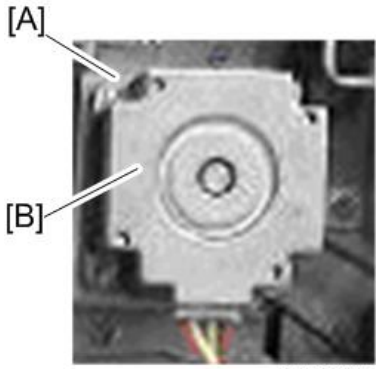
[A]	Shift Tray Exit Motor
[B]	Shift Tray Lift Motor

Shift Tray Exit Motor

1. Remove the rear cover. (Left Covers, Rear Cover)
2. Remove the shift tray exit motor bracket [A]. (x2, x1, x1, Timing belt x1)
3. Remove the shift tray exit motor [B]. (x2)



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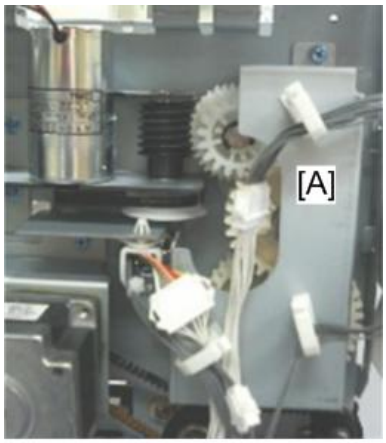
Shift Tray Lift Motor

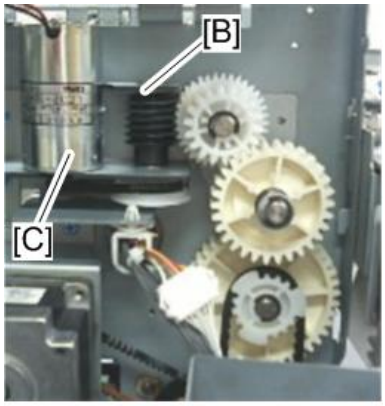
1. Remove the rear cover. (Left Covers, Rear Cover)

2. Remove the gear cover [A]. (x2)



b830r946

3. Remove the shift tray lift motor bracket [B]. (x2)
4. Remove the shift tray lift motor [C]. (x2, x1, Timing belt x1)



b830r947

Drag Roller, Drag Drive Motors, Drag Drive HP Sensor

1. Remove the front door and all covers, except the left lower cover and top cover (Covers)

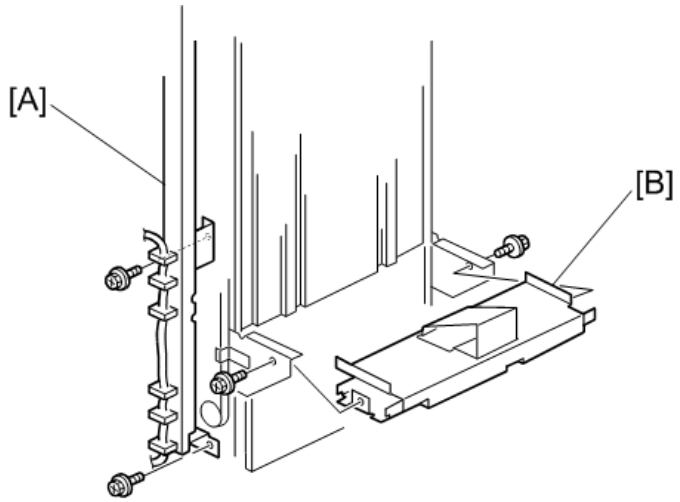
Note

- Be sure to lower the shift tray by pulling the gear toward you. The shift tray must be down.

