

Inner Finisher-L1

SERVICE MANUAL

Canon

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Rev.2

Important Notices

Application

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Caution

Use of this manual should be strictly supervised to avoid disclosure of confidential information.

Explanation of Symbols

The following symbols are used throughout this Service Manual.

Symbols	Explanation	Symbols	Explanation
	Check.		Remove the claw.
	Check visually.		Insert the claw.
	Check a sound.		Push the part.
	Disconnect the connector.		Connect the power cable.
	Connect the connector.		Disconnect the power cable.
	Remove the cable/wire from the cable guide or wire saddle.		Turn on the power.
	Install the cable/wire to the cable guide or wire saddle.		Turn off the power.
	Remove the screw.		Loosen the screw.
	Install the screw.		Tighten the screw.

Symbols	Explanation	Symbols	Explanation
	Cleaning is needed.		Measurement is needed.

The following rules apply throughout this Service Manual:

- Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.
In the diagrams,  represents the path of mechanical drive; where a signal name accompanies the symbol, the arrow  indicates the direction of the electric signal.
The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.
- In the digital circuits, '1' is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low". (The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (*) as in "DRMD*" indicates that the DRMD signal goes on when '0'.
In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.

All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine.

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Safety Precautions

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Points to Note Before Servicing

- At servicing, be sure to turn OFF the power source according to the specified steps and disconnect the power plug.
- Be sure to disconnect the power plug on a regular basis and remove dust and dirt accumulated around the outlet with dry cloth.

CAUTION:

Leaving the power plug connected for a long time in an environment having a lot of dust, moisture, or oily smoke will cause a fire. (Because dust accumulated in the surrounding area will absorb moisture and cause an insulation failure)

- Be careful not to be injured by burrs of edges, sharp corners or protrusions.

CAUTION:

Hazardous area such as corners, edges, springs and other sharp sections may be remaining on products. Always be aware of the presence of hazardous area to avoid injury caused by contacting and/or striking those area, by not over-concentrating on service work.

Points to Note at Cleaning

When performing cleaning using organic solvent such as alcohol, be sure to check that the component of solvent is vaporized completely before assembling.

Notes on Assembly/Disassembly

Follow the items below to assemble/disassemble the device.

1. Disconnect the power plug to avoid any potential dangers during assembling/disassembling works.
2. If not specially instructed, reverse the order of disassembly to reinstall.
3. Ensure to use the right screw type (length, diameter, etc.) at the right position when assembling.
4. To keep electric conduction, binding screws with washers are used to attach the grounding wire and the varistor. Ensure to use the right screw type when assembling.
5. Unless it is specially needed, do not operate the device with some parts removed.
6. Never remove the paint-locked screws when disassembling.

CAUTION:

English

CAUTION

DOUBLE POLE/NEUTRAL FUSING

The fuse may be in the neutral, and that the mains shall be disconnected to de-energize the phase conductors.

German

VORSICHT

ZWEIPOLIGE BZW. NEUTRALLEITER-SICHERUNG

Die Sicherung kann sich im Nulleiter befinden und das Hauptnetz muss abgetrennt werden, um die Phasenleiter stromlos zu machen.

Points to Note when Tightening a Screw

When a thin plates is used in some parts for the light weighting purpose, warn the following.

In the case of a screw hole with a triangle mark near it as shown in the figure below, strongly tightening the screw may damage or deform the screw hole.

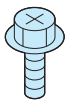
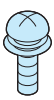
In the case of a screw hole with a triangle mark, take care not to apply too much force when tightening the screw.



The recommended torque value is shown below as a reference value.

		Type of Screws							
		RS tight		W Sems		Binding		TP	
Fastened member		Metal	Resin	Metal	Resin	Metal	Resin	Metal	Resin
Tightening torque (N*m)	M4	Approx. 1.6	Approx. 1.6	Approx. 1.6	Approx. 0.8	Approx. 1.6	Approx. 0.8	Approx. 1.6	Approx. 0.8
	M3	Approx. 0.8	Approx. 0.8	Approx. 0.6	Approx. 0.6	Approx. 0.6	Approx. 0.6	Approx. 0.6	Approx. 0.6

* For PCB, refer to the tightening torque value of resin (fastened member).

Type of Screws			
RS tight	W Sems	Binding	TP
			



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Features

Features

- Compact, inner finisher compatible with color MFPs.
- Manual stapling, which enables paper to be inserted into the slit on the inner finisher and stapled manually a copy at a time.
- Staple-free stapling, which binds up to 10 sheets of paper without staples.
- Improved quietness with no initialization procedure.
- Easy to install in the host machine.
- The optional puncher unit can be installed in the finisher.

Specifications

Finisher Unit

Item	Specifications		Remarks
Stack tray	Delivery tray No.2 delivery tray (top of finisher)		
Stacking method	Delivery tray: Tray shift No.2 delivery tray: Fixed		
Stacking orientation	Face down		
Paper type	Thin, plain, recycled, heavy, coated, transparency, label, bond, postcard, pre-punched, envelope, tracing paper		
Paper size	Feed direction: 139.7 to 457.2 mm Cross feed direction: 98.0 to 320 mm However, COM10 (104.7 × 241.3 mm) and Monarch (98.4 × 190.5 mm) can be fed as standard size paper.		Long paper (630 to 1200 mm) can be used if it can be fed through without jamming.
Paper weight	52 to 300 g/m ² (The large size paper (257 to 300 g/m ²) is only a No.2 delivery tray)		
Modes	Non-sort stacking	A3, A4, A4R, A5, A5R, B4, B5, B5R, A6R, 8K, 16K, 11X17, LGL, LTR, LTR-R, STMT, STMT-R, EXEC, 16K-R, SRA3, 12X18, envelope, postcard, long paper (630 to 1200 mm)	A6R: excludes less than 64 g/m² paper.
	Shift-sort stacking	A3, A4, A4R, B4, B5, 11X17, LGL, LTR, LTR-R, 8K, 16K, EXEC	- Shift amount: 30 mm - Shiftable amount: 210 to 297 mm
	Staple stacking	A3, A4, A4R, B4, B5, 11X17, LGL, LTR, LTR-R, 8K, 16K, EXEC	Stackability not defined.
	Staple-free staple stacking	A3, B4, A4, B5, 11X17, LTR, 8K, 16K	Stackability not defined.
	Manual stapling	No size limitation	
Stack height detection	Delivery tray	Available (detects the top surface of the stacked paper with a photosensor)	
	No.2 delivery tray	None	
Stacking capacity	No.2 delivery tray	Height 5.2 mm or less	(equivalent to 50 sheets: when converting weight to number of 64 g/m ² , 75 g/m ² sheets.) (equivalent to 45 sheets: when converting weight to number of 80 g/m ² sheets.)
	Delivery tray	Small size:*1 Height 52 mm or less (equivalent to 500 sheets) Large size:*2 Height 26 mm or less (equivalent to 250 sheets) A6R: 30 sheets, envelope: 10 sheets	The stacking capacities are estimates when converting weight to number of 80 g/m² sheets.
	Stapling, staple-free stapling	Stack height indicated above Delivery tray, or 30 copies or less	The stacking capacities are estimates when converting weight to number of 80 g/m² sheets.
Alignment stacking paper size	Non-sort stacking	Cross feed direction: 98.0 to 320 mm (Monarch (width: 98.4 mm) can be fed as standard size)	
	Shift-sort stacking	Cross feed direction: 210 to 297 mm	
	Staple stacking, staple-free	Staple stacking Cross feed direction: 210 to 297 mm Staple-free stacking Cross feed direction: 257 to 297 mm	

Item	Specifications		Remarks
Mixed stacking capacity	Mixed size	No.2 delivery tray Height 5.2 mm or less	(equivalent to 50 sheets: when converting weight to number of 64 g/m ² , 75 g/m ² sheets.) (equivalent to 45 sheets: when converting weight to number of 80 g/m ² sheets.)
		Delivery tray Height 26 mm or less (equivalent to 250 sheets)	The stacking capacities are estimates when converting weight to number of 80 g/m² sheets.
	Mixed staple stacking and staple-free staple stacking	Small size:*1 Height 52 mm or less (equivalent to 500 sheets) Large size:*2 Height 26 mm or less (equivalent to 250 sheets), or 30 copies or less	
Dimensions (W x D x H)	469 mm x 525 mm x 225 mm (587 mm x 525 mm x 225 mm)		Dimensions when the auxiliary tray is pulled out are shown in parentheses.
Weight	Approx. 9.1 kg		
Power supply	From host machine: 24 V, 5 V		
Maximum power	Included in the maximum power consumption of the host machine.		

*1: Small size (feed length: 220 mm or less)

A4, A5, A5R, B5, A6R, LTR, STMT, STMT-R, 16K, EXEC

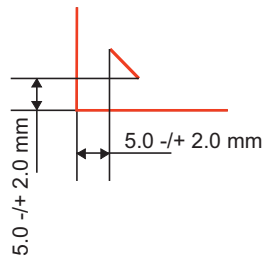
*2: Large size (feed length: more than 220 mm to 457.2 mm)

A3, A4R, B4, B5R, 11X17, LGL, LTR-R, 8K, 16KR, SRA3, 12X18

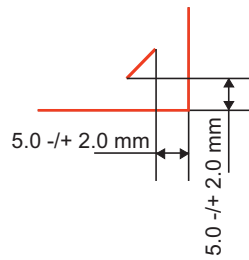
Staple Unit

Item	Specifications		Remarks
Stapling method	Punching by rotating cam		Flat clinch
Stapling position	See below		
Stapling paper size	A3, B4, A4, A4R, B5, 11X17, LGL, LTR, LTR-R, 8K, 16K, EXEC		
Stapling capacity	Small size (A4, B5, LTR, 16K, EXEC)	52 to 90 g/m ² : 50 sheets More than 91 to 105 g/m ² : 30 sheets More than 105 to 256 g/m ² : 2 sheets	Coated paper: 2 sheets regardless of paper weight and paper size.
	Large size (A3, B4, A4R, 11X17, LGL, LTR-R, 8K)	52 to 90 g/m ² : 30 sheets (A4R, LTR-R: 40 sheets) More than 91 to 105 g/m ² : 20 sheets (A4R, LTR-R: 30 sheets) More than 105 to 256 g/m ² : 2 sheets	
Staple supply	Special staple cartridge (5000 staples)		
Staple detection	Available		Remaining staples: 0 to 20
Manual stapling	Available Paper thickness 4.0 mm or less (52 g/m ² : equivalent to 50 sheets, 64 g/m ² : equivalent to 45 sheets, 75 g/m ² and 80 g/m ² : equivalent to 40 sheets)		- Stapling at only a single location - No size limitation
Staple repositioning function	Available		Number of staples after staple-empty detection: 0 to 20

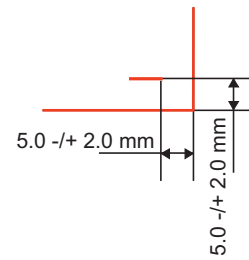
Front 1-point stapling (45 deg)



Rear 1-point stapling (45 deg)

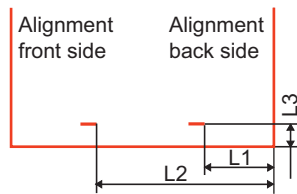


Manual stapling



Unit (mm)

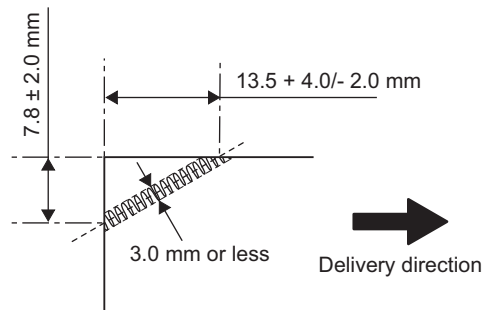
Center 2-point stapling



Paper size	L1	L2	L3	Pitch
A3, A4	83 +/- 4.0	203 +/- 4.0	5.0 +/- 2.0	120
B4, B5	63 +/- 4.0	183 +/- 4.0	5.0 +/- 2.0	120
11X17, LTR	74 +/- 4.0	194 +/- 4.0	5.0 +/- 2.0	120
A4R	39.5 +/- 4.0	159.5 +/- 4.0	5.0 +/- 2.0	120
LTRR, LGL	42.5 +/- 4.0	162.5 +/- 4.0	5.0 +/- 2.0	120
8K, 16K	69.5 +/- 4.0	189.5 +/- 4.0	5.0 +/- 2.0	120
EXEC	68 +/- 4.0	188 +/- 4.0	5.0 +/- 2.0	120

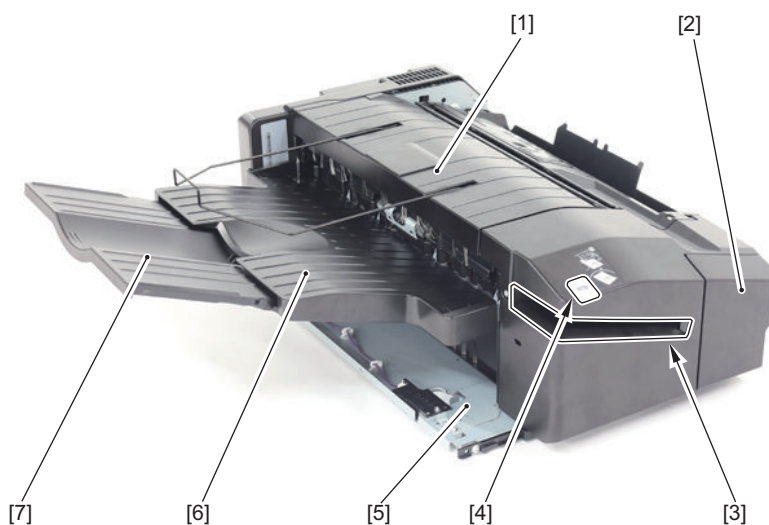
Staple-free Staple Unit

Item	Specifications		Remarks
Stapling method	Pressing by rotating cam		• Tooth-shaped clinch
Stapling position	See below.		• Stapling at four locations (upper left, upper right, lower right, lower left) is possible using the host machine's LUI through image processing of the printed surface.
Stapling size	A3, A4, B4, B5, 11X17, LTR, 8K, 16K		
Stapling capacity	A4, B5, LTR, 16K	52 to 64 g/m ² : 10 sheets or less More than 64 to 81.4 g/m ² : 8 sheets or less More than 81.4 to 105 g/m ² : 6 sheets	Different depending on the host machine. • Stapling a mix of same width is possible. • Stapling a mix of different widths is not possible.
	A3, B4, A4R, 11x17, 8K	52 to 64 g/m ² : 5 sheets or less More than 64 to 81.4 g/m ² : 4 sheets or less More than 81.4 to 105 g/m ² : 3 sheets	
Manual stapling	None		



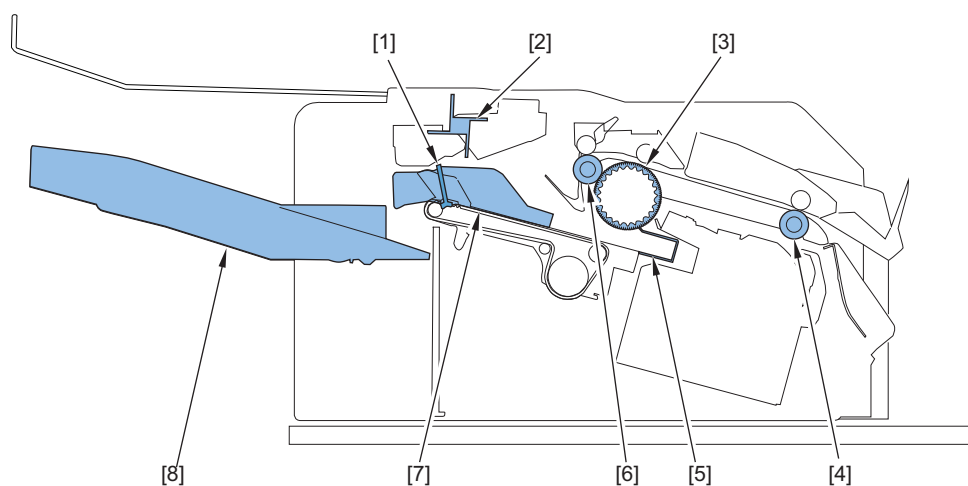
Name of Parts

External View



No.	Parts Name	No.	Parts Name
[1]	No.2 Delivery Tray	[5]	Rail Unit
[2]	Front Cover	[6]	Delivery Tray (Stack Tray)
[3]	Slit	[7]	Auxiliary Tray
[4]	Staple Button		

Cross Section



No.	Parts Name	No.	Parts Name
[1]	Paper Retainer	[5]	Assist Guide
[2]	Paddle	[6]	Delivery Roller
[3]	Return Belt	[7]	Alignment Plate
[4]	Inlet Roller	[8]	Delivery Tray (Stack Tray)

2

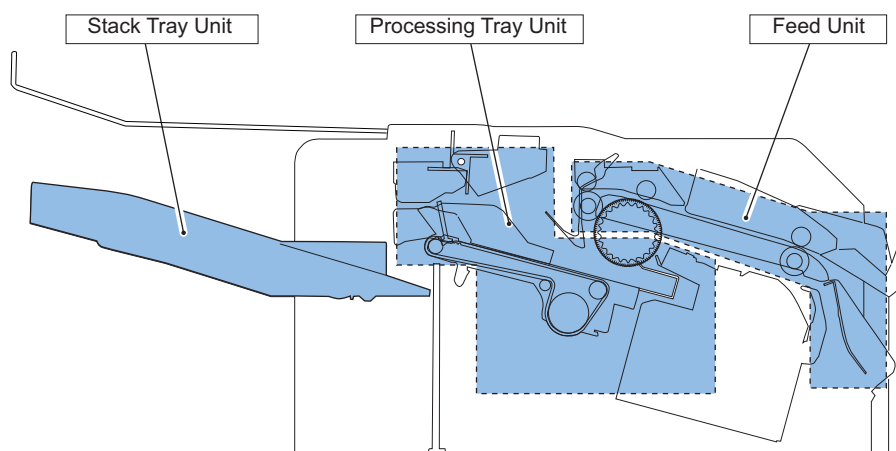
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Basic Configuration

Functional Configuration

The components of this finisher are organized into 3 major blocks; feed unit, processing tray unit and stack tray unit.

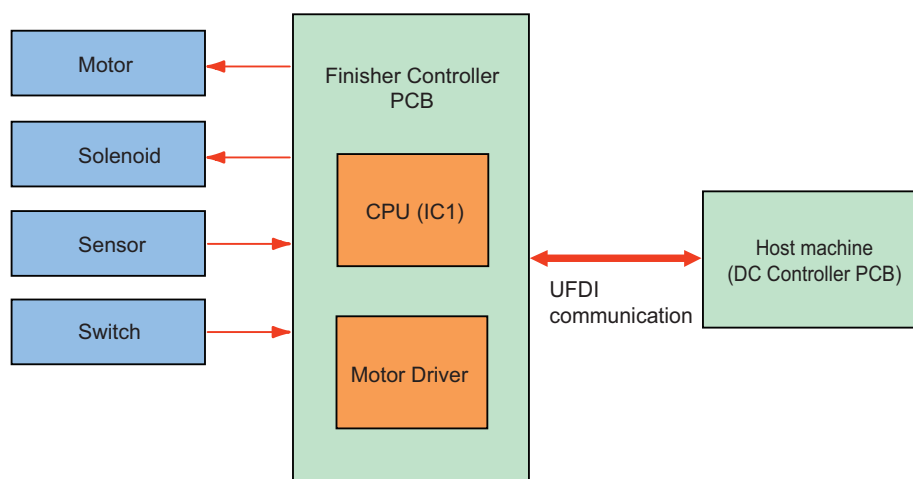


Overview of Electrical Circuitry

This machine's sequence of the operation is controlled by the finisher controller PCB.

Main control/functions of the Finisher Controller PCB

- Communicates to its host machine.
- The CPU on the Finisher Controller PCB contains a ROM for storing the operating sequence program.
- The Finisher Controller PCB receives various commands through the communication cable from its host to drive the motors, and solenoids.
- It also sends sensor and switch information to its host through the communication cable.
- Records the setting value of service mode for the finisher to the CPU.



Controls



Item		Reference
Basic Operation	Outline	"Outline" on page 13
	Initialization	"Initialization" on page 16
Feed Unit	Outline	"Outline" on page 17
	Feeding Paper to Processing Tray Unit	"Feeding Paper to Processing Tray Unit" on page 17
Processing Tray Unit	Outline	"Outline" on page 19
	Stacking Operation	"Stacking Operation" on page 19
	Alignment/Shifting Operation	"Alignment/Shifting Operation" on page 21
	Staple Operation	"Staple Operation" on page 28
	Staple-free Stapling Operation	"Staple-free Staple Operation" on page 29
	Delivery Operation	"Stack Delivery Operation" on page 31
	Paper Retainer Operation	"Paper Retainer Operation" on page 32
Stack Tray Unit	Stack Tray Shift Operation	"Stack Tray Shift Operation" on page 33
	ack Tray Paper Height Detection	"Stack Tray Paper Height Detection Control" on page 33
	Stack Tray Paper Full Detection	"Stack Tray Paper Full Detection" on page 34
Jam Detection	Outline	"Outline" on page 35
Power Supply	Outline	"Outline" on page 37
	Protective Functions	"Protective Functions" on page 37
Upgrading	Outline	"Upgrading" on page 38

Basic Operation

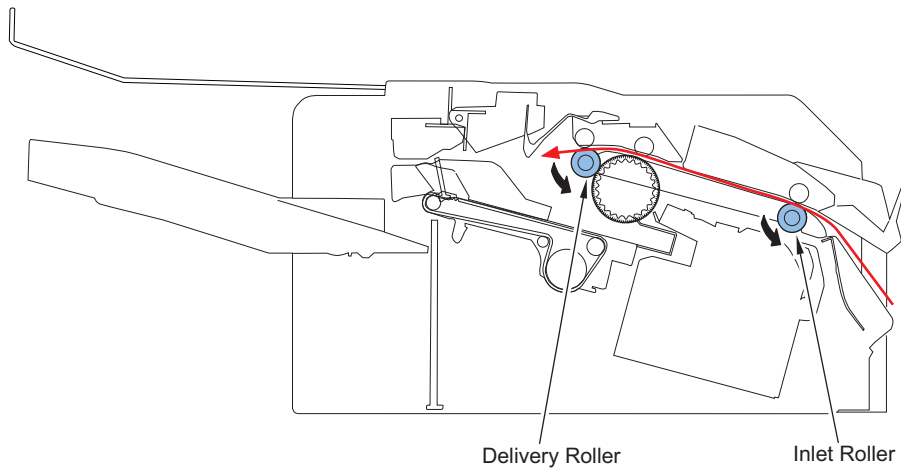
Outline

The finisher operates according to the commands that it receives from the host machine and ejects paper to the delivery tray. There are four paper delivery methods.

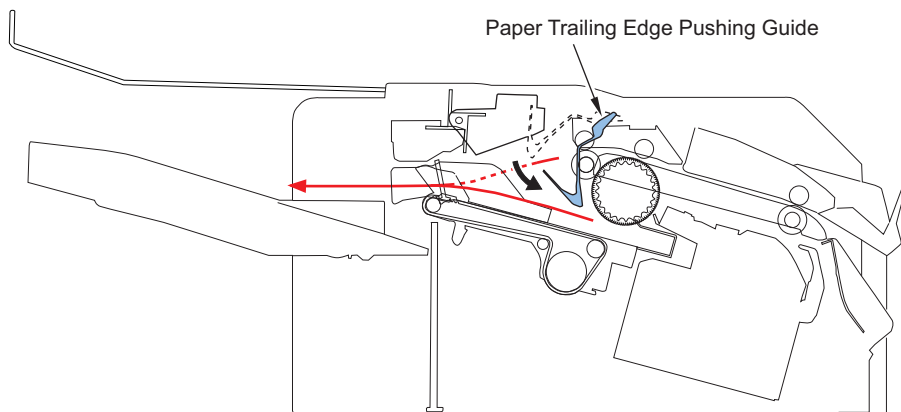
- Non-sort stacking
- Shift-sort stacking
- Staple stacking
- Staple-free staple stacking

Basic operations of this finisher are described below.

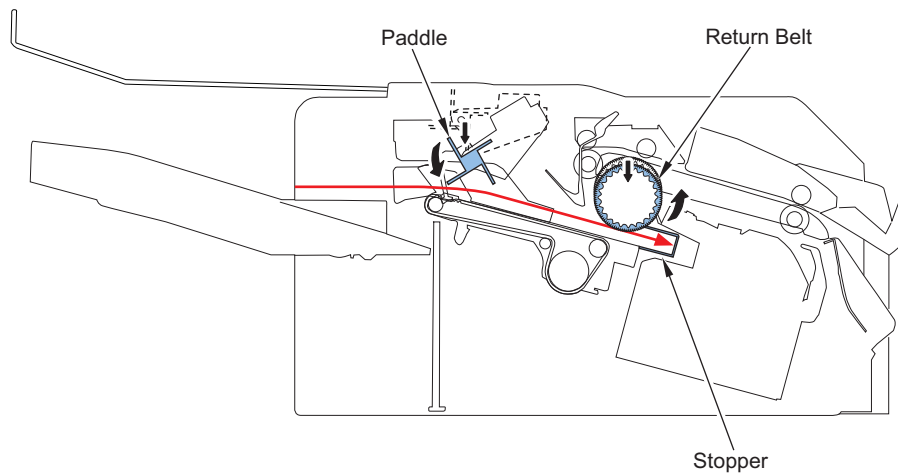
1. The paper delivered from the host machine is fed by the inlet roller and delivery roller.



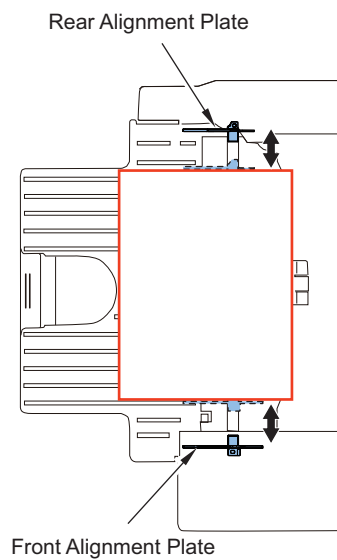
2. The trailing edge of the paper delivered by the delivery roller is pushed on the processing tray by the paper trailing edge pushing guide.



- The paper is fed toward the processing tray by the paddle. The return belt feeds the paper to the processing tray's stopper and aligns paper in the feed direction.

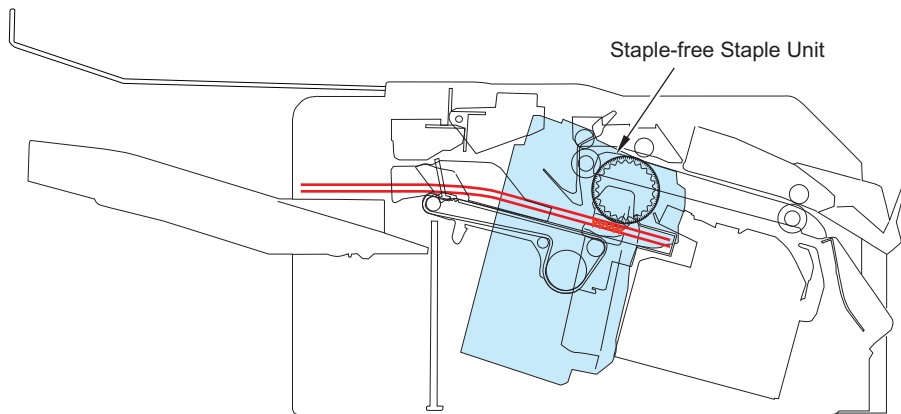
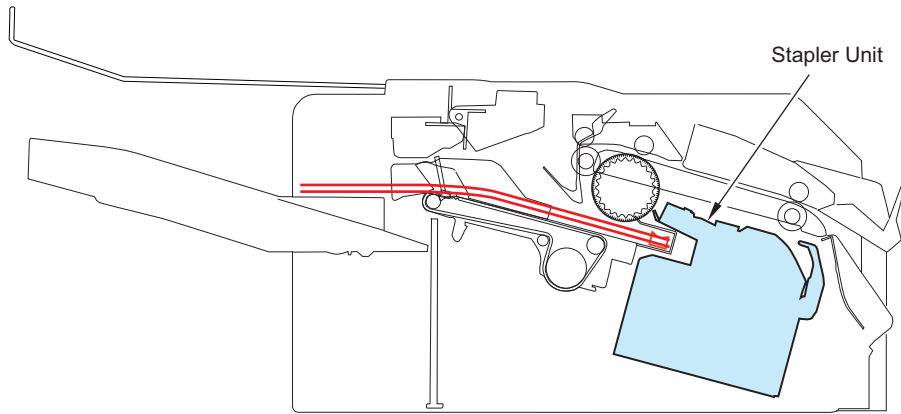


- The alignment plates are used to align paper in the width direction. (In the illustration below, paper is aligned with reference to the central reference position.)

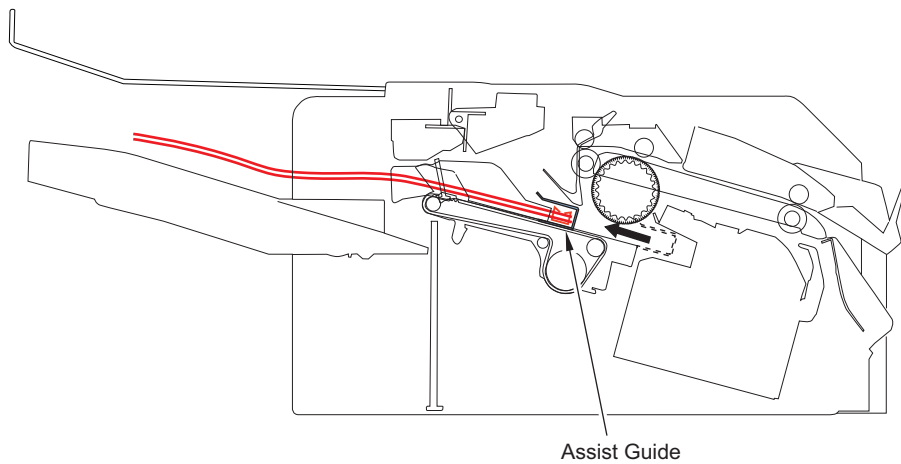


- The operations described in steps 1 to 4 are repeated for each sheet to stack the sheets on the processing tray.

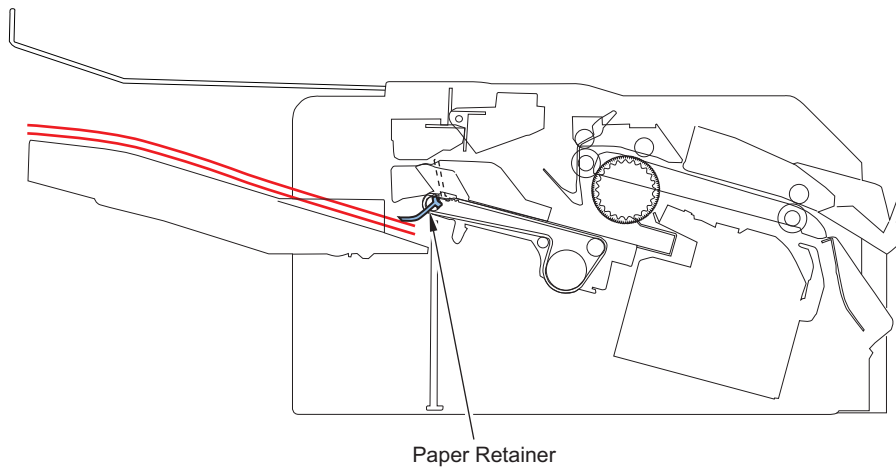
6. The stacked sheets are stapled or staple-free stapled (only when in the relevant mode).



7. After being shifted, the paper stack on the processing tray that has been stacked by the assist guide is delivered to the delivery tray.



8. After the paper stack has been delivered, the paper retainer holds down the stack in the delivery tray.



Initialization

The finisher performs the following initialization operation depending on the status.

Status	Operation
At power ON	If the target sensors*1 are aware of the home positions, initialization is not performed. Only before starting a job, the stack tray paper height sensor (PS9) detects the paper height.
When recovering from sleep mode	
At the start of a job	
At the end of a job	
After the cover is closed	Initialization is performed regardless of the sensor status. If at the home position, initialization is performed by moving the sensor away from the home position.

*1: Target sensors

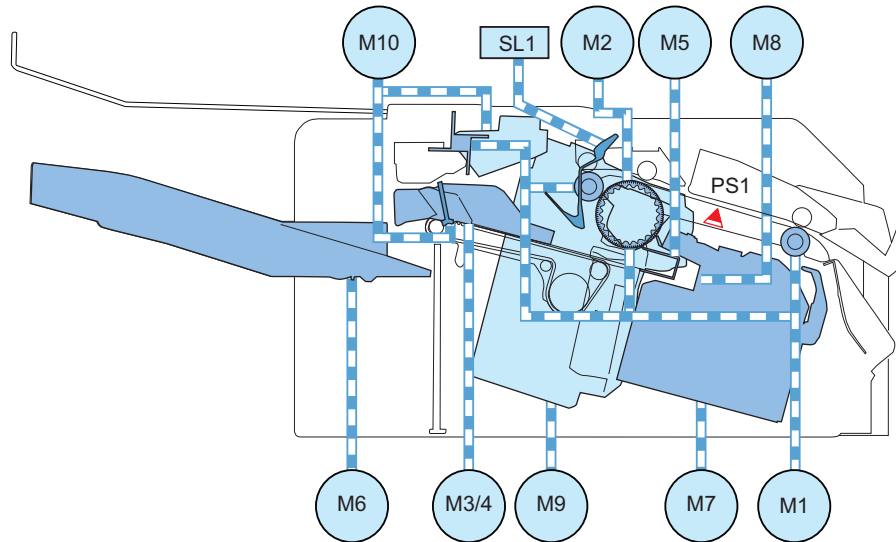
Symbol	Parts Name	Symbol	Parts Name
PS2	Paddle HP Sensor	PS8	Paper Hold HP Sensor
PS3	Return Belt HP Sensor	PS9	Stack Tray Paper Height Sensor
PS4	Front Alignment Plate HP Sensor	PS11	Stapler Shift HP Sensor
PS5	Rear Alignment Plate HP Sensor	PS14	Stack Tray HP Sensor
PS7	Assist HP Sensor	PS15	Clinch HP Sensor

Feed Unit

Outline

The feed unit feeds the paper delivered from the host machine to the processing tray unit.

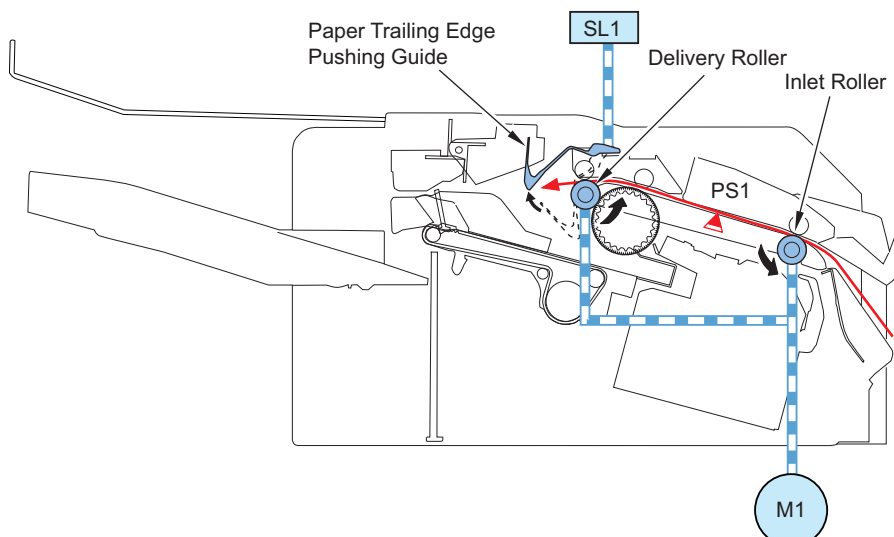
A delivery sensor (PS1) is provided along the paper feed path in the feed unit to detect the paper feed state and jam.



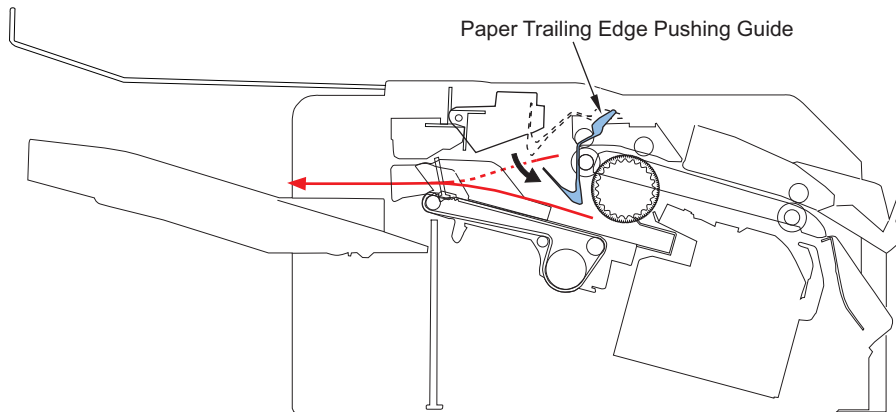
Symbol	Parts Name	Symbol	Parts Name
M1	Feed Motor	M7	Stapler Shift Motor
M2	Return Belt Motor	M8	Stapler Motor
M3	Front Alignment Motor	M9	Clinch Motor
M4	Rear Alignment Motor	M10	Paddle Motor
M5	Assist Motor	PS1	Delivery Sensor
M6	Tray Shift Motor	SL1	Paper Trailing Edge Pushing Guide Solenoid

Feeding Paper to Processing Tray Unit

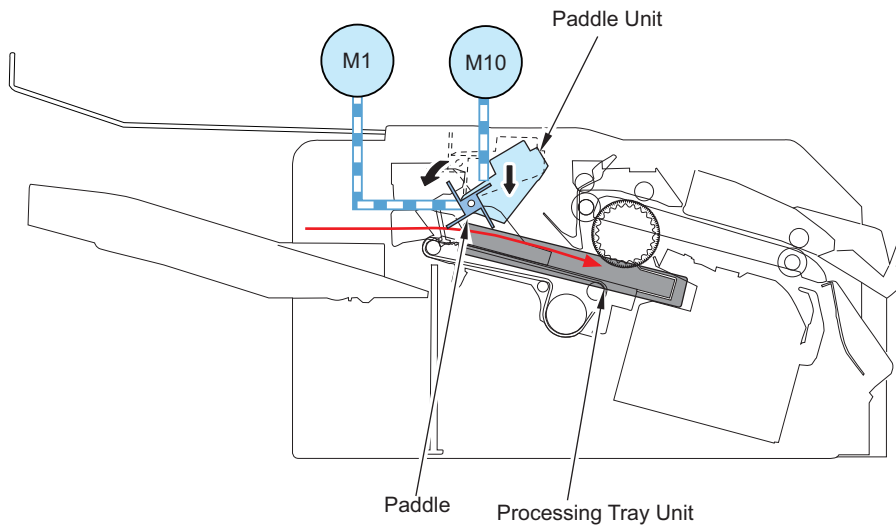
- The paper delivered from the host machine is fed by the inlet roller and delivery roller. The inlet roller and delivery roller are driven by the feed motor (M1). The paper trailing edge pushing guide is lifted by turning ON the paper trailing edge pushing guide solenoid (SL1) to secure the paper feed path.



- The trailing edge of the paper delivered by the delivery roller is pushed on the processing tray by the paper trailing edge pushing guide.



- The paper is stacked on the processing tray by the paddle. The paddle is driven by the feed motor (M1). When the paddle motor (M10) runs, the paddle unit moves down. The paddle makes contact with the paper and feeds the paper to the processing tray unit.

