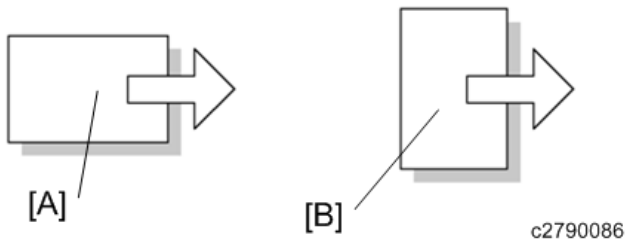
# Finisher SR5070, Booklet Finisher SR5080
# Machine Code: D3CA, D3CB
# Field Service Manual
# Ver 1.00

**Latest Release: Jan, 2017**
**Initial Release: Jan, 2017**

# 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 |
|  | Screw: Blue |
|  | Connector |
|  | Clamp |
|  | E-ring |
|  | Flat Flexible Cable |
|  | Timing Belt |
|  | Hook (sensors) |
| 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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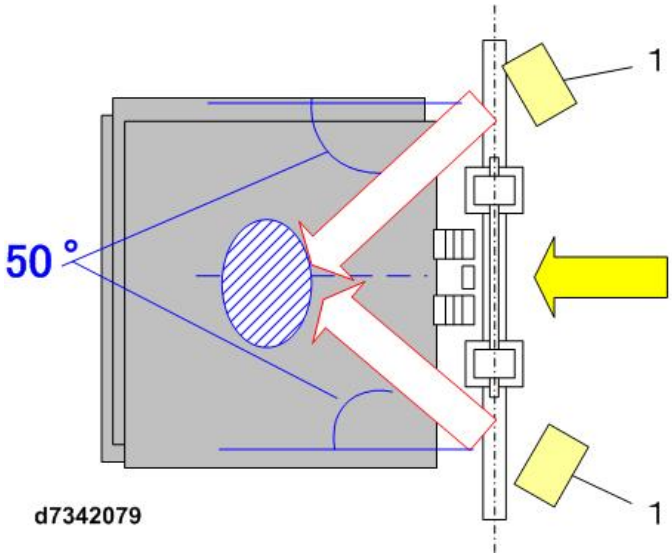
## Mechanism Descriptions

### Transport Layout and Main Mechanisms




**Main Mechanisms**

| Item | Overview |
|---|---|
| Transport mechanism | Roller transport system. Paper routing by high-speed junction gates driven by DC motors. |
| Punch unit | Hole punch unit driven by punch motor (option) |
| Skew correction, side-to-side registration | Correction done by CIS and shift unit |
| Staple mechanism | Sheets aligned by independently driven jogger mechanism. Stack aligned vertically with leading edge stopper and positioning roller. |
| Shift mechanism | Stacked output shifted with movable tray. Stacks are raised and lowered by tray. |
| Pre-stacking mechanism | Pre-stacking employs switch-back transport. Large size paper pre-stacking employs switch-back transport and roller-release mechanisms. |
| Booklet Stapling Mechanism | Booklet stapling, and folding are done in the same unit. |

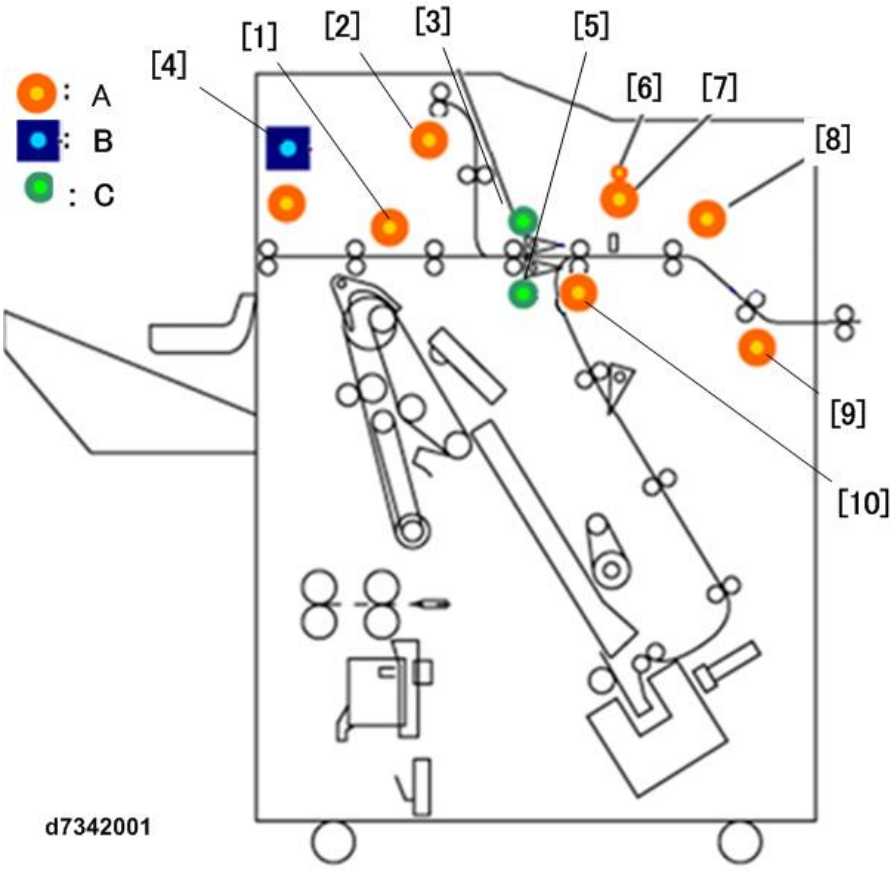
### Entrance, Proof Tray, Shift Tray Transport

A: DC motor

B: Stepper motor (HB type)

C: Stepper motor (PW type)

1.Detailed Descriptions



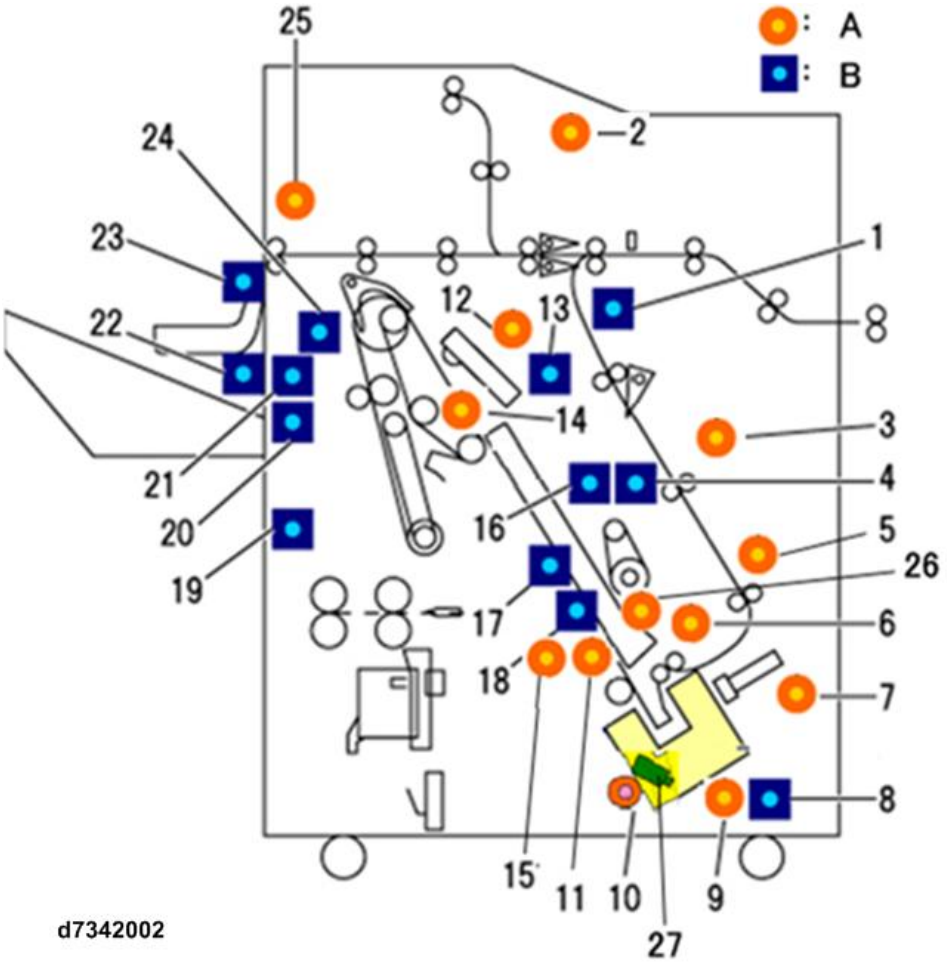

| No. | Name | Function |
|---|---|---|
| 1 | Shift exit motor | Drives the shift tray exit rollers. |
| 2 | Proof tray exit motor | Operates the rollers that feed paper to the proof tray. |
| 3 | Junction gate motor (proof/shift tray) | Operates the junction gate (between proof tray and shift tray) that guides paper to either upper proof tray or shift tray. |
| 4 | Exit guide motor | Opens and closes the exit guide. |
| 5 | Junction gate motor (shift/staple) | Operates the junction gate (between shift and staple tray) that guides paper to either staple tray or shift tray. |
| 6 | Punch junction gate motor*1 | Switches the punch mechanism for number of holes selected for punching. |
| 7 | Punch motor*1 | Drives the paper punch mechanism inside the punch unit. |
| 8 | Registration motor | Drives the registration roller. |
| 9 | Entrance Motor | Drives the entrance roller. |
| 10 | Horizontal transport motor | Drives the transport roller on the downstream side of the punch unit. |

*1 Punch unit is an option

## Drive Layout

A: DC motor

B: Stepper motor (HB type)




| No. | Name | Function |
|---|---|---|
| 1 | Punch movement motor*1 | Operates the left/right and front/back movement of the punch unit. |
| 2 | Junction gate transport motor | Drives the transport rollers. |
| 3 | Pre-stack release motor | Opens the nip of the pre-stack roller to release the stack. |
| 4 | Positioning roller lift motor | Drives the positioning roller that positions paper in the stapling tray. |
| 5 | Pre-stack motor | Drives the pre-stack roller. |
| 6 | Stapler entrance motor | Drives the rollers that feed paper into the stapling tray. |
| 7 | Trailing edge press motor | Operates the pressure plate that presses against trailing edge of the stack on the stapling tray just before the stack is stapled. |
| 8 | Corner stapler motor | Rotates the corner stapling for diagonal stapling. |
| 9 | Stapler movement motor | Moves the corner stapler front and back on its rail. |
| 10 | Booklet stapler motor | Operates the stapler. |
| 11 | Base fence lift motor | Moves the entire base fence in the sub scan (vertical) direction. |
| 12 | Stack transport motor | Drives the transport rollers that feed stacks into the booklet stapler feed path. |

1.Detailed Descriptions

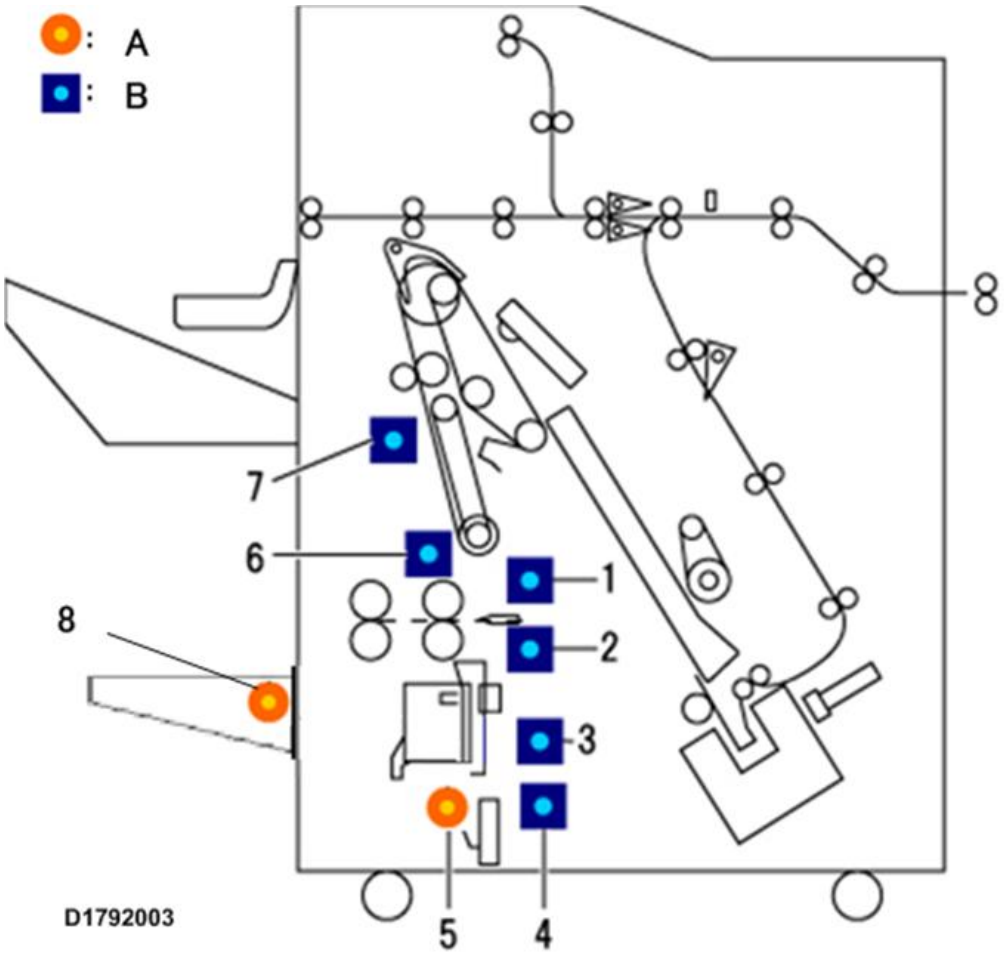
| No. | Name | Function |
|---|---|---|
| 13 | Stack transport unit motor | Lifts and releases rollers that feed the stack to the booklet stapler. |
| 14 | Feed-out belt motor | Drives the feed-out belt that feeds corner stapled stacks to the shift tray. |
| 15 | Leading edge stopper motor | Operates the top fence that aligns the leading edge of the paper stack on the stapling tray. |
| 16 | Positioning roller rotation motor | Rotates the positioning roller that positions each sheet of paper in the stapling tray. |
| 17 | Jogger motor (rear) | Operates the rear jogger fence that aligns the paper stack rear-to-front on the stapling tray. |
| 18 | Jogger motor (front) | Operates the front jogger fence that aligns the paper stack is aligned front-to-rear on the stapling tray. |
| 19 | Shift motor | Moves the shift tray to the rear and front. |
| 20 | Drag roller motor error | Drives the rotation of the drag roller and also operates the shutter inside the exit fan duct and trailing edge press lever. |
| 21 | Drag roller movement motor | Moves the drag roller left and right. |
| 22 | Shift jogger fence retract motor | Raises the shift jogger fences during alignment of the front and back edges of the stack on the shift tray. |
| 23 | Shift jogger motor | Moves the shift jogger fences forward and back during alignment of the front and back edges of the stack on the shift tray. |
| 24 | Turn guide motor | Operates the junction gate in the booklet path. |
| 25 | Shift tray lift motor | Raises and lowers the shift tray. |
| 26 | Base fence movement motor | Moves the base fence rear-to-front. |
| 27 | Trimmings shutter solenoid | Operates the shutter that opens and closes the chute where staple trimmings drop to the staple trimmings hopper below. |

*1 Punch unit is an option

Booklet Stapling Motors

A: DC motor

B: Stepper motor (HB type)

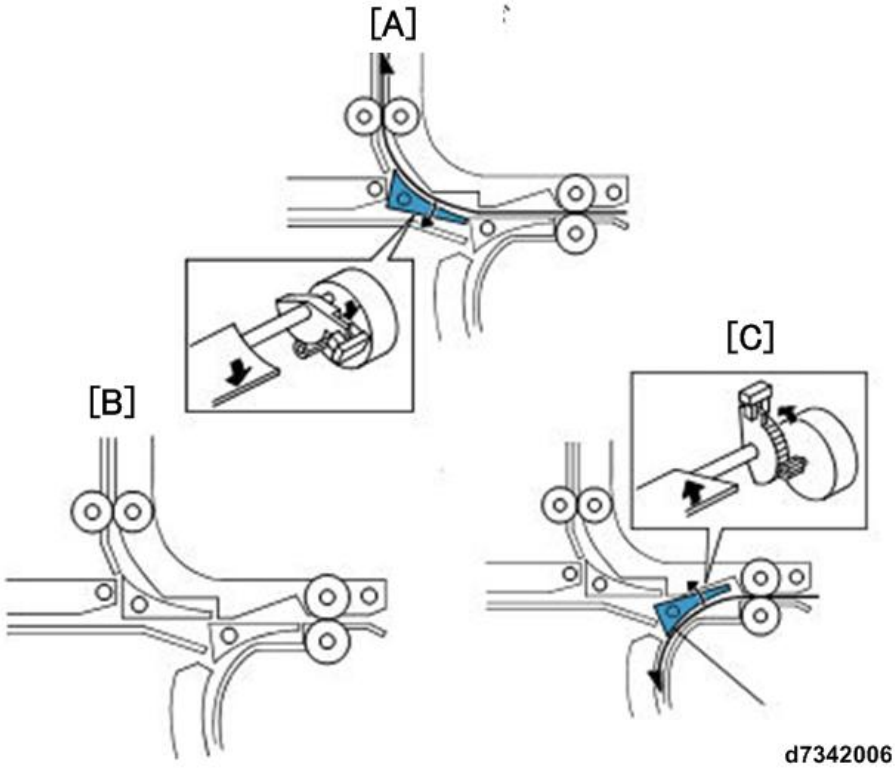



| No. | Name | Function |
|---|---|---|
| 1 | Fold roller motor | Operates the roller that folds the stack into halves during center folding in the folder unit. |
| 2 | Fold plate motor | Operates the fold plate pushed into the center of the stack to start center folding. |
| 3 | Booklet stapler bottom fence motor | Operates the jogger fence at the leading edge to align the leading edge of the stack in the direction of paper feed for stapling in the booklet stapler unit. |
| 4 | Booklet stapler side fence motor | Operates the jogger fences that align the front and back edges of the stack for stapling in the booklet stapler unit. |
| 5 | Booklet stapler motor | Operates the booklet stapler. |
| 6 | Booklet stapler clamp roller motor | Moves the booklet stapler clamp roller to release pressure on the stack. Also drives the horizontal fold roller. |
| 7 | Booklet bottom fence motor | Operates the jogger fence that aligns the trailing edge of the stack for stapling in the booklet stapler unit. |
| 8 | Booklet stack tray motor | The small motor inside the booklet tray that drives the belts of the tray. |

# Mechanism Details

## Junction Gate Mechanism

The junction gate diverts the paper into one of three paths.




| | |
|---|---|
| [A] | Staple mode |
| [B] | Shift mode |
| [C] | Staple mode |

- In proof mode the junction gate guides the paper up to the proof tray.
- In shift mode the junction gate does not move and remains level so paper feeds straight and level to the shift tray.
- In the staple mode, the junction gate guides to paper down to the stack/staple unit.

## Pre-stack Mechanism

This machine uses two methods to pre-stack paper.

The former method is the same as that employed in Booklet Finisher SR5060 and Finisher SR5050.

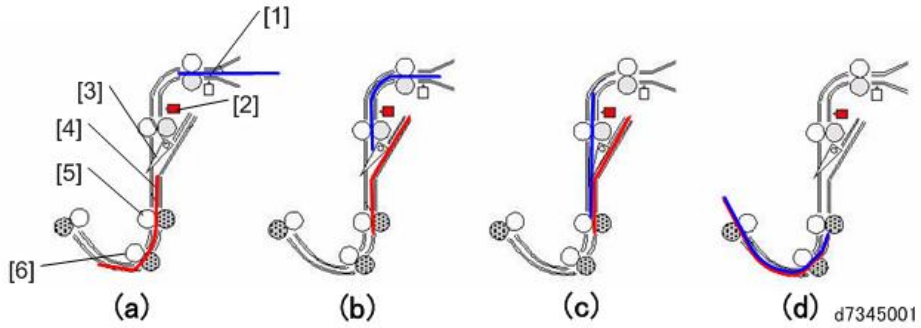
**New Method Adopted with These Machines**

The former method stacked sheets in the stapling tray with their leading edges not completely aligned, but the new method greatly improves the accuracy of stack alignment in the stapling tray with the addition of a 3rd pre-stack roller and timing adjustments to align the leading edges of the standby sheet and next sheet before they are sent to the stapling tray.

Here is a description of both methods.

**Former Method**

**1) Small-size Paper (A4 and smaller)**




| | |
|---|---|
| [1] | 2nd Sheet |
| [2] | Pre-stack sensor |
| [3] | Pre-stack JG |
| [4] | 1st sheet |
| [5] | 1st pre-stack rollers |
| [6] | 2nd pre-stack rollers |

The first sheet (red line in the drawing above) is directed in the pre-stack paper path by the staple junction gate. The sheet brushes past the spring loaded pre-stack junction gate. The weight of the paper allows it to push past the junction gate and then the spring attached to the gate pulls it closed.

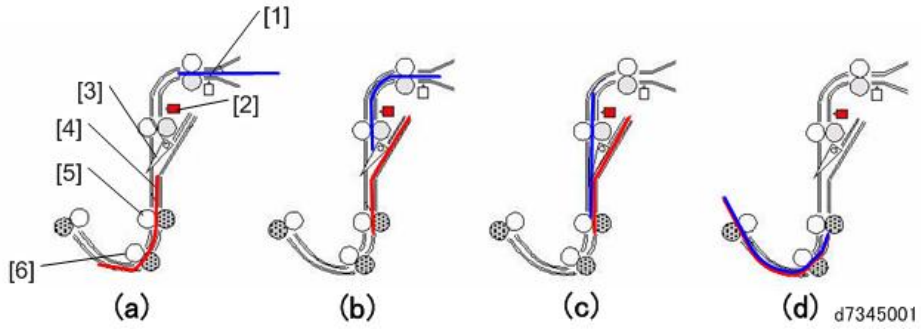
The pre-stack paper sensor detects each sheet of paper that enters the pre-stack paper path. The sensor switches on the pre-stack motor that rotates the 1st and 2nd pre-stack rollers to feed the leading edge of the paper the prescribed distance (a).

The motor stops, reverses, and the rollers feed the paper under the pre-stacker junction gate and into the shunt of the pre-stacker unit where the leading edge of the paper stops at the nip of the 1st pre-stack rollers (b).

Next, the 2nd sheet (blue line in the drawing above) feeds (c). When it reaches the 1st pre-stack rollers, the pre-stack roller motor switches on and the 1st and 2nd sheets feed together (d). The pre-stack motor reverses again and both sheets are fed up into the shunt. This cycle can repeat up to 5 times until finally, after one additional sheet feeds, all 6 of the sheets are fed together to the corner stapling tray.

- Up to 4 sheets are held in the pre-stack unit for stapling at one corner.
- Up to 5 sheets are held in the pre-stack unit for stapling at two places on the edge of the stack.

**2) Large-size Paper (B4 and larger)**




| | |
|---|---|
| [1] | 2nd Sheet |

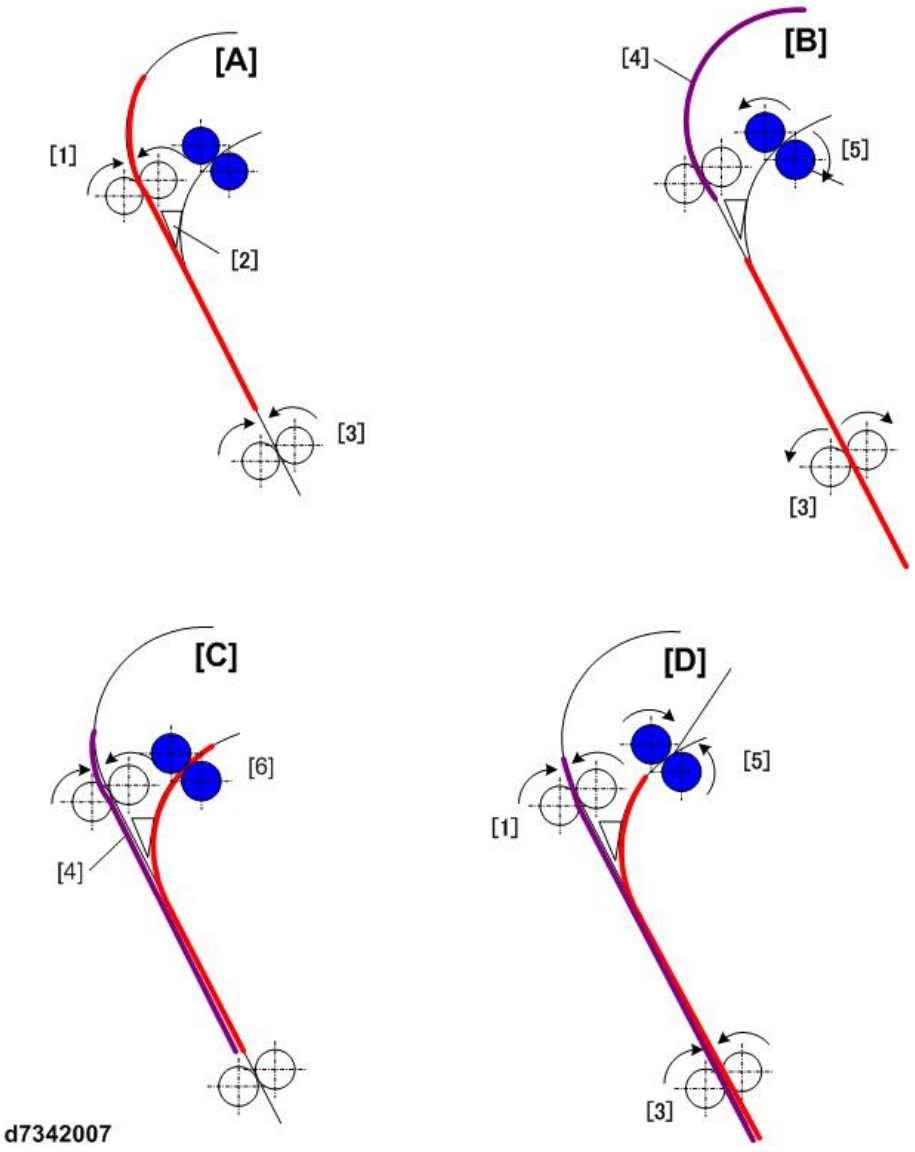
| | |
|---|---|
| [2] | Pre-stack sensor |
| [3] | Pre-stack JG |
| [4] | 1st sheet |
| [5] | 1st pre-stack rollers |
| [6] | 2nd pre-stack rollers |

The sequence of events in the pre-stacker unit for large paper sizes is the same as that for A4 and smaller sizes with one important exception.

- Before large paper sizes are fed in staple mode, the pre-stack release motor switches on and pulls the drive roller of the 1st pre-stack roller pair away from its idle roller (a).
- The forward and reverse feeding is performed by the pre-stack motor driving the 2nd pre-stack rollers and feeding the paper only as far as the nip of the 2nd pre-stack rollers.
- The nip of the 1st pre-stack rollers remains open.
- Reverse feeding the leading edges as far as the 2nd pre-stack rollers saves time. (Reverse and forward feeding the leading edges as far as the 1st pre-stack rollers would require more time.)

**New Method: Small-size Paper (A4 and smaller)**

The old method of feeding, stacking, and stapling has been improved to come up with a new method that improves the efficiency of jogging the sides of a stack for booklet stapling.
This has been done with the addition of a third pre-stack roller in the path where the sheets are pre-stacked.




| | |
|---|---|
| [1] | Junction gate transport rollers |
| [2] | Pre-stack junction gate |
| [3] | 1st Pre-stack rollers |
| [4] | Next sheet |
| [5] | 3rd Pre-stack rollers |
| [6] | Pre-stacks area |

- At [A] the junction gate transport rollers feed the 1st sheet which brushes past the pre-stack junction gate and into the nip of the 1st pre-stack rollers.
- When the trailing edge of sheet passes the junction gate at [B], the pre-stack motor reverses and the 1st pre-stack roller and 3rd pre-stack roller feed the sheet into the standby path. Next, just before the leading edge of sheet passes the 1st pre-stack roller, the pre-stack motor stops with sheet in the nip of the 1st pre-stack roller and pauses (standby), and then waits for the next sheet to feed.
- Next, at [C] just before the leading edge of sheet passes the 1st pre-stack roller, the pre-stack motor starts to rotate forward to drive the 1st pre-stack roller and 3rd pre-stack roller that feed sheet at standby and stacks it

onto sheet.

- The leading edge of sheet that was at standby and the leading edge of sheet that was just fed are aligned [D], and then the sheets are fed together to the stapling tray.
- Thereafter, it is possible to stack several sheets through repetition of this operation (pre-stacking). One or the other mode is employed, depending on the paper size, stapling mode, and the number of sheets to be pre-stacked.

**New Method: Large-size Paper (B4 and larger)**

The 2nd pre-stack roller at the rear and 3rd pre-stack roller are used to align the leading edges of the paper and send them to the stapling tray in the same way that the 1st pre-stack roller is used in the older method to perform the same task.

**Control of Both Methods**

The size of the paper, specifically the length of the paper, is used to select automatically the method of control as shown in the table below. (The paper sizes are fixed and cannot be switched with SP codes or by other means.) The paper length, measured in the sub scan direction (direction of paper feed), can adversely affect paper feed and productivity of the new method. The older method is used for such paper.

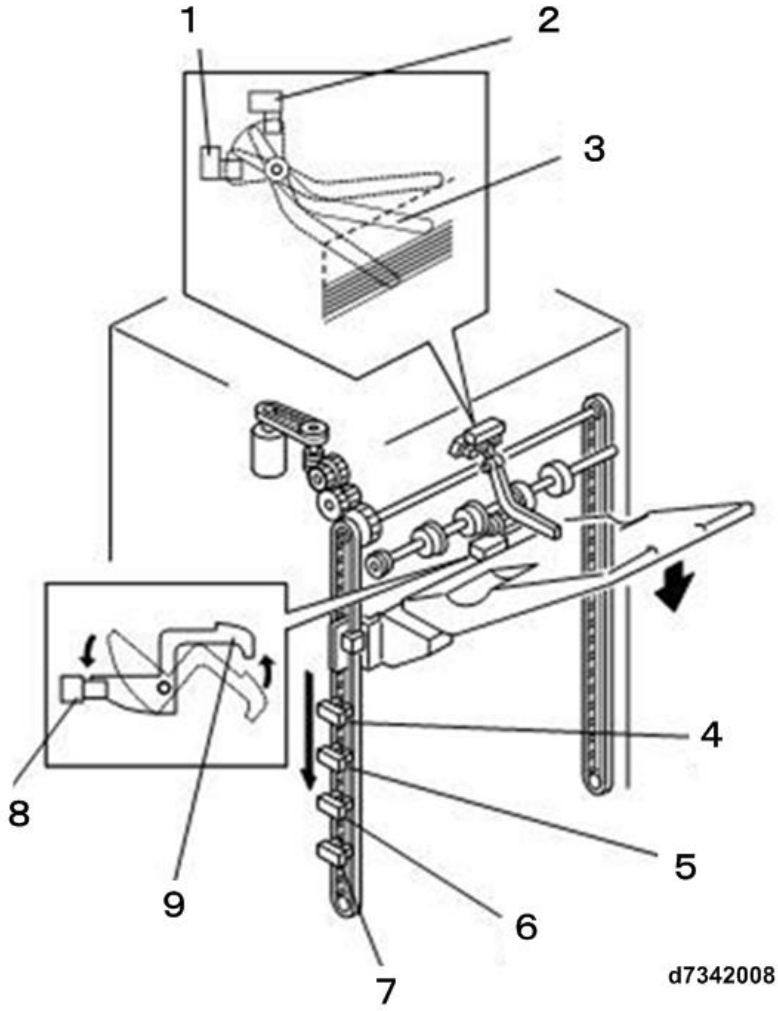
| Custom Size | New Control | Pre-stack Sheets | |
|---|---|---|---|
| | | 2 Book Staples | 1 Corner Staple |
| B5, 16-kai LEF | Old Method | 3 | 2 |
| A4, LT LEF | New Method | 3 | 2 |
| B5, 16-kai SEF | New Method | 3 | 1 |
| LT, A4 SEF | Old Method | 3 | 1 |
| LG, B4 SEF | Old Method | 2 | 2 |
| 8-kai, A3, DLT SEF | New Method | 2 | 1 |

However, the number of sheets that are pre-stacked can be selected with SP codes.

| SP | Name | Settings |
|---|---|---|
| 6-225-001 | PreStackQtyAdj:2.5K/3K FIN: A3 SEF | [0 to 2/**2**/1] |
| 6-225-002 | PreStackQtyAdj:2.5K/3K FIN: B4 SEF | [0 to 2/**2**/1] |
| 6-225-003 | PreStackQtyAdj:2.5K/3K FIN: A4 SEF | [0 to 3/**3**/1] |
| 6-225-004 | PreStackQtyAdj:2.5K/3K FIN: A4 LEF | [0 to 3/**3**/1] |
| 6-225-005 | PreStackQtyAdj:2.5K/3K FIN: B5 SEF | [0 to 3/**3**/1] |
| 6-225-006 | PreStackQtyAdj:2.5K/3K FIN: B5 LEF | [0 to 3/**3**/1] |
| 6-225-007 | PreStackQtyAdj:2.5K/3K FIN: DLT | [0 to 2/**2**/1] |
| 6-225-008 | PreStackQtyAdj:2.5K/3K FIN: LG | [0 to 2/**2**/1] |
| 6-225-009 | PreStackQtyAdj:2.5K/3K FIN: LT SEF | [0 to 3/**3**/1] |
| 6-225-010 | PreStackQtyAdj:2.5K/3K FIN: LT LEF | [0 to 3/**3**/1] |
| 6-225-011 | PreStackQtyAdj:2.5K/3K FIN: 8K SEF | [0 to 2/**2**/1] |
| 6-225-012 | PreStackQtyAdj:2.5K/3K FIN: 16K SEF | [0 to 3/**3**/1] |

| SP | Name | Settings |
|---|---|---|
| 6-225-013 | PreStackQtyAdj:2.5K/3K FIN: 16K LEF | [0 to 3/**3**/1] |
| 6-225-014 | PreStackQtyAdj:2.5K/3K FIN: Oficio SEF | [0 to 9/**0**/1] |
| 6-225-015 | PreStackQtyAdj:2.5K/3K FIN: Other | [0 to 9/**0**/1] |

## Shift Tray Operation




| No. | Name | No. | Name |
|---|---|---|---|
| 1 | Shift paper height sensor | 6 | Shift tray full sensor (1500) |
| 2 | Paper height sensor (staple) | 7 | Shift tray full sensor (low limit) |
| 3 | Paper height sensor feeler | 8 | Paper height sensor (shift) |
| 4 | Shift tray full sensor (500) | 9 | Paper height sensor feeler |
| 5 | Shift tray full sensor (1000) | | |

**Tray Shift Mechanism**

In the shift mode each copy is staggered as it exits onto the shift tray.

During shift operation a crank gear rotates as far as the next HP position and then moves back to the left and right in order to shift the position of the tray. The amount of shift is 15 mm.

**Raising and Lowering the Shift Tray**

The shift tray is raised and lowered, depending on how many copies exit from the finisher onto the tray detected by a paper height sensor feeler that touches to the top of the stack.

**Raising the Shift Tray**

When a stack of copies are removed from the shift tray, the paper height sensor goes ON, the shift tray rises, and then stops when the sensor goes OFF.

**Lowering (Shift Mode)**

When the paper height sensor goes OFF after it detects the top of the paper stack on the shift tray, the tray lift motor goes ON, and then lowers the stack until the sensor goes OFF again.

**Lowering (Staple Mode)**

When the staple motor goes ON, the tray lift motor also switches on for a brief prescribed time to lower the tray. After the stapled stack is output onto the tray, the tray is lifted as far as its home position or until the paper height sensor (staple) switches from ON to OFF. This operation is done for stack output. However, there are three lower limit sensors but only one is used, depending on the size of the paper used for the job and displayed on the operation panel.

Target: Large size: B4 and larger 1000 sheets; Small size (up to B4) 2500 sheets

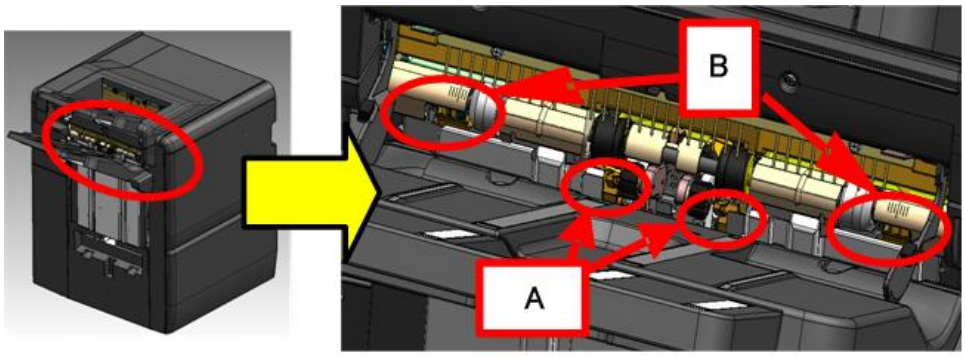
**Drag Roller Operation**

A drag roller mechanism is mounted above the tray to improve the precision of paper alignment. Each sheet is aligned as the drag roller drive motor rotates the drag roller which pulls each sheet back to the flat side of the finished.

**Improving Paper Exit**

This finisher employs an air assist mechanism in order to improve the efficiency paper exit with coated paper, thick paper, and thin paper.

- A trailing edge press lever depresses the trailing edge of a sheet as it exits to keep it from slipping, and then a steam of air blowing below the sheet as it exits cushions the paper to prevent it from sticking.
- Fans switch on a blow air when the upstream exit sensors switch ON, and then are switched OFF again by a signal from the main machine.

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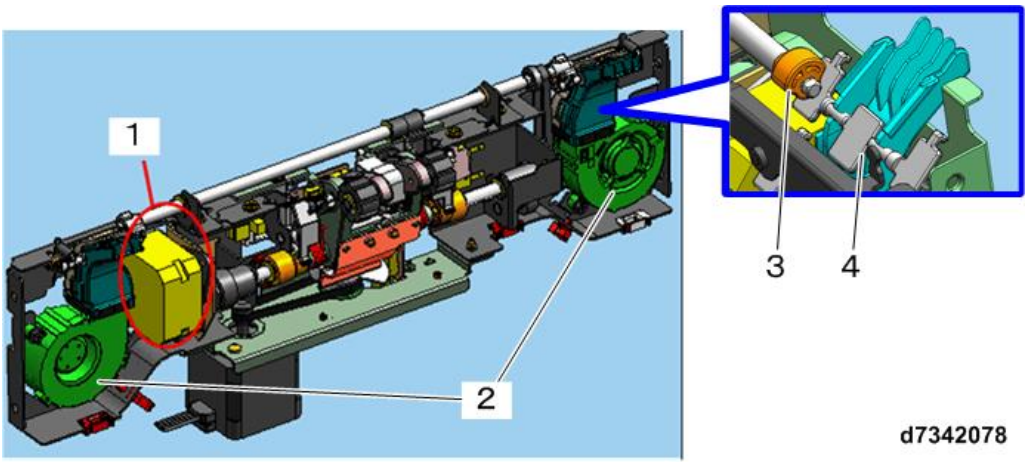
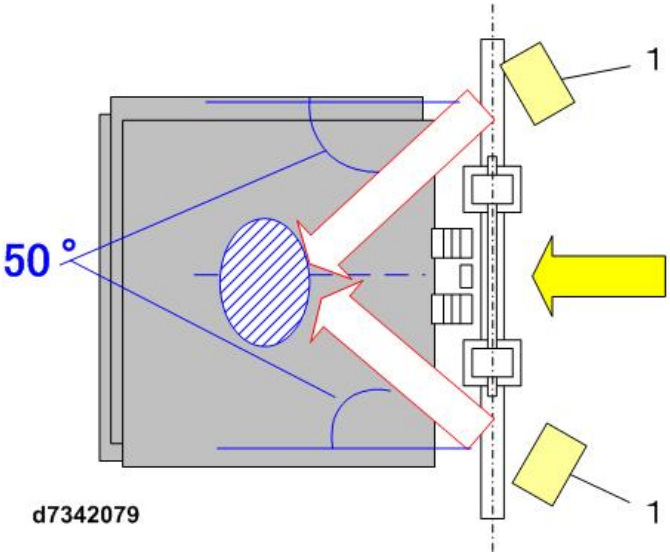
| No. | Name |
|---|---|
| A | Trailing edge press lever |
| B | Air vents |

**Configuration**




| No. | Name |
|---|---|
| 1 | Drag roller motor |
| 2 | Sirocco fan |
| 3 | Cam |
| 4 | Shutter |

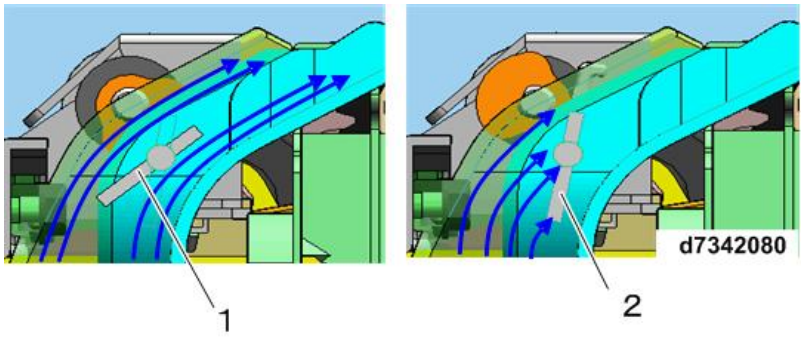
**Air Venting Direction**




| No. | Name |
|---|---|
| 1 | Sirocco fans |

**Blow Adjust Mechanism**

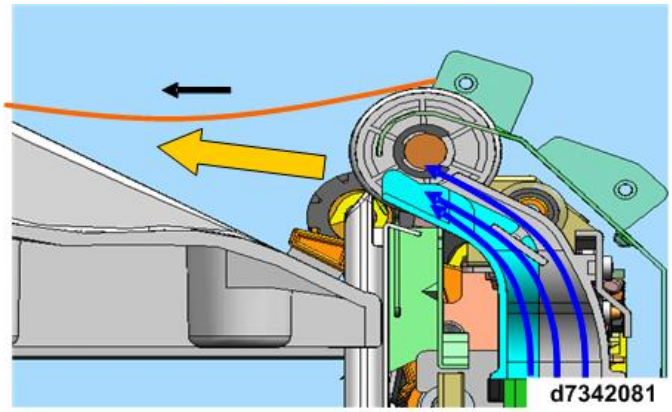
The movement of the shutter inside the air vent is synchronized with the timing of the operation of the trailing edge lever to reduce the amount of air from the fans to prevent the trailing edge of the sheet from blowing too high as it exits.




| No. | Name |
|---|---|
| 1 | Shutter open |
| 2 | Shutter closed |

**Operation Sequence**

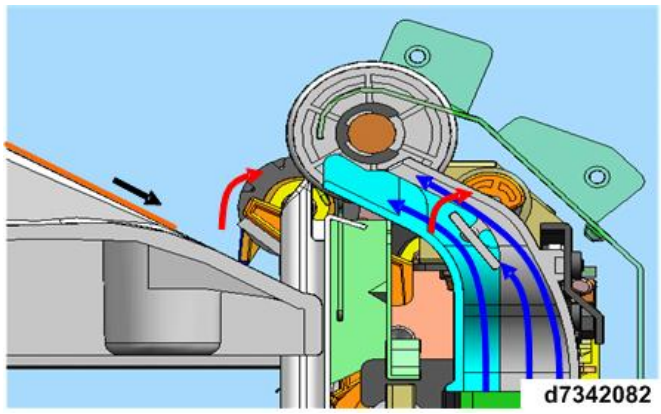
- **Step 1: 1st Sheet Exit Start**




Air layer between the 1st exit sheet highest exit position

| Shutter/press lever position | Shutter | Press Lever |
|---|---|---|
| | Open | Down |

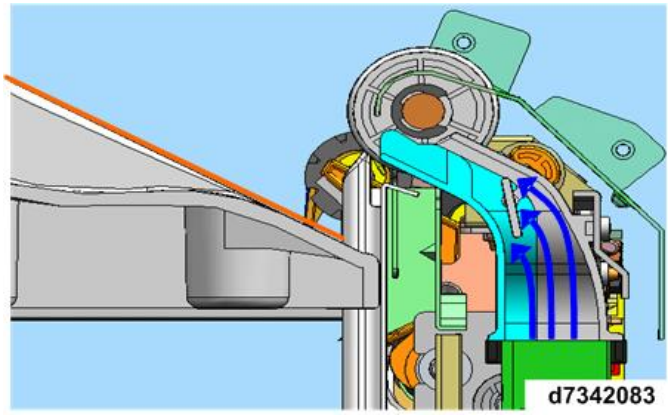
- **Step 2: 1st sheet trailing edge emerges, press lever starts to retract**




Press lever and shutter joint movement

| Shutter/press lever position | Shutter | Press Lever |
|---|---|---|
| | Open > Close | Down > Up |

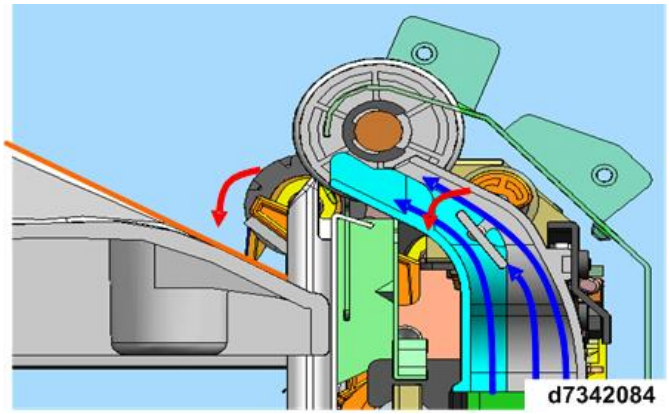
- **Step 3: 1st Sheet Exit End**




Air stream diminishes, prevents trailing edge of sheet from rising on completion of exit

| **Shutter/press lever position** | **Shutter** | **Press Lever** |
|---|---|---|
| | Closed | Retract |

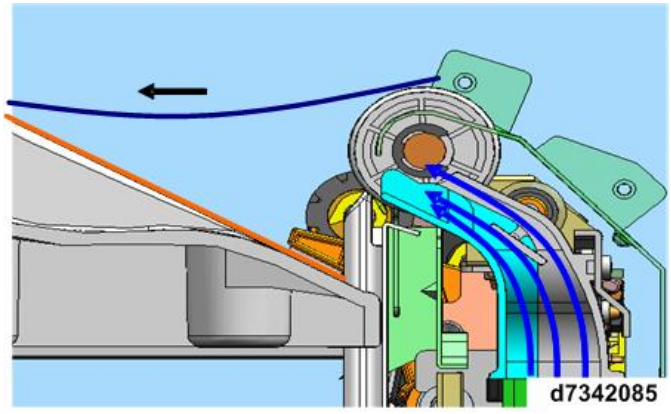
- **Step 4: Press lever operation start**




Press lever and shutter joint movement at cover operation

| **Shutter/press lever position** | **Shutter** | **Press Lever** |
|---|---|---|
| | Open > Close | Down > Up |

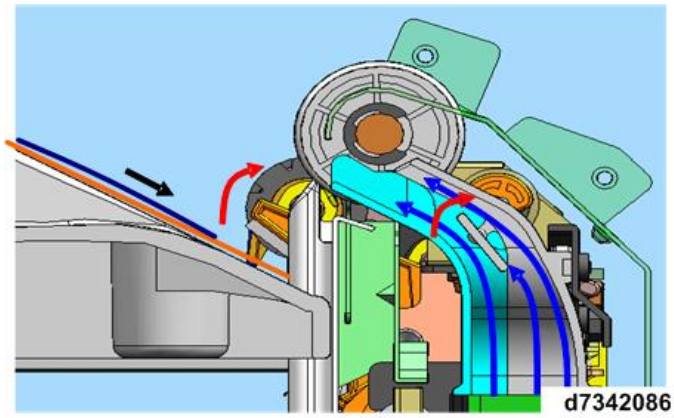
- **Step 5: 2nd Sheet Exit Start**




Press lever presses down trailing edge to prevent slippage

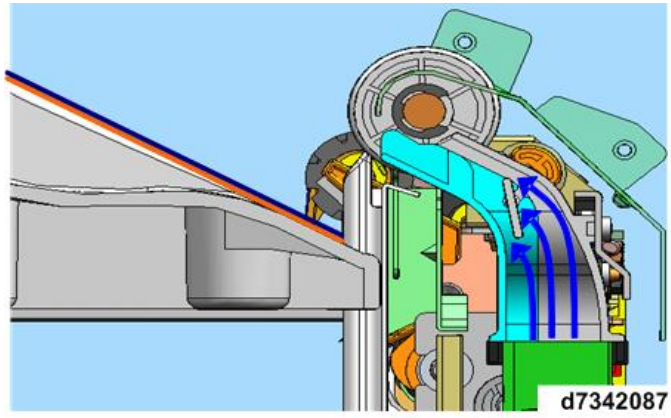
| **Shutter/press lever position** | **Shutter** | **Press Lever** |
|---|---|---|
| | Open | Down |

- **Step 6: 2nd sheet trailing edge emerges, press lever starts to retract**




| Shutter/press lever position | Shutter | Press Lever |
|---|---|---|
| | Open > Close | Down > Up |

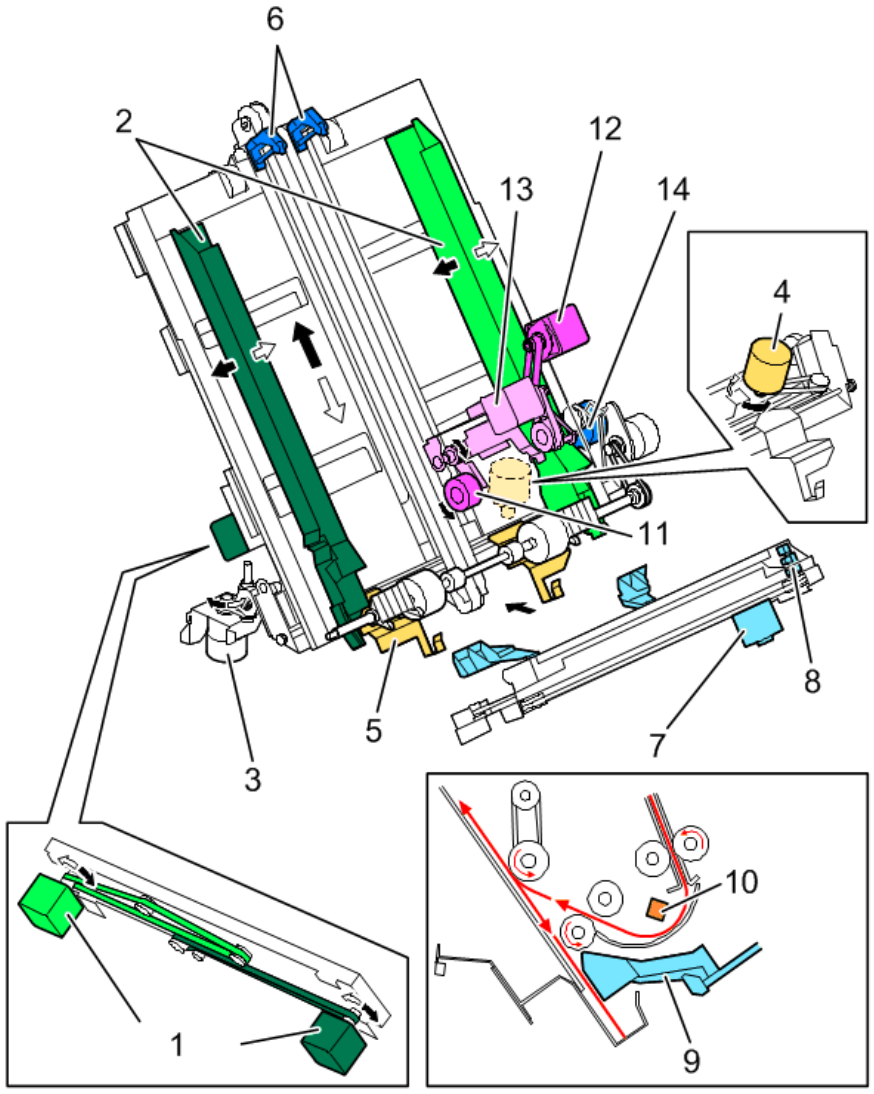
- **Step 7: 2nd Sheet Exit End**




| Shutter/press lever position | Shutter | Press Lever |
|---|---|---|
| | Closed | Retract |

- **The sequence repeats for subsequent sheets 4, 5, 6, 7 and so on.**

## Staple Tray Jog Mechanism




| No. | Name | No. | Name |
|---|---|---|---|
| 1 | Jogger motor (rear) (front) | 8 | Trailing edge press plate HP sensor |
| 2 | Side Fence | 9 | Trailing edge press plate |
| 3 | Base fence lift motor | 10 | Stapler tray exit sensor |
| 4 | Base fence movement motor | 11 | Positioning Roller |
| 5 | Base fence | 12 | Positioning roller rotation motor |
| 6 | Leading edge Stopper | 13 | Positioning roller lift motor |
| 7 | Trailing edge press motor | 14 | Leading edge stopper motor |

**Stacking Mechanism**

- Paper going past the junction gate on its way to the staple tray passes the brush roller. At the pre-stacking of standard size paper, leading edge of the sheets are aligned by the leading edge stopper. However, the positioning roller supports paper drop after 80 sheets of small-size paper (less than 350 mm), or 25 sheets of large-size paper (over 350 mm).

- In other cases where pre-stacking is not done, after the staple exit sensor goes OFF (within 94 to 119 ms, size of the stack not withstanding), the positioning roller drive motor rotates a prescribed distance, the sheets drop onto the tray base fence where the leading edges of the stack are aligned. At this time, the brush roller brush and the exit guide fulfill the function as guides for the falling sheets.
- The rear and forward movement of the stapler in the main scan direction, and the up and down movement of the entire base fence unit in the sub scan direction adjusts the stack position for booklet stapling.
- Also, the base fence can be moved to the rear and front for the size of the paper in the main scan direction. This front to rear movement, coupled with the front to rear movement of the stapler, accommodates different paper sizes in the main scan direction (with the trailing edge firmly clamped), ands greatly improves the efficiency of stapling.

**Jogger Mechanism**

During the stacking operation, once the trailing edges of the sheets have been aligned, the sides are aligned by the jogging operation.

- First, at the beginning of the job ("Copy Start") the jogger fences are moved to within 7.2 mm of the left and right side of an area equal to the width of the paper size selected for the job.
- After the trailing edge of the feeding sheet passes the staple exit sensor, the jogger fences close 3.7 mm (4.6 mm for B5 LEF, B4 SEF), the paper slides between the fences, and then the trailing edge is aligned.
- Next, on the booklet stapling side the jogger fences close in 7 mm to achieve horizontal alignment. However, the front and rear jogger fences on either end each have a motor that can position the sides of the stack for booklet stapling.
- At the end of the jogging operation, the jogger fences once again open 7.2 mm wider than the paper so the stack can move to the standby position.
- Springs are attached at the front and rear of the jogger fences to compensate for drift from precise alignment positioning.

**Movement Adjustment of Jogger Fences During Horizontal Alignment**

| | |
|---|---|
| Front booklet stapling | Front 7 mm |
| Rear (diagonal) booklet stapling | Rear 7 mm |
| Dual stapling (Booklet, B5 SEF) booklet | Front and rear 3.5 mm |

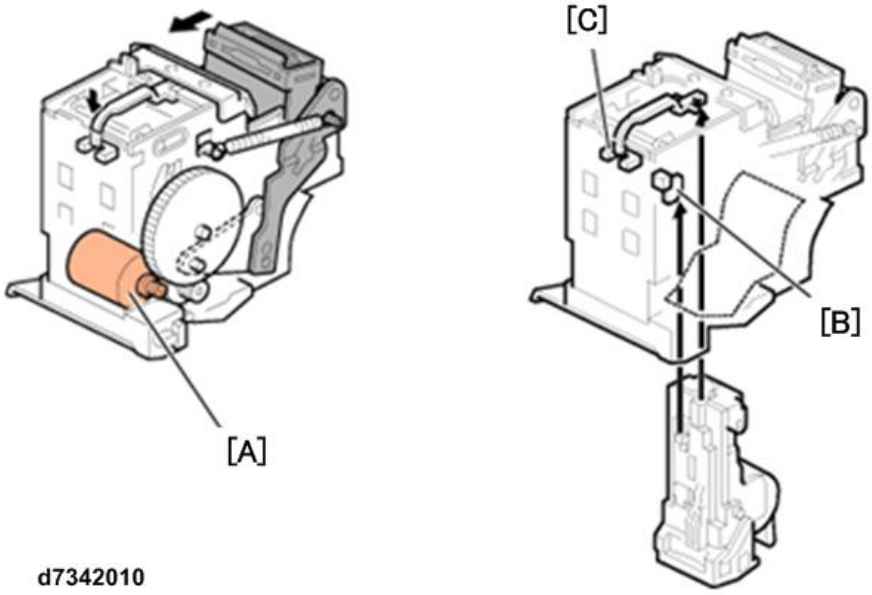
**Paper Press Mechanism**

A stack must be compressed at the trailing edge in order to achieve stapling a stack maximum size (100 sheets).

- After jogger moves to the paper edge position, the trailing edge jogger motor switches ON and operates the trailing edge press plate to press down and remove any air between the sheets.
- After the next sheet switches the stapler tray exit sensor OFF, once again the trailing edge press motor switches ON and the press plate returns to its standby position. The trailing edge press plate HP sensor detects the plate at its home position. This operation cycle is done for each sheet that feeds onto the staple tray.
- At this time, as the trailing edge is depressed the stapler is moving front and back, and before and after each compression of the trailing edge, the edge is compressed to remove curl.
- Front and rear compression of the trailing edge is not done at the booklet stapling position.

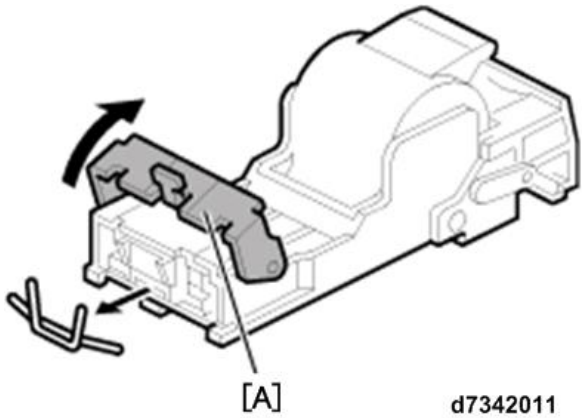
## Corner Stapling

**Corner Stapler**




The stapling operation is driven by the edge/booklet stapler motor [A] inside the stapler unit. The stapler is provided with a stapler end sensor [B] and staple cartridge set sensor [C].