2. Remove the following parts:

   Left stay [A] (x 2)

   Shift tray mounting plate [B] (x 2)



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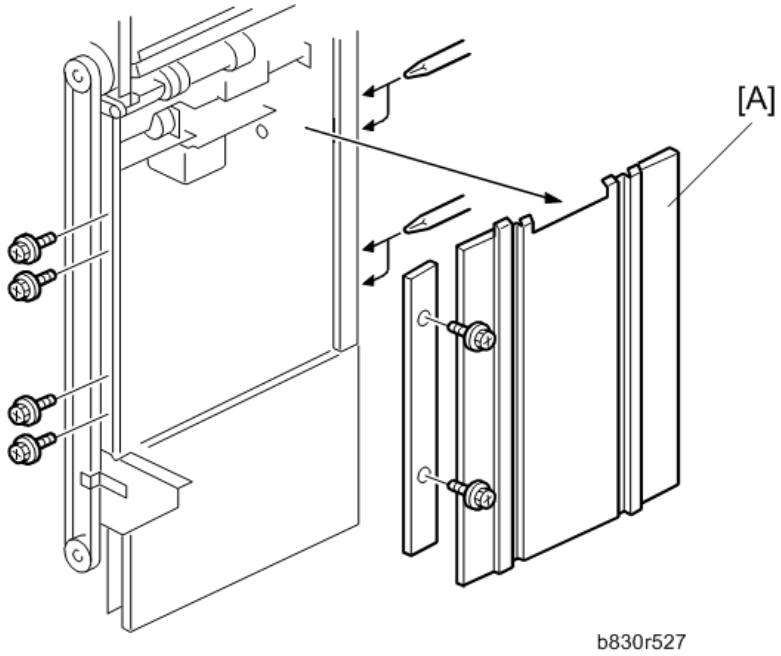
3. Remove the end fence [A] and plate. (x8, x6, x2)

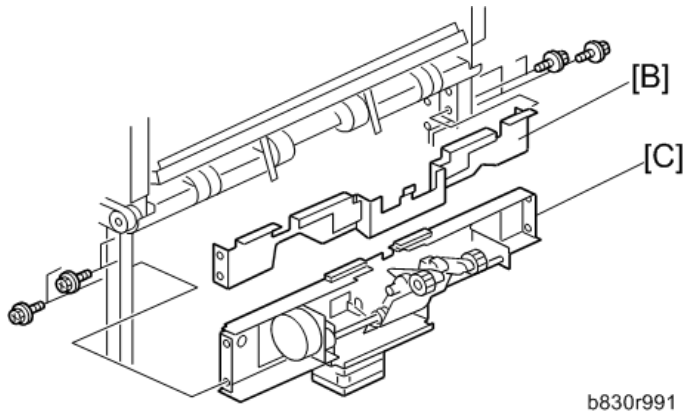


b830r527

4. Remove the Cover [B] (x 4) and the motor stay [C]. (x4, x7, x4)

Note

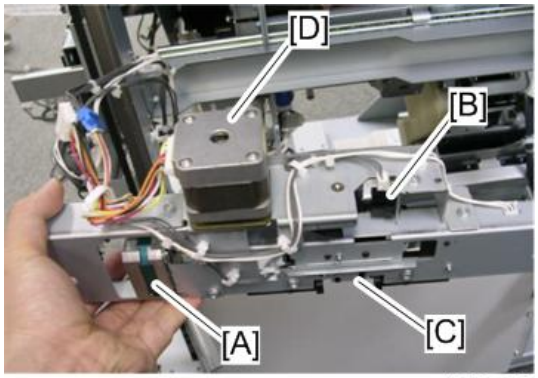
- Make sure the motor and sensor connectors are disconnected before removing.



b830r991

5. Remove the Drag roller motor unit [A]. (Bearing x1, x2, x1)

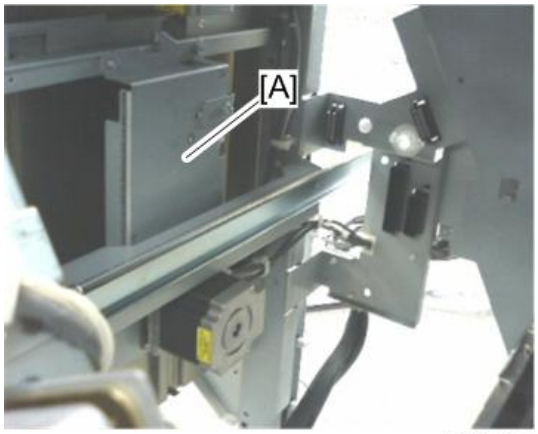
6. Remove the Drag roller motor. (x2)
7. Remove the Drag roller HP sensor unit [B]. (x1)
8. Remove the Drag roller HP sensor. (x1, Pawls x3)
9. Remove the Paper height sensor – shift/Z-fold unit [C]. (x2, x2)
10. Remove the Paper height sensor shift/Z-fold. (x1, Pawls x3)
11. Remove the Drag drive motor unit. (x4, x2)
12. Remove the Drag drive motor [D]. (x2)