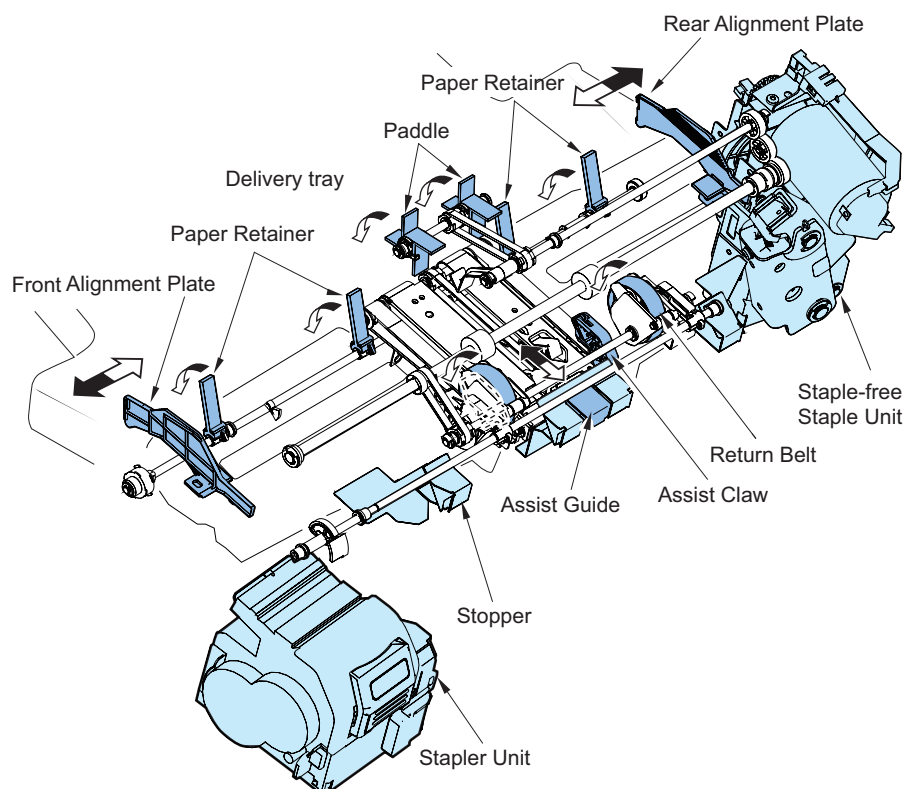


Processing Tray Unit

Outline

The processing tray unit aligns, shifts, and staples or staples without staples the delivered paper. Then the assist guide and assist claw deliver the paper onto the delivery tray.

The names and functions of the components of the processing tray are as follows:

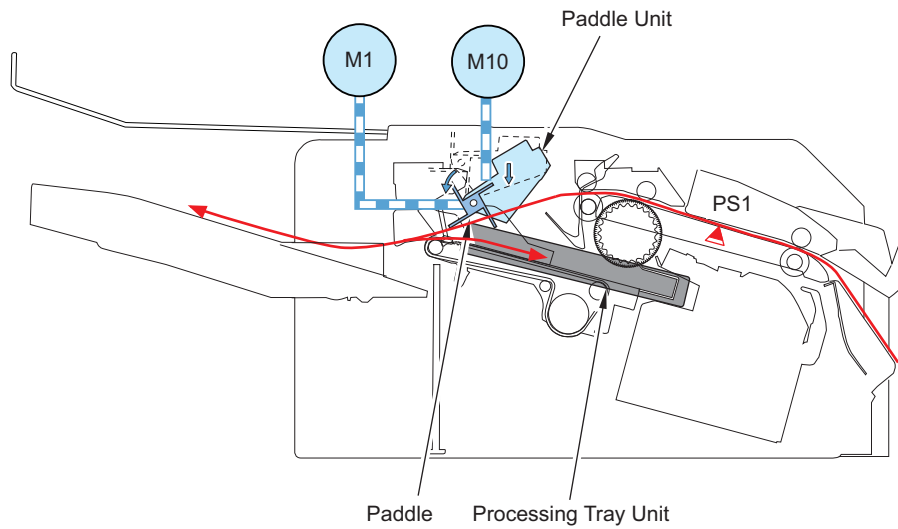


Name	Function
Paddle	Feeds the paper delivered from the delivery roller to the processing tray unit.
Return Belt	Feeds the paper to the rear of the processing tray unit and presses the paper against the stopper.
Stopper	Allows the paper stacked on the processing tray to be pressed against itself to align the paper in the feed direction.
Front/Rear Alignment Plate	Aligns the paper stacked on the processing tray in the width direction and shifts the paper.
Assist Guide	The assist guide supports the trailing edge of the paper stacked on the processing tray unit,
Assist Claw	and the assist claw delivers the paper stack by pushing the stack onto the delivery tray.
Stapler Unit	Staples the sheets.
Staple-free Staple Unit	Staples sheets without using staples.
Paper Retainer	Holds down the paper stack in the delivery tray.

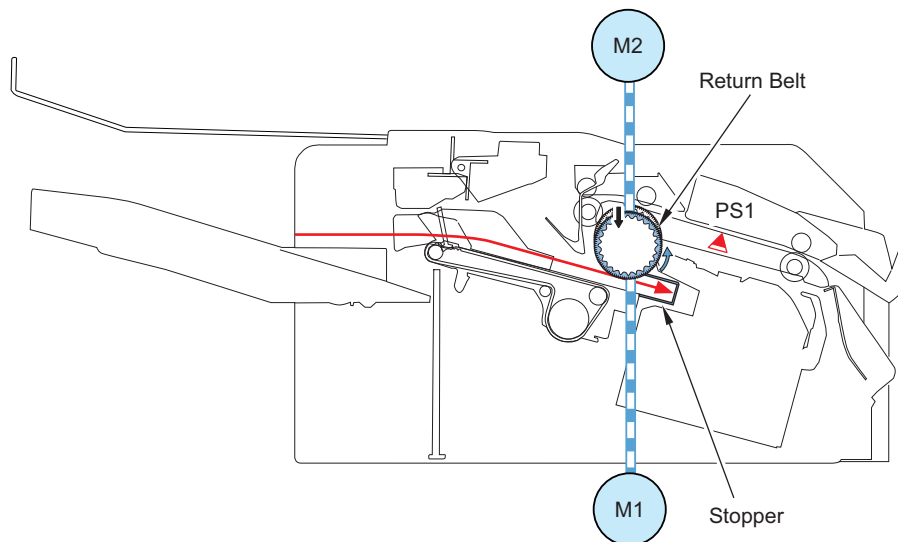
Stacking Operation

The paper delivered from the delivery roller is stacked on the processing tray and aligned in the feed direction. How paper is delivered from the delivery roller and stacked on the processing tray is described below.

1. After the delivery sensor (PS1) detects the trailing edge of the paper, the paddle motor (M10) runs to move the paddle unit down. The paddle driven by the feed motor (M1) delivers the paper toward the processing tray. After a given time elapses, the paddle unit is moved up.



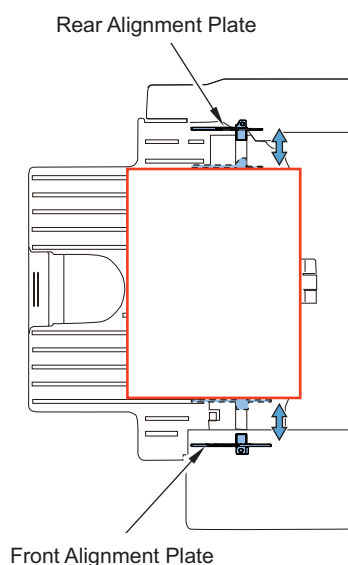
2. After the delivery sensor (PS1) detects the trailing edge of the paper, the return belt motor (M2) runs to move the return belt unit down. The delivered paper is pressed against the stopper by the return belt driven by the feed motor (M1) and aligned in the feed direction. After a given time elapses, the return belt unit is moved up.



NOTE:

Paper is not fed by the returned belt if the paper width is more than 297.0 mm or less than 120 mm or if the paper is special paper or envelopes.

3. The front/rear alignment motors (M3/M4) operate to move the front and rear alignment plates, thus aligning the paper in the width direction. (In the illustration below, paper is aligned with reference to the central reference position.) Operations described in steps 1 to 3 are repeated for each sheet.



Related service mode

- Adjustment of return belt pressure:
SORTER > ADJUST > RBLT-PRS

Related error code

- E535-0001: Return belt motor error
- E535-0002: Return belt motor error
- E577-8001: Paddle motor error
- E577-0002: Paddle motor error

Alignment/Shifting Operation

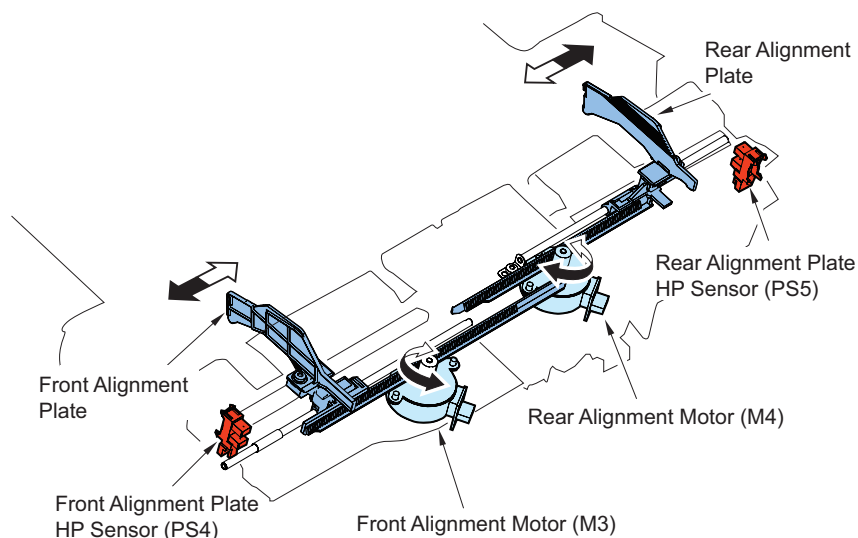
■ Outline

The paper stacked on the processing tray is aligned in the width direction by the front and rear alignment plates.

Then, the paper is delivered to the delivery tray.

When shift sort is specified, the paper stacked on the processing tray is aligned to the front or rear and shifted to sort the paper stack.

The front alignment plate is driven by the front alignment motor (M3) and the rear alignment plate by the rear alignment motor (M4). The home positions of the alignment plates are detected by the front alignment HP sensor (PS4) and rear alignment HP sensor (PS5).



The relationship between operation modes and alignment positions is summarized in the following table.

Operation Mode	Paper Width	Paper Length	Standard Paper	Alignment Position	Remarks
Non-Sort	297.0 mm or less	Not defined	envelope (COM10-R, Mon-arch-R, DLR), STMTR, A5R, B5R, EXEC-R, K16R, A5, STMT, A4, LTR, K16, A3, 11x17, K8	Center alignment*1	*1: If the width is less than 120.0 mm, the alignment plate does not reach the end of the paper. Therefore, alignment is made at +8 mm from the end of the paper for the front and rear.
	More than 297.0 mm		SRA3, 12x18	20 mm front of the center position	
	Free size			Center alignment (however, 20 mm in front of the center position if the width is more than 297 mm)	
Shift-Sort	210.0 to 297.0 mm	173.4 to 215.9 mm	A3, A4, A4R, B4, B5, 11x17, LTR-R, LGL, LTR, 8K, 16K, EXEC	Front shift: 20 mm in front of the center position Rear shift: 10 mm to the rear of the center position Shift amount: 30 mm	

Operation Mode	Paper Size	Alignment Position	Remarks
Staple	A3, B4, A4, A4R, B5, 11x17, LGL, LTR, LTR-R, 8K, 16K, EXEC	Front 1-point stapling: Front of the paper stack End face at 148.5 mm in front of the center	Center alignment is used for A4 and A3(paper width 297 mm).
		Rear 1-point stapling: Rear of the paper stack End face at 148.5 mm to the rear of the center	Center alignment is used for A4 and A3(paper width 297 mm).
		2-point stapling: Center alignment	
Staple-free staple	A3, B4, A4, B5, 11x17, LTR, 8K, 16K	Rear of the paper stack At 4.3 mm in the center direction from the Rear Alignment Plate HP position.	Aligned at the staple position.

Related service mode

- Adjustment of center alignment standard position:
SORTER > ADJUST > CENT-ALG
- Adjustment of alignment position at staple mode:
SORTER > ADJUST > INF-ALG3
- Adjustment of alignment position at non-staple mode:
SORTER > ADJUST > INF-ALG4

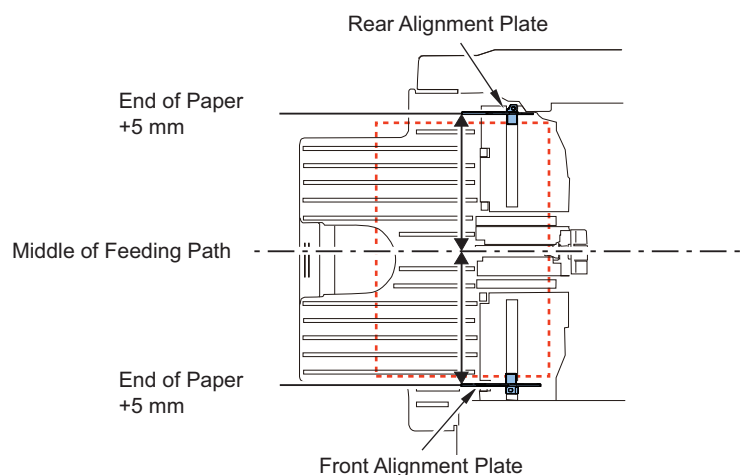
Related error code

- E537-8001: Front alignment motor error
- E537-8002: Front alignment motor error
- E530-8001: Rear alignment motor error
- E530-8002: Rear alignment motor error

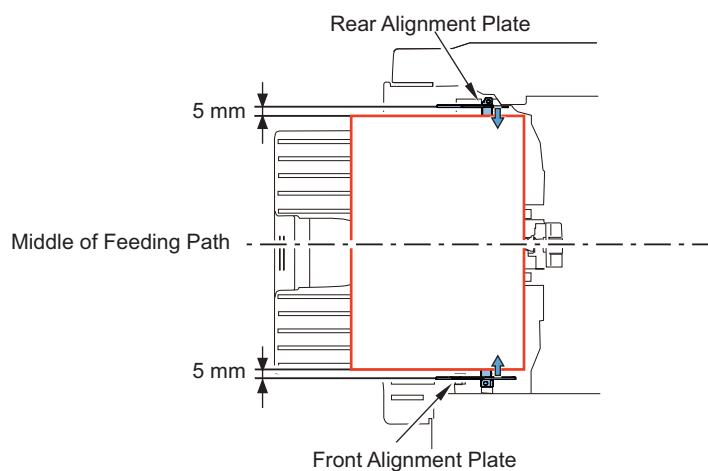
■ Alignment Operation in Non-sort Mode

When the paper width is 297.0 mm or less (A4, LTR, etc.)

1. After the delivery sensor (PS1) detects the trailing edge of the paper, the front and rear alignment plates move to the wait positions (paper width + 5 mm).

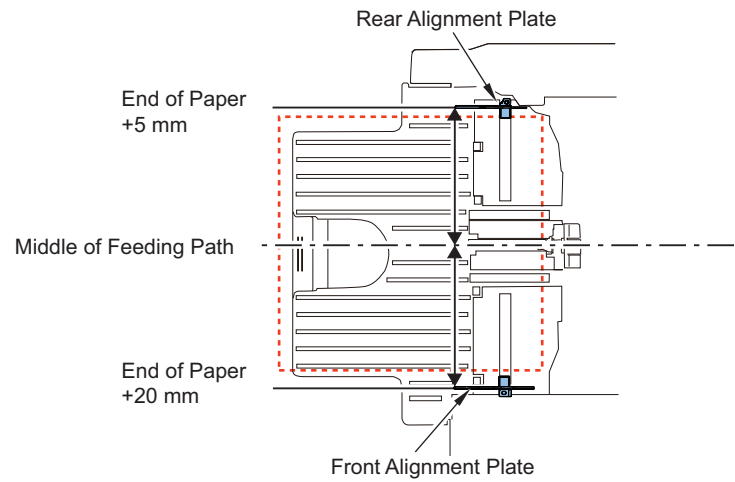


2. Move the front and rear alignment plates to align the paper (center alignment).

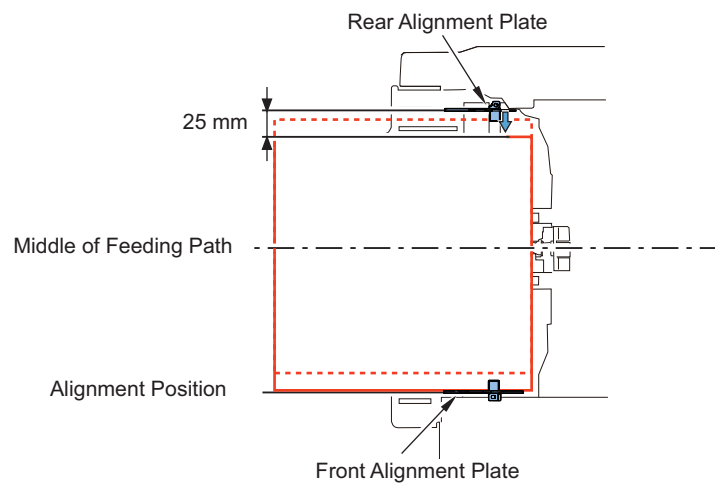


When the paper width is more than 297.0 mm (SRA3, 12X18)

1. After the delivery sensor (PS1) detects the paper, the front and rear alignment plates move to the wait positions (paper width + 20 mm and paper width + 5 mm, respectively).

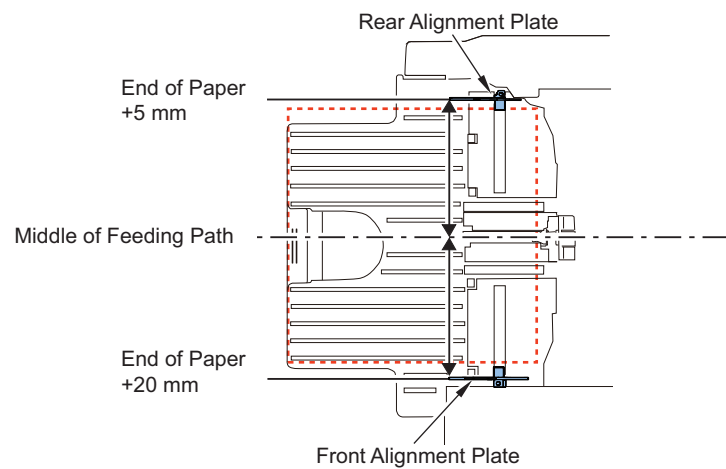


2. Move the rear alignment plate to align the paper.

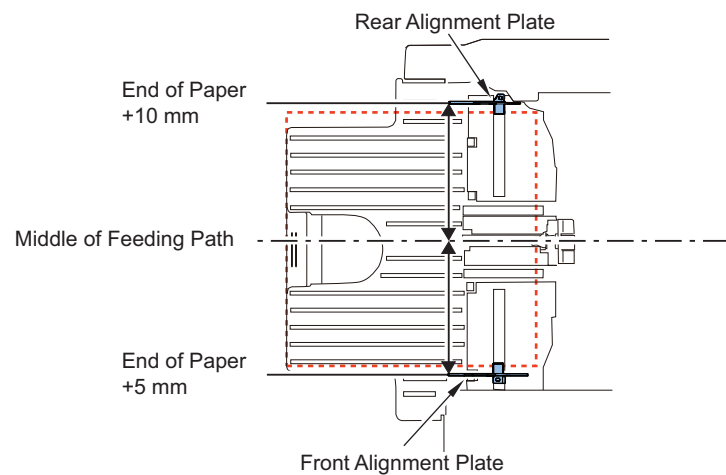


■ Alignment Operation in Shift-sort Mode

1. After the delivery sensor (PS1) detects the trailing edge of the paper, the front and rear alignment plates move to the wait positions.
 - Wait positions during front shift (front alignment plate position: paper width +20 mm, rear alignment plate position: paper width +5 mm)

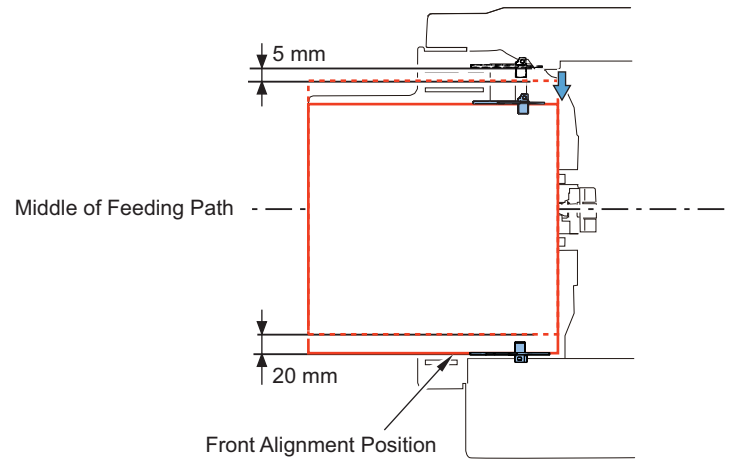


- Wait positions during rear shift (front alignment plate position: paper width +5 mm, rear alignment plate position: paper width +10 mm)

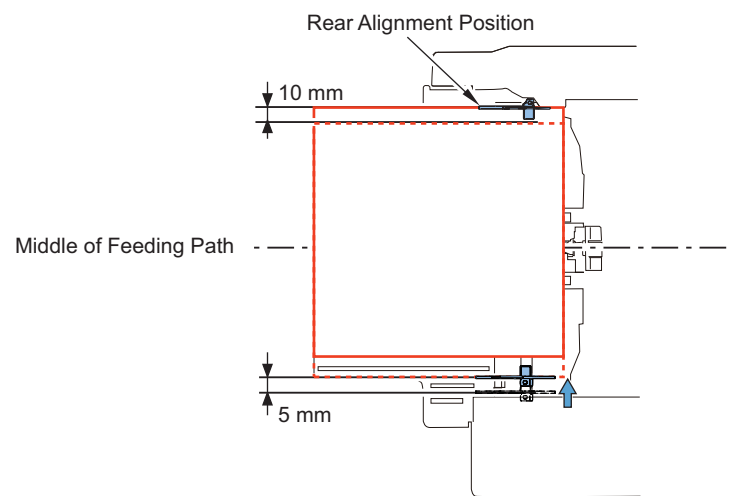


2. Move the front and rear alignment plates to align the paper.

- During front shift, move only the rear alignment plate.(Do not move the front alignment plate.)



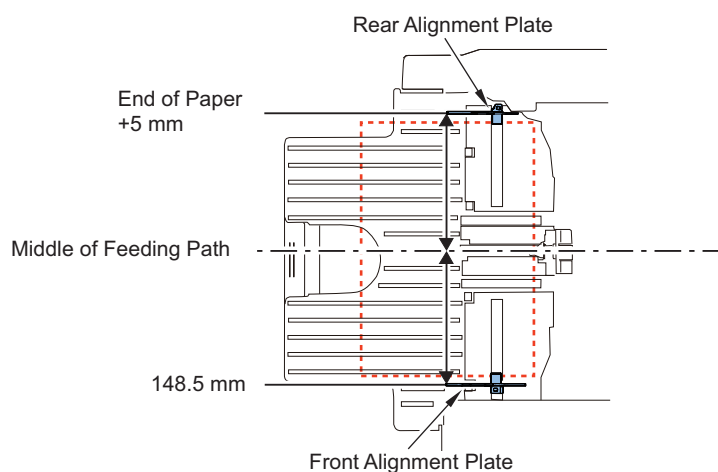
- During rear shift, move only the front alignment plate.(Do not move the rear alignment plate.)



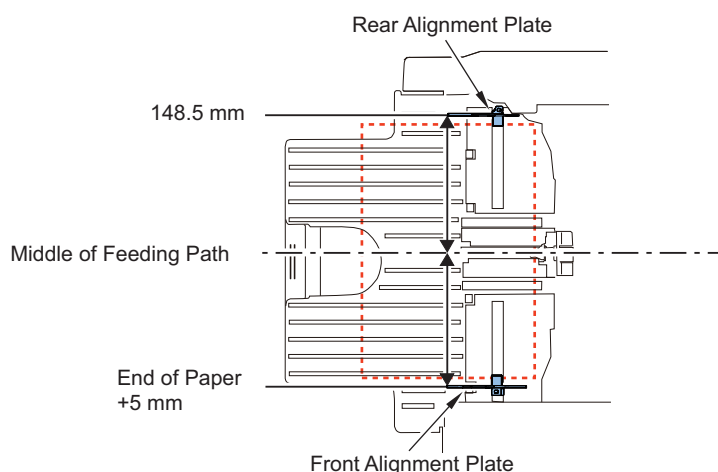
■ Alignment Operation in Staple Mode

1. After the delivery sensor (PS1) detects the trailing edge of the paper, the front and rear alignment plates move to the wait positions. Explanation for 2-point stapling will be omitted because it is the same as the center alignment operation in Non-sort mode.

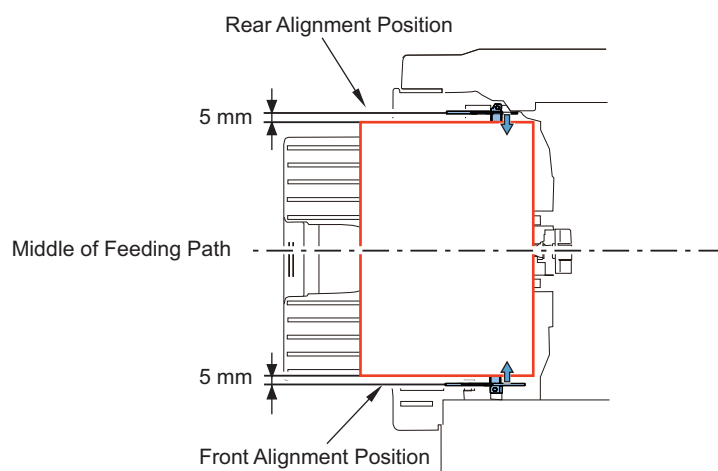
- Front 1-point stapling (front alignment plate position: paper width position (148.5 mm), rear alignment plate position: paper width + 5 mm)



- Rear 1-point stapling (front alignment plate position: paper width + 5 mm, rear alignment plate position: center + 148.5 mm)



2. Move the front and rear alignment plates to align the paper.



■ Alignment Operation in Staple-free Staple Mode

Explanation for staple-free staple mode will be omitted because it is the same as the rear alignment operation in rear 1-point stapling mode. ["Alignment Operation in Staple Mode" on page 27](#)

Staple Operation

■ Outline

In staple operation, the specified number of sheets of paper is stapled by the stapler unit.

The staple position varies depending on the staple mode and paper size.

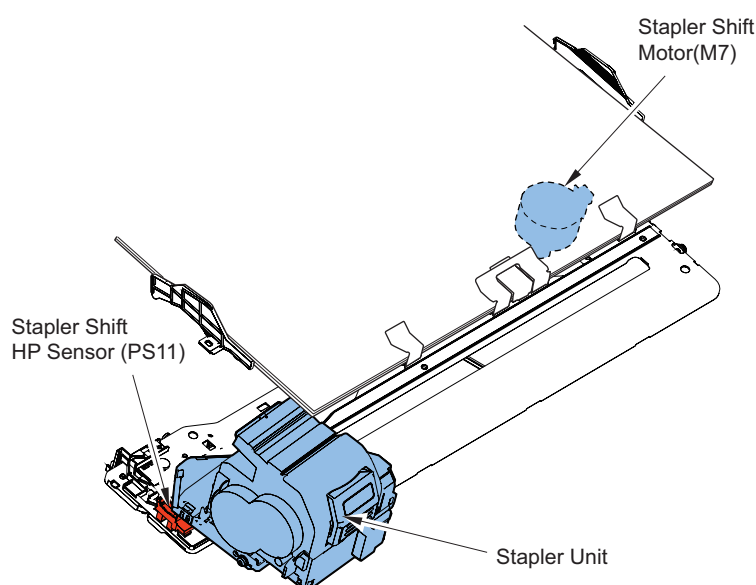
The stapler unit's home position is detected by the stapler shift HP sensor (PS11).

After power ON, the finisher controller PCB drives the stapler shift motor (M7) to return the stapler unit to the home position.

If the stapler unit is at the home position to begin with, it remains there in standby mode.

When a staple instruction is received from the host machine, the staple unit moves to the staple wait position according to the staple position.

Staple position	Distance from the stapler shift HP sensor (PS11)
Front 1-point stapling	102.5mm
Rear 1-point stapling	363.0mm
Center 2-point stapling	Rear stapling: 292.2 mm, front stapling: 172.2 mm Rear stapling is performed first and then front stapling.
Manual stapling	1.5mm



■ Stapler Unit

Stapling occurs when the cam driven by the stapler motor (M8) rotates once.

The cam's home position is detected by the staple home position sensor.

If the staple home position sensor is off, the finisher controller PCB runs the stapler motor until the staple home position sensor turns on and resets the staple cam to its initial state.

Staple cartridge and staples inside the staple cartridge are detected by the staple detection sensor.

Whether the staple in the staple cartridge is pushed out to the leading edge of the cartridge is detected by the staple edging sensor.

- Number of sheets that can be stapled

Item	Specifications		Remarks
Stapling capacity	Small size (A4, B5, LTR, 16K, EXEC)	52 to 90 g/m ² : 50 sheets More than 91 to 105 g/m ² : 30 sheets More than 105 to 256 g/m ² : 2 sheets	• Coated paper: 2 sheets regardless of paper weight and paper size.
	Large size (A3, B4, A4R, 11x17, LGL, LTR-R, 8K)	52 to 90 g/m ² : 30 sheets (A4R, LTR-R: 40 sheets) More than 91 to 105 g/m ² : 20 sheets (A4R, LTR-R: 30 sheets) More than 105 to 256 g/m ² : 2 sheets	

If the staple setting exceeds the stapling capacity (small size: 50 sheets, large size: 30 sheets) that can be bound, divided delivery is performed.

If the upper limit is exceeded, shift-sort mode is used for the second and subsequent copies.

Example: Divided delivery for 51 A4 (80g/m²) sheets 50 sheets are delivered in a stack without stapling. The 51st sheet is delivered by itself.

Related service mode

- Adjustment of front 1-stapling position:
SORTER > ADJUST > INSTP-F1
- Adjustment of rear 1-stapling position:
SORTER > ADJUST > INSTP-R1
- Adjustment of 2-stapling position:
SORTER > ADJUST > STP-2P
- Setting of the duration of time to keep manual staple mode enabled after execution of manual stapling:
SORTER > OPTION > MSTP-WT
- Setting of the duration of time before executing automatic stapling at manual staple mode:
SORTER > OPTION > MSTP-TMG
- Adjustment of manual stapling position:
SORTER > ADJUST > MSTP-2P

Related error code

- E531-8001: Stapler motor error
- E531-8002: Stapler motor error
- E532-8001: Stapler shift motor error
- E532-8002: Stapler shift motor error

Staple-free Staple Operation

■ Outline

When staple-free stapling is specified, the paper is moved to the staple-free stapling position by the front alignment plate and assist guide. The paper stack is clinched by the clinch arm.

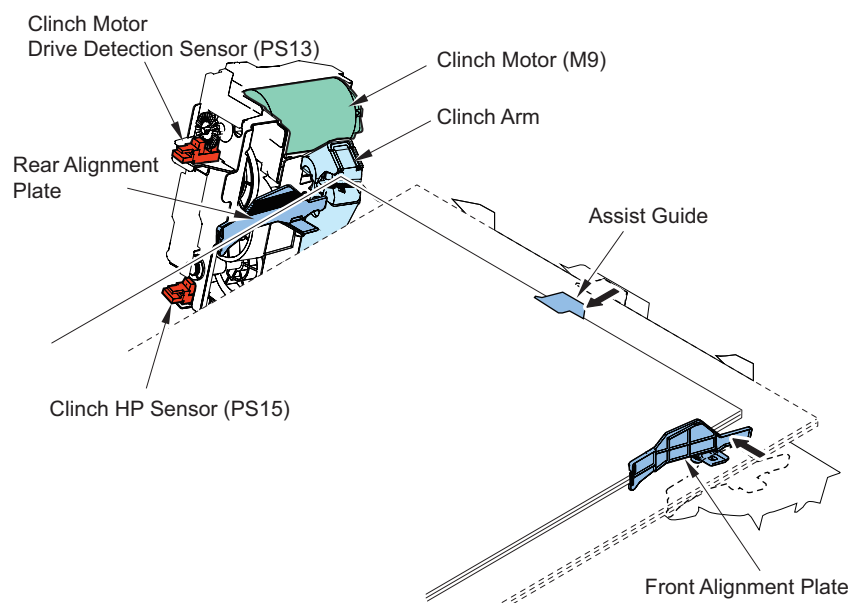
The clinch arm's home position is detected by the clinch HP sensor (PS15).

After power ON, the finisher controller PCB drives the clinch motor (M9) to return the clinch arm to the home position. If the clinch arm is at the home position to begin with, it remains there and waits.

Clinch errors are detected using clock pulses from the clinch motor drive detection sensor (PS13).

The staple-free staple unit is fixed in place in the rear of the finisher. Only a single stapling position is used, which is at the rear. Stapling at four locations (upper left, upper right, lower right, lower left) is possible using the host machine's LUI through image processing of the printed surface.

After staple-free stapling, the paper stack is delivered by the assist guide.



■ Staple-Free Staple Unit

When the clinch motor (M9) drives and the cam rotates once, the clinch arm pinches the paper. The wave-shaped upper teeth and lower teeth of the clinch arm bite the paper to bind it.

The clinch arm's home position is detected by the clinch HP sensor (PS15).

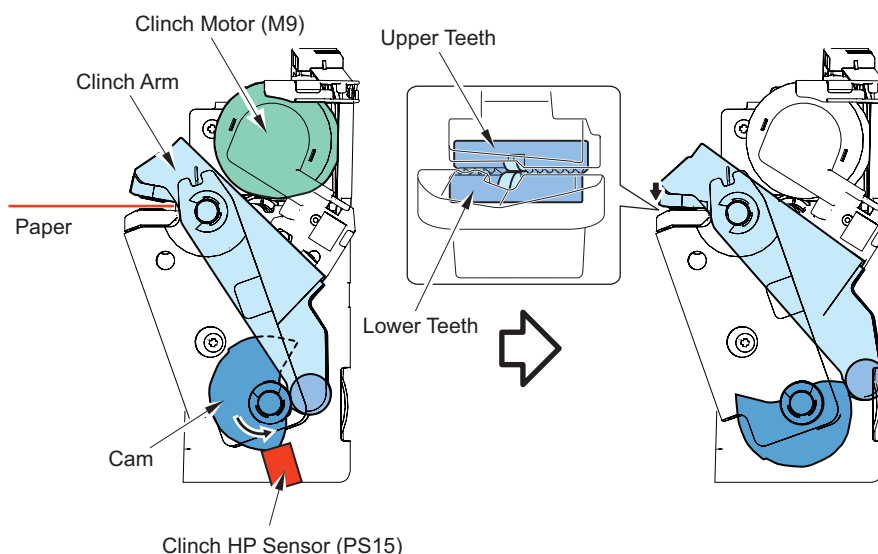
After power ON, the finisher controller PCB drives the clinch motor (M9) to return the clinch arm to the home position. If the clinch arm is at the home position to begin with, it remains there and waits.

NOTE:

If the malfunction of the Staple-Free Staple Unit has occurred, the alarm (Alarm code: 61-0002) is notified after the operation of the machine has stopped as the jam.

When replacing the Staple-Free Staple Unit after the notification of the alarm, perform the following service mode.

- SORTER > FUNCTION > EMSG-CLR



- Number of sheets that can be clinched

Item	Specifications		Remarks
Stapling capacity	A4, B5, LTR, 16K	52 to 64 g/m ² : 10 sheets or less More than 64 to 81.4 g/m ² : 8 sheets or less More than 81.4 to 105 g/m ² : 6 sheets	Different depending on the host machine. • Stapling a mix of same width is possible. • Stapling a mix of different widths is not possible.
	A3, B4, A4R, 11x17, 8K	52 to 64 g/m ² : 5 sheets or less More than 64 to 81.4 g/m ² : 4 sheets or less More than 81.4 to 105 g/m ² : 3 sheets	

If the staple-free staple setting exceeds the stapling capacity that can be bound, divided delivery is performed. If the upper limit is exceeded, shift-sort mode is used for the second and subsequent copies.

Example: Divided delivery for 11 A4 (80g/m²) sheets

10 sheets are delivered in a stack without stapling. The 11th sheet is delivered by itself.

Related service mode

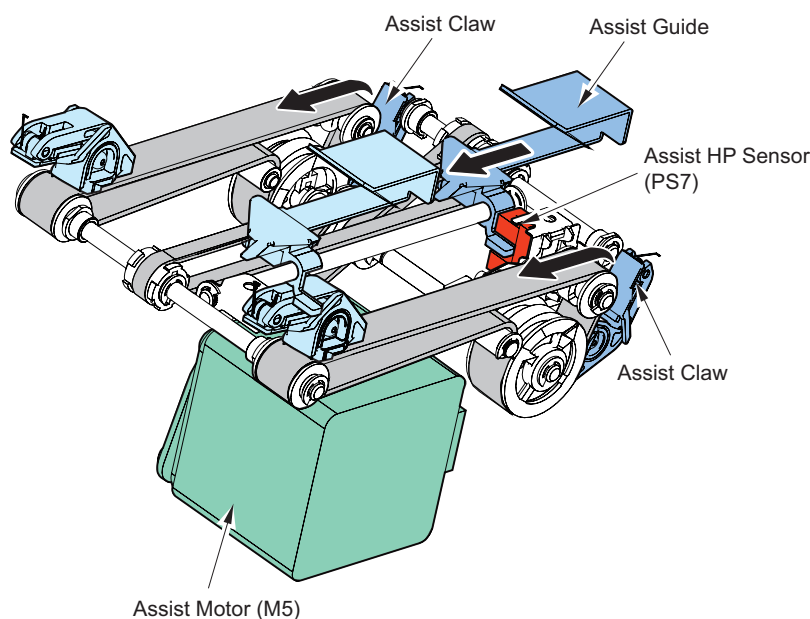
- Adjustment of staple position for paper feed direction in the staple free stapling mode:
SORTER > ADJUST > FR-STP-X
- Adjustment of staple position for front/rear direction in the staple free stapling mode:
SORTER > ADJUST > FR-STP-Y
- Adjustment of staple free pressure:
SORTER > ADJUST > FR-ST-PS
- Setting of the staple position of staple free stapling:
SORTER > OPTION > FR-ST-PO
- Setting of the staple-free stapling in no staple cartridge:
SORTER > OPTION > FR-ST-SW
- Setting of paper dust removal from the stapler at the staple free stapling:
SORTER > FUNCTION > FR-ST-RP

- Clearing of the message related to staple free stapling that is displayed when functions of Finisher are limited:
SORTER > FUNCTION > EMSG-CLR

Stack Delivery Operation

■ Outline

The paper in the processing tray is delivered in stacks using the assist guide and assist claw.
The assist guide supports the trailing edge of the paper stack, and the assist claw pushes out to eject the stack.
The assist guide's home position is detected by the assist HP sensor (PS7).
The assist guide and assist claw are moved to the stack delivery position by the rotating assist motor (M5).
They are returned to their home positions by the assist motor (M5) rotating in reverse.



Related error code

- E514-8001: Assist motor error
- E514-0002: Assist motor error

■ Divided Delivery

Normally in non-sort or shift-sort mode, paper aligned and shifted on the processing tray is divided every 2 sheets and delivered.
If the 3rd sheet is the last sheet, the last sheet is included to create a 3-sheet stack and delivered.
The following table shows the number of divided delivery sheets depending on the paper type, paper size, and paper weight.

In non-sort mode

Paper type	Paper weight	Paper size	Print mode	Number of divided delivery sheets
Transparency, label, postcard, 4-up postcard, envelope, tracing paper	-	-	1-sided/2-sided	1 sheet
Other than above	Recycled 1/2/3, pre-punched	Stack possible size	1-sided/2-sided	2 sheets*
		Other than stack possible size	1-sided/2-sided	1 sheet
	More than 106 g/m ² (Heavy 1)	-	1-sided/2-sided	2 sheets
	Less than 106 g/m ² (Heavy 1)	Paper length: 182.0 mm to 195.0 mm, or Stack possible size more than 257.0 mm	1-sided/2-sided	2 sheets*
		Other stack possible size	1-sided	2 sheets*
			2-sided	5 sheets*

Paper type	Paper weight	Paper size	Print mode	Number of divided delivery sheets
Other than above	Less than 106 g/m ² (Heavy 1)	Other than stack possible size	1-sided/2-sided	1 sheet

*: When meet all the following conditions, number of divided delivery sheet is 1 sheet.