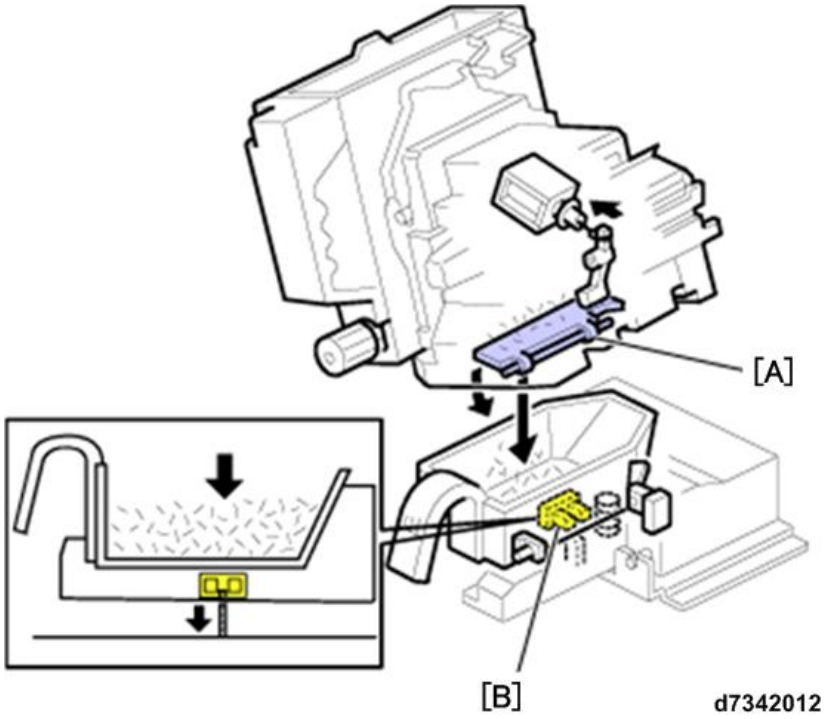
- When the staple cartridge is inserted, and actuator is pushed into the gap of the cartridge set sensor to signal ON.
- If the stapler signals staple end, or staple cartridge set sensor OFF, this triggers an alert on the operation panel that the cartridge is out of staples or out of the machine.
- If the stapler detects staples out during a job, this triggers the staples out message on the operation panel and the job stops.




If a staple jams the stapling mechanism, bracket lever [A] slides in the direction of the arrow so the jammed staple can be removed from the staple cartridge.

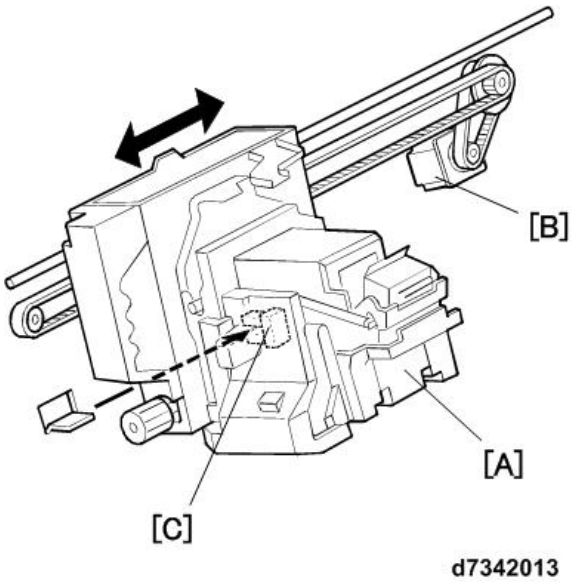
**Staple Cutting**

This stapler can staple a stack up to 100 sheets thick, so long staples are used. The staples are bent and trimmed to prevent them from overlapping on smaller stacks that are stapled. The excess length of the staples is trimmed during the staple operation.



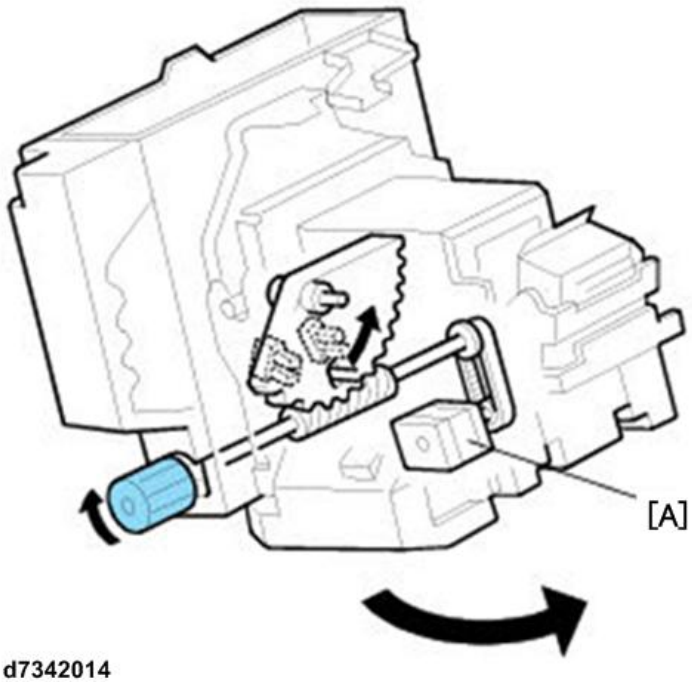

- The metal trimmed from the staples falls into the staple trimmings tray [A]. At the end of the job, the solenoid on the side of the stapler opens a lever and the staple trimmings fall into the trimmings hopper.
- The staple trimmings hopper full sensor [B] below the hopper signals when the hopper is full, and then triggers a message on the operation panel to alert the operator that the hopper needs to be emptied. The hopper capacity is about 15,000 trimmed scraps.

**Corner Stapler Movement**




Stapler [A], driven by the stapler movement motor [B], operates in four staple modes. The stapler, supported on a rod, is driven by a belt that moves the stapler to the front and rear. The stapler home position is at the front, and when stapling at two locations, it staples first at the front and then moves to rear to staple at the rear. The position of the stapler is monitored by the stapler movement HP sensor [C].

**Corner Stapler Rotation**

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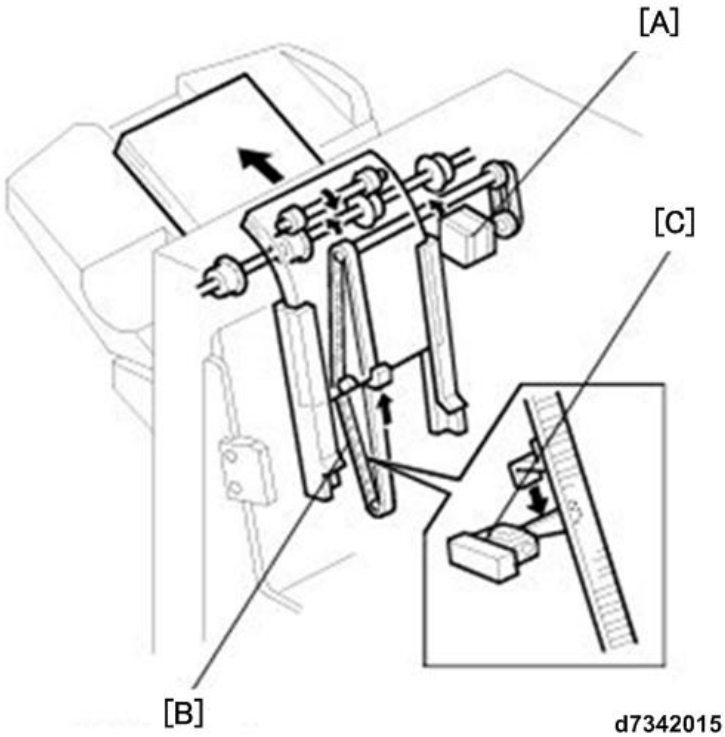
When diagonal-stapling at one corner, after the stapler moves to the stapling position it is rotated before it staples. The rotation is performed by the stapler rotation motor [A].

## Exit Opening/Closing, Feed-out Mechanism

In order to staple 100 sheets (the maximum allowed), the finisher is equipped with a mechanism that does not allow the paper exit to open or to output or to output the stapled document onto the tray.

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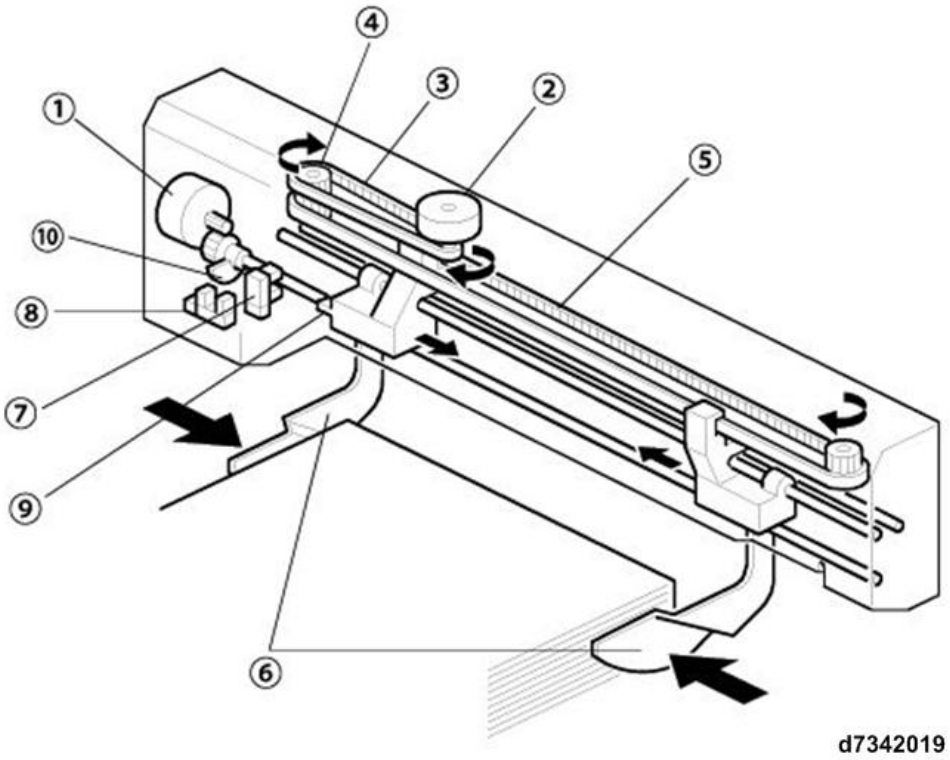
- When staple is ON, the exit guide plate motor goes ON and opens the paper exit, then after staple goes OFF the feed-out belt motor [A] goes ON and the stack hooked by the pawl on the moving feed-out belt [B] is transported to the paper ext and then on to the shift tray.
- At this time if the stack is large (move than 350 mm thick), the stack is output supported by the positioning roller.
- Once the operation of the feed-out belt motor feeds the stack the prescribed distance, the paper exit motor switches ON and starts rotating the paper exit roller, and this rotation together with the feed-out belt pawl on the belt moves the stack out the paper exit and then on to the shift tray.
- After the paper exit motor switches ON the stack feeds the prescribed distance, the exit guide plate motor switches ON and the exit guide closes. This operation of the paper exit roller moves the stack out of the finisher onto the shift tray.
- The paper exit opens and closes in staple mode when more than 16 stacks are output.
- A rotation of a disc mounted above the exit guide plate motor controls the OFF timing of the exit guide plate motor that operates the opening and closing of the exit.
- Also, the position of the feed-out belt is monitored by the feed-out belt HP sensor [C].

## Paper Jogging at Exit

The home position of the jogger fences is at the standby position above the paper exit. The arms lower just before a sheet exits the finisher and align the sides of the stack (this is repeated for every sheet).




| No. | Part Name: | Function |
|---|---|---|
| 1 | Shift jogger fence retract | Raises and lowers the front and rear fences. |

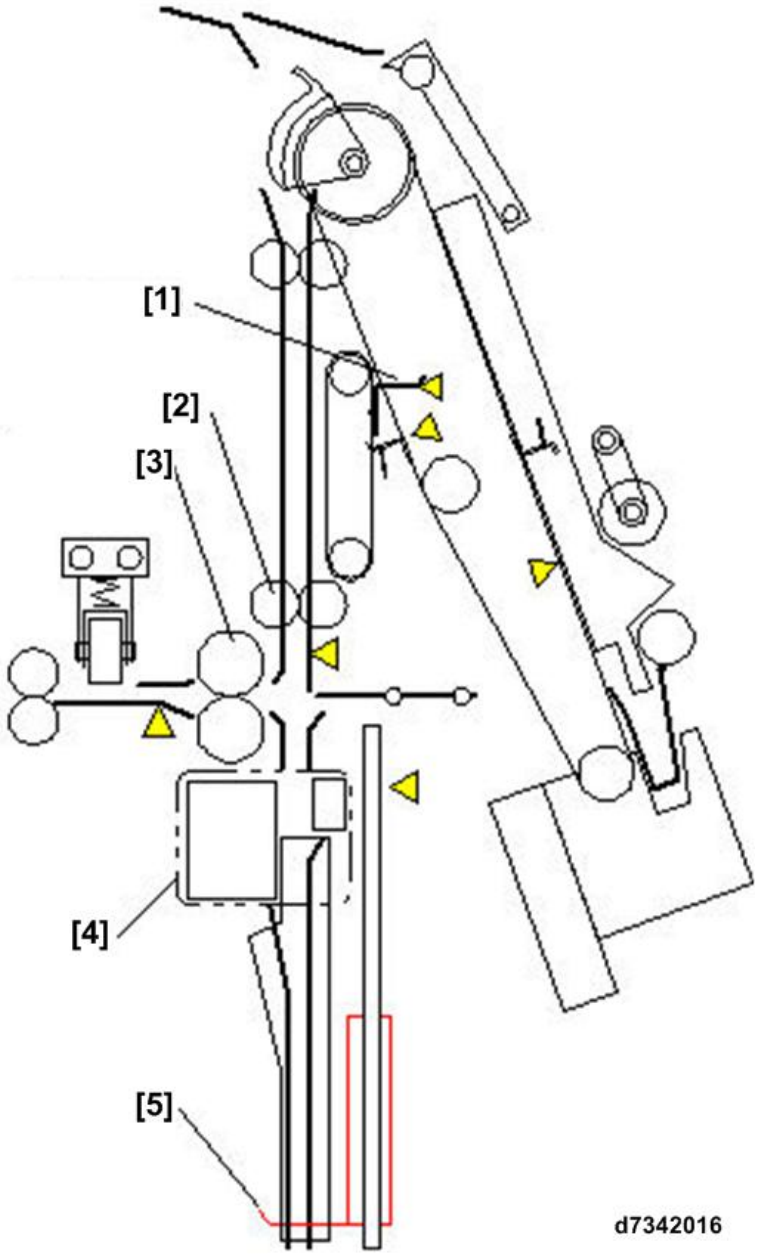
| No. | Part Name: | Function |
|---|---|---|
| | motor | |
| 2 | Shift jogger motor | Moves the front and rear fences forward and backward. |
| 3 | Main drive belt | Transmits the drive of the shift jogger motor to the gear that drives the relay belt. |
| 4 | Gear | Transmits the rotation of the main belt to the relay drive belt. |
| 5 | Relay drive belt | Drives the front and rear jogger fences front and back against the sides of the stack. |
| 6 | Jogger fences | Open and close to align the sides of the stack as each sheet exits the finisher. |
| 7 | Shift tray jogger HP sensor | Detects home position of the front and rear jogger fences (wide, away from the sides of the stack). |
| 8 | Shift jogger retract HP sensor | Detects home position of the front and rear jogger fences (up). |
| 9 | Shift tray jogger HP sensor actuator | Switches the shift jogger HP sensor off/on. |
| 10 | Shift jogger retract HP sensor actuator | Switches the shift jogger retract HP sensor off/on. |

The front and rear fences raise and lower repeatedly to jog the sides of the stack as each sheet exits the finisher. After the last sheet exits both arms rise, stop, and then remain up at the home position (standby position). The standard paper sizes that can be jogged and aligned upon exit (with no folding) are the standard sizes A3 to A5, DLT to HLT, 12"x18", 13"x14".

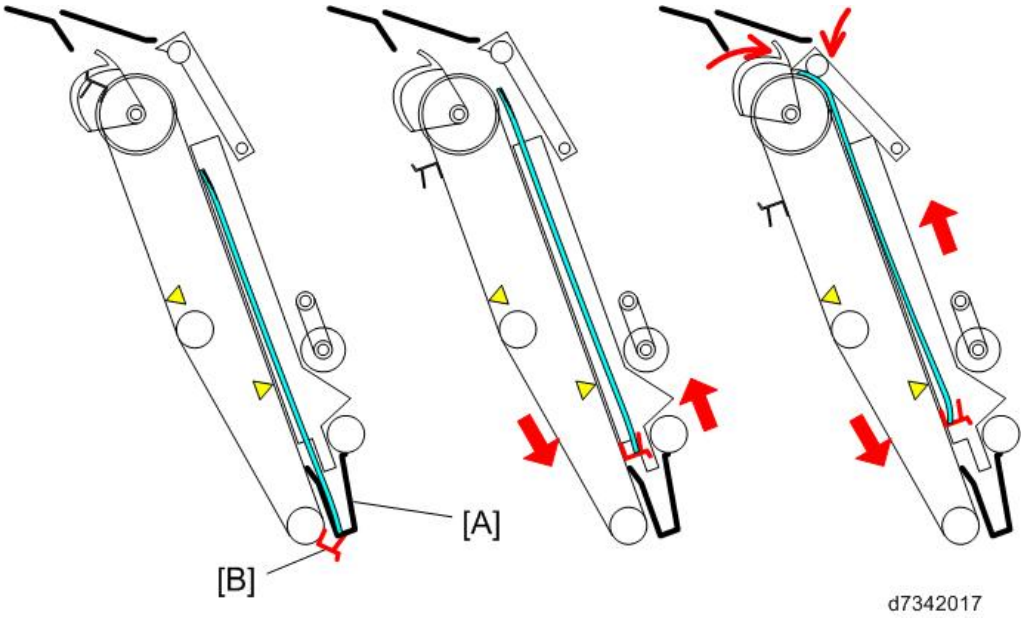
## Booklet Stapling

After the sides of a stack are aligned by the side fences on the stacking tray, it is hooked by the feed-out pawl moved up toward the paper exit on the left side of the finisher.

Sensors and rollers comprise the junction gate that sends the stack into the booklet stapling unit.

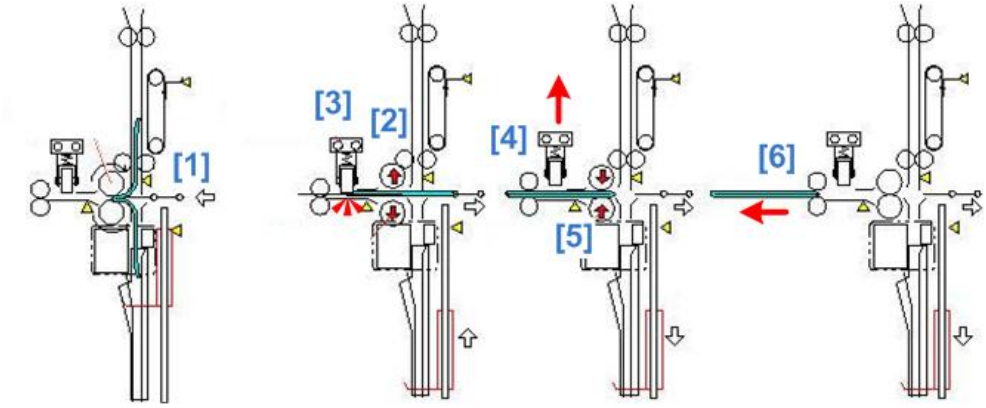



| | |
|---|---|
| [1] | Leading edge stopper |
| [2] | Transport roller – idle roller |
| [3] | Fold roller idle roller |
| [4] | Booklet stapler unit |
| [5] | Trailing edge fence |



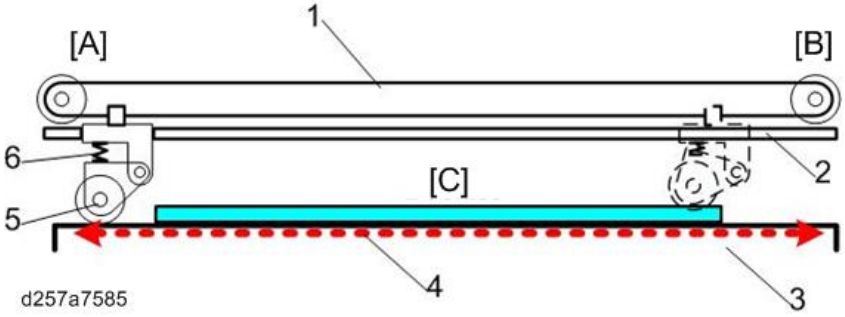

The stack is fed onto the stapling tray of the corner stapler unit where the sides of the stack are aligned by the side fences and the top and bottom aligned by the top and bottom fences [A]. The stack feed-out belt motor turns on and swings the stack feed-out belt pawl [B] up between the bottom fences and catches the edge of the stack and raises it upward.

The stack JG motor switches on and closes the stack junction gate just before the top of the stack reaches the top of the stapling tray. This guides the stack into the vertical path of the booklet unit.




- As the fold plate [1] thrusts forward, the fold roller keeps rotating to force the plate into the center of the stack.
- When the horizontal fold roller reaches the paper fold position, the fold roller nip [2] opens, and then the fold roller motor moves the fold roller [3] back and forth to sharpen the crease of the fold..
- The horizontal fold roller is raised [4], and the nip [5] closes.
- Finally, the fold rollers [6] feed the stack through the exit..
- In this finisher by making the fold roller rounded and the fold plate comb shaped, up to 6 sheets (64 to 90 g/mm2) can be inserted 1.0 mm into the nip for folding.
- The horizontal fold roller is spring loaded, so that when it is forced to the rear the crease of the fold in the sheets is increased.

Here is a side view of the crease roller mechanism.




- [A]: Back
- [B]: Front
- [C]: Booklet

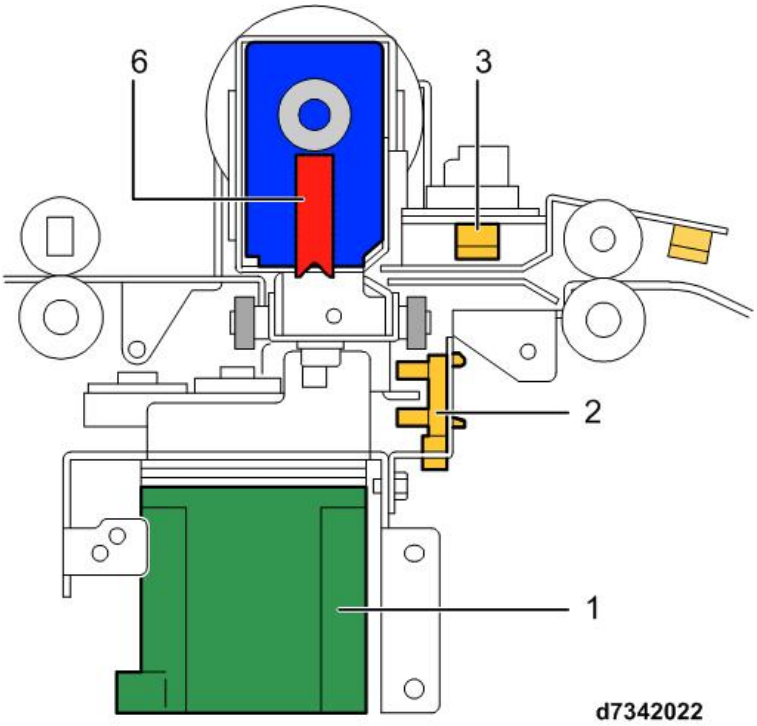
| | | | |
|---|---|---|---|
| 1 | Timing belt | 4 | Crease roller (range of movement) |
| 2 | Guide shaft | 5 | Crease roller |
| 3 | Guide plate | 6 | Spring |

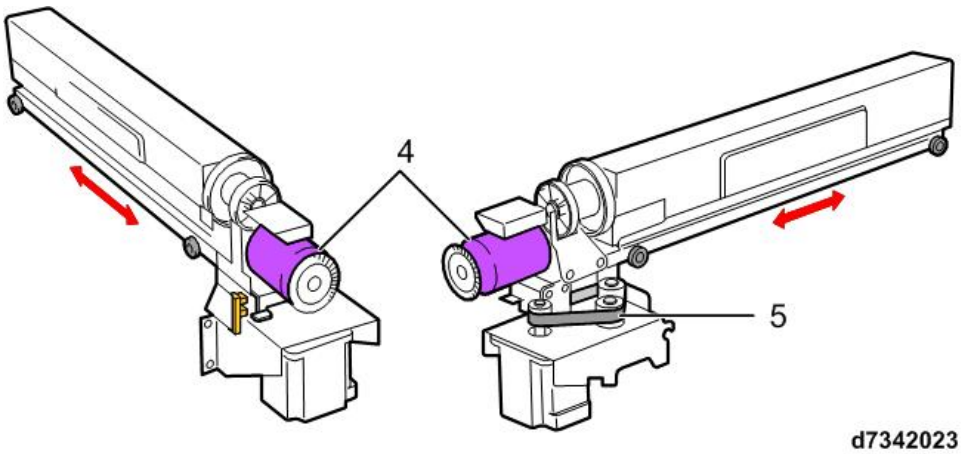
The spring loaded crease roller mounted on a steel guide shaft applies pressure to the stapled and folded edge as it is driven rear to front and the front to rear.

## Punch Unit

**Drive Mechanism**

The punch motor drives the punch unit so the rotation of the punch shaft matches the timing of paper feed for punching. The punch shaft waits at the standby position, and when paper punching is selected for the job once the registration sensor go OFF after detecting the trailing edge of the paper, paper will stop briefly under the punch position and wait for the punch motor to switch ON and punch the paper. The positions of the punch holes can be adjusted with SP codes and shims.



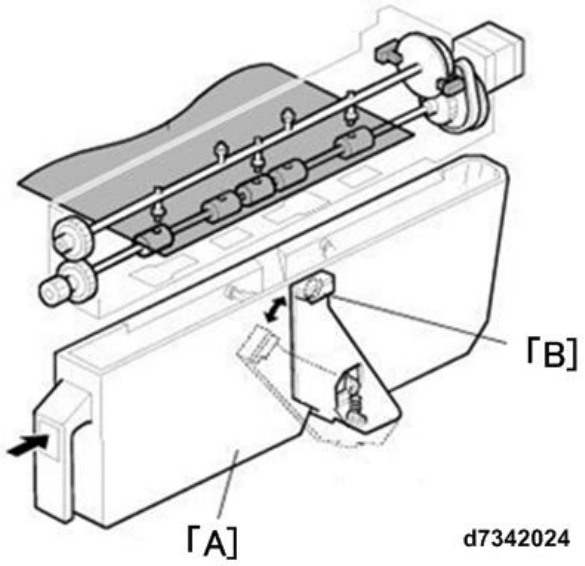




| No. | Name | No. | Name |
|---|---|---|---|
| 1 | Punch movement motor | 4 | Punch motor |
| 2 | Punch Unit HP sensor | 5 | Timing Belt |
| 3 | Punch Horizontal Registration Sensor | 6 | Punch Position |

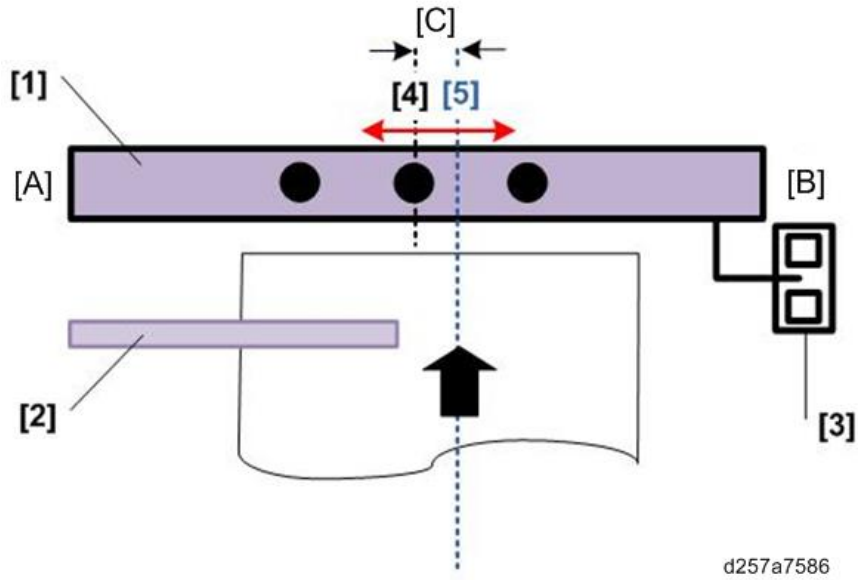
**Punch-out Collection**

Punch-outs are collected in a punch-out hopper [A] located under the punch unit. The hopper is provided with a punch-out full sensor [B], and when the level of collected punch-outs reach this sensor, it signals that the hopper is full. If a job is in progress when the hopper becomes full, the hopper full alert will not display on the operation panel until after completion of the job.

Also, there is a set sensor for the punch-out hopper that triggers a hopper not set alert when the hopper is out of the unit.




**Punch Unit Horizontal Registration**




- [A]: Front
- [B]: Rear
- [C]: 7.5 mm

| | |
|---|---|
| [1] | Punch unit |
| [2] | Paper position sensor (CIS) |
| [3] | HP sensor |
| [4] | Center punch hole |
| [5] | Paper path center |

The paper position sensor (CIS) is located upstream of the punch unit [2].

- This sensor detects the paper position, and then based on this sensor reading the position of the punch unit is moved to the front or rear to adjust to the center of the paper (horizontal registration).
- Normally, the punch unit is at standby at it home position 7.5 mm to the front of center of the center of the

paper path.

- When the CIS detects the paper position, the punch unit moves and adjusts its position based on the CIS reading
- After the punch unit is positioned over the paper, the unit punches the paper.
- After the holes have been punched, the punch unit returns to its home position and waits for the next sheet to feed.
- As soon as the CIS detects the position of the next sheet, it is punched in the same was as the first sheet (the position of the punch unit is adjusted for each sheet based on the CIS reading).
- The position of the punch unit is positioned in this way before each sheet of paper is punched.

## Jam Code Table

| Code | Jam Name | Affect Sensors, Switches |
|---|---|---|
| 100 | Door open jam | Door interlock switch |
| 101 | Display non-performing jam | No sensor to trigger this jam. (This is a jam where the display on the main machine operation panel is a display that reflects I/F specifications.) |
| 102 | Disable paper stop jam | No sensor to trigger this jam. (When a jam like a double-feed jam occurs during output to the proof tray, even if there is a disable error on the main machine operation panel, the paper cannot be output to the designated tray.) |
| 103 | Software internal error | No sensor to trigger this jam. (An internal software error has caused the jam.) |
| 104 | Entrance late jam | Entrance Sensor |
| 105 | Entrance lag jam | Entrance Sensor |
| 106 | Proof tray exit late jam | Proof Tray Exit Sensor |
| 107 | Proof tray exit lag jam | Proof Tray Exit Sensor |
| 108 | Shift tray exit late jam | Shift Tray Exit Sensor |
| 109 | Shift tray exit lag jam | Shift Tray Exit Sensor |
| 110 | Staple tray exit late jam | Staple tray entrance sensor |
| 111 | Staple tray exit lag jam | Staple tray entrance sensor |
| 112 | Pre-stack late jam | Pre-stack sensor |
| 113 | Pre-stack lag | Pre-stack sensor |

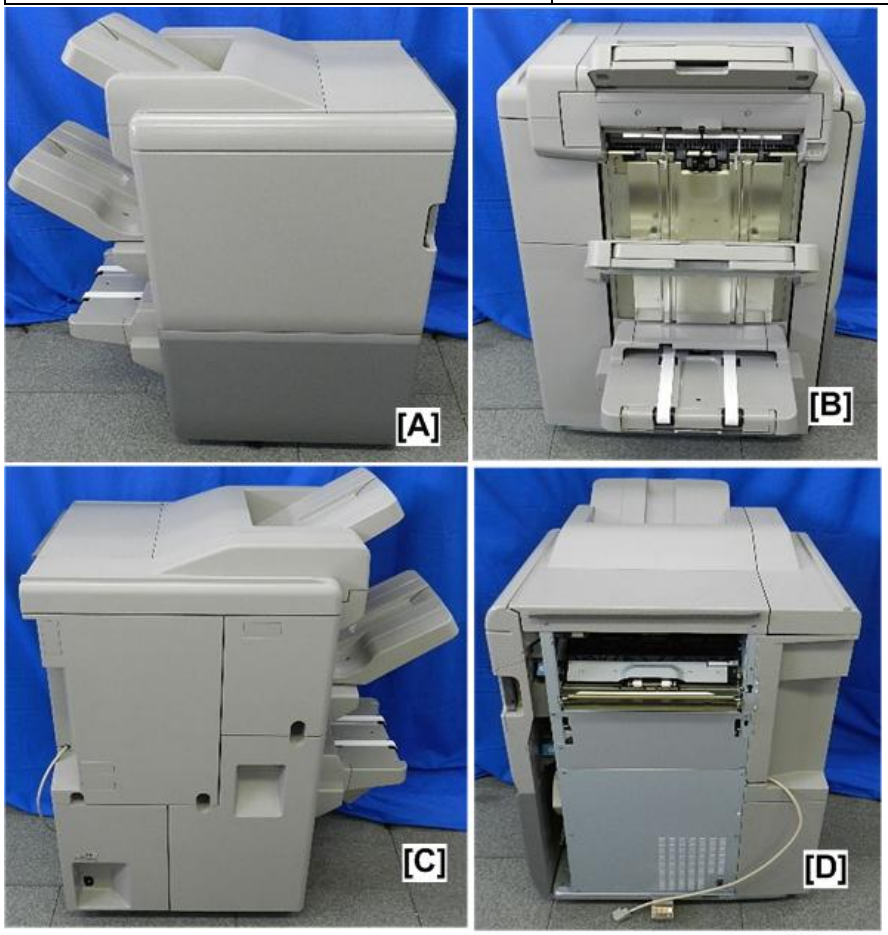
| Code | Jam Name | Affect Sensors, Switches |
|---|---|---|
| | jam | |
| 114 | Feed-out jam | Feed-out belt sensor jam |
| 115 | Center stapler late jam | Fold unit entrance sensor |
| 116 | Center stapler lag jam | Fold unit entrance sensor |
| 117 | Center stapler exit late jam | Booklet stapler exit sensor |
| 118 | Center stapler exit lag jam | Booklet stapler exit sensor |
| 119 | Paper transport jam | Junction gate HP sensor (proof tray, shift tray, stapler), paper transport motor drive board defective |
| 120 | Tray lift jam | Paper height sensor (stapler, shift tray, trailing edge) |
| 121 | Jogger fence jam | Jogger fence HP sensor (front, rear), leading edge stopper HP sensor |
| 122 | Shift operation jam | Exit guide plate HP sensor, shift HP sensor (front, rear), jogger fence HP sensor, jogger retraction HP sensor, drag roller HP sensor |
| 123 | Stapling jam | Stapler movement motor HP sensor, stapler rotation HP sensor (front, rear), bottom fence HP sensor, corner stapler HP sensor |
| 124 | Feed-out belt operation | Stack feed-out belt HP sensor |
| 125 | Punch drive jam | Punch HP sensor, punch movement HP sensor, punch hole switch sensor |
| 126 | Jogger fence error | Trailing edge press plate HP sensor (front, back), positioning roller HP sensor |
| 127 | Pre-stack operation | Pre-stack release sensor |
| 128 | Stack transport jam | Stack transport unit HP sensor, stack junction gate HP sensor |
| 129 | Center stapler jam | Center stapler junction gate HP sensor, center stapler HP sensor, center stapler jogger HP sensor (front, rear), center stapler trailing edge fence HP sensor |
| 130 | Fold jam | Horizontal fold HP sensor, fold cam HP sensor, fold plate HP sensor |

# 2. Replacement and Adjustment

## Common Procedures

### Overview

| | |
|---|---|
| [A] | Front |
| [B] | Left |
| [C] | Rear |
| [D] | Right |

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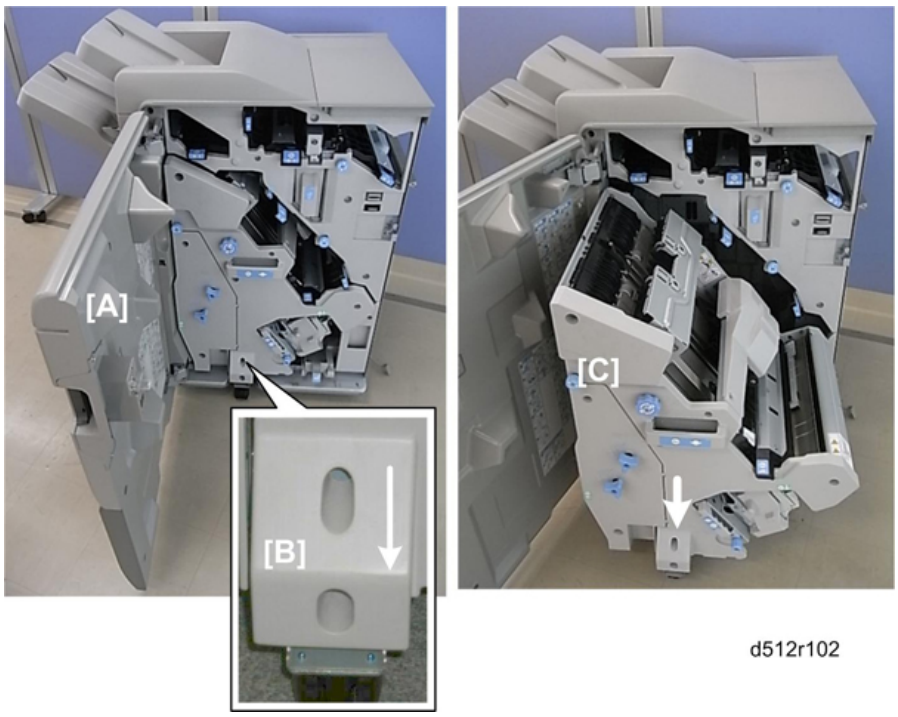
[A] Open the front door.

[B] Adjustable caster

[C] Pull the stack/stapler unit out (pull handle **Rb12**).

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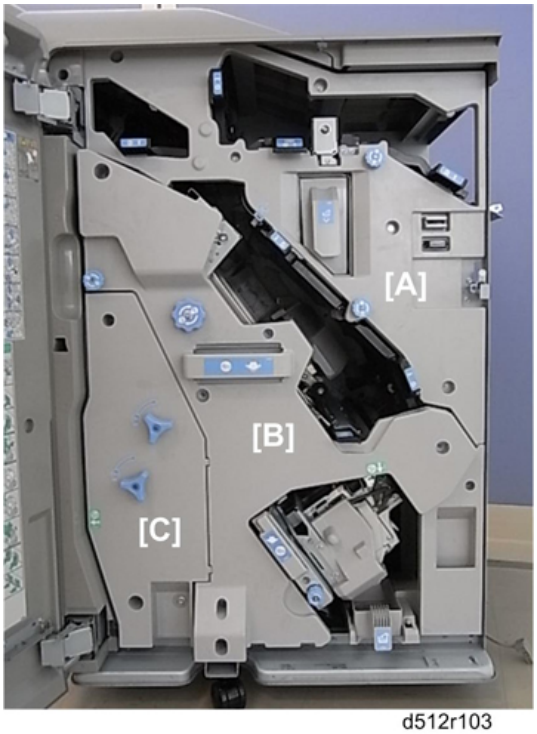
- Inner covers:

  [A] Upper: **Rb2**, **Rb8**

  [B] Center: **Rb14**, **Rb16**

  [C] Lower **Rb10**, **Rb11**




d512r103

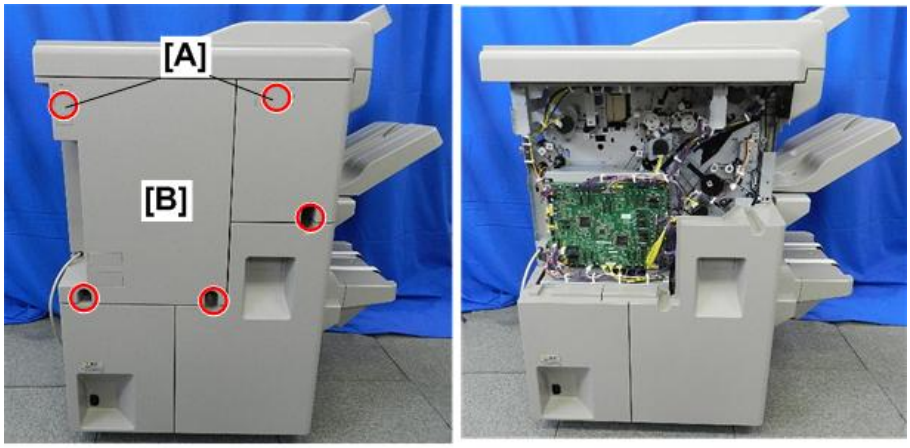
# Covers

## Rear Upper Cover

1. Screw covers [A] (hooks)
2. Rear upper cover [B] (x5)

Important

- The rear upper cover must be removed before the rear lower cover.

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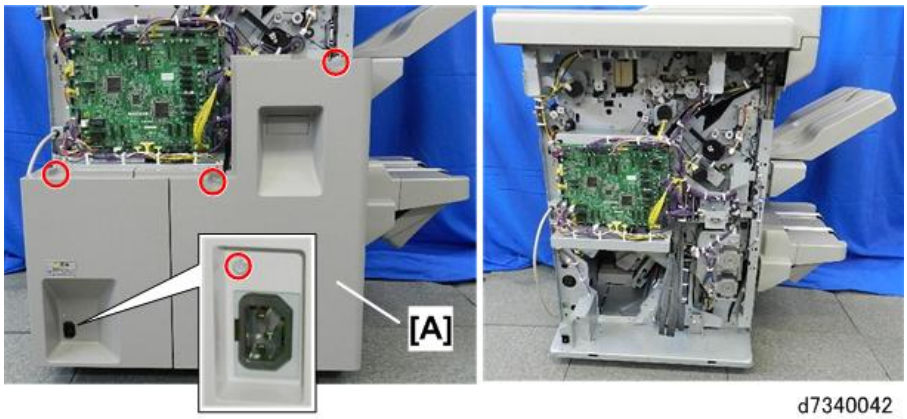
## Rear Lower Cover

**Preparation**

- Rear upper cover

1. Rear lower cover [A] (x4). The screw near the power connection point is difficult to see.

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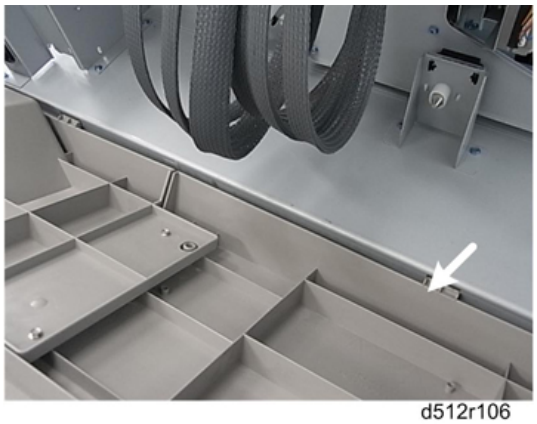
**Re-installation**

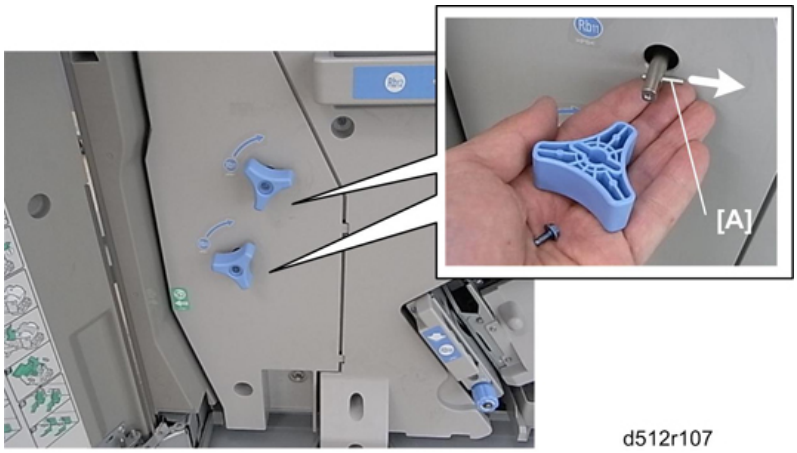
1. Engage both tabs on the bottom of the rear lower cover before fastening the screws.



d512r106

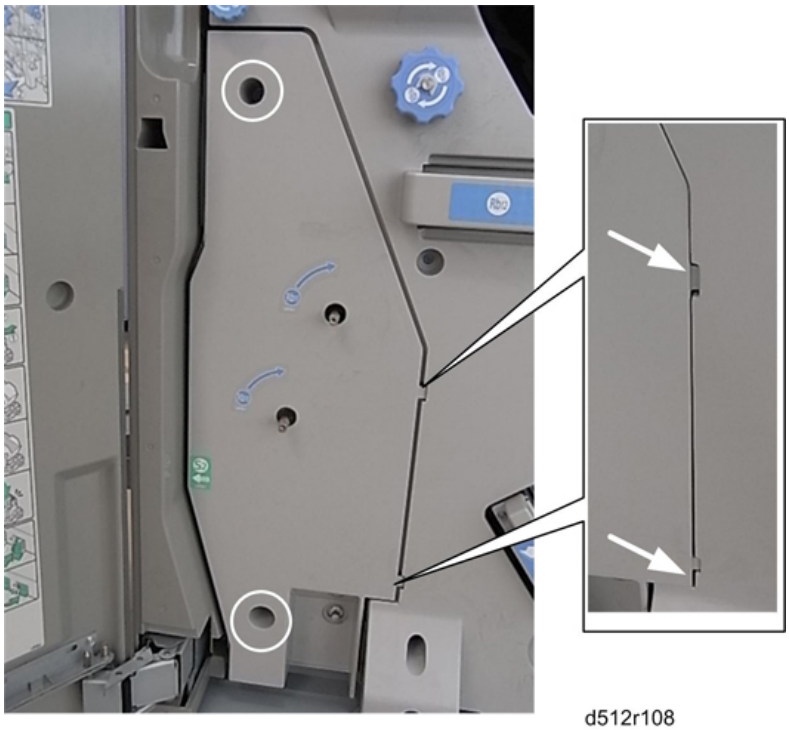
## Lower Inner Cover: Rb10, Rb11

1. Remove handles **Rb11**, **Rb12** ( x1 each, Pin x1 each).
2. Make sure that the pins [A] are removed and stored with the screws.




d512r107

3. Remove the cover ( x2, Tabs x2).



d512r108

Center Inner Cover: Rb14, Rb16

**Preparation**

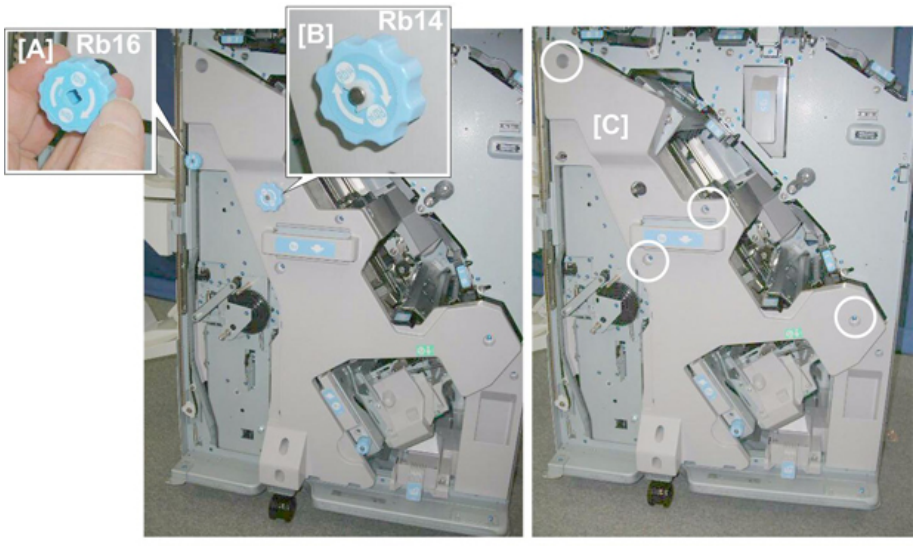
- Lower inner cover

1. Remove:

   [A] **Rb16**

   [B] **Rb14** (x1)

   [C] Cover ( x4)




d434r109

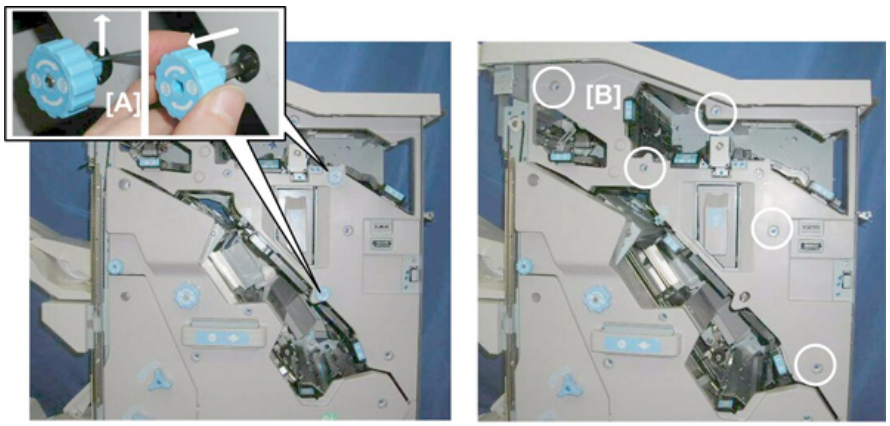
## Upper Inner Cover: Rb2, Rb8

1. Remove:

   [A] **Rb2**, **Rb8**.

   If these tab releases are stiff, use the point of a sharp tool to release these knobs, then pull them off. Work carefully to avoid breaking the tab releases.

   [B] Cover ( x5)




d434r110

## Front Door

1. Open the front door.
2. Remove the clip [A].
3. Lift off the door [B] from its bottom post.


d512r111

## Proof Tray

1. Proof tray [A] (x2)

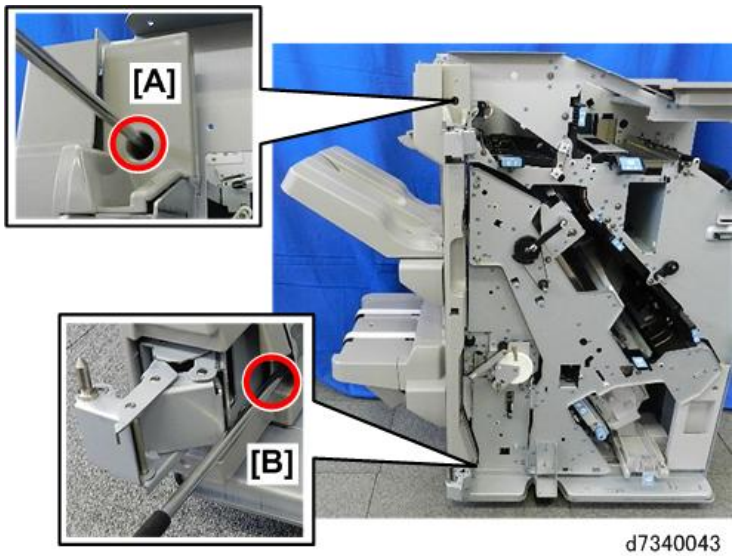

d7340045

## Corner Strip Cover

**Preparation**

- Front door Front Door)
- Proof tray Proof Tray)

1. Remove the top and bottom screws [A], [B] ( x2).
2. Disconnect the tabs at the top and bottom.



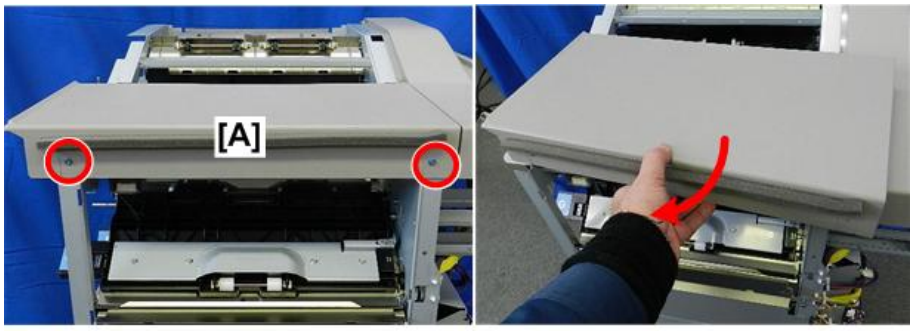

d7340043

3. Twist the cover away from the corner.

d7340044

## Top Right Cover

1. Top right cover [A] (x2)




d7340047

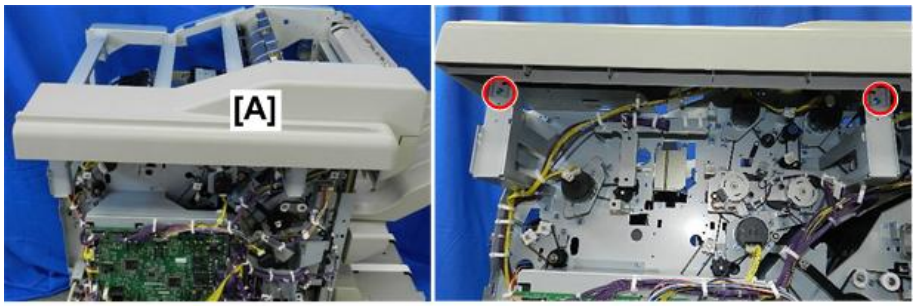
## Top Rear Cover

**Preparation**

Remove:

- Proof tray (Proof Tray)
- Top right cover (Top Right Cover)
- Rear upper cover (Rear Upper Cover)

1. Top rear cover [A] ( x2).




d7340046

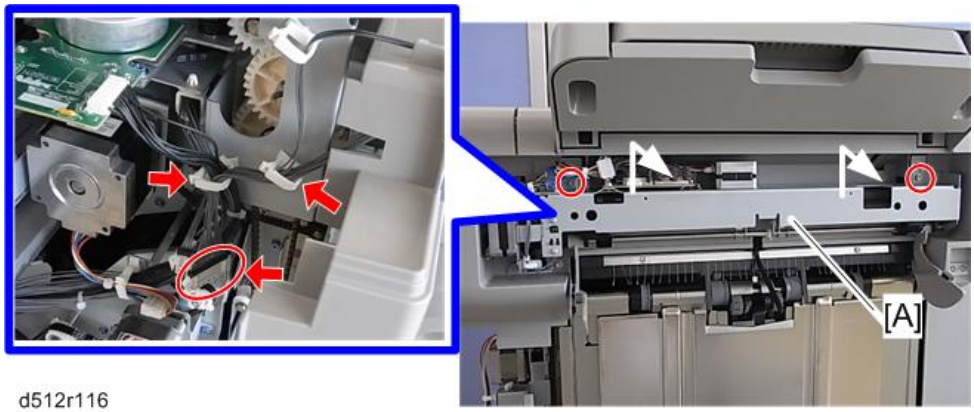
## Shift Tray Jogger Unit

1. Top rear cover Top Rear Cover)
2. Remove:

   [A] Jogger unit cover ( x2)


d512r115

3. Lift the jogger unit [A] off ( x2, x2, x1).




d512r116

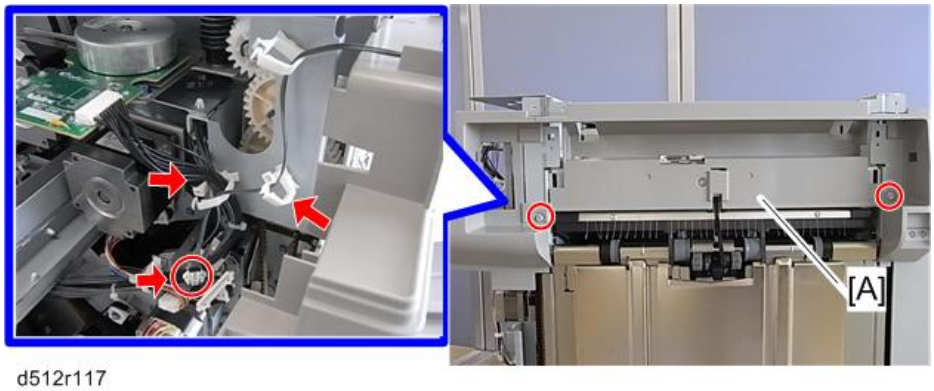
## Left Upper Cover

**Preparation**

Remove:

- Proof tray (Proof Tray
- Shift tray jogger unit (Shift Tray Jogger Unit)

1. Remove the left upper cover [A] ( x2, x1, x2).

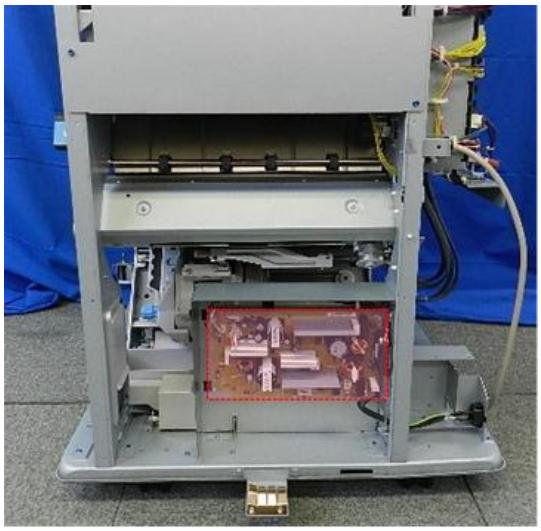



d512r117

## Upper, Lower Right Panels

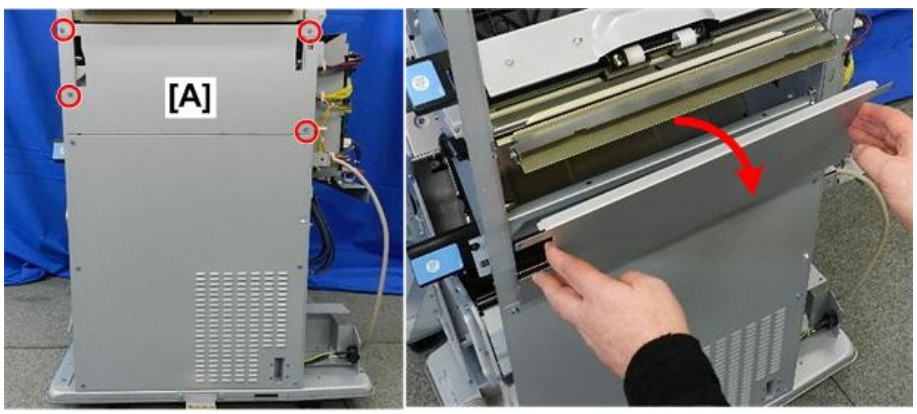
**⚠CAUTION**

- The lower right panel covers the PSU, which retains residual voltage after the system is switched off.
- Before removing the right panel for any procedure, switch the machine off and wait 30 min. for the charge on the PSU to dissipate.