b830r992

Shift Motor and Sensors

1. Remove the end fence. (Drag Roller, Drag Drive Motors, Drag Drive HP Sensor)
2. Remove the shift motor bracket [A] (with motor). (x 4, x1, x1)



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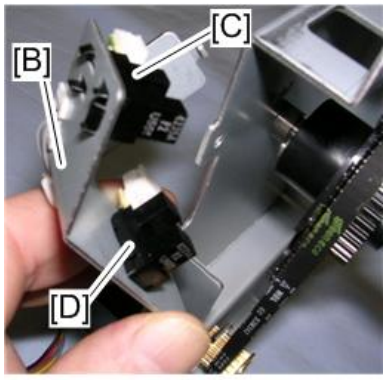
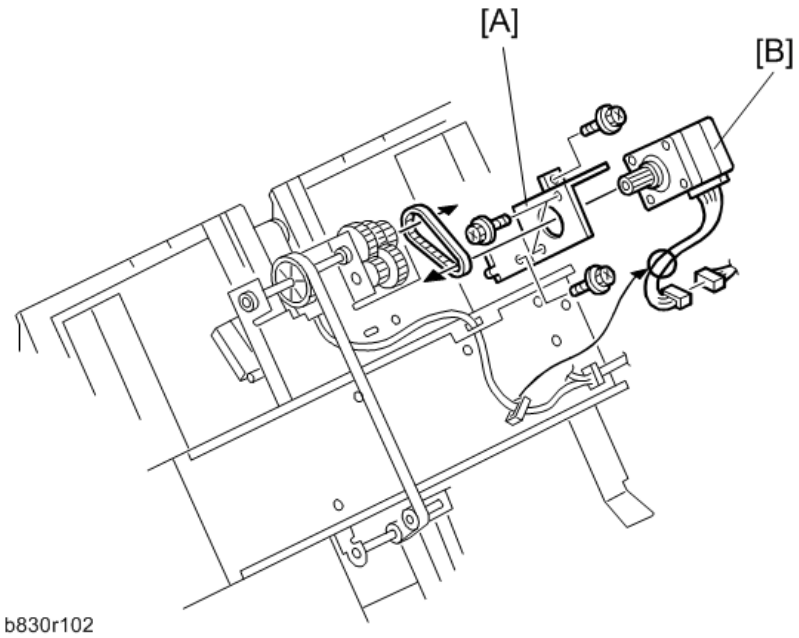
3. Remove the shift motor. (x4)
4. Remove the following parts:
   Half-turn sensor bracket [B] (x 1)
   Half-turn sensor 1 [C] (x1, Pawls x3)
   Half-turn sensor 2 [D] (x1, Pawls x3)



b830r951

Jogger Top Fence Motor

1. Open the front door and pull out the stapler tray unit. (Jogger Unit Cover)
2. Remove the jogger unit cover. (x2)
3. Remove the motor bracket [A] (x2, timing belt x1) and jogger top fence motor [B]. (x2, x1, x1)