- Top paper of job, 64 g/m² to 105 g/m² (Plain 1/2/3), non-stapled

In shift sort mode

Paper type	Paper weight	Paper size	Print mode	Number of divided delivery sheets
Recycled 1/2/3, pre-punched	-	-	1-sided/2-sided	2 sheets
Other than above	More than 106 g/m ² (Heavy 1)	-	1-sided/2-sided	2 sheets
	106 g/m ² (Thin 1/2, Plain 1/2/3) or less	Paper length: 182.0 mm to 195.0 mm (B5, 16K, EXEC), or Paper length: 257.0 mm or more (B5R, A4R, A3)	1-sided/2-sided	2 sheets
		Other than above	1-sided	2 sheets
			2-sided	5 sheets

When meet all the following conditions, number of divided delivery sheet is 1 sheet.

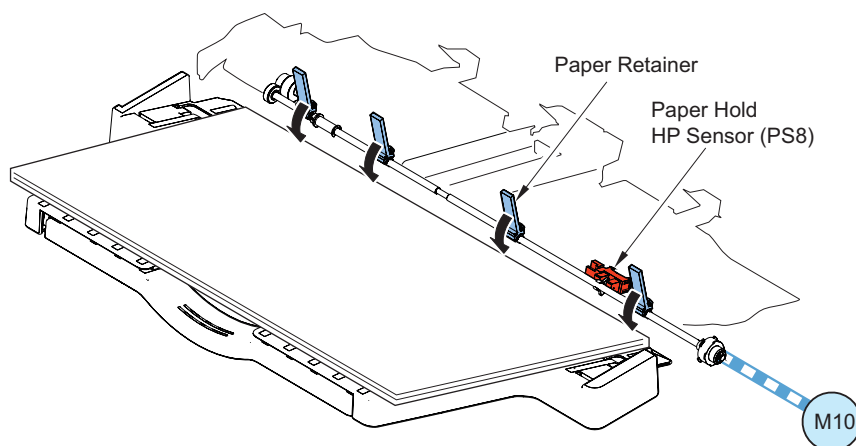
- Top paper of job, 64 g/m² to 105 g/m² (Plain 1/2/3), non-stapled

Paper Retainer Operation

The paper retainer holds down the paper stack in the delivery tray to prevent the stack from moving when the leading edge of the next paper is delivered to the delivery tray.

The paper retainer's home position is detected by the paper hold HP sensor (PS8).

The paddle motor (M10) drives the paper retainer to hold down the paper stack.



Related error code

- E516-0001: Paddle motor error
- E516-0002: Paddle motor error

Stack Tray Unit

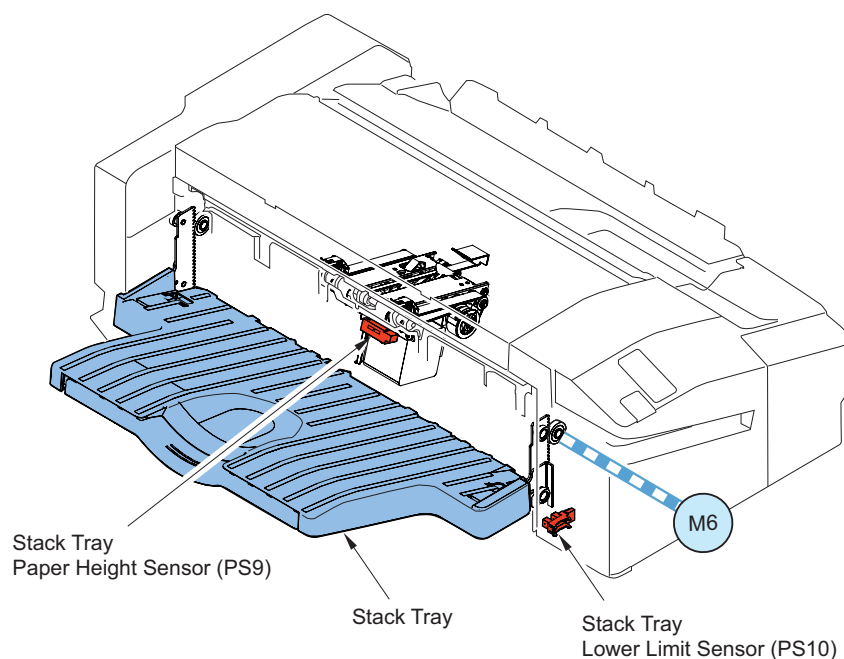
Stack Tray Shift Operation

The paper delivered from the processing tray by the assist guide is then stacked on the stack tray.

The stack tray is moved up and down by the stack tray shift motor (M6).

Before start of printing, the tray shift motor (M6) is driven to move the stack tray up/down to the position where the stack tray paper height sensor (PS9) detects the stack tray top surface.

After paper is delivered from the processing tray, the stack tray moves down by the specified amount. Next, the stack tray is moved up until the stack tray paper height sensor (PS9) detects the stack tray top surface (top surface of the stacked paper). The lower limit of the stack tray is detected by the stack tray lower limit sensor (PS10).



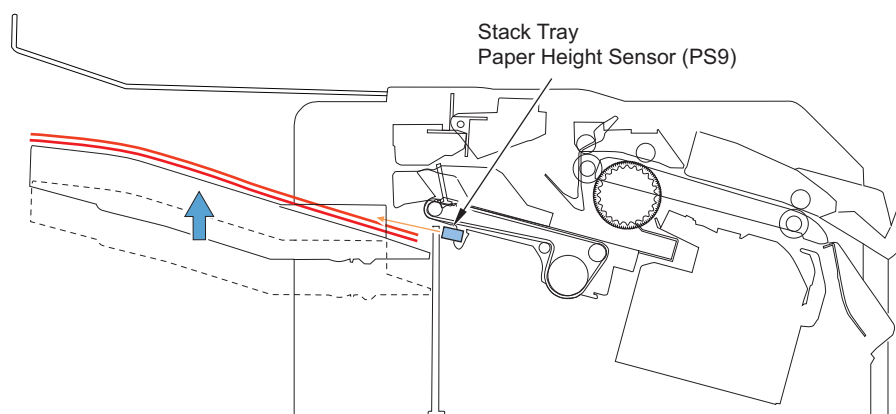
Stack Tray Paper Height Detection Control

The height of the paper stack on the stack tray is detected by the stack tray paper height sensor (PS9). After paper has been delivered to the stack tray, the stack tray moves down by the specified amount.

Next, the stack tray moves up until the stack tray paper height sensor (PS9) turns on (the top surface of the paper on the stack tray is detected). The tray is moved down once again and stopped where the stack tray paper height sensor (PS9) turns off.

The above operations are repeated each time paper is delivered to the stack tray to detect the paper height.

However, there are situations in which paper height detection is not performed depending on the print conditions.

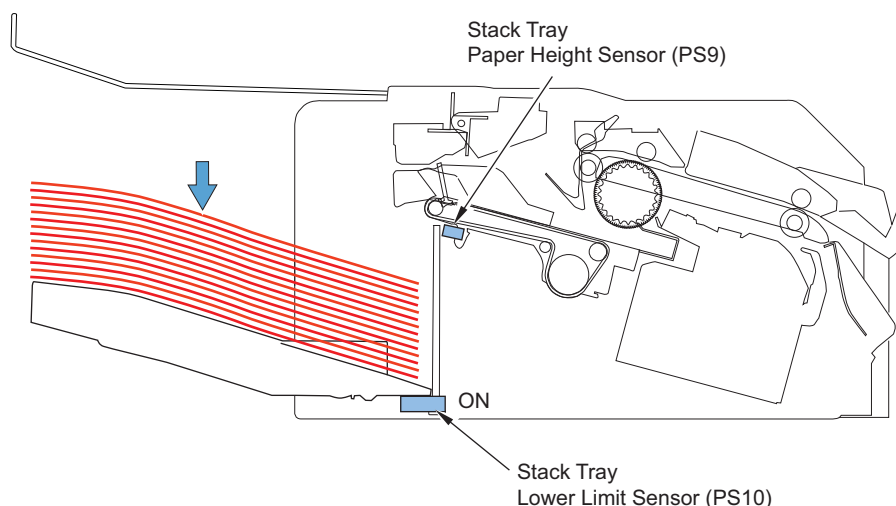


The stack tray paper height sensor (PS9) also detects foreign matter below the tray. During job execution, if paper surface detection fails seven consecutive times when the stack tray is lowered after paper is delivered from the processing tray, the finisher judges that there is foreign matter.

When foreign matter is detected, the finisher sends 1C40 (error avoidance jam; tray shift motor error) to the host machine. The host machine LUI displays a foreign matter check message. If foreign matter is detected again within a given time period, an error code (E540-8002) will be displayed.

Stack Tray Paper Full Detection

The stack tray paper full state is detected by the stack tray paper height sensor (PS9) and stack tray lower limit sensor (PS10).



The stack tray paper full state is detected in the following conditions.

- At power ON, if both the stack tray paper height sensor (PS9) and stack tray lower limit1 sensor (PS10) are on.
- When the stack tray moves down by the specified amount after paper is delivered to the stack tray, the stack tray lower limit sensor (PS10) turns on.
- When a stack height higher than the height equivalent to 500 small-size sheets is detected.
- When the internal counter*1 detects that 30 or more copies of stapled or staple-free stapled paper stacks have been delivered.
- When the internal counter*1 detects that 250 or more large-size sheets have been delivered.
- When the internal counter*1 detects that 250 or more sheets that include a mixture of small-size and large-size sheets have been delivered.

*1: The internal counter's sheet count and copy count are cleared in the following situations.

- When the paper stack on the stack tray is removed.
- When the power is turned off and then back on.

Related service mode

- Setting of the tray position after the completion of job:
SORTER > OPTION > TRY-PSTN

Related error code

- E540-8001: Tray shift motor error
- E540-8002: Tray shift motor error

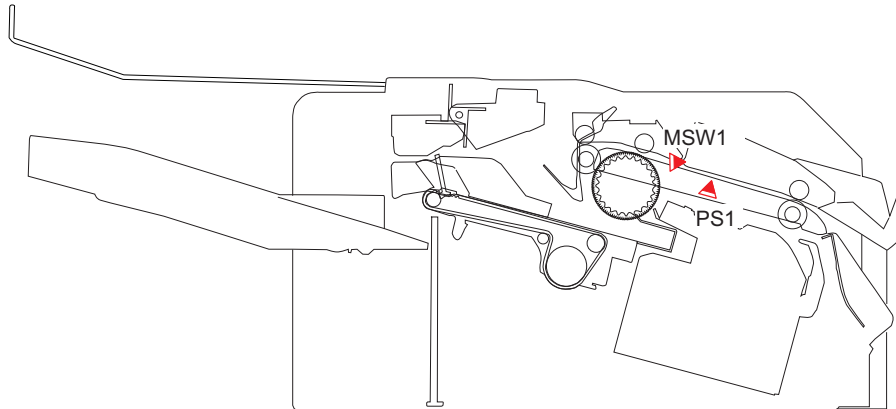
Jam Detection

Outline

The finisher is equipped with the following paper detection sensor to check whether paper is present and whether the stapler is operating normally.

Further, it is equipped with the following switch to detect the open or closed state of the front cover.

- Delivery Sensor (PS1)
- Front Cover Switch (MSW1)



Jam Types

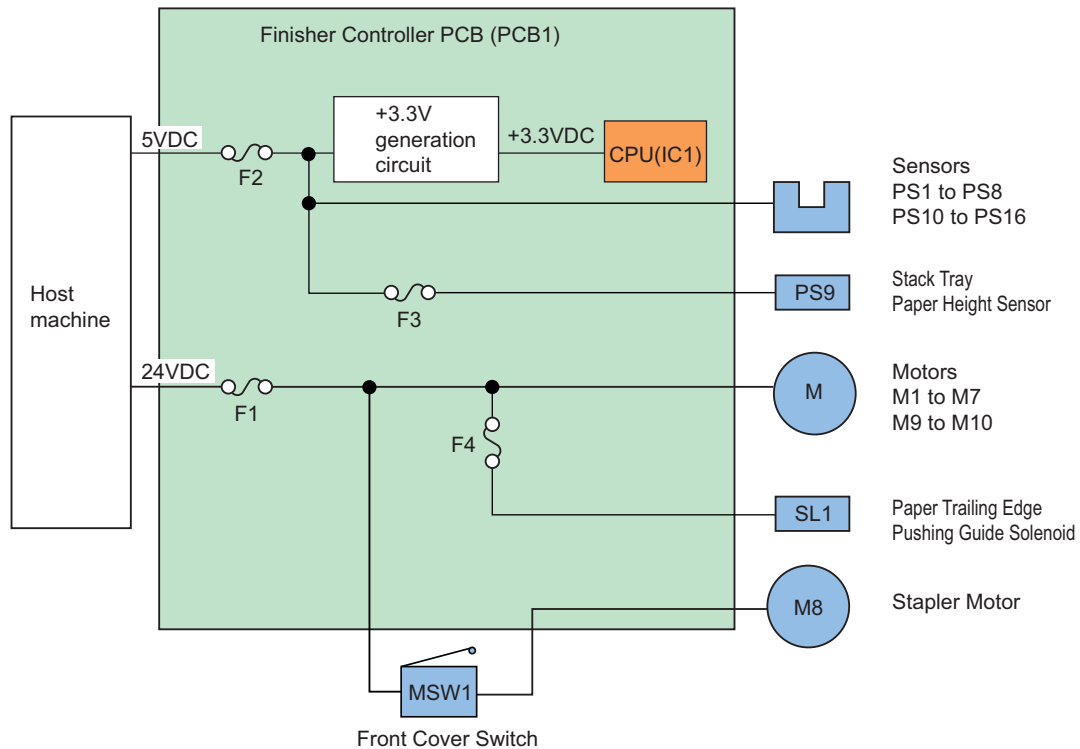
Jam Code	Jam Types	Sensor	Jam description
1001	Delivery sensor delay jam	PS1	The delivery sensor (PS1) does not detect paper even when the specified time has elapsed after receiving a paper reception notification signal from the host machine.
1101	Delivery sensor stationary jam	PS1	The delivery sensor does not turn off even when the specified time has elapsed after the delivery sensor (PS1) detects paper.
1200	Early timing jam	-	The next paper reception notification signal is detected earlier than the specified time after the previous paper reception notification signal is received from the host machine.
1301	Power-on jam	PS1	The delivery sensor (PS1) detects paper during power-on or after recovering from sleep mode.
1400	Door open jam	MSW1	The front cover switch (MSW1) detects that the front cover has been opened during operation.
1500	Stapler staple jam	-	The staple HP sensor cannot detect the stapler even after the specified time has elapsed since the stapler passed through the staple HP sensor when stapling is executed.
1701	Warm-up rotation jam	PS1	The delivery sensor (PS1) detects paper during warm-up rotation.
1801	Staple-free staple jam	-	Clinch motor drive detection sensor error: The clinch motor drive detection sensor (PS13) cannot detect clock pulses even after the clinch motor (M9) is driven for a given time.
1802			Clinch HP sensor error: The clinch HP sensor (PS15) does not turn on even after the clinch motor (M9) is driven for 0.25 seconds.
1803			Clinch motor error: The clinch motor drive detection sensor (PS13) cannot detect clock pulses even after the clinch motor (M9) is driven for 0.24 to 0.25 seconds. And, the clinch HP sensor (PS15) does not turn on even after the clinch motor (M9) is driven for 0.25 seconds.
1804			Staple operation timeout error: The clinch unit rotation sensor (PS13) cannot detect the reduction in revolution within 2 seconds of starting the clinch motor (M9) operation.

Jam Code	Jam Types	Sensor	Jam description
1805	Staple-free staple jam	-	Post-staple-processing operation timeout error: The clinch HP sensor (PS15) does not turn off even when 4 seconds have elapsed after the clinch motor (M9) starts running.
1C14	Error avoidance jam	-	Assist motor error (E514)
1C16			Paddle motor error (E516)
1C30			Rear alignment motor error (E530)
1C32			Stapler shift motor error (E532)
1C35			Return belt motor error (E535)
1C37			Front alignment motor error (E537)
1C40			Tray shift motor error (E540)
1C77			Paddle motor error (E577)
1F01	Paper feed cancellation jam	-	The finisher receives a paper feed cancellation instruction from the host machine for paper delivered according to a paper reception notification signal.
1F32	Manual stack insertion jam	-	A paper stack is inserted in the manual staple slit while the stapler unit is moving. This is not detected when the stapler unit is moving to the staple replacement position.
1F90	Sequence jam	-	A start response cannot be returned within 60 seconds of receiving a start request signal. An operation completion response cannot be returned within 60 seconds of receiving an operation completion request signal.
1F91		-	A paper feed completion signal cannot be returned within 15 seconds of receiving a paper delivery signal.
1F92		-	The internal status does not change more than 10 seconds after the finisher starts paper stack operation to the processing tray.

Power Supply

Outline

When the host machine is turned on, it supplies the finisher controller PCB with 24 VDC and 5 VDC. The 24 VDC power is used to drive the motors, solenoid and the switches, while the 5 VDC power is for the sensors and the like.



Protective Functions

The finisher controller PCB is provided with fuses (F1 through 4) which blow in response to overcurrent.

Upgrading

Upgrading

When upgrading the firmware of the finisher controller PCB, upgrade from the host machine. (For details, see the service manual for the host machine.)



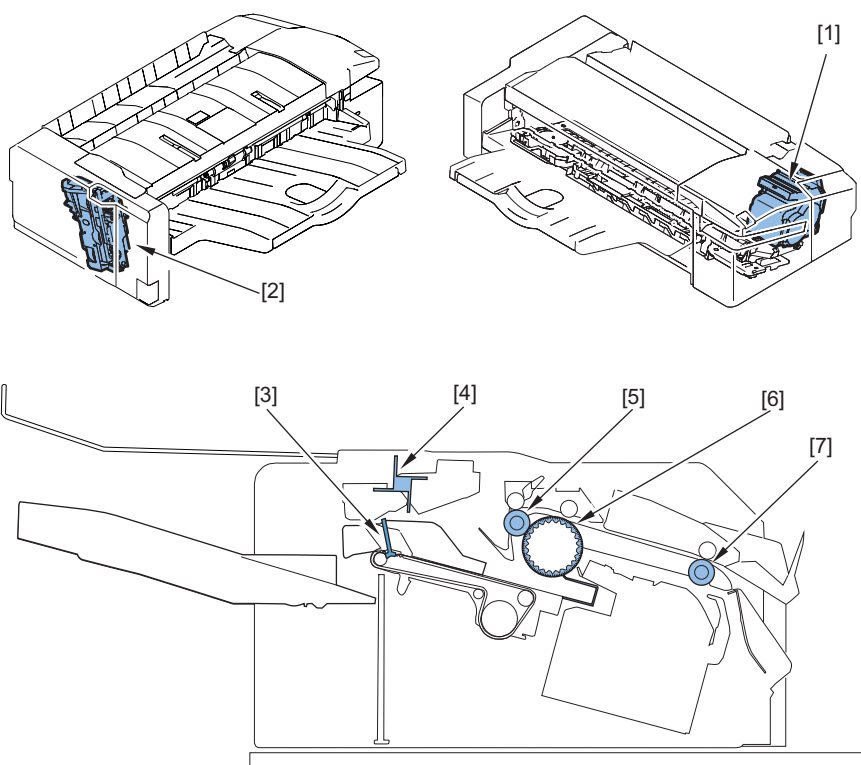
Periodical Service

List of Work for Scheduled Servicing	40
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List of Work for Scheduled Servicing

PR: Replacement (Periodically replaced parts) / CR: Replacement (consumable parts) / CL: Cleaning / LU: Lubrication / AD: Adjustment / CH: Maintenance

No.	Part Name	Part Number	Q'ty	Interval	Counter	Reference	Remarks
1	Stapler Unit	FM1-N381	1	CR/500,000 times	DRBL-2 >FIN-STPR	"Removing the Stapler Unit" on page 85	
2	Staple-free Staple Unit	FM2-B760	1	CR/30,000 times	DRBL-2 >FR-STPL	"Removing the Staple-free Staple Unit" on page 86	
3	Paper Retainer	-	-	CL/As needed	-	-	Cleaning with wet and tightly wrung lint-free paper
4	Paddle	-	-	CL/As needed	-	-	
5	Delivery Roller	-	-	CL/As needed	-	-	
6	Return Belt	-	-	CL/As needed	-	-	
7	Inlet Roller	-	-	CL/As needed	-	-	



4

Parts Replacement and Cleaning

Notes at Parts Replacement.....	42
Removing this Machine from the Host Machine.....	43
List of Parts.....	71
External Cover.....	76
Main Unit.....	80
Solenoids.....	88
Motor.....	89
Sensor.....	91
PCB.....	92
Other Parts.....	93

Notes at Parts Replacement

CAUTION:

Dismantle the inner finisher from the host machine first, whenever replacing its parts.

Illustrations

Although pictures or illustrations used for explanation may differ from the actual things, the procedure is the same.

Removing this Machine from the Host Machine

● Removing this Machine from the Host Machine. (In the case of Inner Finisher only)

■ Removing this Machine from the Host Machine. (iR-ADV DX C5800 Series, iR-ADV DX 6800 Series)

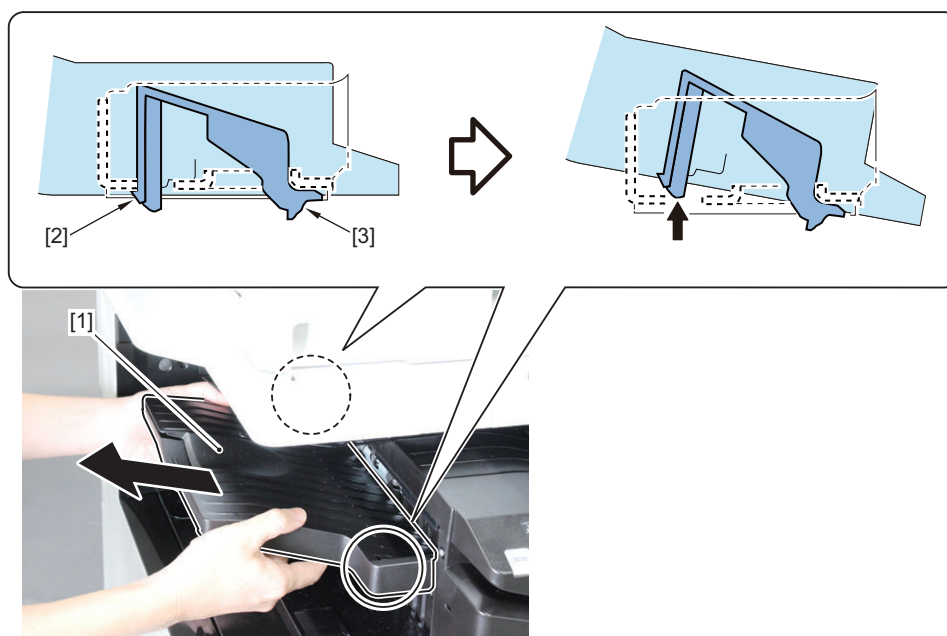
● Procedure

⚠ CAUTION:

Check that the main power switch is OFF and the power plug is disconnected from the outlet.

1. Remove the Delivery Tray [1].

- 2 Claws [2]
- 2 Hooks [3]

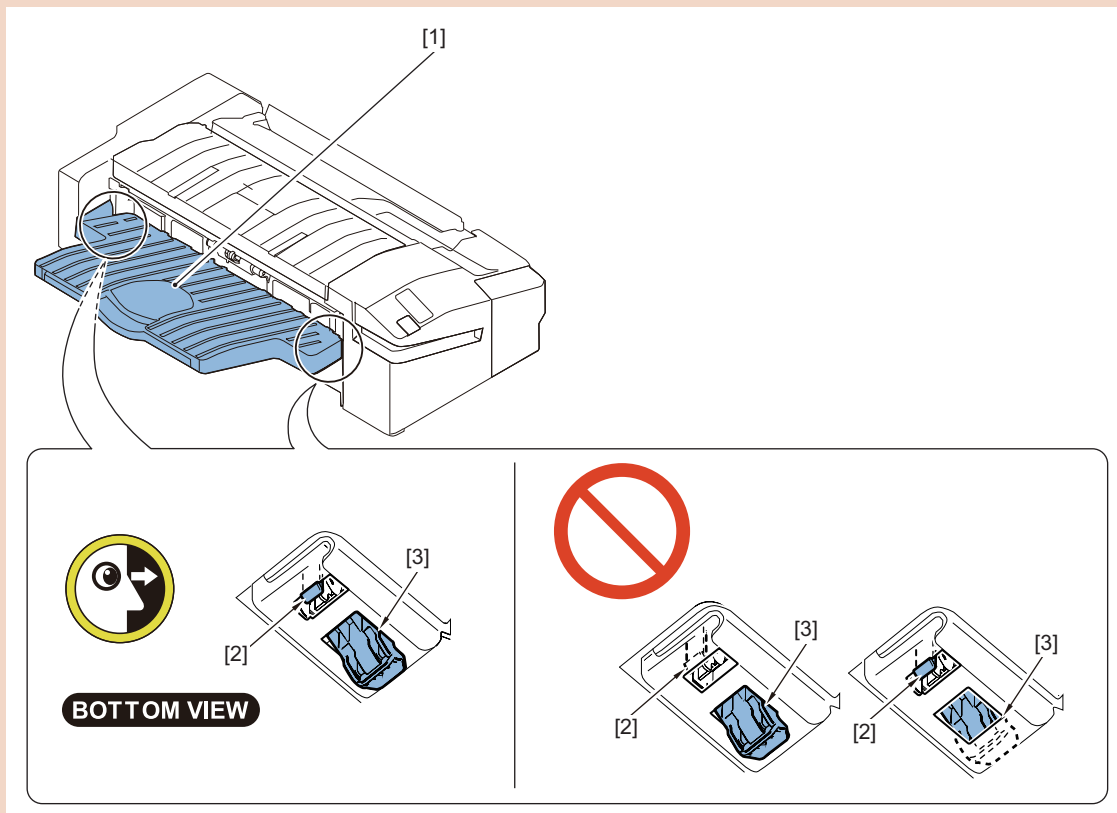


CAUTION:

Points to Note when Installing the Delivery Tray

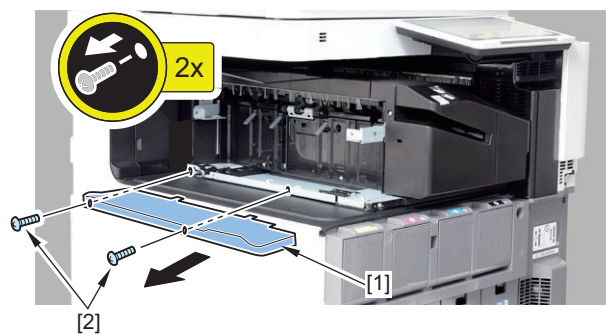
Check that the Delivery Tray [1] is properly installed. If the installation fails, error; E540-8001/8002 may occur at power ON.

- 2 Claws [2]
- 2 Hooks [3]

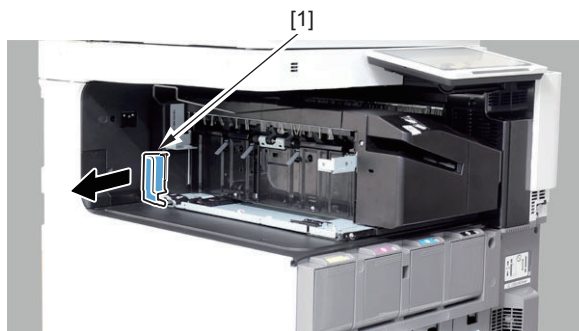


2. Remove the Rail Cover [1].

- 2 Screws [2]

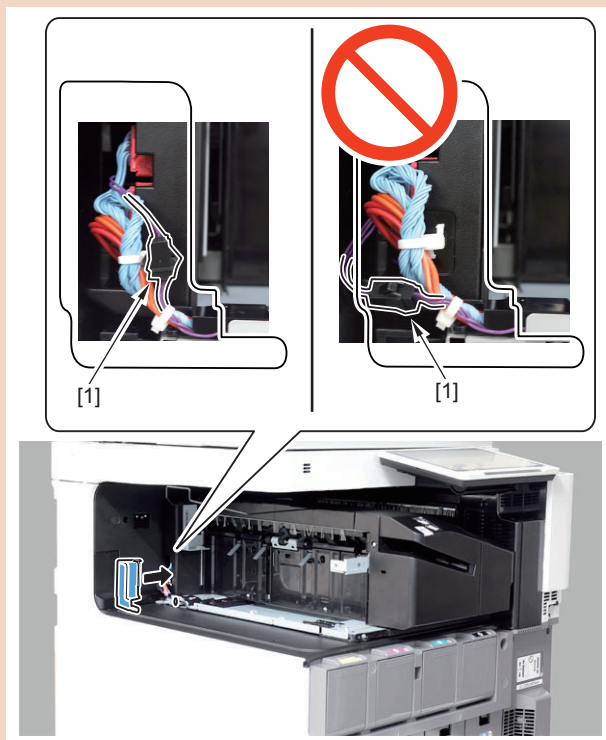


3. Remove the Harness Cover 2 [1].

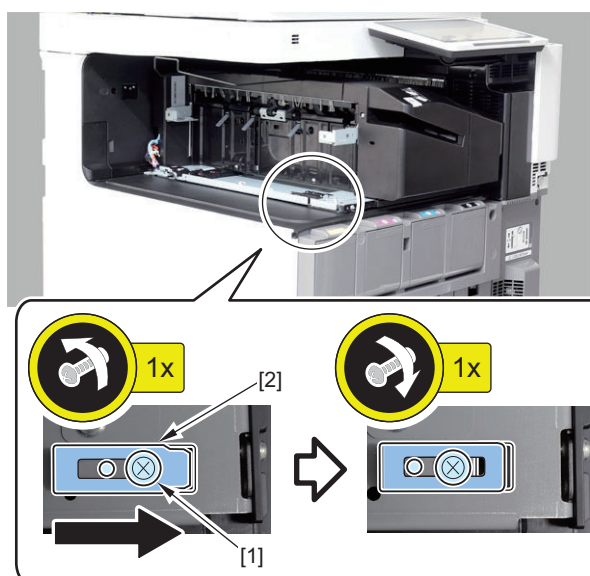


CAUTION:

Before installing the Harness Cover 2, check that the connector [1] is positioned as shown in the figure.

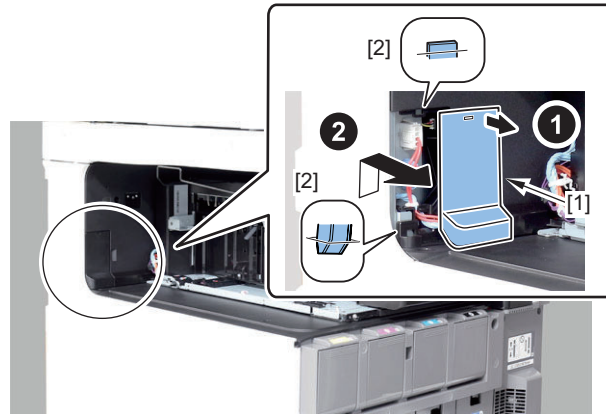


4. Loosen the screw [1] to slide the Rail Stopper [2], secure with the Screw [1].

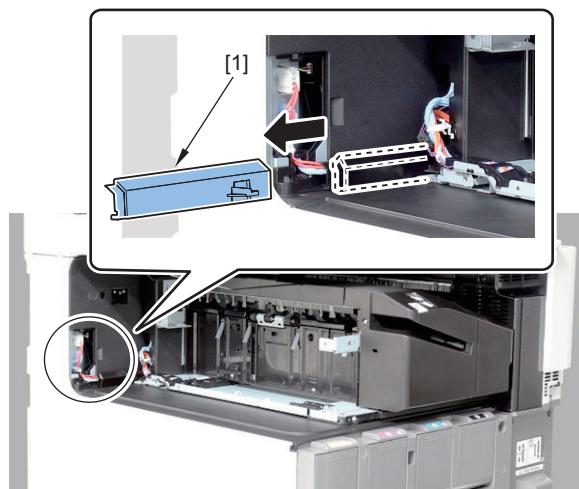


5. Remove the Interface Cover [1].

- 2 Claws [2]

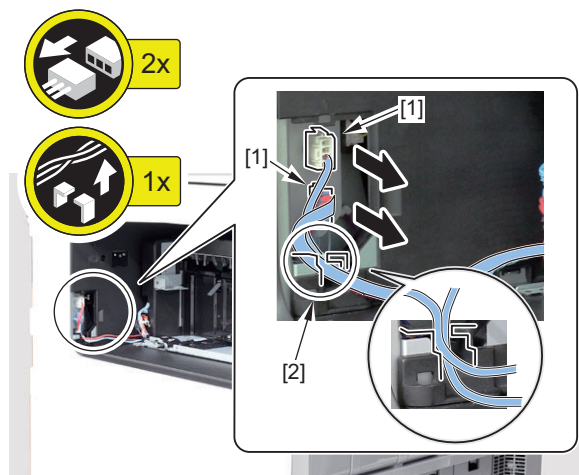


6. Remove the Harness Cover 1 [1].

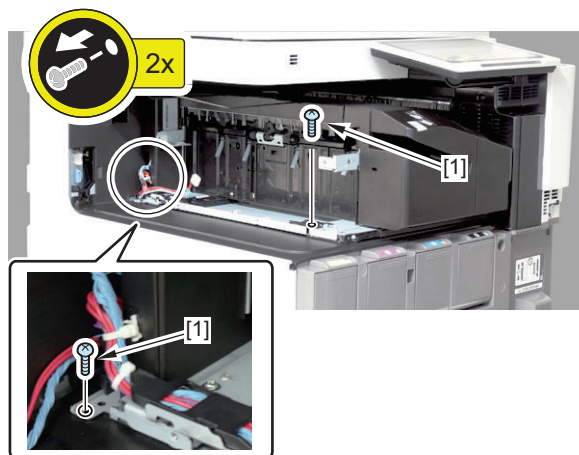


7. Disconnect the 2 Connectors [1].

- 1 Cable Guide [2]



8. Remove the 2 Screws [1], fixing this machine.

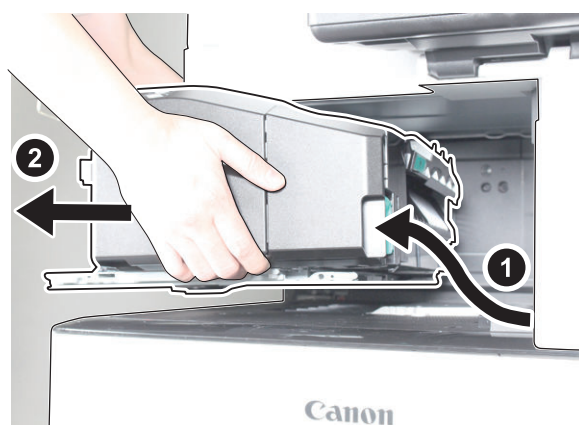
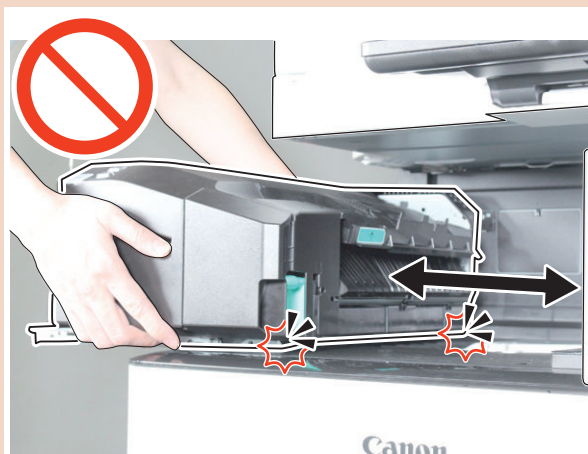


9. Remove this machine from the host machine.

CAUTION:

Do not slide the Inner Finisher as putting it on the host machine or bump the edge parts of the rail unit to the covers of the host machine.

It may cause damage to the host machine.



• Checking after Assembly

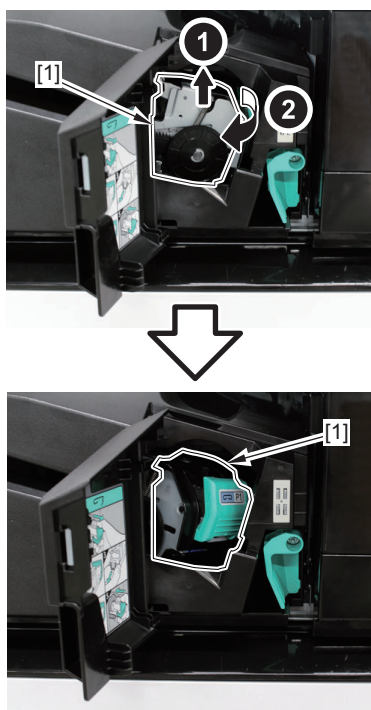
1. Install the finisher in the host machine.
2. Turn the host machine on.
3. Open the finisher front cover.

4. Check that the stapler unit [1] is at the staple cartridge replacement position as shown in the figure. If it is, close the finisher front cover to complete the check procedure.



5. If the stapler unit is not at the staple cartridge replacement position, perform the following procedure.

The stapler unit's roller may be riding on the base plate. so, slightly lift the stapler unit [1], and rotate the roller toward you to correct the position.



6. Close the finisher front cover. Open the finisher front cover again, and check that the staple unit is at the staple cartridge replacement position.
7. Close the finisher front cover.

■ Removing this Machine from the Host Machine. (iR-ADV DX C3800 Series, iR-ADV DX C3200 Series)

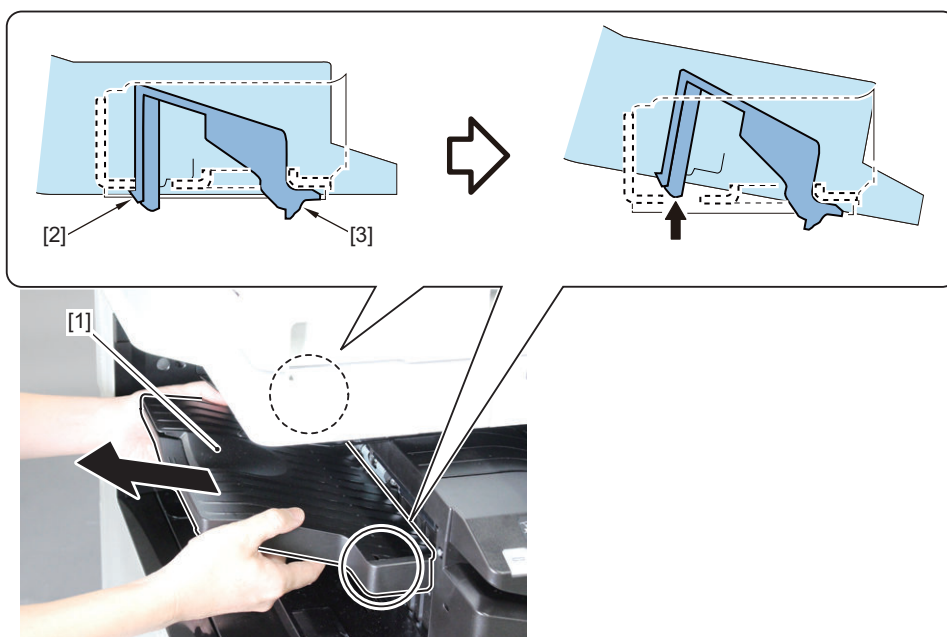
● Procedure

⚠ CAUTION:

Check that the main power switch is OFF and the power plug is disconnected from the outlet.