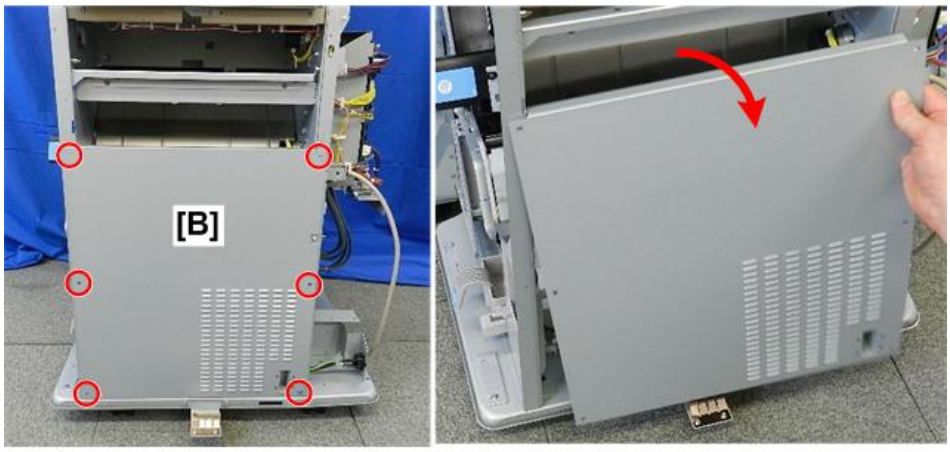
d7340050

1. Remove upper right panel [A] ( x4).




d7340048

2. Remove lower right panel [B] ( x6).




d7340049

## Shift Tray

1. While supporting the tray with one hand, pull gear [A] toward you to release the tray.
2. Lower the tray [B] slowly until it stops, then remove it. ( x4)

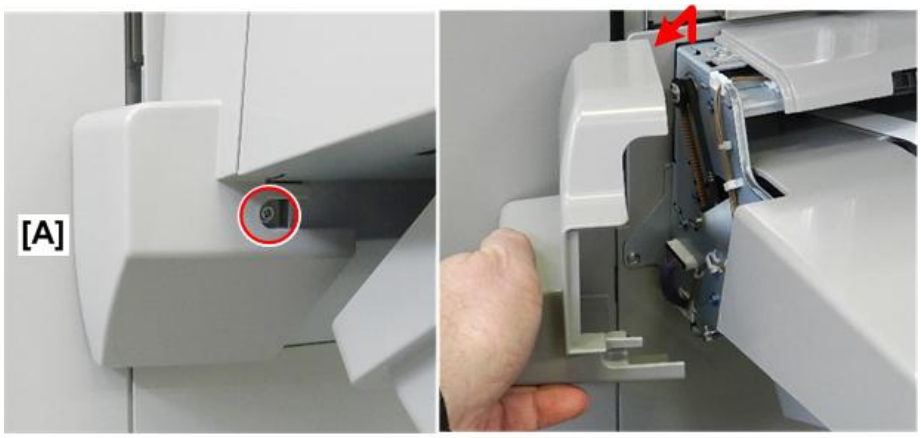

d434r122

## Booklet Tray

1. The booklet tray is the lower tray.

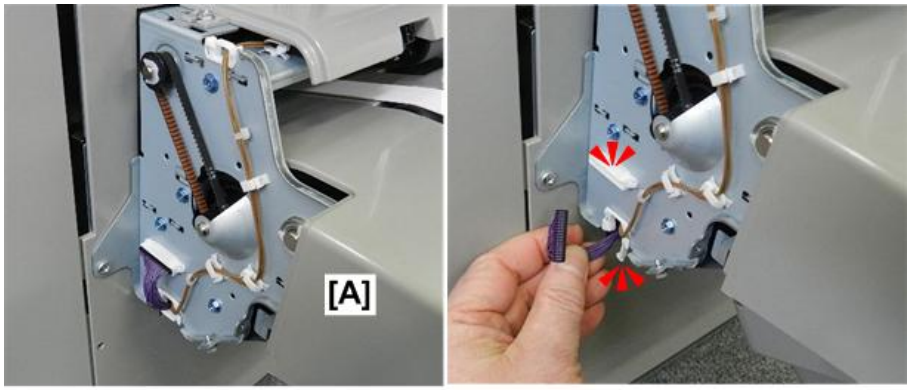
d7340051

2. At the rear [A] remove rear cover (x1).



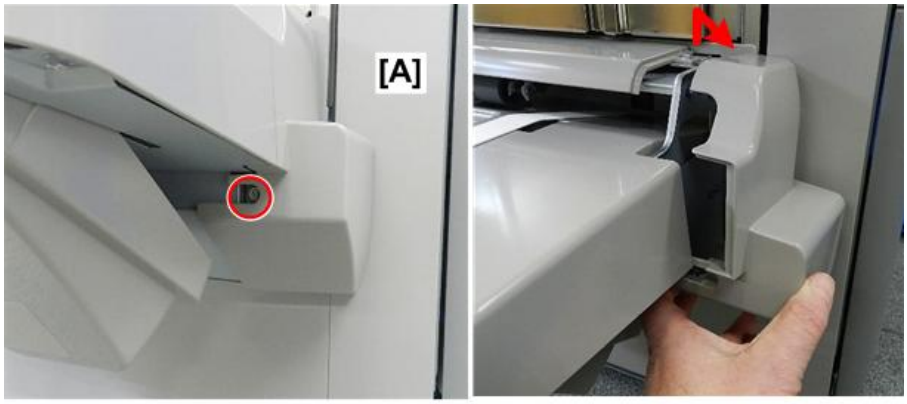

d7340052

3. At rear [A] disconnect tray (x1,x1).



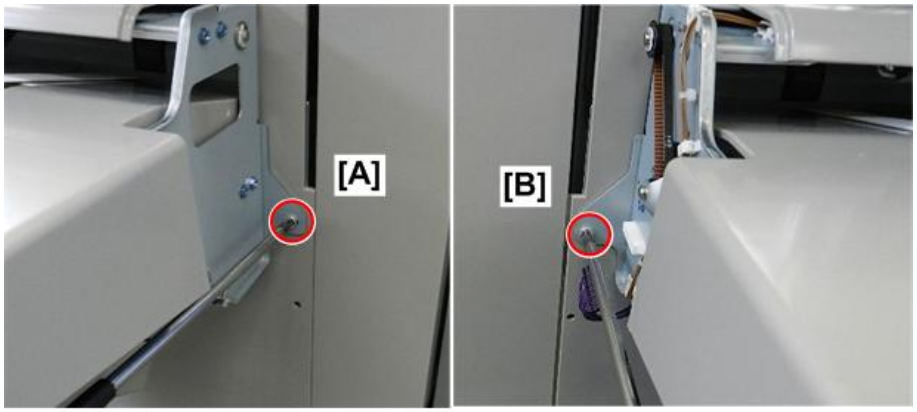

d7340053

4. At front [A] remove front cover (x1).



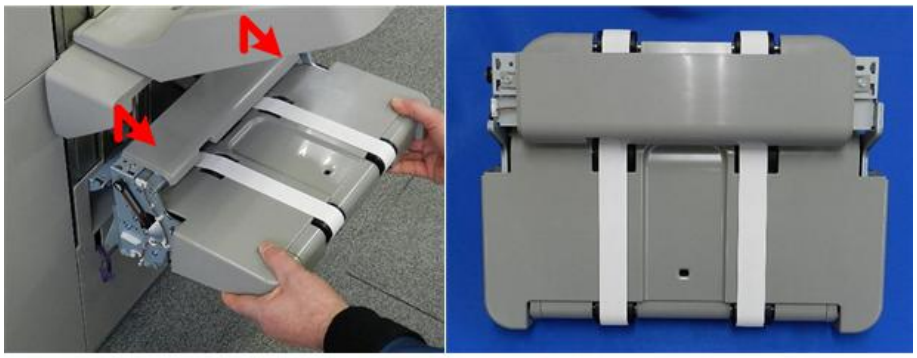

d7340054

5. Disconnect tray bracket at front [A], rear [B] (x2).




d7340055

6. Lift tray off the side of the machine.



d7340056

## Booklet Unit

### Booklet Stapler

The booklet stapler weighs about 3 kg (6.6 lb.)

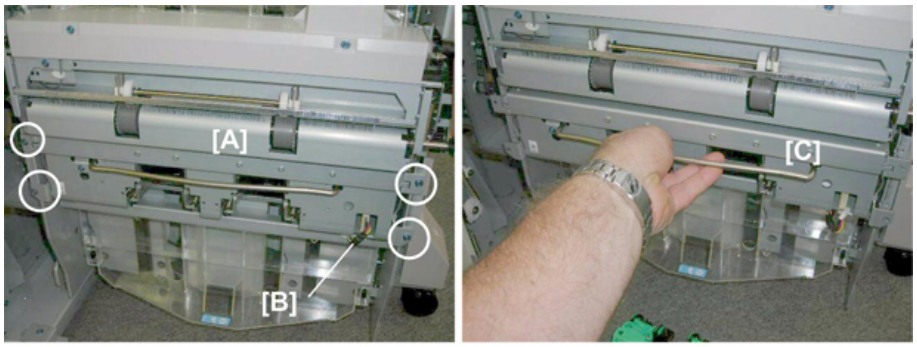
**Preparation**

- Open the front door.
- Pull stack/stapler unit out with **Rb12**.

1. Remove both booklet staplers.
2. Remove booklet stapler unit cover [A] ( x2)

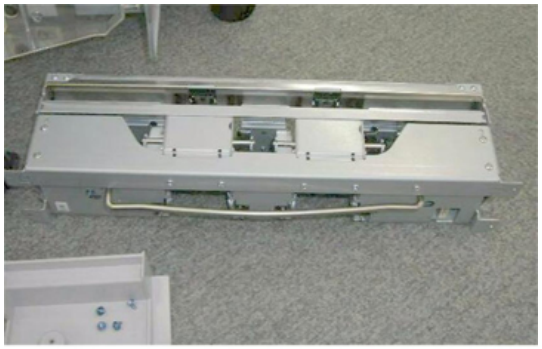

d434r124

3. Remove stapler unit [A] ( x1, x4)
4. Make sure connector [B] is disconnected.
5. Remove the stapler unit with its handle [C].




d434r125

6. Lay the unit on a flat, clean surface.



d434r126

## Booklet Unit Removal

### Preparation

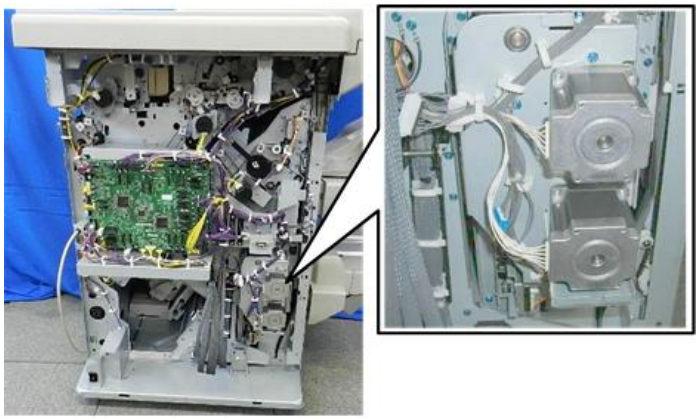
- Open the front door.
- Front door (Front Door
- Corner strip cover (Corner Strip Cover)
- Lower inner cover **Rb10**, **Rb11** (Lower Inner Cover: Rb10, Rb11)
- Booklet stapler (recommended) (Booklet Stapler)

Note

- The booklet unit weighs about 18 kg (40 lb.) with the booklet stapler installed.
- The booklet stapler weighs about 3 kg (6.6 lb.)
- The booklet unit is lighter and easier to remove and re-install with the booklet stapler removed.

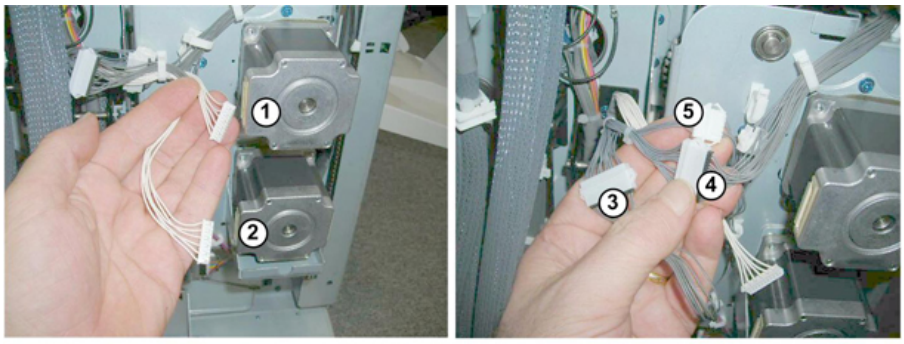
1. Make sure that the stack/staple unit is closed.

2. Locate the two motors attached to the rear of the stack/staple unit.



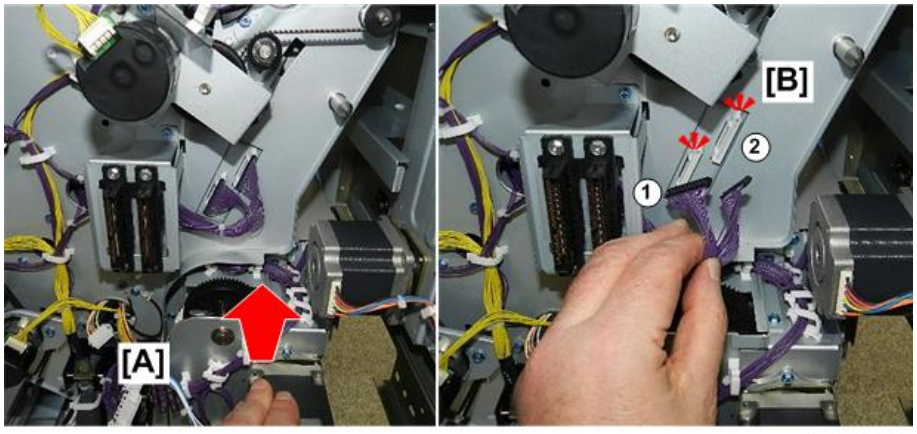
d7340057

3. Disconnect the two motors ①, ② (x2).
4. Disconnect the connectors of the other harnesses attached to the rear of the stack/staple unit at ③, ④, ⑤ (x2, x3).



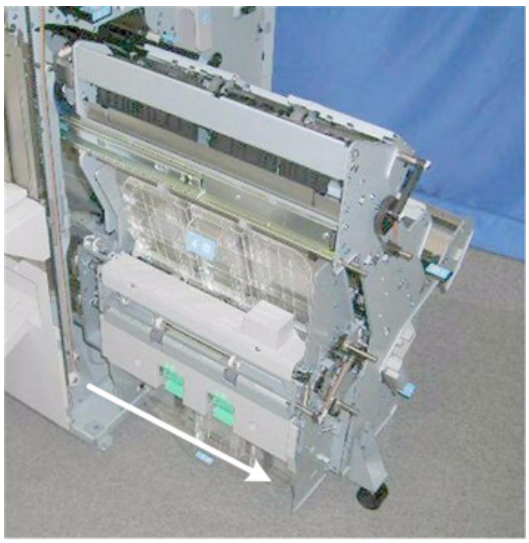

d434r128

5. Push the stack/staple unit [A] out about halfway, until you can see the two black connectors.
6. Disconnect the connectors [B] ( x2).




d7340058

7. Pull the stack/staple unit out until it stops.

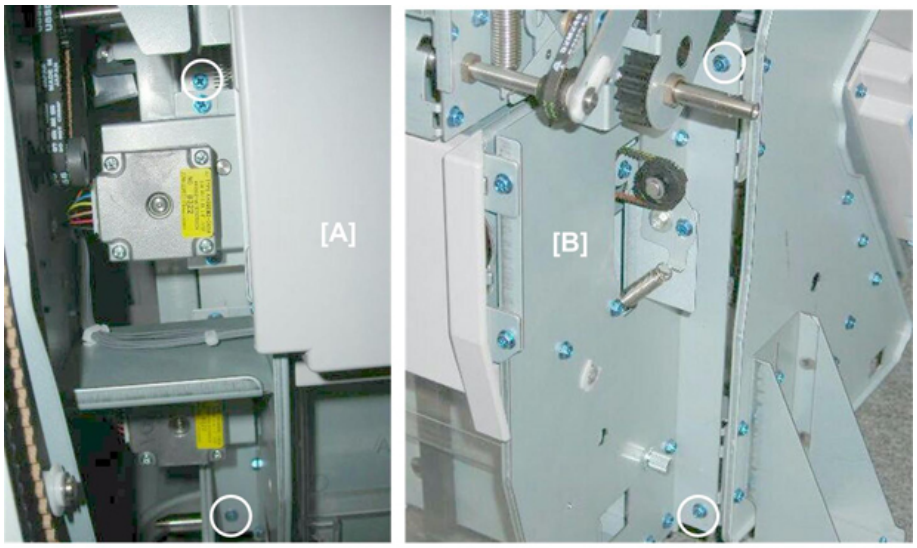


d434r130

8. Remove:

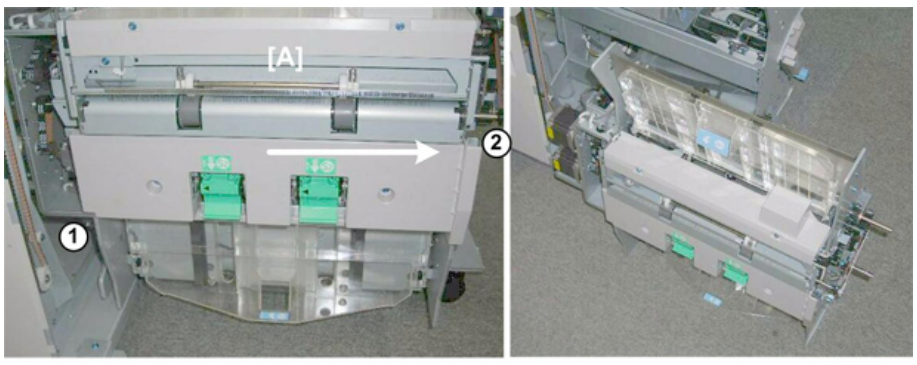
[A] Rear ( x2)

[B] Front ( x2)




d434r131

9. Grip the unit [A] at ① and ②, slide it to the right, and set it down on the floor.



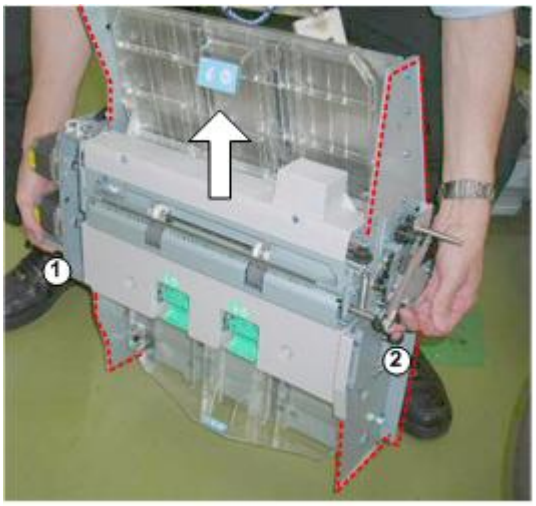

d434r132

### Handling and Moving the Booklet Unit

**⚠CAUTION**

- The metal edges of the booklet unit are sharp and can easily cut your hands or fingers. Always handle the unit carefully.

1. Always lift the booklet unit with your hands positioned at ① and ②.
2. Never attempt to lift the booklet unit by the edges (shown above by the red dotted lines).




d434r901

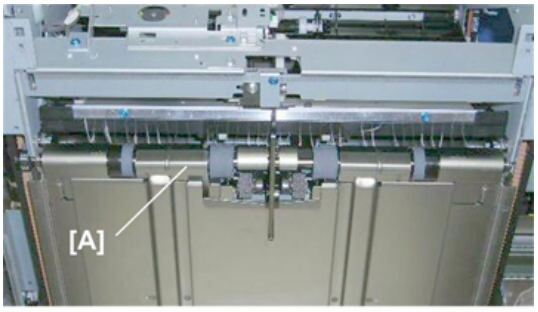
## End Fence

**Preparation**

- Booklet tray (Booklet Tray)
- Shift tray jogger unit. (Shift Tray Jogger Unit)
- Pull stack/stapler unit out with handle **Rb12**.

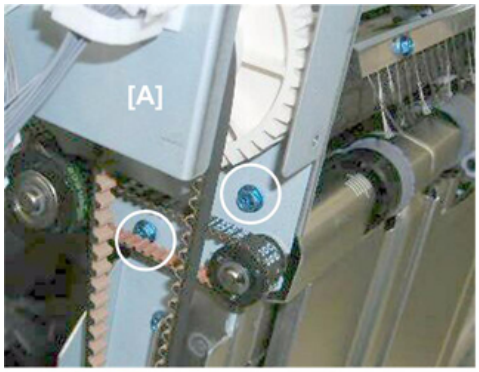
### Exit Roller Cover

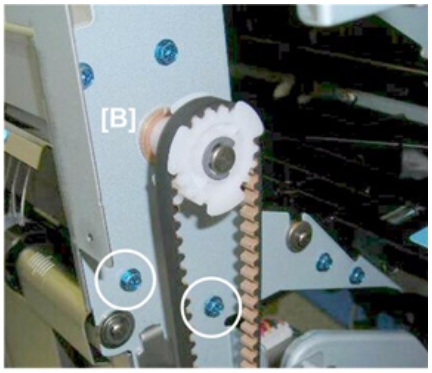
1. This is the exit roller cover [A].




d434r133

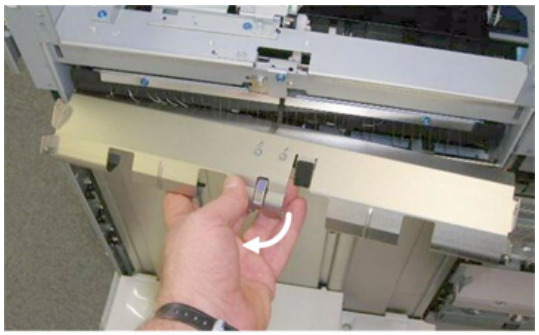
2. Remove:
   [A] Rear (x2)
   [B] Front (x2)




d434r134

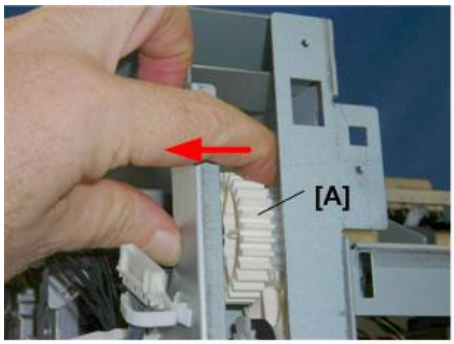
3. Remove the cover.

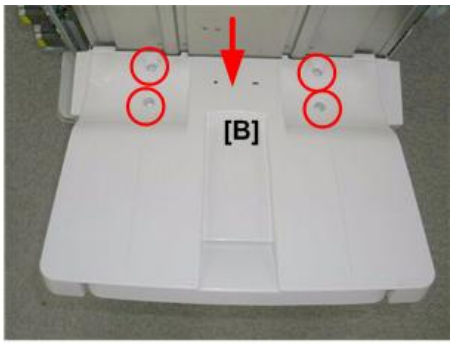


d434r135

## Shift Tray

1. Support the shift tray with your hand.
2. At the left rear corner, pull the gear [A] toward to release the tray, then lower the tray.
3. Remove the screws [B] (x3)



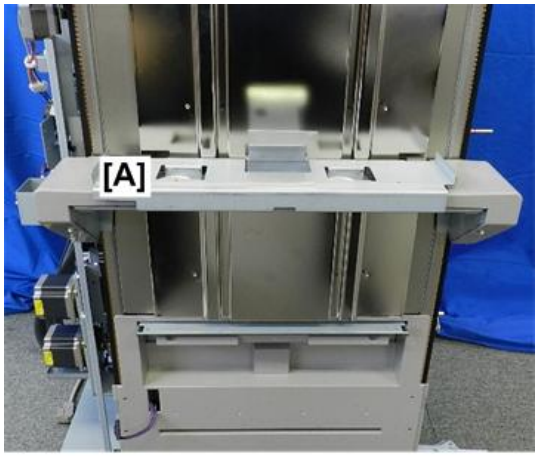

d434r137

4. Support the tray [A] with your hand to prevent it from falling, then remove the last screw. ( x1)


d434r138

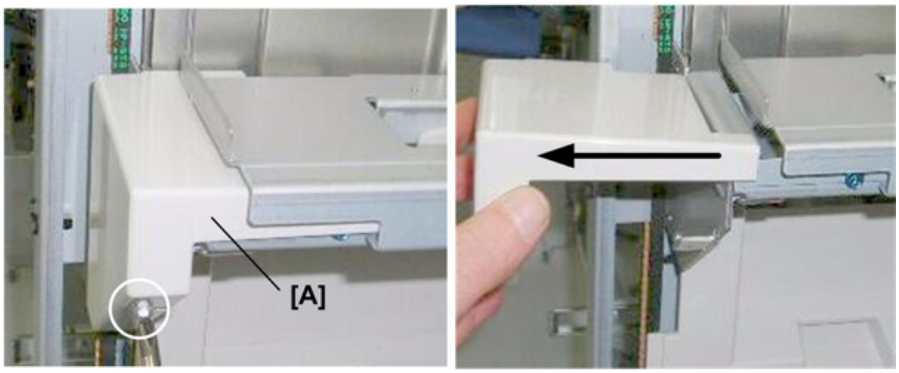
## Shift Tray Base

1. This is the shift tray base [A].




d7340059

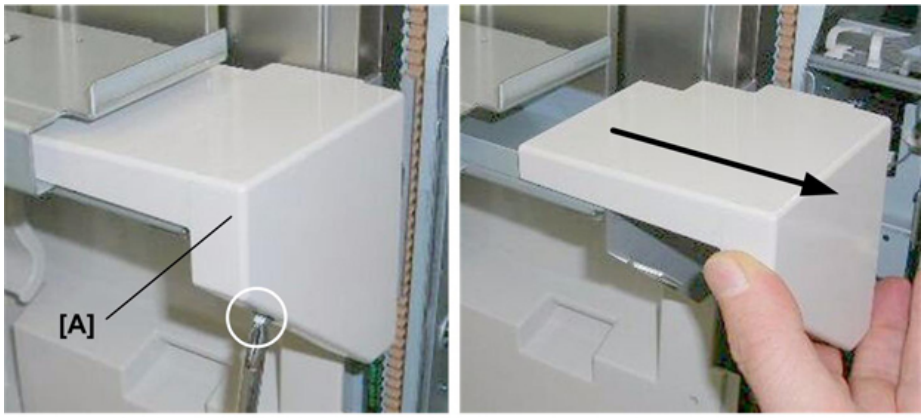
2. Rear cover [A] ( x1).
3. Slide the cover off. You do not need to remove the screw.




d434r140

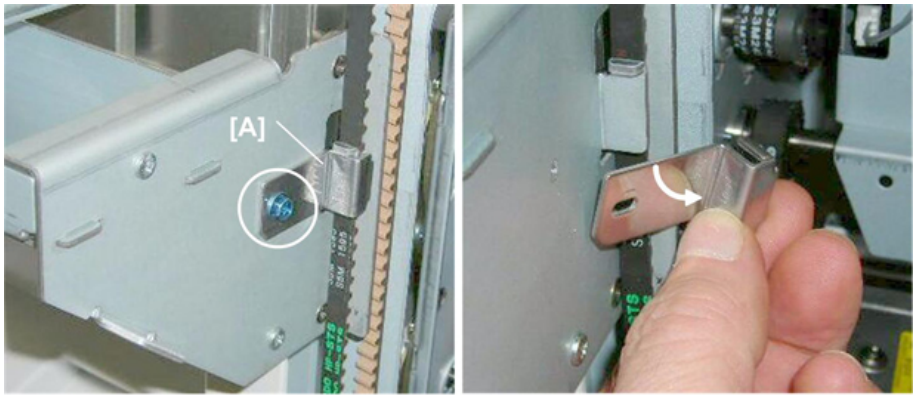
4. Front cover [A] ( x1)

5. Slide the cover off. You do not need to remove the screw.



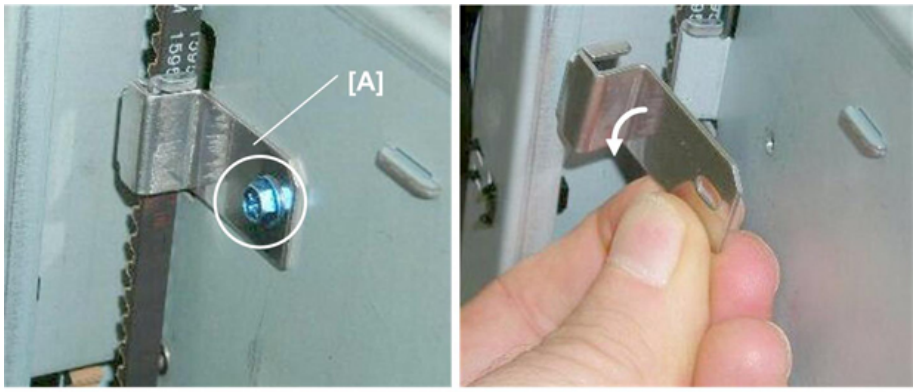

d434r141

6. Front belt clamp [A] ( x1)



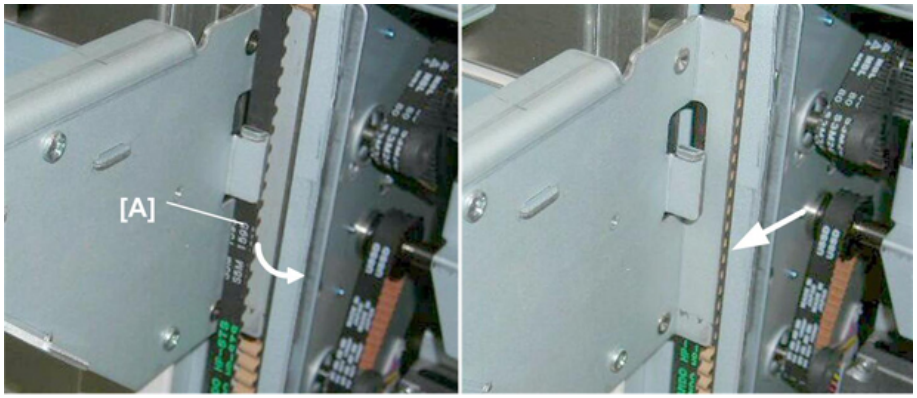

d434r142

7. Rear belt clamp [A] ( x1)



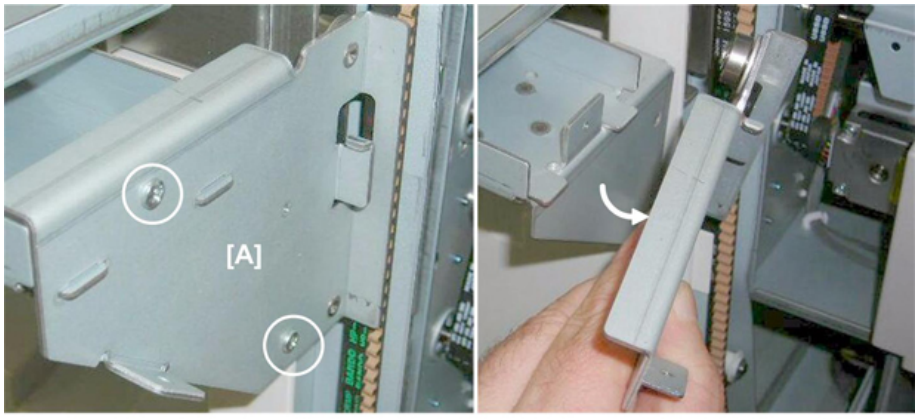

d434r143

8. At the front, pull the belt [A] out and set it behind the plate.



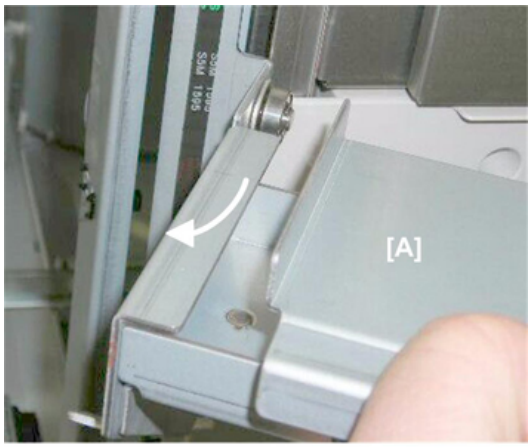

d434r144

9. Front base plate [A] ( x2)




d434r145

10. Disconnect the rear end of the base [A] from the side fence (you do not need to remove the plate).



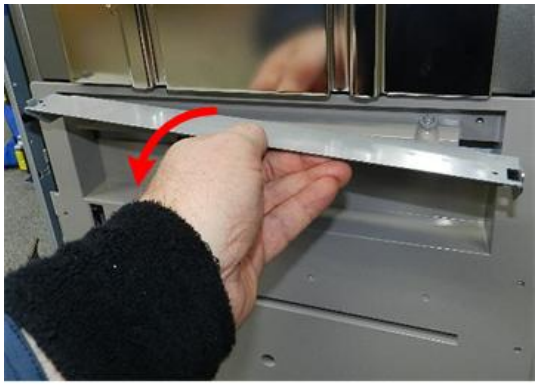

d434r146

## Left Lower Cover

1. Disconnect metal bracket (x2).

d7340060

2. Remove bracket.



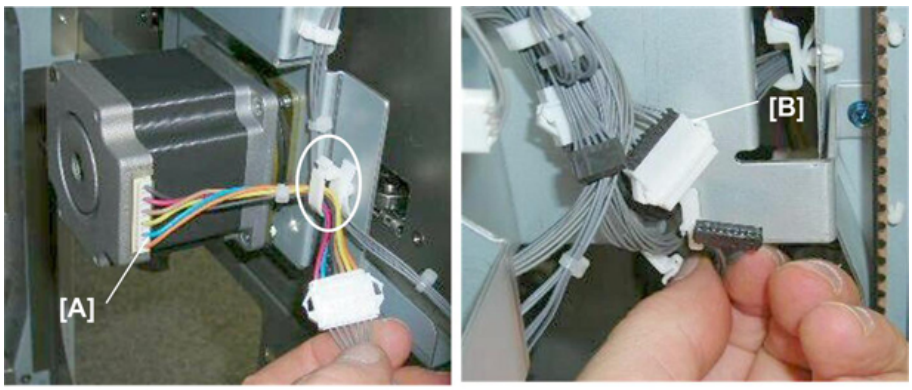
d7340061

3. Remove the left lower cover.

d7340062

## End Fence

1. Disconnect:
   [A] Motor ( x 1, x1)
   [B] Half-turn sensor ( x 1, x1)



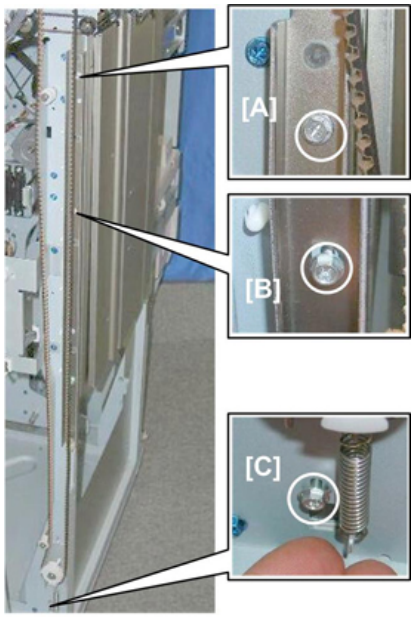

d434r149

2. Rear:

[A] Top ( x1)

[B] Center ( x1)

[C] Bottom ( x1)



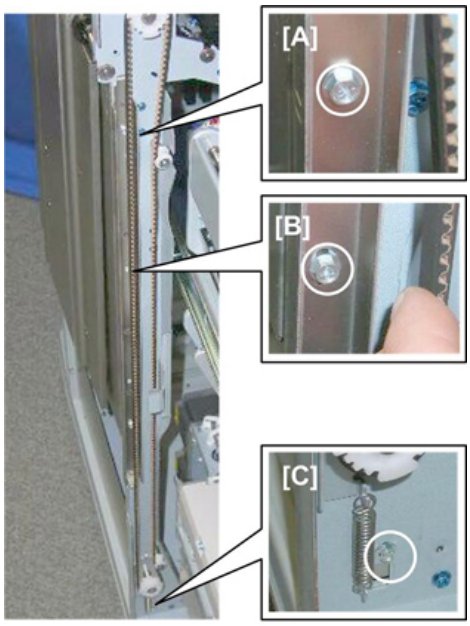

d434r150

3. Front:

[A] Top ( x1)

[B] Center ( x1)

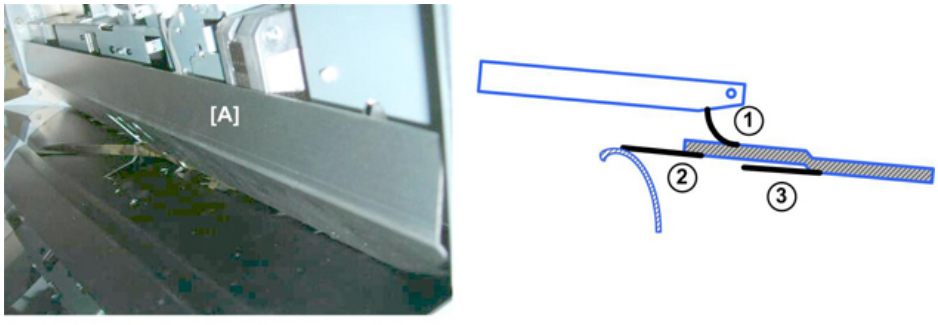
[C] Bottom ( x1)




d434r151

**Re-installation**

1. When you re-attach the exit roller cover [A]:
   - Make sure the small mylar ① is set as shown.
   - Make sure the large mylars ② and ③are set as shown.



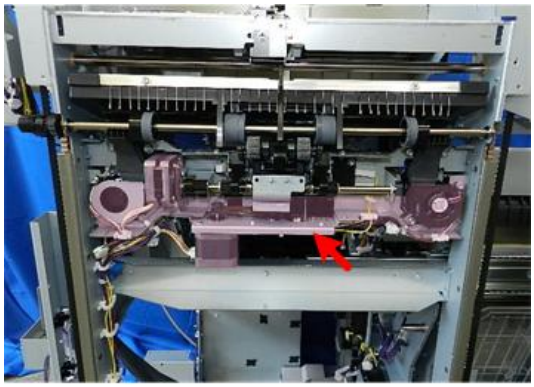

d512r152

## Drag Roller Unit

**Preparation**

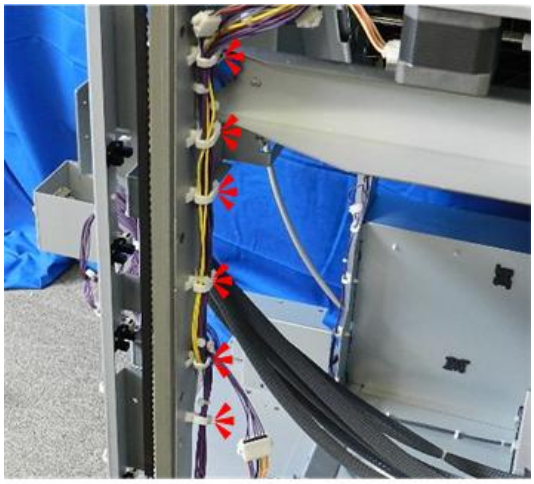
- End fence End Fence

1. This is the drag roller unit.



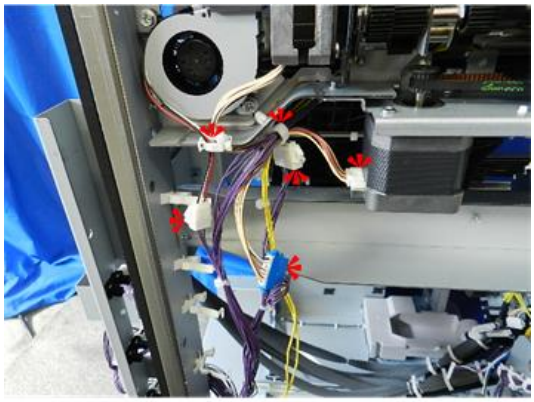
d7340063

2. Harness connectors (x6)



d7340064

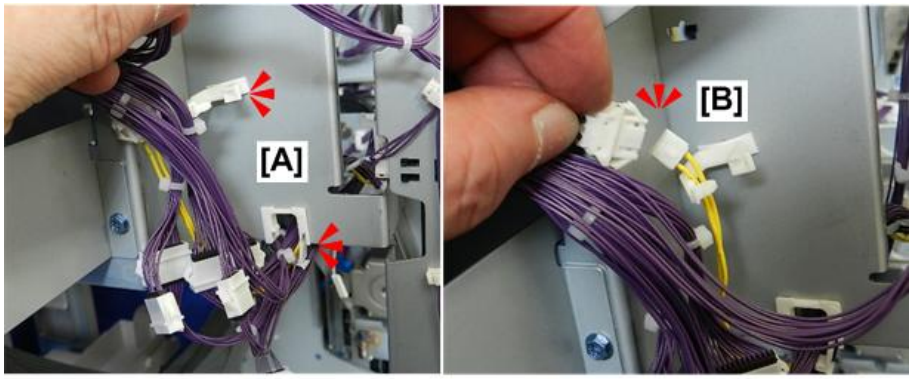
3. Connectors ( x2, x4)



d7340065

4. Free harnesses [A] (x2).

5. Disconnect small harness [B] (x1)

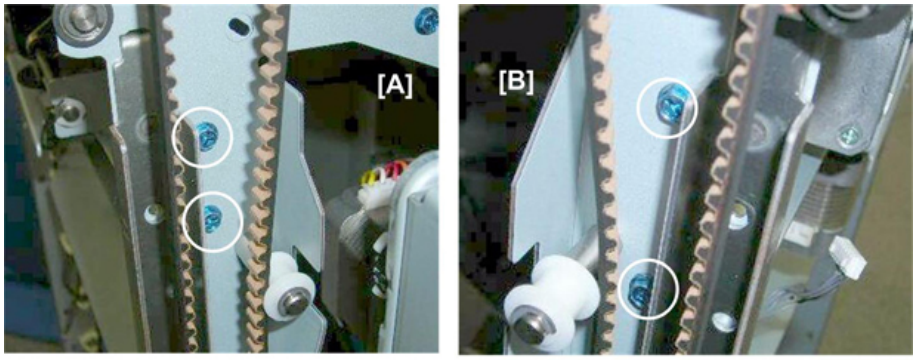



d7340066

6. Remove:

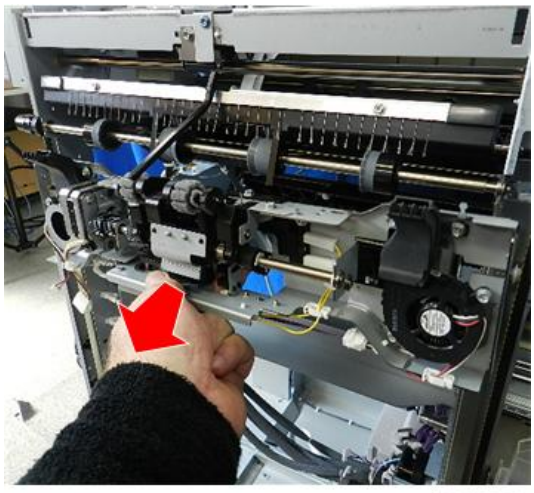
[A] Front (x2)

[B] Rear (x2)




d434r157

7. Remove the drag roller unit.



d7340067

# Horizontal Paper Feed

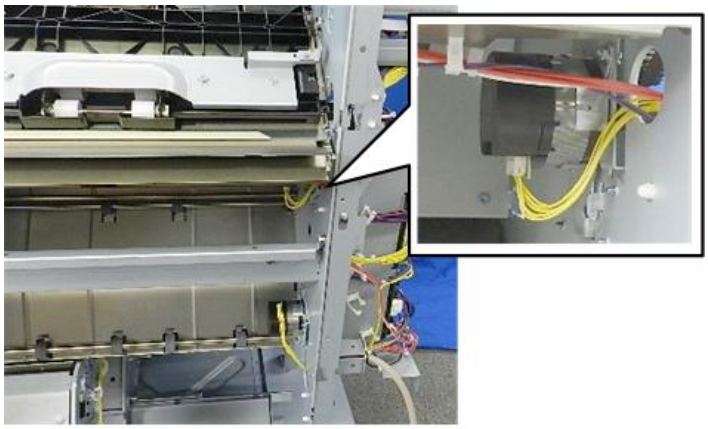
## Entrance

### Entrance Roller Motor

**Preparation**

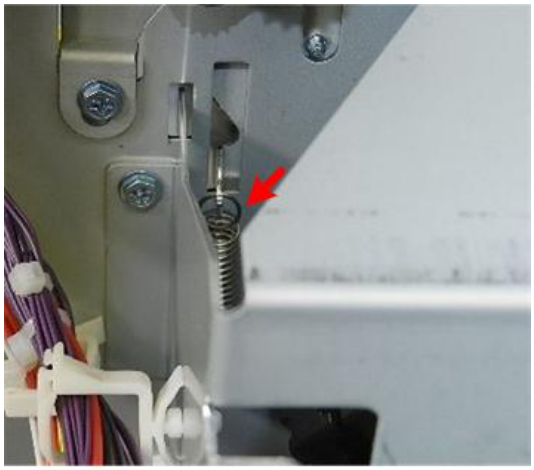
- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)
- Right panels (Upper, Lower Right Panels)

1. The entrance roller motor is under the paper entrance guide.



d7340068

2. A tension spring is attached to the motor bracket behind the main control board. The main control board mounting bracket must be removed in order to remove and re-attach this spring.

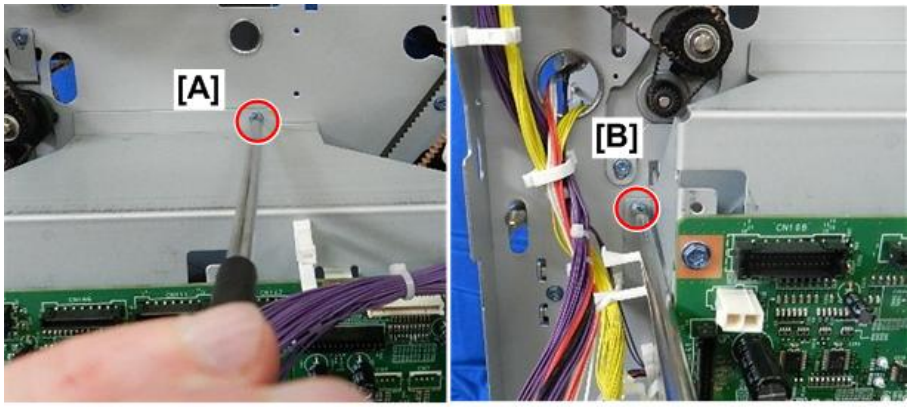


d7340069

3. Disconnect the main board (x17, x44).

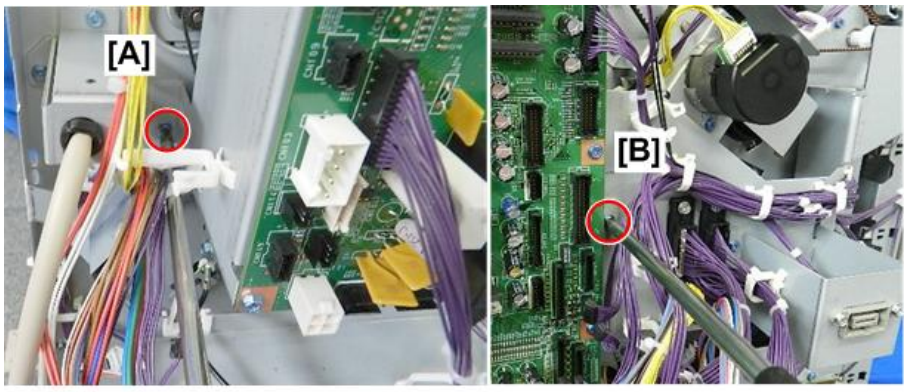
d7340070

4. Disconnect the board bracket at the top [A] and upper left corner [B] ( x2).



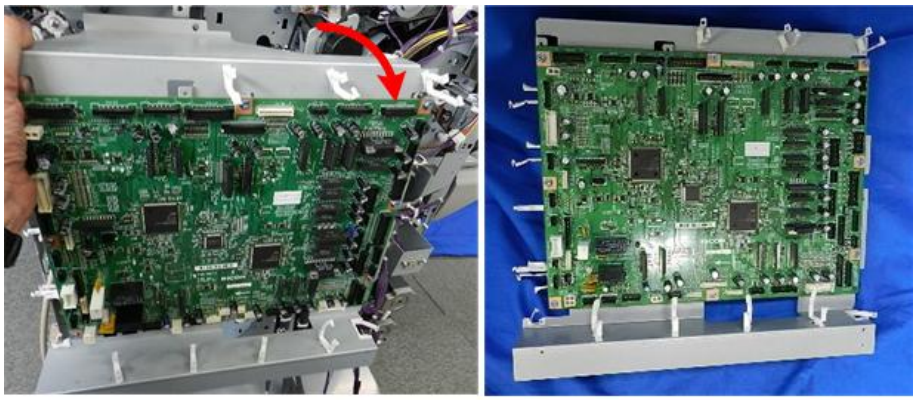

d7340071

5. Disconnect the board bracket at lower left corner [A] and right edge of the board [B] ( x2).



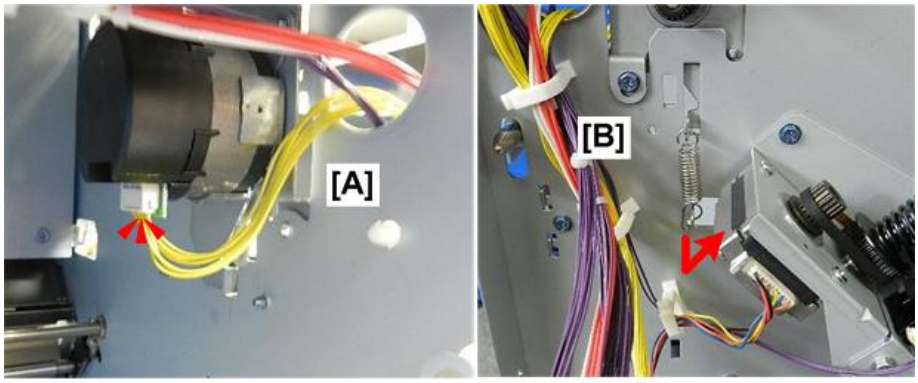

d7340072

6. Remove the bracket with main board attached.



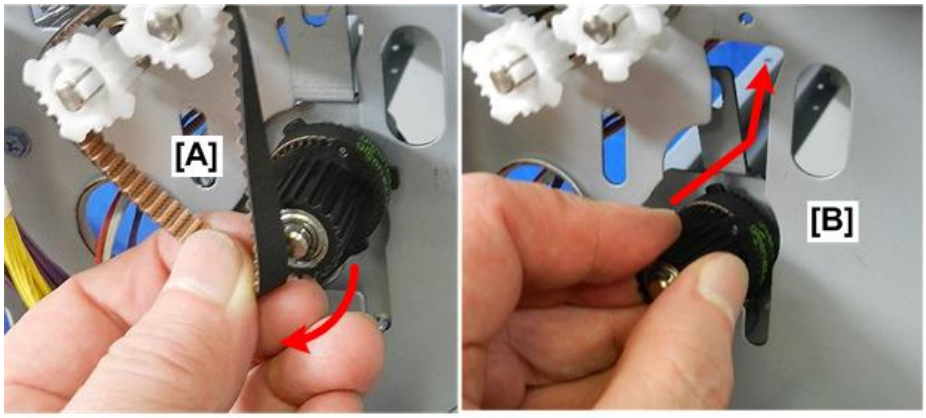
d7340073

7. On the other side of the frame [A] disconnect the motor (x1).
8. On the front of the frame [B] remove spring (x1).



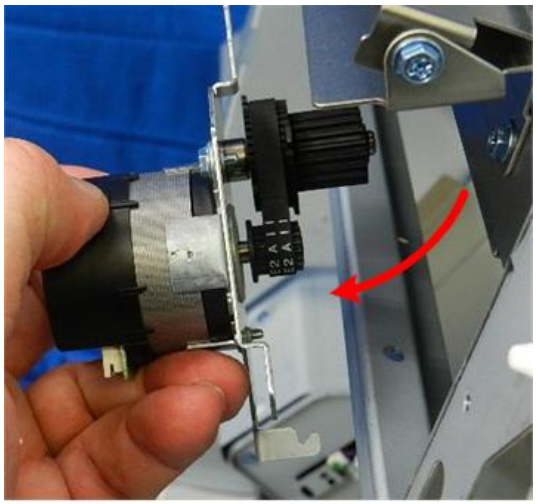

d7340074

9. Disconnect belt [A] (x1).
10. Twist and push the bracket through frame [B].



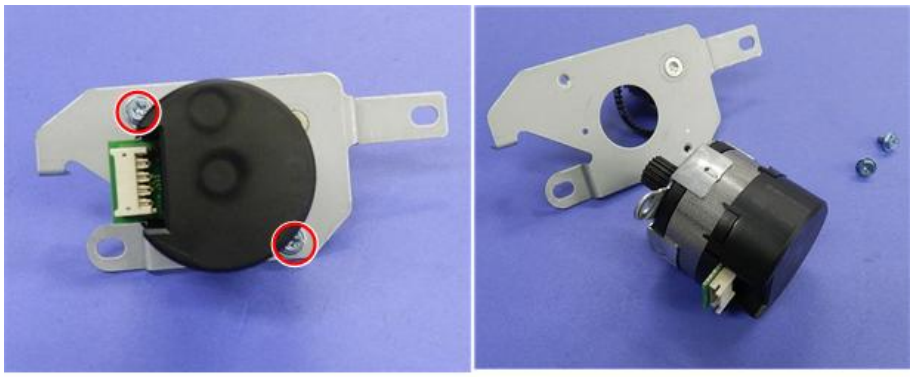

d7340075

11. Remove bracket (with motor attached) from under entrance guide.



d7340076

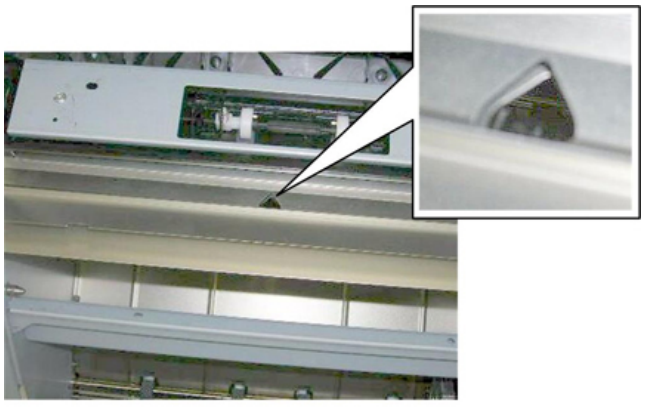
12. Separate motor and bracket ( x2).



d7340077

## Entrance Sensor

1. The entrance sensor port is above the paper guide.

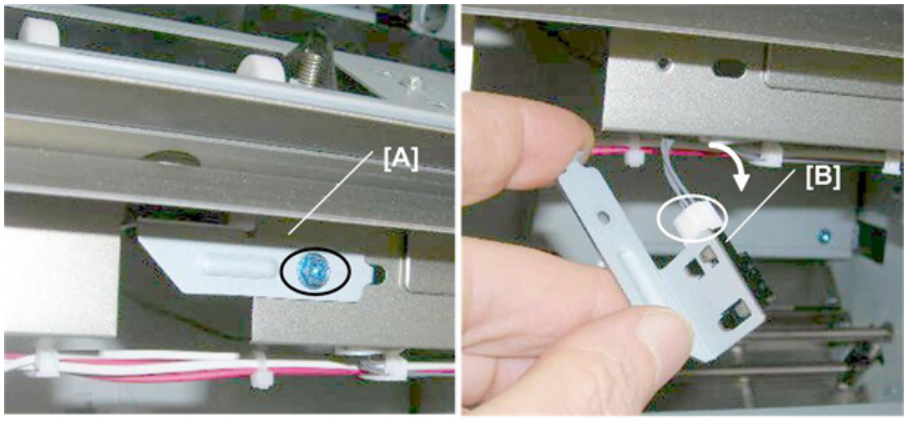


d434r164

2. Remove:

   [A] Sensor bracket ( x1)

   [B] Sensor ( x1, x5)




d434r165

## Registration

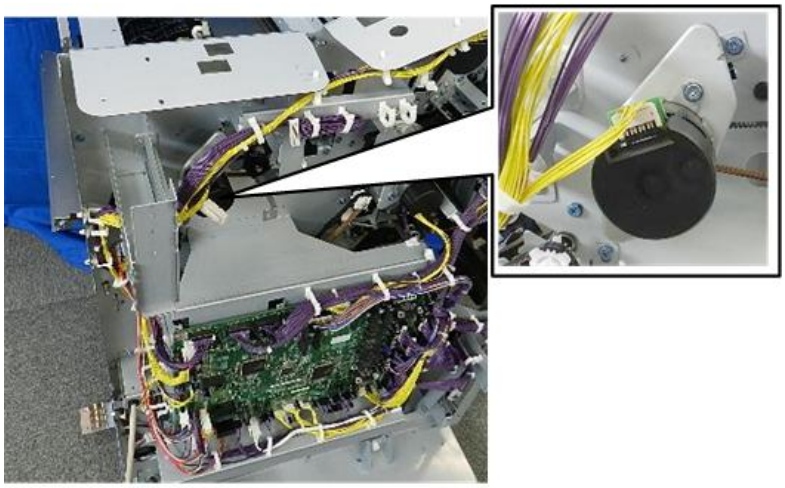
### Registration Motor

**Preparation**

Remove:

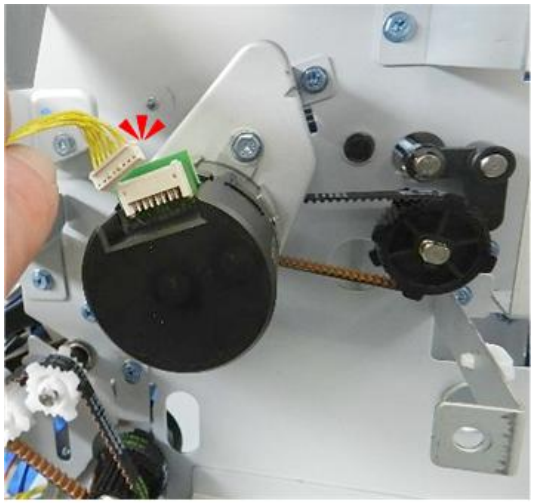
- Rear upper cover (Rear Upper Cover)

1. The registration motor is above the main board bracket at the rear.



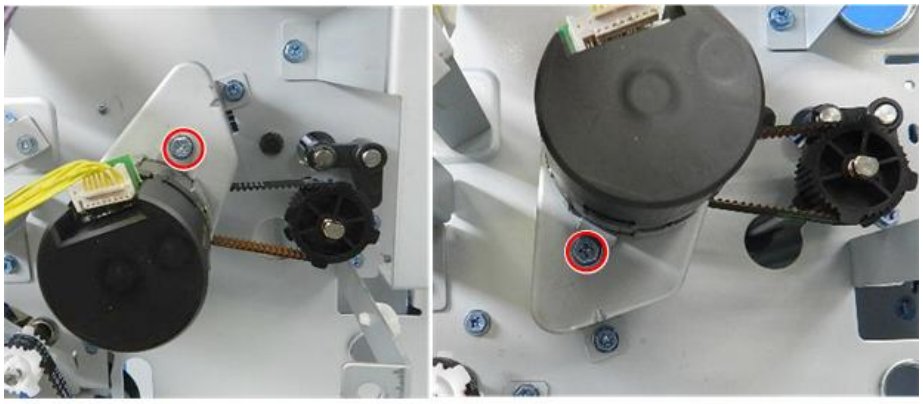
d7340078

2. Disconnect motor ( x1).



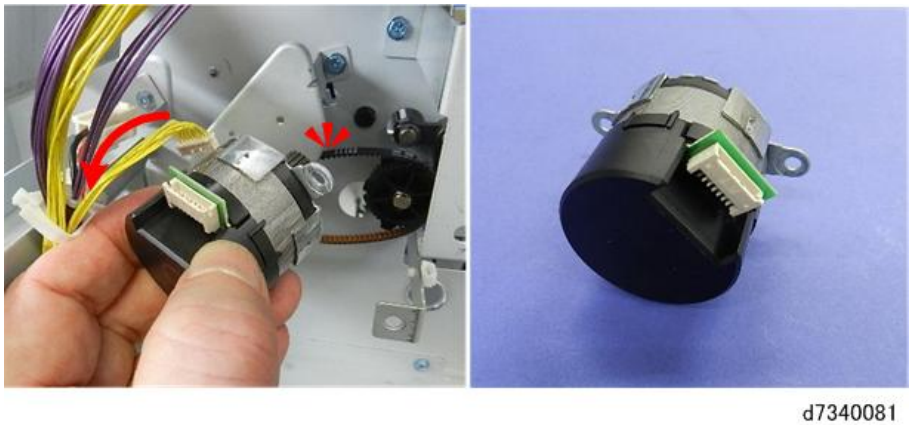
d7340079

3. Disconnect bracket ( x2).



d7340080

4. Remove motor ( x1).



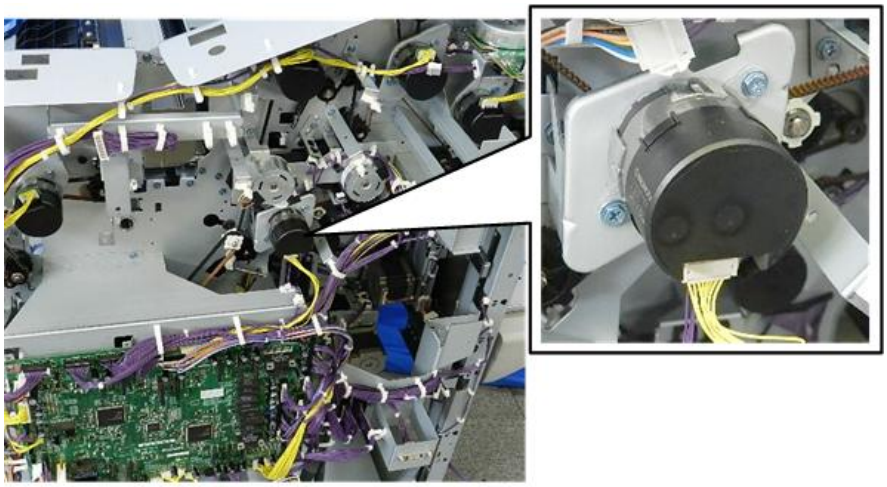
d7340081

## Horizontal Transport Motor

### Preparation

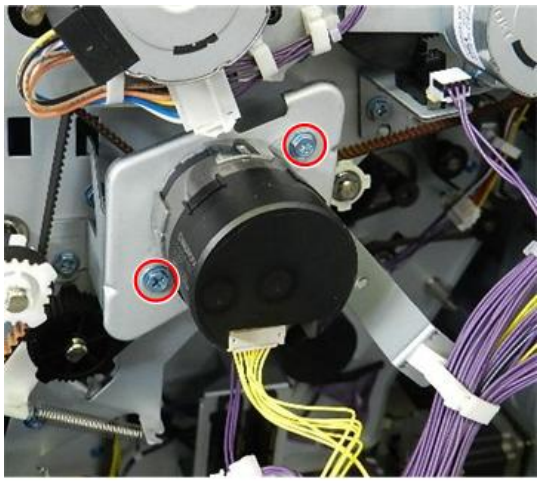
- Rear upper cover (Rear Upper Cover)

1. The horizontal exit motor is above the right upper corner of the main board.



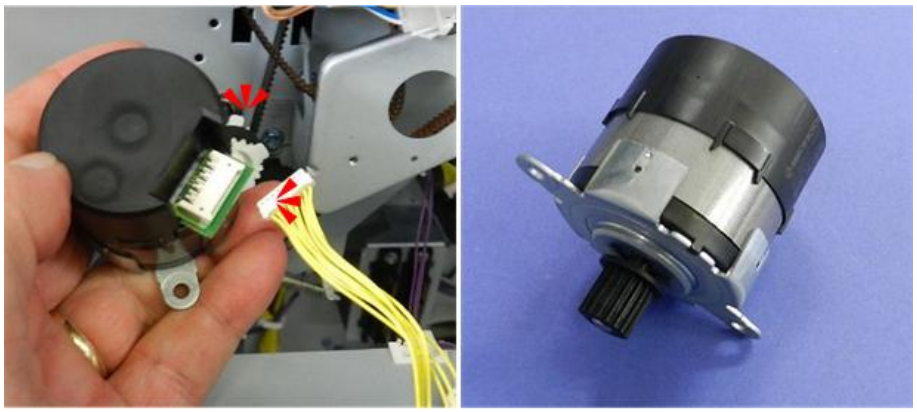
d7340082

2. Disconnect motor bracket ( x2).



d7340083

3. Disconnect and remove motor ( x1, x1).



d7340084

# Proof Tray

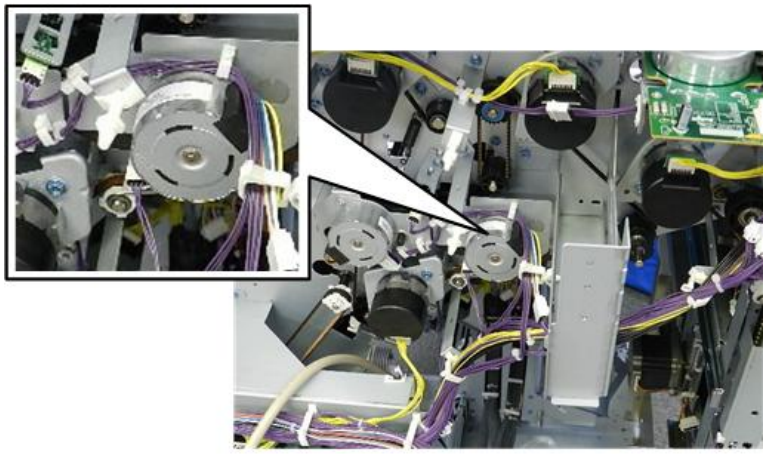
## Proof Tray Motors

### Proof Tray JG Motor

**Preparation**

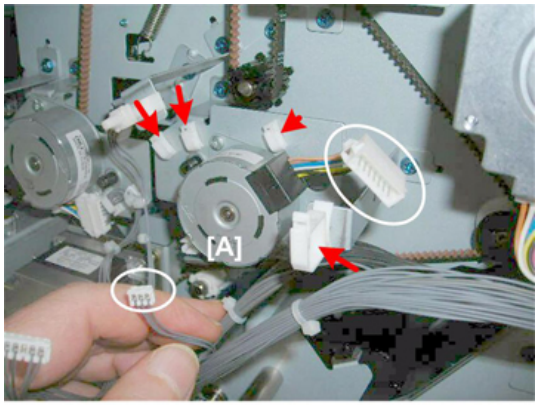
- Rear upper (cover (Rear Upper Cover)
- Punch unit PCB (Punch Unit PCB)

1. The proof tray JG motor is located here.



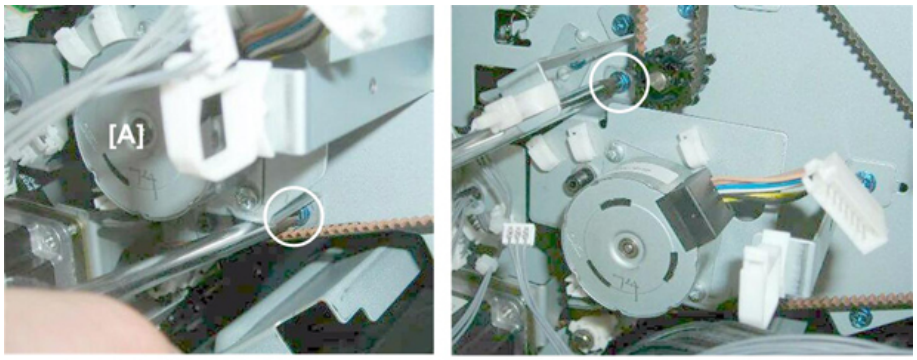
d7340088

2. Disconnect motor [A] ( x4, x2)



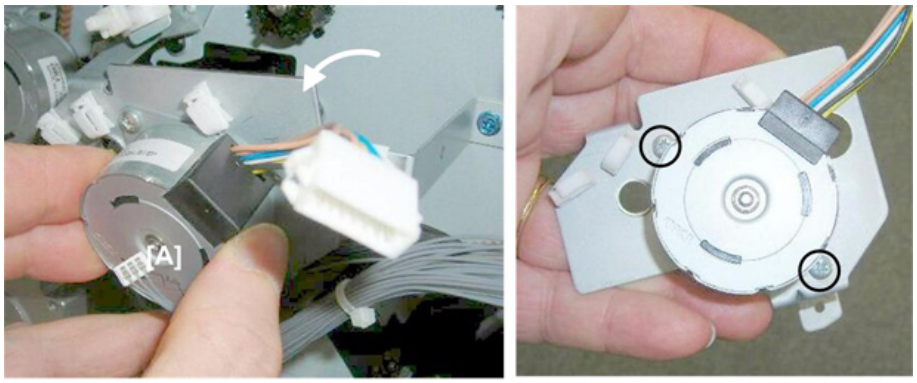

d434r186

3. Bracket of the motor [A] (x2)




d434r187

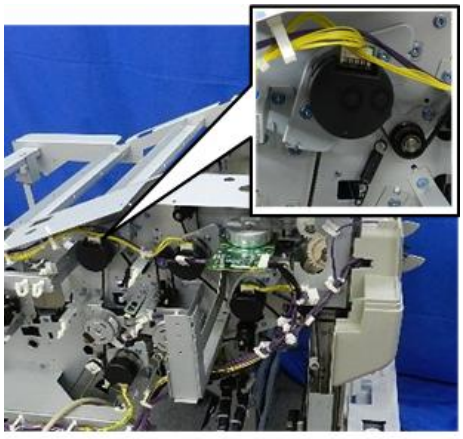
4. Remove:
   [A] Motor with bracket
   [B] Bracket (x2)




d434r188

## Proof Tray Vertical Transport Motor

The proof tray vertical transport motor is located here, partially covered by the punch unit PCB (if the punch unit has been installed.)



d7340089

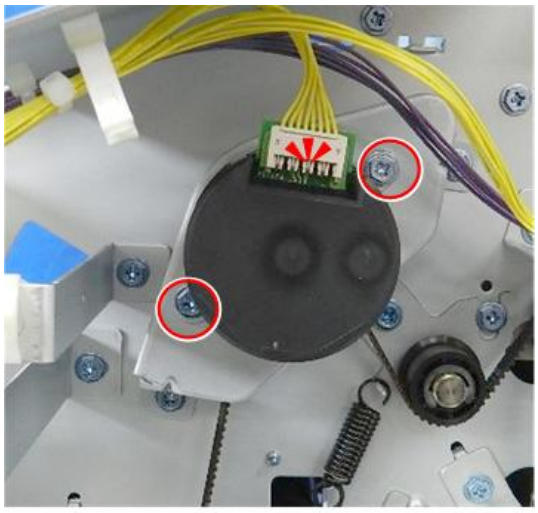
**Preparation**

Remove:

- Rear upper cover (Rear Upper Cover)

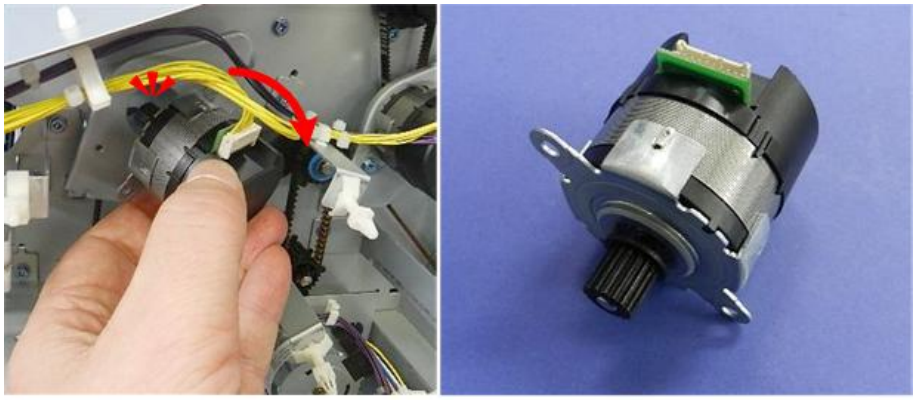
- Top rear cover (Top Rear Cover)
- Punch unit PCB (Punch Unit PCB)

1. Disconnect motor and bracket (x1, x2).



d7340090

2. Remove motor (x1).



d7340091

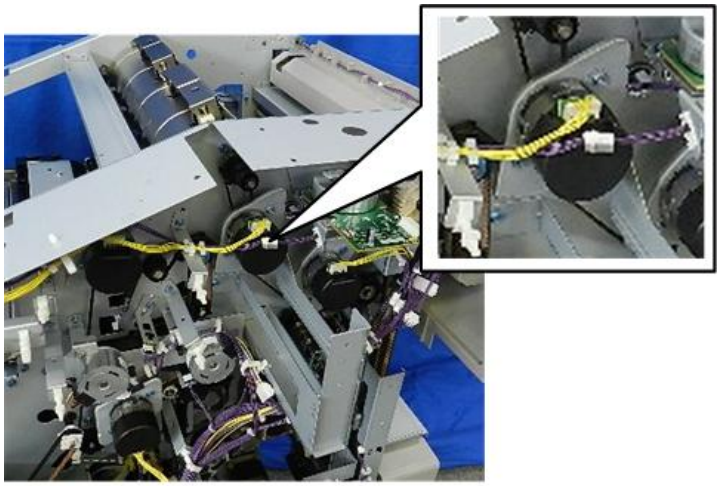
## Proof Tray Exit Motor

**Preparation**

Remove:

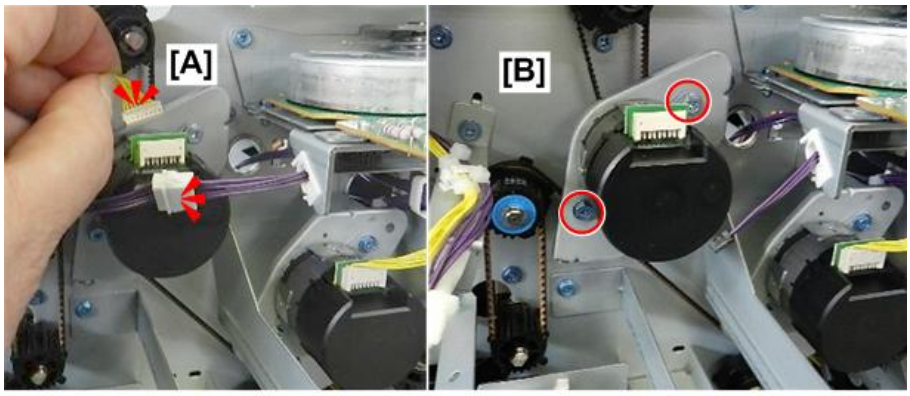
- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)
- Top rear cover (Top Rear Cover)

1. The proof tray exit motor is located here.



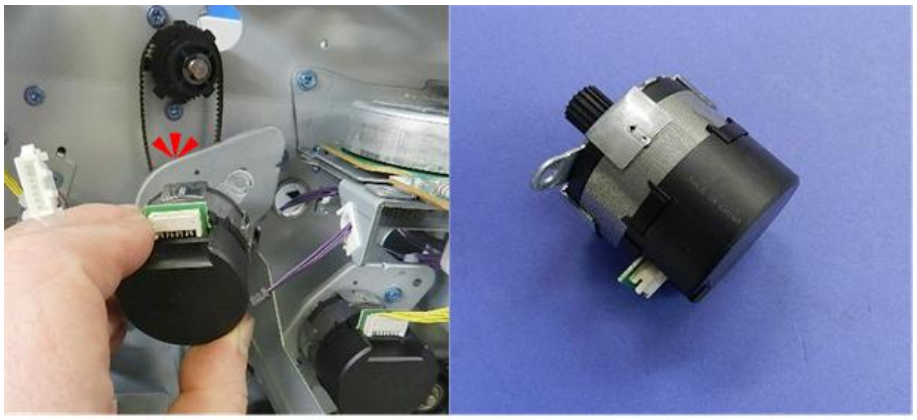
d7340092

2. Disconnect motor and harness in front of motor [A] ( x2).
3. Disconnect motor from bracket [B] ( x2).




d7340093

4. Remove motor ( x1).



d7340094

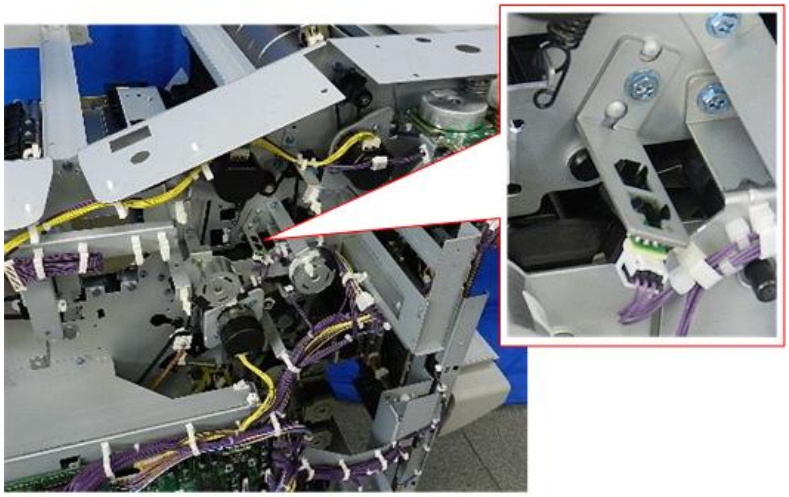
## Proof Tray Sensors

### Proof Tray JG HP Sensor

**Preparation**

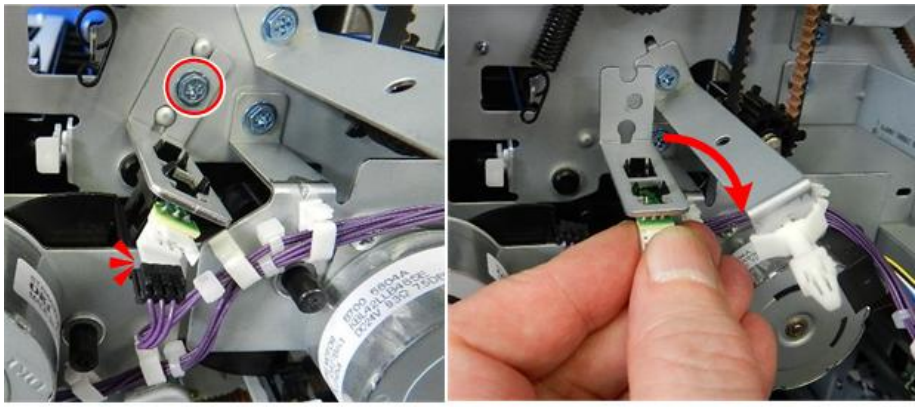
- Rear upper cover (Rear Upper Cover)

1. The proof tray junction gate HP sensor is located here.



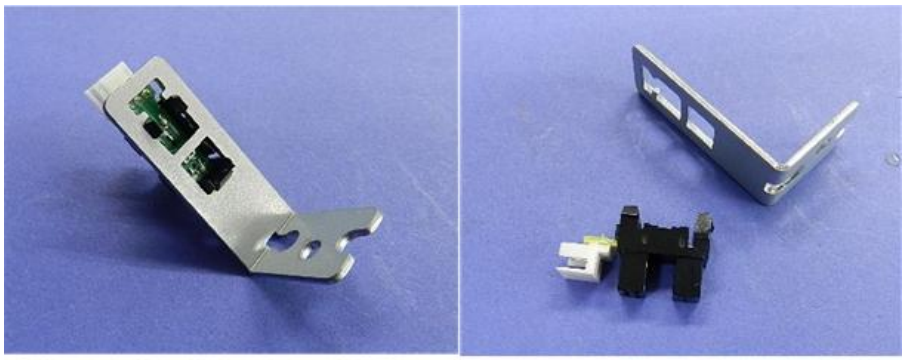
d7340095

2. Disconnect sensor and bracket and then remove bracket (with sensor attached) ( x1, x2).



d7340096

3. Separate sensor and bracket ( x4).



d7340097

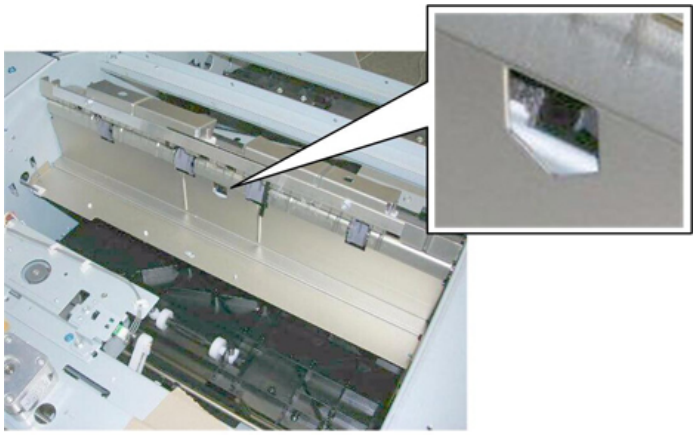
## Proof Tray Exit Sensor, Proof Tray Full Sensor

**Preparation**

Remove:

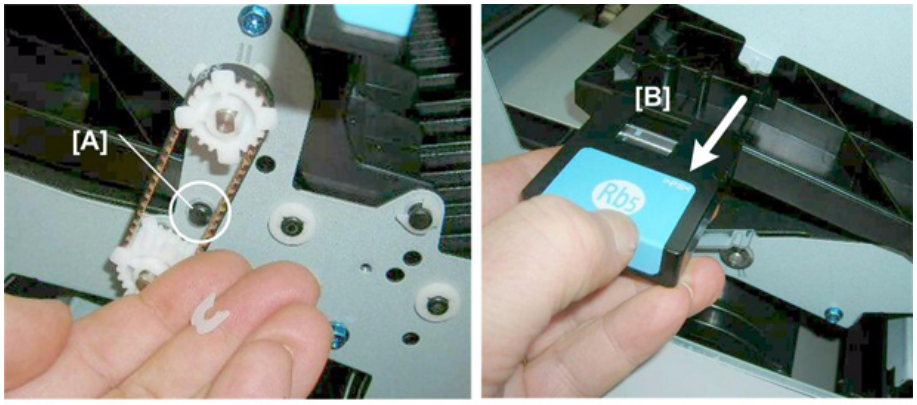
- Upper inner cover (Upper Inner Cover: Rb2, Rb8)
- Top rear cover (Top Rear Cover)
- Shift tray jogger unit (Shift Tray Jogger Unit)
- Left upper cover (Left Upper Cover)
- Proof tray (Proof Tray)

1. These sensors are mounted on the same bracket under the paper path cover.



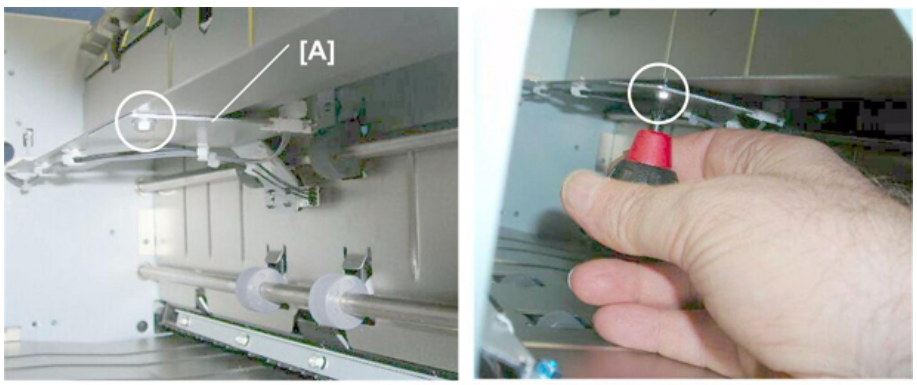
d434r198

2. At the front, disconnect the shaft [A] of plate Rb5. ( x1)
3. Remove **Rb5** [B]




d434r199

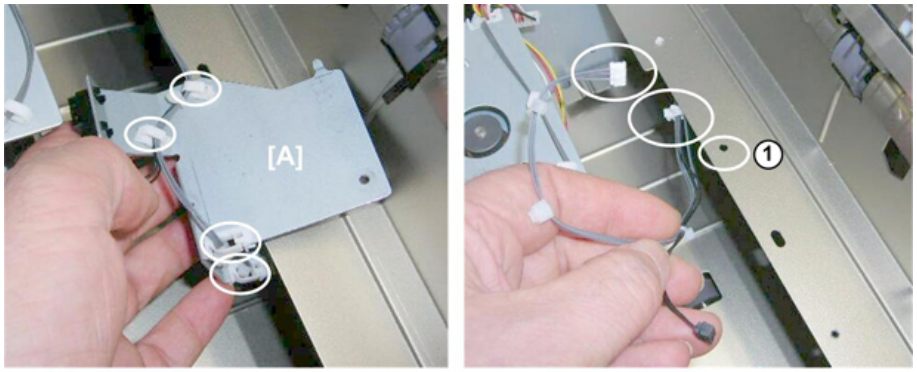
4. Use a short screwdriver to remove bracket plate [A]. ( x1)




d434r200

5. Use a pencil or marker to mark the color and location of the harnesses.

6. Disconnect a standoff ① to create slack in the harnesses.
7. Disconnect the bracket and sensors [A] (x4, x2).

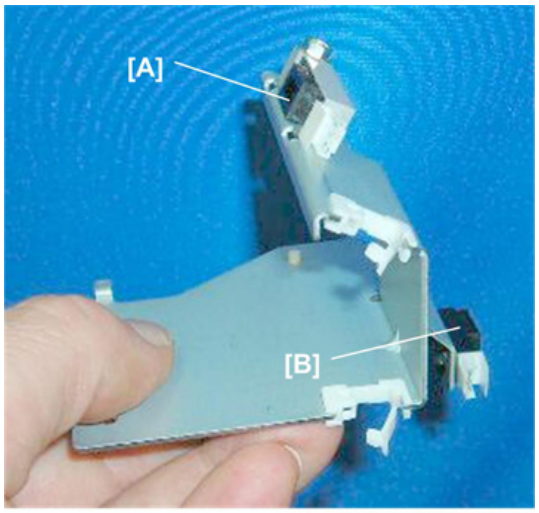



d434r201

8. Remove:

   [A] Tray full sensor (x1)

   [B] Tray exit sensor (x5)




d434r202

# Shift Tray

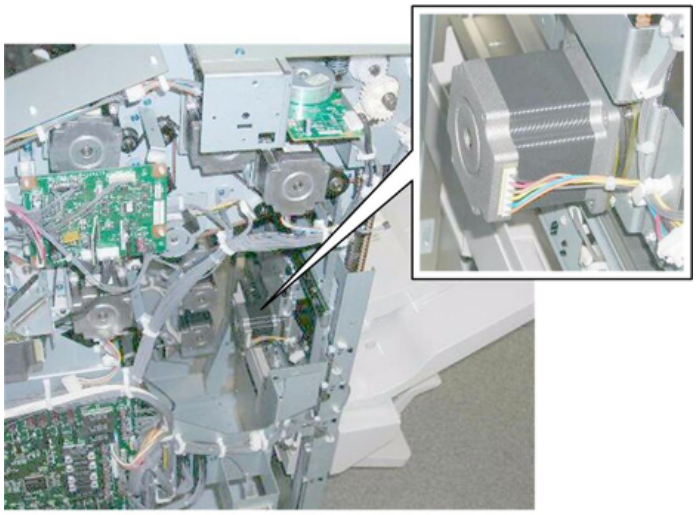
## Shift Tray Side-to-Side Movement

### Shift Motor

**Preparation**

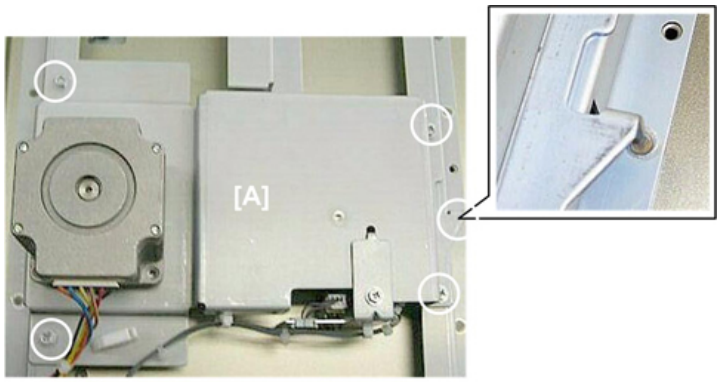
- Remove end fence (End Fence)

1. The shift motor is visible inside the machine, but the end fence must be removed for servicing this motor.



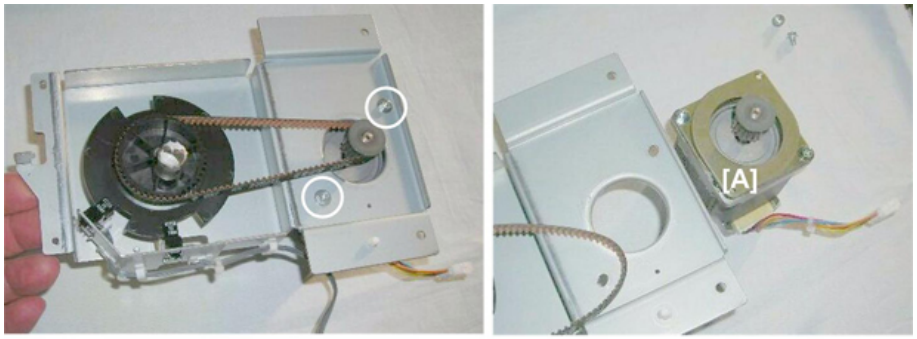
d434r203

2. Lay the end fence on a flat surface.
3. Remove bracket [A] (x4, x1)




d434r204

4. Turn the bracket over and remove the motor [A] (x2, x1)




d434r205

## Shift Tray HP Sensors (Front, Rear)

These sensors are mounted on the same bracket as the shift motor.

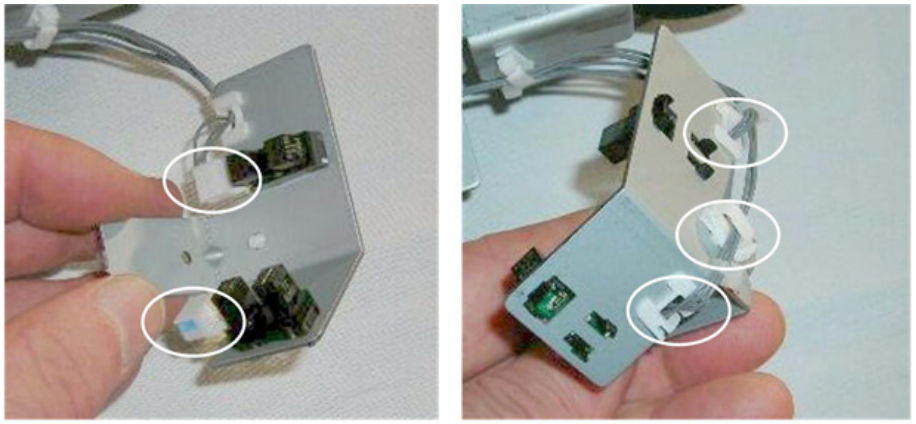
**Preparation**

- Remove end fence (End Fence)

1. Remove sensor bracket [A] (x1).


d434r206

2. Remove sensors (x2, x3, x 5 each)



d434r207

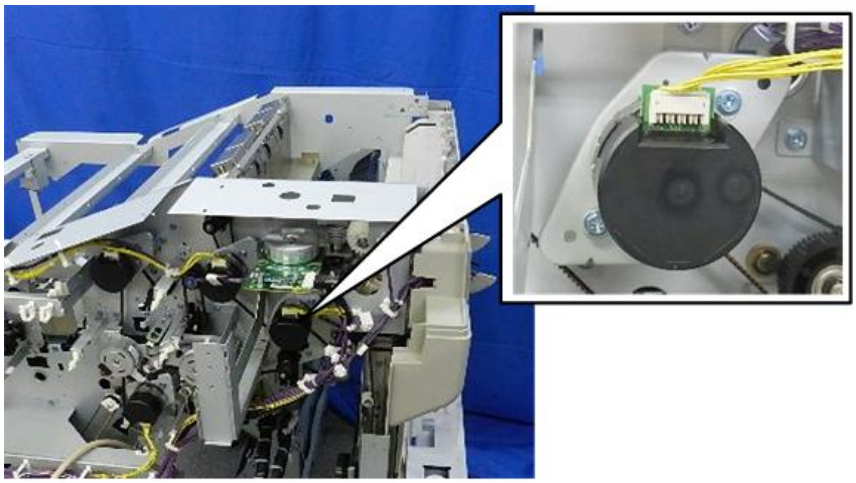
## Shift Tray Exit

### Shift Tray Exit Motor

**Preparation**

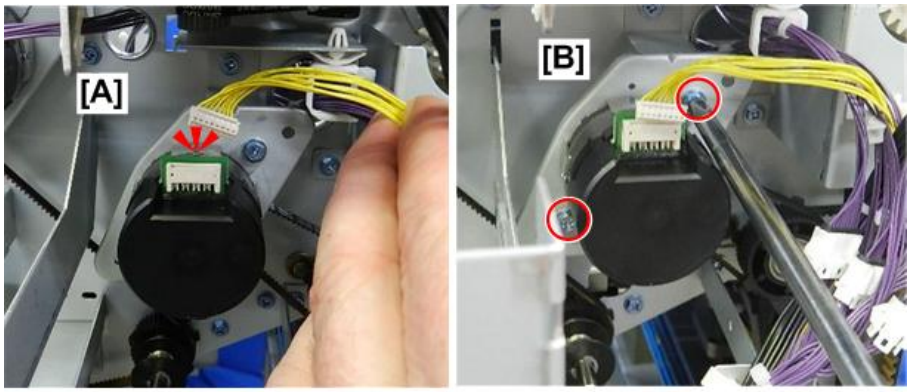
- Rear upper cover (Rear Upper Cover)

1. The shift tray exit motor is under the shift tray lift motor board.



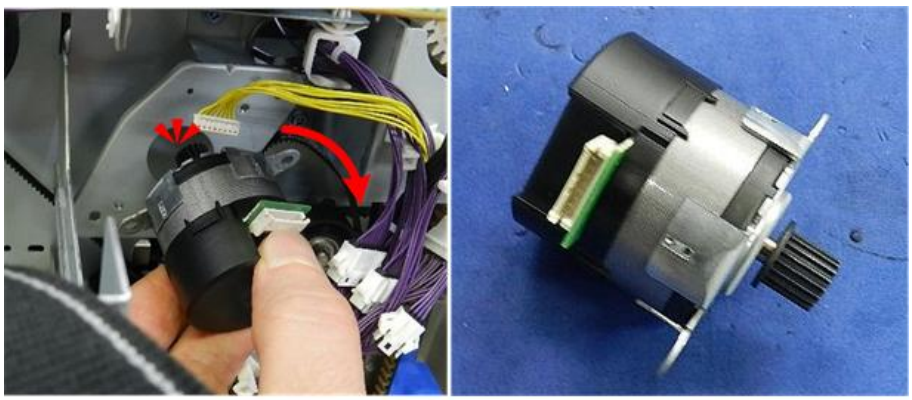
d7340085

2. Disconnect motor [A] (x1).
3. Disconnect bracket [B] ( x2).




d7340086

4. Remove motor (x1).



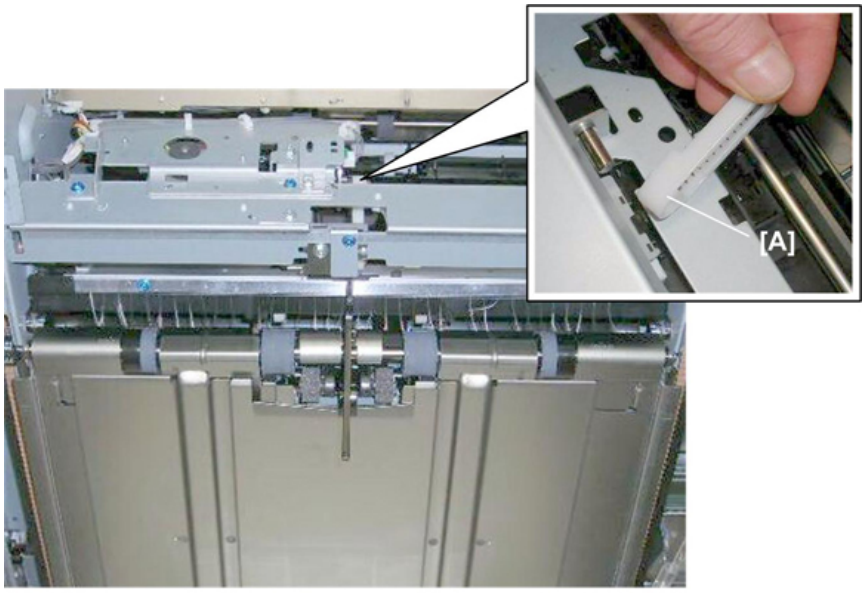
d7340087

## Shift Tray Exit Sensors (Long and Short)

**Preparation**

- Remove proof tray (Proof Tray)

1. Remove the lift arm [A] (x1)




d434r208

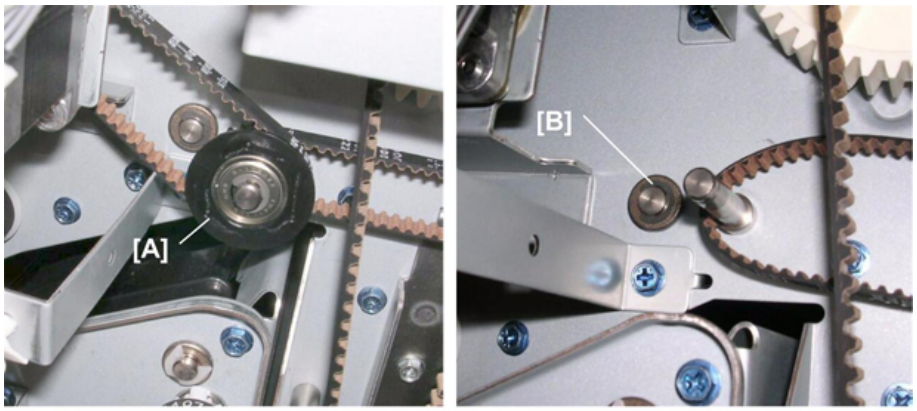
2. At the front, remove the bushing ( x1).


d434r209

3. At the rear, remove:

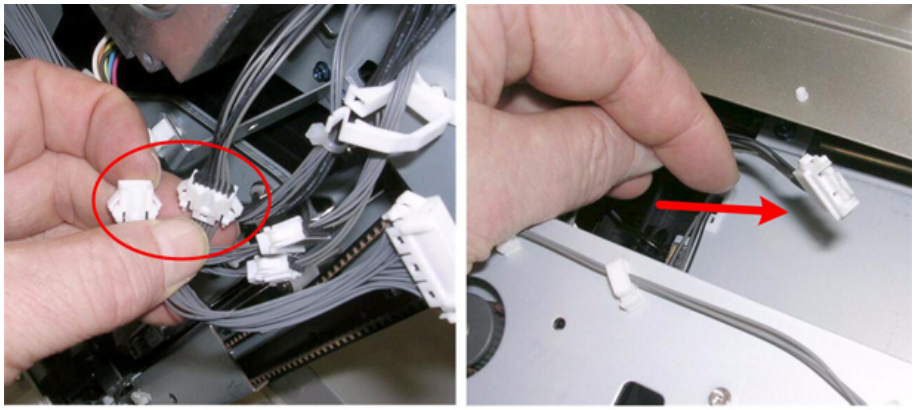
   [A] Gear (x1, x2)

   [B] Bushing ( x1)



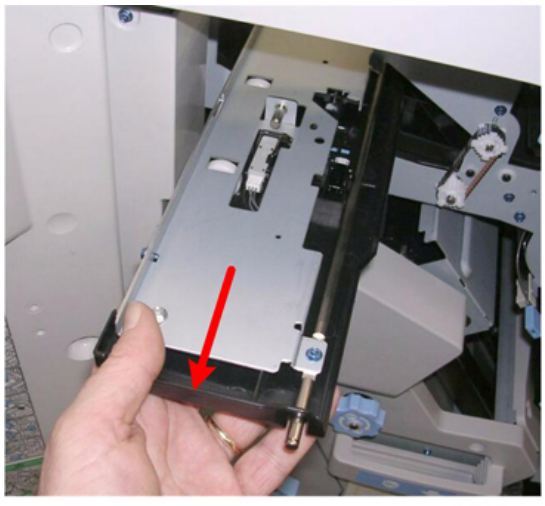

d434r209a

4. At the rear, disconnect the sensor harness.
5. Pull it though the hole into the machine.



d434r209b

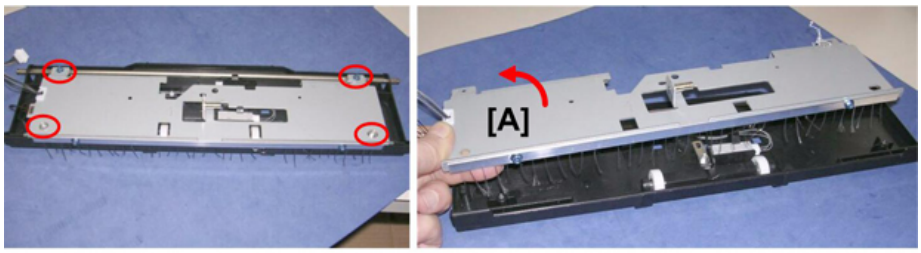
6. Pull the plate assembly out from the front of the machine.



d434r209c

7. Lay the assembly on a flat surface.

8. Remove the plate [A].

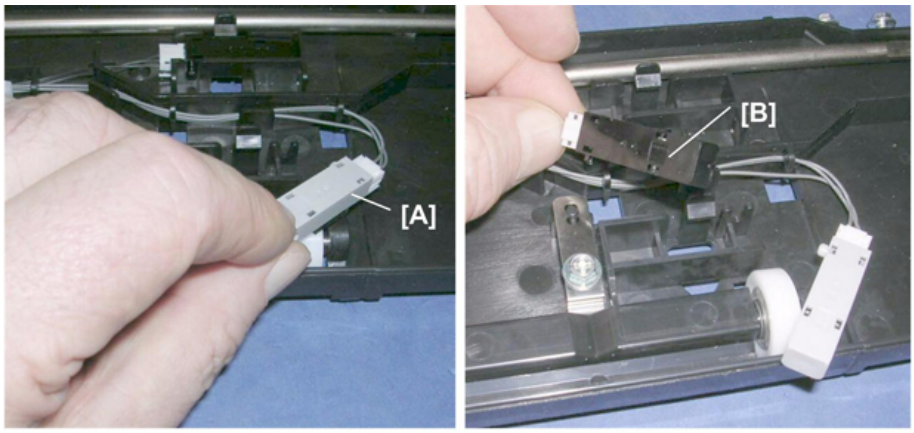



d434r209d

9. Remove:

[A] Exit sensor (long) ( x1, x1)

[B] Exit sensor (short) ( x1, x1)




d434r209e

## Drag Roller Motors, Sensors

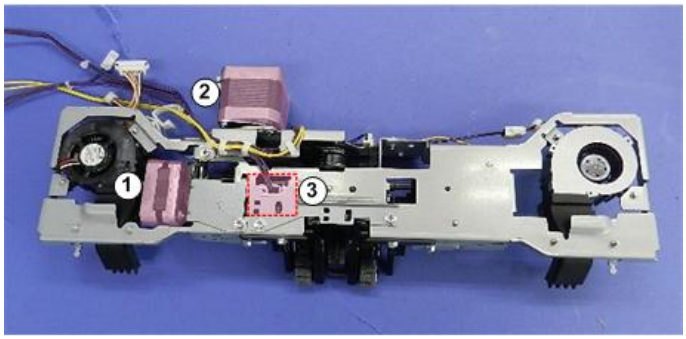
### Preparation

Remove:

- End fence (Proof Tray)
- Drag roller unit (Drag Roller Unit)

These three components require removal of the drag roller unit.

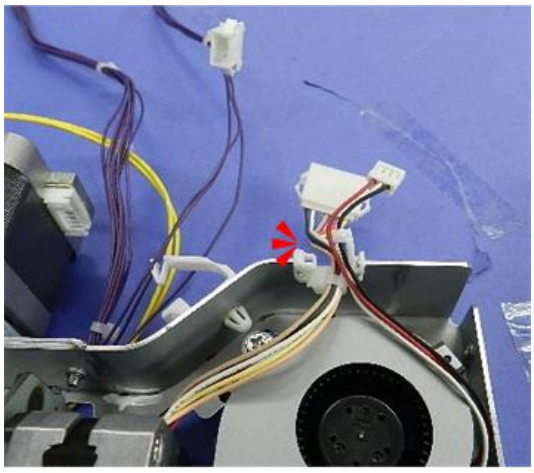
| | |
|---|---|
| ① | Drag roller motor |
| ② | Drag roller drive motor |
| ③ | Drag roller HP sensor |




d7340098

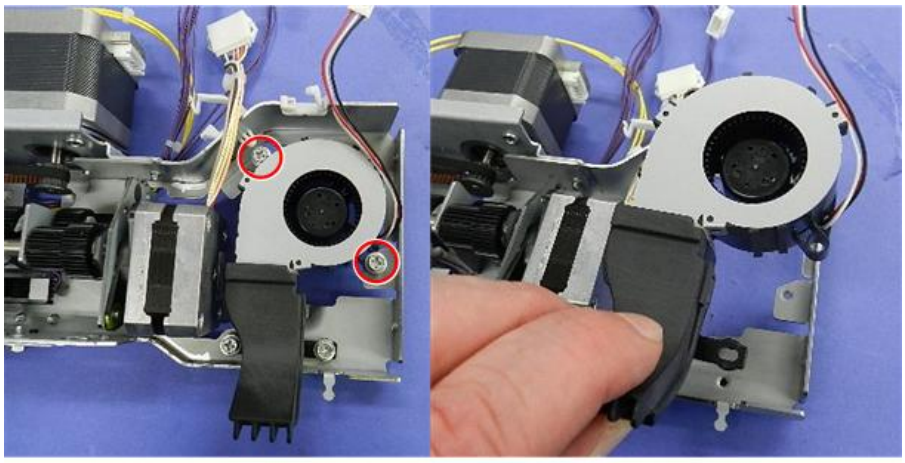
## Drag Roller Motor

1. Free the motor and fan harnesses (x1).



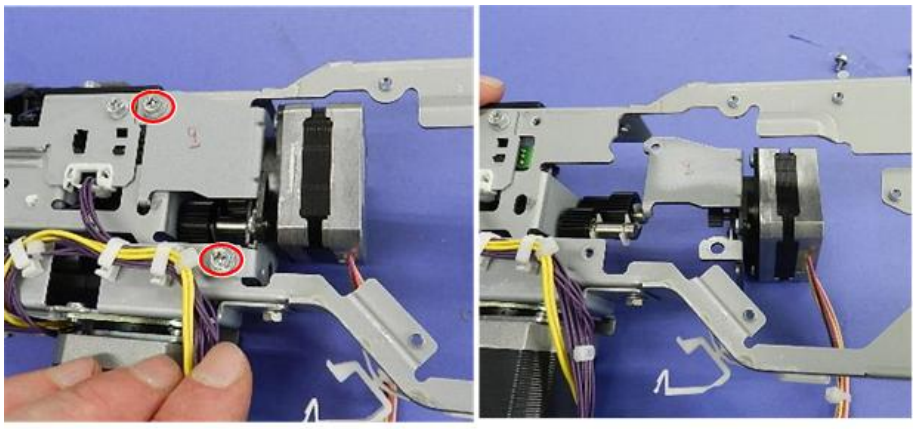
d7340099

2. Remove the fan (x2).



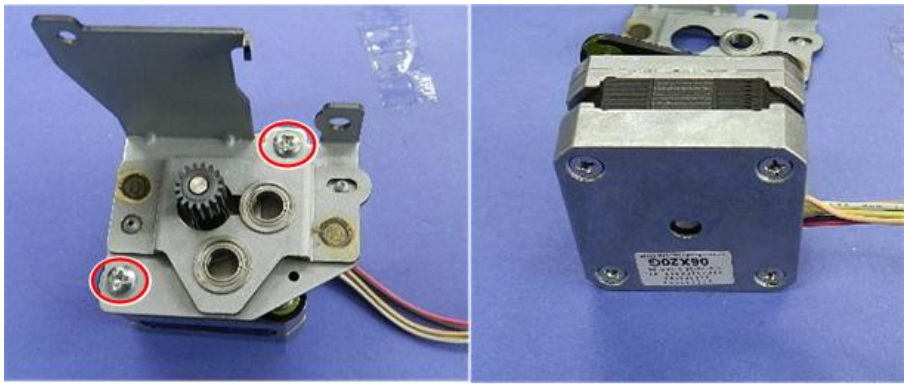
d7340100

3. Remove bracket (with motor attached) (x2).



d7340101

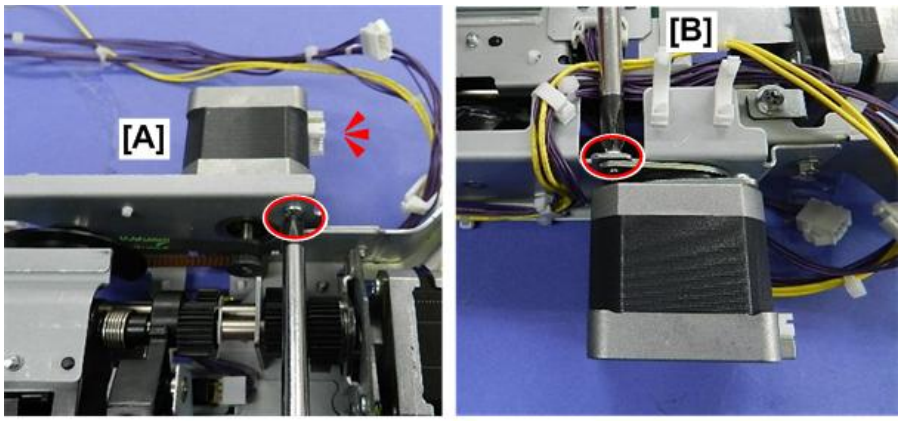
4. Separate motor and bracket (x2).



d7340102

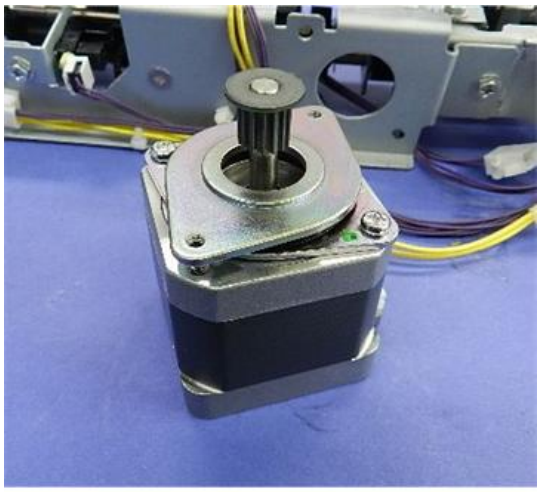
## Drag Roller Drive Motor

1. Disconnect motor at [A] (x1).
2. Turn the unit over, and then disconnect at [B] (x1).




d7340103

3. This disconnects the motor.



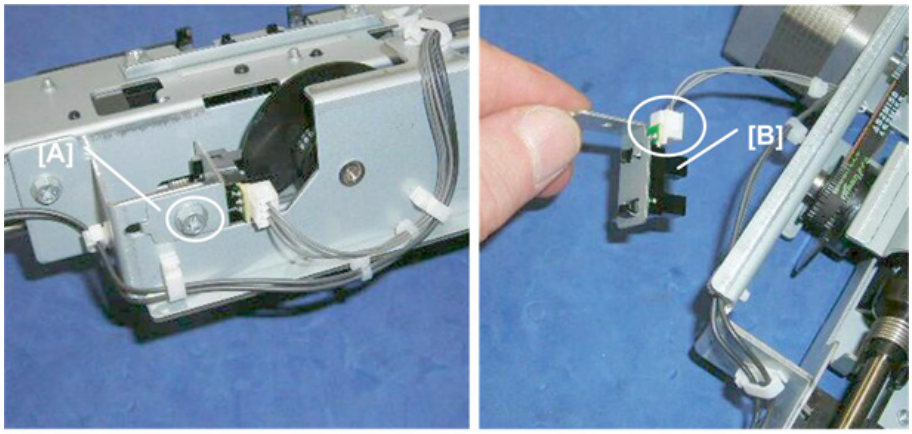
d7340104

## Drag Roller HP Sensor

1. Remove:

[A] Sensor bracket ( x1)

[B] Sensor ( x1, x5)

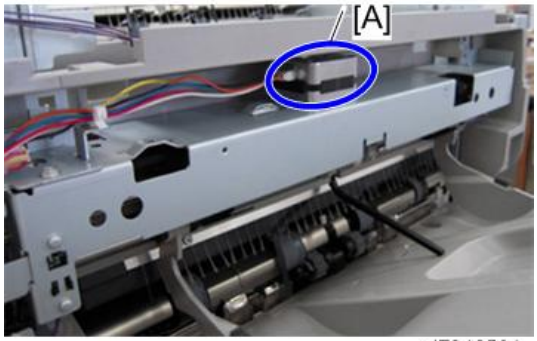



d434r215

## Shift Tray Jogger Unit

### Shift Jogger Motor

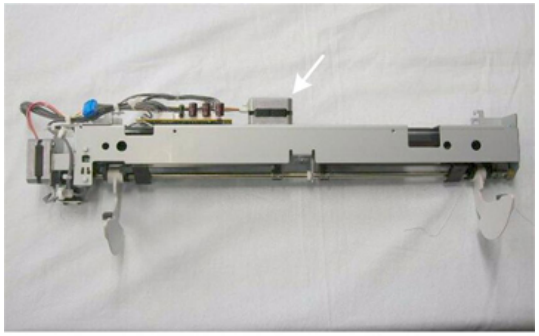
This motor [A] is on top of the shift tray jogger unit, near the center.




d7340501

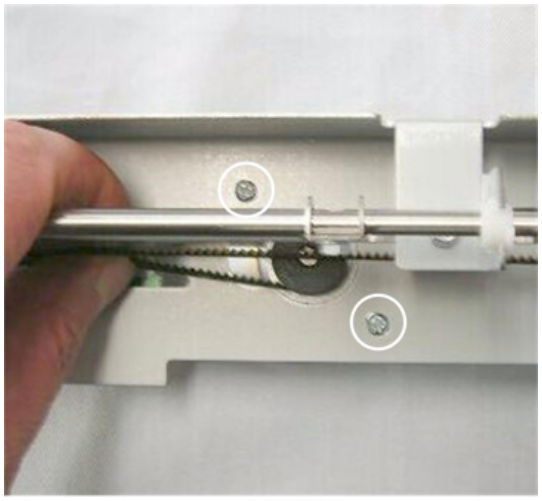
**Preparation**

- Shift tray jogger unit (Shift Tray Jogger Unit
- This is the location of the motor with the shift tray jogger unit removed.