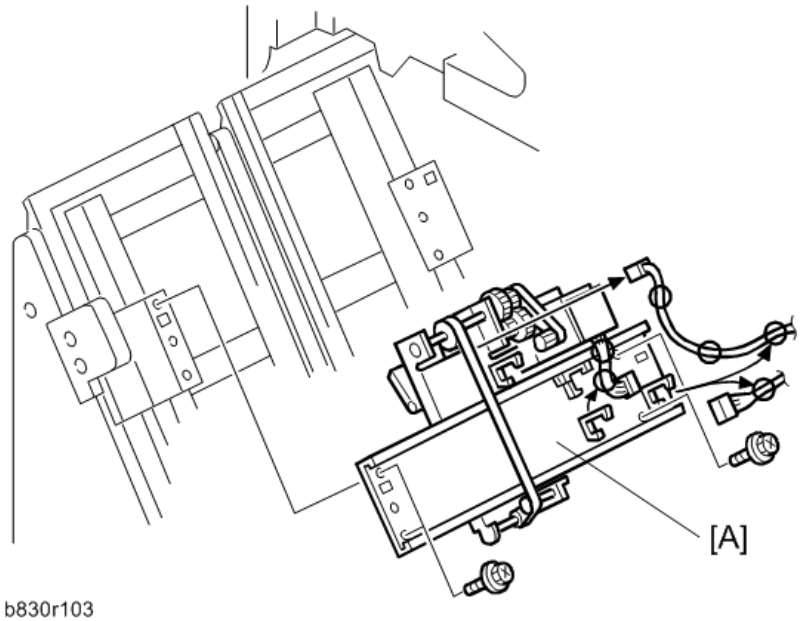


b830r102

Jogger Unit

1. Open the front door and pull out the stapler tray unit. (Jogger Unit Cover)
2. Remove the jogger unit cover. (x2)

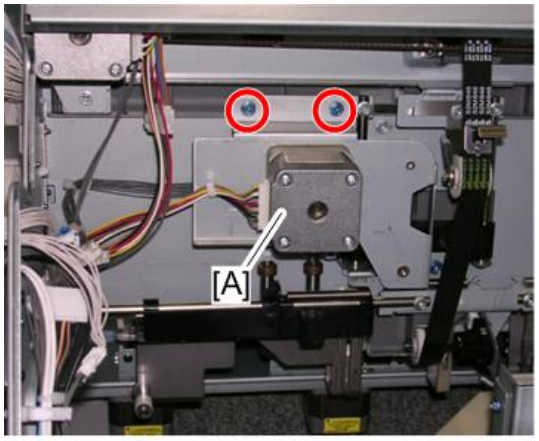
3. Remove the jogger unit [A]. (x4, x5, x5)



b830r103

Jogger Bottom Fence Motor

1. Open the front door and pull out the stapler tray unit. (Jogger Unit Cover)
2. Remove the jogger bottom fence motor unit [A]. (x3, timing belt x1, x1, x1)



b830r993

Punch Unit

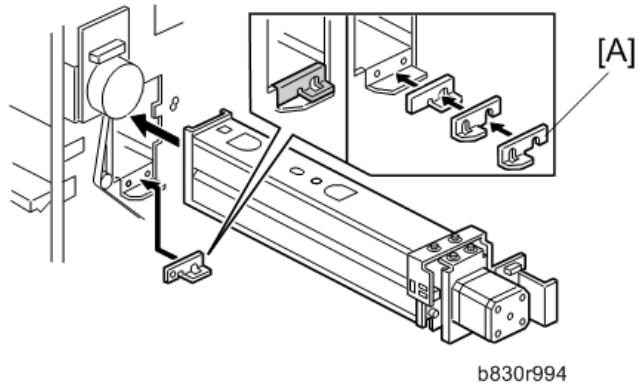
Punch Position Adjustment

The position of the punched holes can be adjusted in two ways.

- Front to Rear Adjustment

  Three spacers [A] are provided with the punch unit for manual adjustment of the hole position in the main scan direction:

  - 2 mm (x 1)
  - 1 mm (x 2)



Note

  - One spacer was installed at installation and the remaining spacers were fastened with a screw to the rear frame of the finisher under the rear cover and slightly above the lock bar.