1. Remove the Delivery Tray [1].

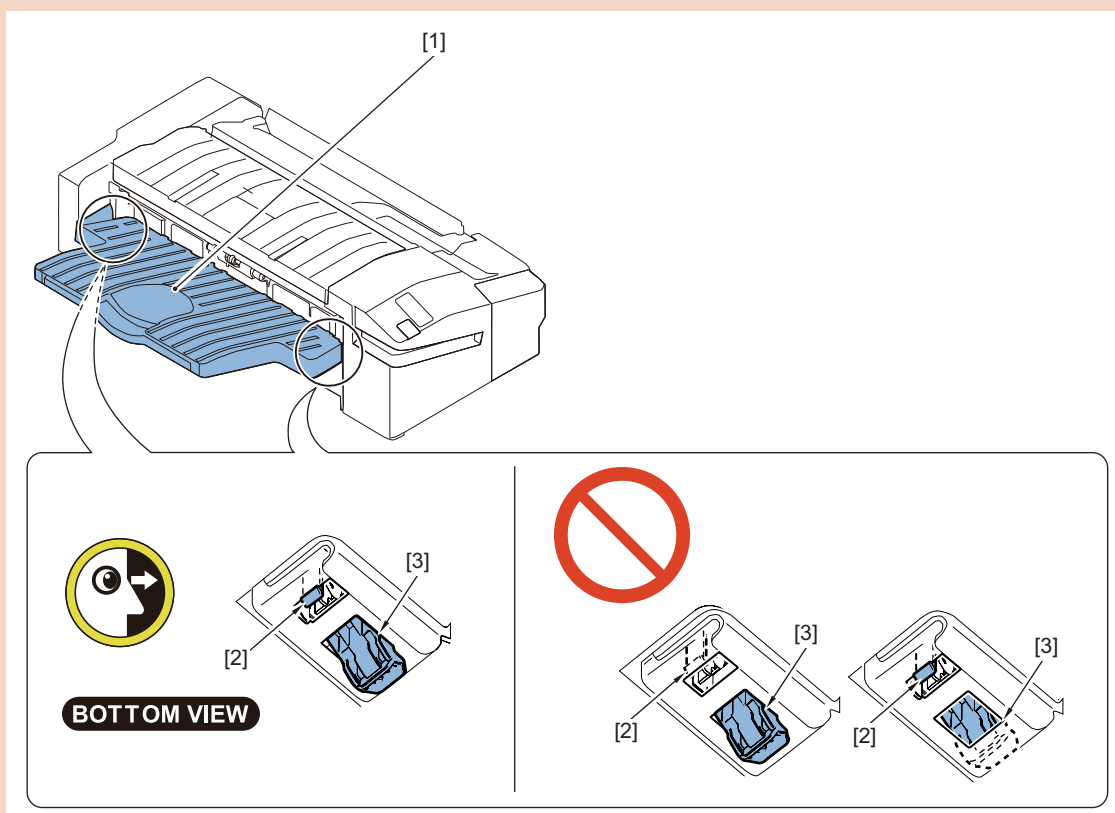
- 2 Claws [2]
- 2 Hooks [3]

**CAUTION:**

Points to Note when Installing the Delivery Tray

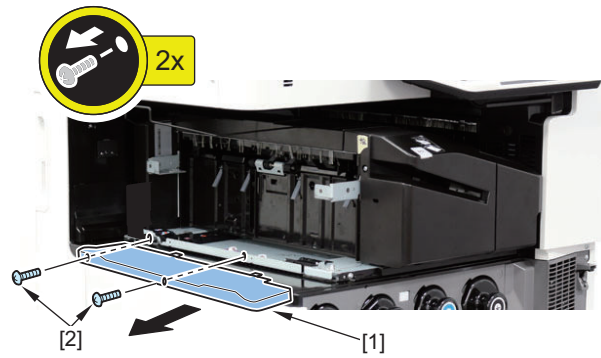
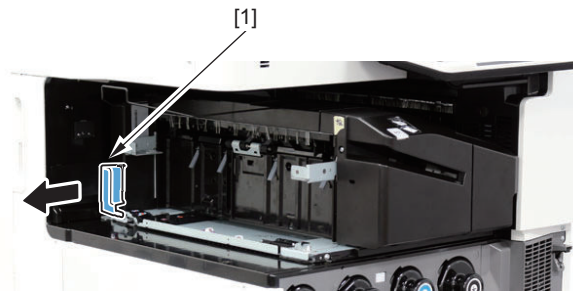
Check that the Delivery Tray [1] is properly installed. If the installation fails, error; E540-8001/8002 may occur at power ON.

- 2 Claws [2]
- 2 Hooks [3]

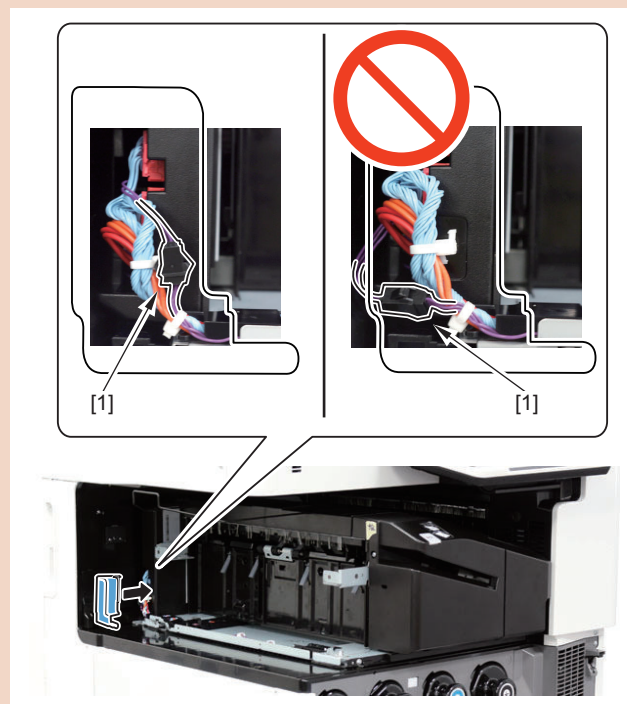


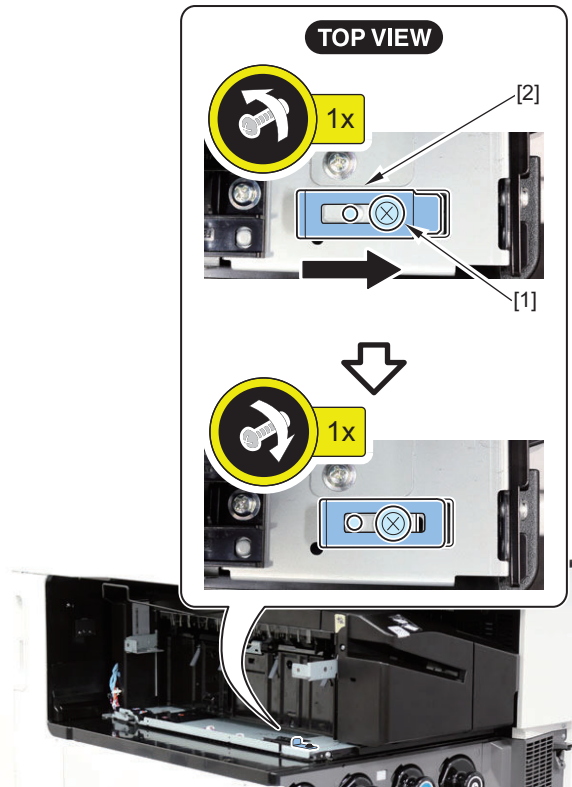
2. Remove the Rail Cover [1].

- 2 Screws [2]

**3. Remove the Harness Cover 2 [1].****CAUTION:**

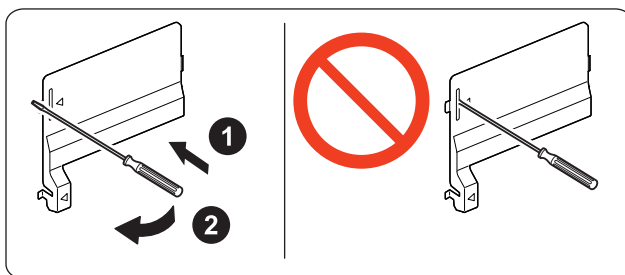
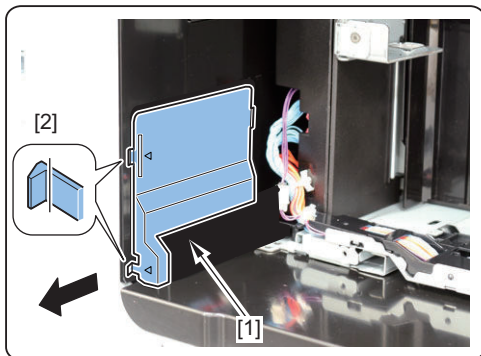
Before installing the Harness Cover 2, check that the connector [1] is positioned as shown in the figure.

**4. Loosen the screw [1] to slide the Rail Stopper [2], secure with the Screw [1].**



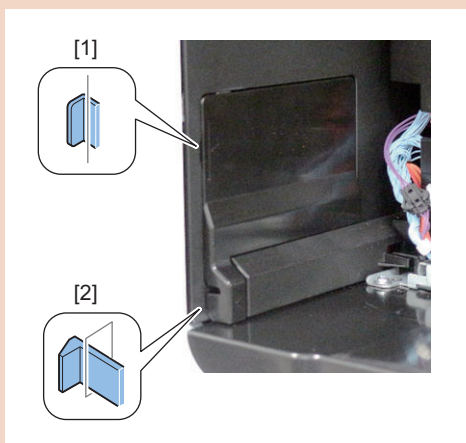
5. Remove the Interface Cover [1].

- 2 Claws [2]

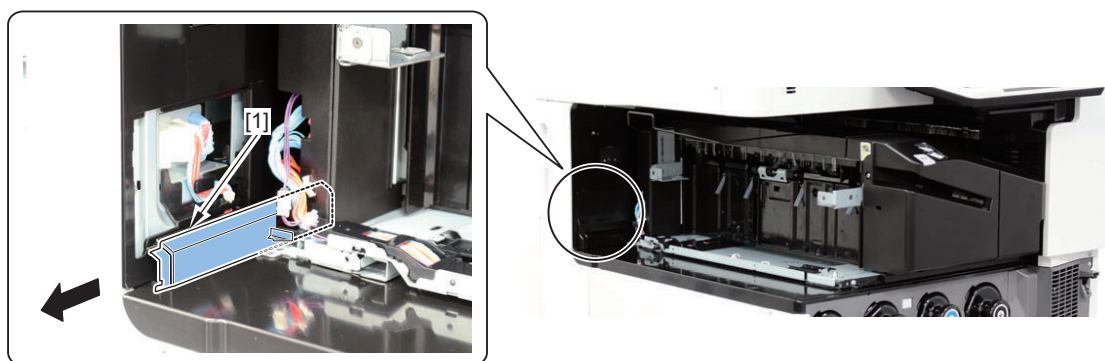


CAUTION:

When installing the Interface Cover, confirm that the 2 hooks [1], [2] are fitted as shown in the figure.

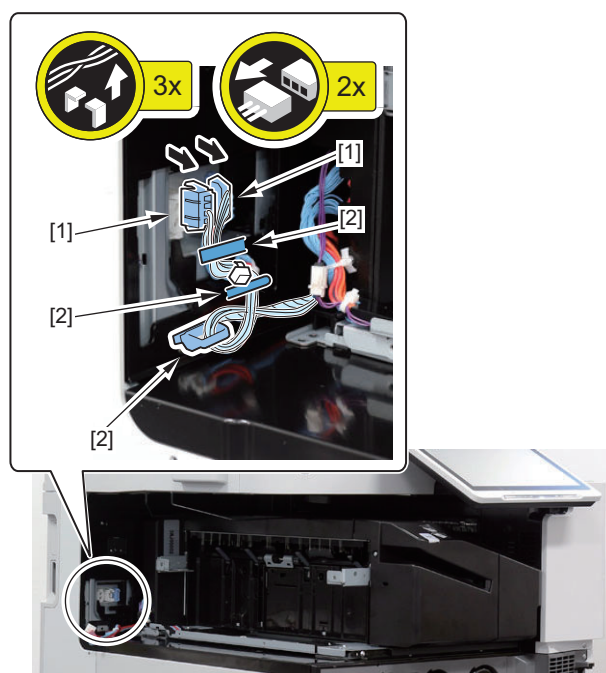


6. Remove the Harness Cover 1 [1].



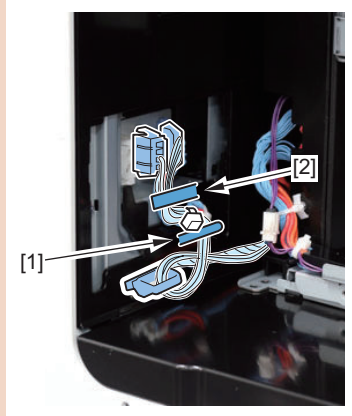
7. Disconnect the 2 Connectors [1].

- 3 Wire Saddles [2]

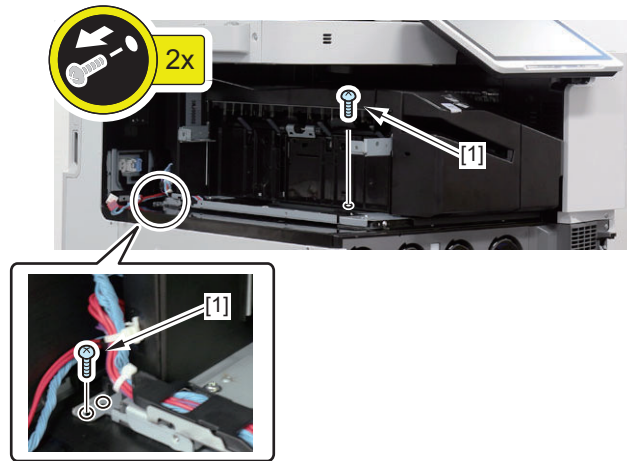


CAUTION:

When connecting the Connectors, confirm that the Wire Saddles [1], [2] position in the figure below.



8. Remove the 2 Screws [1], fixing this machine.

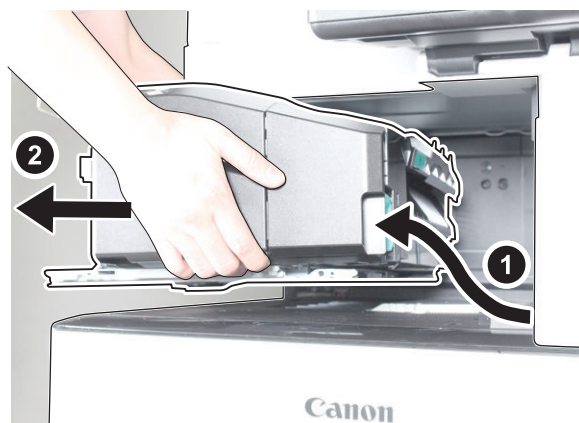
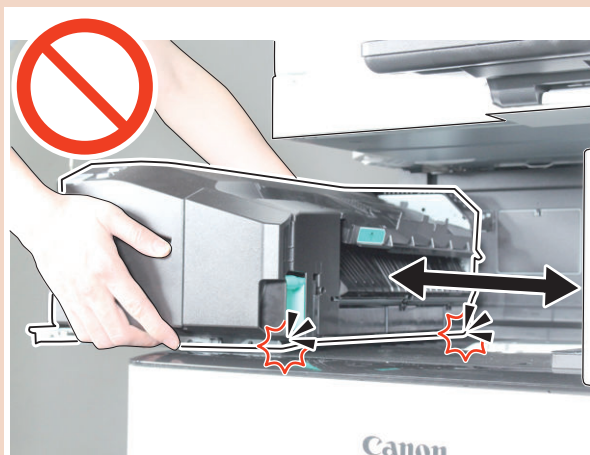


9. Remove this machine from the host machine.

CAUTION:

Do not slide the Inner Finisher as putting it on the host machine or bump the edge parts of the rail unit to the covers of the host machine.

It may cause damage to the host machine.



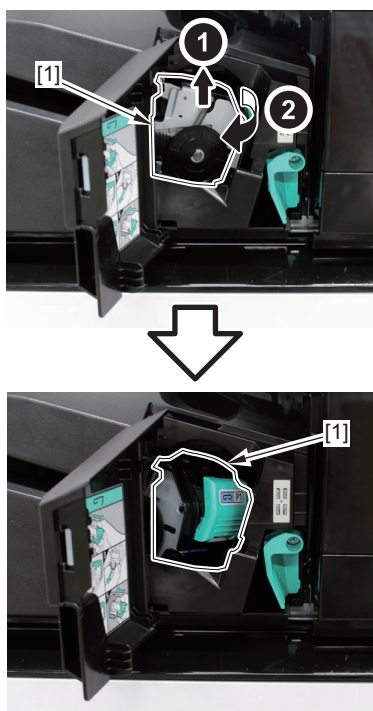
• Checking after Assembly

1. Install the finisher in the host machine.
2. Turn the host machine on.
3. Open the finisher front cover.
4. Check that the stapler unit [1] is at the staple cartridge replacement position as shown in the figure. If it is, close the finisher front cover to complete the check procedure.



5. If the stapler unit is not at the staple cartridge replacement position, perform the following procedure.

The stapler unit's roller may be riding on the base plate. so, slightly lift the stapler unit [1], and rotate the roller toward you to correct the position.



6. Close the finisher front cover. Open the finisher front cover again, and check that the stapler unit is at the staple cartridge replacement position.

7. Close the finisher front cover.

● Removing this Machine from the Host Machine. (In the case of Inner Finisher and Inner Puncher Unit)

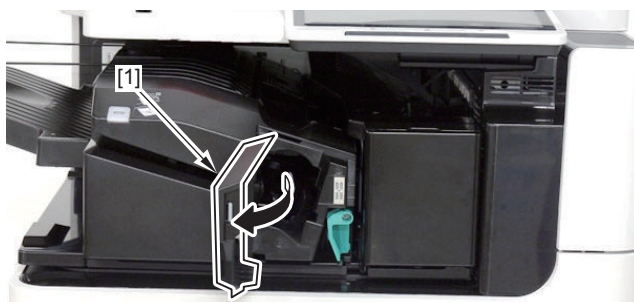
■ Removing this Machine from the Host Machine. (iR-ADV DX C5800 Series, iR-ADV DX 6800 Series)

● Procedure

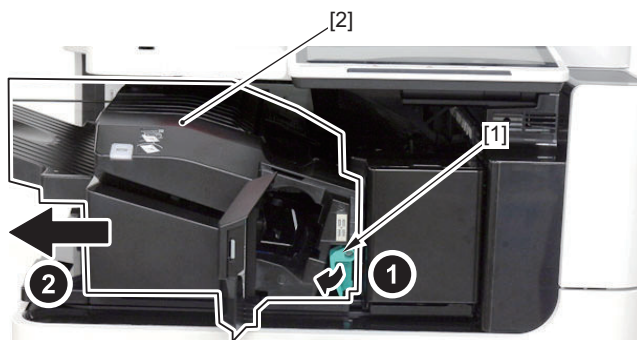
⚠ CAUTION:

Check that the main power switch is OFF and the power plug is disconnected from the outlet.

1. Open the Finisher Front Cover [1].

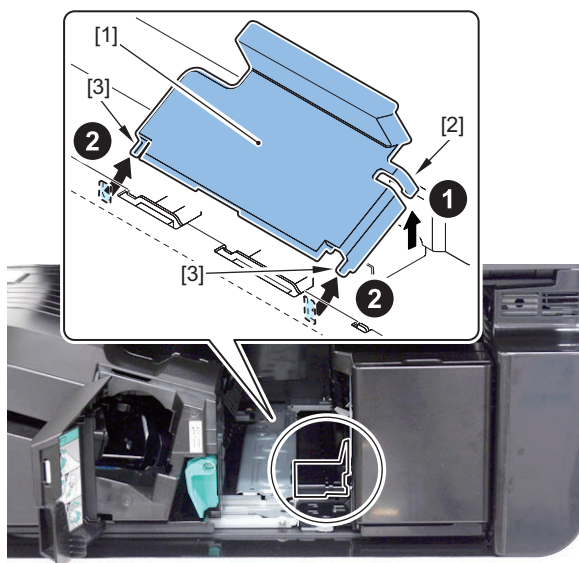


2. Push the Disengagement Lever [1] and slide the Inner Finisher [2].

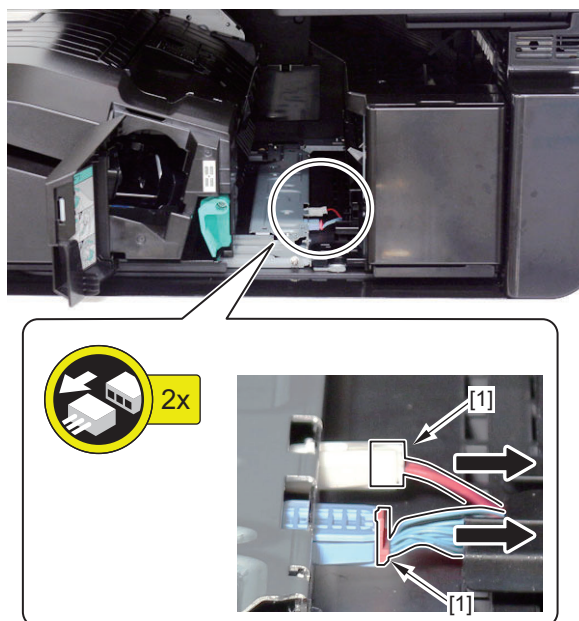


3. Remove the Connector Cover [1].

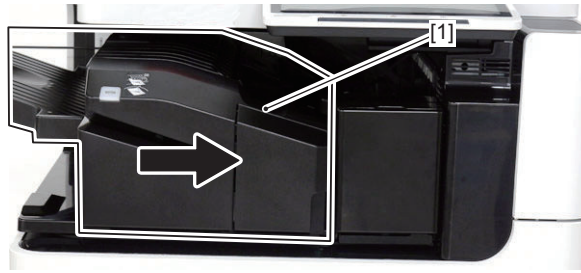
- 1 Claw [2]
- 2 Hooks [3]



4. Disconnect the 2 Connectors [1].

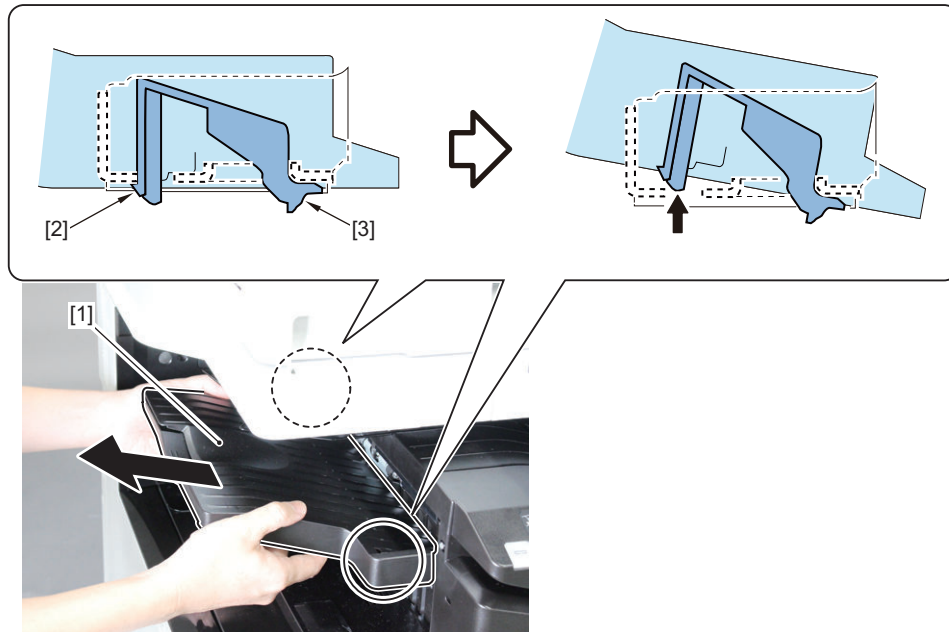


5. Return the Inner Finisher [1] to its original position.



6. Remove the Delivery Tray [1].

- 2 Claws [2]
- 2 Hooks [3]

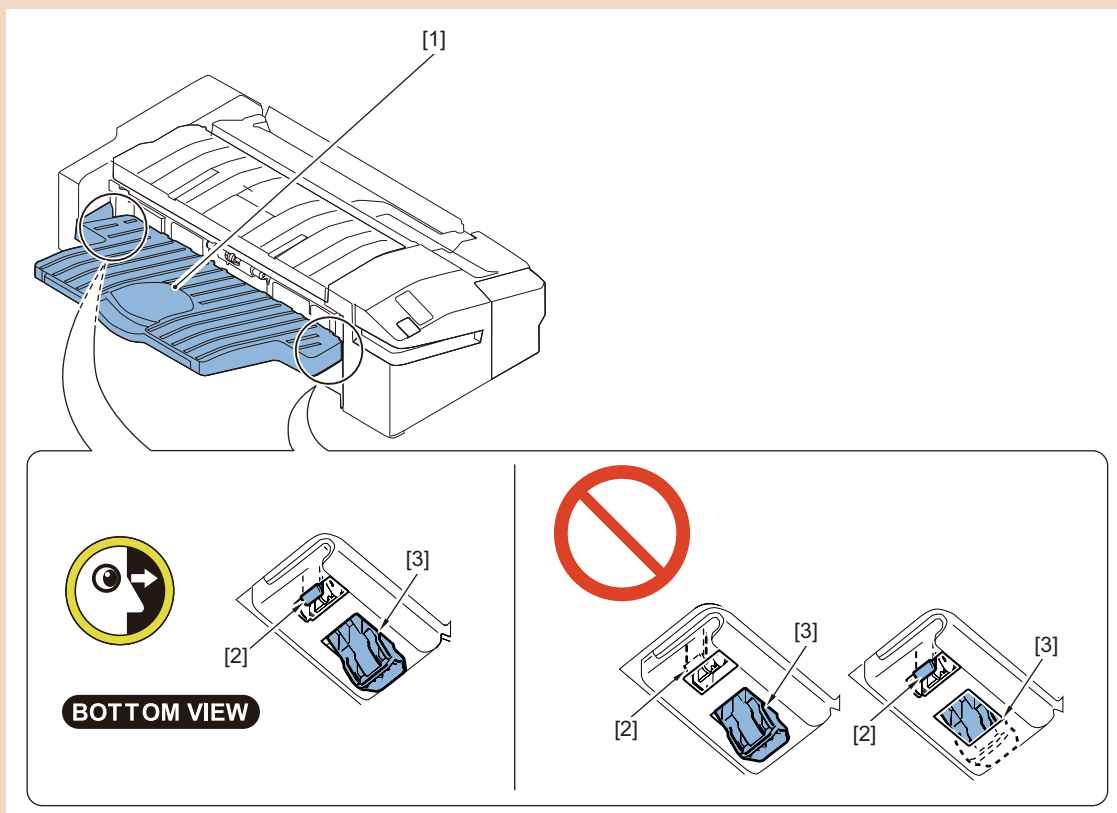


CAUTION:

Points to Note when Installing the Delivery Tray

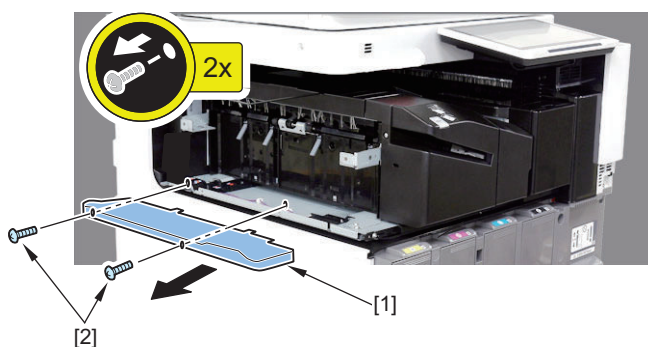
Check that the Delivery Tray [1] is properly installed. If the installation fails, error; E540-8001/8002 may occur at power ON.

- 2 Claws [2]
- 2 Hooks [3]

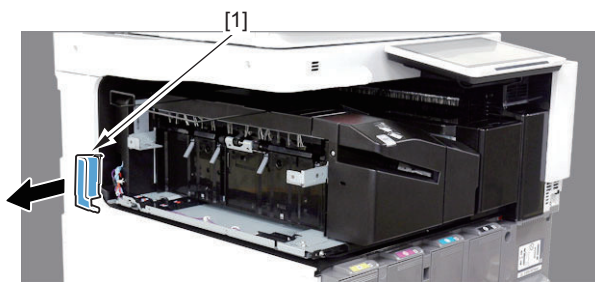


7. Remove the Rail Cover [1].

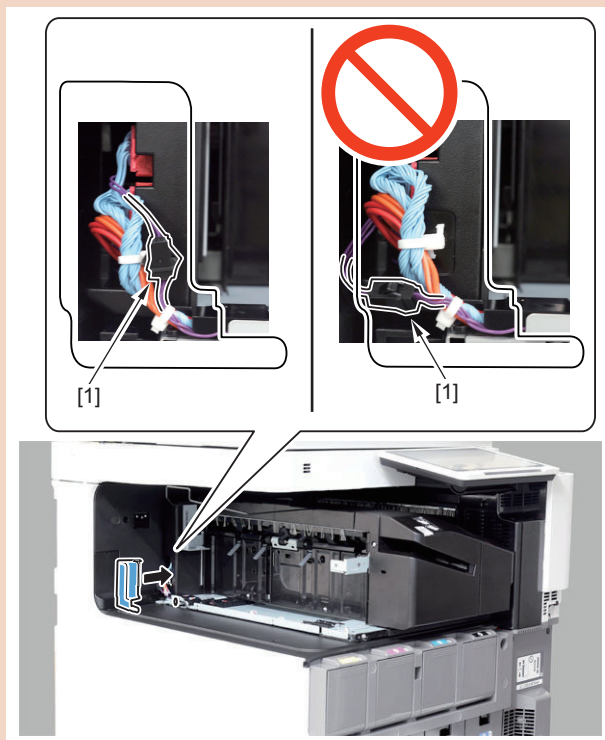
- 2 Screws [2]



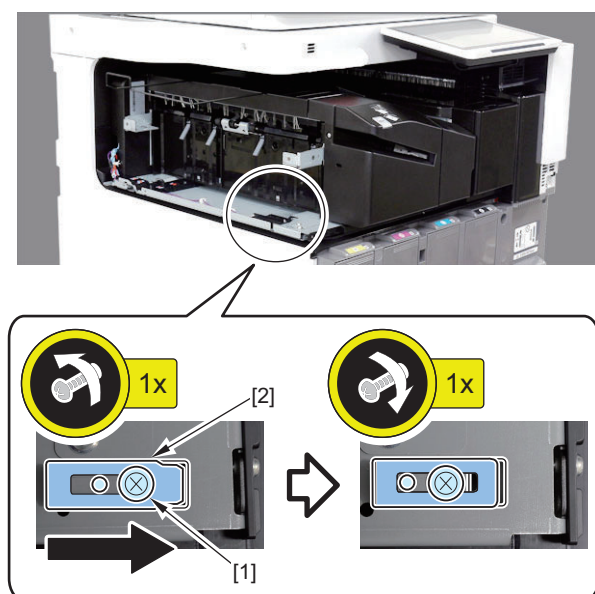
8. Remove the Harness Cover 2 [1].

**CAUTION:**

Before installing the Harness Cover 2, check that the connector [1] is positioned as shown in the figure.

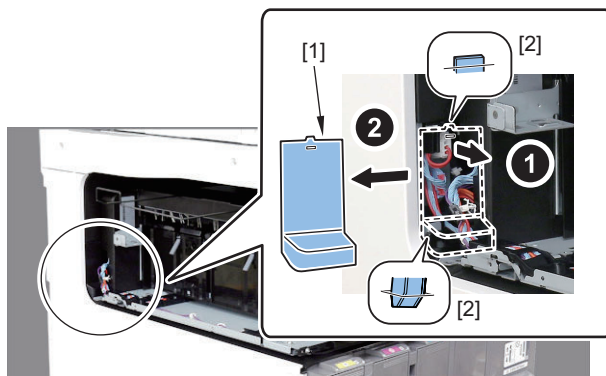


9. Loosen the screw [1] to slide the Rail Stopper [2], secure with the Screw [1].

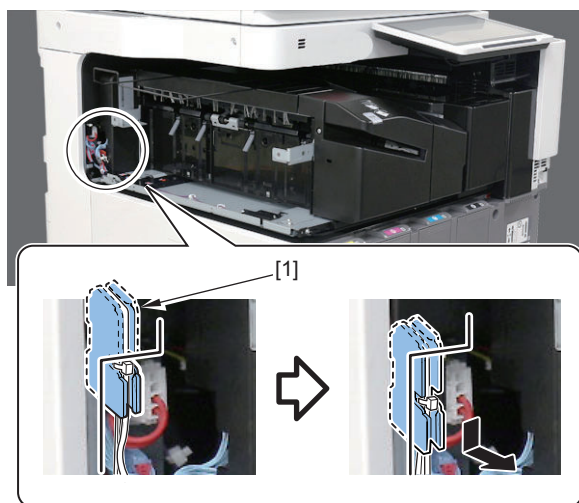


10. Remove the Interface Cover [1].

- 2 Claws [2]

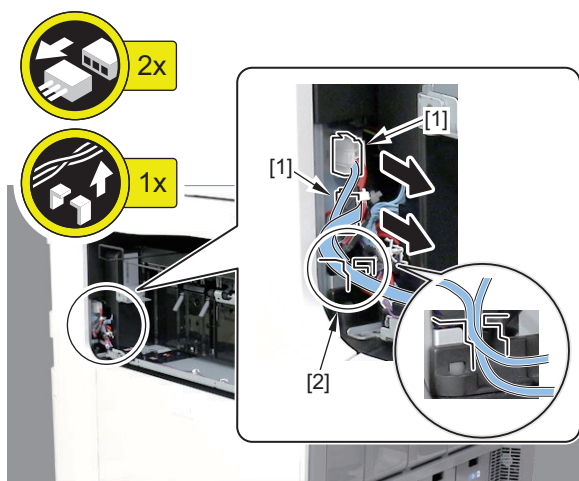


11. Remove the Harness Holder [1].

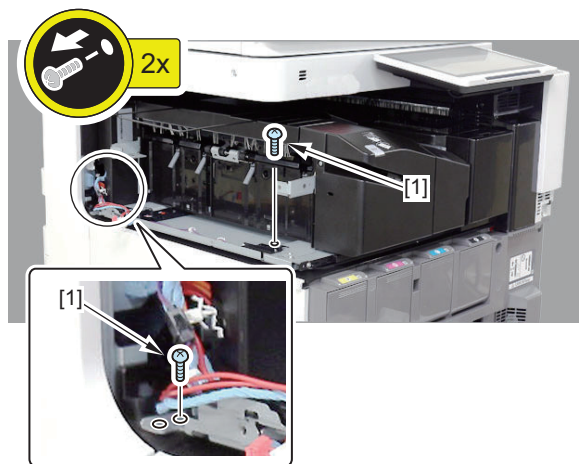


12. Disconnect the 2 Connectors [1].

- 1 Cable Guide [2]



13. Remove the 2 Screws [1], fixing this machine.

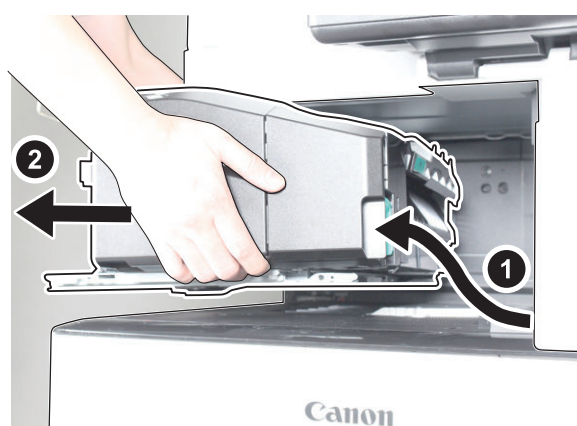
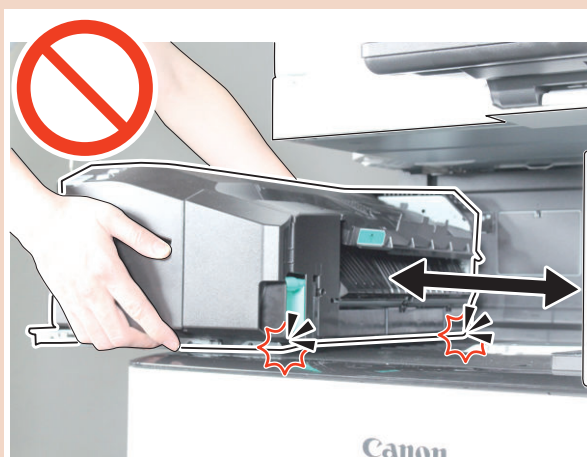


14. Remove this machine from the host machine.

CAUTION:

Do not slide the Inner Finisher as putting it on the host machine or bump the edge parts of the rail unit to the covers of the host machine.

It may cause damage to the host machine.



• Checking after Assembly

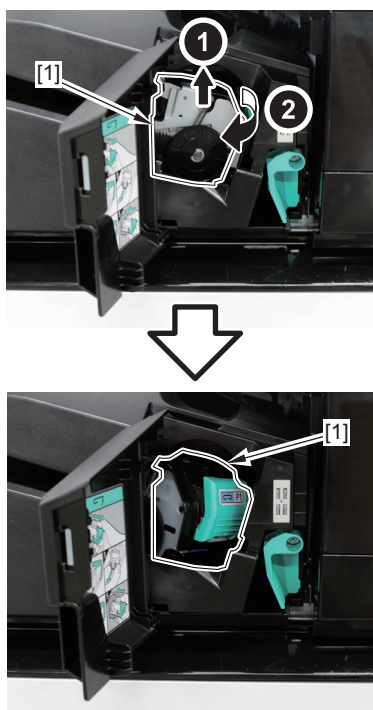
1. Install the finisher in the host machine.
2. Turn the host machine on.
3. Open the finisher front cover.

4. Check that the stapler unit [1] is at the staple cartridge replacement position as shown in the figure. If it is, close the finisher front cover to complete the check procedure.



5. If the stapler unit is not at the staple cartridge replacement position, perform the following procedure.

The stapler unit's roller may be riding on the base plate. so, slightly lift the stapler unit [1], and rotate the roller toward you to correct the position.



6. Close the finisher front cover. Open the finisher front cover again, and check that the staple unit is at the staple cartridge replacement position.
7. Close the finisher front cover.

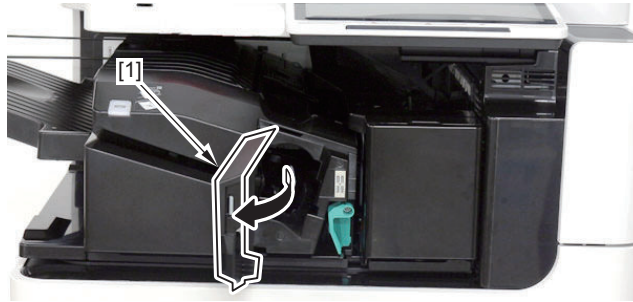
■ Removing this Machine from the Host Machine. (iR-ADV DX C3800 Series, iR-ADV DX C3200 Series)

● Procedure

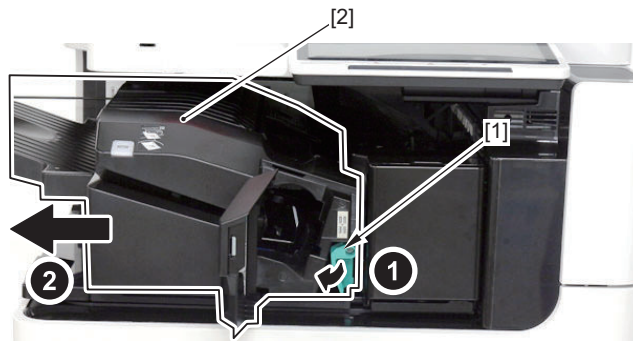
⚠ CAUTION:

Check that the main power switch is OFF and the power plug is disconnected from the outlet.