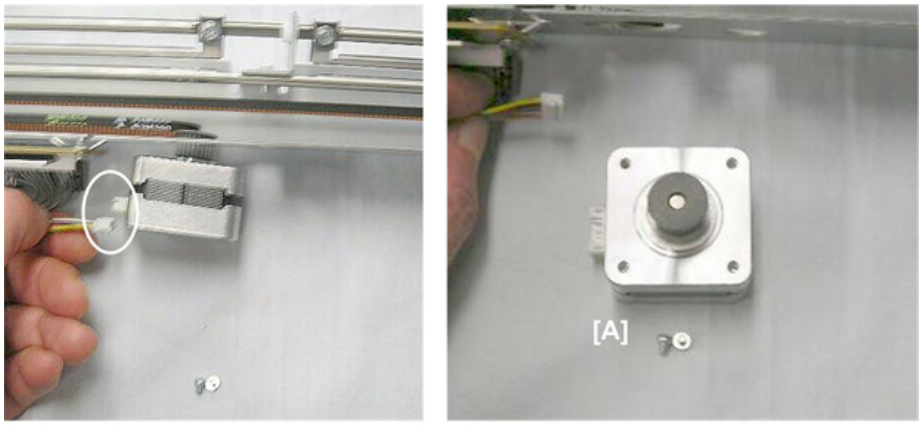
d434r218

1. Turn the unit over and disconnect the motor ( x2, x1).



d434r219

2. Disconnect motor [A] ( x1)



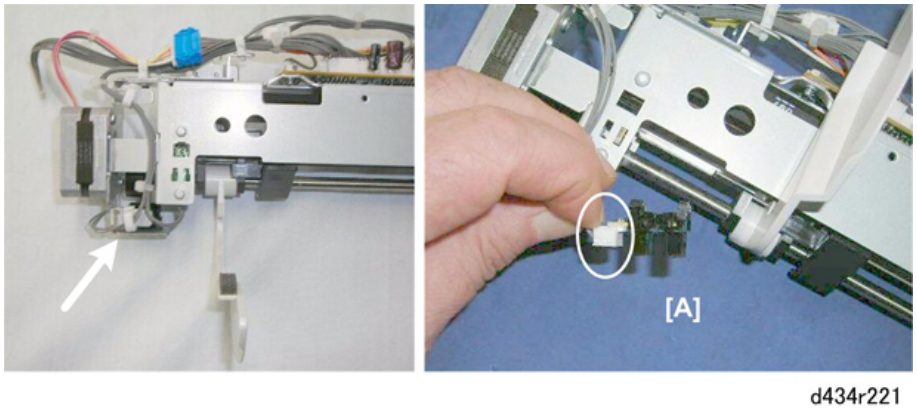

d434r220

## Shift Tray Jogger Fence HP Sensor

**Preparation**

- Shift tray jogger unit (Shift Tray Jogger Unit)

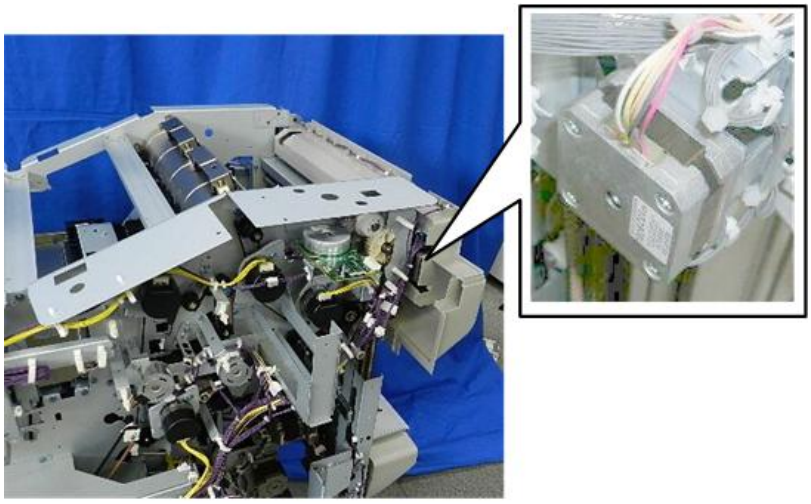
1. Remove sensor [A] ( x1, x5)




d434r221

## Shift Jogger Retraction Motor

This is the motor on the end of the shift tray jogger unit.

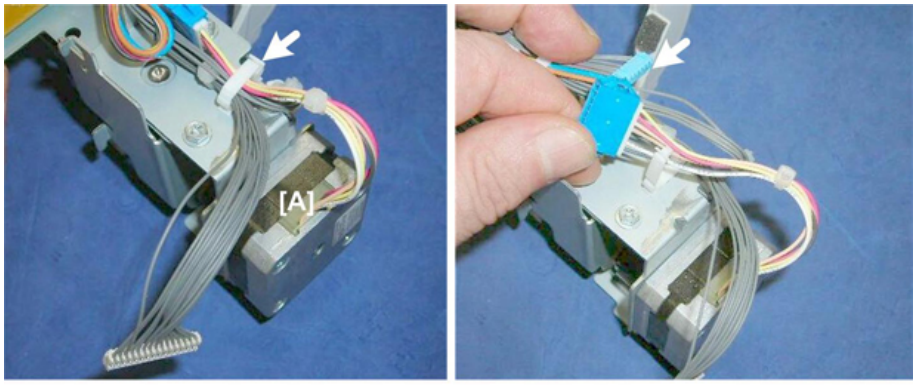


d7340105

### Preparation

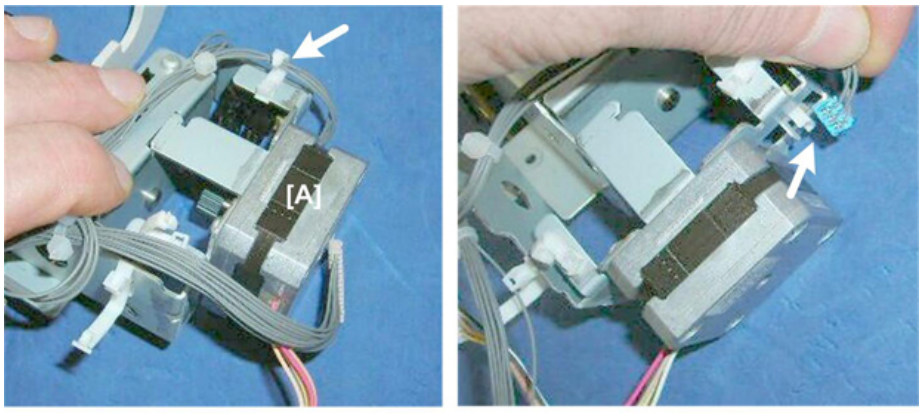
- Shift tray jogger unit (Shift Tray Jogger Unit)

1. Disconnect the motor harness [A] ( x1, x1)



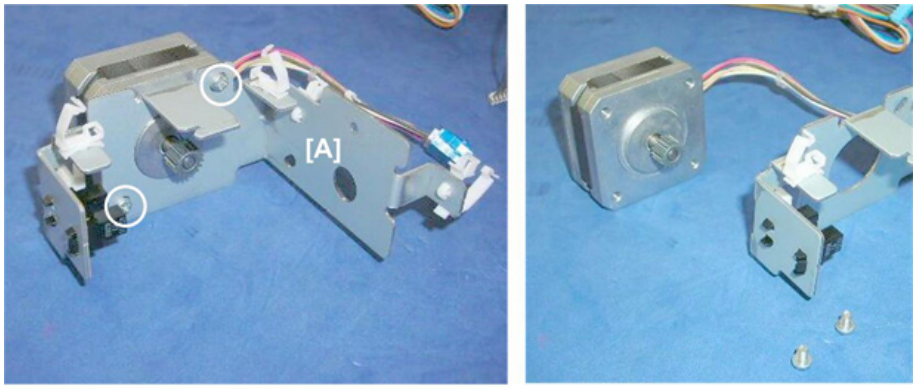

d434r223

2. Disconnect the retraction HP sensor on the same bracket as the motor [A] ( x1)




d434r224

3. Disconnect motor bracket [A] ( x1, x2)




d434r225

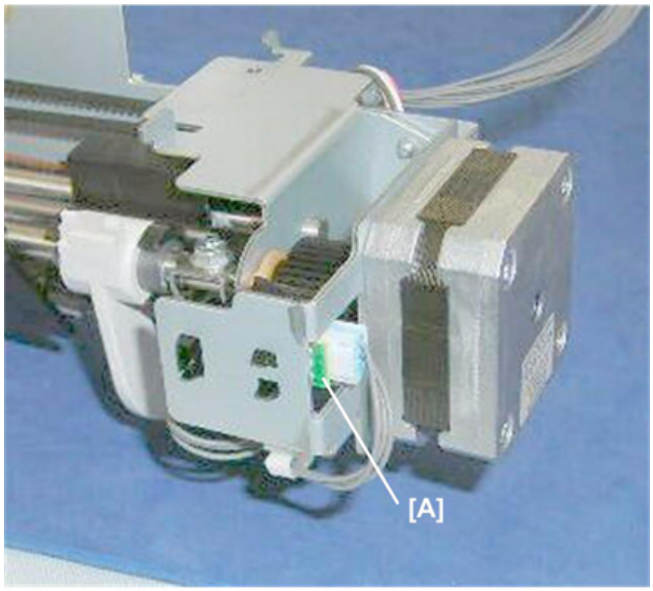
### Shift Jogger Fence Retract HP Sensor

**Preparation**

- Shift tray jogger unit (Shift Tray Jogger Unit)
- Remove sensor [A] ( x1, x5)

Note

- If it is difficult to remove the sensor directly from the frame (or re-install), do the procedure in the previous section to remove the shift jogger retraction motor bracket.




d434r226

## Shift Tray Operation

### Shift Tray Lift Motor

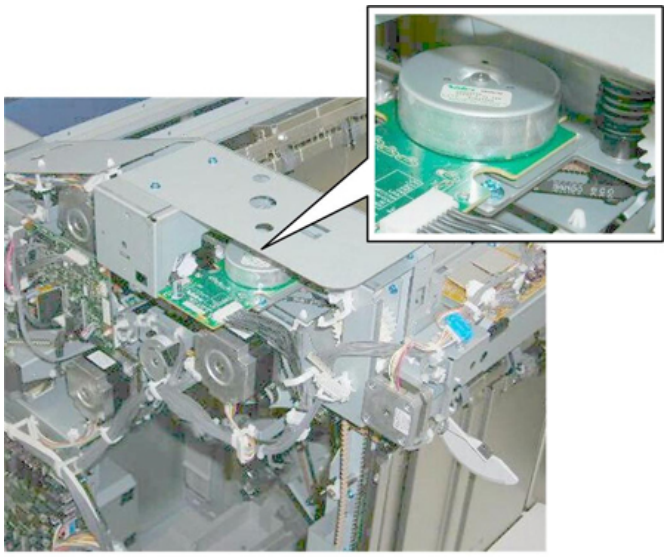
**Preparation**

Remove:

- Rear upper cover (Rear Upper Cover)
- Top rear cover (Top Rear Cover)

- Proof tray (Proof Tray)

1. The shift tray lift motor is near the left rear corner.



d434r227

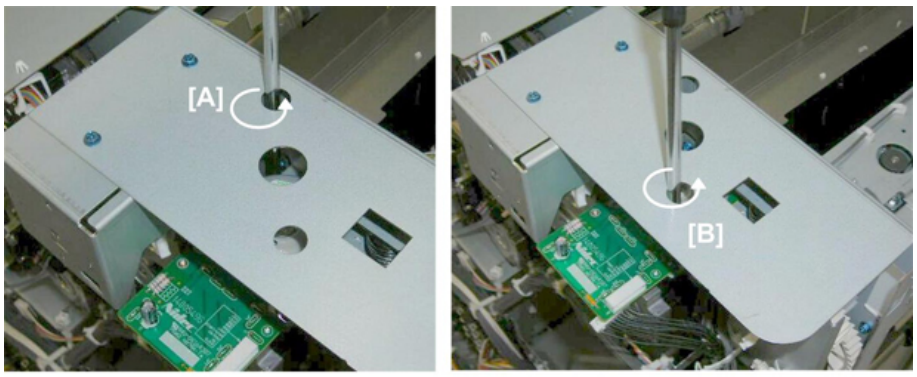
2. Disconnect the motor drive board ( x1).

d434r228

3. Remove:

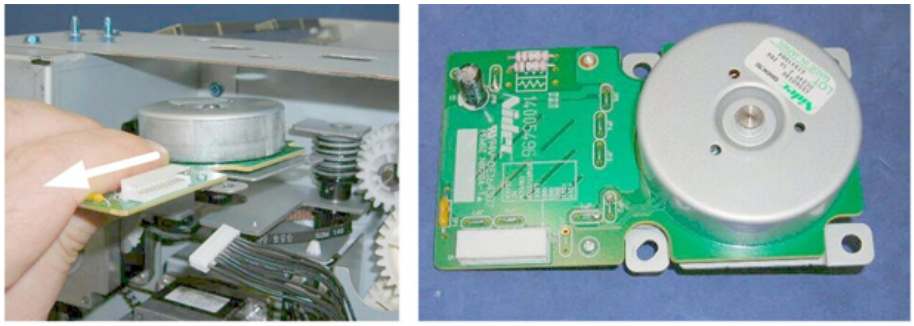
   [A] Rear ( x1)

   [B] Front ( x1)




d434r229

4. Pull the motor and drive board out.



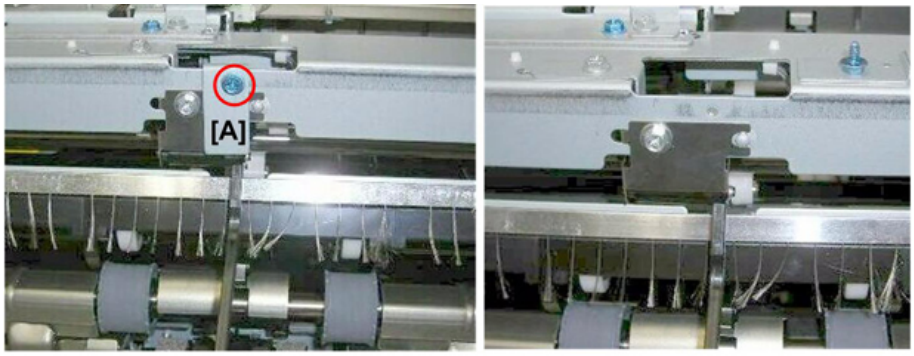
d434r230

## Paper Height Sensors 1, 2, 3 (Shift, Staple, Z-Fold)

**Preparation**

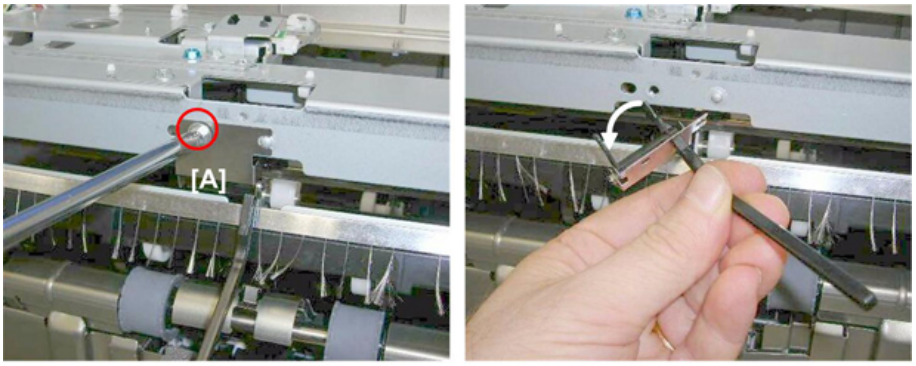
- Proof tray (Proof Tray)

1. Remove the protector plate [A] ( x1).



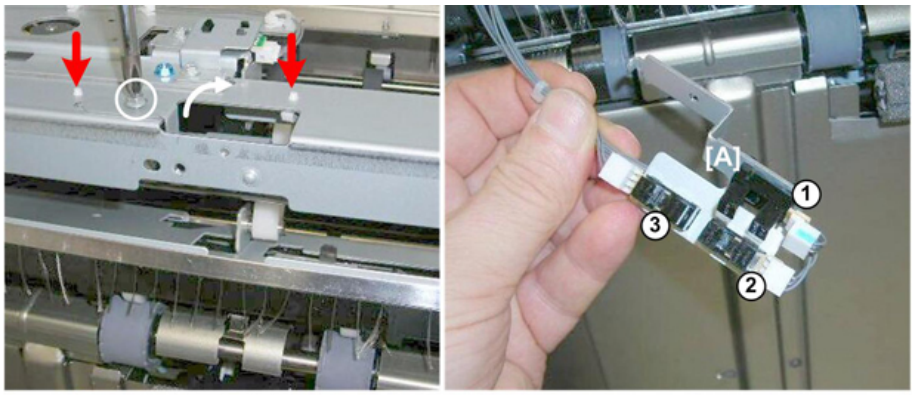

d434r231

2. Remove feeler [A] ( x1).




d434r232

3. Remove sensor bracket [A] ( x1, Standoffs x2)
4. Sensors ( x1 each)
   ① Paper Height Sensor 1: Staple Mode
   ② Paper Height Sensor 2: Shift Mode
   ③ Paper Height Sensor 3: Z-Fold Mode

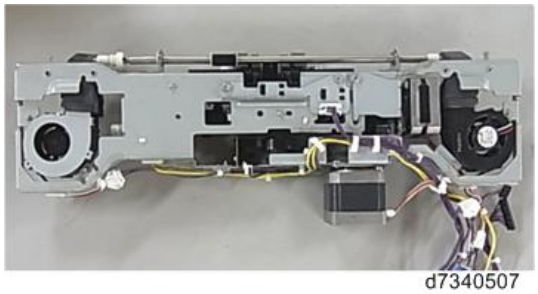



d434r233

## Paper Height Sensor (TE), Shift Tray Upper Limit Switch

The actuator of the paper height sensor performs two functions:

- First, it rises and actuates the Paper Height Sensor (TE) to detect tray full.
- Second, if the actuator rises far enough through the gap of the paper height sensor (TE) it will trip the arm of the shift tray upper limit switch. This is a fail-safe device to switch the finisher off if one or more other sensors fail.



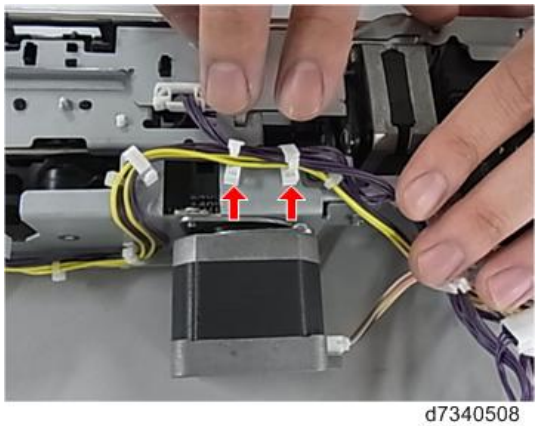
d7340507

**Preparation**

- End fence (End Fence)
- Drag roller unit (Drag Roller Unit)

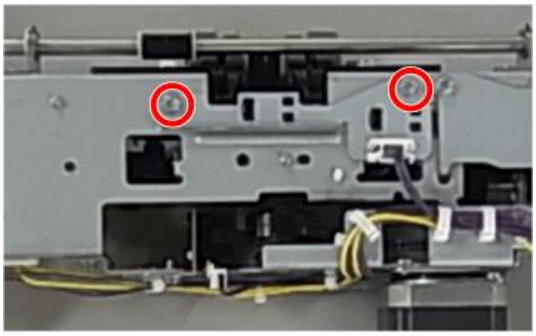
**Paper Height Sensor (TE)**

1. Open clamps above motor (x2).



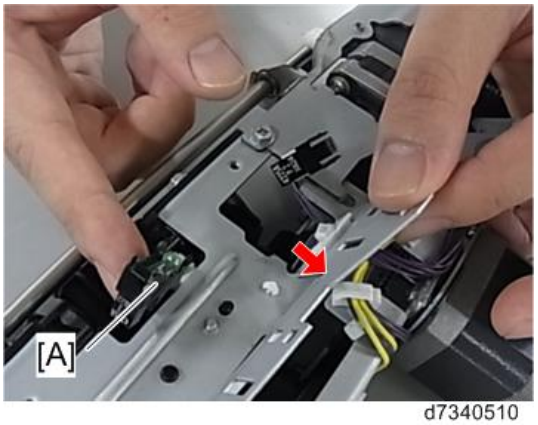
d7340508

2. Disconnect (x2).



d7340509

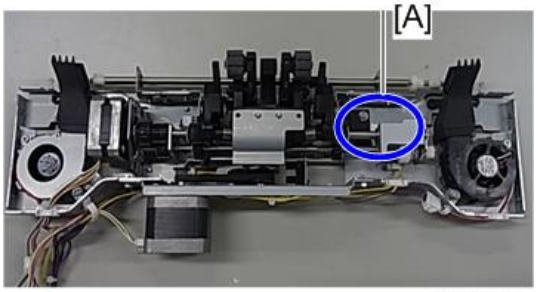
3. Remove sensor [A] (x1).




d7340510

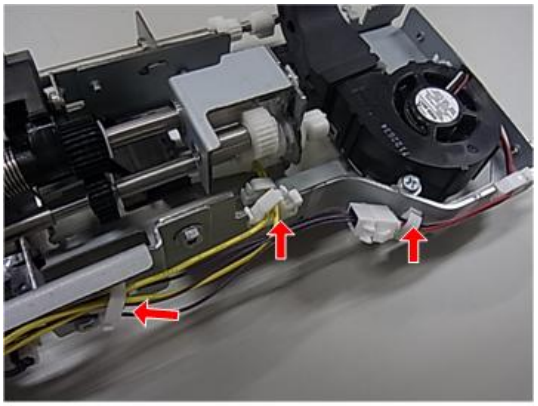
**Shift Tray Limit Switch**

1. The switch is located at [A].



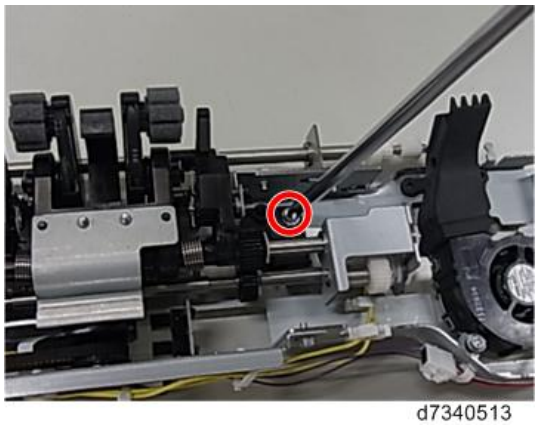

d7340511

2. Open the clamps (x3).

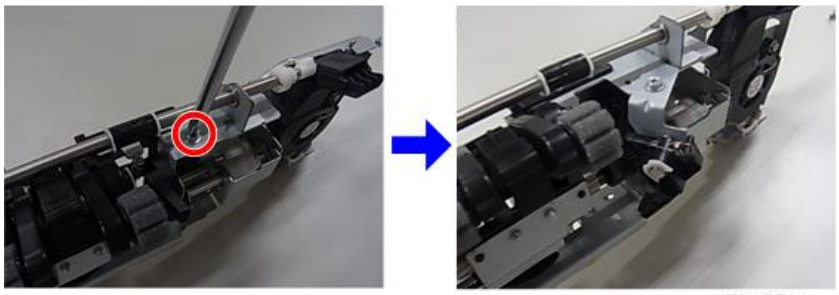


d7340512

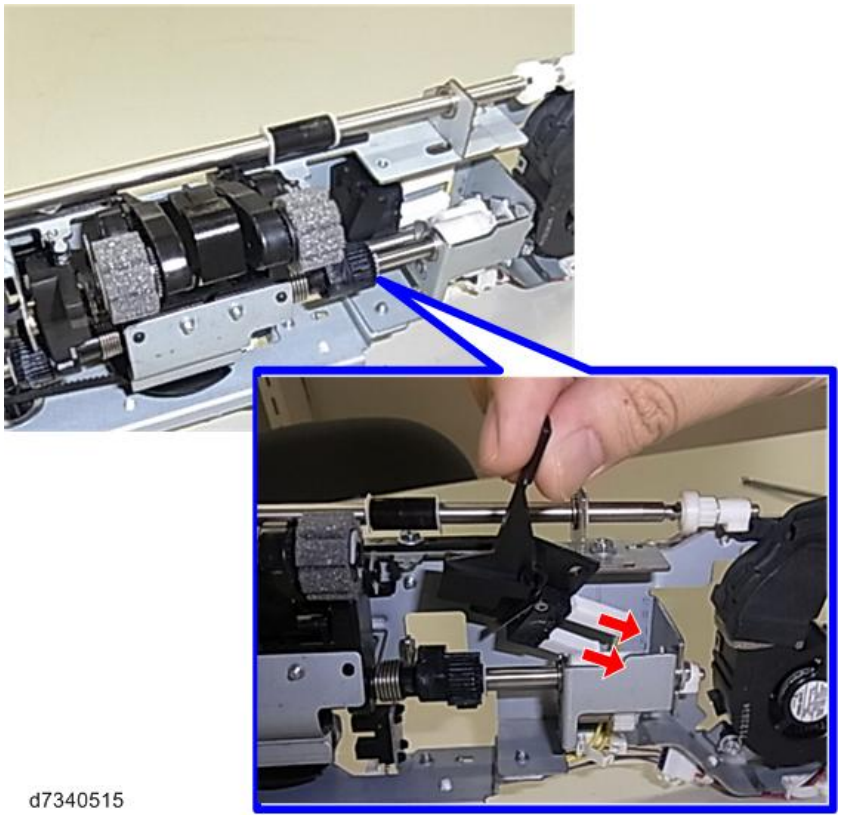
3. Disconnect switch (x1).




4. Remove lever screw (x1).




5. Disconnect switch (x2).




## Shift Tray Full Sensors 1, 2, 3, 4 (500)

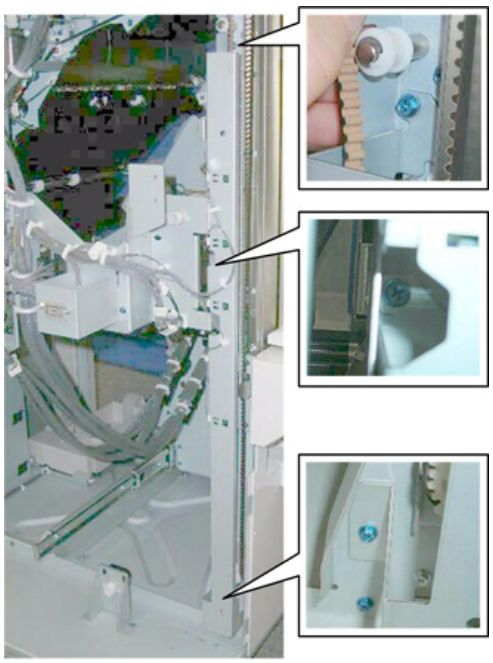
The tray full sensors are all mounted on the same vertical stay at the left rear corner of the finisher:

- Shift Tray Full Sensor (500)
- Shift Tray Full Sensor (1000)
- Shift Tray Full Sensor (1500)
- Shift Tray Full Sensor (2500)

**Preparation**

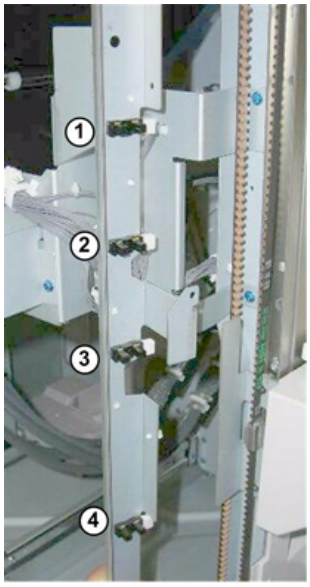
- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)

1. Remove the vertical stay cover ( x3).



d434r240

2. The four sensors, ( x1 each, x5 each)
   ① Shift Tray Full Sensor (500)
   ② Shift Tray Full Sensor (1000)
   ③ Shift Tray Full Sensor (1500)
   ④ Shift Tray Full Sensor (2500)



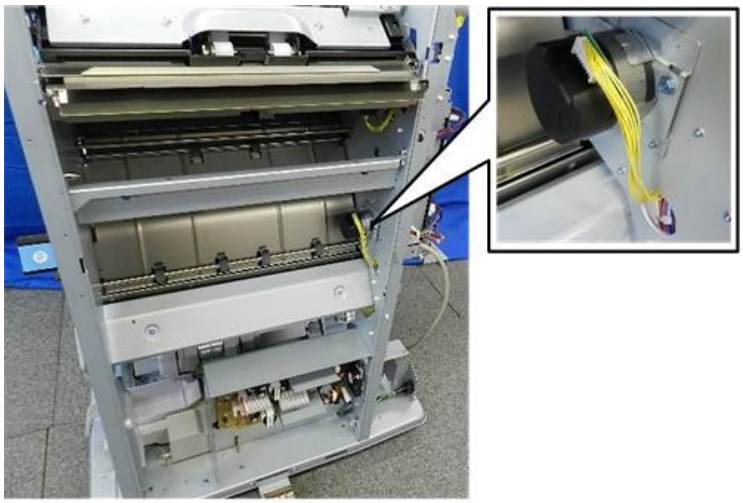

d434r241

# Pre-Stacker

## Pre-Stack Motors

### Pre-Stack Motor

The pre-stack motor is visible from the right side of the finisher below the lock bar.



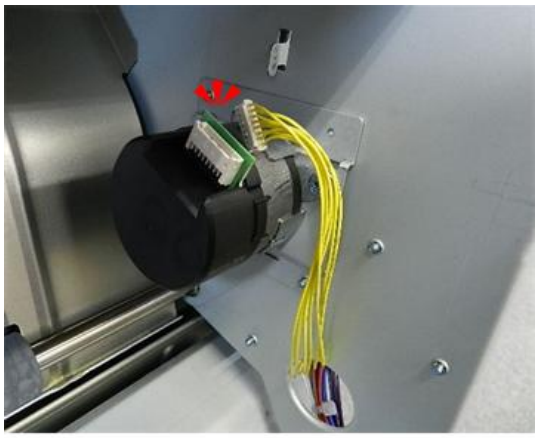
d7340106

**Preparation**

Remove:

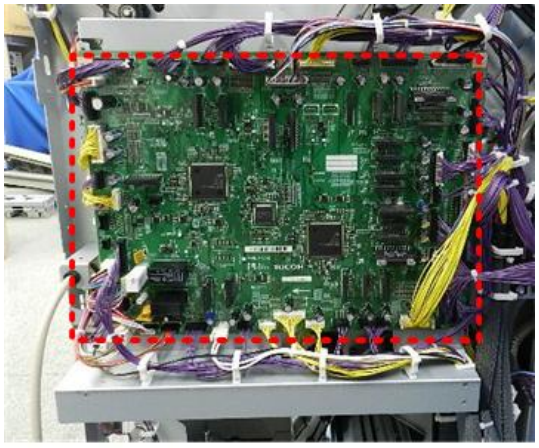
- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)
- Right panels (Upper, Lower Right Panels)

1. Disconnect motor ( x1).



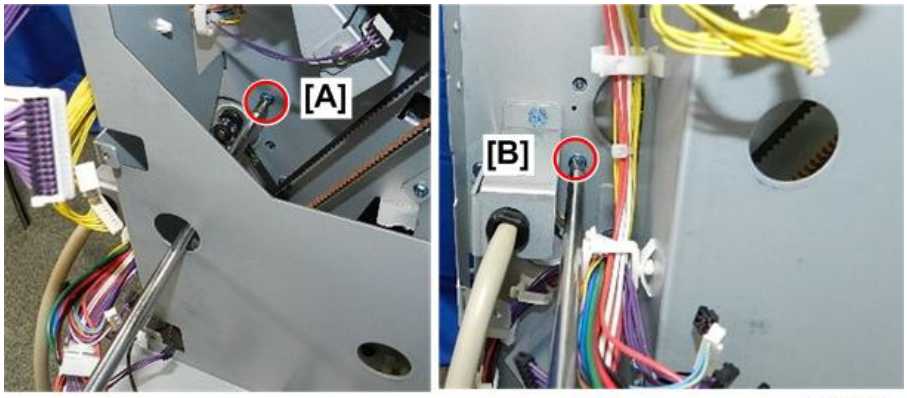
d7340107

2. Remove main board (x17, x44, x8).



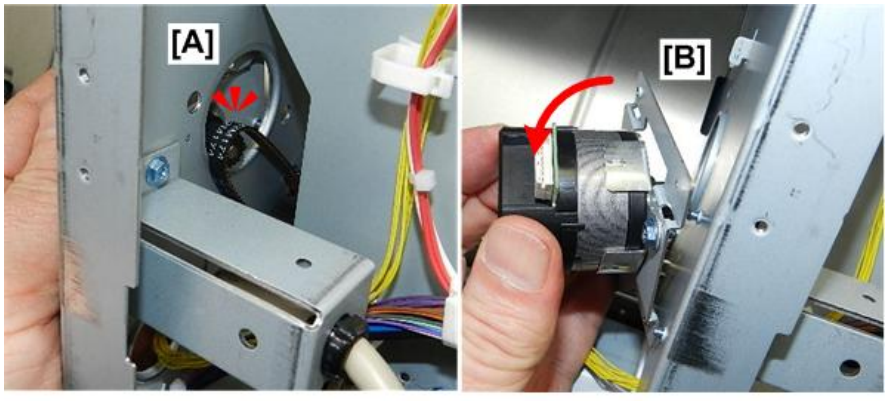
d7340108

3. Remove upper bracket screw [A] ( x1).
4. Remove lower bracket screw [B] ( x1).



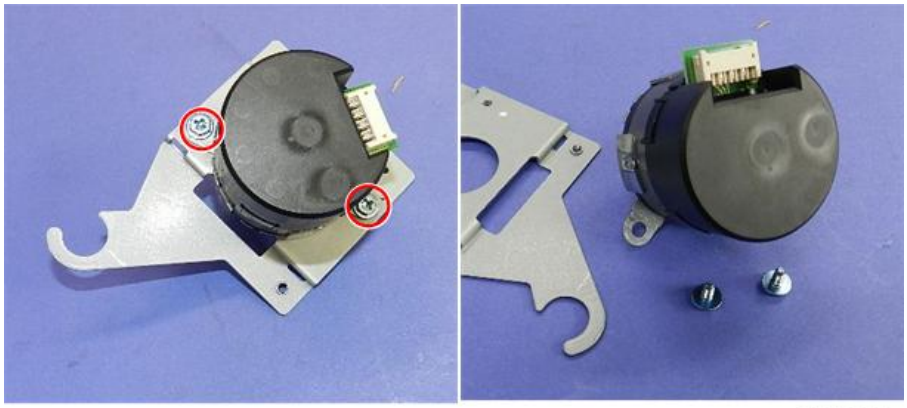

d7340109

5. Disengage belt [A] (x1).
6. Remove bracket [B] (with motor attached).




d7340110

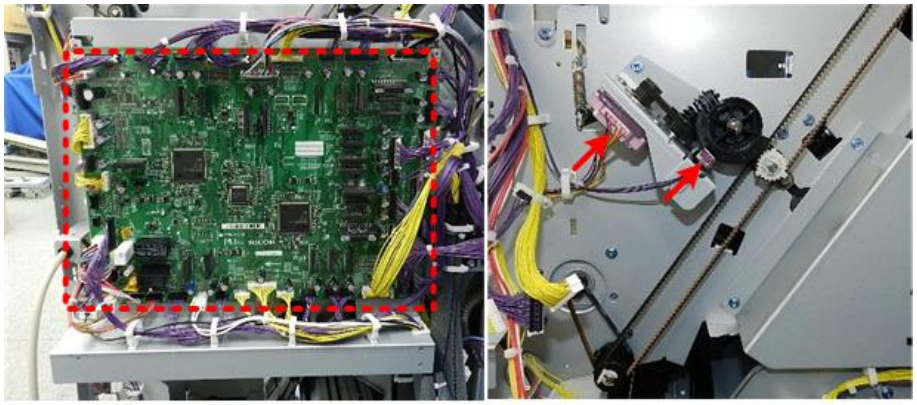
7. Separate bracket and motor ( x2).



d7340111

## Pre-Stack Release Motor, Pre-Stack Roller HP Sensor

The pre-stack release motor and pre-stack roller HP sensor are behind the main board.



d7340112

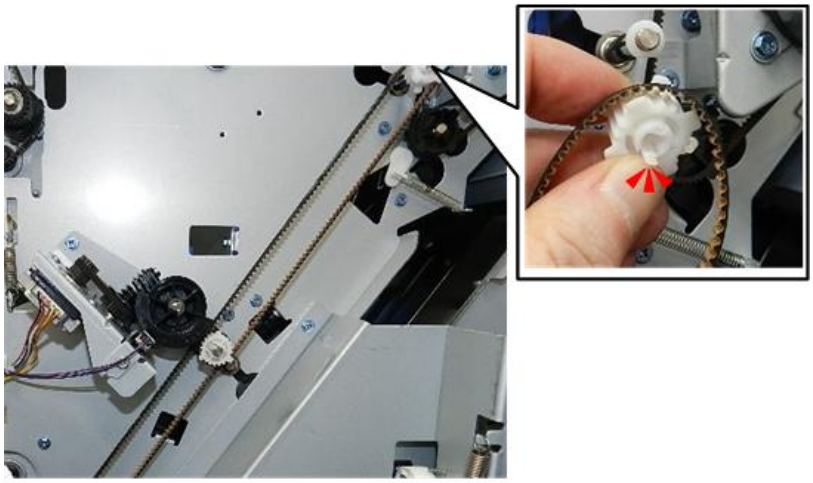
**Preparation**

Remove:

- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)
- Main board (Main Board

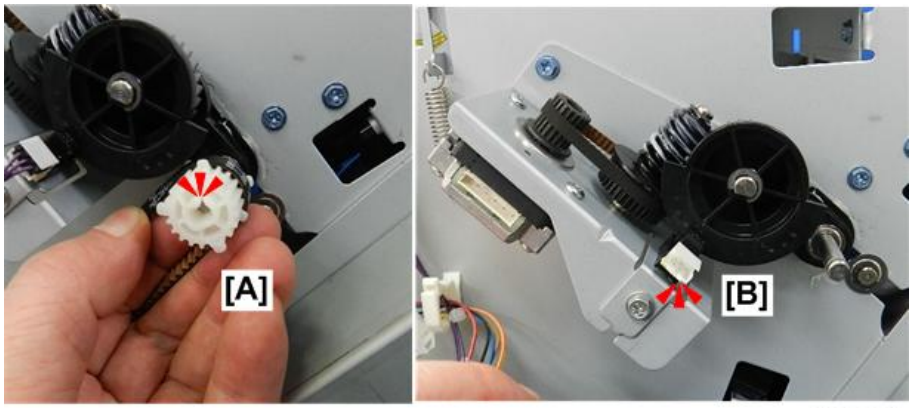
**Pre-stack Release Motor**

1. Remove upper belt (x1). The white gear can be released by a tab with your fingernail.



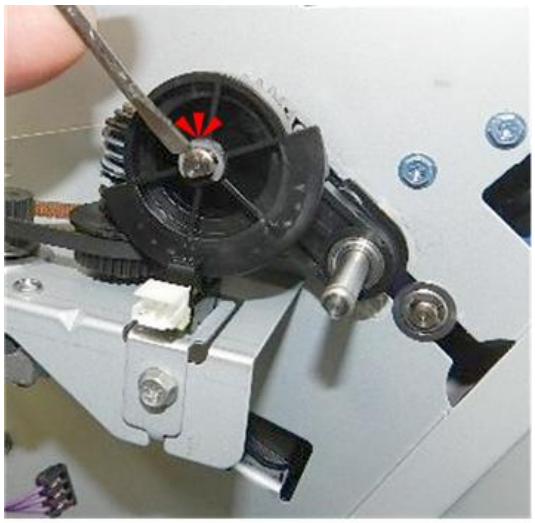
d7340113

2. Remove lower belt and gear (x1, x1). The white gear can be released by a tab with your fingernail.




d7340114

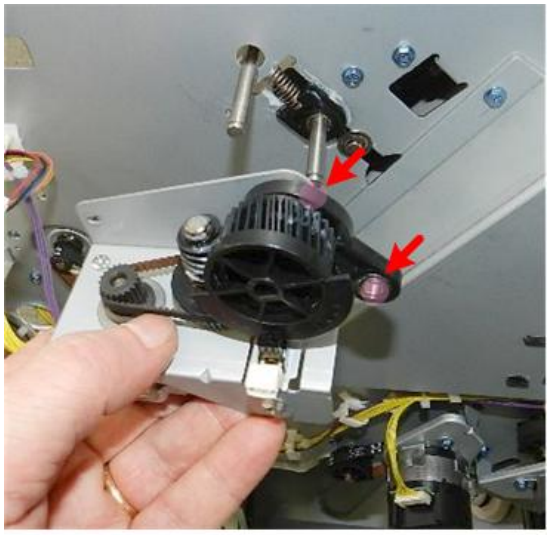
3. Remove e-ring (x1).



d7340115

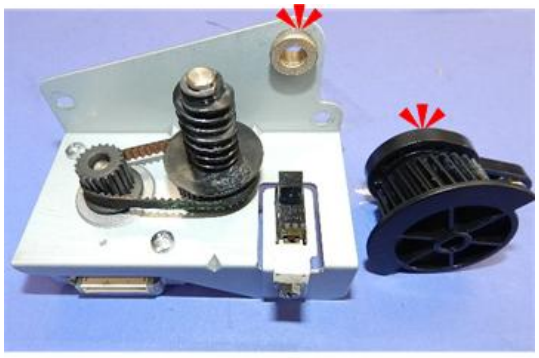
4. Slowly, remove bracket and cam follower. Be careful to prevent the bushing and bearing of the cam follower

from falling.



d7340117

5. Separate the bushing and cam follower from the bracket.



d7340118

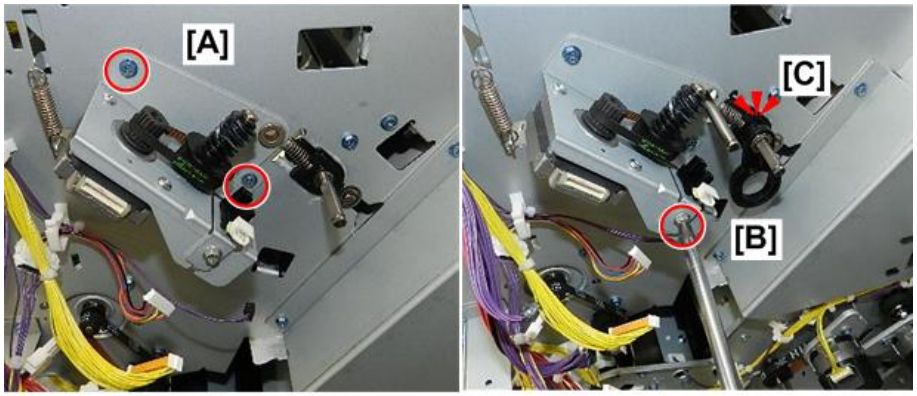
6. Separate motor and bracket ( x2).

d7340119

**Re-installation**

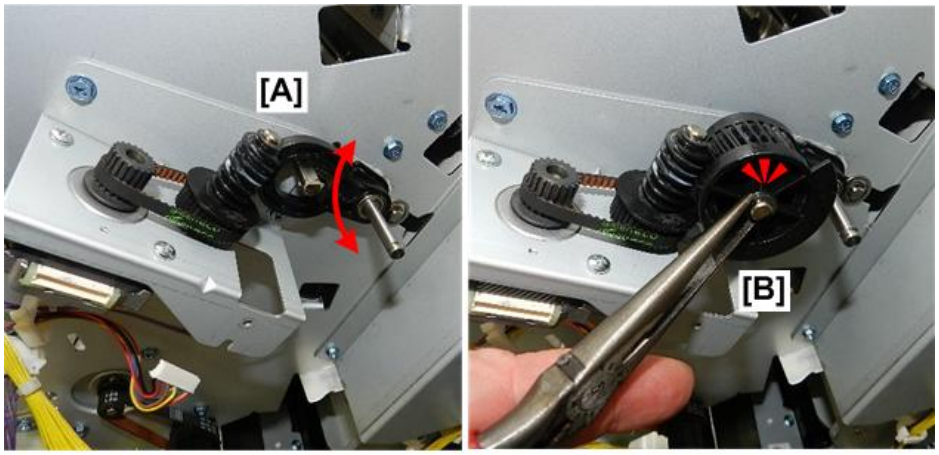
1. Attach bracket [A] ( x2).

2. Remove sensor bracket (with sensor attached) (x1).



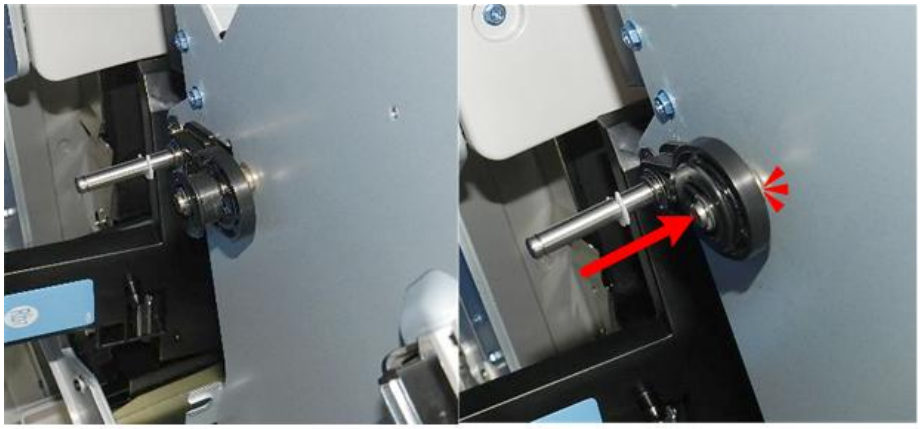

d7340120

3. Set cam follower [A]. Make sure that it swings freely up and down.
4. Set the gear (x1).




d7340121

5. If the e-ring is difficult to set, check the cam follower at the front, and make sure that it and its bushing are flat and snug against the front frame.
6. You may need to keep pressure on the shaft so that it does not slip while attaching the e-ring at the rear.

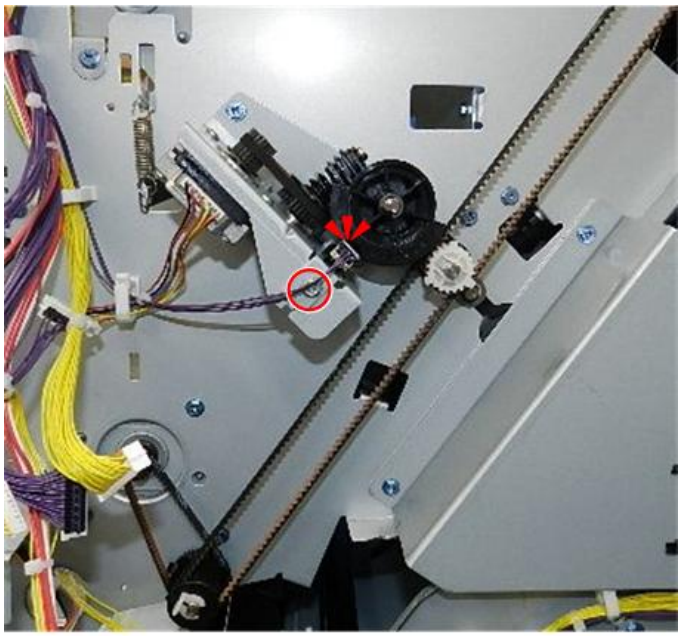


d7340122

**Pre-stack Roller HP Sensor**

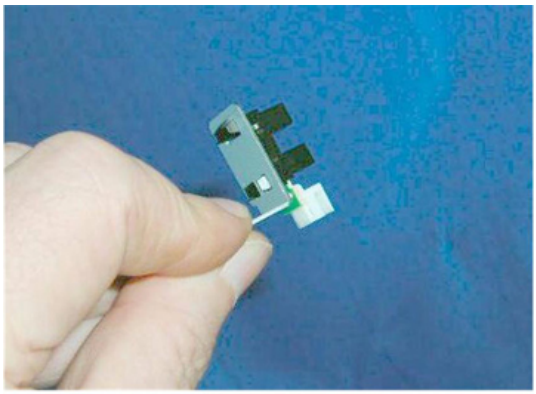
1. Disconnect sensor harness (x1)

2. Remove sensor bracket ( x1)



d7340123

3. Sensor ( x4)



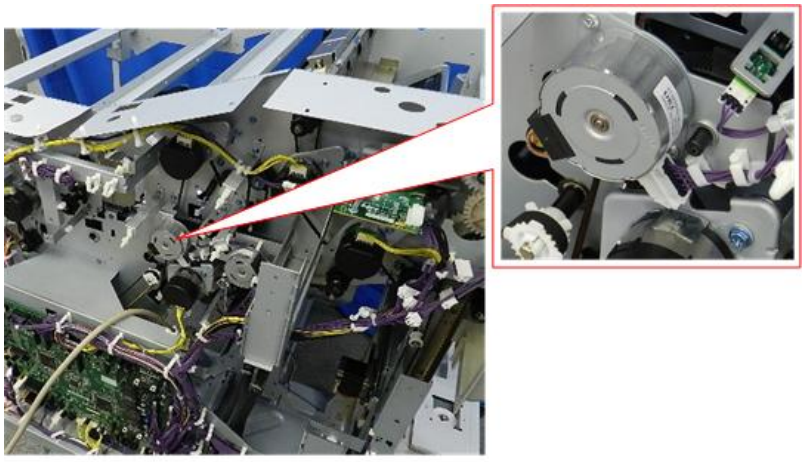
d434r252

# Corner Stapler Unit

## Corner Stapler Unit Entrance

### Stapler JG Motor

The stapler junction gate motor is behind the punch unit PCB.



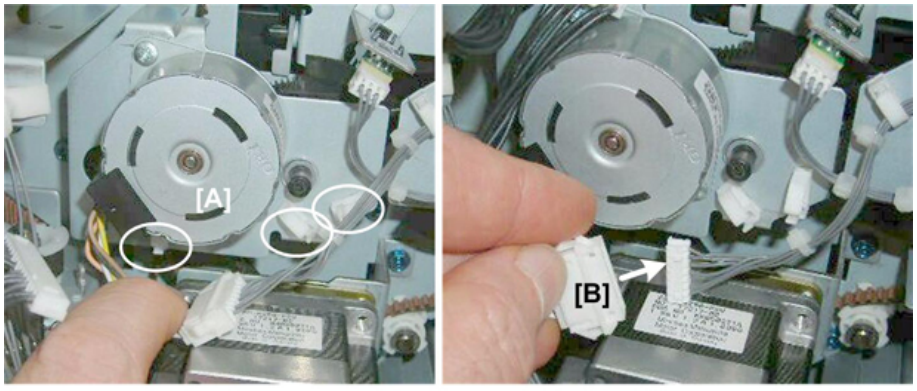
d7340124

**Preparation**

Remove:

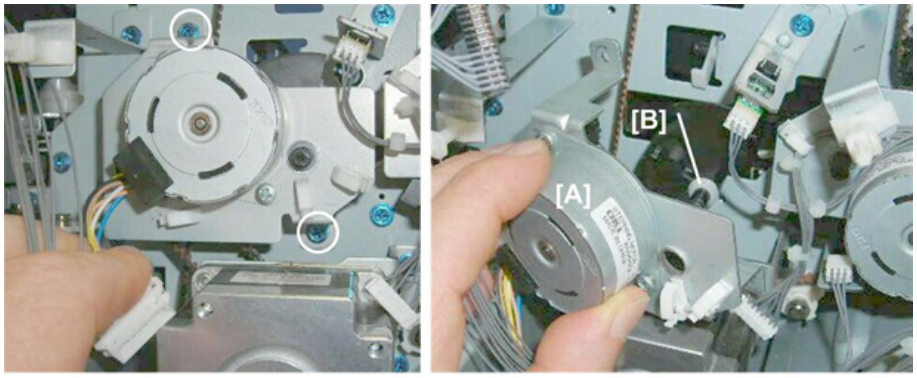
- Rear upper (cover (Rear Upper Cover)
- Punch unit PCB (Punch Unit PCB)

1. Open the harness clamps of the motor [A] ( x3)
2. Disconnect the motor at [B] ( x1)




d434r254

3. Remove motor bracket [A] ( x2)
   - Slowly, pull the bracket away.
   - Make sure the Teflon collar [B] does not fall off the end of the junction gate shaft. Remove it so that it does not accidentally slip off the end of the shaft.




d434r255

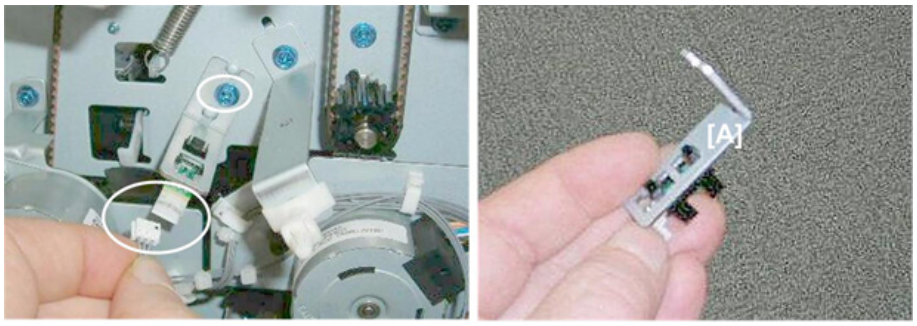
## Stapler JG HP Sensor

**Preparation**

Remove:

- Rear upper cover (Rear Lower Cover)
- Punch unit PCB (Punch Unit PCB)

1. Remove sensor bracket [A] ( x1, x1).
2. Sensor ( x5).

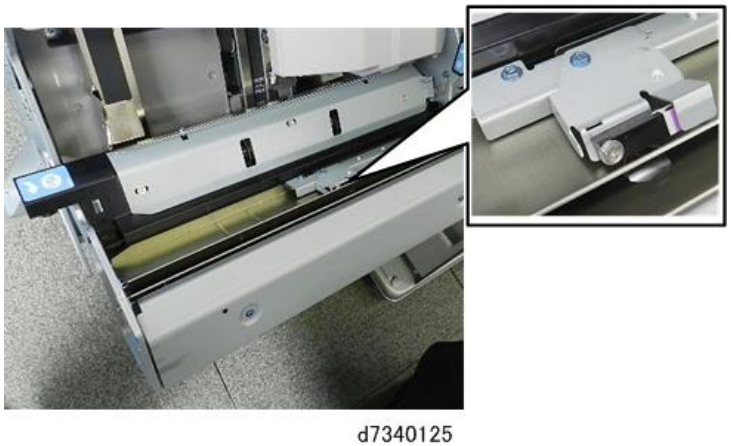



d434r256

## Stapling Tray Entrance Sensor

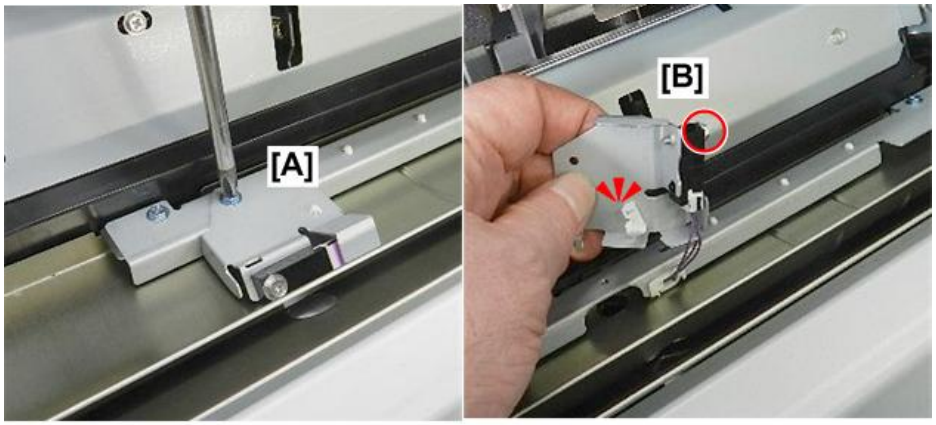
**Preparation**

1. Pull out the stack/staple unit.



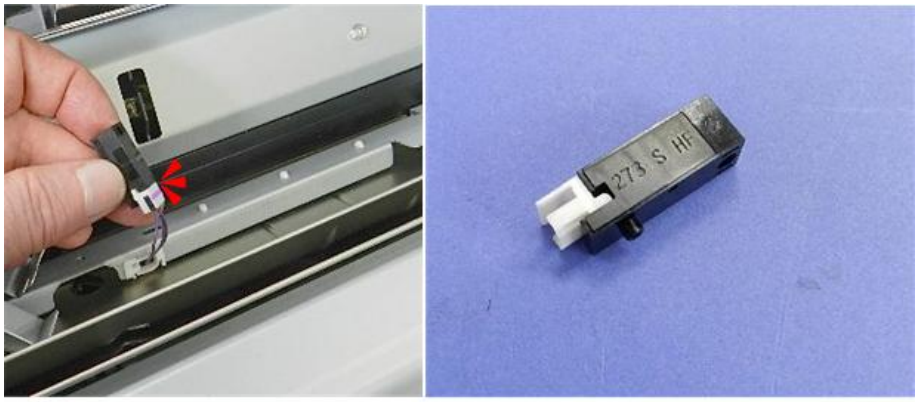
d7340125

2. Disconnect bracket [A] ( x1).
3. Disconnect harness, sensor [B] ( x1, x1).




d7340126

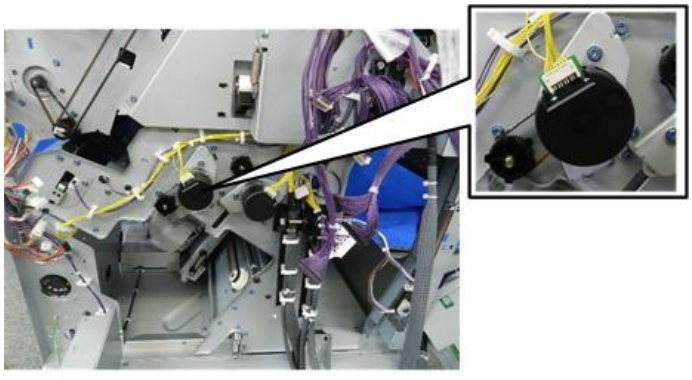
4. Remove sensor ( x1).




d7340127

## Stapling Tray Entrance Motor

The stapling tray entrance motor is on the back of the stack/staple unit.



d7340128

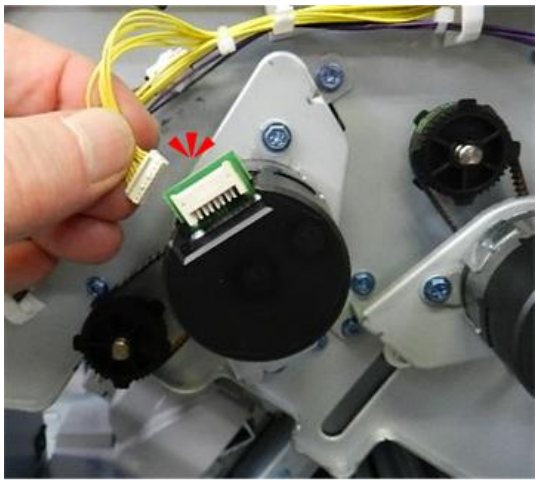
**Preparation**

Remove:

- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)

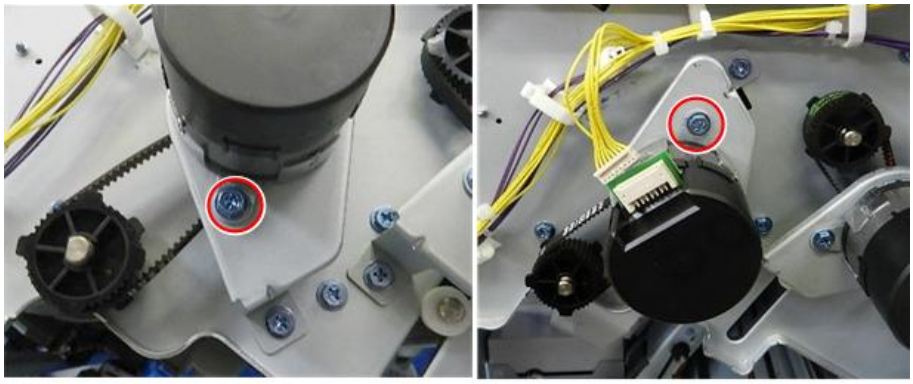
- Main board (Main Board)

1. Disconnect the motor (x1).



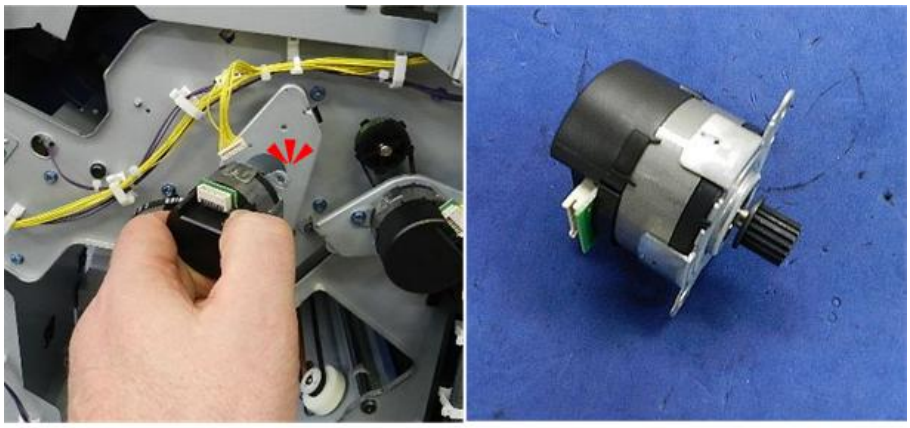
d7340129

2. Disconnect motor bracket ( x2).



d7340130

3. Remove motor (x1).

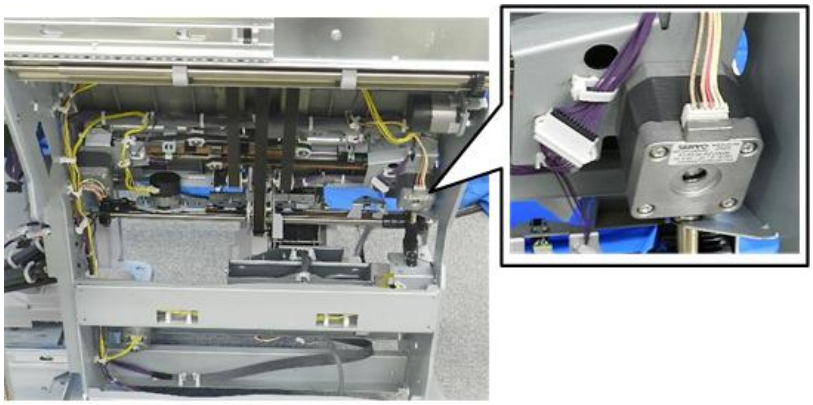


d7340131

## Corner Stapler Side-to-Side Jogging

### Front Jogger Fence Motor

The front jogger fence motor is behind the front plate of the stack/staple unit.