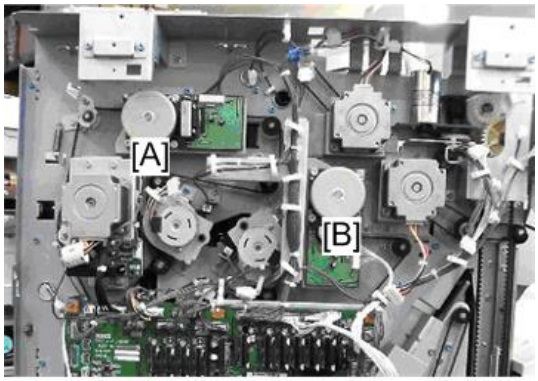
- Right to Left Adjustment

  The position of the punched holes can be adjusted right to left in the sub scan direction with SP6101 Punch Hole Position Adjustment. The position can be adjusted in the range ±7.5 mm in 0.5 mm steps. The default setting is 0.

  Press the key to toggle the ± selection. A +ve value shifts the punch holes left toward the edge of the paper, and a -ve value shifts the holes right away from the edge.

Motors

Transport Motors, Exit Guide Motor



b830r901b

[A]	Upper Transport Motor
[B]	Lower Transport Motor

Upper Transport Motor

1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the upper transport motor [A]. (x4, x1)

b830r905a

Lower Transport Motor

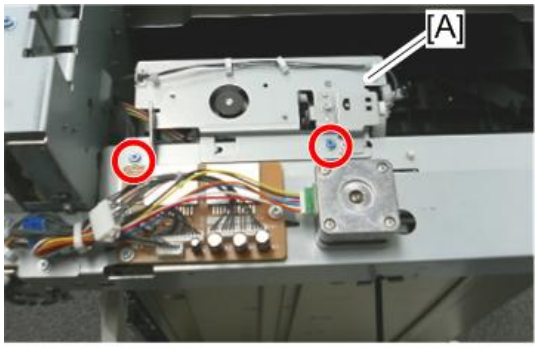
1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Lower transport motor [A]. (x4, x1)

b830r906a

Exit Guide Motor

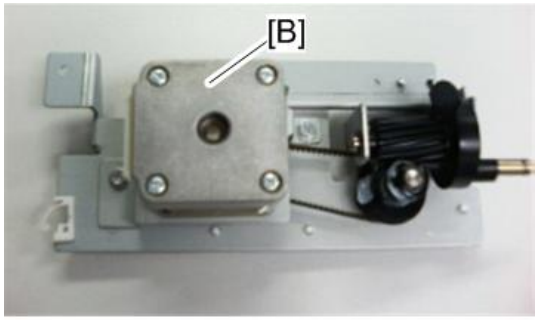
1. Remove the top cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)

2. Remove the bracket [A]. (x2, x1)



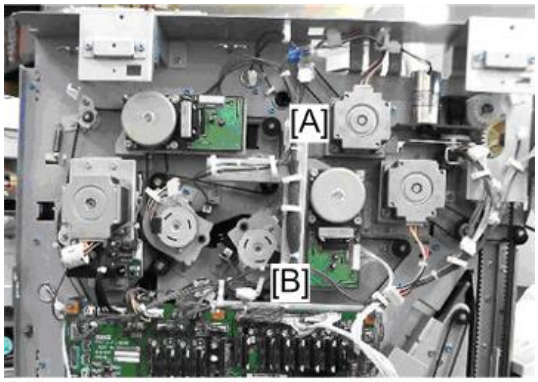
b830r955

3. Remove the exit guide motor [B]. (x2, x1, Timing belt x1)



b830r956

Upper Tray Motors



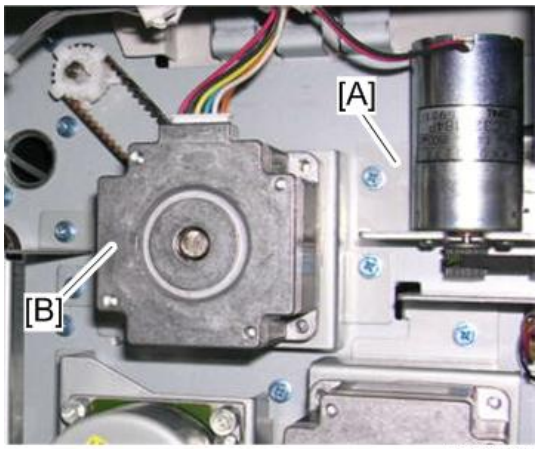
b830r901c

[A]	Upper Tray Exit Motor
[B]	Upper Tray Junction Gate Motor

Upper Tray Exit Motor

1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)