1. Open the Finisher Front Cover [1].

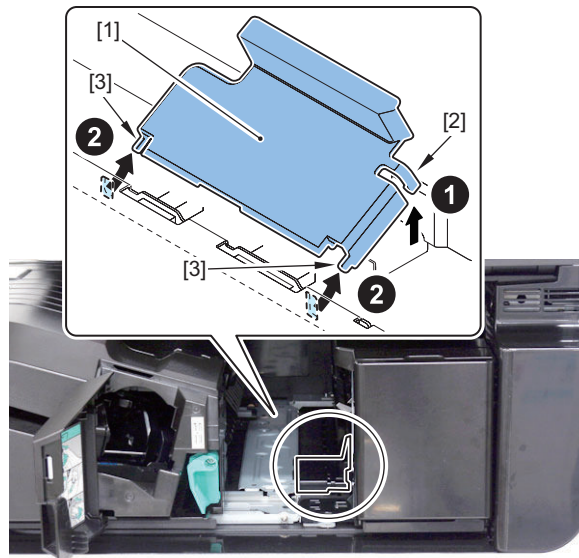


2. Push the Disengagement Lever [1] and slide the Inner Finisher [2].

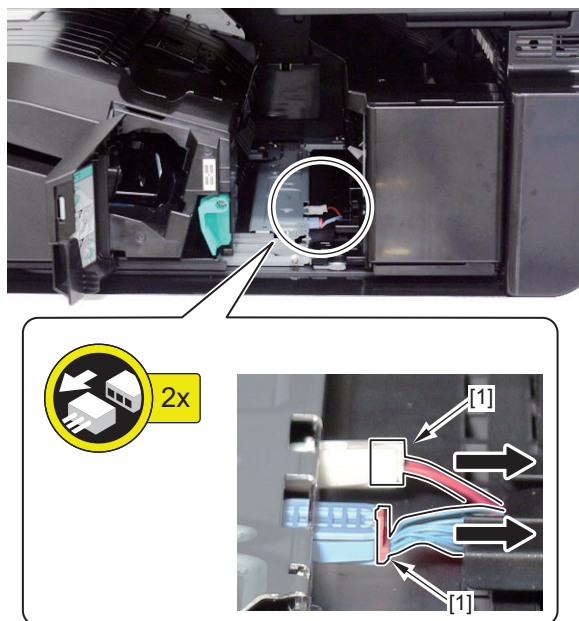


3. Remove the Connector Cover [1].

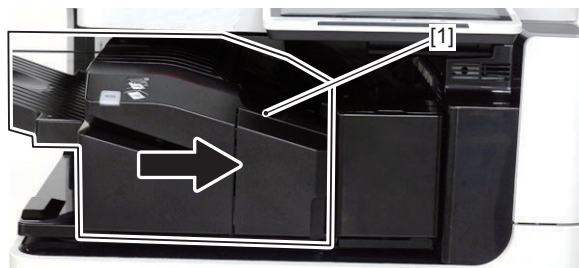
- 1 Claw [2]
- 2 Hooks [3]



4. Disconnect the 2 Connectors [1].

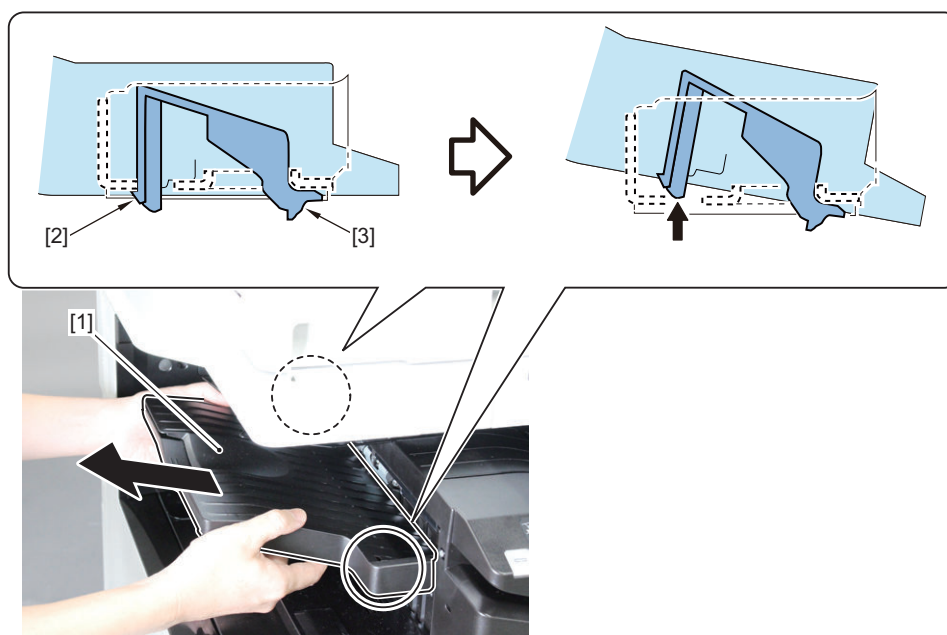


5. Return the Inner Finisher [1] to its original position.



6. Remove the Delivery Tray [1].

- 2 Claws [2]
- 2 Hooks [3]

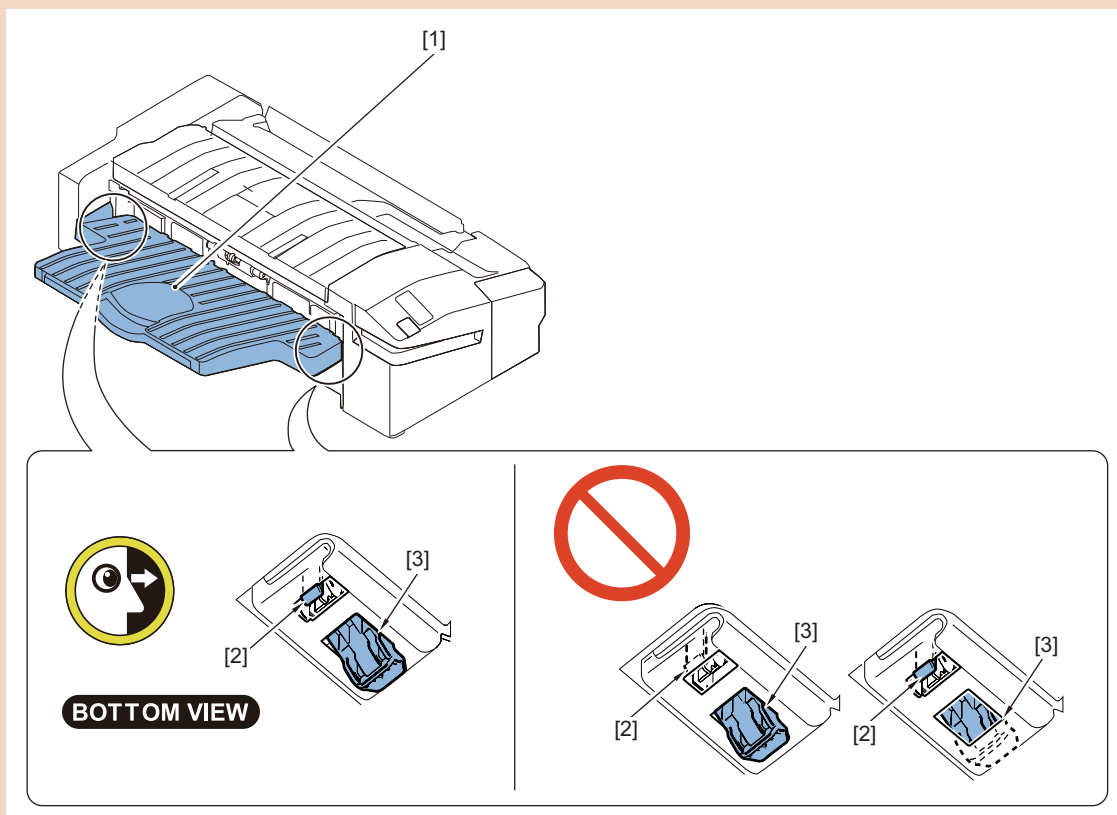


CAUTION:

Points to Note when Installing the Delivery Tray

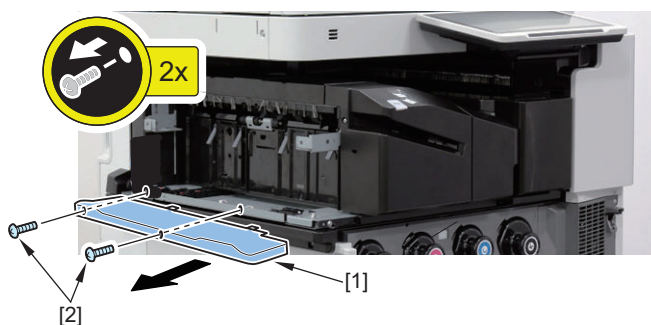
Check that the Delivery Tray [1] is properly installed. If the installation fails, error; E540-8001/8002 may occur at power ON.

- 2 Claws [2]
- 2 Hooks [3]

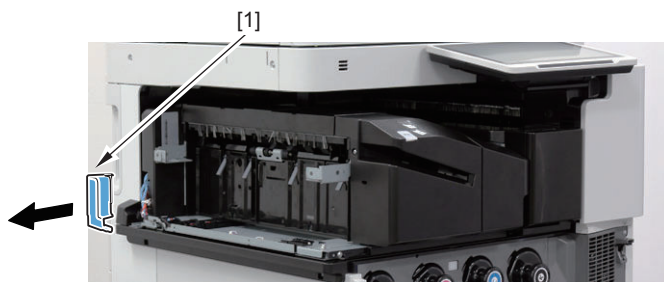


7. Remove the Rail Cover [1].

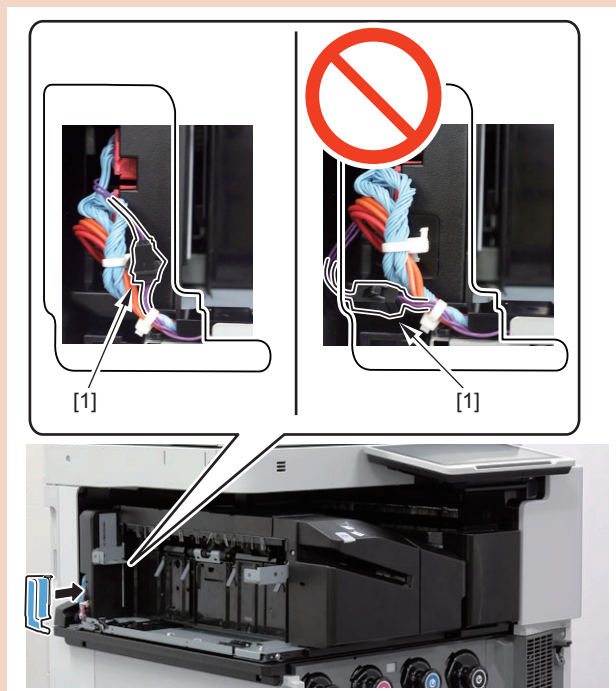
- 2 Screws [2]



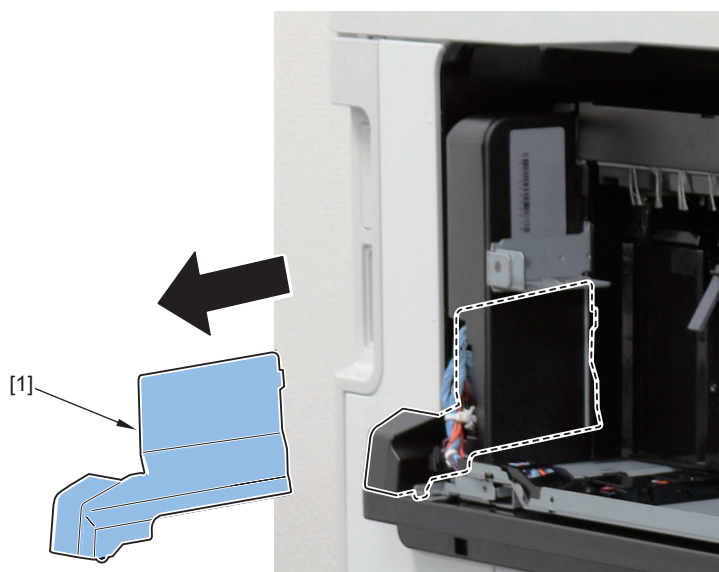
8. Remove the Harness Cover 2 [1].

**CAUTION:**

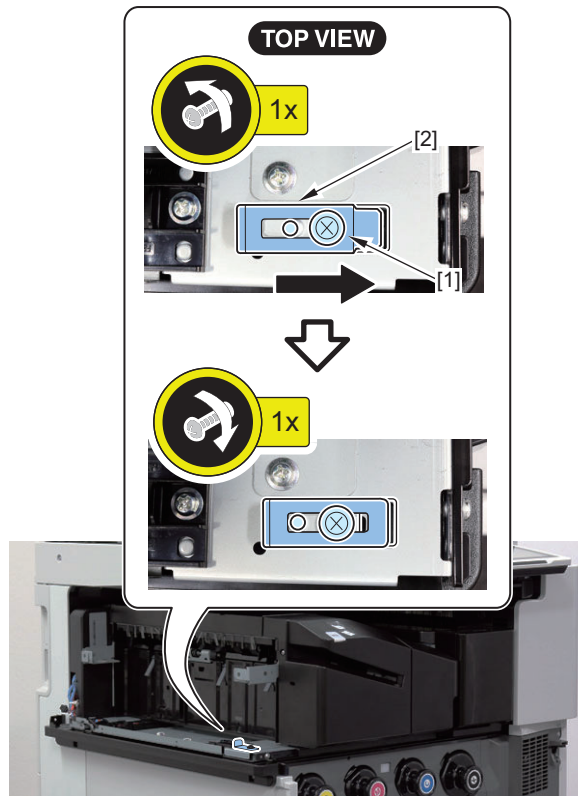
Before installing the Harness Cover 2, check that the connector [1] is positioned as shown in the figure.



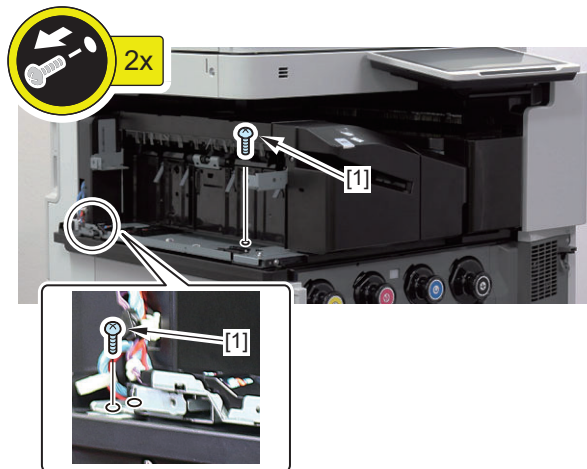
9. Remove the Interface Cover [1].



10. Loosen the screw [1] to slide the Rail Stopper [2], secure with the Screw [1].



11. Remove the 2 Screws [1], fixing the Inner Finisher.

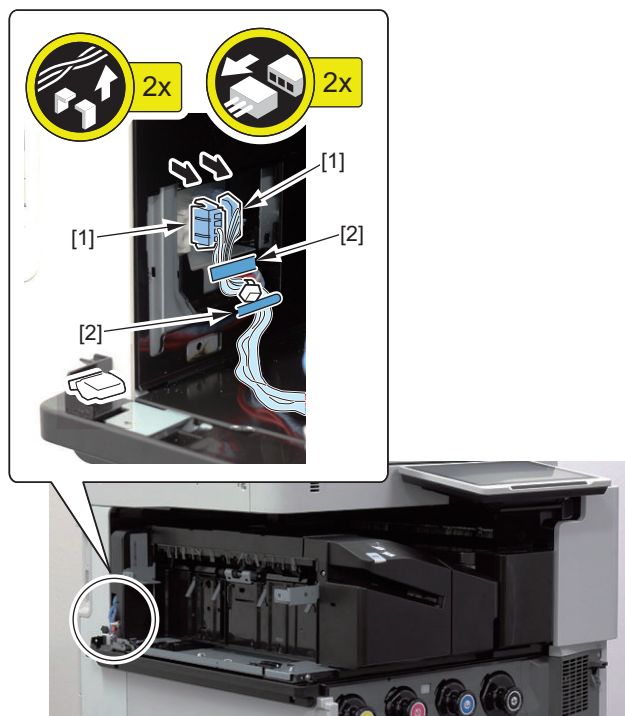


12. Remove the Harness from the Wire Saddle [1].



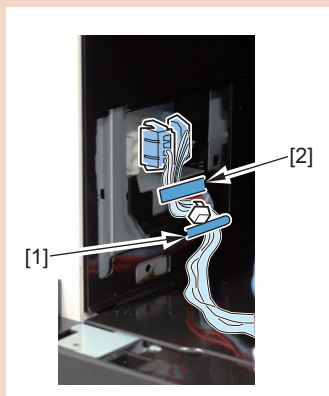
13. Disconnect the 2 Connectors [1].

- 2 Wire Saddles [2]



CAUTION:

When connecting the Connectors, confirm that the Wire Saddles [1], [2] position in the figure below.

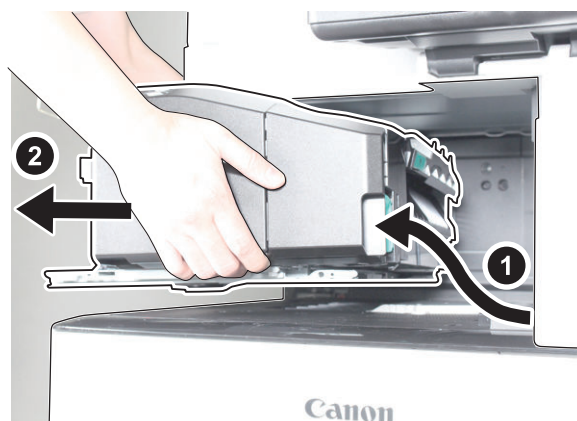
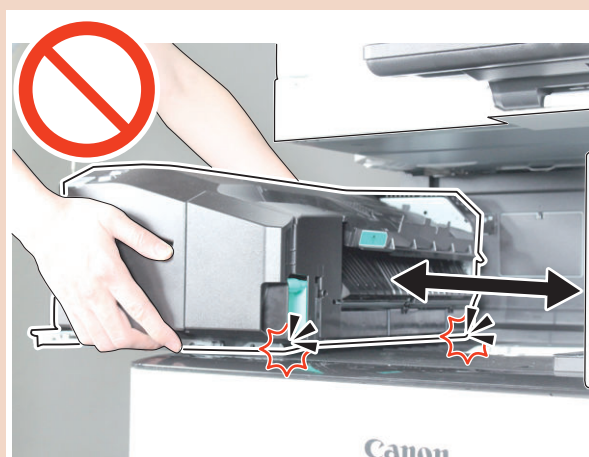


14. Remove the Inner Finisher from the host machine.

CAUTION:

Do not slide the Inner Finisher as putting it on the host machine or bump the edge parts of the rail unit to the covers of the host machine.

It may cause damage to the host machine.



• Checking after Assembly

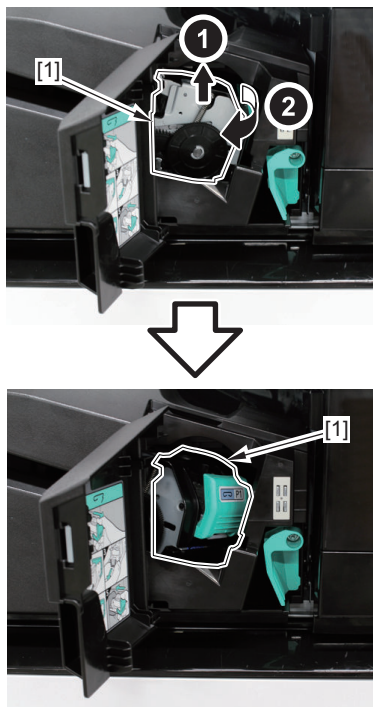
1. Install the finisher in the host machine.
2. Turn the host machine on.
3. Open the finisher front cover.

4. Check that the stapler unit [1] is at the staple cartridge replacement position as shown in the figure. If it is, close the finisher front cover to complete the check procedure.



5. If the stapler unit is not at the staple cartridge replacement position, perform the following procedure.

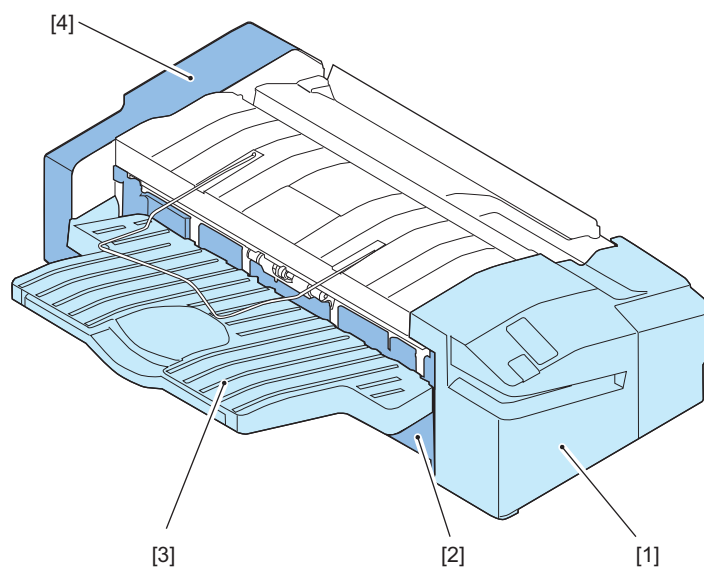
The stapler unit's roller may be riding on the base plate. so, slightly lift the stapler unit [1], and rotate the roller toward you to correct the position.



6. Close the finisher front cover. Open the finisher front cover again, and check that the staple unit is at the staple cartridge replacement position.
7. Close the finisher front cover.

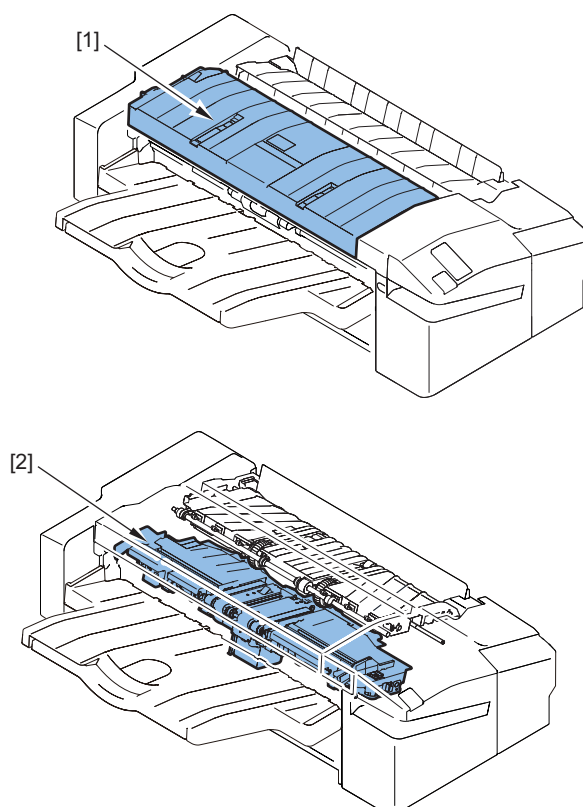
List of Parts

External Cover

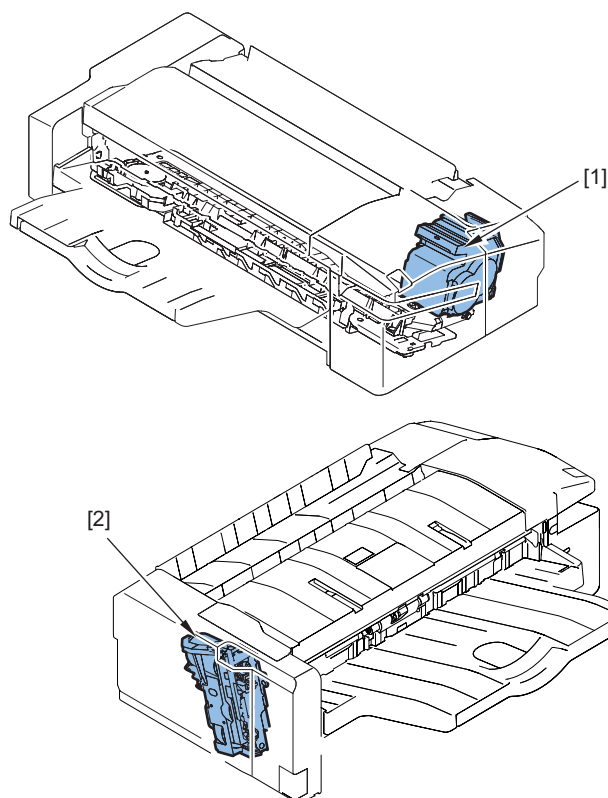


No.	Parts Name	Reference
[1]	Front Cover Unit	"Removing the Front Cover Unit" on page 76
[2]	Tray Guide Cover	"Removing the Tray Guide Cover" on page 78
[3]	Delivery Tray	"Removing the Delivery Tray" on page 77 "Installing the Delivery Tray" on page 77
[4]	Rear Cover	"Removing the Rear Cover" on page 76

List of Main Unit

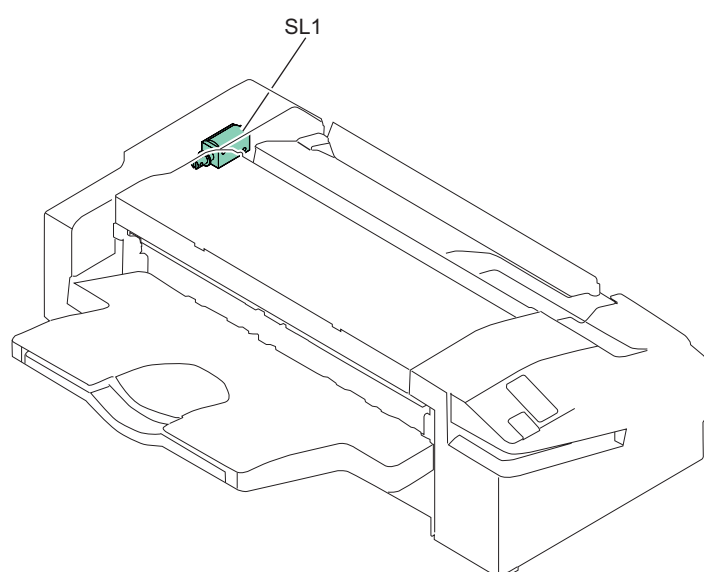


No.	Parts Name	Reference
[1]	Upper Feed Guide Unit	"Removing the Upper Feed Guide Unit" on page 80
[2]	Processing Tray Unit	"Removing the Processing Tray Unit" on page 81



No.	Parts Name	Reference
[1]	Stapler Unit	"Removing the Stapler Unit" on page 85
[2]	Staple-free Staple Unit	"Removing the Staple-free Staple Unit" on page 86

List of Solenoids

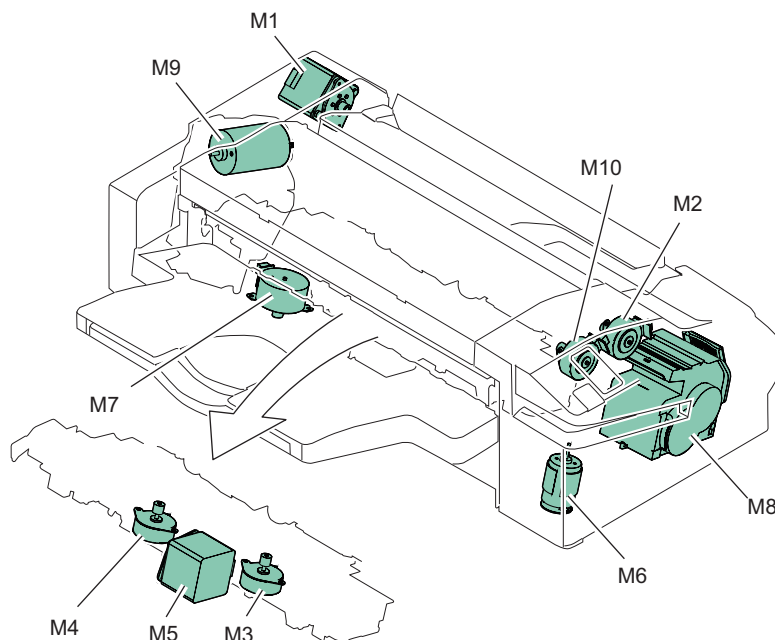


No.	Parts Name	Main Unit	Reference
SL1	Paper Trailing Edge Pushing Guide Solenoid	Product Configuration	"Removing the Paper Trailing Edge Pushing Guide Solenoid(SL1)" on page 88

NOTE:

Check the operation of the part in the following service mode:
Service Mode > SITUATION > Parts Check

List of Motors

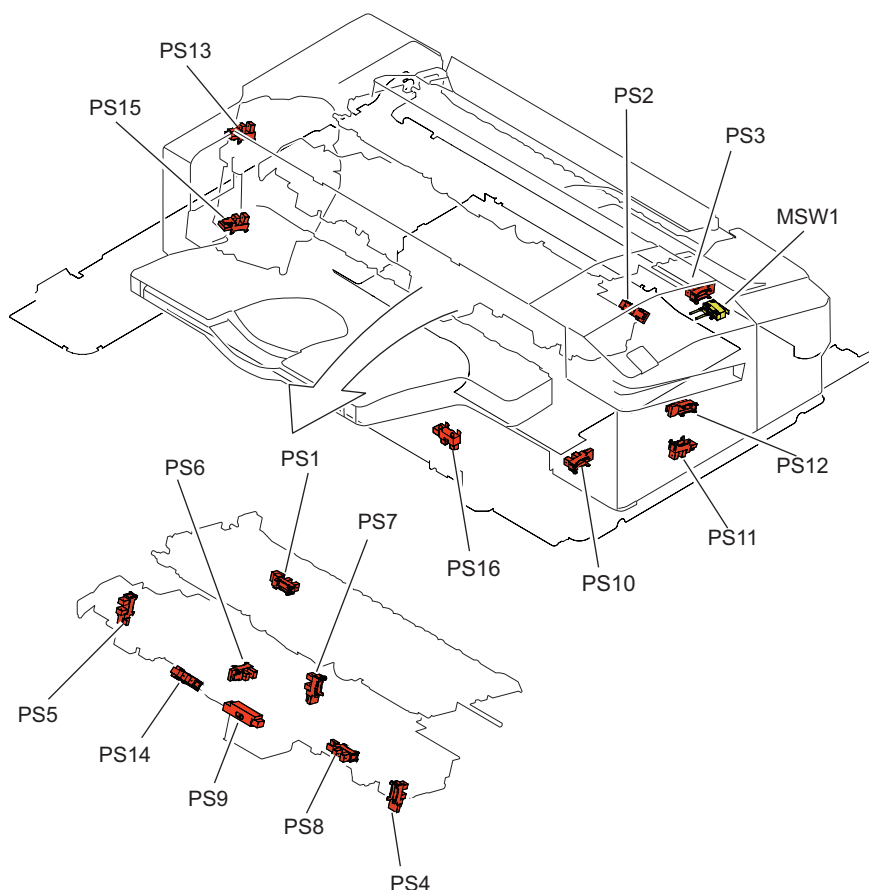


No.	Parts Name	Main Unit	Reference
M1	Feed Motor	Product Configuration	-
M2	Return Belt Motor	Product Configuration	-
M3	Front Alignment Motor	Processing Tray Unit	-
M4	Rear Alignment Motor	Processing Tray Unit	-
M5	Assist Motor	Processing Tray Unit	"Removing the Assist Motor (M5)" on page 89
M6	Tray Shift Motor	Product Configuration	-
M7	Stapler Shift Motor	Product Configuration	"Removing the Stapler Shift Motor (M7)" on page 89
M8	Stapler Motor	Stapler Unit	-
M9	Clinch Motor	Staple-free Staple Unit	-
M10	Paddle Motor	Product Configuration	-

NOTE:

Check the operation of the part in the following service mode:
Service Mode > SITUATION > Parts Check

List of Sensors/Switches

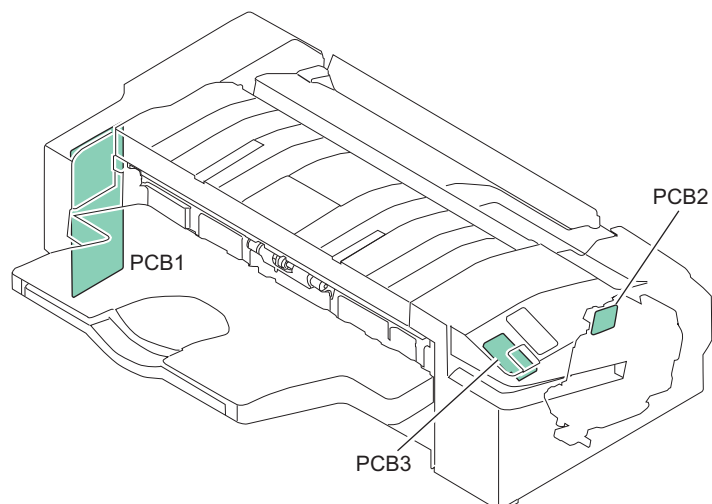


No.	Parts Name	Main Unit	Reference
PS1	Delivery Sensor	Product Configuration	"Removing the Delivery Sensor(PS1)" on page 91
PS2	Paddle HP Sensor	Product Configuration	-
PS3	Return Belt HP Sensor	Product Configuration	-
PS4	Front Alignment Plate HP Sensor	Processing Tray Unit	-
PS5	Rear Alignment Plate HP Sensor	Processing Tray Unit	-
PS6	Processing Tray Paper Sensor	Processing Tray Unit	-
PS7	Assist HP Sensor	Processing Tray Unit	-
PS8	Paper Fold HP Sensor	Processing Tray Unit	-
PS9	Stack Tray Paper Height Sensor	Processing Tray Unit	-
PS10	Stack Tray Lower Limit Sensor	Product Configuration	-
PS11	Stapler Shift HP Sensor	Product Configuration	-
PS12	Manual Staple Sensor	Front Cover Unit	-
PS13	Clinch Motor Drive Detection Sensor	Staple-free Staple Unit	-
PS14	Stack Tray HP Sensor	Processing Tray Unit	-
PS15	Clinch HP Sensor	Staple-free Staple Unit	-
PS16	Disengaging Sensor	Rail Unit	"Removing the Disengaging Sensor (PS16)" on page 91
MSW1	Front Cover Switch	Product Configuration	-

NOTE:

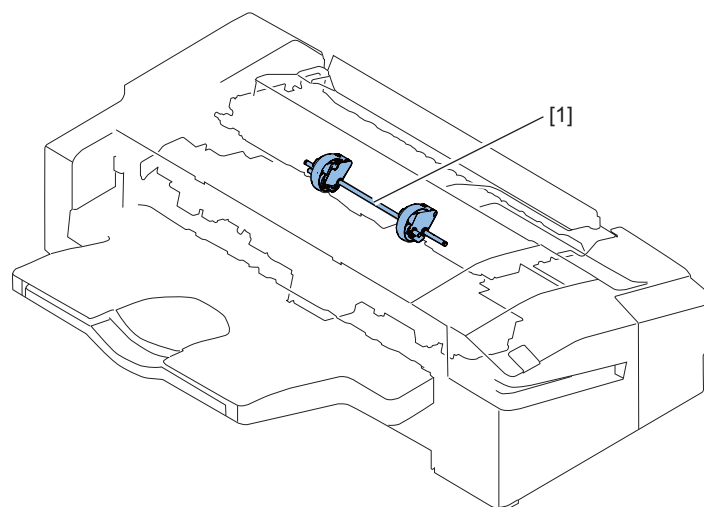
Check the operation of the part in the following service mode:
Service Mode > SITUATION > Sensor Check

List of PCBs



No.	Parts Name	Main Unit	Reference
PCB1	Finisher Controller PCB	Product Configuration	"Removing the Finisher Controller PCB (PCB1)" on page 92
PCB2	Stapler Relay PCB	Stapler Unit	-
PCB3	Manual Staple Switch PCB	Front Cover Unit	-

Other Parts



No.	Parts Name	Main Unit	Reference
[1]	Return Belt Unit	Product Configuration	"Removing the Return Belt Unit" on page 93

External Cover

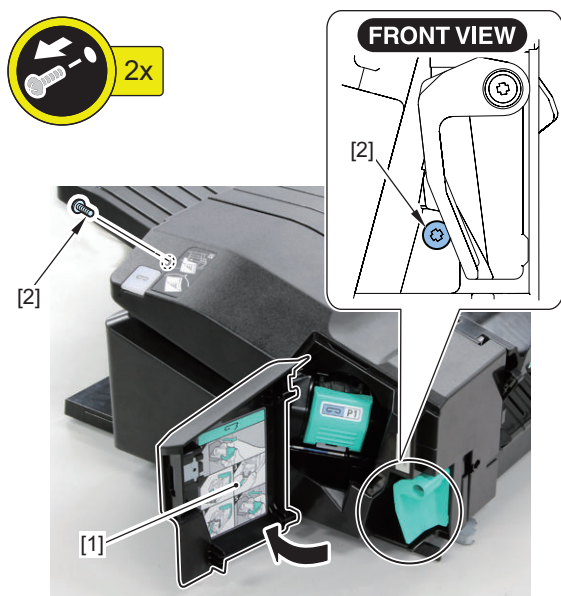
● Removing the Front Cover Unit

■ Preparation

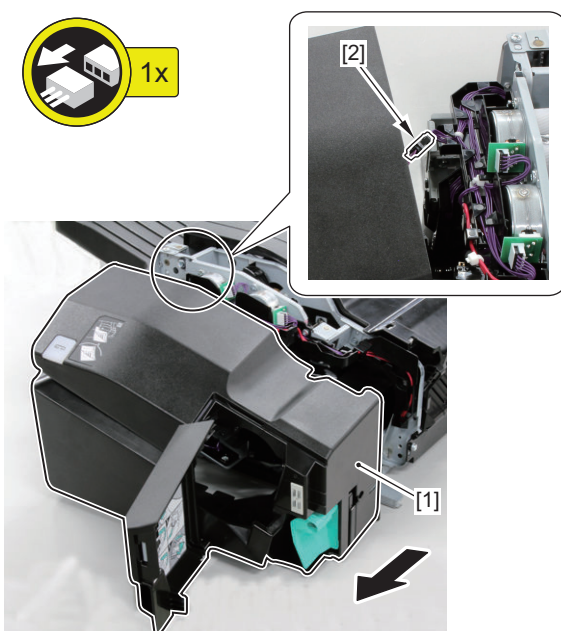
1. Remove this machine from the host machine.
"Removing this Machine from the Host Machine" on page 43

■ Procedure

1. Open the Front Cover [1].
2. Remove the 2 Screws [2].



3. Move the Front Cover Unit [1], and disconnect the 2 Connectors [2].



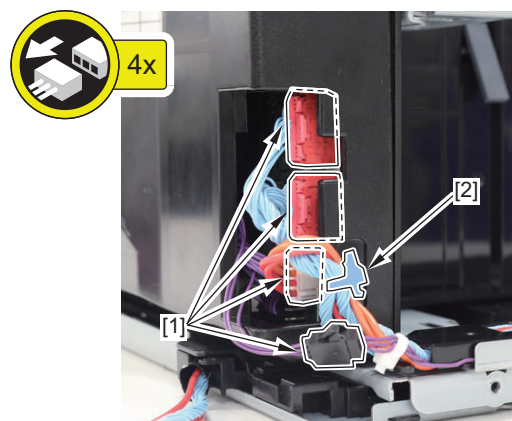
● Removing the Rear Cover

■ Preparation

1. Remove this machine from the host machine.
"Removing this Machine from the Host Machine" on page 43

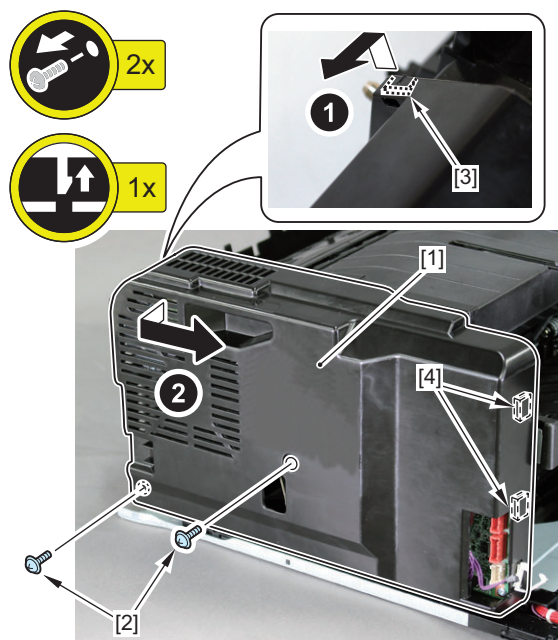
■ Procedure

1. Disconnect the 4 Connectors [1].
• 1 Reuse Band [2]



2. Remove the Rear Cover [1].

- 2 Screws [2]
- 1 Claw [3]
- 2 Hooks [4]