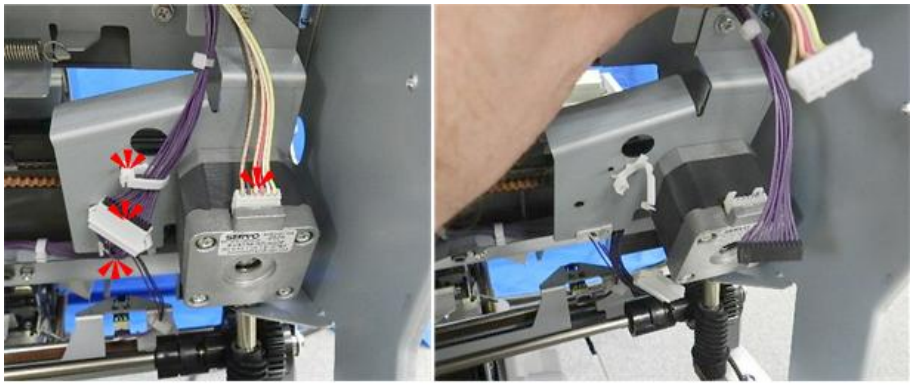


d7340132

**Preparation**

- Remove booklet unit (Booklet Unit Removal)

1. Disconnect bracket and motor (x2, x2).

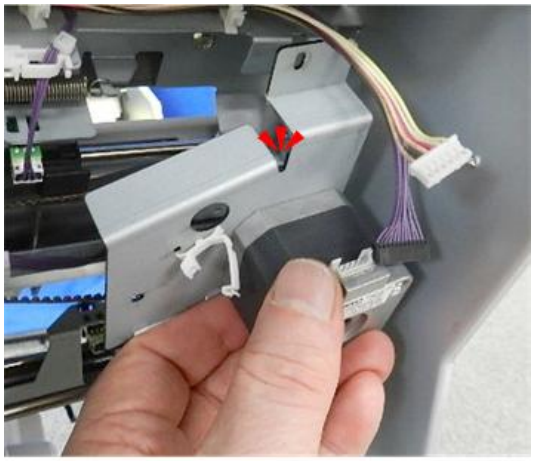


d7340133

2. Disconnect bracket (x2).

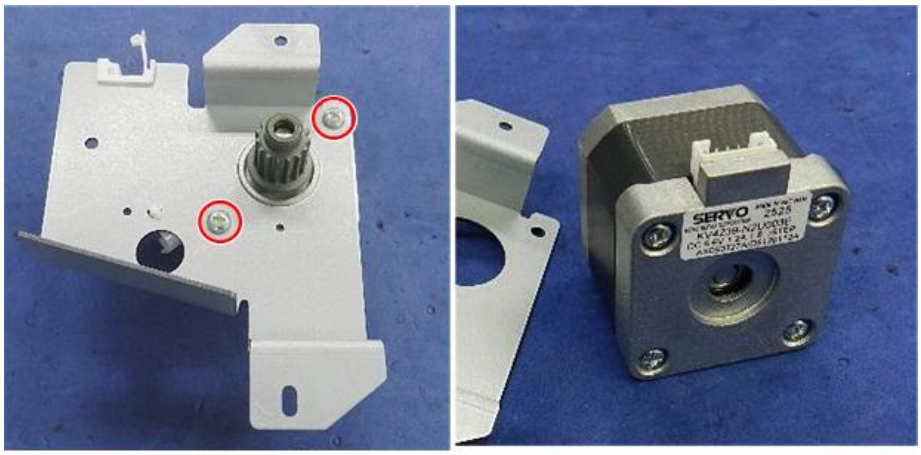
d7340134

3. Remove bracket (with motor attached) (x1).



d7340135

4. Separate motor and bracket (x2).



d7340136

## Jogger Fence HP Sensor (Front)

**Preparation**

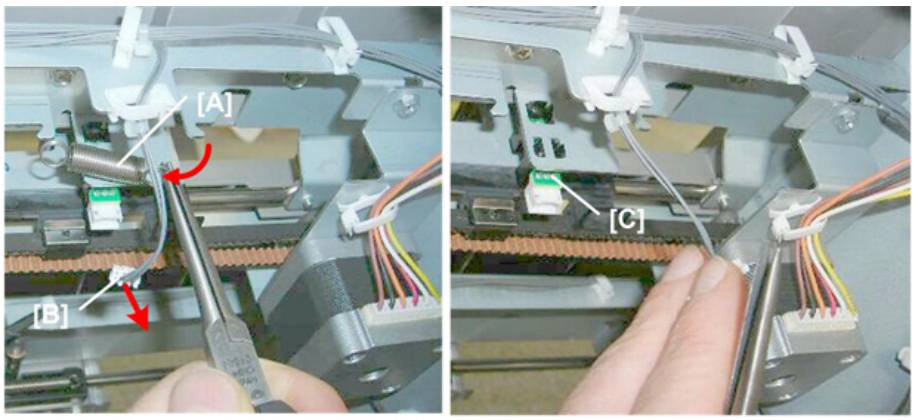
- Remove booklet unit (Booklet Unit Removal)

1. Disconnect:

   [A] x1

   [B] x1

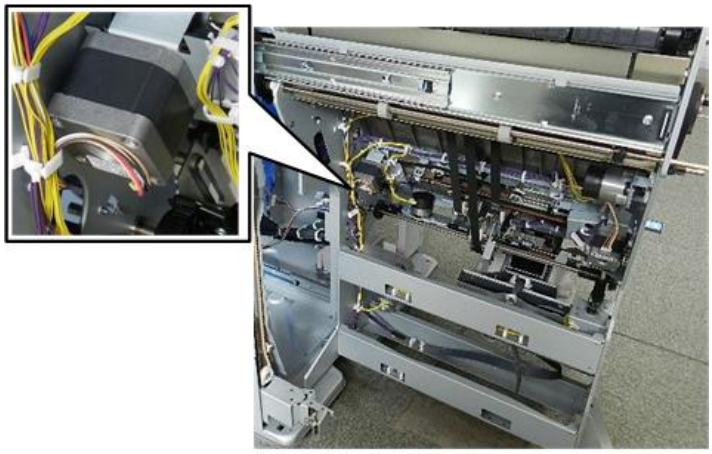
   [C] x5




d434r271

## Rear Jogger Fence Motor

The rear jogger fence motor is mounted on the rear plate of the stack/staple unit.

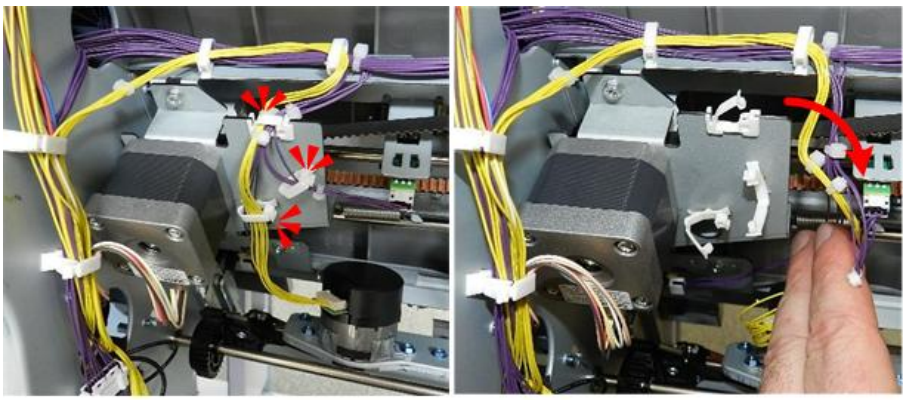


d7340137

**Preparation**

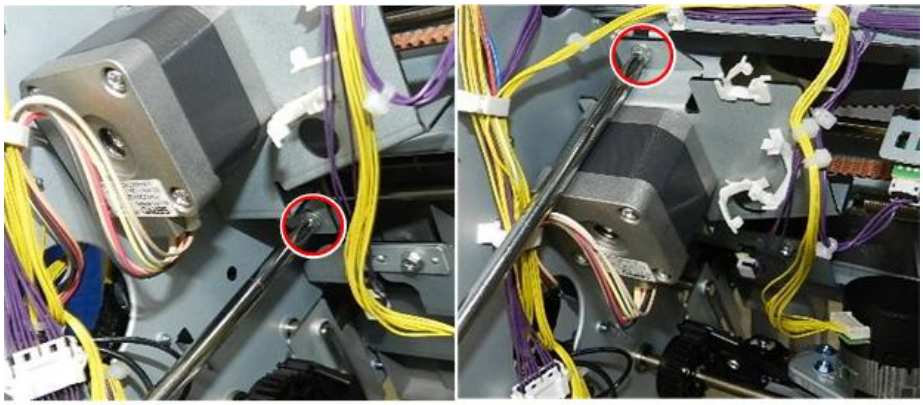
- Remove booklet unit (Booklet Unit Removal)

1. Move the harnesses (x3).



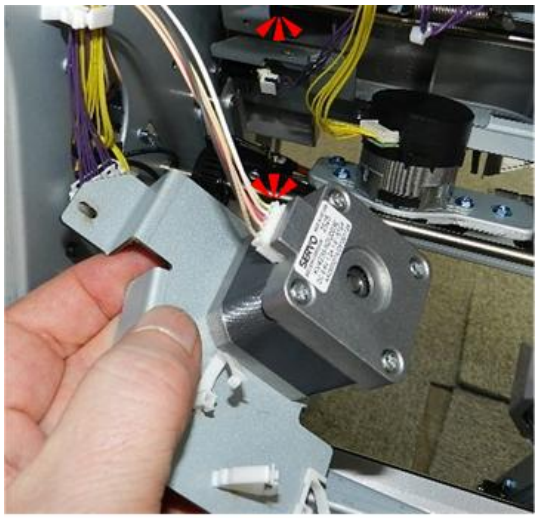
d7340138

2. Disconnect bracket (x2).



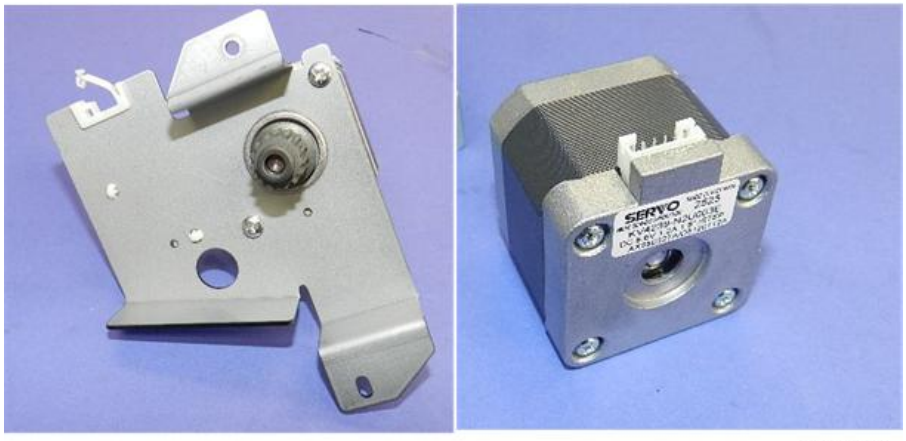
d7340139

3. Remove bracket (with motor attached), and then disconnect motor (x1, x1).



d7340140

4. Separate motor and bracket (x2).



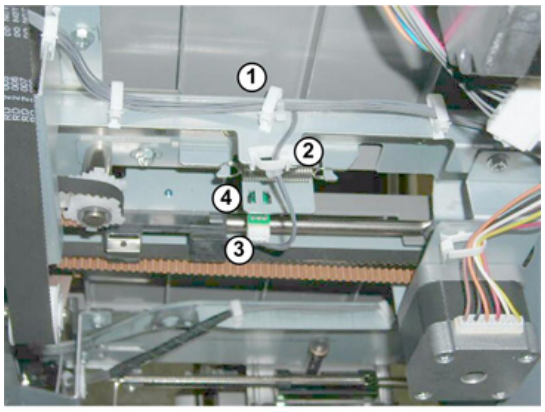
d7340141

## Jogger Fence HP Sensor (Rear)

**Preparation**

- Remove booklet unit (Booklet Unit Removal)

1. Disconnect and remove the sensor:
   ① x1
   ② x1
   ③ x1
   ④ x5

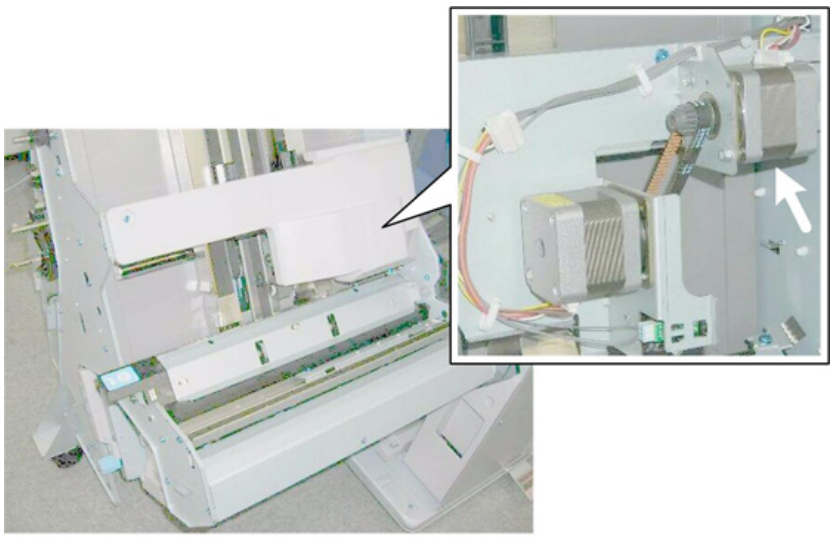



d434r276a

## Corner Stapling Bottom, Top Jogging

### Positioning Roller Rotation Motor

The positioning roller rotation motor is under the motor cover on the right side of the stack/staple unit.

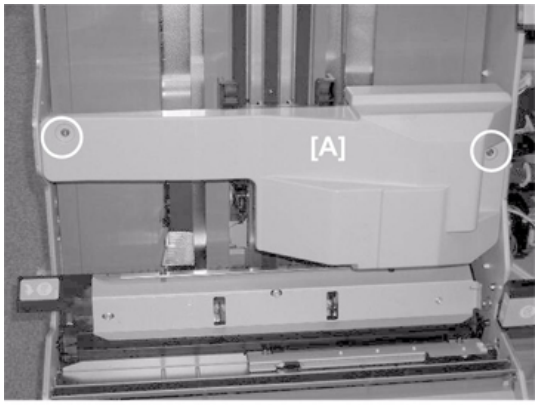


d434r277

**Preparation**

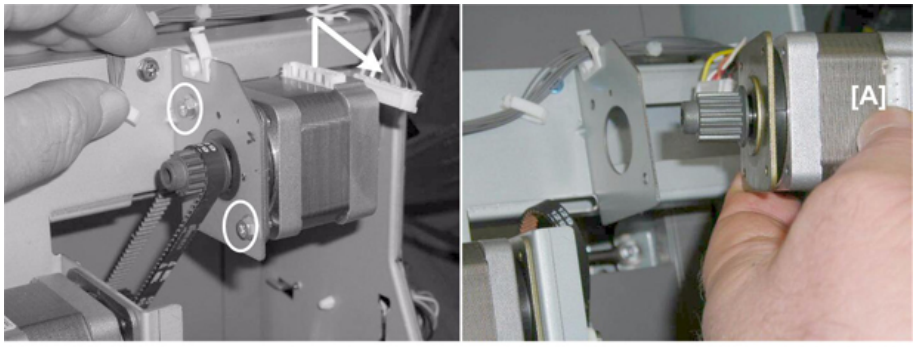
- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**

1. Remove motor cover [A] ( x2)




d434r278

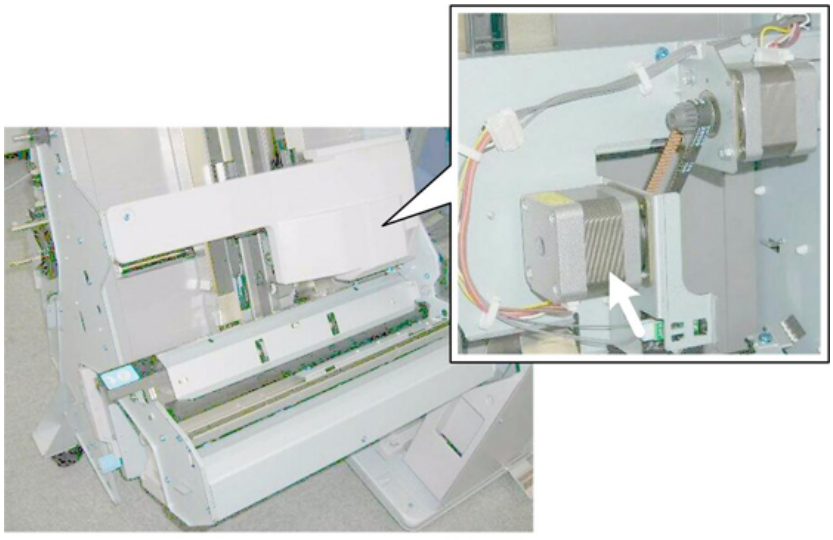
2. Remove motor [A] ( x1, x1, x2)




d434r279

## Positioning Roller Motor

The positioning roller motor is under the motor cover on the right side of the stack/staple unit.

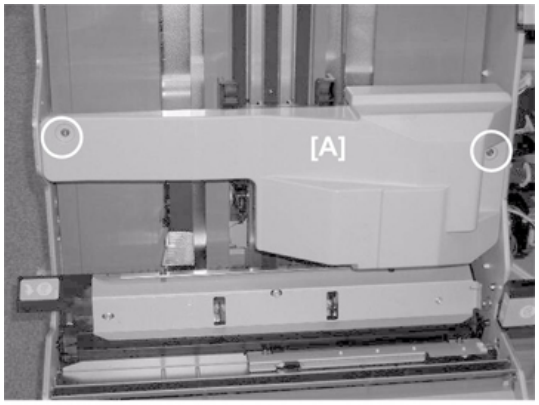


d434r280

**Preparation**

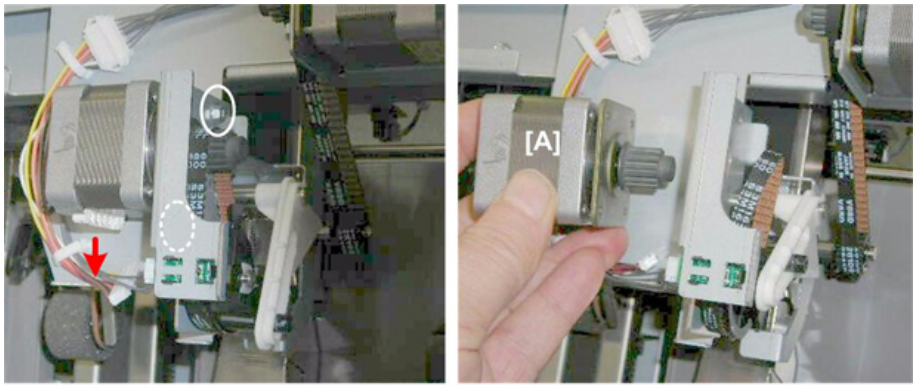
- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**
- Right panel (Upper, Lower Right Panels)

1. Remove motor cover [A] ( x2)




d434r281

2. Remove motor [A] ( x1, x2, x1)



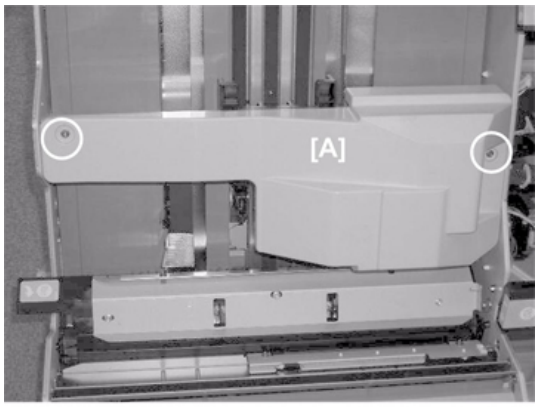

d434r282

## Positioning Roller HP Sensor

**Preparation**

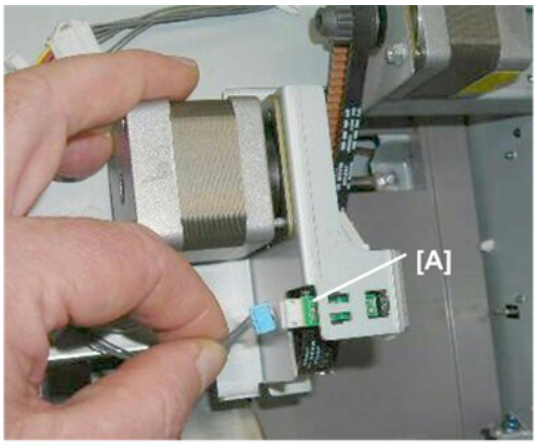
- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**

1. Remove motor cover [A] ( x2).




d434r283

2. Remove sensor [A] ( x1, x5)




d434r284

## Leading Edge Stopper HP Sensor, Staple Tray Paper Sensor

### Preparation

- Remove booklet unit (Booklet Unit Removal)

Important

- The Leading edge stopper HP sensor shares the same bracket with the stack feed-out belt HP sensor. Use a marker to mark one of the harnesses to avoid incorrect connection at re-installation.

1. Disconnect bracket ( x1, x1).

d7340502

2. Remove leading edge stopper HP sensor ① ( x1, x5).

3. Remove staple tray paper sensor ② (x1, x1, x5).

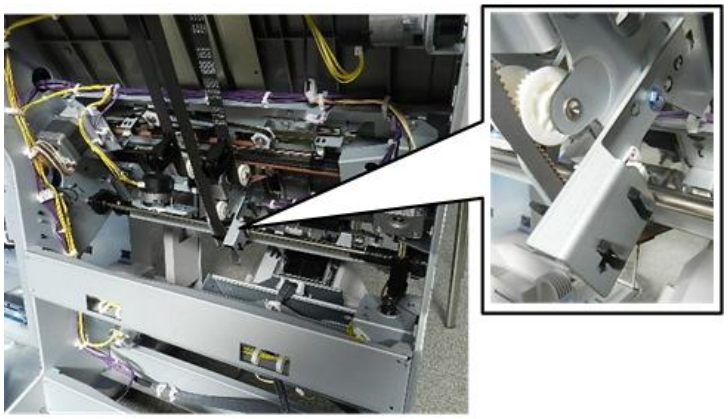
d7340503

## Top Fence HP Sensor

**Preparation**

- Remove booklet unit (Booklet Unit Removal)

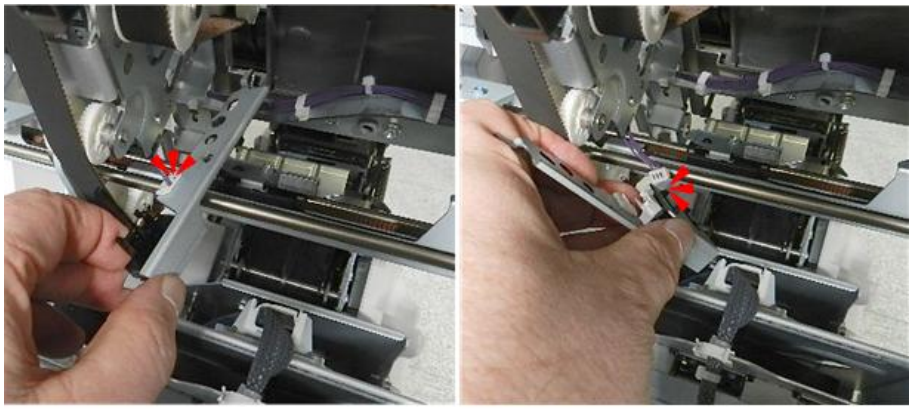
1. This sensor is in the center of the unit.


d7340142

2. Disconnect bracket ( x1).

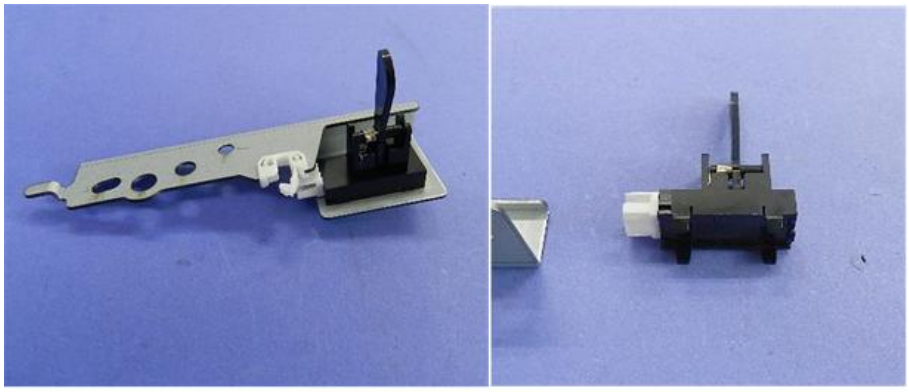

d7340145

3. Pull bracket away, and then disconnect harness (x1, x1).



d7340143

4. Separate bracket and sensor (x4).



d7340144

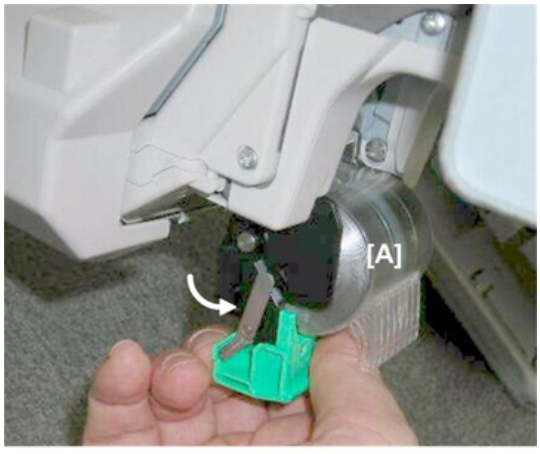
## Corner Stapling

### Corner Stapler

**Preparation**

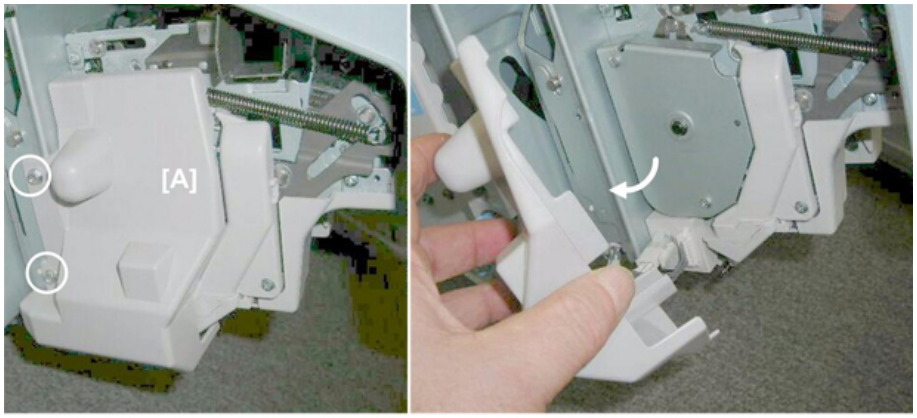
- Pull the stack/staple unit with handle **Rb12.**

1. Remove the stapler cartridge [A].



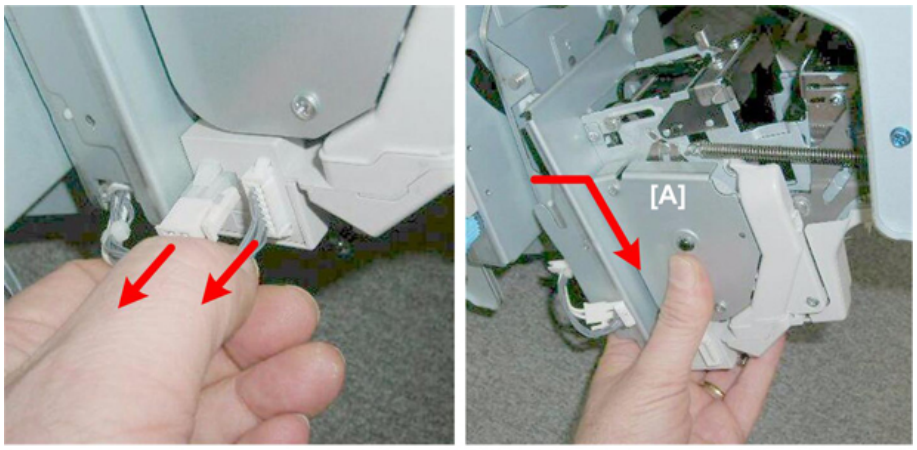

d434r316

2. Remove cover [A] ( x2)



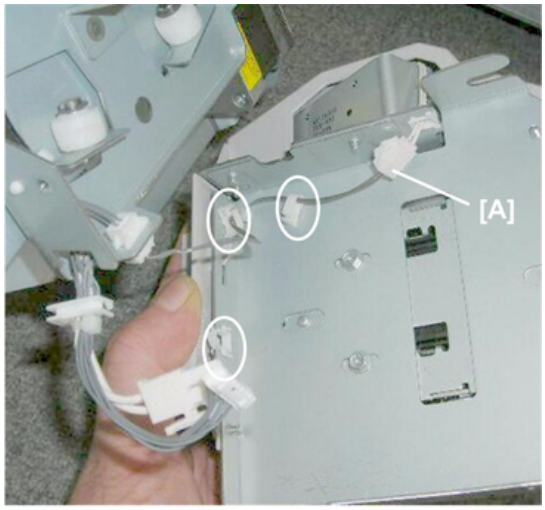

d434r317

3. Disconnect the stapler [A] ( x2).




d434r318

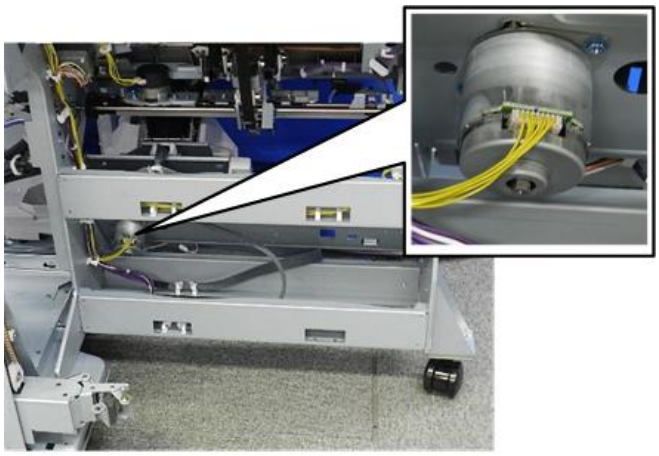
4. Lift the stapler off its posts but **do not** pull it away because one harness is still attached inside the stapler.
5. Disconnect harness [A] ( x3, x1)




d434r319

## Corner Stapler Movement Motor

The corner stapler movement motor is at the bottom of the corner stapler unit.

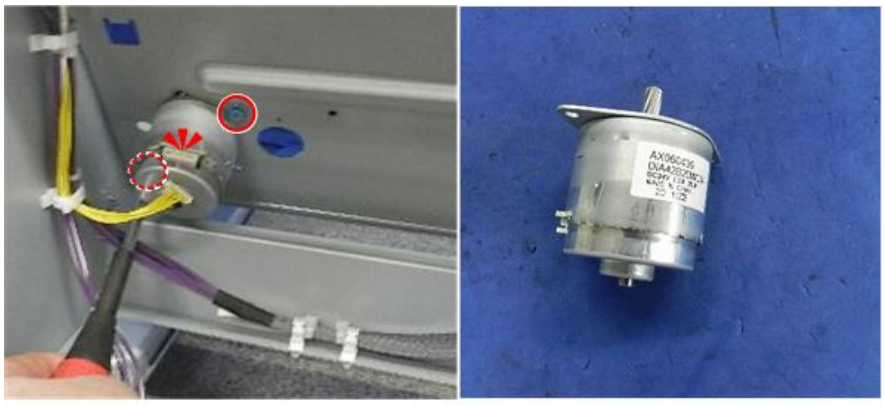


d7340146

**Preparation**

- Remove booklet unit (Booklet Unit Removal)

1. Remove motor ( x1, x2).



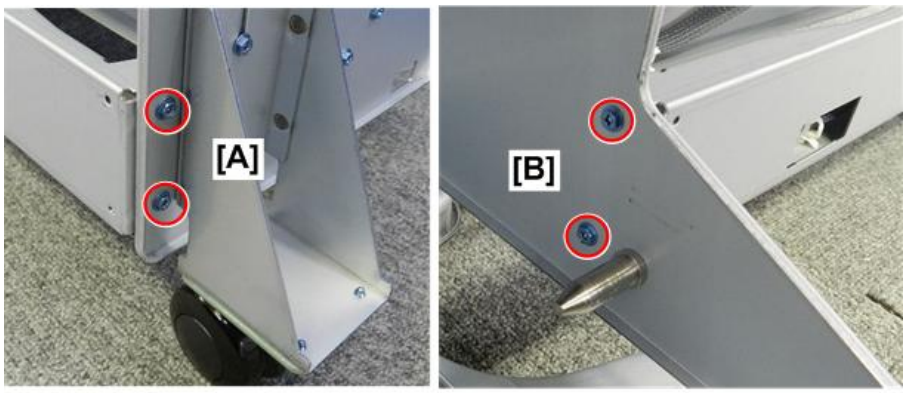
d7340149

**Re-installation**

1. Re-attachment of the motor is difficult. Removal of this bracket is recommended before you re-attach the motor.

d7340147

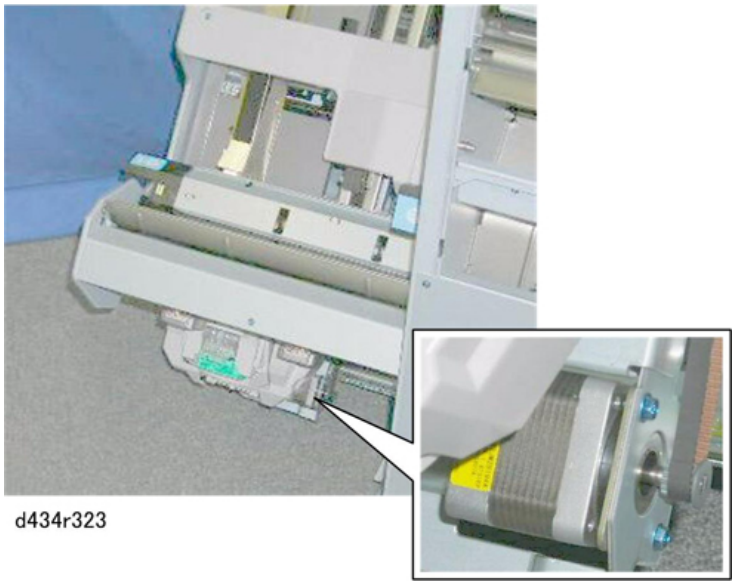
2. Disconnect and remove bracket:
   [A] Front ( x2)
   [B] Rear ( x2)




d7340148

## Stapler Rotation Motor

You can see the stapler rotation motor on the bottom of the corner stapler unit next to the corner stapler.



d434r323

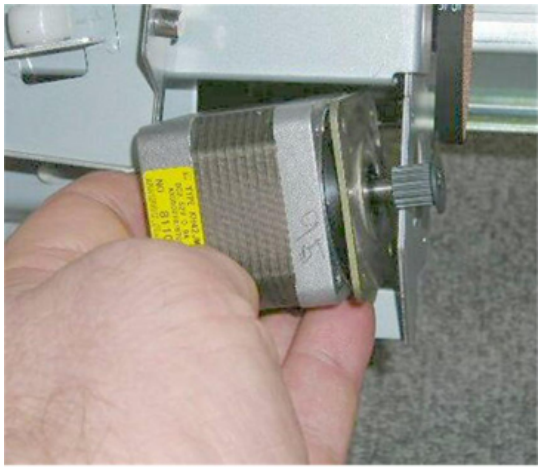
**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**

1. Disconnect the motor at [A] ( x1).
2. Disconnect the motor at [B] ( x2, x1).


d434r324

3. Remove the motor.



d434r325

## Staple Trimmings Hopper Full, Hopper Set Sensor

**Preparation**

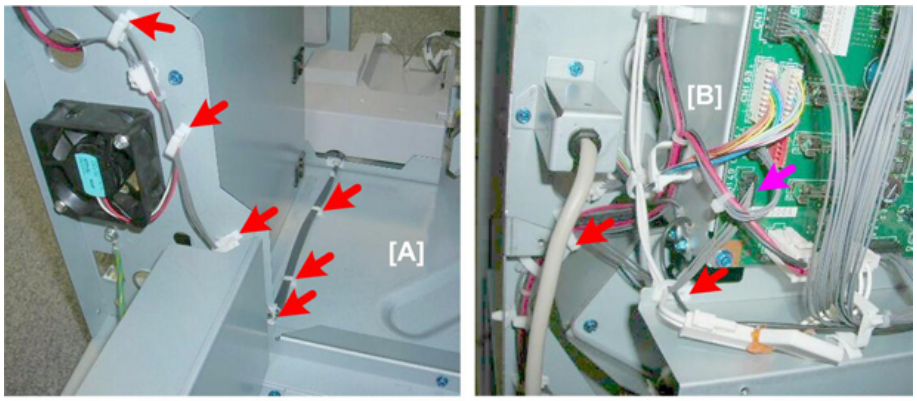
- Open the front door.
- Pull out the stack/staple unit with handle **Rb12.**
- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)

**Trimmings Hopper Unit**

1. Remove the staple trimmings hopper.

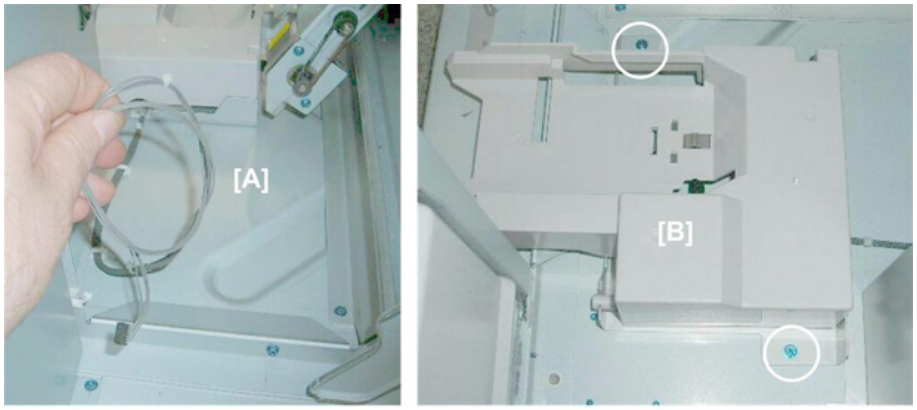
d434r326

2. Free the harness [A] and disconnect it from the main board [B] ( x11, x1).



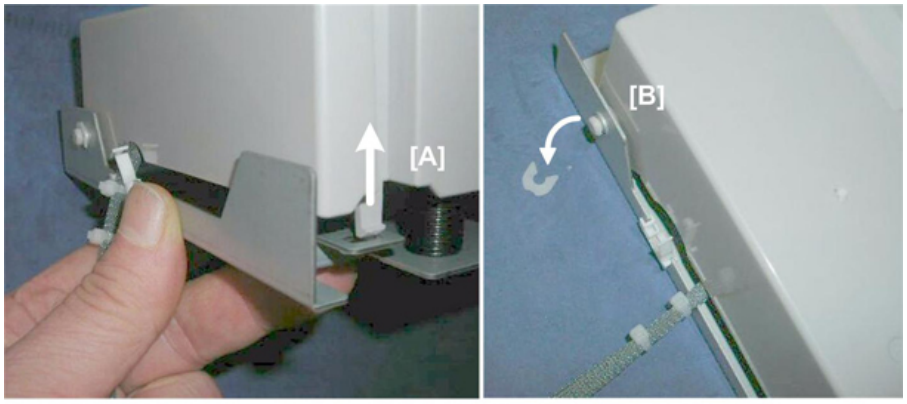

d434r327

3. Gather the disconnected harness [A].
4. Disconnect the trimmings collection unit [B] ( x2).



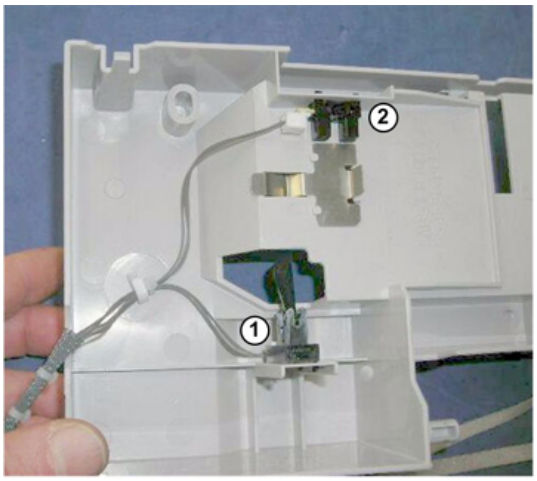

d434r328

5. Disconnect tab [A] (Tab x1, x2).
6. Release hinge shaft [B] ( x1).




d434r329

7. Open the unit.
8. Detach:
   ① Hopper set sensor ( x5)
   ② Hopper full sensor




d434r330

## Stapler Movement Sensors

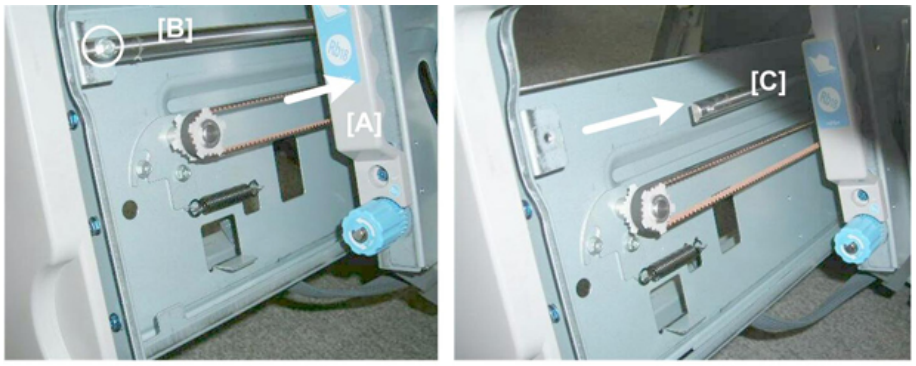
**Common procedures**

- Corner Stapler HP Sensor
- Corner Stapler Rotation HP Sensor (Rear)
- Corner Stapler Rotation HP Sensor (Front)

**Preparation**

- Pull out the stack/staple unit with handle **Rb12**.
- Remove corner stapler (Corner Stapling)

1. Push the stapler to the rear [A].
2. Remove the screw of the stapler guide rail [B] ( x1).
3. Push the guide rail [C] to the rear and remove it.



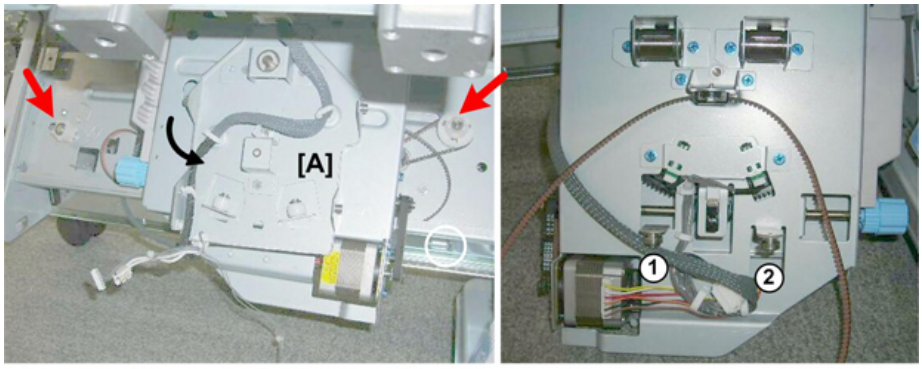

d434r331

4. Remove spring [A].
5. Loosen screw [B] (do not remove it).

6. Rotate the plate down to relieve tension on the belt.


d434r332

7. Disconnect the belt at the front and back.
8. Lift the stapler mount [A] off its rails and turn it toward the rear so you can see the back of the mount. The mount is on two steel rollers ① and ② that rest on the bottom rail of the corner stapler unit.




d434r333

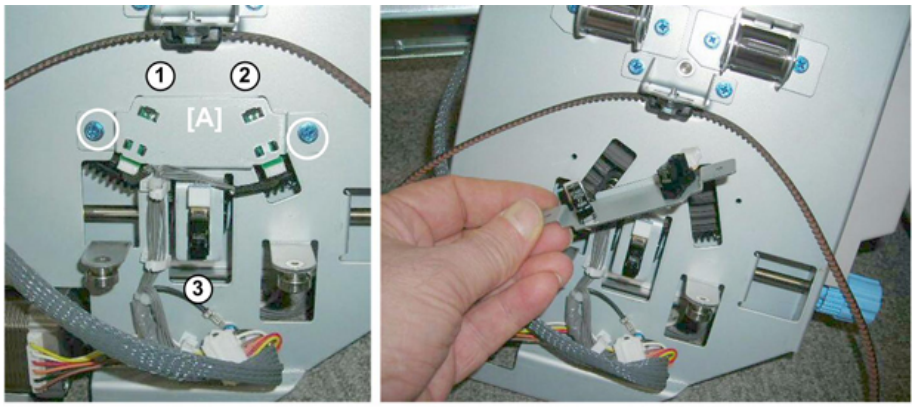
9. Remove sensor bracket [A] ( x2).

   Three sensors are on this bracket:

   ① Rotation HP sensor (rear) ( x1, x5)

   ② Rotation HP sensor (front) ( x1, x5)

   ③ Stapler HP sensor ( x1, x5)

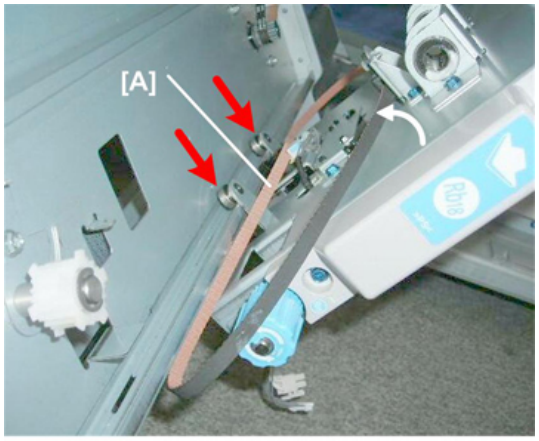



d434r334

**Re-installation**

1. When you set the stapler mount on its rails, make sure that the belt [A] on the back of the stapler mount does

not interfere with the two steel rollers.




d434r335

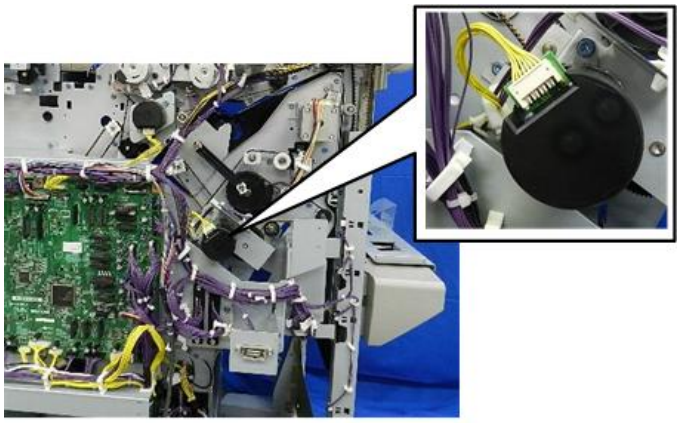
## Corner Stapled Stack Feed Out

### Stack Transport Motor

**Preparation**

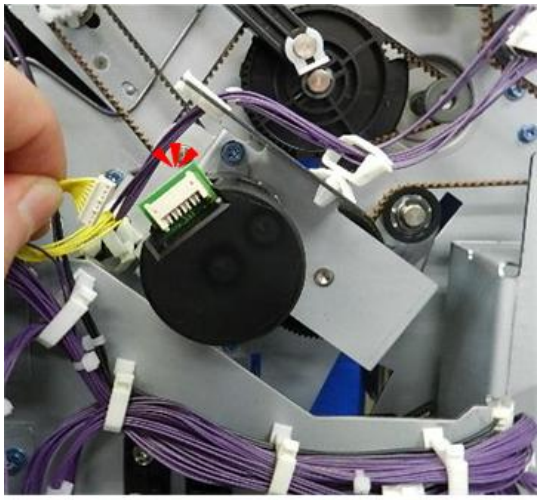
- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)

1. The motor is located near the right edge of the main board.



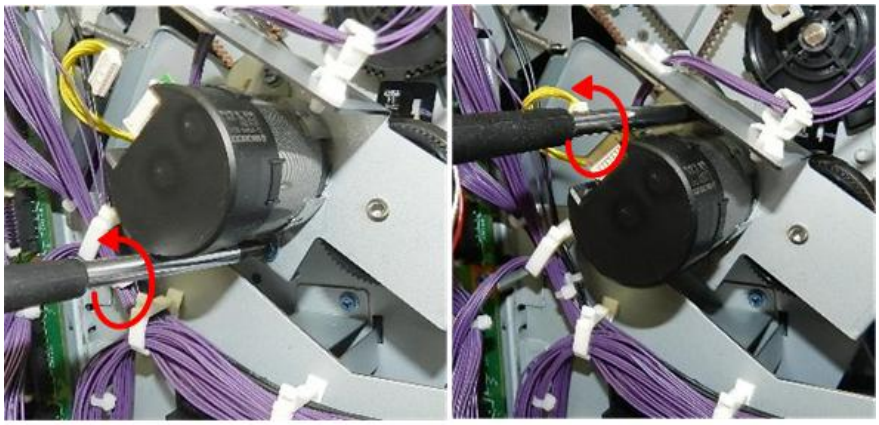
d7340150

2. Disconnect motor (x1).



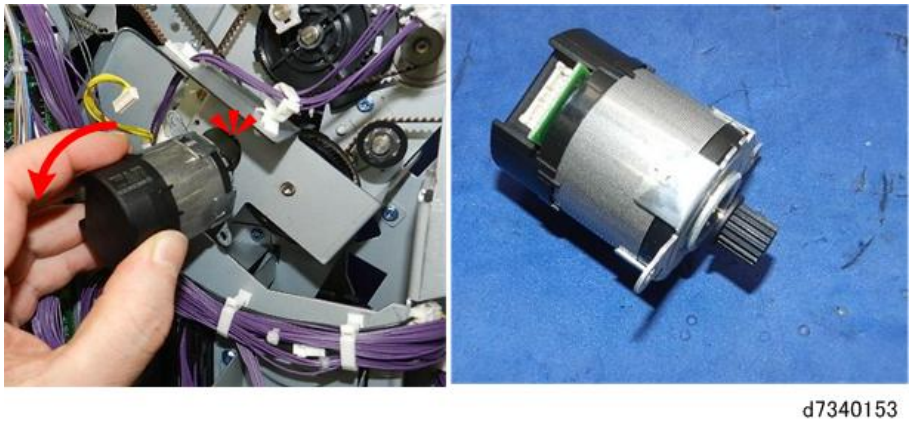
d7340151

3. Disconnect motor ( x2).



d7340152

4. Remove motor (x1).



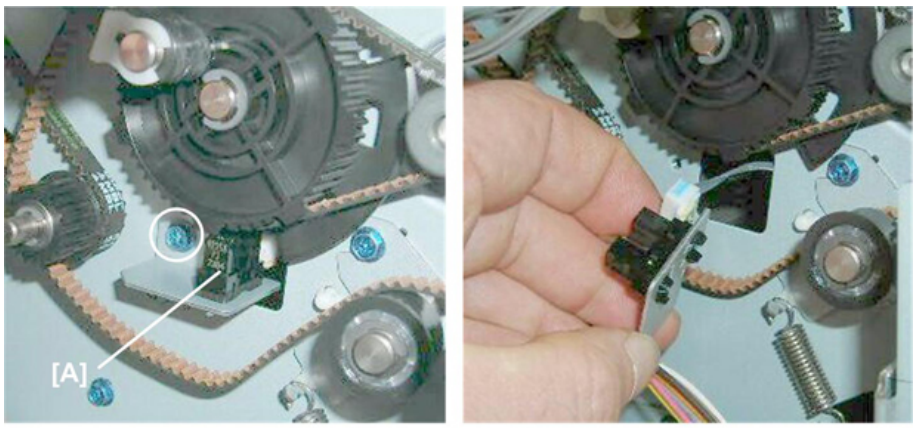
d7340153

## Stack Transport Unit HP Sensor

**Preparation**

- Rear upper cover (Rear Upper Cover)
- Stack transport motor (Corner Stapled Stack Feed Out)

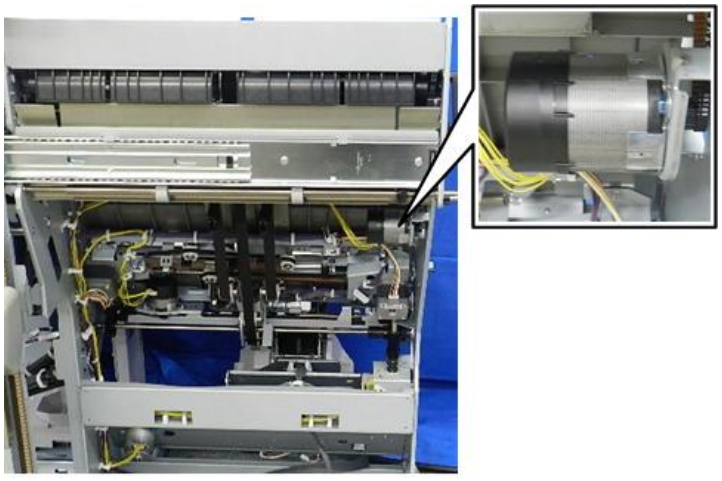
1. Remove sensor bracket and sensor [A] ( x1).
2. Remove the sensor ( x1, x5)




d434r336

## Stack Feed-Out Belt Motor

The stack feed-out belt motor is behind the front plate of the corner stack/staple unit.



d7340154

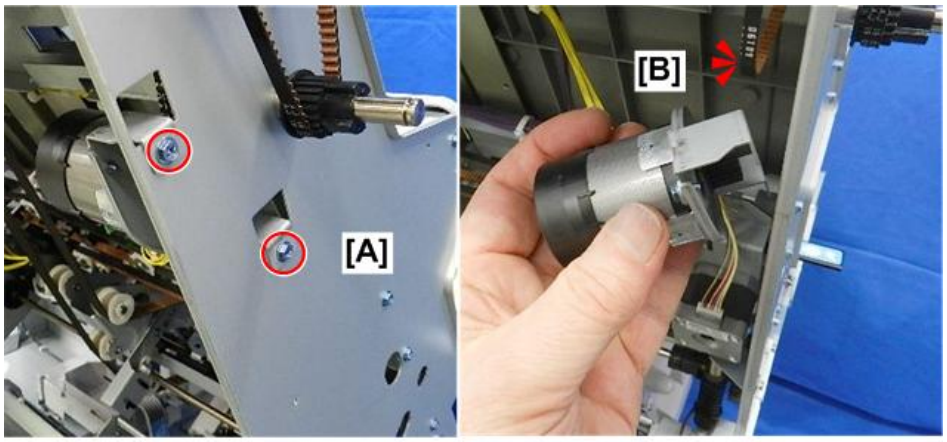
**Preparation**

- Booklet unit (Booklet Unit Removal)

1. Disconnect motor (x1).

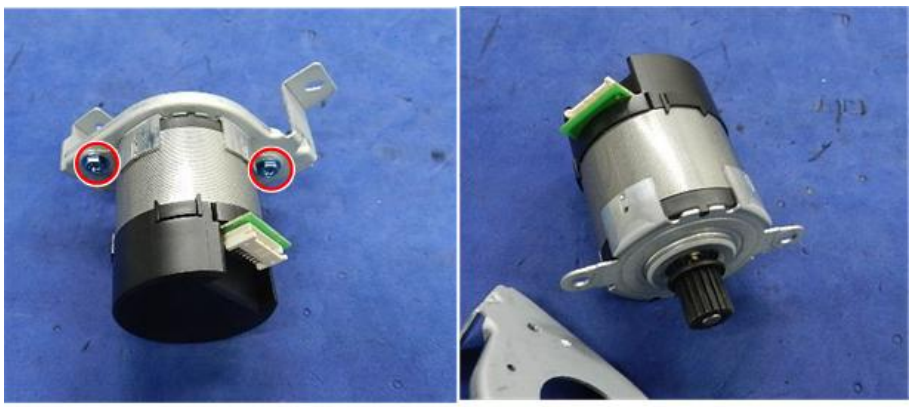
d7340155

2. At front [A] disconnect bracket ( x2).
3. Remove bracket (with motor attached) from rear [B] (x1).




d7340156

4. Separate motor and bracket ( x2).



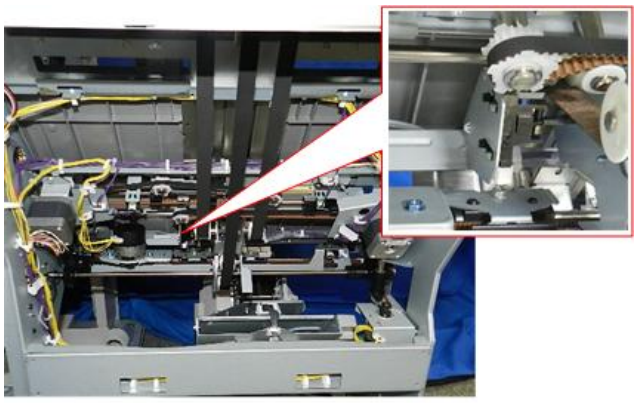
d7340157

## Stack Feed-Out Belt HP Sensor

**Preparation**

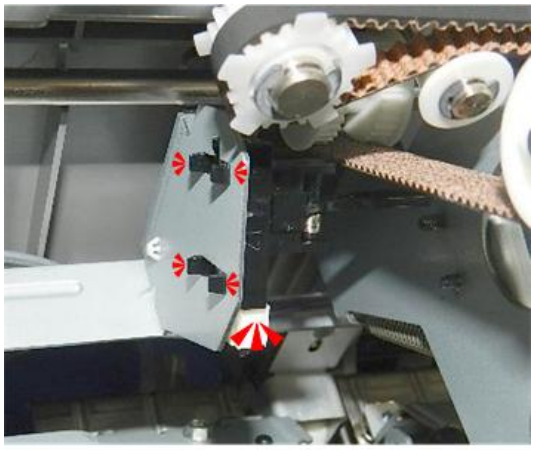
- Remove booklet unit (Booklet Unit Removal)

1. The sensor is to the left of the three belts.



d7340158

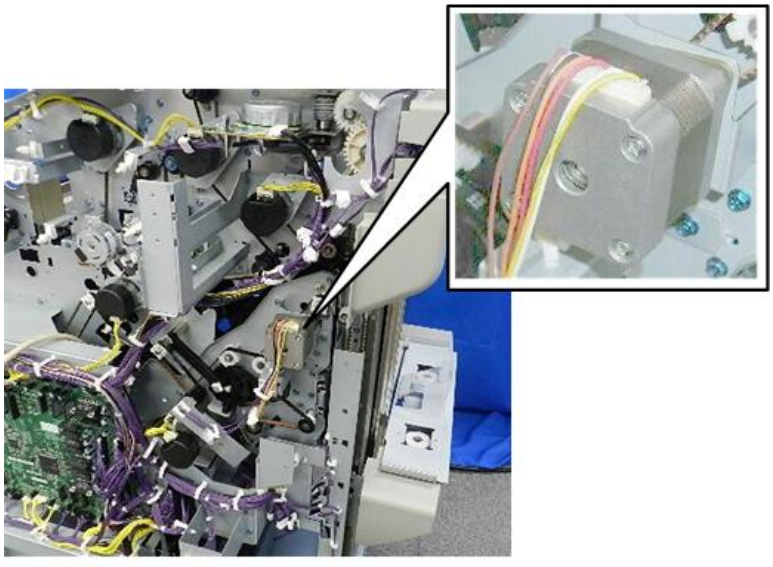
2. Disconnect and remove sensor ( x4, x1).



d7340159

## Stack Junction Gate Motor

The stack junction gate motor is on the back of the finisher.