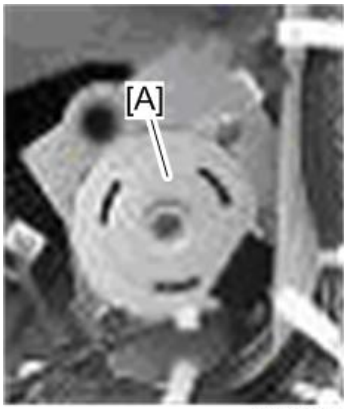
2. Remove the motor bracket [A]. (x2, x1) and upper tray exit motor [B]. (x2, Timing belt x1)



b830r910

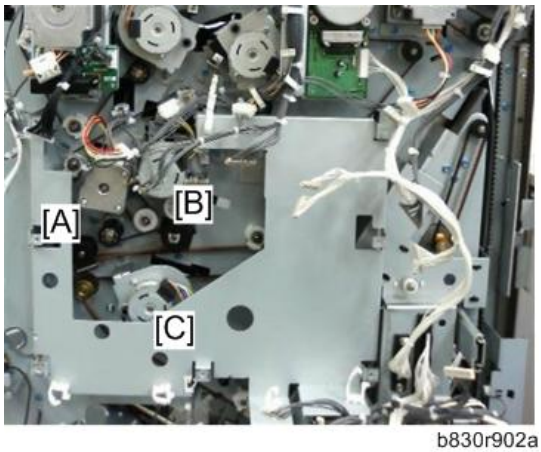
Upper Tray Junction Gate Motor

1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the upper tray junction gate motor [A]. (x2, x1)



b830r911

Pre-Stack Motors



b830r902a

The photograph above shows the main control board removed (x4, x All).

[A]	Pre-Stack Transport Motor
[B]	Pre-Stack Junction Gate Motor

[C]	Pre-Stack Stopper Motor

Pre-Stack Transport Motor

1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the main control board bracket. (x4, x All, x8)
3. Remove the motor unit. (x2, x1)
4. Remove the pre-stack transport motor [A]. (x2)

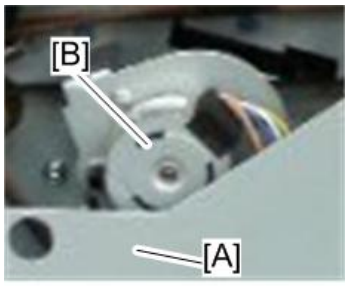
Pre-Stack Junction Gate Motor

1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the main control board bracket. (x4, x All, x8)
3. Remove the pre-stack junction gate motor [A]. (x2, x1, x1)

Pre-Stack Stopper Motor

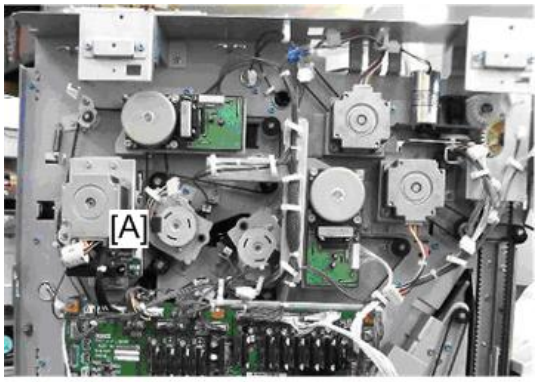
1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the main control board bracket. (x4, x All, x8)