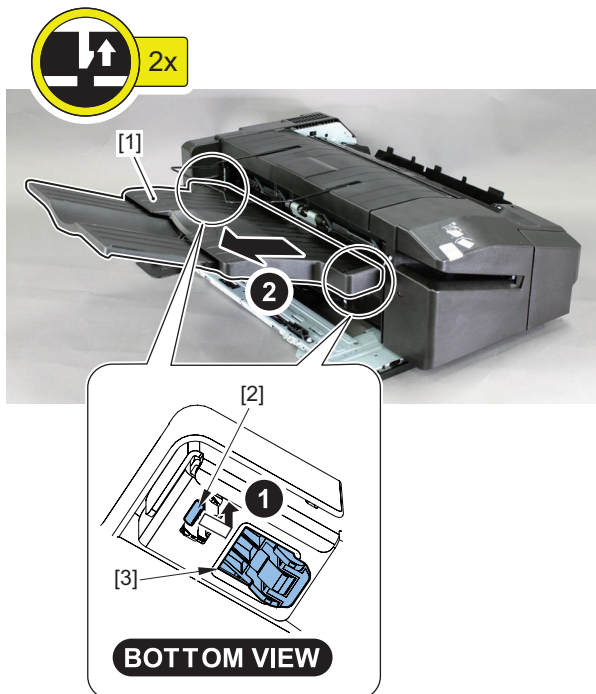


● Removing the Delivery Tray

■ Procedure

1. Remove the Delivery Tray [1].

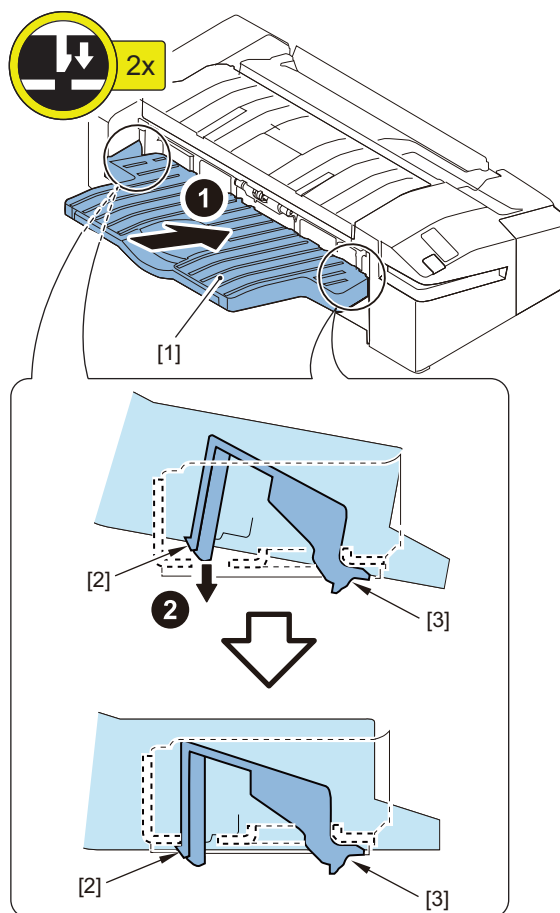
- 2 Claws [2]
- 2 Hooks [3]



● Installing the Delivery Tray

1. Install the Delivery Tray [1].

- 2 Claws [2]
- 2 Hooks [3]



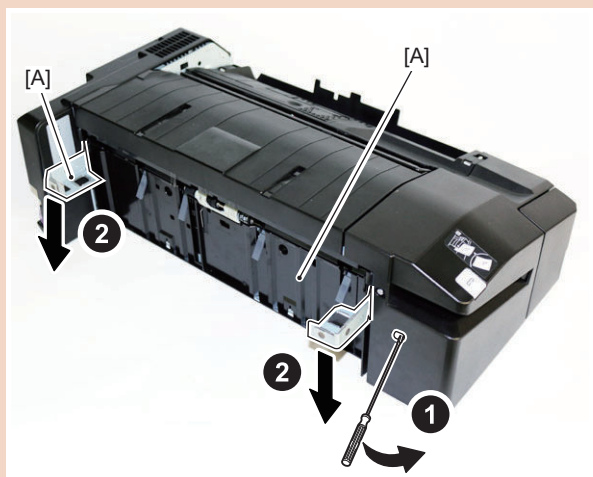
CAUTION:

Points to Note when Installing the Delivery Tray

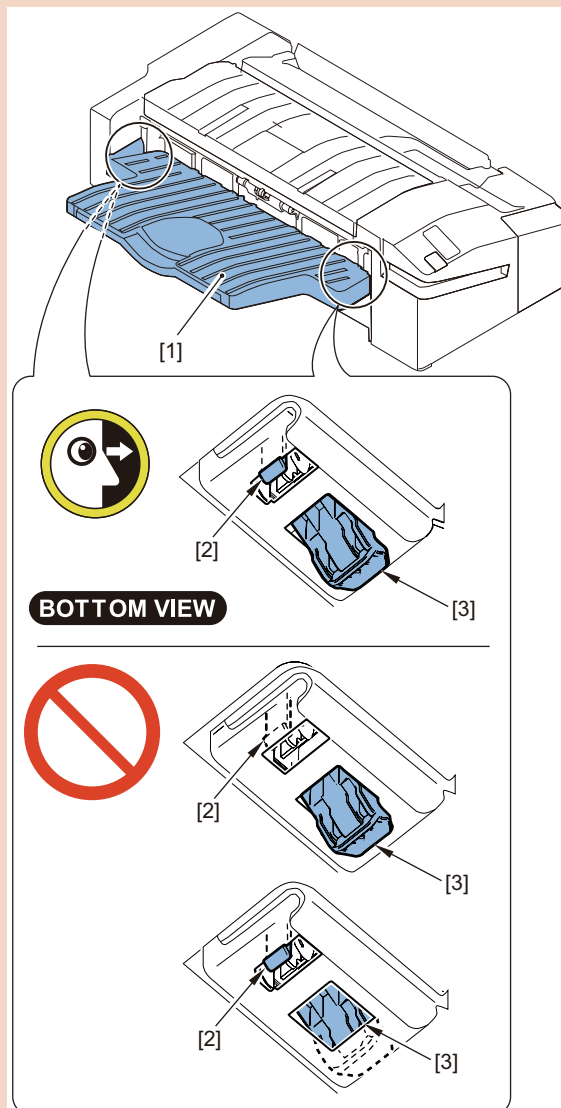
1. Do not nip the Paper Fold [1] when the Delivery Tray [1] is installed.



When attaching the Delivery Tray is difficult by the Paper Fold position, move the Tray Rack [A] to the bottom for ease of assembly.



2. When installing the Stack Tray, check that the 2 Claws [2] and 2 Hooks [3] of the Stack Tray [1] is properly installed. If the installation fails, error; E540-8001/8002 may occur at power ON.



● Removing the Tray Guide Cover

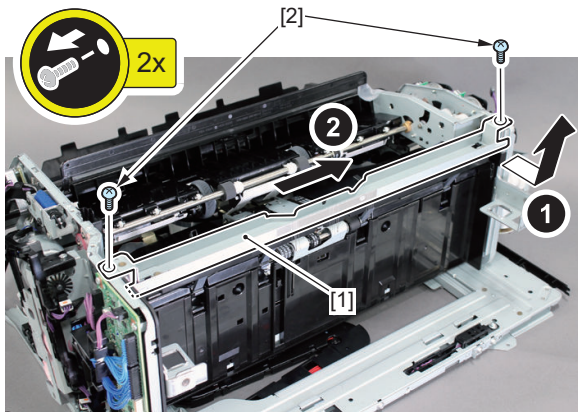
■ Preparation

1. Remove this machine from the host machine. [“Removing this Machine from the Host Machine” on page 43](#)
2. Remove the Front Cover Unit. [“Removing the Front Cover Unit” on page 76](#)
3. Remove the Rear Cover. [“Removing the Rear Cover” on page 76](#)
4. Remove the Upper Feed Guide. [“Removing the Upper Feed Guide Unit” on page 80](#)

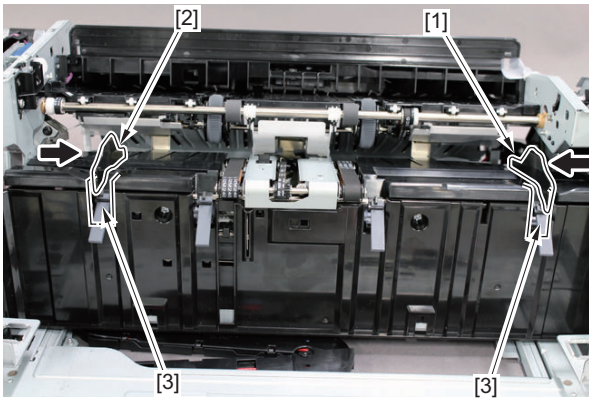
■ Procedure

1. Remove the Upper Stay [1].

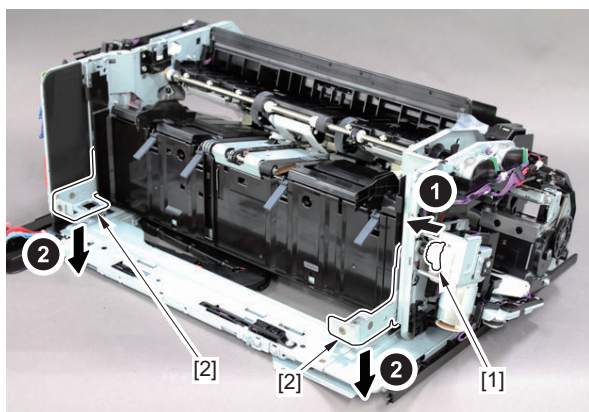
- 2 Screws [2]



2. Move the Front Alignment Plate [1] and Rear Alignment Plate [2] to the slit [3] of the Tray Guide Cover.

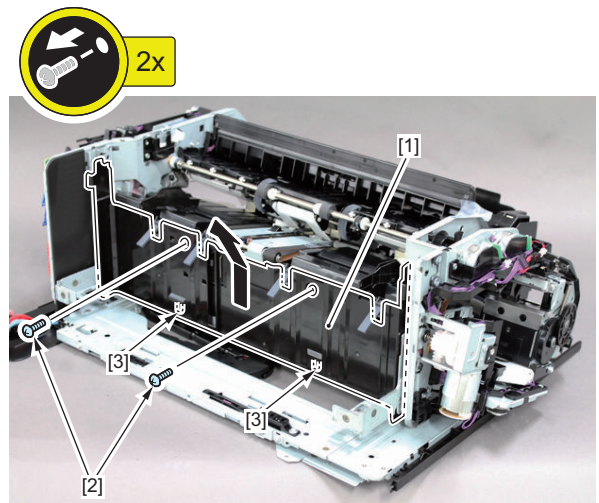


3. Release the latch [1] and move the Front/Rear Tray Plate [2] to the bottom.



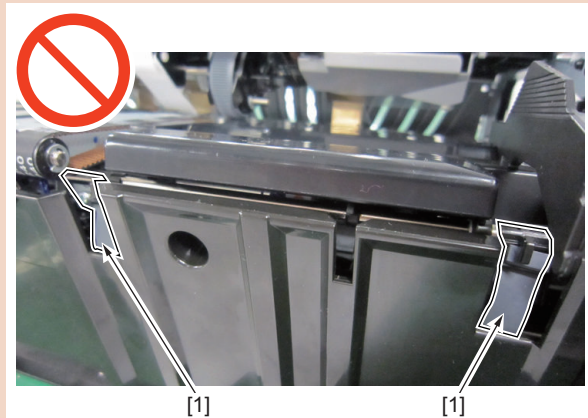
4. Remove the Tray Guide Cover [1].

- 2 Screws [2]
- 2 Claws [3]



CAUTION:

Do not nip the Paper Fold [1] when the Tray Guide Cover is installed.



Main Unit

● Removing the Upper Feed Guide Unit

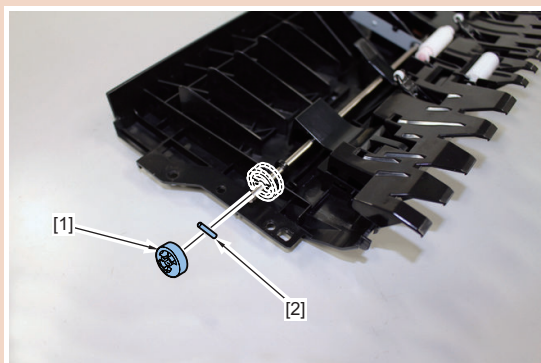
■ Preparation

1. Remove this machine from the host machine.
“Removing this Machine from the Host Machine” on page 43
2. Remove the Front Cover Unit. “Removing the Front Cover Unit” on page 76
3. Remove the Rear Cover. “Removing the Rear Cover” on page 76

■ Procedure

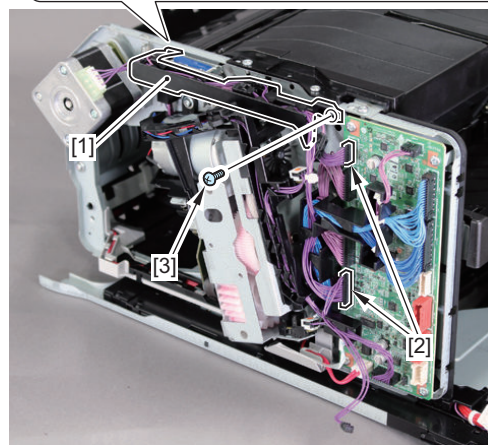
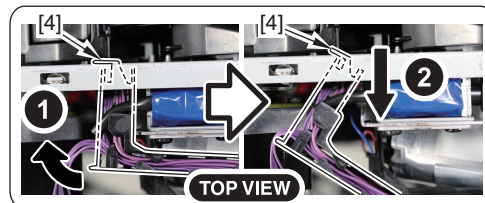
CAUTION:

Be sure not to lose the Gear [1] and the Pin [2] when disassembling/assembling.

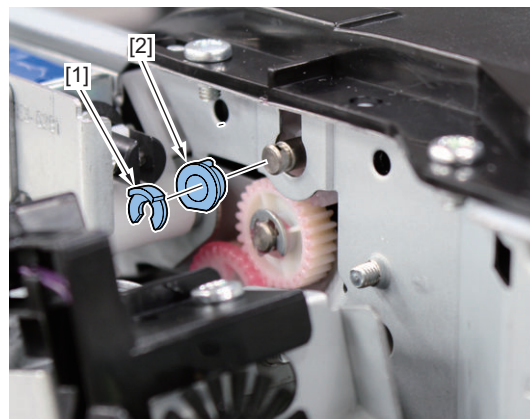


1. Remove the Cable Guide [1].

- 2 Connectors [2]
- 1 Screw [3]
- 1 Claw [4]

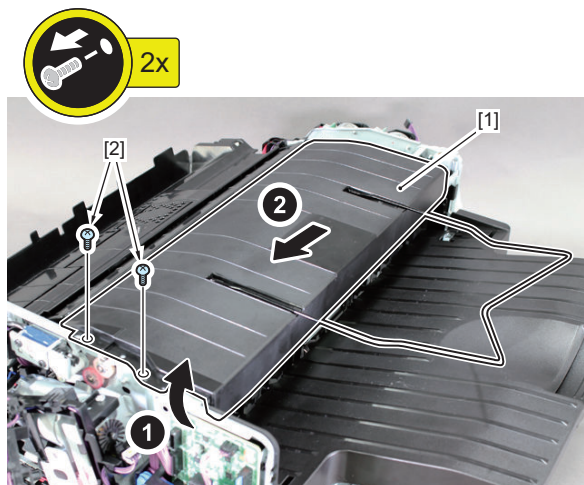


2. Remove the 1 Clip [1] and 1 Bushing [2].



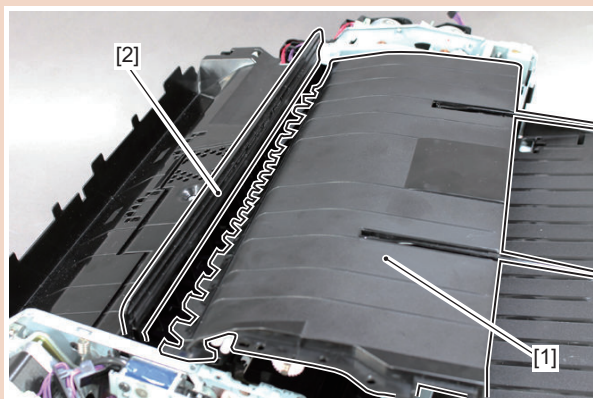
3. Remove the Upper Feed Guide Unit [1].

- 2 Screws [2]

**CAUTION:**

Points to Note when Installing the Upper Feed Guide Unit

When attaching the Upper Feed Guide Unit [1], keep standing the Feed Guide [2] as shown in the figure.



Removing the Processing Tray Unit

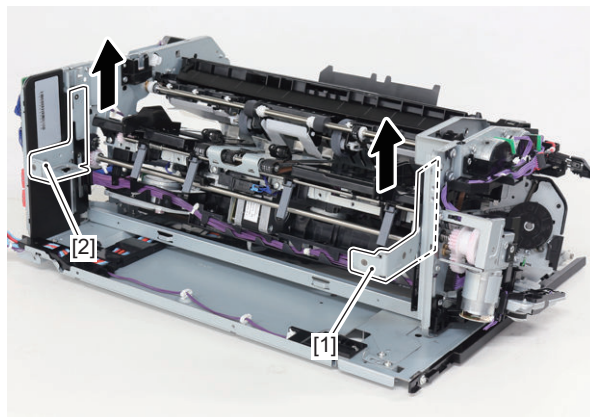
Preparation

1. Remove this machine from the host machine. "Removing this Machine from the Host Machine" on page 43
2. Remove the Front Cover Unit. "Removing the Front Cover Unit" on page 76
3. Remove the Rear Cover. "Removing the Rear Cover" on page 76
4. Remove the Upper Feed Guide Unit. "Removing the Upper Feed Guide Unit" on page 80
5. Remove the Tray Guide Cover. "Removing the Tray Guide Cover" on page 78

6. Remove the Staple-free Staple Unit. "Removing the Staple-free Staple Unit" on page 86

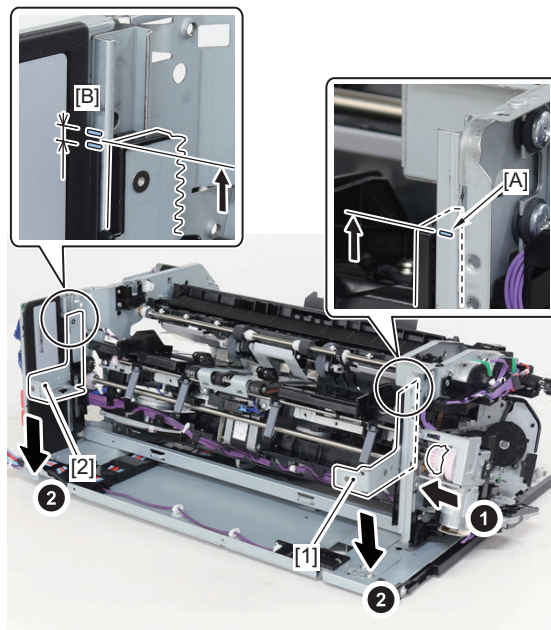
Procedure

1. Remove the Front Tray Rack [1] / Rear Tray Rack [2].

**NOTE:**

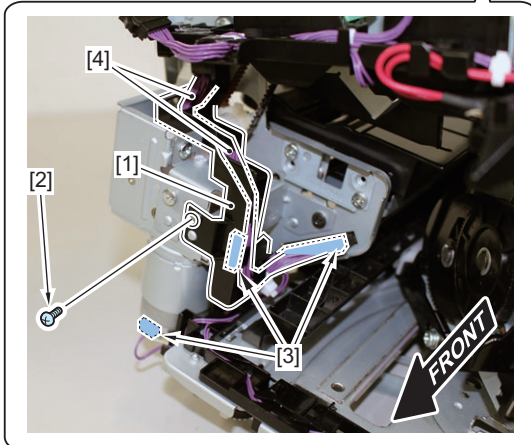
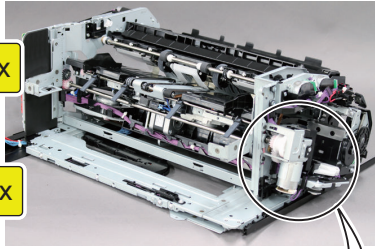
How to assemble the Front Tray Rack and Rear Tray Rack

1. Insert the Front Tray Rack [1] and Rear Tray Rack [2] at the Guide.
2. Release the latch and move the Tray Rack to the bottom.
3. Check the phase position between the Front Tray Rack [1] and Rear Tray Rack [2] with the lines marked [3] on them. When the phase position is different, follow the step 1) again.



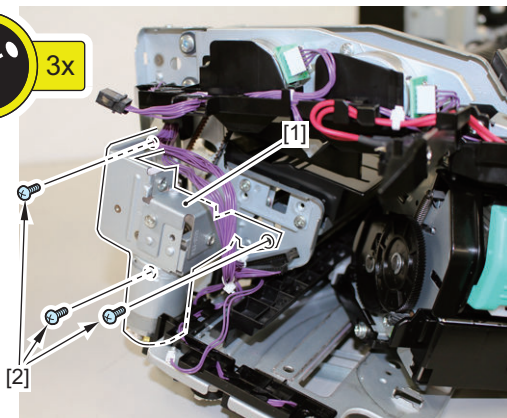
2. Remove the Cable Guide [1].

- 1 Screw [2]
- 3 Connectors [3]
- 2 Cables [4]

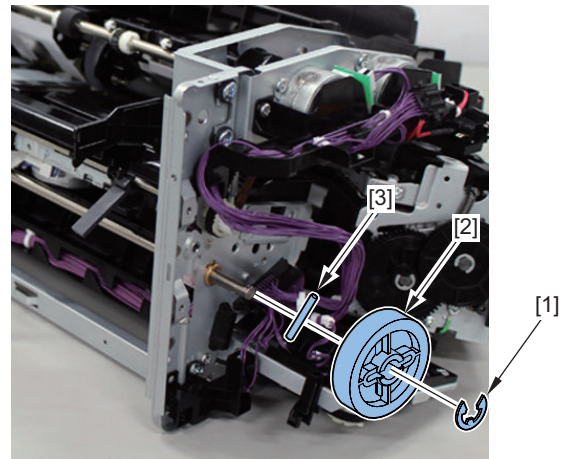


3. Remove the Tray Shift Motor Unit [1].

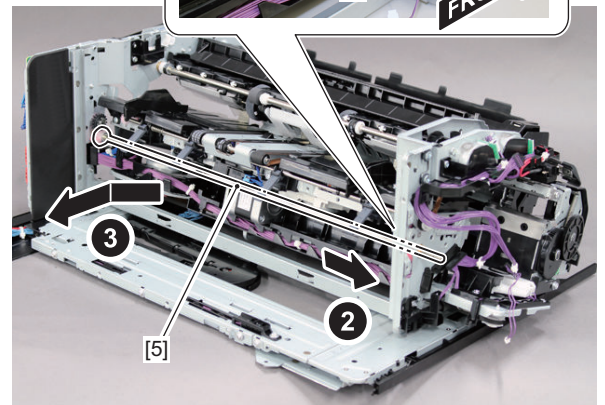
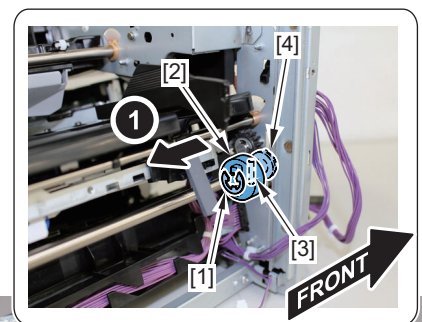
- 3 Screws [2]



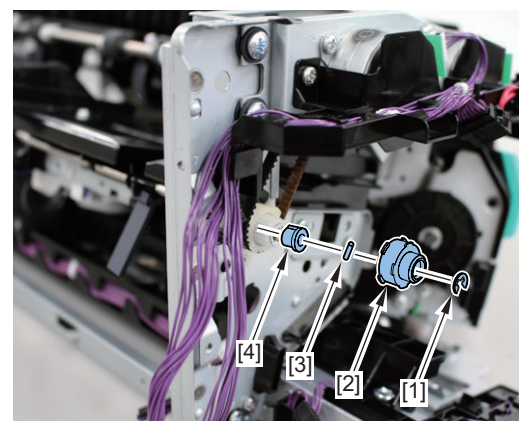
4. Remove the E-ring [1] and the Gear [2] and the Pin [3].



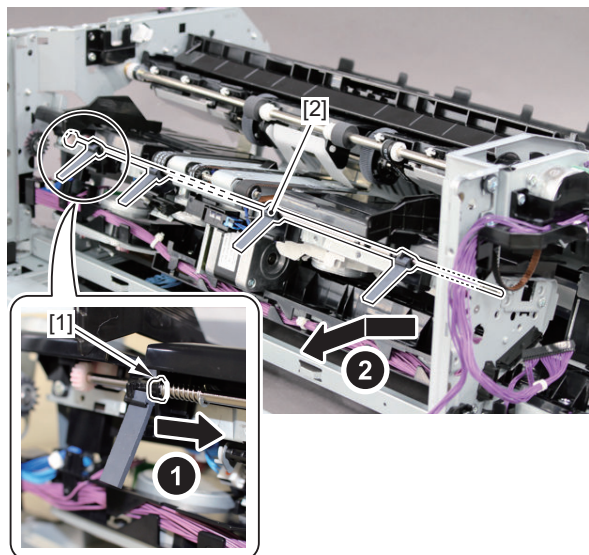
5. Remove the E-ring [1], and move the Gear [2], after that remove the pin [3] and the Bushing [4] and the Tray Drive Shaft [5].



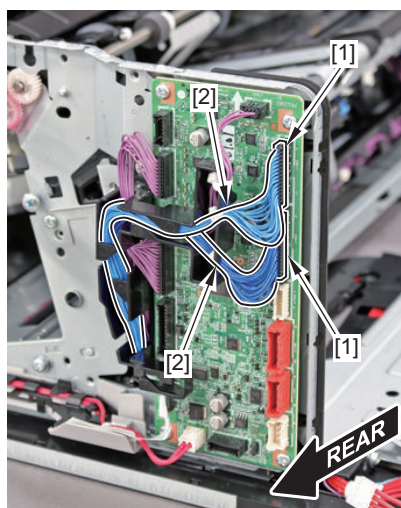
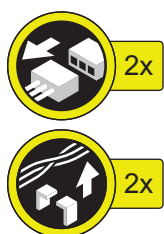
6. Remove the E-ring [1] and the Pulley [2] and the Pin [3] and the Bushing [4].



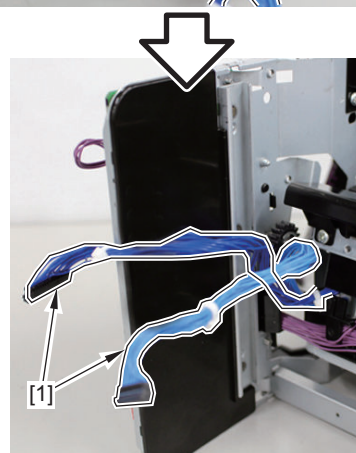
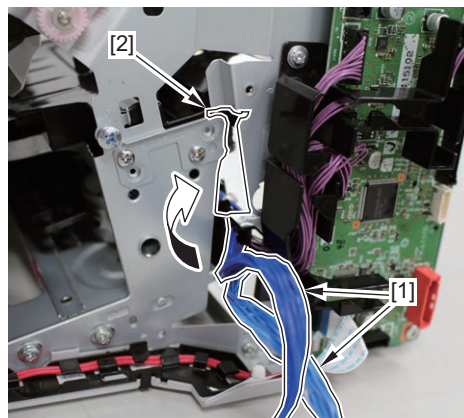
7. Move the Bushing [1], and remove the Paper Fold Unit [2].



8. Remove the 2 Connectors [1] and the 2 Cables [2].

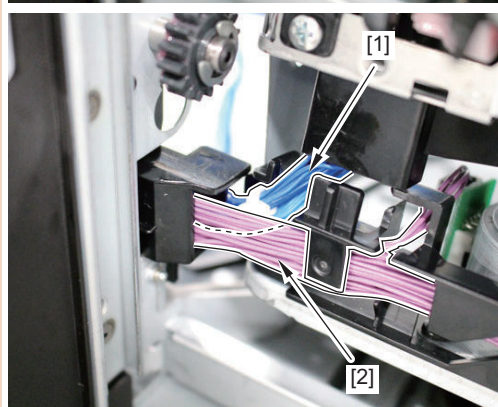
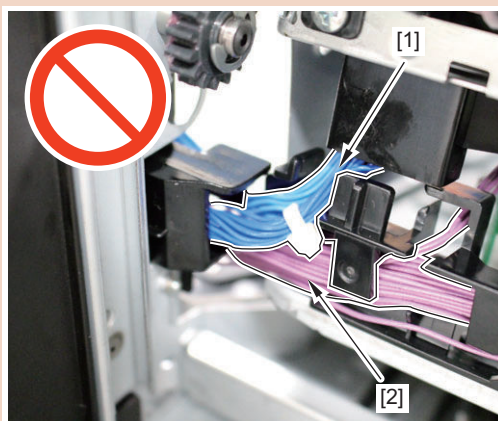


9. Put through the Cables [1] at the hole [2].

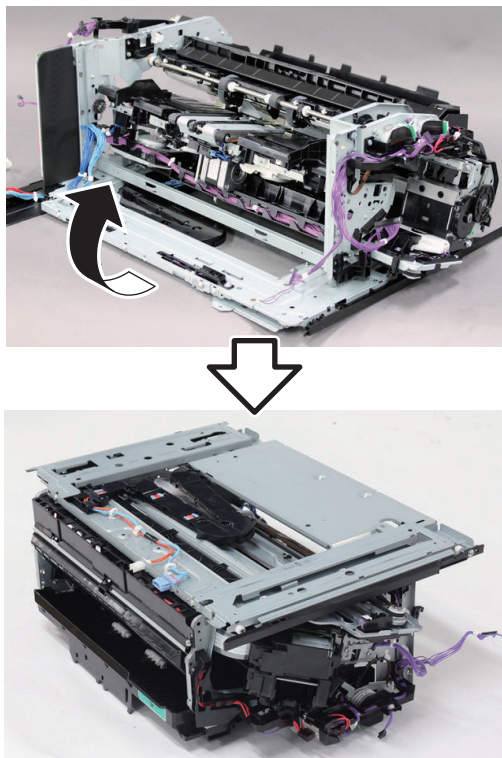


CAUTION:

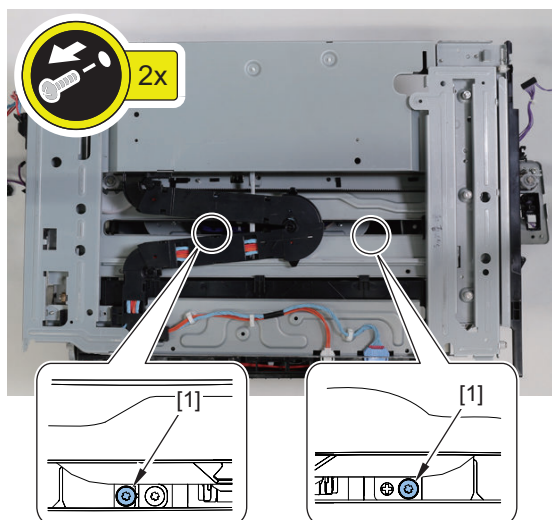
How to assemble the cable of the Processing Tray
Be sure to route the Cables [1] of the Processing Tray inside of the Cables [2] to cause abnormal noise by interfering with the tray guide cover.



10. Rotate the machine as shown below.



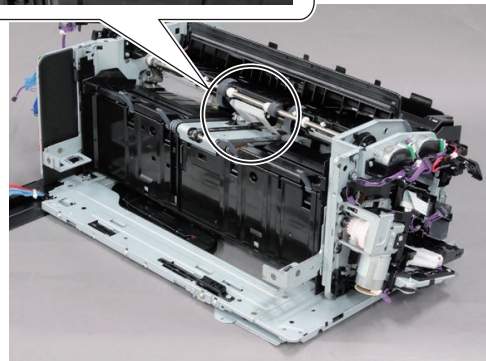
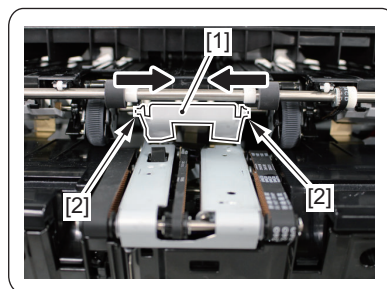
11. Remove the 2 Screws [1] of the Front/Rear Return Belt Guide.



12. Return the machine to its original position.

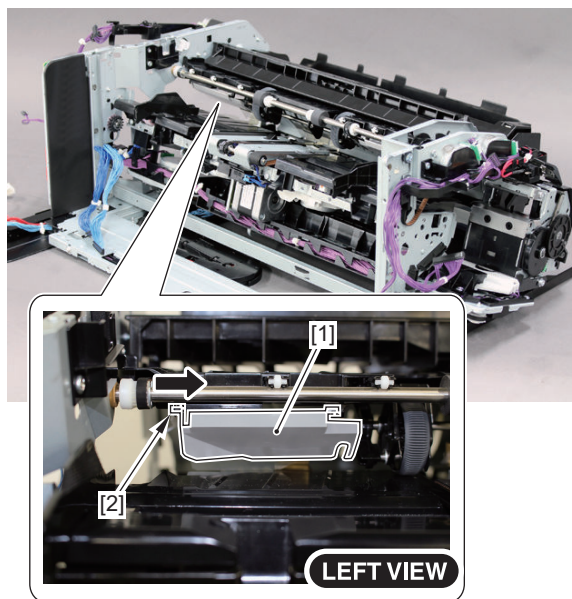
13. Remove the Center Return Belt Guide [1].

- 2 Bosses [2]



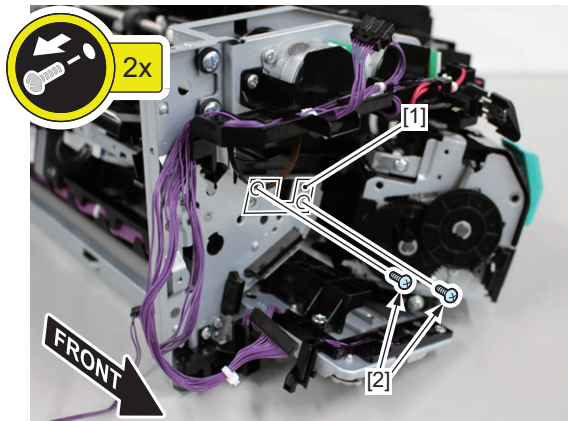
14. Remove the Rear Return Belt Guide [1].

- 1 Boss [2]

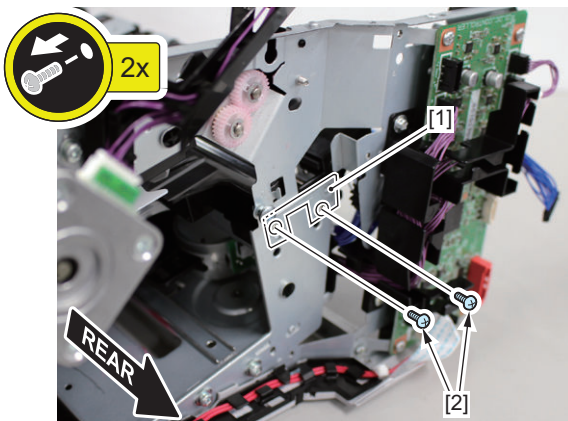


15. Remove the Front Plate [1].

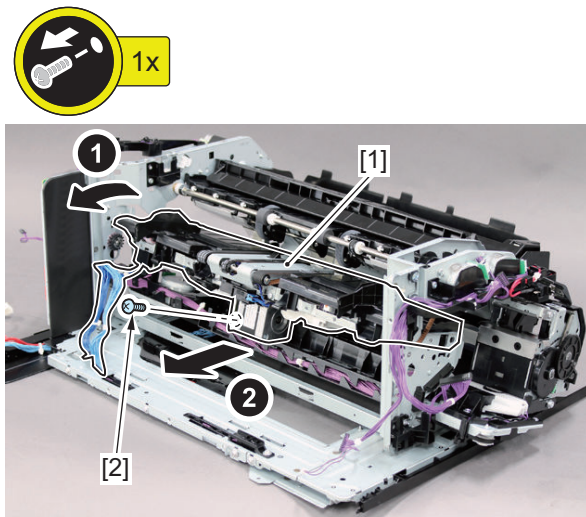
- 2 Screws [2]

**16. Remove the Rear Plate [1].**

- 2 Screws [2]

**17. Remove the Processing Tray Unit [1].**

- 1 Screw [2]

**NOTE:**

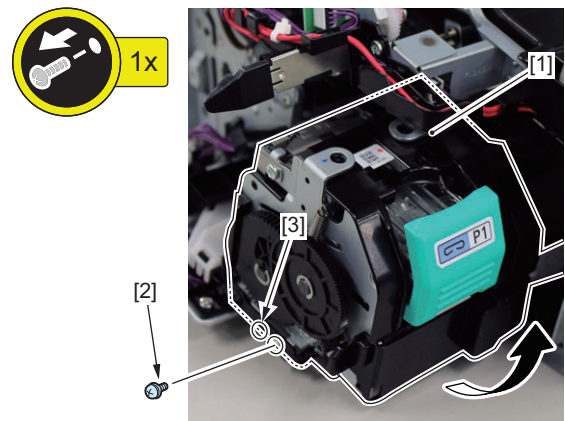
For ease of disassembly, remove the rear side first and then keep front side down to remove this machine.

Removing the Stapler Unit**■ Preparation**

1. Remove this machine from the host machine.
“Removing this Machine from the Host Machine” on page 43
2. Remove the Front Cover Unit. “Removing the Front Cover Unit” on page 76

■ Procedure

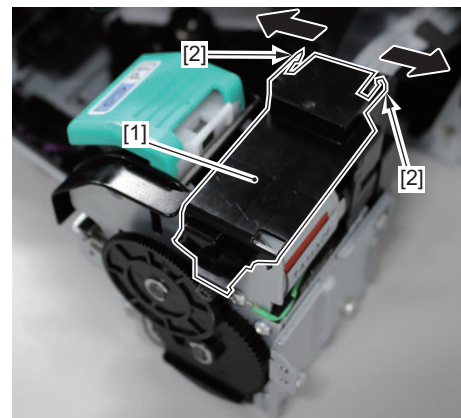
1. Remove the Stapler Unit [1] at the Stapler Mount.
• 1 Screw [2]

**NOTE:**

In the diagrams, number [3] is the spare screw hole.

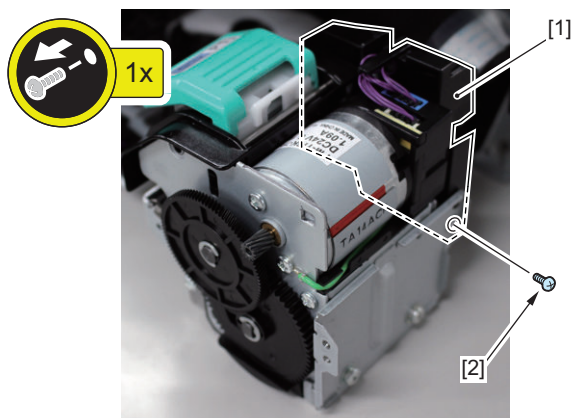
2. Remove the Cable Cover [1].

- 2 Claws [2]



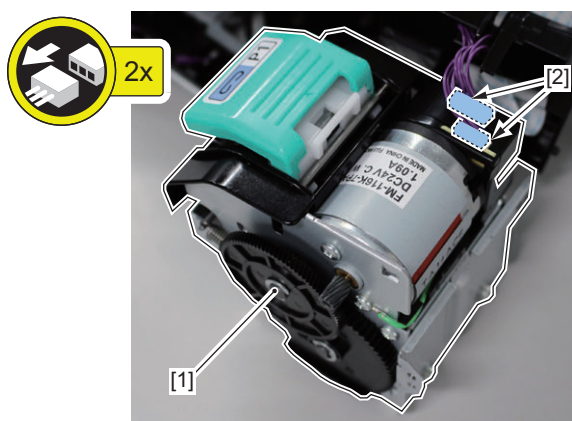
3. Remove the PCB Holder [1].