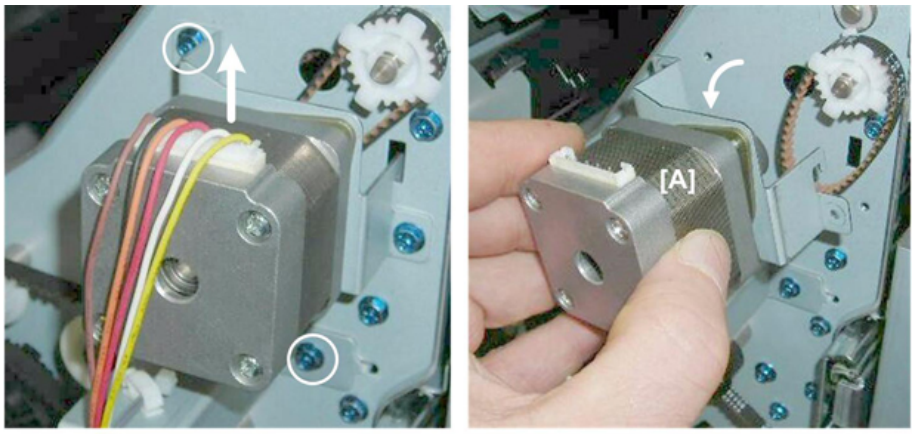


d7340160

**Preparation**

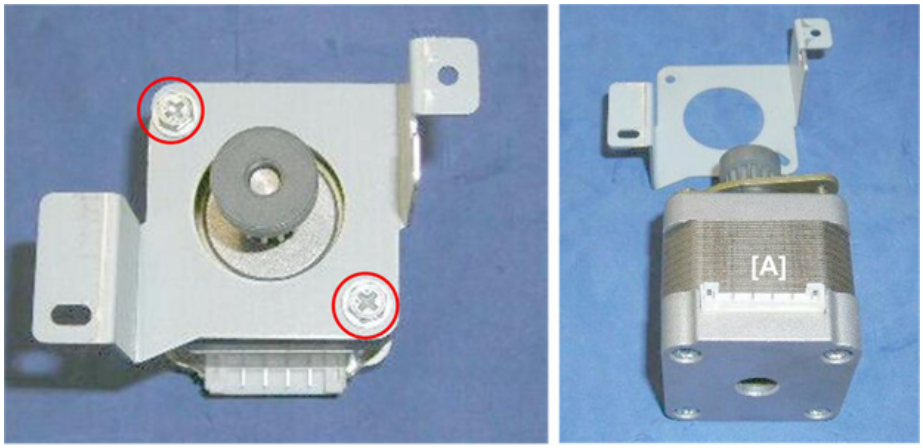
- Rear upper cover (Rear Upper Cover)

1. Remove motor [A] ( x1, x2).




d434r341

2. Separate the bracket and motor [A] ( x2).




d434r342

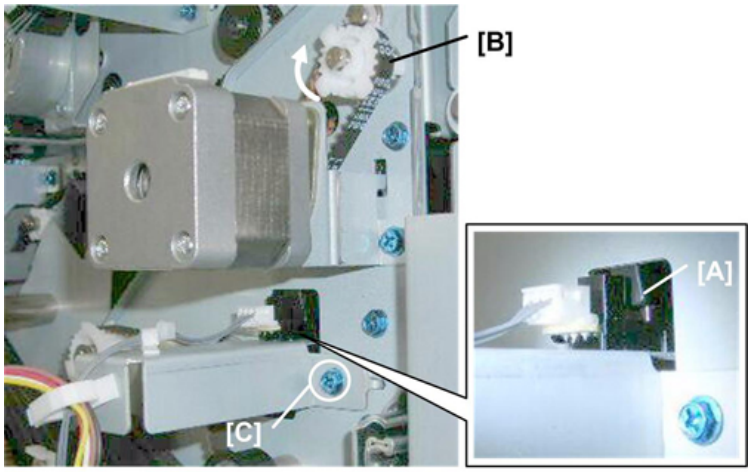
## Stack JG HP Sensor

**Preparation**

- Rear upper cover (Rear Upper Cover)

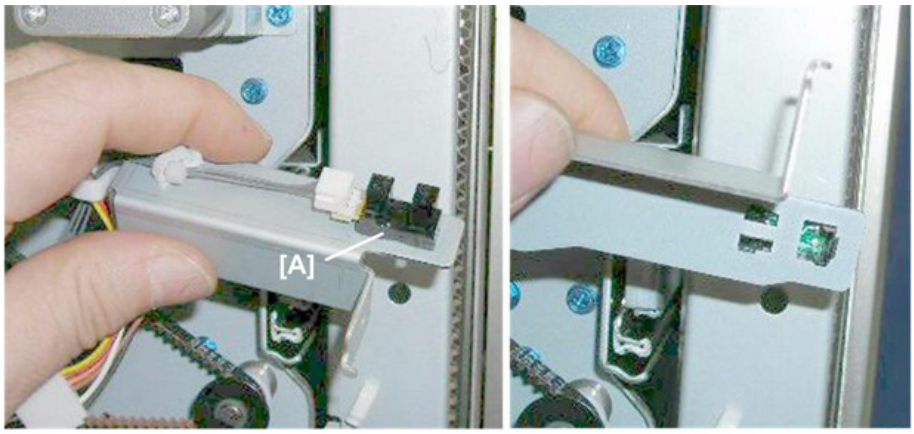
1. If the actuator [A] is in the gap of the sensor, rotate gear and belt [B] until the actuator is out of the gap.

2. Remove sensor bracket [C] ( x1).




d434r343

3. Remove sensor [A] ( x1, x5).

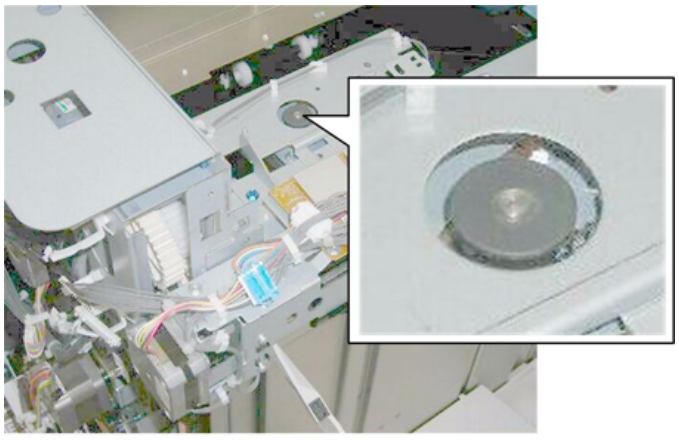



d434r344

## Corner Stapled Stack Exit to Shift Tray

### Exit Guide Motor

The exit guide motor assembly is at the left rear corner of the finisher.

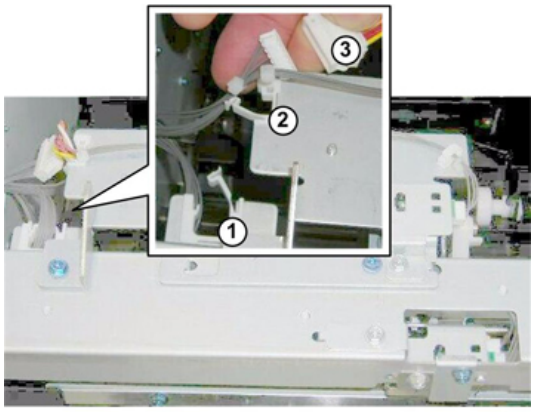


d434r345

**Preparation**

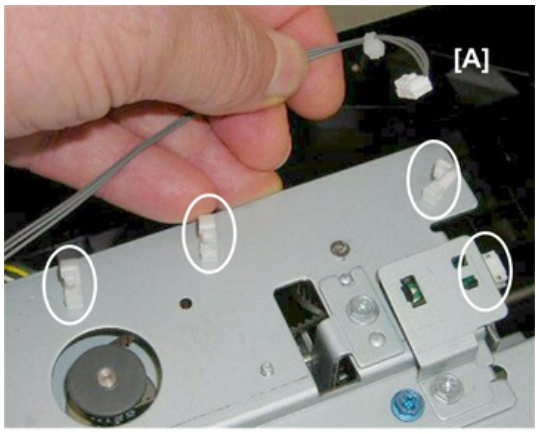
- Proof tray (Proof Tray)

1. Disconnect the harnesses ( x2, x1).



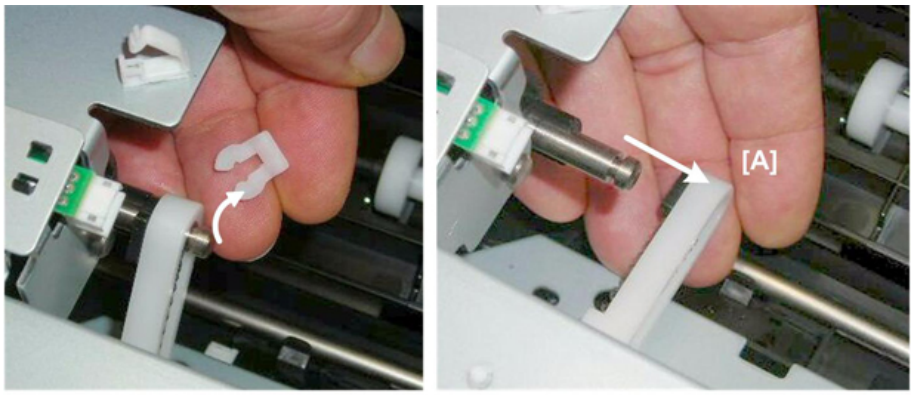

d434r346

2. Disconnect sensor harness [A] ( x3, x1)



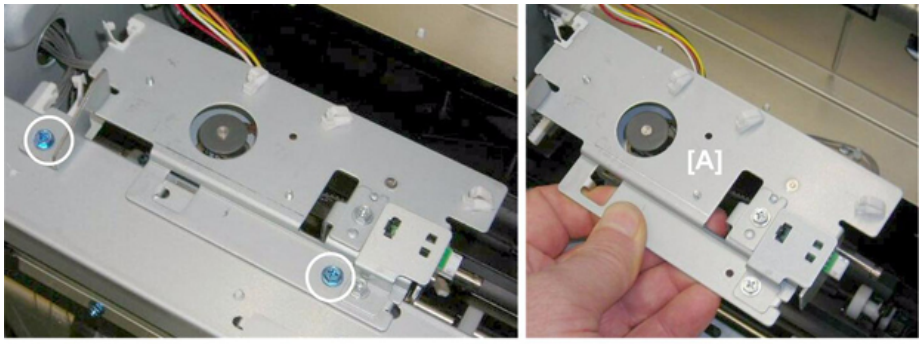

d434r347

3. Disconnect and remove rocker arm [A] ( x1).



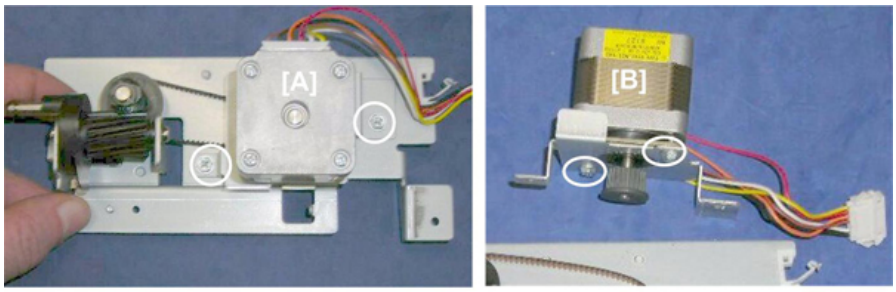

d434r348

4. Remove the exit guide plate assembly [A] ( x2).




d434r349

5. Disconnect motor [A] ( x2, x1)
6. Separate the motor [B] and bracket ( x2).



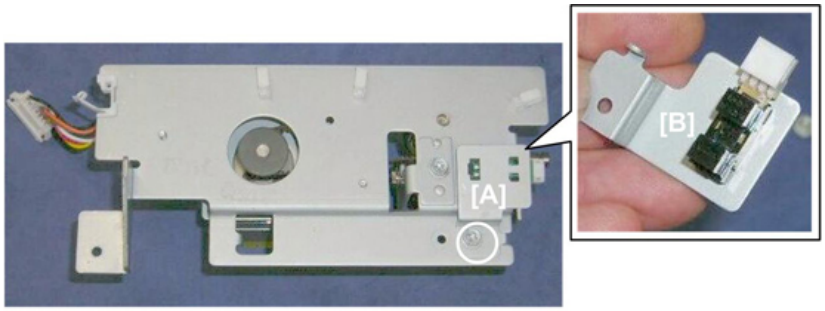

d434r350

## Exit Guide HP Sensor

**Preparation**

- Proof tray (Proof Tray

1. Remove the exit guide motor assembly (see the previous procedure)
2. Remove sensor bracket [A] ( x1, x1)
3. Remove sensor [B] ( x5).




d434r351

# Booklet Unit

## Booklet Stapler

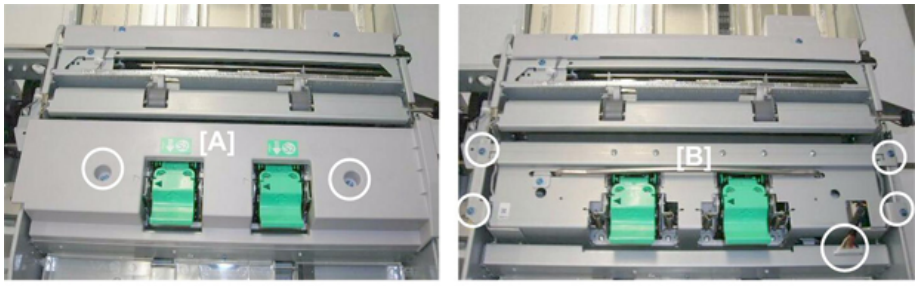
**Preparation**

- Remove booklet unit (Booklet Unit Removal)

Note

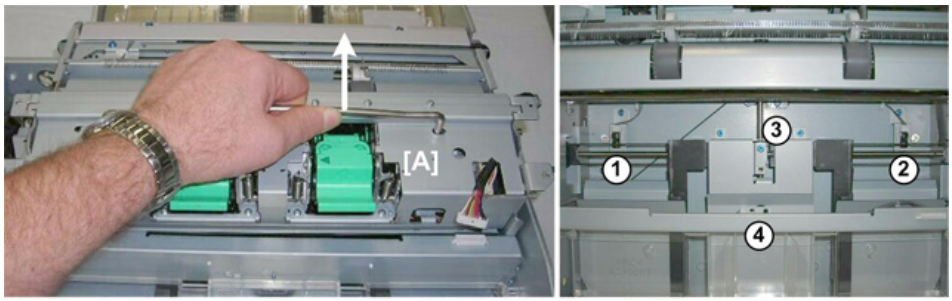
- This procedure describes removal of the booklet stapler after the booklet unit has been removed.
- Actually, the booklet stapler can be easily removed before removing the booklet unit.
- Removing the booklet stapler from the booklet stapler unit is recommended. This makes the booklet unit lighter and easier to handle.

1. Remove cover [A] ( x2).
2. Remove the stapler unit [B] ( x4, x1)




d434r352

3. Lift the stapler unit [A] out with its handle.
4. Four sensors are behind the stapler unit:
   ① Rear jogger fence HP sensor
   ② Front jogger fence HP sensor
   ③ Bottom fence HP sensor
   ④ Folder unit entrance sensor




d434r353

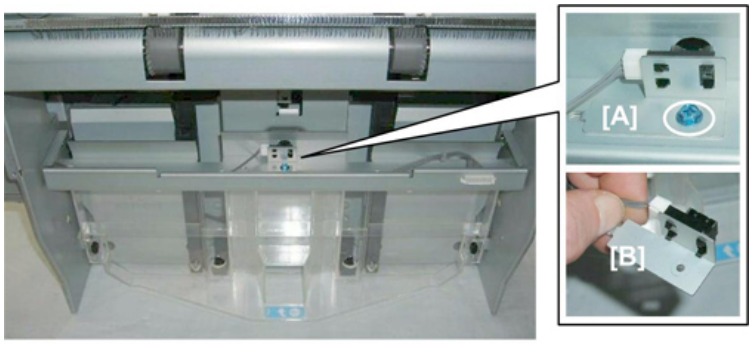
## Booklet Unit Transport, Entrance

### Fold Unit Entrance Sensor

**Preparation**

- Booklet unit (Booklet Unit Removal)
- Booklet stapler (Booklet Stapler)

1. Remove sensor bracket [A] ( x1).
2. Remove sensor [B] ( x1, x5)

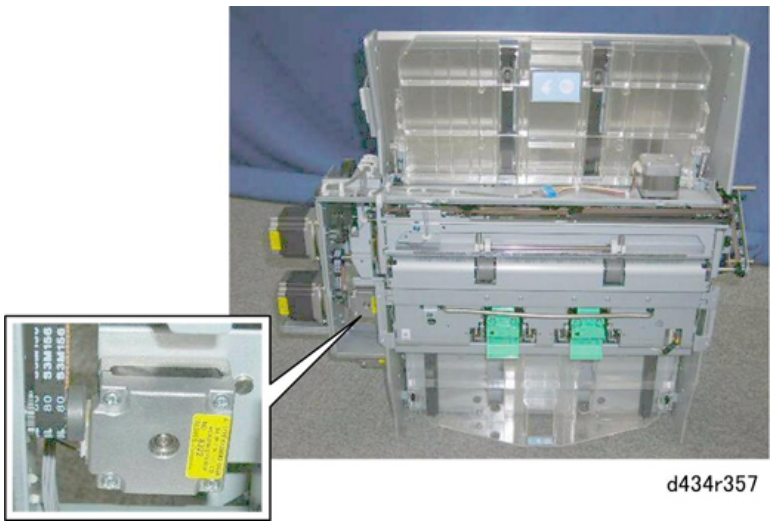



d434r354

## Booklet Side-to-Side Jogging

### Booklet Stapler Side Fence Motor

The booklet stapler side fence motor is on the back of the booklet unit.

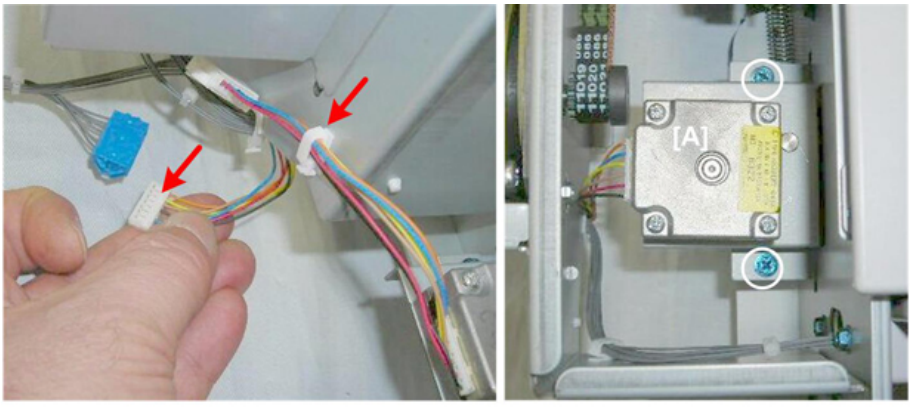


d434r357

**Preparation**

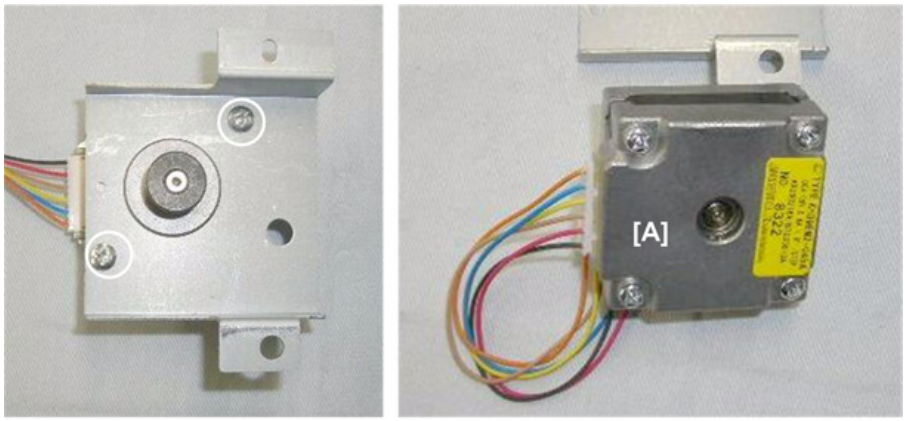
- Booklet unit (Booklet Unit Removal)

1. Remove motor [A] ( x1, x1, x2)




d434r358

2. Separate motor [A] from the bracket ( x2).




d434r359

## Booklet Stapler Side Fence HP Sensor (Front)

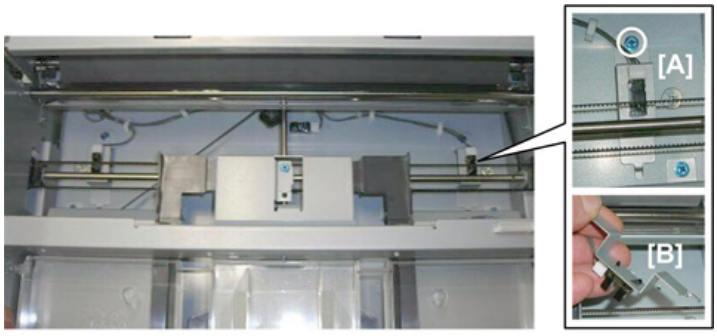
**Preparation**

- Booklet unit Booklet Unit Removal)
- Booklet stapler (Booklet Stapler)

1. Remove:

   [A] Sensor bracket ( x1)

   [B] Sensor ( x1, x5)




d434r360

## Booklet Stapler Jogger HP Sensor (Rear)

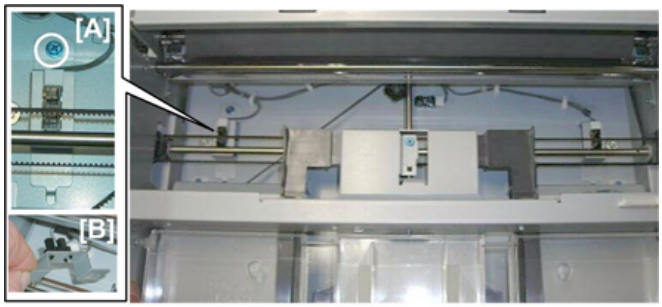
**Preparation**

- Booklet unit (Booklet Unit Removal)
- Booklet stapler (Booklet Stapler)

1. Remove:

   [A] Sensor bracket ( x1)

   [B] Sensor ( x1, x5)




d434r361

## Booklet Bottom, Top Jogging

### Booklet Stapler Bottom Fence Motor

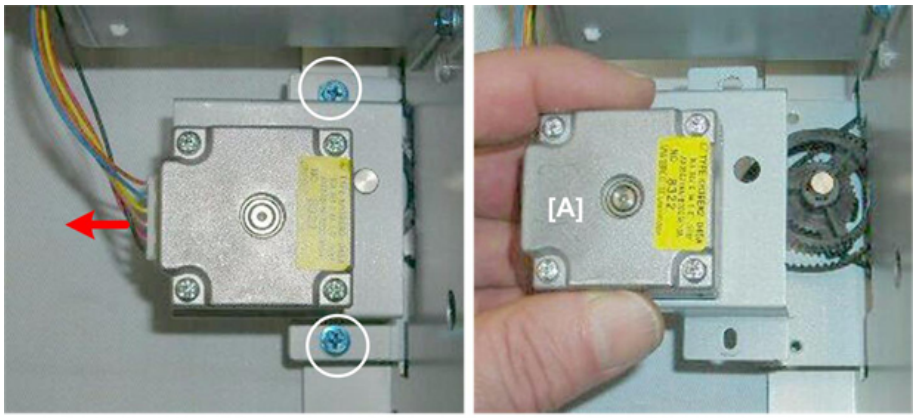
The booklet stapler bottom fence motor is on the back of the booklet unit.

d434r362

**Preparation**

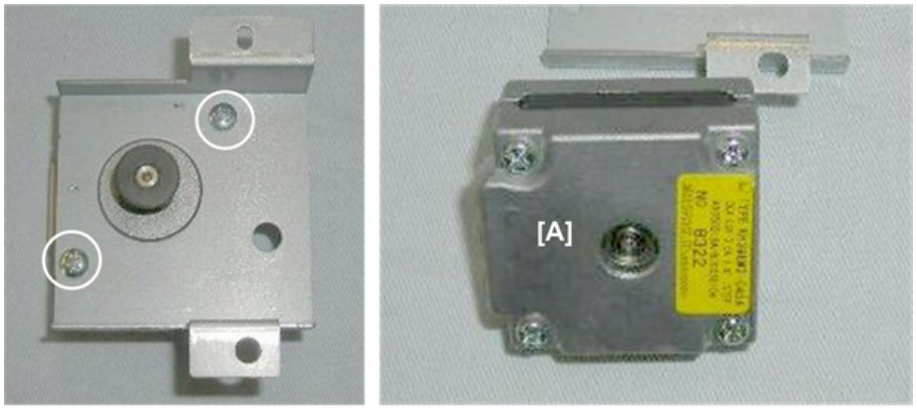
- Booklet unit (Booklet Unit Removal)

1. Remove motor [A] ( x2, x1).




d434r363

2. Separate the motor [A] from the bracket ( x2).



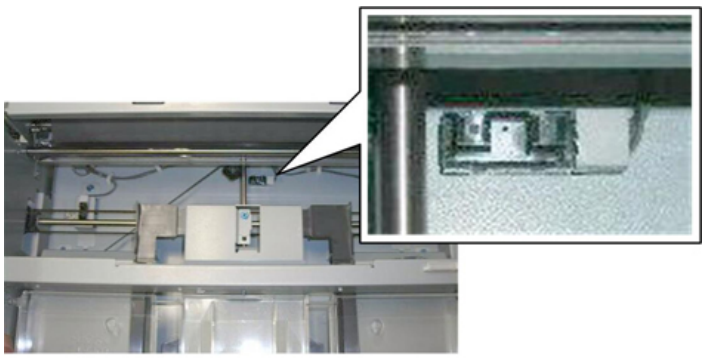

d434r364

## Booklet Stapler Bottom Fence HP Sensor

**Preparation**

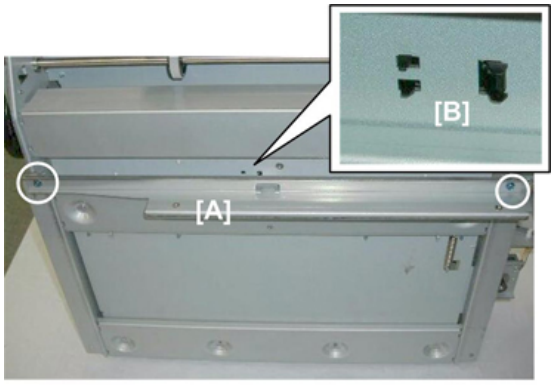
- Booklet unit (Booklet Unit Removal)
- Booklet stapler (Booklet Stapler)

1. The bottom fence HP sensor is fastened to the right plate of the booklet unit.



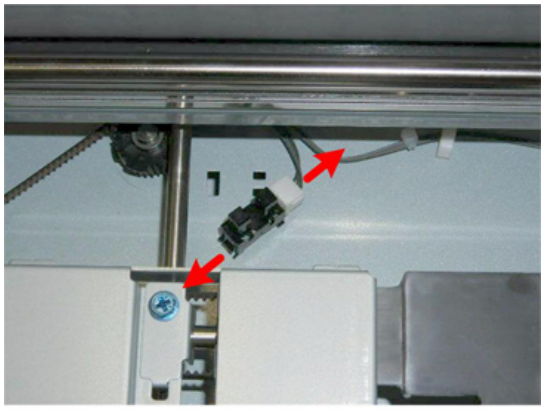
d434r365

2. On the right side, remove brace [A] so that you can see the sensor pawls ( x2).
3. Release the pawls [B] and push them through the plate ( x5).




d434r366

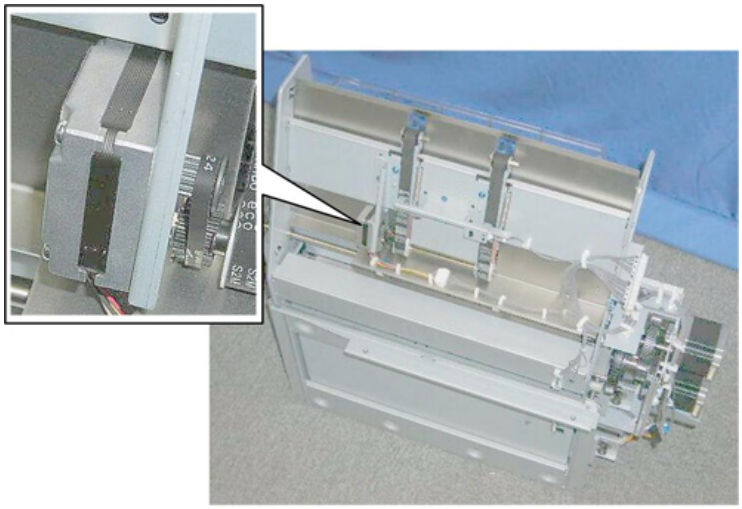
4. Disconnect the sensor ( x1).



d434r367

## Booklet Stapler Top Fence Motor

The top fence motor and sensor are on top of the booklet unit.

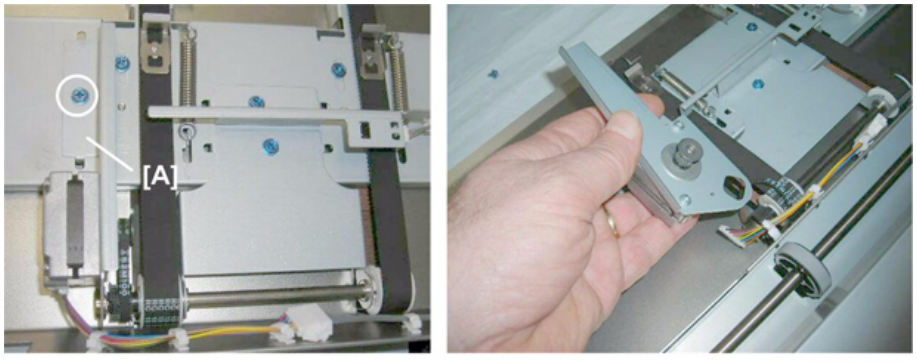


d434r368

**Preparation**

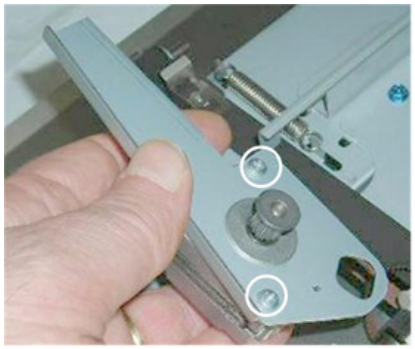
- Booklet unit (Booklet Unit Removal)

1. Remove sensor bracket [A] ( x1, x1)




d434r369

2. Separate motor [A] from the bracket ( x2)



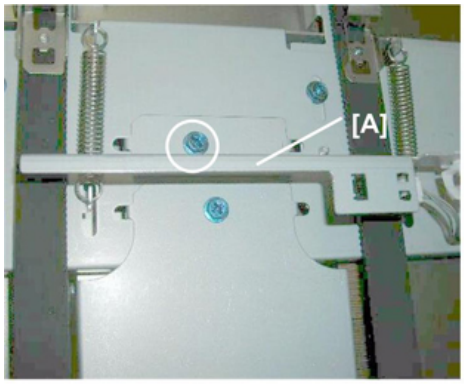

d434r370

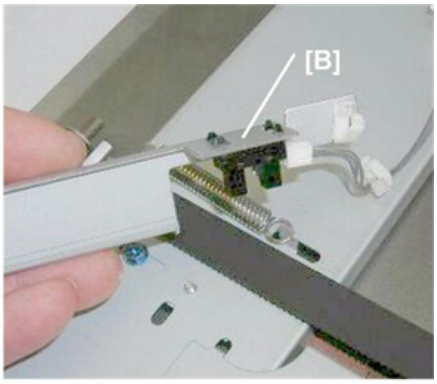
### Booklet Top Fence HP Sensor

**Preparation**

- Booklet unit (Booklet Unit Removal)

1. Remove sensor bracket [A] ( x1).
2. Remove sensor [B] ( x1, x1, x5)



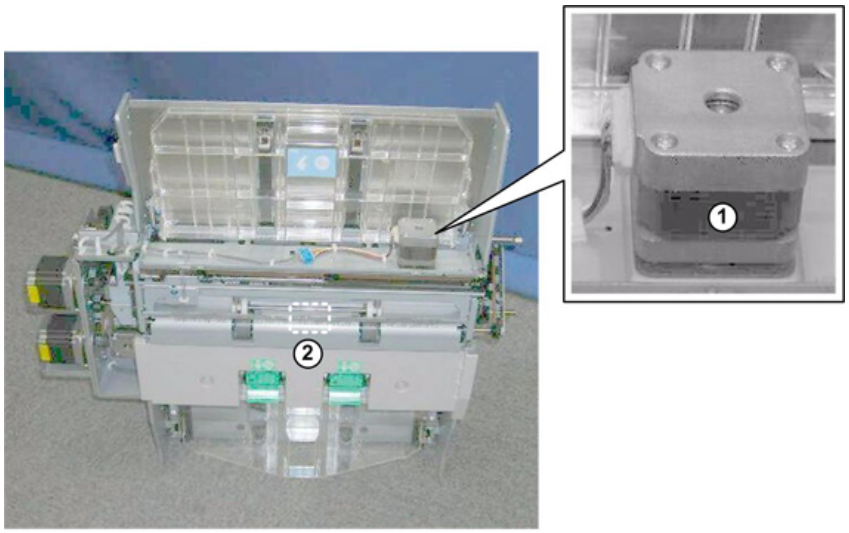




d434r371

## Booklet Press for Stapling

### Booklet Stapler Clamp Roller Motor, Booklet Stapler Exit Sensor

The booklet stapler clamp roller motor ① and booklet stapler exit sensor ② cannot be removed until the motor base has been removed.




d434r372

**Preparation**

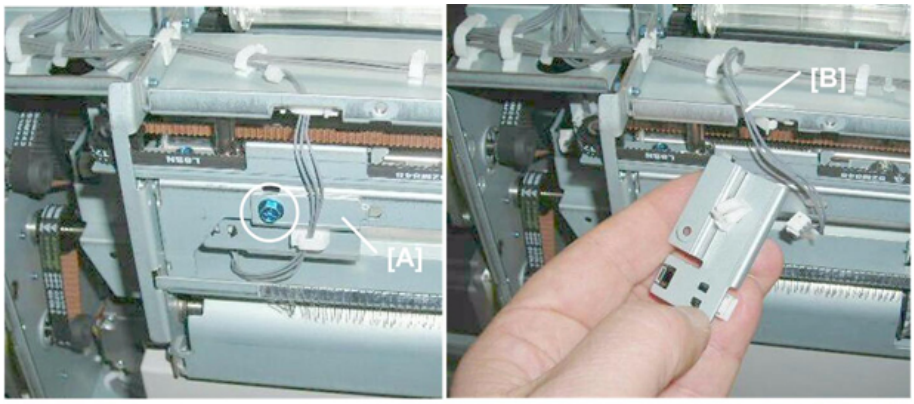
- Booklet unit (Booklet Unit Removal)

**Motor Base Plate**

1. Remove cover [A] ( x2).

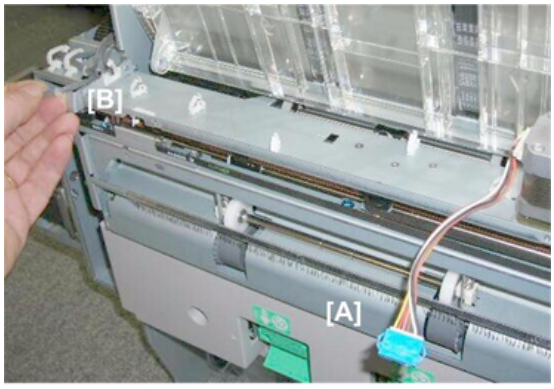

d434r373

2. Disconnect sensor bracket [A] and harness [B] ( x1, x2, x1).



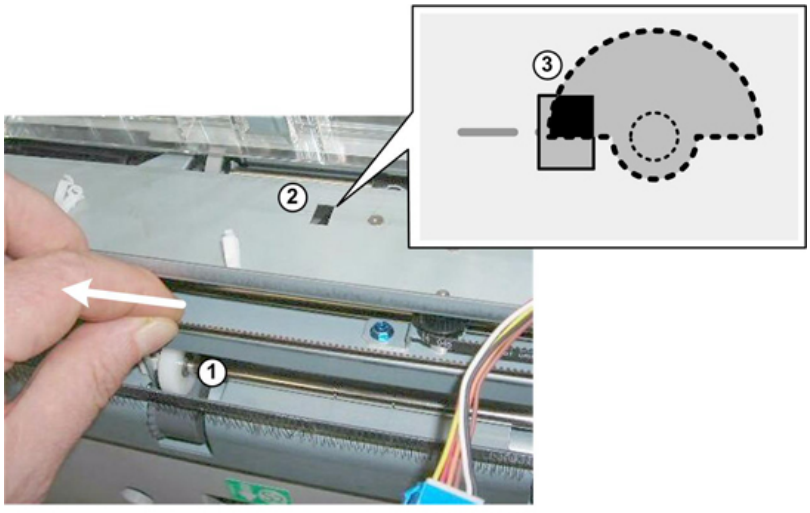

d434r374

3. Disconnect motor harness [A] ( x6, x1).



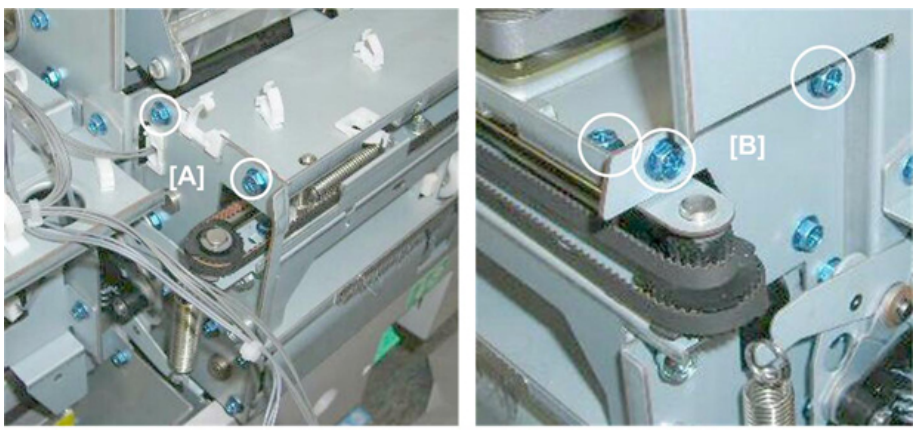

d434r375

4. Pull belt ① until you can see through the hole ② that the edge of the actuator ③ below the hole is aligned as shown.
   - The edge of the actuator and the line on the left side of the hole must be aligned.
   - This releases the clamp roller so that there is no pressure on the base plate.



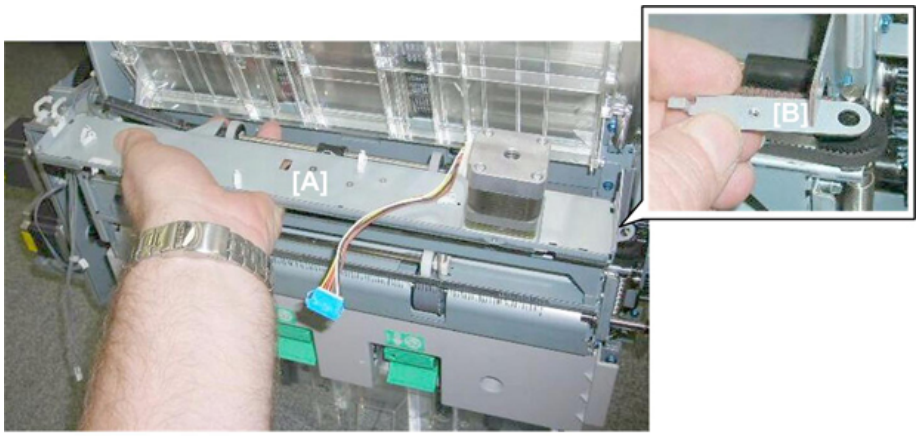

d434r376

5. Remove:
   [A] Rear ( x2)
   [B] Front ( x3)




d434r377

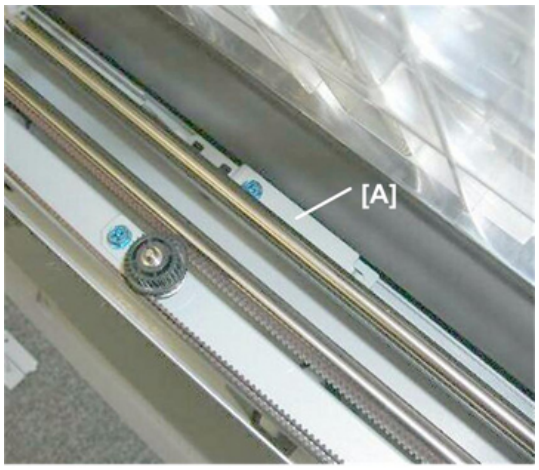
6. Remove base plate [A].
7. Remove end-piece [B].




d434r378

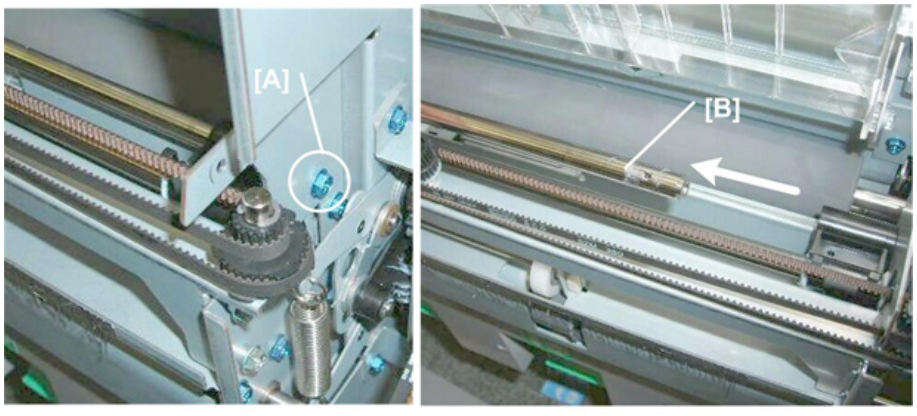
**Exit Sensor**

A guide shaft blocks access to the exit sensor bracket [A].




d434r379

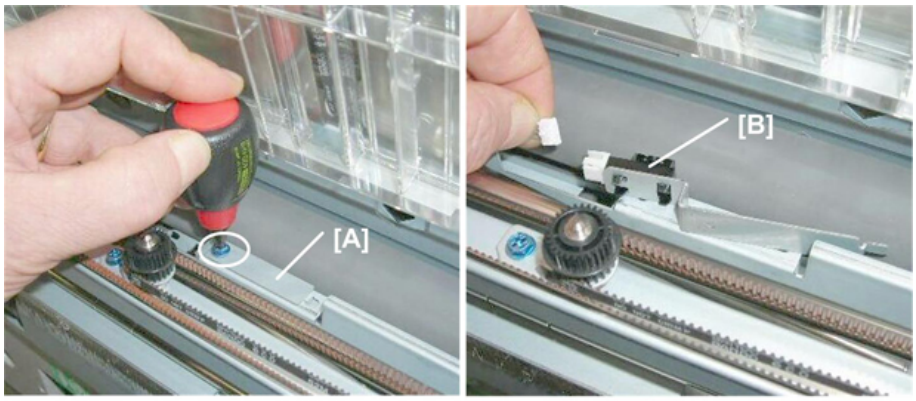
8. Remove guide shaft screw [A] ( x1).
9. Rotate then slide the guide shaft [B] to the rear until you have enough space to remove the bracket screw. (The guide does not need to be removed.)




d434r380

10. Use a short screwdriver to remove the exit sensor bracket [A] ( x1).

11. Disconnect the exit sensor [B] ( x1, x5).

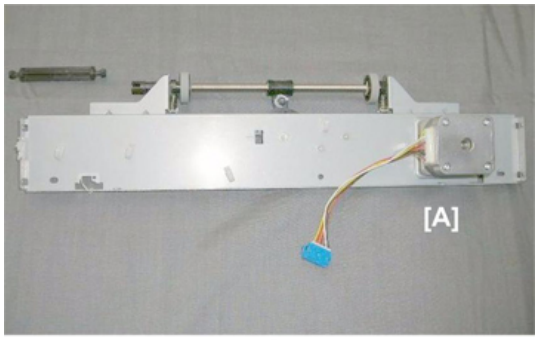



d434r381

**Booklet Stapler Clamp Roller Motor**

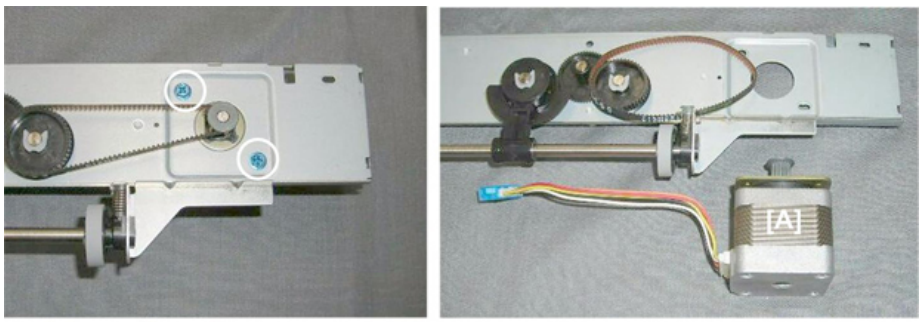
**Preparation**

12. Lay the motor base plate [A] on a flat surface.
13. Turn the base plate over.




d434r382

14. Remove motor [A] ( x2, x1).

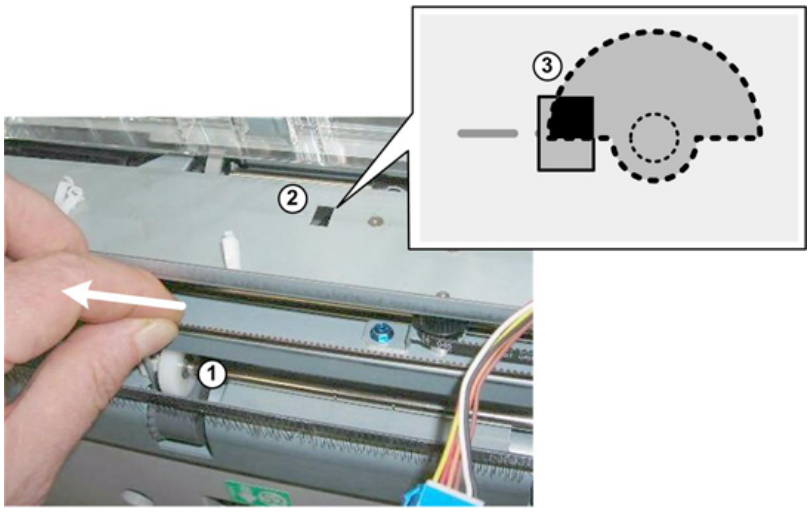



d434r383

**Re-installation**

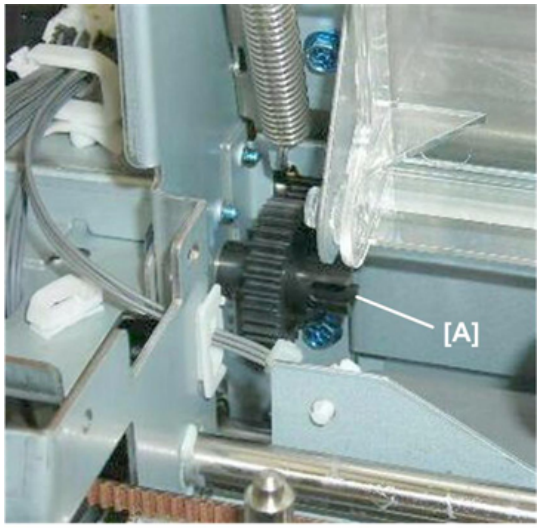
1. To make sure there is no pressure on the base plate, pull belt ① until you can see through the hole ② that

the edge of the actuator ③ below the hole is aligned as shown.




d434r376

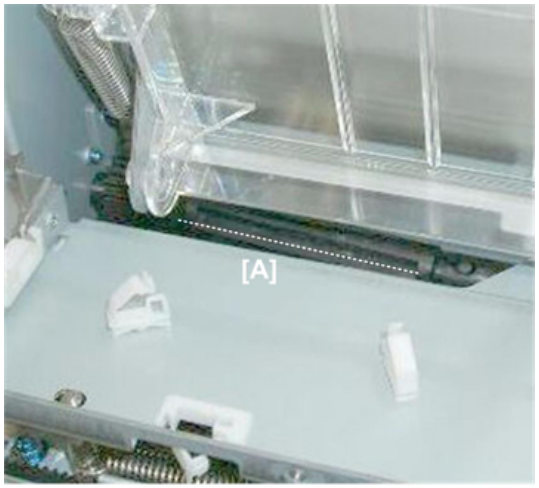
2. Turn gear [A] so that you can see the cut-out. The post of the linkage must be re-inserted here when the motor base plate is re-installed.




d434r384

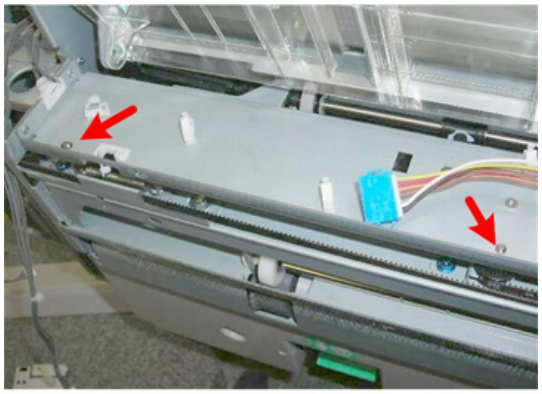
3. After the motor base plate [A] has been re-installed, the linkage will not be straight. It will slant slightly from

rear to front. This is normal.



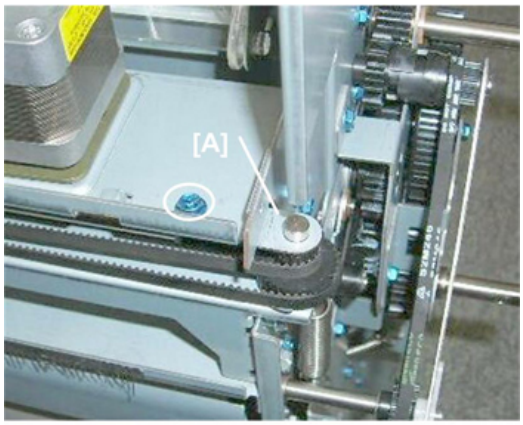

d434r385

4. Confirm that the ends of the vertical shafts fit correctly through the holes in the motor base plate before you re-attach any screws.



d434r386

5. Re-attach end-piece [A] at the front before you re-attach any other screws.




d434r387

## Booklet Stapler Clamp Roller HP Sensor

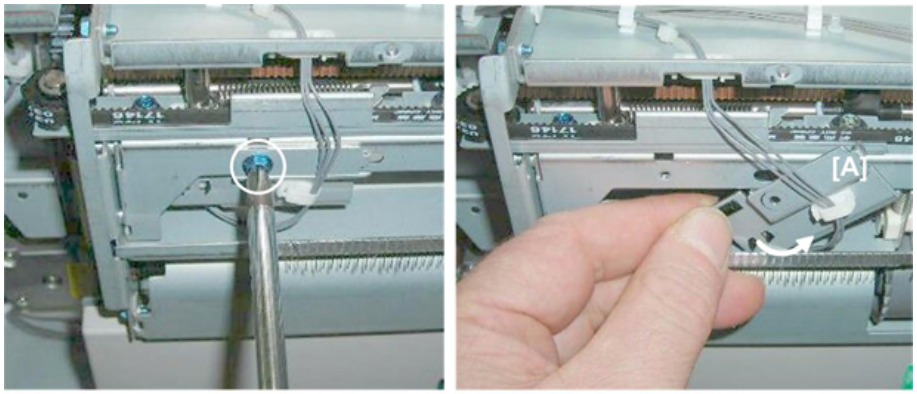
### Preparation

- Booklet unit (Booklet Unit Removal)

1. Remove cover [A] ( x2).

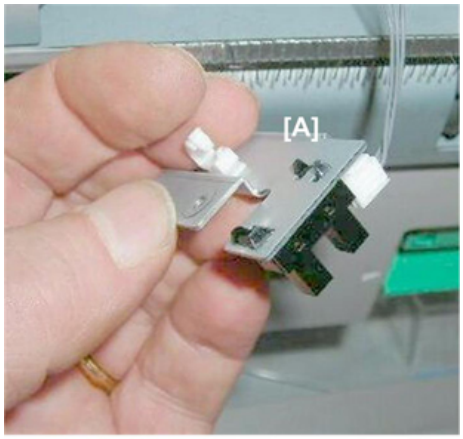

d434r388

2. Remove sensor bracket [A] ( x1).




d434r389

3. Remove sensor [A] ( x1, x5).

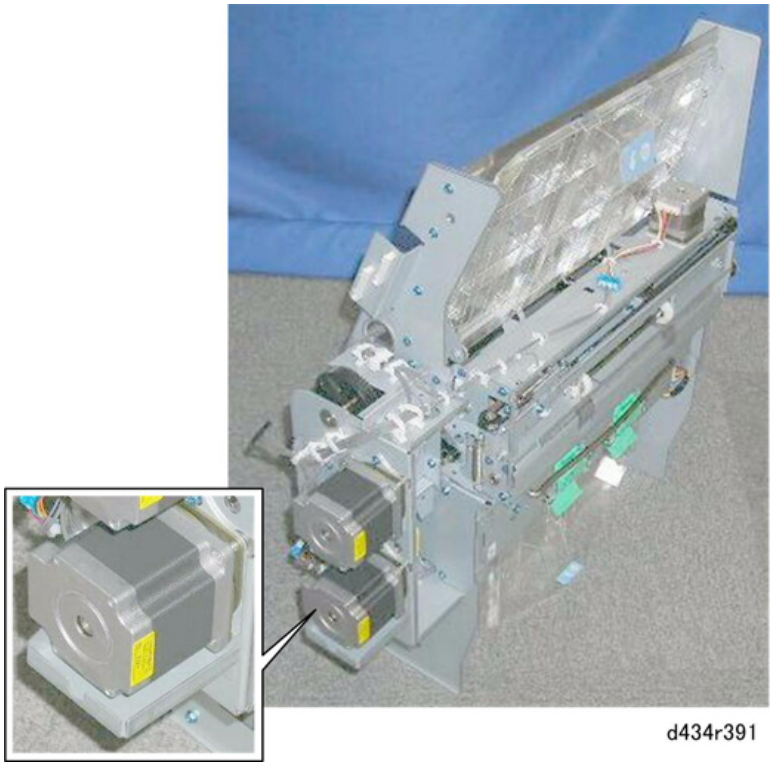



d434r390

## Booklet Folding

### Fold Roller Motor

The fold plate motor is on the back of the booklet unit, below the fold roller motor.