3. Remove the pre-stack stopper motor [B]. (x2, x1, x1)



b830r922

Punch Motor

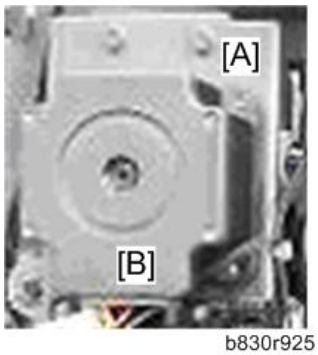


b830r901d

[A]	Punch Motor

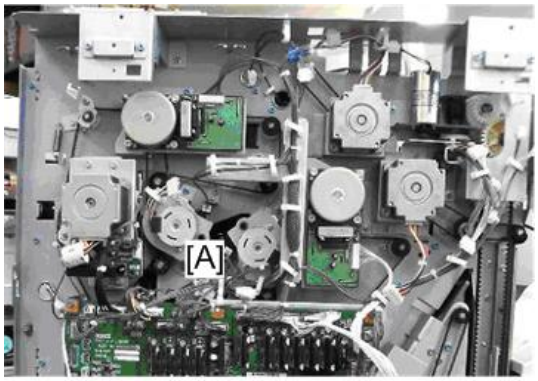
Punch Motor

1. Remove the rear cover (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the punch motor bracket [A]. (x3, x2, x1, Timing belt x1)
3. Remove the punch motor [B]. (x2)



b830r925

Staple Motors

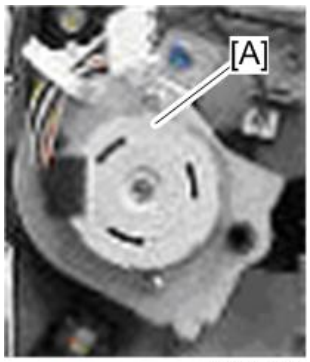


b830r901e

[A]	Stapler Junction Gate Motor

Stapler Junction Gate Motor

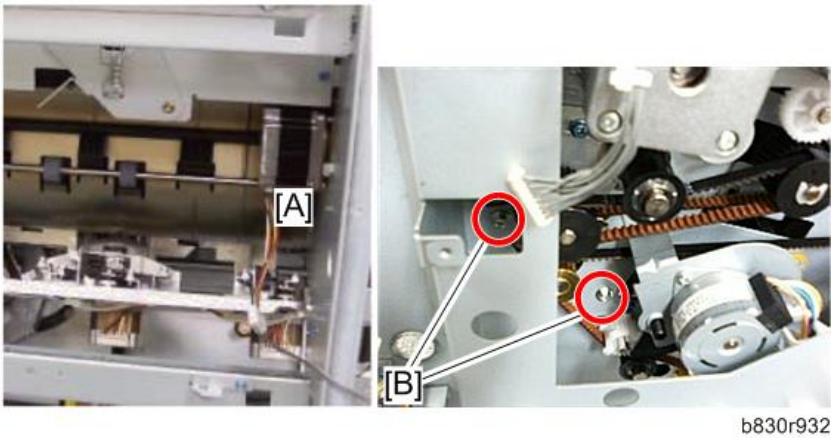
1. Remove the rear cover. (Left Covers, Rear Cover, Top Cover, Shift Cover)
2. Remove the stapler junction gate motor [A]. (x2, x1, x1)



b830r930

Stapler Exit Motor

1. Remove the main control board bracket. (x4, x 8, x All)
2. Remove the stapler exit motor [A]. (x2 [B] , x2, Timing belt x1)



b830r932

3. Service Tables

Dip Switches

DIP SW100

DIP SW100 settings are for designer and factory use only. Do not change them.

DIP SW 101: 1 to 4

DPS100				Description
1	2	3	4	
0	**0**	**0**	**0**	Default
1	0	0	0	Free run: 135 ppm (649 mm/s) A4 LEF, 5 sheets
0	**1**	0	0	Proof tray free run for durability testing: proof tray + punch + junction gate operation + proof tray output.:
0	0	**1**	0	Shift free run: Shift mode simulation 136 ppm (649 mm/s) A4 SEF, 5 sheets, continuous punching 110 ppm (515mm/s)
0	0	0	**1**	Sensor check before shipping, lowering the tray before shipping. **DFU**. Do not change.

Test Points

100 to 110

No.	Label	Monitored Signal	Comment
TP100	(5V)	+5 V	Used for sensor point testing, lowering the tray to shipping position. **DFU**.
TP101	(GND)	Ground	
TP102	(RXD)	RXD	
TP103	(TXD)	TXD	

Fuses

No.	Function
FU100	Protects 24 V.