- 1 Screw [2]



4. Remove the Stapler Unit [1].

- 2 Connectors [2]



■ Handling after parts replacement

1. Clear the parts counter.

COPIER > COUNTER > DRBL-2 > FIN-STPR

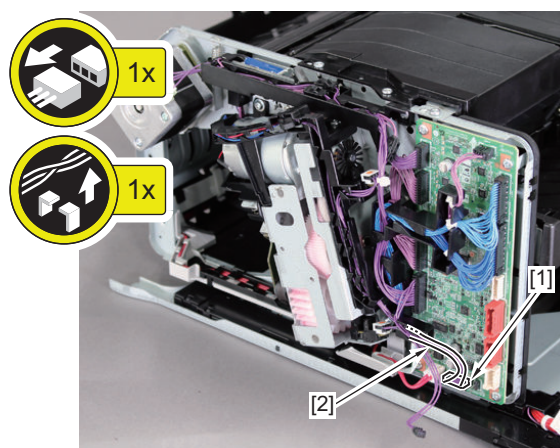
● Removing the Staple-free Staple Unit

■ Preparation

1. Remove this machine from the host machine.
"Removing this Machine from the Host Machine" on page 43
2. Remove the Rear Cover. "Removing the Rear Cover" on page 76

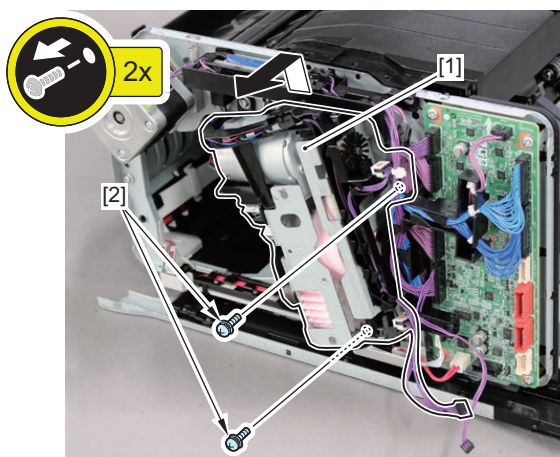
■ Procedure

1. Remove the Connector [1] and the Cable [2].



2. Remove the Staple-free Staple Unit [1].

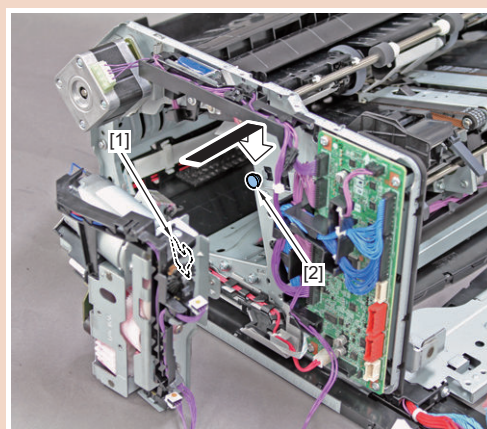
- 2 Screws [2]



CAUTION:

How to assemble the Staple-free Staple Unit

When assembling, be sure to align the groove [1] of the Staple-free Staple Unit with the Stepped Screw [2].



■ Handling after parts replacement

1. Clear the parts counter.

COPIER > COUNTER > DRBL-2 > FR-STPL

2. If the limited function message of the staple-free stapling is shown on the host machine's LUI, clear the message on the service mode.

SORTER > FUNCTION > EMSG-CLR

Solenoids

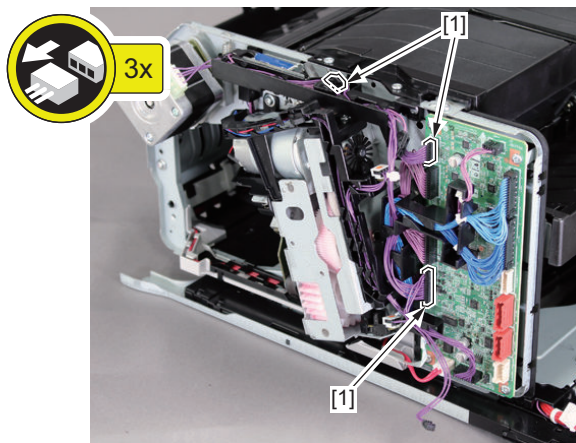
● Removing the Paper Trailing Edge Pushing Guide Solenoid(SL1)

■ Preparation

1. Remove this machine from the host machine.
"Removing this Machine from the Host Machine" on page 43
2. Remove the Rear Cover."Removing the Rear Cover" on page 76

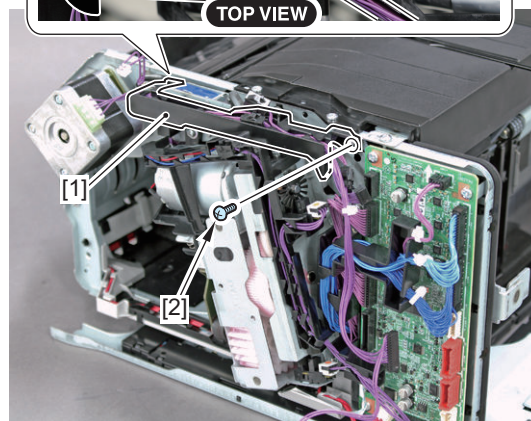
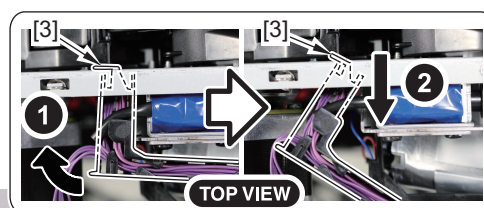
■ Procedure

1. Disconnect the 3 Connectors [1].



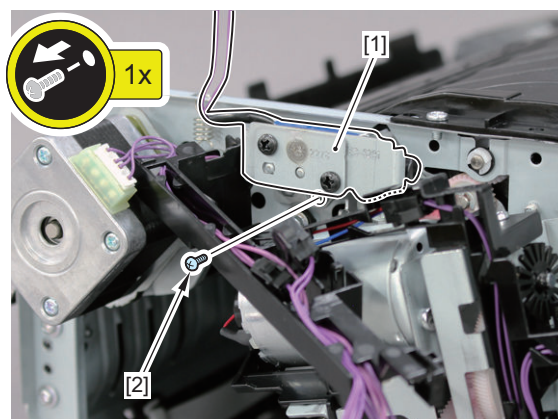
2. Remove the Cable Guide [1].

- 1 Screw [2]
- 1 Hook [3]



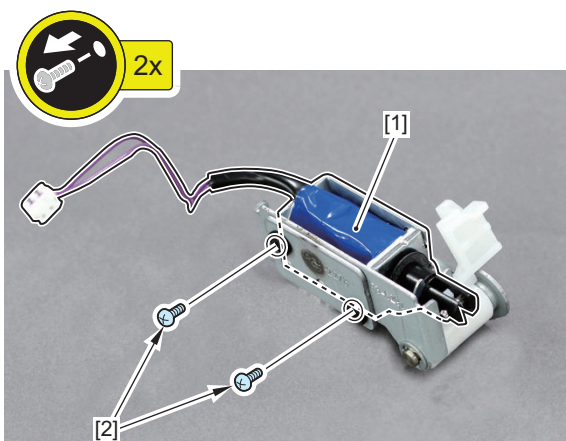
3. Remove the Solenoid Unit [1].

- 1 Screw [2]



4. Remove the Paper Trailing Edge Pushing Guide Solenoid [1].

- 2 Screws [2]



Motor

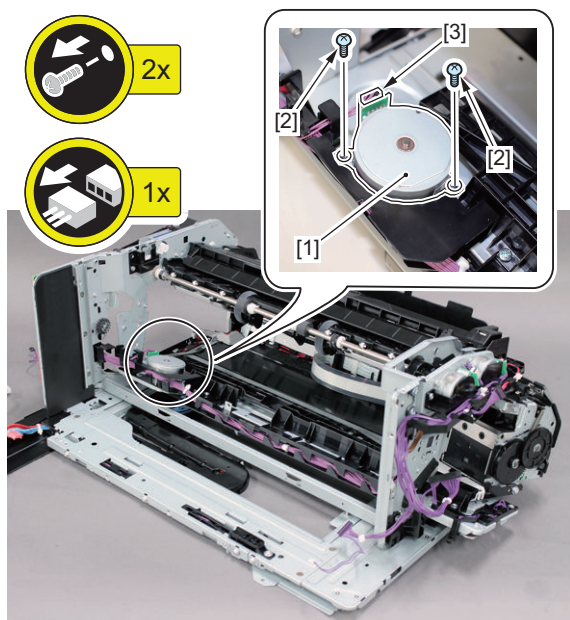
● Removing the Stapler Shift Motor (M7)

■ Preparation

1. Remove this machine from the host machine.
“Removing this Machine from the Host Machine” on page 43
2. Remove the Front Cover Unit. “Removing the Front Cover Unit” on page 76
3. Remove the Rear Cover. “Removing the Rear Cover” on page 76
4. Remove the Upper Feed Guide Unit. “Removing the Upper Feed Guide Unit” on page 80
5. Remove the Tray Guide Cover. “Removing the Tray Guide Cover” on page 78
6. Remove the Staple-free Staple Unit. “Removing the Staple-free Staple Unit” on page 86
7. Remove the Processing Tray Unit. “Removing the Processing Tray Unit” on page 81

■ Procedure

1. Remove the Stapler Shift Motor [1].
 - 2 Screws [2]
 - 1 Connector [3]



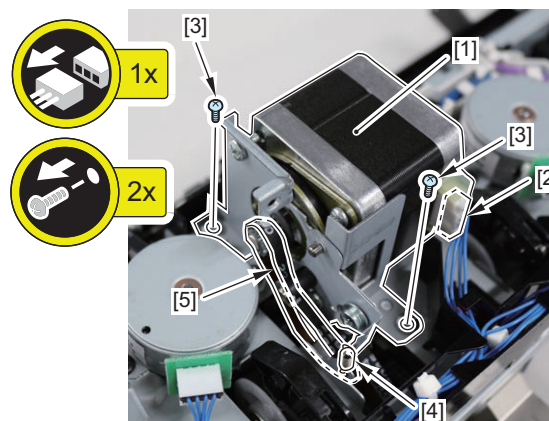
● Removing the Assist Motor (M5)

■ Preparation

1. Remove this machine from the host machine.
“Removing this Machine from the Host Machine” on page 43
2. Remove the Front Cover Unit. “Removing the Front Cover Unit” on page 76
3. Remove the Rear Cover. “Removing the Rear Cover” on page 76
4. Remove the Upper Feed Guide Unit. “Removing the Upper Feed Guide Unit” on page 80
5. Remove the Staple-free Staple Unit. “Removing the Staple-free Staple Unit” on page 86
6. Remove the Tray Guide Cover. “Removing the Tray Guide Cover” on page 78
7. Remove the Processing Tray Unit. “Removing the Processing Tray Unit” on page 81

■ Preparation

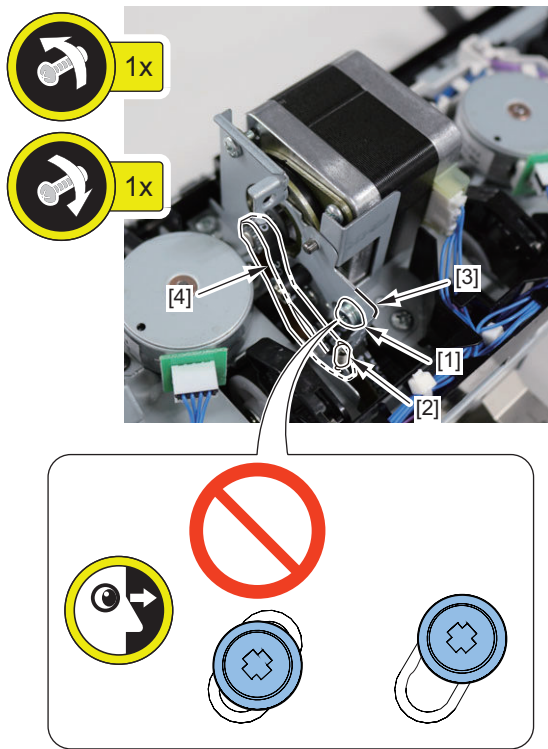
1. Remove the Assist Motor Assembly [1].
 - 1 Connector [2]
 - 2 Screws [3]
 - 1 Spring [4]
 - 1 Belt [5]



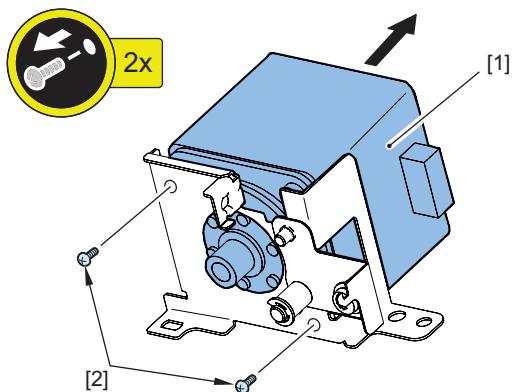
CAUTION:

When reinstalling the Assist Motor Assembly, apply tension to the belt in the following procedures.

1. Loosen the Screw [1], and attach the Spring [2].
2. Apply tension to the belt [4] retaining the plate end [3] by a hand and then tighten the screw [1].
3. Check the fixing position of the screw. If the fixing position is poor, reinstall the screw.

**2. Remove the Assist Motor [1].**

- 2 Screws [2]



Sensor

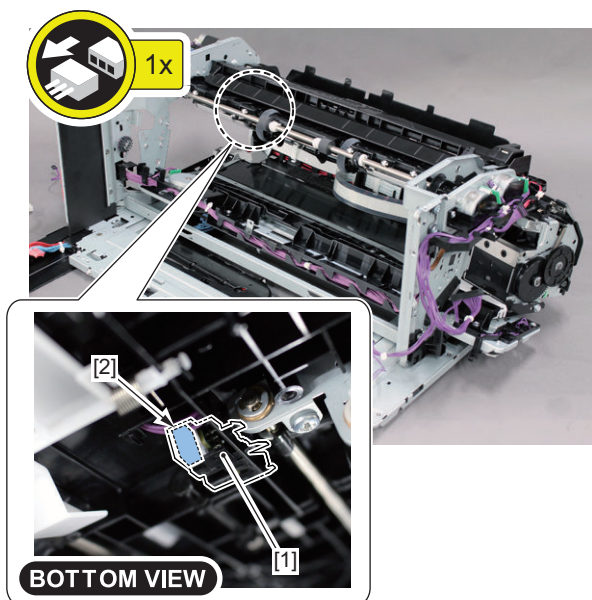
Removing the Delivery Sensor(PS1)

■ Preparation

1. Remove this machine from the host machine.
“Removing this Machine from the Host Machine” on page 43
2. Remove the Front Cover Unit. “Removing the Front Cover Unit” on page 76
3. Remove the Rear Cover. “Removing the Rear Cover” on page 76
4. Remove the Upper Feed Guide Unit. “Removing the Upper Feed Guide Unit” on page 80
5. Remove the Tray Guide Cover. “Removing the Tray Guide Cover” on page 78
6. Remove the Staple-free Staple Unit. “Removing the Staple-free Staple Unit” on page 86
7. Remove the Processing Tray Unit. “Removing the Processing Tray Unit” on page 81

■ Procedure

1. Remove the Delivery Sensor [1].
• 1 Connector [2]



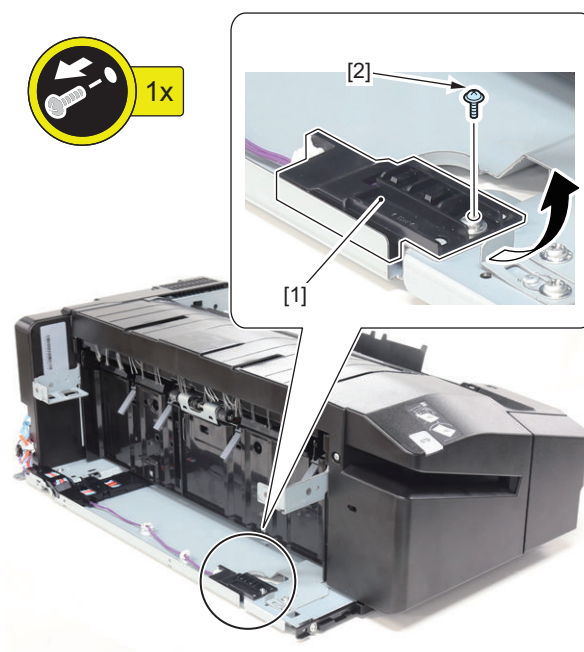
Removing the Disengaging Sensor (PS16)

■ Preparation

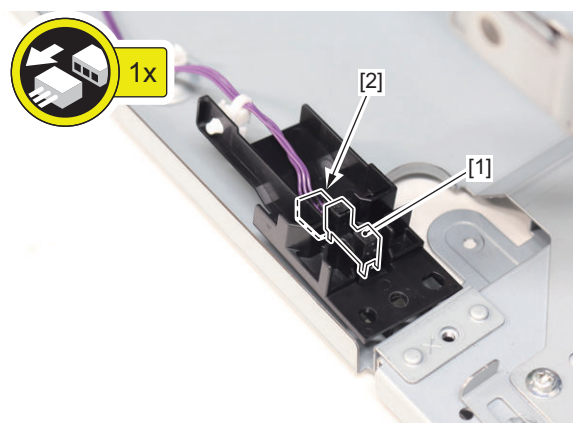
1. Remove this machine from the host machine.
“Removing this Machine from the Host Machine” on page 43

■ Procedure

1. Remove the Disengaging Sensor Holder [1].
• 1 Screw [2]



2. Remove the Disengaging Sensor [1].
• 1 Connector [2]



PCB

Removing the Finisher Controller PCB (PCB1)

■ Handling before replacement

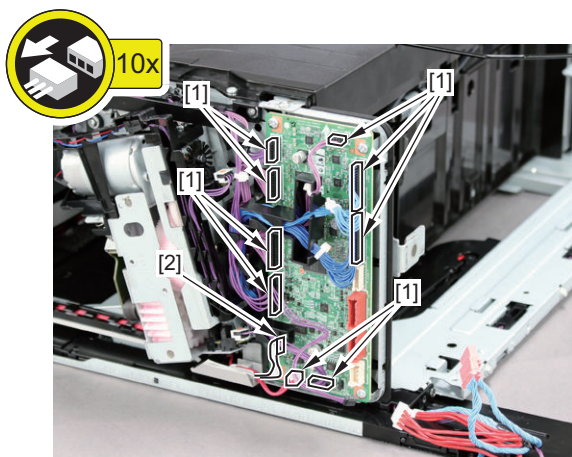
- When backup is possible
 1. Before replacing the finisher controller PCB, back up the counter values of consumable parts and various adjustment values to the host machine using the host machine's service mode.
SORTER > FUNCTION > FIN-BK-R
 2. Turn OFF/ON the main power switch.
- When backup is impossible
 1. Output the service mode setting values by P-PRINT.
COPIER > FUNCTION > MISC-P > P-PRINT
If P-PRINT cannot be output, handling before replacement is not performed. Replace the finisher controller PCB.

■ Preparation

1. Remove this machine from the host machine.
“Removing this Machine from the Host Machine” on page 43
2. Remove the Rear Cover. “Removing the Rear Cover” on page 76

■ Procedure

1. Remove the 9 Connectors [1] and 1 Flexible cable [2].

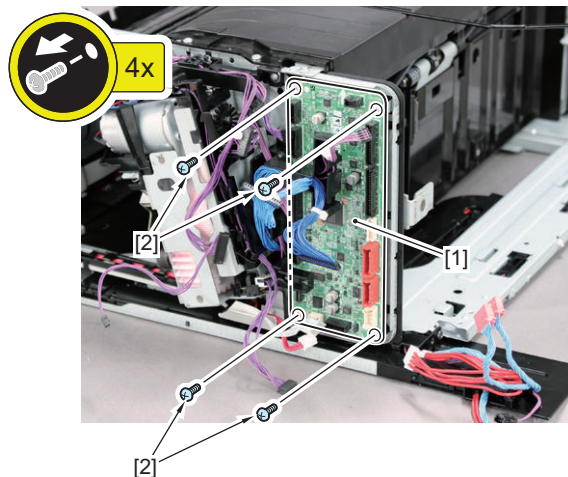


2. Remove the Finisher Controller PCB [1].

- 4 screws [2]

CAUTION:

When removing the finisher controller PCB, hold the PCB with your hands to prevent dropping it.



■ Handling after replacement

CAUTION:

If the finisher version is old, a message prompting you to update will appear. If this message appears, update it automatically.

If you select to skip the message screen indicating that the combination is not correct, the message will appear every time you start the host machine unless you disable the message in service mode.

<Related service mode>

Setting of firmware update operation (Lv.2):
COPIER > OPTION > FNC-SW > VER-CHNG

- If backup operation has been performed
 1. Write the backup data to the new PCB in the host machine's service mode.
SORTER > FUNCTION > FIN-BK-W
 2. Turn OFF/ON the main power switch.
- If backup operation has not been performed
 1. If there is the output P-PRINT
Input the adjustment values and setting values in SORTER item. However, in this case, the counter cannot enter.
 2. If there is not the output P-PRINT
Enter the values of service mode items recorded on the service label of the finisher rear cover.

Other Parts

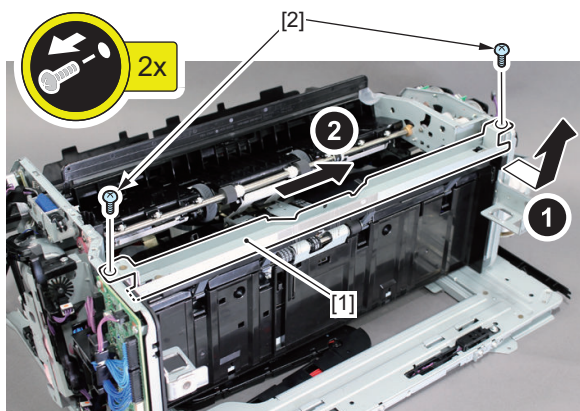
● Removing the Return Belt Unit

■ Preparation

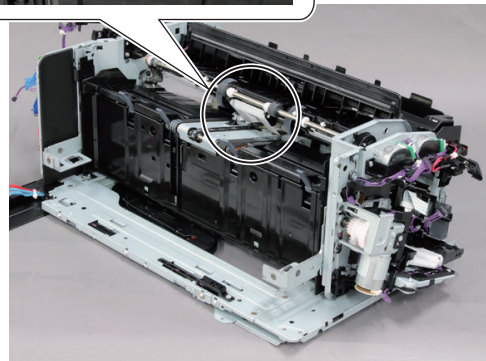
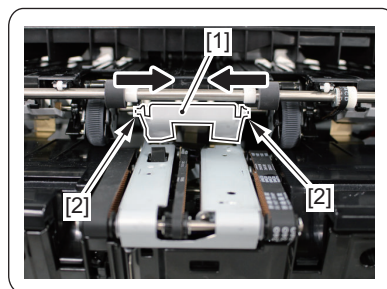
1. Remove this machine from the host machine.
"Removing this Machine from the Host Machine" on page 43
2. Remove the Front Cover Unit. "Removing the Front Cover Unit" on page 76
3. Remove the Rear Cover. "Removing the Rear Cover" on page 76
4. Remove the Upper Feed Guide Unit. "Removing the Upper Feed Guide Unit" on page 80
5. Remove the Stapler Unit. "Removing the Stapler Unit" on page 85

■ Procedure

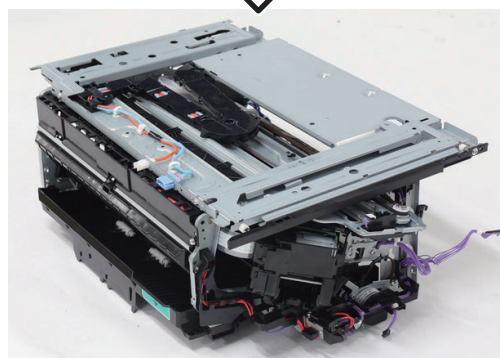
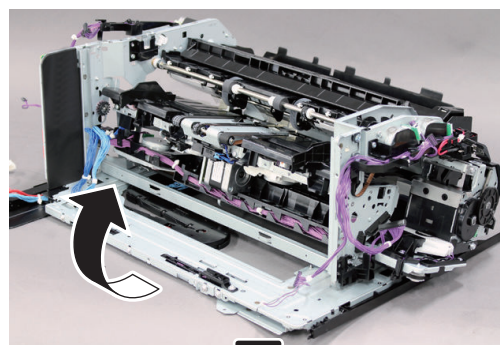
1. Remove the Upper Stay [1].
• 2 Screws [2]



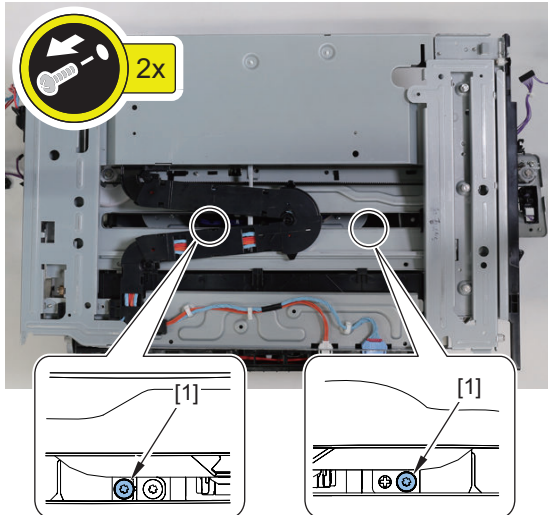
2. Remove the Center Return Belt Guide [1].
• 2 Bosses [2]



3. Rotate the machine as shown below.



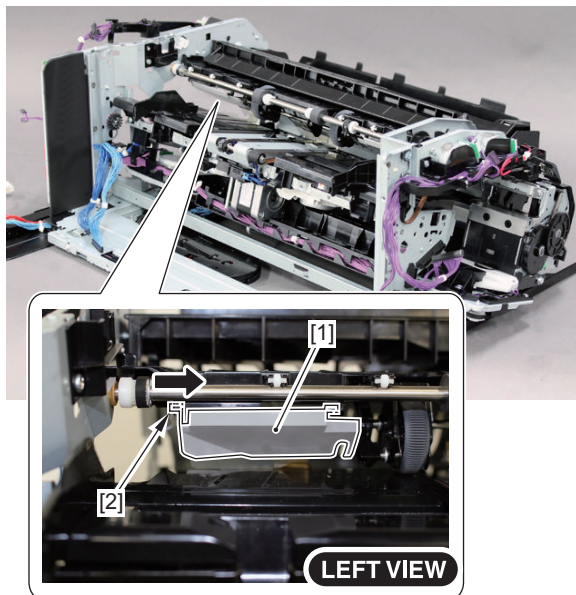
4. Remove the 2 Screws [2] of the Front/Rear Return Belt Guide.



5. Return the machine to its original position.

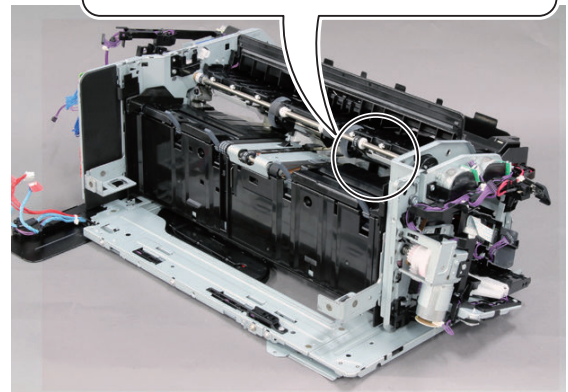
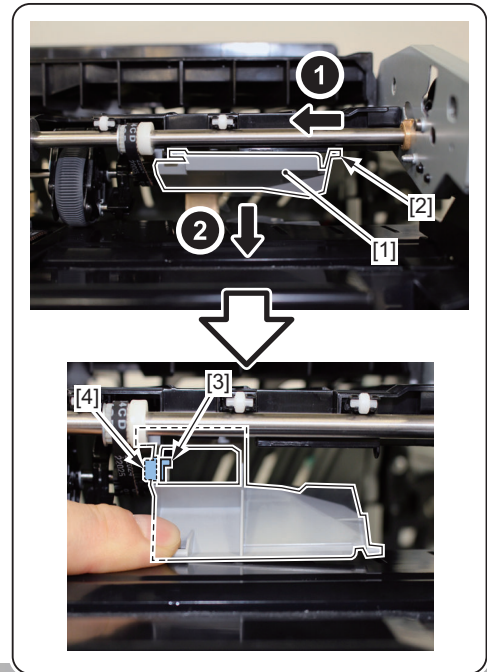
6. Remove the Rear Return Belt Guide [1].

- 1 Boss [2]



7. Remove the Front Return Belt Guide [1].

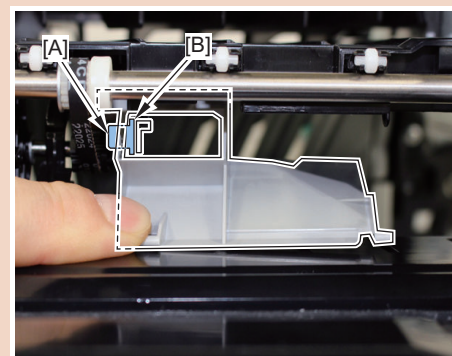
- 1 Boss [2]
- 1 Clip [3]
- 1 Bushing [4]



CAUTION:

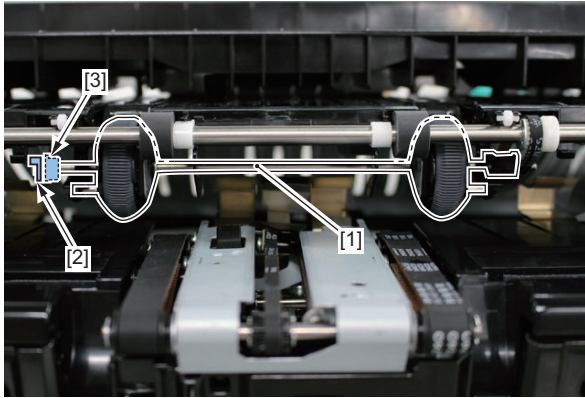
Points to Note when Installing the Front Return Belt Guide

Attach the part [B] of the Bushing [A] in the direction of an arrow as shown in the figure.



8. Remove the Return Belt Unit [1].

- 1 Clip [2]
- 1 Bushing [3]





Adjustment

Overview.....	97
Basic Adjustment.....	100
Adjustment when Replacing the Parts	113
Service Label.....	114

Overview

Adjustment and Functional Setting in Service Mode

■ Adjustment

For details, see the service manual for the host machine.

Items	Service Mode (SORTER> AD- JUST)	Use case	Remarks
Adjustment of 2-stapling position	STP-2P	When the staples position in front/rear direction is displaced in the 2-stapling mode	
Adjustment of front 1-stapling position	INSTP-F1	When the staple position in front/rear direction is displaced in the front 1-stapling mode	
Adjustment of rear 1-stapling position	INSTP-R1	When the staple position in front/ rear direction is displaced in the rear 1-stapling mode	
Adjust staple free pressure	FR-ST-PS	Upon user's request	
Adjustment of staple position for paper feed direction in the staple free stapling mode	FR-STP-X	When the staple position in paper feed direction is displaced in the staple free stapling mode	
Adjustment of staple position for front/rear direction in the staple free stapling mode	FR-STP-Y	When the staple position in front/rear direction is displaced in the staple free stapling mode	
Adjustment of return belt pressure	RBLT-PRS	When the paper alignment position is displaced	
Adjustment of manual stapling position	MSTP-2P	When the staple position in front/rear direction is displaced in the manual stapling mode	
Enter the adjustment value of the position of the Alignment Plate at factory shipment.	INF-ALG1	- When replacing the Finisher Controller PCB - When clearing RAM data	
Adjustment of alignment position at staple mode	INF-ALG3	When the paper alignment position is displaced at staple mode	
Adjustment of alignment position at non-staple mode	INF-ALG4	When the paper alignment position is displaced at non-staple mode	
Adjustment of center alignment standard position	CENT-ALG	- When the standard position for the center alignment is misaligned - When the paper alignment position is displaced	
Adjustment of amount of punch switch back (thin paper)	PNC-SBTN	- When the punch hole position is off to the feed direction - When damage occurs to the paper trailing edge	This mode is available when the puncher unit has been installed
Adjustment of amount of punch switch back (Plain paper 1/2/3, Heavy paper 1/2)	PUNCH-SB		
Adjustment of amount of punch switch back (Heavy paper 3/4)	PNCH-SB1		
Adjustment of amount of punch switch back (Heavy paper 5/6)	PNCH-SB2		
Adjustment of amount of punch switch back (Heavy paper 7)	PNCH-SB3		
Adjusting the punch hole position in feed direction	PNCH-X	When the punch hole is displaced in feed direction	
Adjusting the punch hole position in the horizontal registration direction	PNCH-Y	When the punch hole is misaligned in the horizontal registration direction	

■ Function Settings

For details, see the service manual for the host machine.

Items	Service Mode (SORTER> OP- TION)	Use case	Remarks
To set whether to suspend delivery when it is detected that the Finisher Tray is full	TRY-STP	Upon user's request	
To set whether to stop the machine when an error occurs at Finisher	MD-SPRTN	When preferring to run the machine although an error occurs at Finisher	
To set the duration of time before executing automatic stapling at manual staple mode	MSTP-TMG	Upon user's request	
To set the staple position of staple free stapling	FR-ST-PO	Upon user's request	
To set the staple-free stapling without staple cartridge	FR-ST-SW	Upon user's request	
To set the duration of time to keep manual staple mode enabled after execution of manual stapling	MSTP-WT	Upon user's request	
To set the tray position after the completion of job	TRY-PSTN	Upon user's request (to improve visibility of the delivered paper)	
To set the start timing of paper retainer operation	RET-TMG	When a paper stack is discharged to a position that cannot be reached by the paper retainer and stacking failure occurs due to the paper stack being pushed out by the next paper stack.	
Set assist guide operation start timing	ASTG-TMG	When the stack delivery failure occurs.	
Switching the high-productivity punch mode or high-accuracy punch mode of the inner puncher unit	PUCH-SW	When switching the high-productivity punch mode or high-accuracy punch mode.	This mode is available when the inner puncher unit has been installed.
To set whether to perform the horizontal registration operation of the inner puncher unit for matching with the center of the paper	PUN-Y-SW	When the adjustable range of the punch hole horizontal registration adjustment is enlarged.	
To set the punch hole specification of the inner puncher unit	PNCH-SW2	When replacing the Puncher Controller PCB.	

Basic Adjustment Items

No	Items		Use case	Refer to
1	Adjusting the Alignment	Adjusting the Alignment Position at Staple Mode	When the paper alignment position is displaced in the staple mode or staple-free staple mode.	“Adjusting the Alignment Position at Staple Mode” on page 101
2		Adjusting the Alignment Position at Non-staple Mode	When the paper stacking position is displaced in the non-sort mode or shift-sort mode.	“Adjusting the Alignment Position at Non-staple Mode” on page 102
3		Adjusting the Return Belt Pressure	When misalignment occurs in feed direction.	“Adjusting the Return Belt Pressure” on page 102
4		Adjusting Center Alignment Standard Position	• When the standard position for the center alignment is misaligned. • When misalignment occurs in front/ rear direction.	“Adjusting Center Alignment Standard Position” on page 103
5		Right Angle Adjustment of Alignment Plate	• When remove or replace the Alignment Plate. • When the paper alignment position is displaced.	“Right Angle Adjustment of Alignment Plate ” on page 104
6	Adjusting the Staple Position	Adjusting the Staple Position	When the staple position in front/rear direction is displaced in the front/rear 1-stapling mode or 2-stapling mode.	“Adjusting the Staple Position ” on page 108

No	Items		Use case	Refer to
7	Adjusting the Staple Position	Adjusting the Stapler Unit Installation Position	- When the stapler unit is replaced. - When the staple position in feed direction is displaced in the front/rear 1-stapling mode or 2-stapling mode.	"Adjusting the Stapler Unit Installation Position" on page 109
8		Adjusting the Staple-Free Binding Position	When the staple-free binding position in the staple-free binding mode.	"Adjusting the Staple-Free Binding Position" on page 111

Adjustment Items When Replacing Parts

No	Target part	Adjustment item and description	Reference
1	Finisher Controller PCB	Backup operation before replacement and operation after replacement	"Handling Finisher Controller PCB Replacements" on page 113

Basic Adjustment

Overview

In the case adjusting the processing tray area, adjust the paper alignment at first, and adjust the staple position.

In the case adjusting the paper alignment, adjust transport direction at first, and adjust front-rear direction.

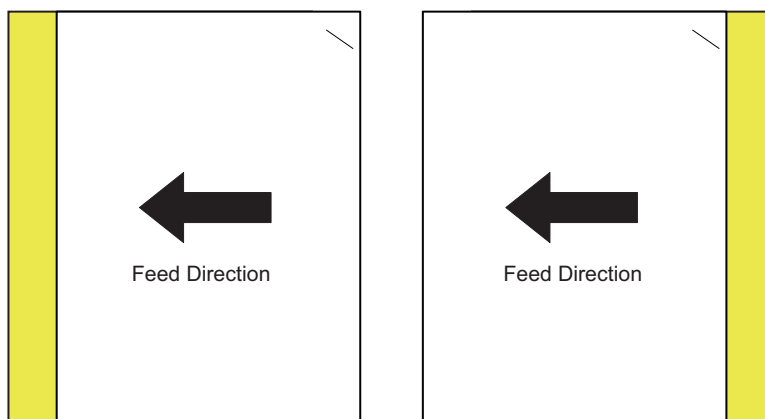
No	Items		Use case	Refer to
1	Adjusting the Alignment	Adjusting the Alignment Position at Staple Mode	When the paper alignment position is displaced in the staple mode or staple-free staple mode.	“Adjusting the Alignment Position at Staple Mode” on page 101
2		Adjusting the Alignment Position at Non-staple Mode	When the paper stacking position is displaced in the non-sort mode or shift-sort mode.	“Adjusting the Alignment Position at Non-staple Mode” on page 102
3		Adjusting the Return Belt Pressure	When misalignment occurs in feed direction.	“Adjusting the Return Belt Pressure” on page 102
4		Adjusting Center Alignment Standard Position	- When the standard position for the center alignment is misaligned. - When misalignment occurs in front/ rear direction.	“Adjusting Center Alignment Standard Position” on page 103
5		Right Angle Adjustment of Alignment Plate	- When remove or replace the Alignment Plate. - When the paper alignment position is displaced.	“Right Angle Adjustment of Alignment Plate ” on page 104
6	Adjusting the Staple Position	Adjusting the Staple Position	When the staple position in front/rear direction is displaced in the front/rear 1-stapling mode or 2-stapling mode.	“Adjusting the Staple Position ” on page 108
7		Adjusting the Stapler Unit Installation Position	- When the stapler unit is replaced. - When the staple position in feed direction is displaced in the front/rear 1-stapling mode or 2-stapling mode.	“Adjusting the Stapler Unit Installation Position ” on page 109
8		Adjusting the Staple-Free Binding Position	When the staple-free binding position in the staple-free binding mode.	“Adjusting the Staple-Free Binding Position ” on page 111

Adjusting the Paper Alignment

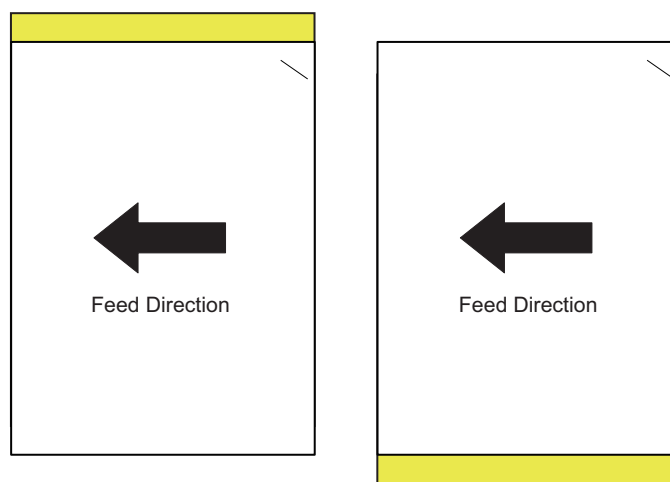
■ Adjusting the Alignment Position at Staple Mode

< Use case >

- When the paper alignment position is displaced in feed direction at the staple mode or staple-free staple mode.