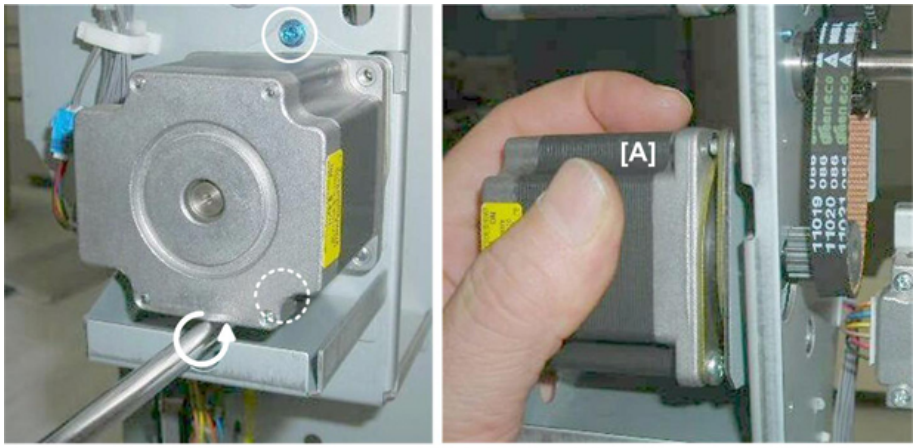


d434r391

**Preparation**

- Booklet unit (Booklet Unit Removal)

1. Disconnect motor [A] ( x2, x1).




d434r392

2. Remove the motor.

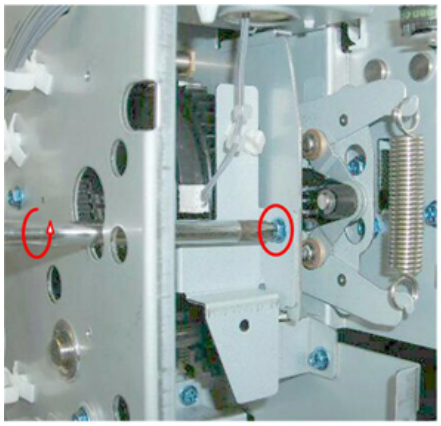
d434r393

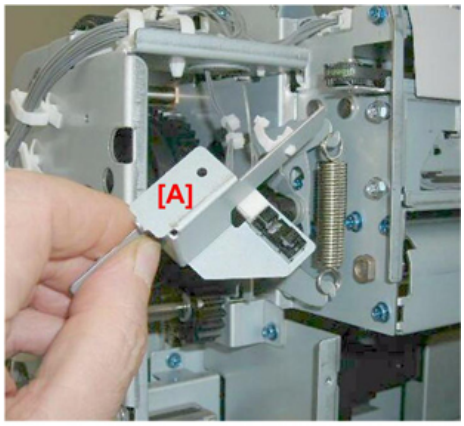
## Fold Plate Cam HP Sensor

**Preparation**

- Booklet unit (Booklet Unit Removal)
- Fold roller motor (described in the previous section)

1. Remove sensor bracket [A] ( x1, x1, x1).
2. Sensor ( x5)






d434r394

## Fold Plate HP Sensor

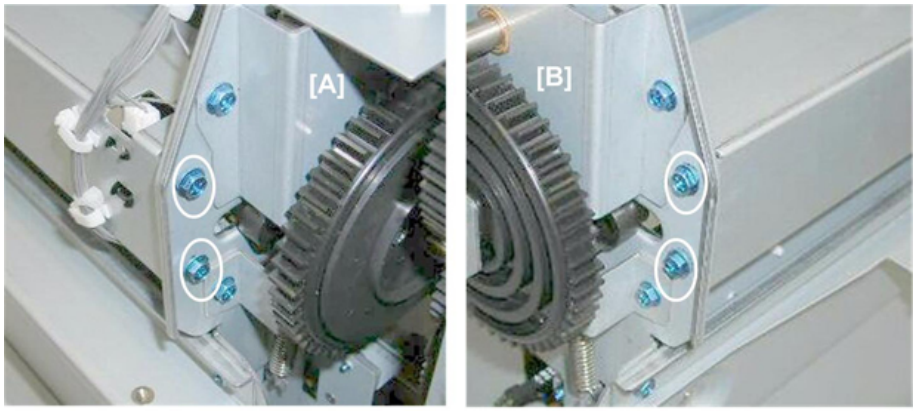
**Preparation**

- Booklet unit (Booklet Unit Removal)

1. Remove:

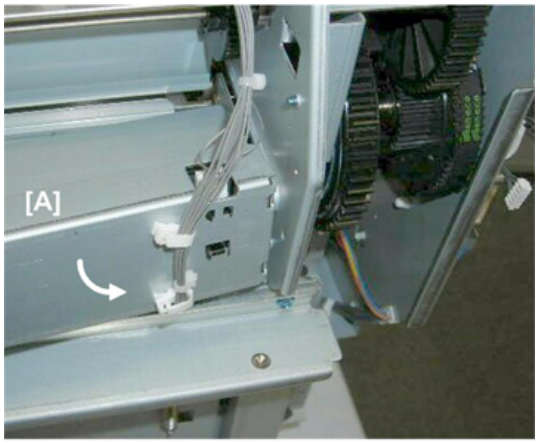
   [A] Rear ( x2)

   [B] Front ( x2)



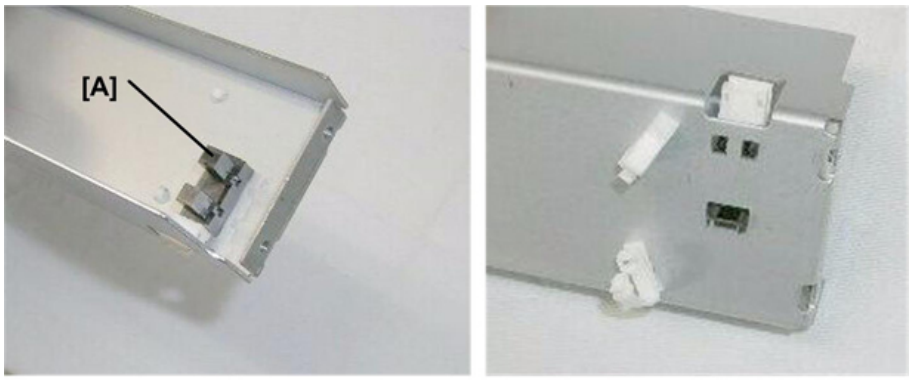

d434r395

2. Remove cross-brace [A] ( x2, x1)




d434r396

3. Sensor [A] ( x5)

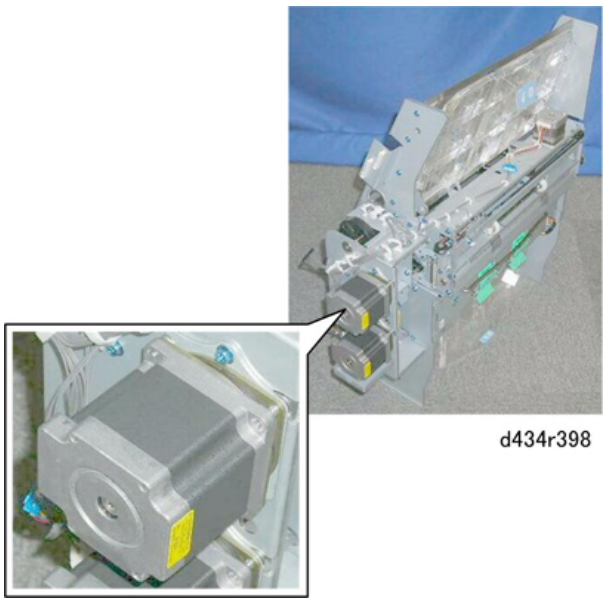



d434r397

## Booklet Exit

### Fold Roller Motor

The fold roller motor is on the back of the booklet unit, above the fold plate motor.

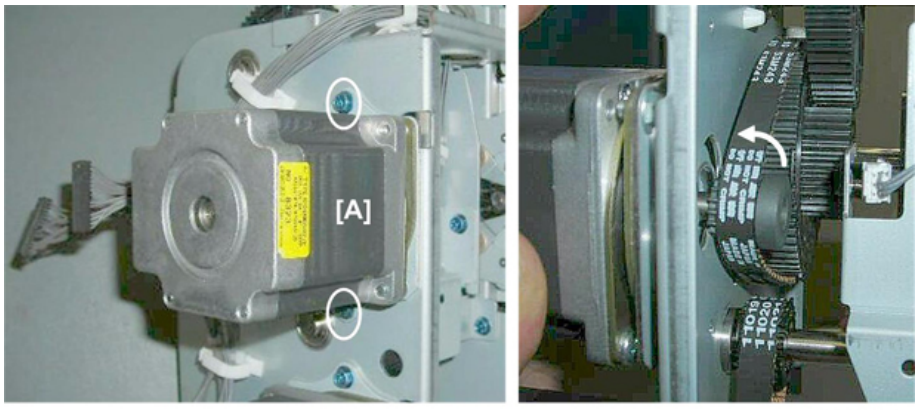


d434r398

**Preparation**

- Booklet unit (Booklet Unit Removal)

1. Disconnect motor [A] ( x2, x1).




d434r399

2. Remove the motor.

d434r400

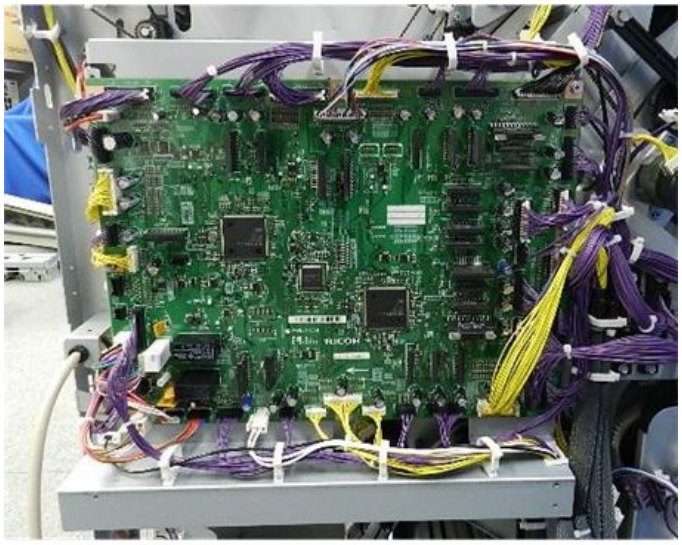
# Boards

## Main Board

**Preparation**

- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)

1. The main board is on the back of the machine.



d7340161

2. Disconnect the board (x44).
    - There are approximately 17 clamps around the board.
    - Open only as many clamps as necessary to remove the board. This will keep the connectors aligned and make it easier to re-connect them.

d7340162

3. Disconnect the board ( x8).

d7340163

4. Remove the board.

d7340164

## Punch Unit PCB

**Preparation**

- Rear upper cover (Rear Upper Cover)
- Rear lower cover (Rear Lower Cover)

1. Remove the punch unit PCB (x6, x4).

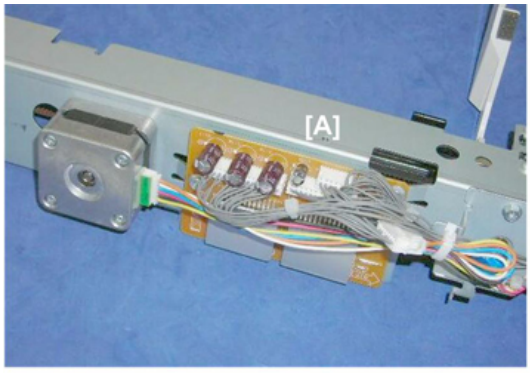

d434r412

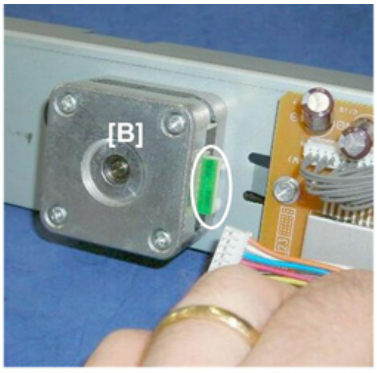
## Shift Tray Jogger Unit PCB

**Preparation**

- Shift tray jogger unit (Shift Tray Jogger Unit)

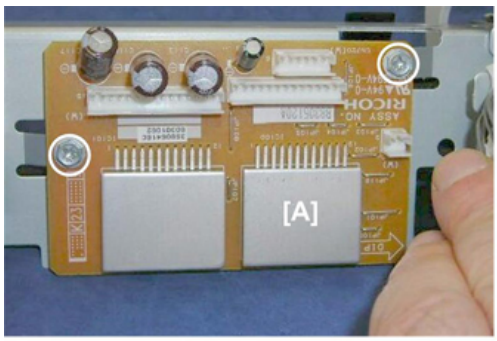
1. Lay the shift tray jogger unit [A] on a flat surface.
2. Disconnect motor [B]. (x1)

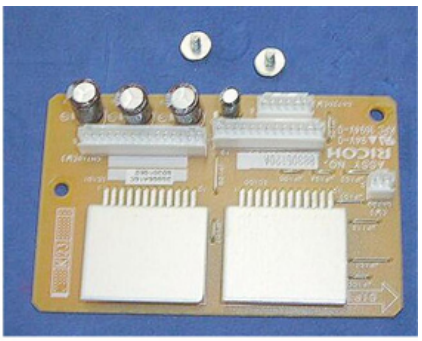



d434r413

3. Remove PCB [A] (x5, x2).



d434r414

## PSU

**Preparation**

- Switch the system off.
- Disconnect the finisher from its power source.
- Wait at least 30 minutes.
- Right panels (Upper, Lower Right Panels)

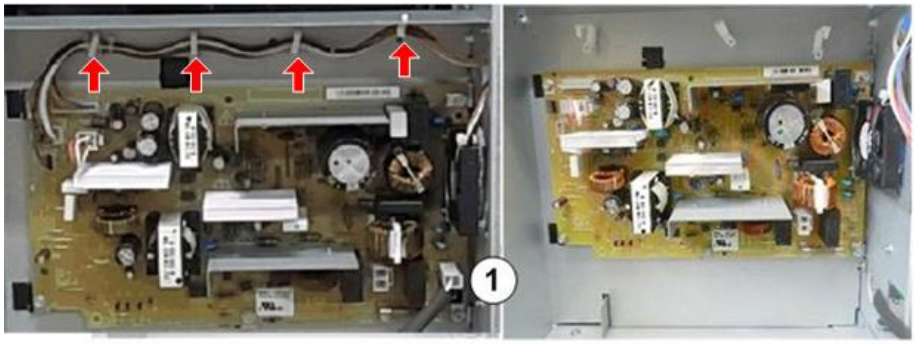
**⚠CAUTION**

- The PSU will retain residual charge, even after the machine has been turned off.
- Allow at least 30 minutes for any residual charge to dissipate before you touch the PSU.

1. The PSU is on the bottom right edge of the unit.

d7340165

2. Disconnect the board (x3, x5).

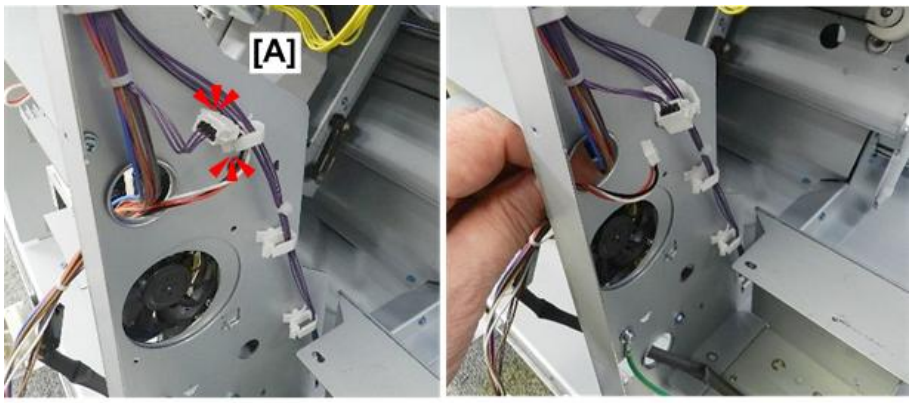



d7340506

Important

- Be sure to re-connect the bayonet connectors at ① White above Black.

3. At the rear [A] disconnect the fan (x1, x1).

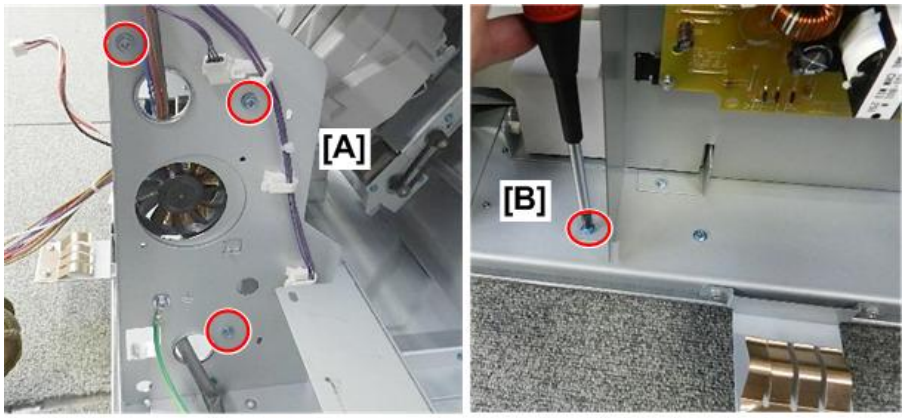



d7340167

4. Disconnect the board bracket:

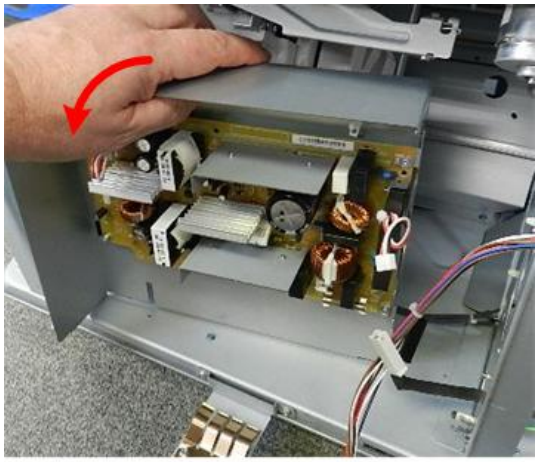
   [A] Rear ( x3)

   [B] Front ( x1)



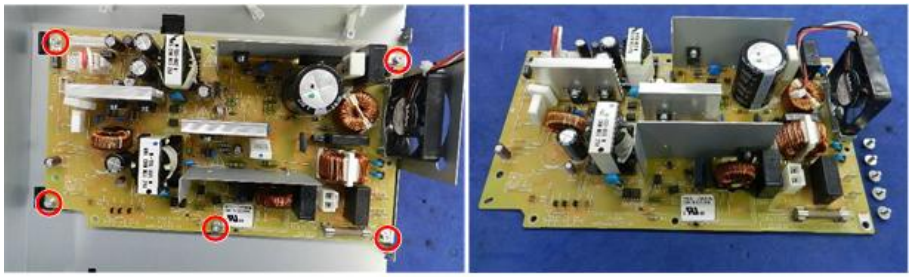

d7340168

5. Remove the bracket (with board attached).



d7340169

6. Separate board and bracket (x5).



d7340170

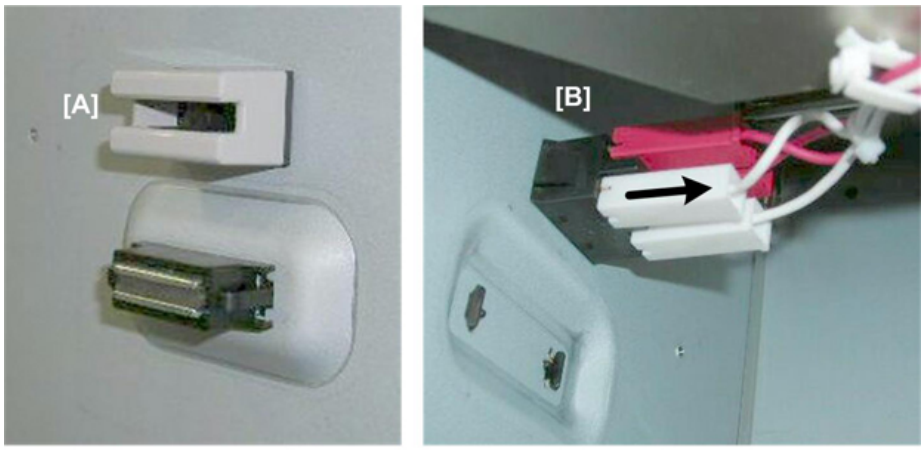
# Switches

## Front Door Switch

**Preparation**

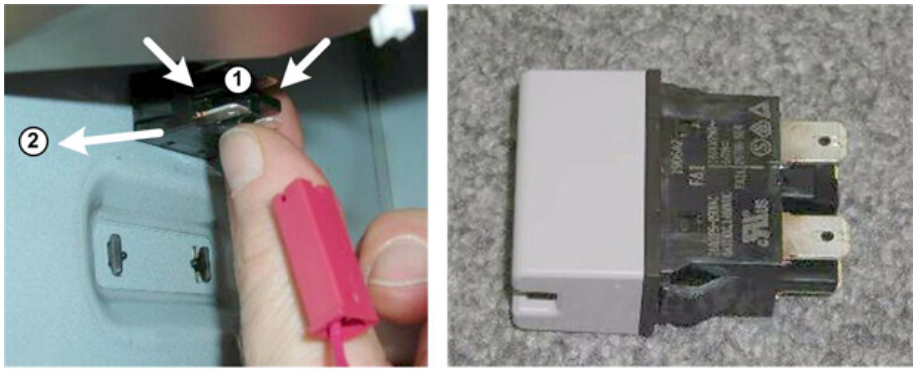
- Open the front door.
- Upper inner cover (Upper Inner Cover: Rb2, Rb8)

1. Locate the door switch [A] on the front.
2. Inside the finisher, disconnect switch [B] (x4).




d434r416

3. Pinch both sides of the switch and push it out.




d434r417

## Emergency Shift Tray Stop Switch

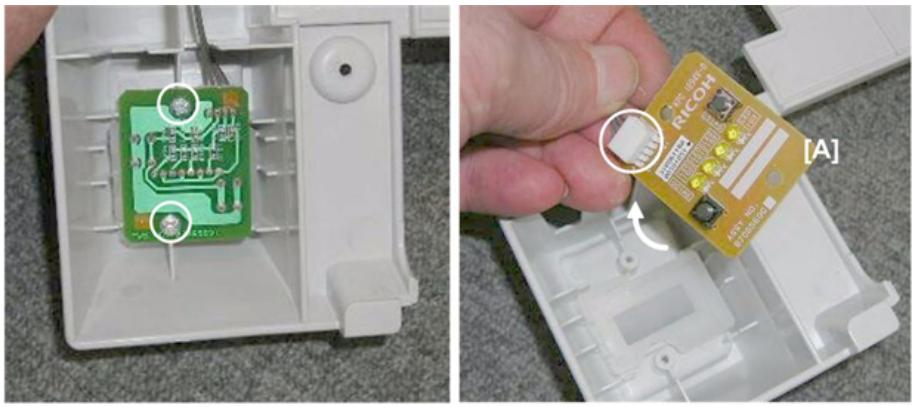
**Preparation**

- Shift tray jogger unit (Shift Tray Jogger Unit)
- Left upper cover (Left Upper Cover)

1. The switch [A] is on the front end of the left upper cover.


d434r420

2. Turn the cover over.
3. Remove the switch [A] ( x2, x1).



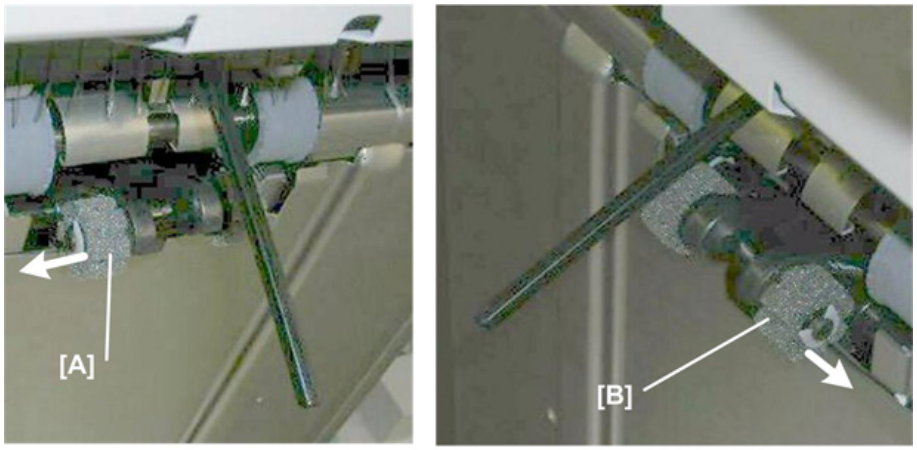

d434r421

# Rollers and Brushes

## Rollers

### Drag Roller

1. Replace:
   [A] Rear ( x1, Belt x1)
   [B] Front (x1, Belt x1)



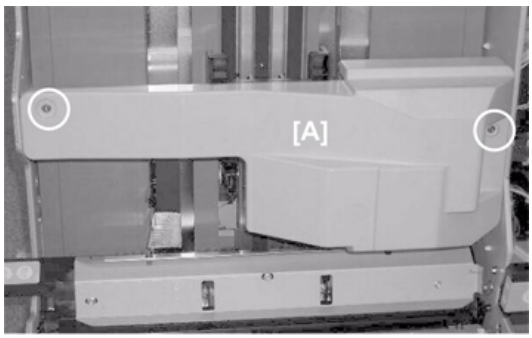

d434r422

### Positioning Roller

**Preparation**

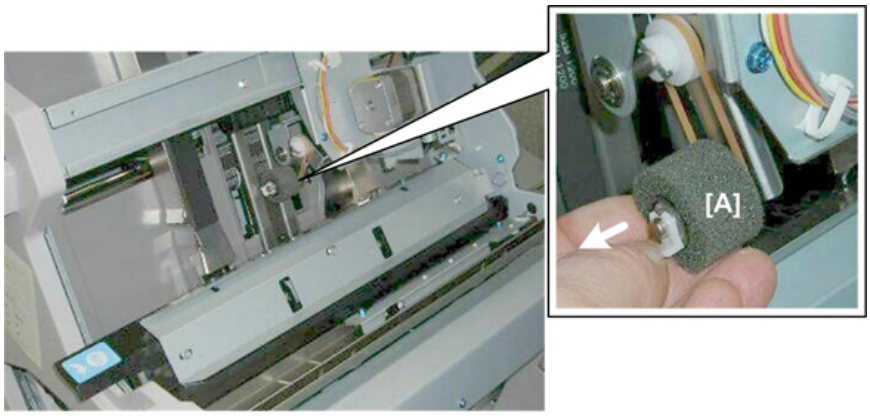
- Open the front door.
- Pull out the stack/staple unit with handle **Rb12**.

1. Remove motor cover [A] (x2).




d434r423

2. Replace sponge roller [A] ( x1, x1)




d434r424

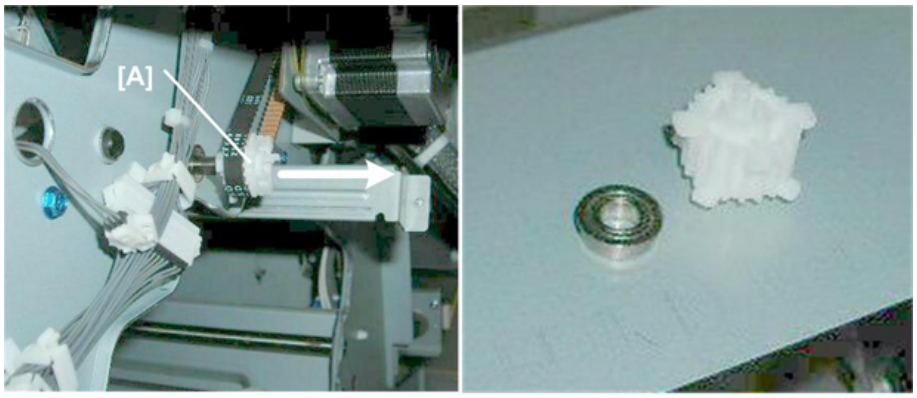
## Alignment Brush Roller

**Preparation**

- Open the front door.
- Lower inner cover **Rb10**, **Rb11** (Lower Inner Cover: Rb10, Rb11)
- Center inner cover **Rb14**, **Rb16** (Center Inner Cover: Rb14, Rb16)
- Right panel (Upper, Lower Right Panels)

**Rear**

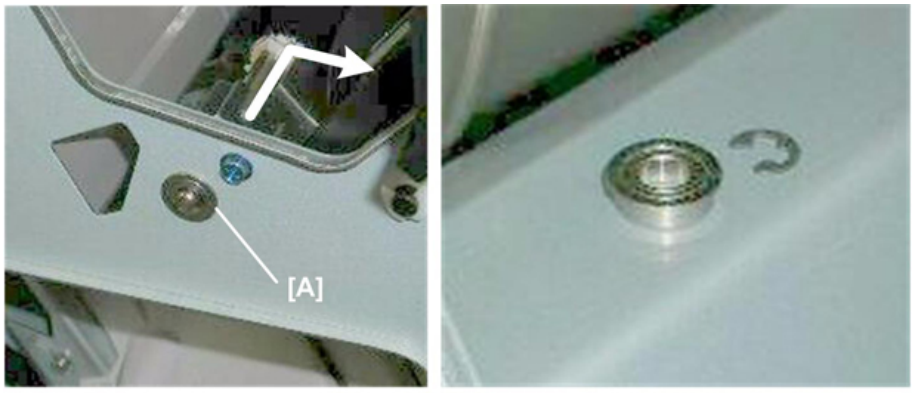
1. Remove gear [A].
2. Remove gear and bushing ( x1, x1, Bushing x1)




d434r425

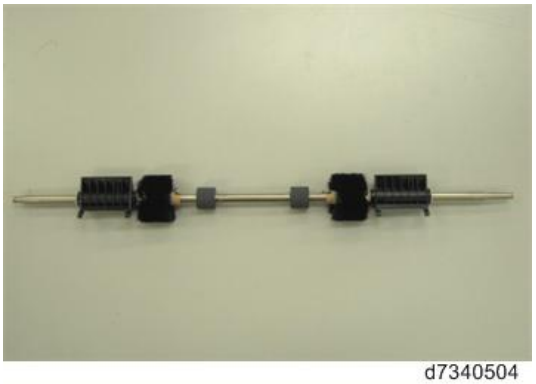
**Front**

1. Remove the bushing [A] (x1).




d434r426

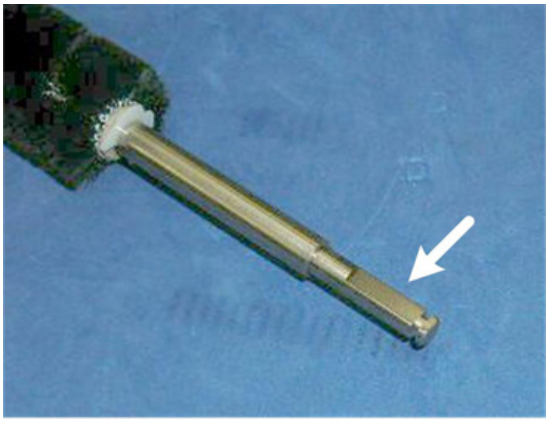
2. Remove the alignment brush roller.



d7340504

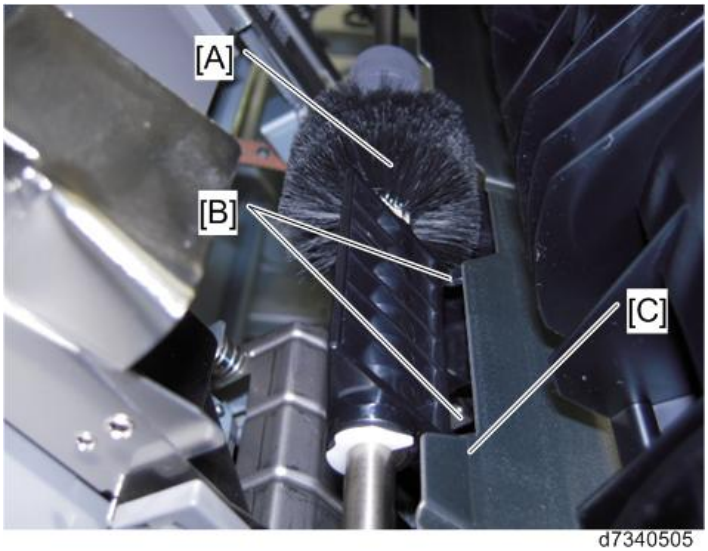
**Re-installation**

1. The end of the shaft with the flat bevel is the rear end of the shaft where the gear and belt must be re-attached.



d434r428

2. When you re-install the brush roller [A], make sure that pawl [B] of the guide is below plate [C].

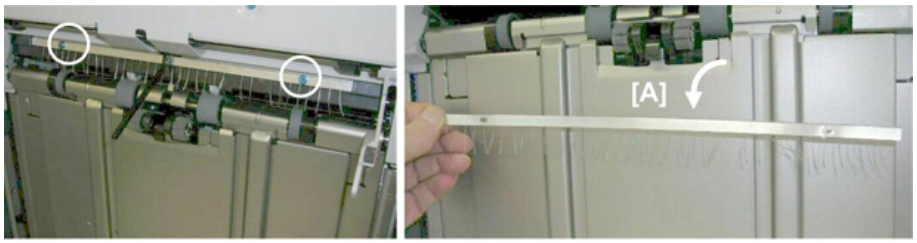


d7340505

## Discharge Brushes

### Shift Tray Exit

1. Remove discharge brush [A] (x2).



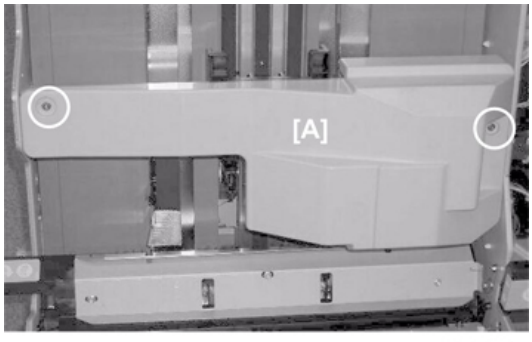
d434r429

### Corner Stapler Entrance

**Preparation**

- Open the front door.
- Pull out the stack/staple unit with handle **Rb12**.

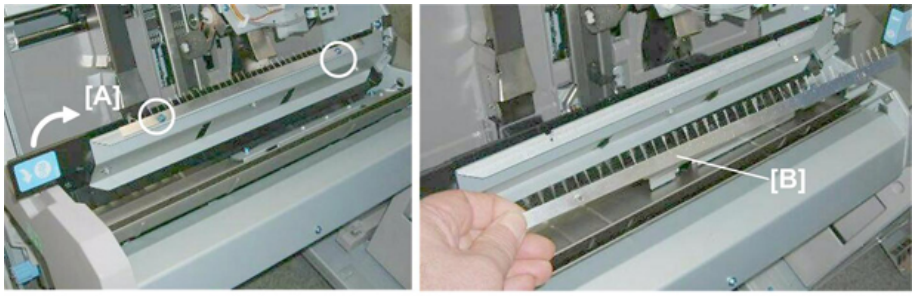
1. Remove cover [A] ( x2)



d434r423

2. Raise **Rb13** [A].

3. Remove discharge brush [B] ( x2)



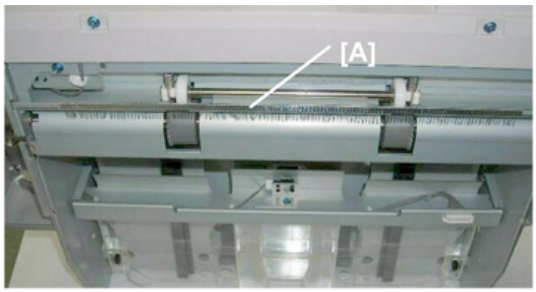

d434r430

## Booklet Unit Exit

**Preparation**

- Booklet unit

1. The discharge brush [A] is on the left side of the booklet unit.

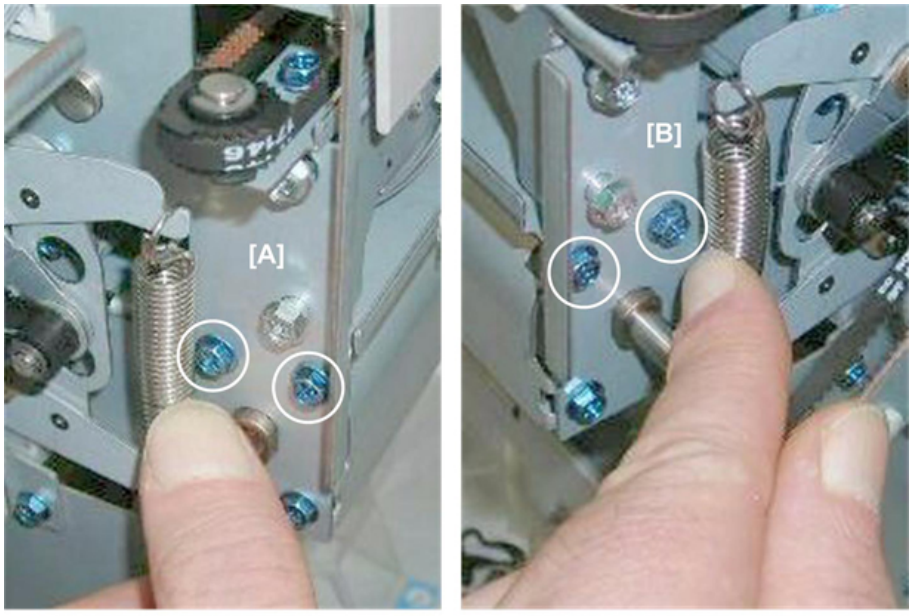



d434r431

2. Remove:

[A] Rear ( x2)

[B] Front ( x2)



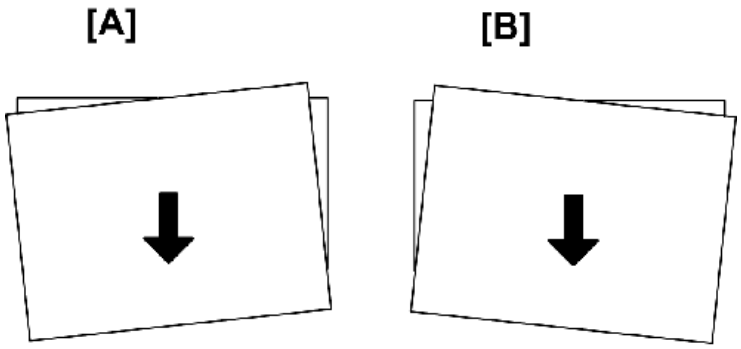

d434r432

# Special Adjustments

## Horizontal Skew Adjustment

The booklet unit is adjusted for optimum performance before the finisher is shipped from the factory. Do this adjustment only if the edges of folded booklets are not even.

1. Run a fold/staple job through the booklet unit with A3 (or DLT) paper.
2. Hold the folded sheet with the creased side pointing down and face-up (the same way that it came out of the finisher).
3. Referring to the diagram below, determine if the skew is [A] or [B].
   - [A] indicates that the rear fence is low and must be raised.
   - [B] indicates that the front fence is low and must be raised.



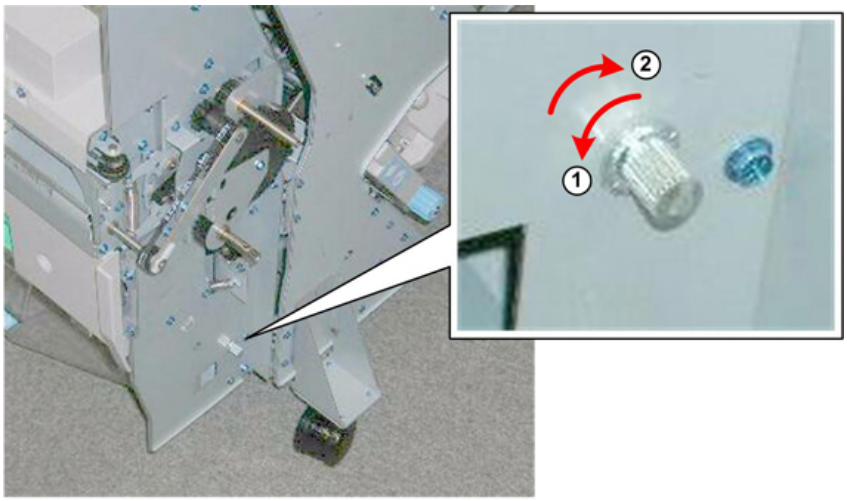

d512r434

**Preparation**

- Pull the stack/staple unit out with handle **Rb12**
- Remove the lower inner cover **Rb10**, **Rb11**

1. Before doing any adjustment:

- Rotate the knob counter-clockwise ① so that it is loose.
- Rotate the knob clockwise ② until you feel some resistance, then stop.

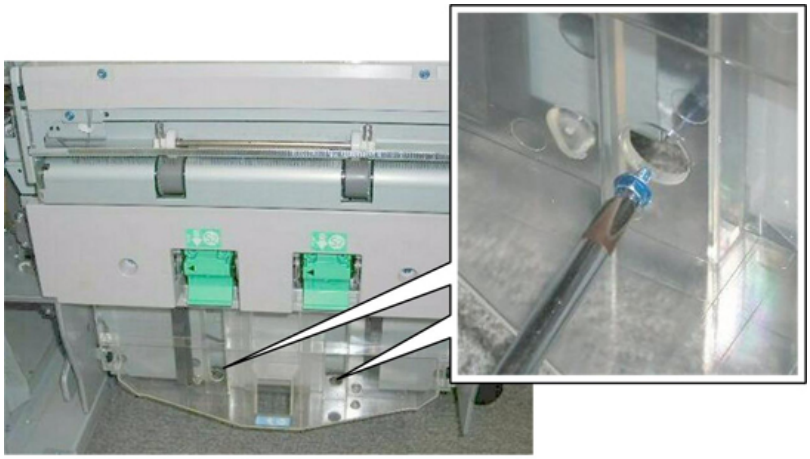



d434r434a

2. Remove the screw.

Important

- There is only one screw to remove. Check both holes.
- The screw may be at the front or at the rear, depending on where it was attached before shipping from the factory.



d434r435

[A] Adjustment: Rear Fence Low

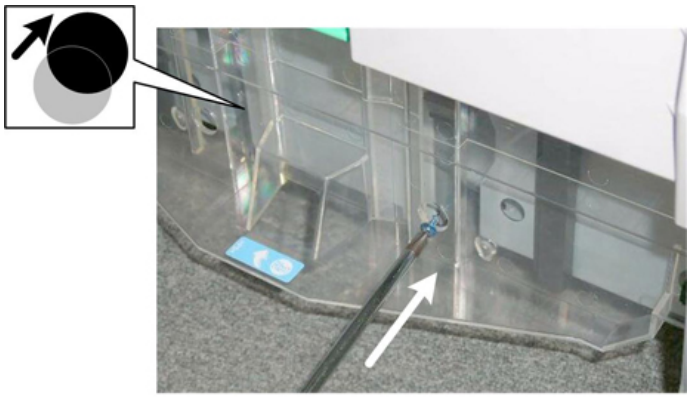
1. For **[A] type skew**, turn the adjustment screw on the front of the booklet unit to the **left** (**clockwise**) to raise the rear fence.

Important

- Every notch adjusts the height 0.1 mm.

d434r436

Turning the adjustment screw to the right may raise the rear fence so the holes at the rear will no longer be aligned.



d434r437

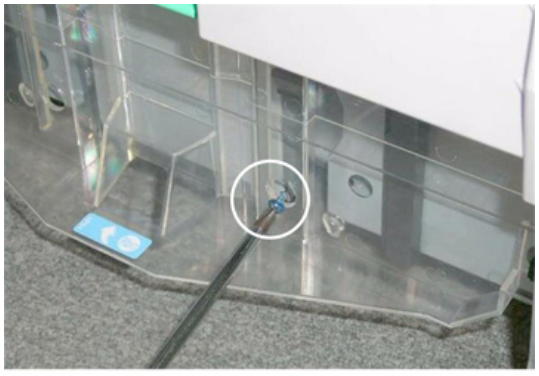
2. Re-attach the screw in the front hole where the holes are aligned.

[B] Adjustment: Front Fence Low

1. For **[B] type skew**, turn the adjustment screw on the front of the booklet unit to the **right** (**clockwise**) to raise the front fence.

d434r438

2. Re-attach the screw at the front hole.



d434r439

## Vertical Skew Adjustment

The booklet unit is adjusted for optimum performance before the finisher is shipped from the factory. Do this

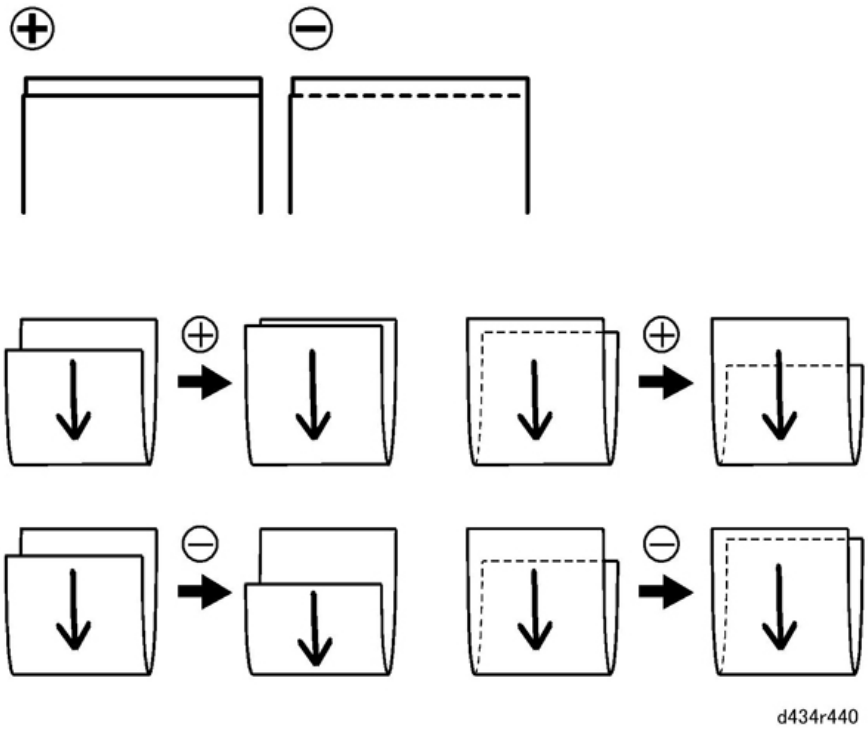
adjustment only if the edges of folded booklets are not even.

1. Switch the main machine and do a test run for booklet folding with either A3 or DLT paper

Important

- This procedure shows you how to test and adjust vertical skew for A3/DLT paper.
- This same adjustment can be done for other paper sizes as well with **SP6201**.

2. Look at the paper and determine what kind of skew (if any is present).
3. Referring to the diagram, determine if the skew is positive or negative.




4. Measure the amount of skew.
5. Enter the SP mode
   - Europe, Asia: Use **SP6201-8** (this is for A3 paper).
   - North America: Use **SP 6201-15** (this is for DLT paper).

Important

- The illustration above shows the effects of +/- adjustment with **SP6201**.
- The vertical arrows show the direction of paper feed.

6. Enter one-half the measured amount of skew.
   - Example: If the measure amount of skew is -1.2 mm, enter -0.6 mm
   - The range for measurement is –2.0 mm to +2.0 mm in 0.2 mm steps for every notch adjustment.
7. Exit the SP mode, do another test print and repeat the adjustment procedure if necessary.

## Base Fence Replacement

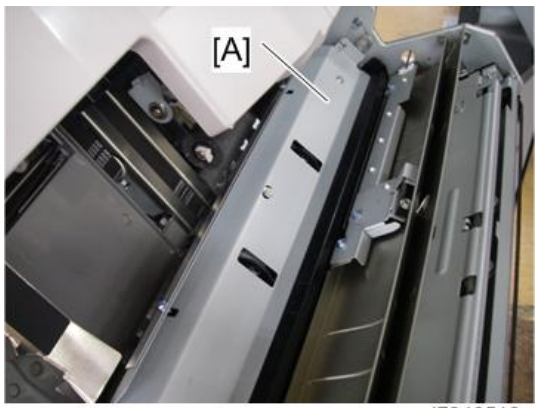
**Before You Begin**

- The base fences can be replaced separately or together.
- Only replacement of the front fence is described here. The replacement procedure for the rear base fence is

the same.

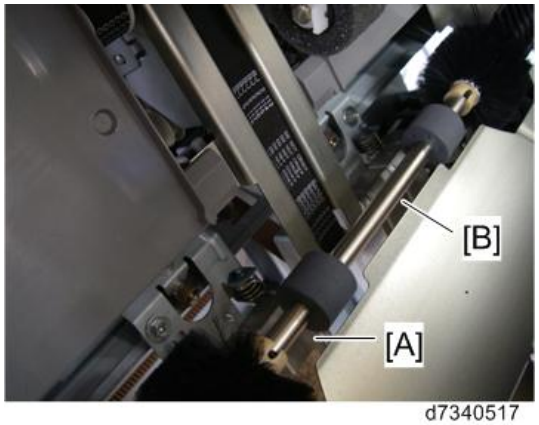
**Preparation**

1. Pull out the stack/staple unit with handle **Rb12**.
2. Remove entrance guide plate [A]



d7340516

3. Now you can access the front and rear of the base fence.
   - [A] is the front of the base fence.
   - [B] is the rear of the base fence.



d7340517

4. Remove the screw (x1).

Note

- This screw is extremely tight, so to prevent damaging the head of the screw use a socket wrench or hex driver to remove it.


d7340518

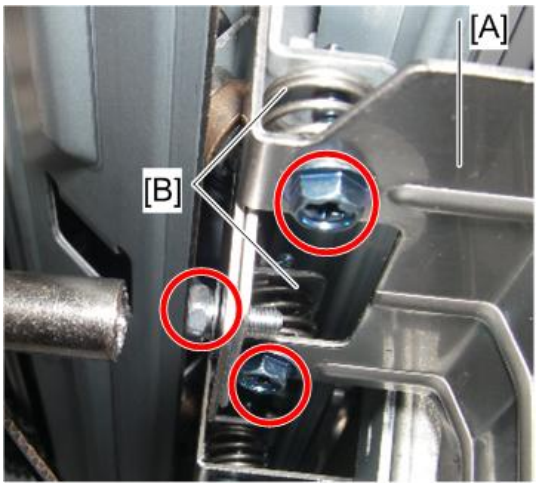
5. Look at the lower right corner of the staple unit.

d7340519

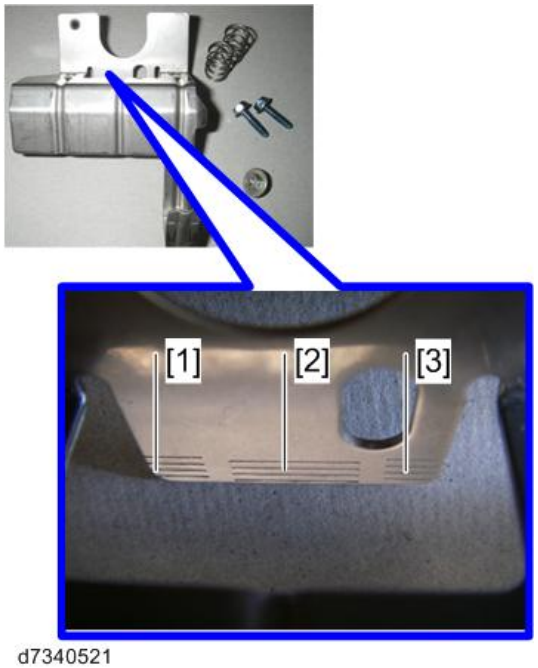
6. Remove the screws, and then carefully remove the front of the base fence [A] (x3).

Note

- Work carefully to prevent pressure springs [B] from flying off.



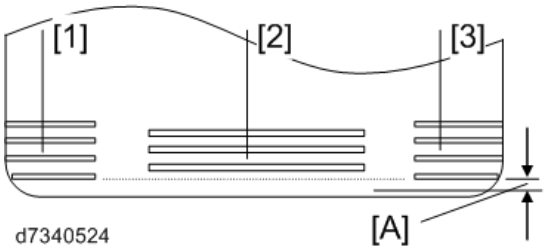

7. The new base fence is embossed with groups of lines [1], [2], [3].



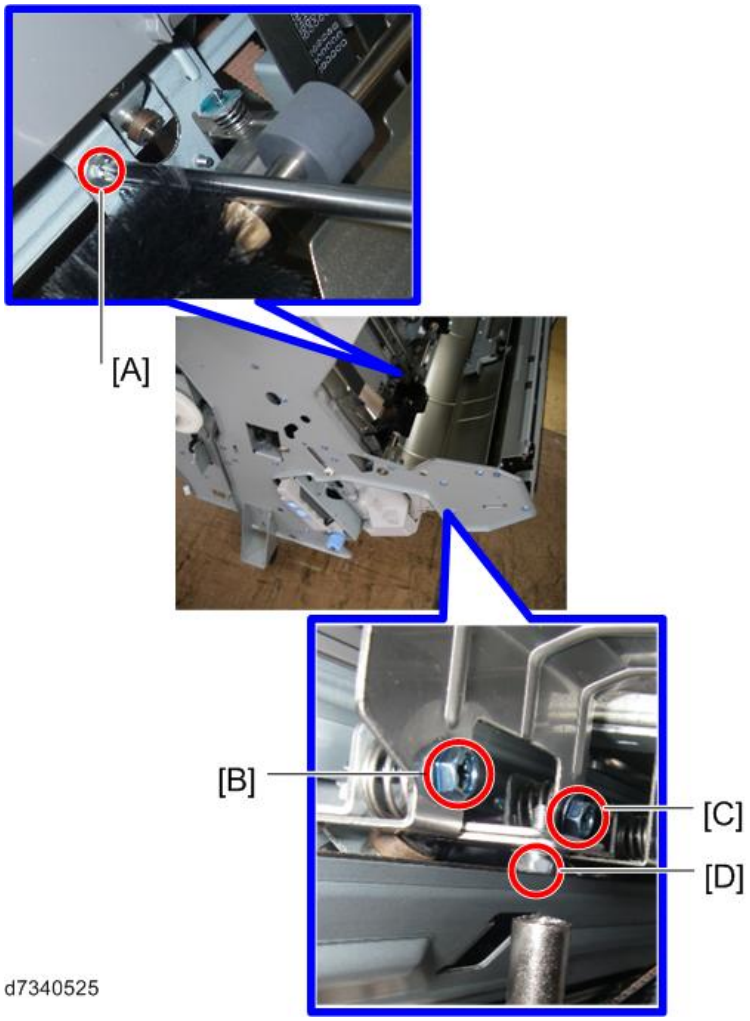

d7340521

Note

- The interval between the lines [1], [2], [3] is 0.5 mm [A].




8. Attach the new front base fence (x4).

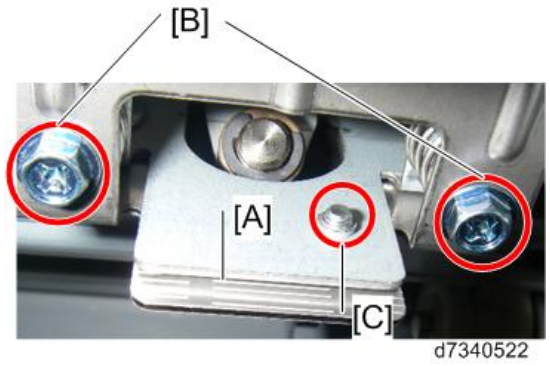



Note

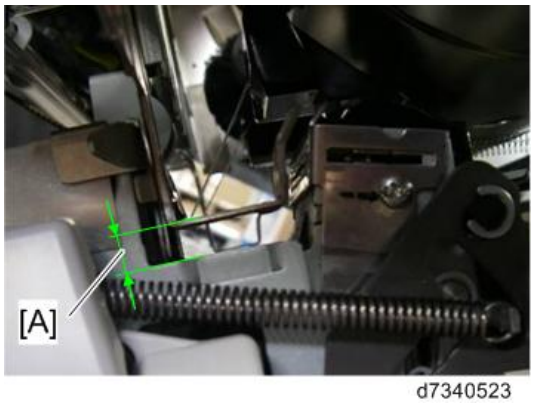
- Pay attention to the use and order of screw attachment.
- Screw [A] is attached last.
- Screws [B] and [C] are used to adjust the position of the base fence.
- Leave screw [D] loose.

9. Set the front end of the fence bracket [A] so that it is parallel with the embossed lines [1], [2], [3], adjust the

position with screws [B], and then tighten screw [C].




10. Make sure that the space [A] is within 5.4±1 mm. If the space [A] is not within 5.4±1 mm, loosen the screw [C] and adjust the position of the fence bracket so that the space [A] becomes within 5.4±1 mm. Then fasten the screw [C].




Note

- When adjusting the position of the fence bracket, make sure that the front end of the fence bracket is not at an angle to the embossed lines.