- When the paper alignment position is displaced in front/rear direction at the staple mode or staple-free staple mode.



< Procedure of adjustment >

NOTE:

After the setting value is changed, write the changed value in the service label.

1. Adjust the width of the Alignment Plate by the following service mode.

- SORTER > ADJUST > INF-ALG3

Adjustment range: -50 to 50 (Unit: 0.1 mm)

As the value is incremented by 1, the width of the Alignment Plates becomes narrow by 0.1 mm.

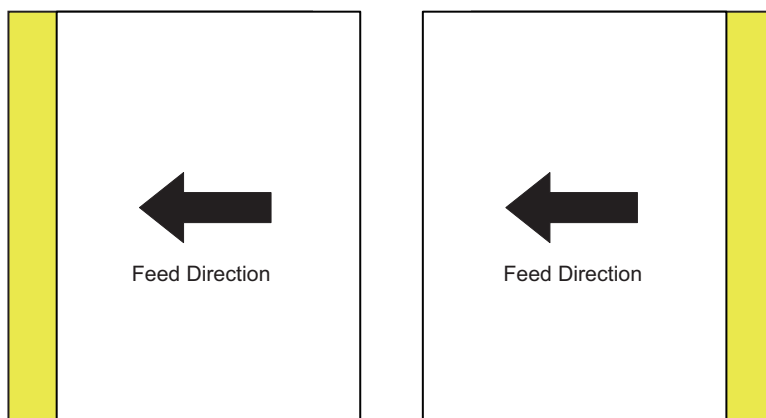
+: When the paper alignment position is displaced in front/rear direction, increase values

-: When the paper alignment position is displaced in feed direction, decrease values

■ Adjusting the Alignment Position at Non-staple Mode

< Use case >

- When the trailing edge of paper stack is left to the delivery mouth at the delivery, at the non-sort mode or shift-sort mode.
- When the paper stack is delivered to the position where the paper retainer does not reach the paper stack at the delivery, at the non-sort mode or shift-sort mode.



< Procedure of adjustment >

NOTE:

After the setting value is changed, write the changed value in the service label.

1. Adjust the width of the Alignment Plate by the following service mode.

- SORTER > ADJUST > INF-ALG4

Adjustment range: -50 to 50 (Unit: 0.1mm)

As the value is incremented by 1, the width of the Alignment Plates becomes narrow by 0.1 mm.

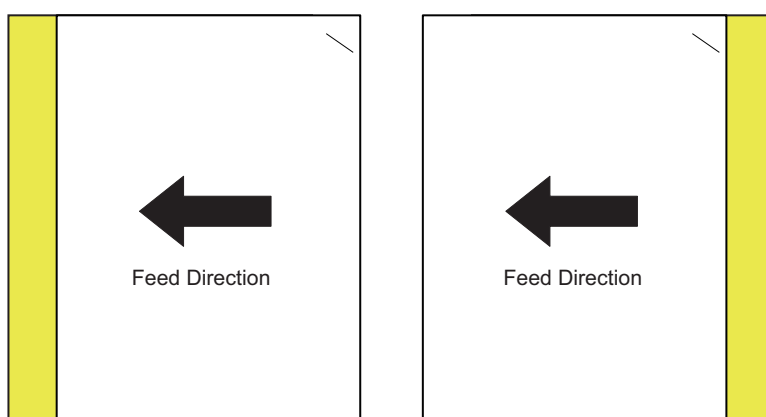
+: When the paper stack is delivered to the position where the paper retainer does not reach the paper stack at the delivery, increase values

-: When the trailing edge of paper stack is left to the delivery mouth at the delivery, decrease values

■ Adjusting the Return Belt Pressure

< Use case >

- When misalignment occurs in feed direction.



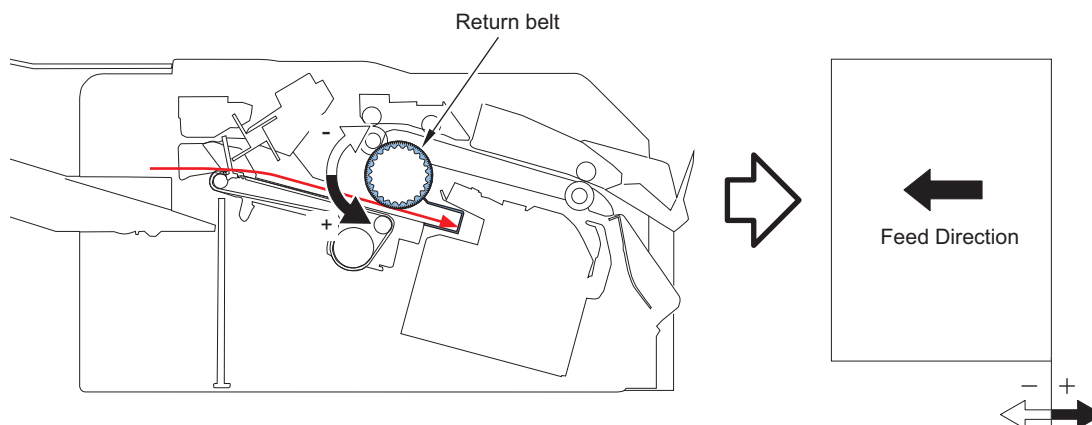
< Procedure of adjustment >

NOTE:

After the setting value is changed, write the changed value in the service label.

1. Adjust return belt pressure by the following service mode.

- SORTER > ADJUST > RBLT-PRS



Adjustment range: -20 to 20 (Unit: 0.1 mm)

As the value is changed by 1, the height of the return belt changes by height of 0.1 mm.

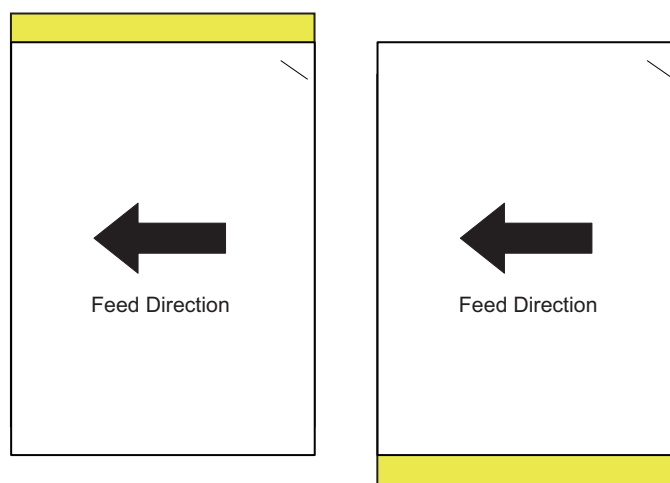
+: Downward

-: Upward

■ Adjusting Center Alignment Standard Position

< Use case >

- When the standard position for the center alignment is misaligned.
- When misalignment occurs in front/rear direction.



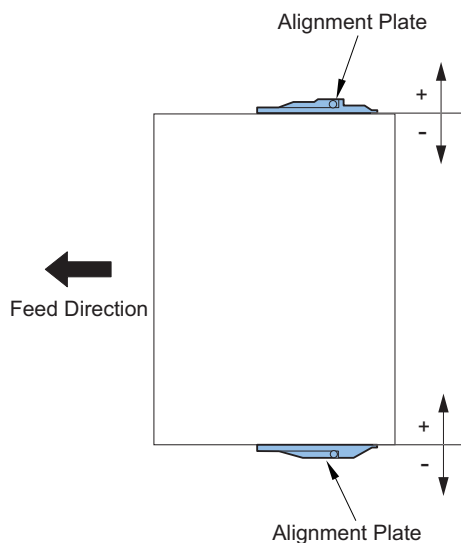
< Procedure of adjustment >

CAUTION:

This adjustment influences alignment operation and staple position. Adjust the alignment width with [“Adjusting the Alignment Position at Staple Mode” on page 101](#), [“Adjusting the Alignment Position at Non-staple Mode” on page 102](#).

1. Adjust the center alignment by the following service mode.

- SORTER > ADJUST > CENT-ALG



Adjustment range: -10 to 10 (Unit: 0.1mm)

As the value is incremented by 1, the standard position for the center alignment moves by 0.1 mm.

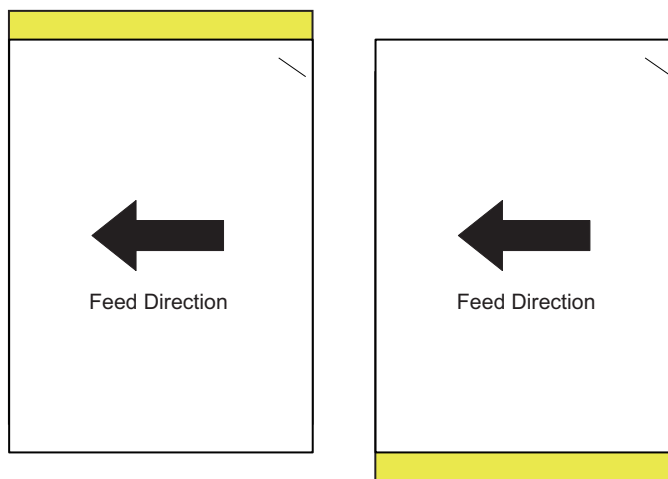
+: Toward rear

-: Toward front

■ Right Angle Adjustment of Alignment Plate

<Use case>

- When remove or replace the alignment plate.
- When the paper alignment position is displaced.



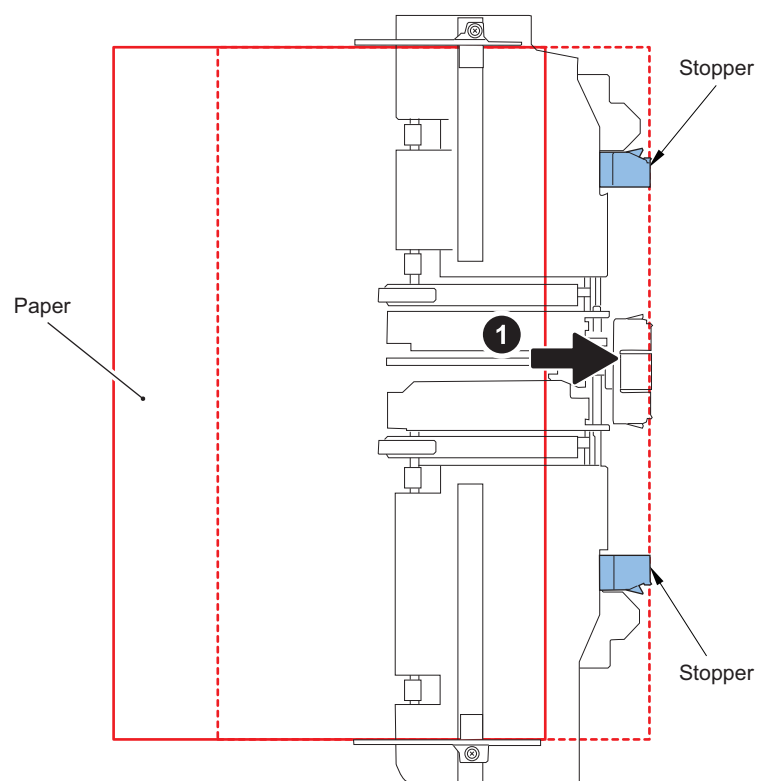
<Procedure of adjustment>

CAUTION:

Perform the adjustment under either of the following states.

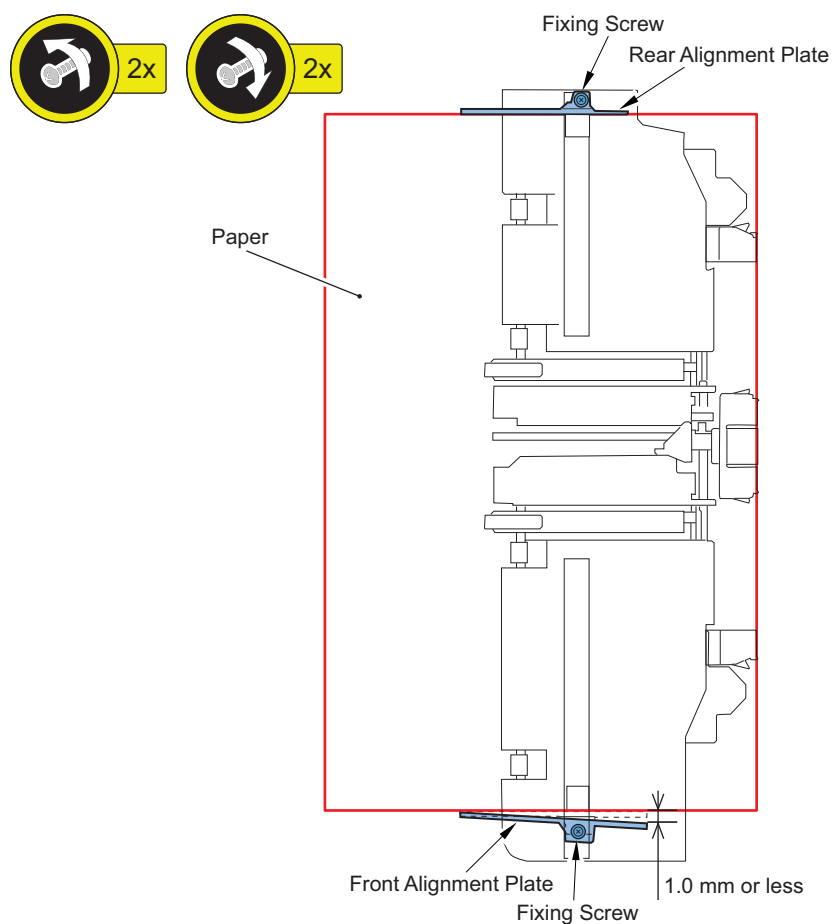
- The processing tray unit is stable with the bases such as paper stack.
- The processing tray is set in the inner finisher. However, remove the upper feed guide unit to access the screw for adjustment.

1. Place A4 or LTR paper on the processing tray unit, and push it against the stopper.



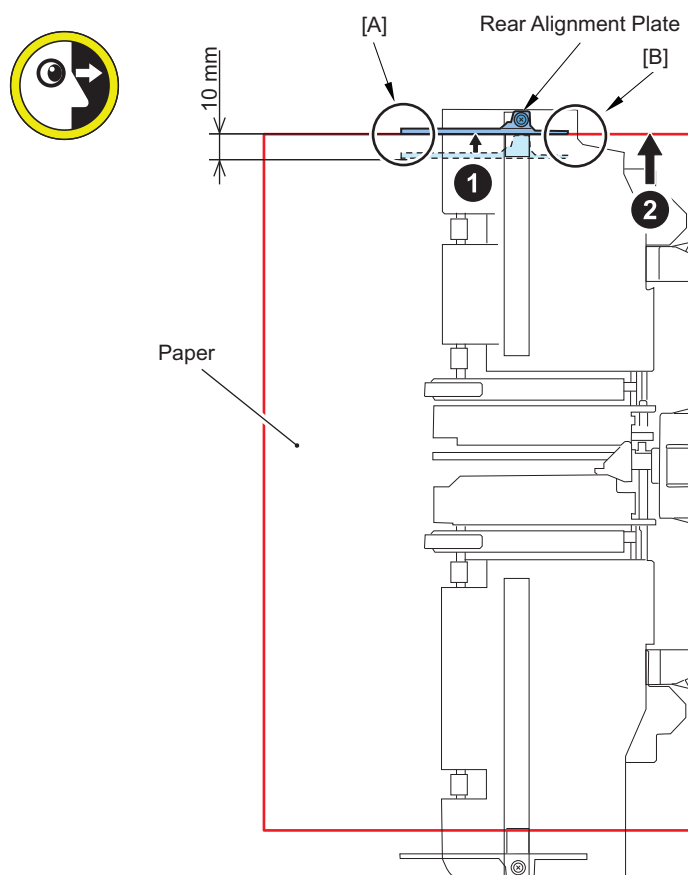
2. Loosen the 2 fixing screws of the alignment plate (front and rear), adjust the alignment plate as follows, and then tighten the 2 screws.

- Front alignment plate: Fit the leading edge to the paper. The trailing edge make space of 1mm or less.
- Rear alignment plate: Align it with the paper in parallel.



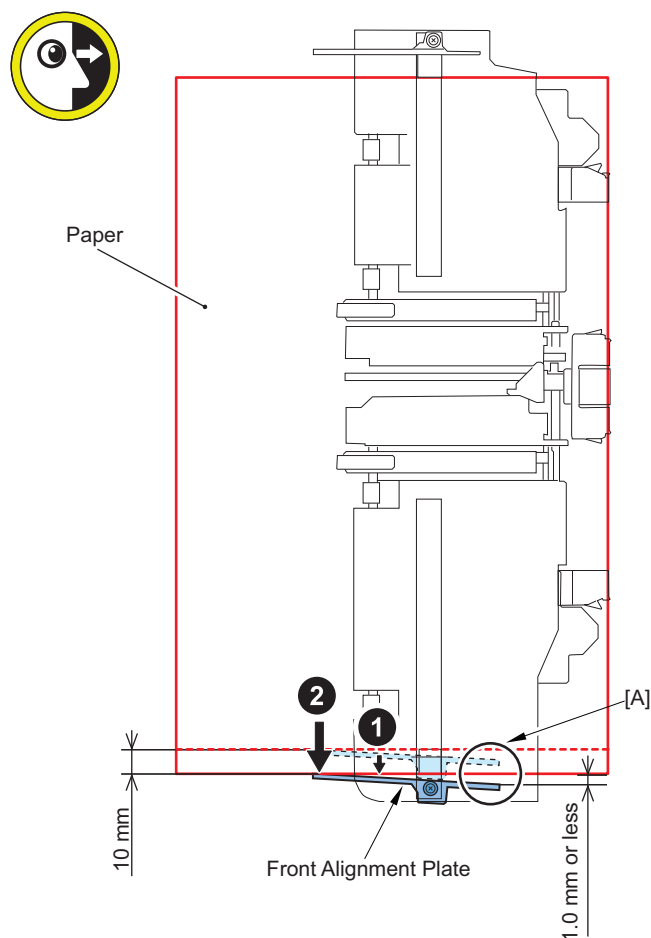
3. Widen the rear alignment palte approx. 10mm.

4. Contact a sheet of paper with the rear alignment plate to check the gaps between the alignment plate and a sheet of paper at [A] and [B] portion. In the case the gap is large, adjust the right-angle adjustment of alignment plate again.



5. Widen the front alignment palte approx. 10mm.

6. Fit the leading edge of the front alignment plate to paper, and confirm that a gap between the adjustment plate and the paper are 1mm or less at [A] portion.

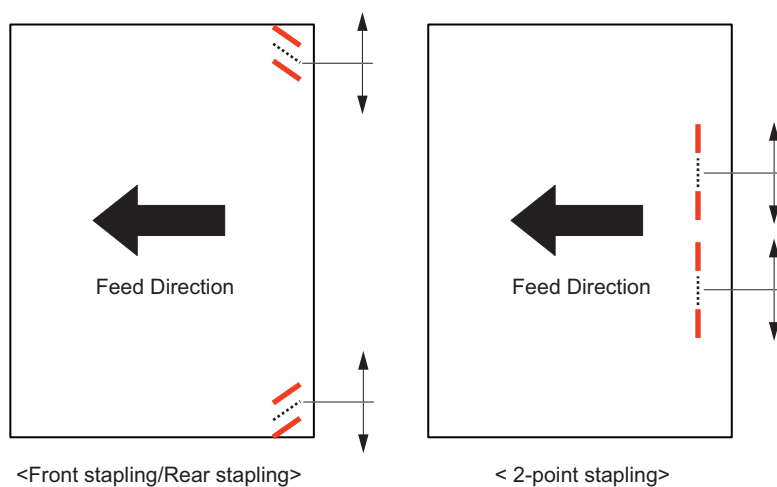


Adjusting the Staple Position

Adjusting the Staple Position

<Use case>

- When the staple position in front/rear direction is displaced in the front/rear 1-stapling mode or 2-stapling mode.



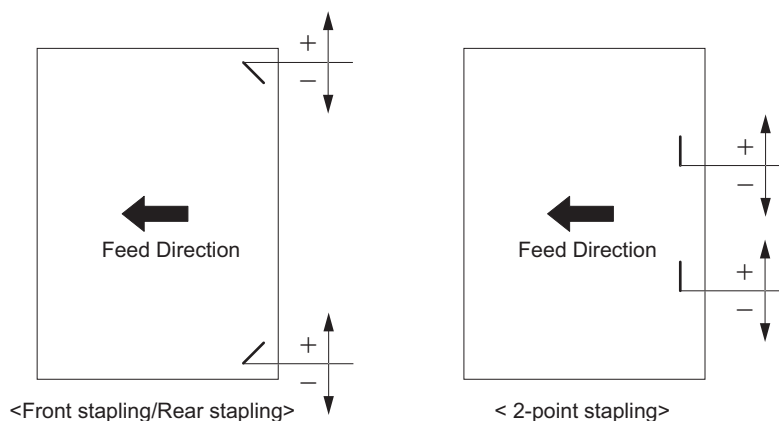
<Procedure of adjustment>

NOTE:

After the setting value is changed, write the changed value in the service label.

1. Adjust the staple position by the following service modes.

- Adjustment of front 1-stapling mode
SORTER > ADJUST > INSTP-F1
- Adjustment of rear 1-stapling mode
SORTER > ADJUST > INSTP-R1
- Adjustment of front 2-stapling mode
SORTER > ADJUST > STP-2P



Adjustment range: -50 to 50 (Unit: 0.1mm)

As the value is incremented by 1, the staple position moves by 0.1mm.

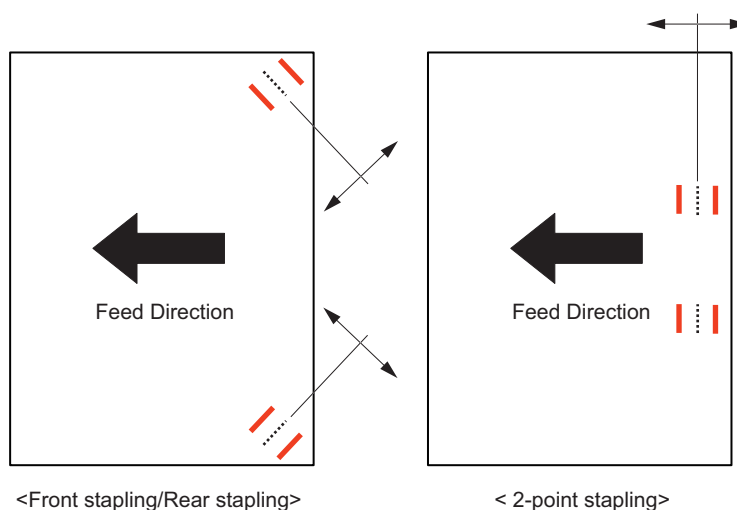
+ : Toward rear

- : Toward front

■ Adjusting the Stapler Unit Installation Position

<Use case>

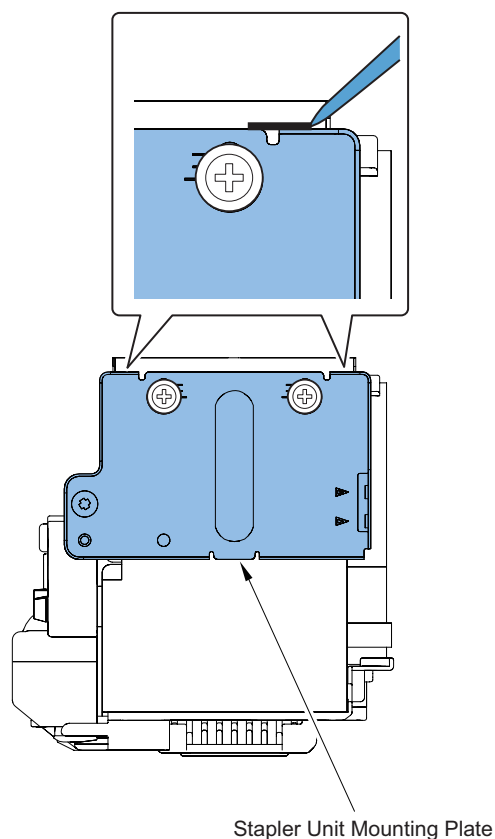
- When the stapler unit is replaced.
- When the staple position in feed direction is displaced in the front/rear 1-stapling mode or 2-stapling mode.



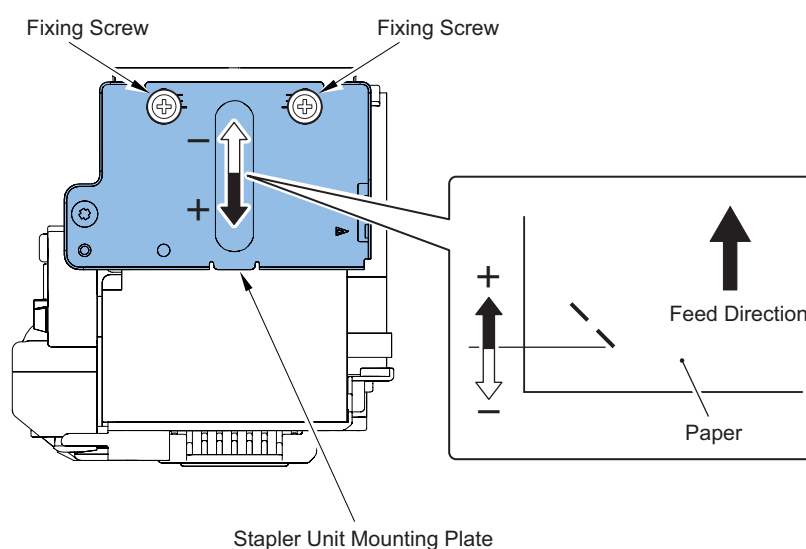
1. Mark the installation position of the stapler unit support plate.

CAUTION:

If returning its installation position to the original position, fix the stapler unit support plate by matching to the mark.



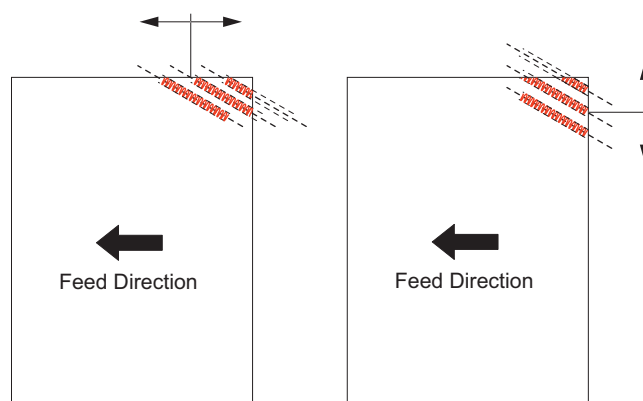
2. Loosen the two screws of the stapler unit support plate, adjust the stapler installation position by referring to the scale, and then tighten the screws.



■ Adjusting the Staple-Free Binding Position

<Use case>

- When the staple-free binding position in the staple-free binding mode.



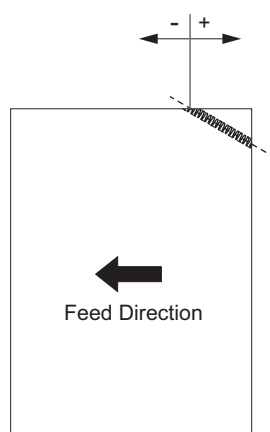
<Procedure of adjustment>

NOTE:

After the setting value is changed, write the changed value in the service label.

1. Adjust the staple-free binding position by the following service modes.

- SORTER > ADJUST > FR-STP-X



Adjustment range: -15 to 15 (Unit: 0.1mm)

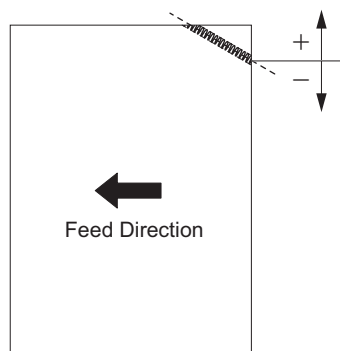
As the value is changed by 1, the staple position moves by 0.1 mm.

+:Toward the inlet side

-:Toward the delivery side

2. Adjust the staple-free binding position by the following service modes.

- SORTER > ADJUST > FR-STP-Y



Adjustment range: -30 to 30 (Unit: 0.1mm)

As the value is changed by 1, the staple position moves by 0.1 mm.

+: Toward rear

-: Toward front

Adjustment when Replacing the Parts

Handling Finisher Controller PCB Replacements

■ Handling before replacement

- When backup is possible
 1. Before replacing the finisher controller PCB, back up the counter values of consumable parts and various adjustment values to the host machine using the host machine's service mode.
SORTER > FUNCTION > FIN-BK-R
 2. Turn OFF/ON the main power switch.
- When backup is impossible
 1. Output the service mode setting values by P-PRINT.
COPIER > FUNCTION > MISC-P > P-PRINT
If P-PRINT cannot be output, handling before replacement is not performed. Replace the finisher controller PCB.

■ Preparation/Procedure

"Removing the Finisher Controller PCB (PCB1)" on page 92

■ Handling after replacement

CAUTION:

If the finisher version is old, a message prompting you to update will appear. If this message appears, update it automatically. If you select to skip the message screen indicating that the combination is not correct, the message will appear every time you start the host machine unless you disable the message in service mode.

<Related service mode>

Setting of firmware update operation (Lv.2):

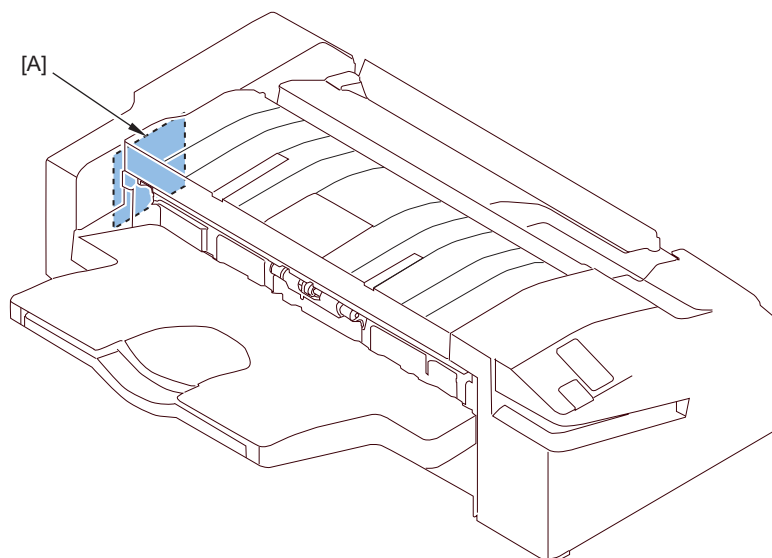
COPIER > OPTION > FNC-SW > VER-CHNG

- If backup operation has been performed
 1. Write the backup data to the new PCB in the host machine's service mode.
SORTER > FUNCTION > FIN-BK-W
 2. Turn OFF/ON the main power switch.
- If backup operation has not been performed
 1. If there is the output P-PRINT
Input the adjustment values and setting values in SORTER item. However, in this case, the counter cannot enter.
 2. If there is not the output P-PRINT
Enter the values of service mode items recorded on the service label of the finisher rear cover.

Service Label

Back-up of Service Mode

In factory setting, adjustments are made for each machine, and adjustment values are written in the service label. When you replaced the DC controller PCB, or executed the RAM clear function, adjustment values for ADJUST or OPTION return to default. Therefore, when you made adjustments and changed values of the Service Mode in the field, be sure to write down the changed values in the service label. When there is no relevant field in the service label, write down the values in a blank field. Service label [A]: outside of the rear cover



Service Label

SORTER > ADJUST >		Factory	Field1	Field2	Field3
No.	RBLT-PRS				
	INSTP-F1				
	INSTP-R1				
	STP-2P				
	MSTP-2P				
	FR-STP-X				
	FR-STP-Y				
	INF-ALG1				
	CENT-ALG				



Troubleshooting

Making Initial Checks.....	116
Processing Tray Area.....	117

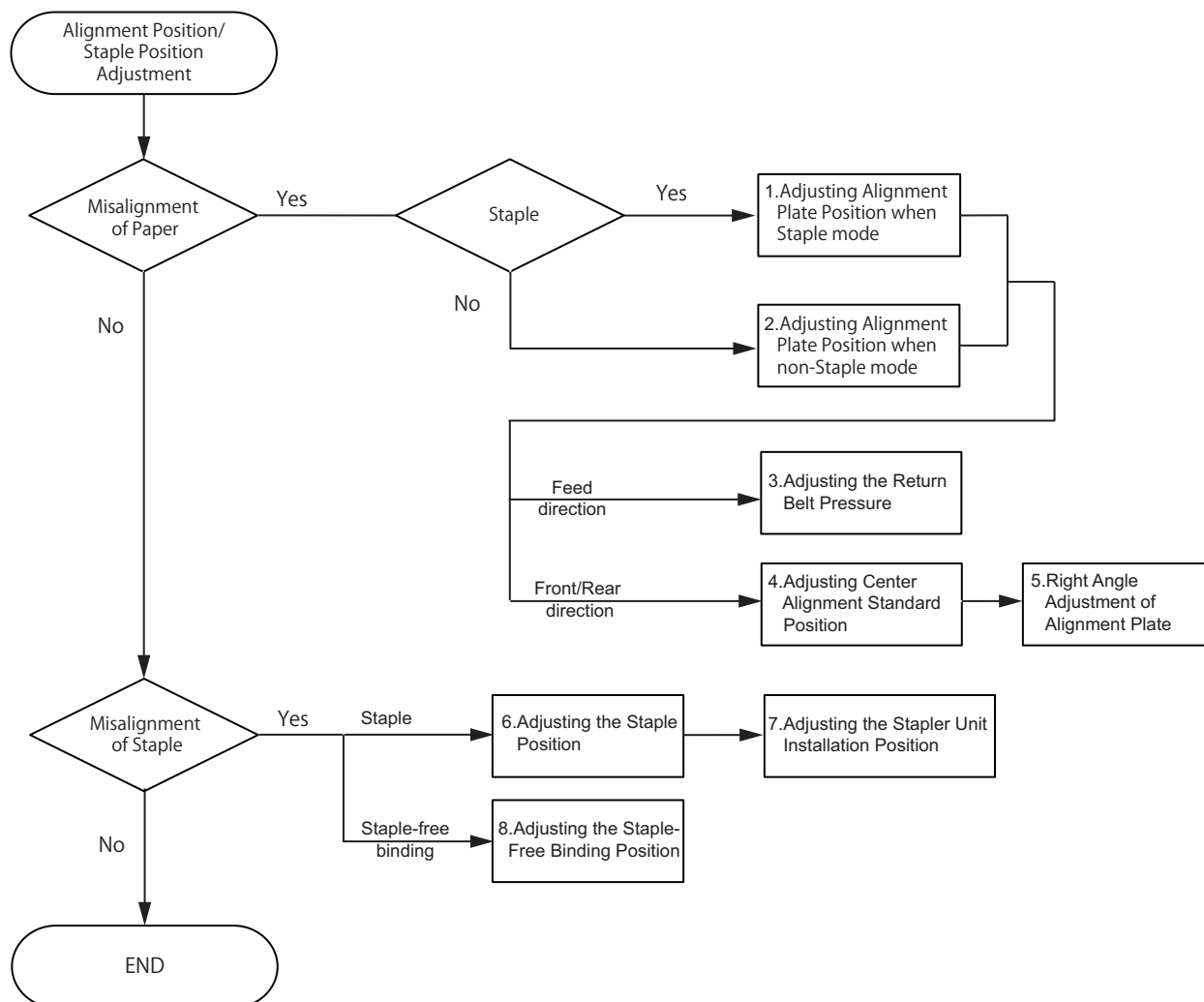
Making Initial Checks

List of Initial Check Items

Item	No.	Check Items	Check
Installation Environment	1	The value of power voltage is +/- 10% of the specified voltage.	
	2	The machine is installed away from heat and moisture (near a faucet, water heater, or humidifier), cold place, source of fire or in an area exposed to dust.	
	3	The machine is not in a place that generates ammonia gas.	
	4	The machine is not in a place of direct sunlight.	
	5	The machine is installed in a well-ventilated place where the machine stands horizontally.	
Checking the paper	6	Paper does not absorb moisture or dry out. Set paper by taking it out from a new package to output.	
Checking the consumable parts	7	Check the list of estimated life of consumable parts and replace parts that have reached the estimated life.	
Checking the periodically replaced parts	8	Replace parts that have reached the estimated life in accordance with the list of periodical services and the table of periodically replaced parts.	

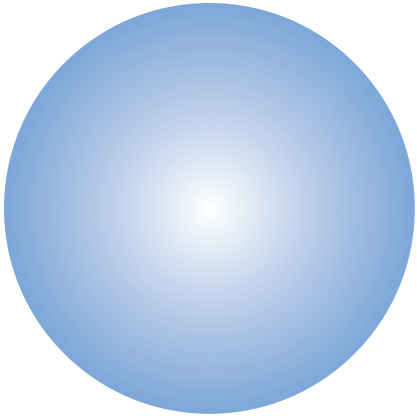
Processing Tray Area

Adjusting the Alignment and the Staple Position



No	Items		Use case	Refer to
1	Adjusting the Alignment	Adjusting the Alignment Position at Staple Mode	When the paper alignment position is displaced in the staple mode or staple-free staple mode.	"Adjusting the Alignment Position at Staple Mode" on page 101
2		Adjusting the Alignment Position at Non-staple Mode	When the paper stacking position is displaced in the non-sort mode or shift-sort mode.	"Adjusting the Alignment Position at Non-staple Mode" on page 102
3		Adjusting the Return Belt Pressure	When misalignment occurs in feed direction.	"Adjusting the Return Belt Pressure" on page 102
4		Adjusting Center Alignment Standard Position	- When the standard position for the center alignment is misaligned. - When misalignment occurs in front/ rear direction.	"Adjusting Center Alignment Standard Position" on page 103
5		Right Angle Adjustment of Alignment Plate	- When remove or replace the Alignment Plate. - When the paper alignment position is displaced.	"Right Angle Adjustment of Alignment Plate" on page 104
6	Adjusting the Staple Position	Adjusting the Staple Position	When the staple position in front/rear direction is displaced in the front/rear 1-stapling mode or 2-stapling mode.	"Adjusting the Staple Position" on page 108

No	Items		Use case	Refer to
7	Adjusting the Staple Position	Adjusting the Stapler Unit Installation Position	- When the stapler unit is replaced. - When the staple position in feed direction is displaced in the front/rear 1-stapling mode or 2-stapling mode.	"Adjusting the Stapler Unit Installation Position " on page 109
8		Adjusting the Staple-Free Binding Position	When the staple-free binding position in the staple-free binding mode.	"Adjusting the Staple-Free Binding Position " on page 111



APPENDICES

Service Tools.....	120
General Circuit Diagram.....	121

Service Tools

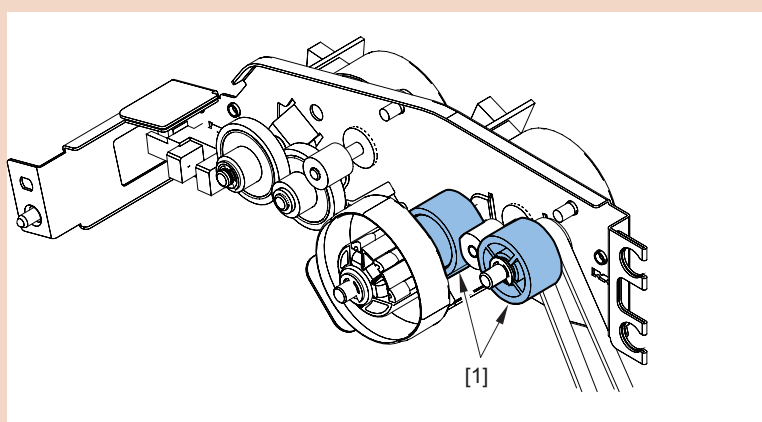
Solvents and Oils

Name	Uses	Remarks
Alcohol	Cleaning; e.g., plastic, rubber; external covers.	- Do not bring near fire. - Procure locally.
Lubricating oil (Super Lube Grease)	Lubrication; e.g., gears. *1	Tool No.: FY9-6005

*1: Do not apply to the following gears.

CAUTION:

Do not apply to the gears [1] of the return belt motor (M2) or paddle motor (M10).



Special Tools

None

General Circuit Diagram

General Circuit Diagram (1/1)

