MC770 / MC780
MPS3537mc / MPS4242mc
MJ-1038 Inner Finisher
Service Manual

060313A

Document Revision History

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TRADEMARKS

- Molykote is a registered trademark of Dow Corning Corporation.
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General Precautions for Installation/Servicing/Maintenance for MJ-1038

The installation and service shall be done by a qualified service technician.

1. When installing the MJ-1038, be sure to follow the instructions described in the “Unpacking/ Set-Up Procedure for the MJ-1038”.

2. The MJ-1038 should be installed by an authorized/qualified person.

3. The Finisher is quite heavy; MJ-1038 weighs approximately 8.3 kg (18.29 lb.), therefore pay full attention when handling it.

4. Before starting installation, servicing or maintenance work, be sure to turn OFF and unplug the equipment first.

5. Be sure to fix and plug in the power cable securely after the installation so that no one trips over it.

6. The equipment shall be installed near the socket outlet and shall be easily accessible.

7. Unplug the power cable and clean the area around the prongs of the plug and socket outlet once a year or more. A fire may occur when dust lies on this area.

8. When servicing or maintaining the MJ-1038, be careful about the rotating or operation sections such as gears, pulleys, sprockets, cams, belts, etc.

9. When parts are disassembled, reassembly is basically the reverse of disassembly unless otherwise noted in this manual or other related materials.
   Be careful not to reassemble small parts such as screws, washers, pins, E-rings, toothed washers, harnesses to the wrong places.

10. Basically, the machine should not be operated with any parts removed or disassembled.

11. When servicing the equipment with the power turned ON, be sure not to touch live sections and rotating/operating sections.

12. Delicate parts for preventing safety hazard problems (such as switches, sensors, etc. if any) should be handled/installed/adjusted correctly.

13. Tools and instruments
    - Use designated jigs and tools.
    - Use recommended measuring instruments or equivalents.

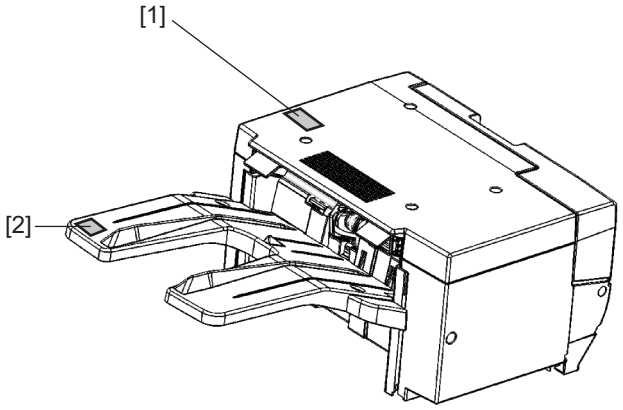
14. Use the wrist band to avoid static electric shock by touching the ungrounded metallic parts.
    The PC board must be stored in antistatic envelope and handled carefully using a wristband, because the ICs on it may be damaged due to static electricity.
    Before using the wrist band, pull out the power cable plug of the equipment and make sure that there is no uninsulated charged objects in the vicinity.

15. For the recovery and disposal of used MJ-1038, consumable parts and packing materials, follow the relevant local regulations/rules.

16. After completing installation, servicing and maintenance of the MJ-1038, return the MJ-1038 to its original state, and check operation.

17. When the MJ-1038 is removed from the equipment due to malfunction or other reasons but no substitute machine is to be installed, be sure to remove all the installation hardware from the equipment as well.

18. During servicing or maintenance work, be sure to check the serial No.plate and other cautionary labels (if any) to see if they are clean and firmly fixed.
    If not, take appropriate actions.



[1] Identification label
[2] Warning for elevating behavior of tray

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1. SPECIFICATIONS, ACCESSORY AND CONSUMABLES

1.1 Specifications

- Product Type — Inner Finisher (1 trays)
- Paper Stacking Device — Stationary Tray
- Paper Size — A4, A5, B5, Executive, Folio, LG13", LG13.5", LG14", LT, Statement, 16K (184 × 260, 195 × 270, 197 × 273)
- Paper Basis Weight — 64 - 220 g/m^2 (17 lb. Bond to 58 lb. Bond)
- Stacking Mode — Simple, Offset, Staple and composite
- Dimensions — W386.7 × D303.6* × H212 (mm)
  * without stacker tray.
- Gross Weight — 8.3 kg (18.29 lb)
- Power Supply — DC24V±10% and DC5V±5% supplied from the main equipment.
- Power Consumption — DC24V 40W or less
  5V 2.6W or less
- Stacking Type — Facedown
- Stacking Height with

Operation Mode	Sheets loaded	Remarks
Non-Sort, Offset	Minimum 500 sheets, or 71 mm STACK TRAY movement	When using 80 g/m^2
Staple	STACK TRAY movement 71 mm, up to 20 continuous batches	When using 80 g/m^2

- Considered full when STACK TRAY reaches lower limit in excess of specifications noted here.
- Exceeding maximum number of continuous batches of staples is not covered by the warranty.
- The Tray movement is a 71 mm motion vertically from the Home position.

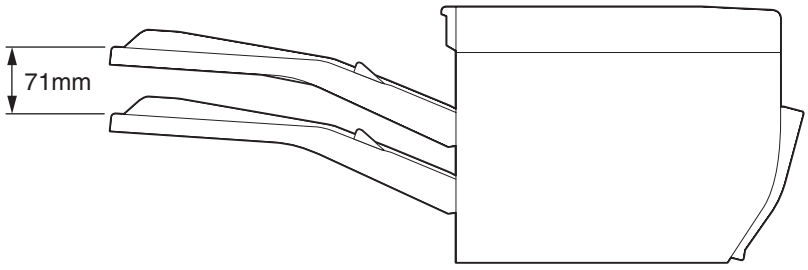
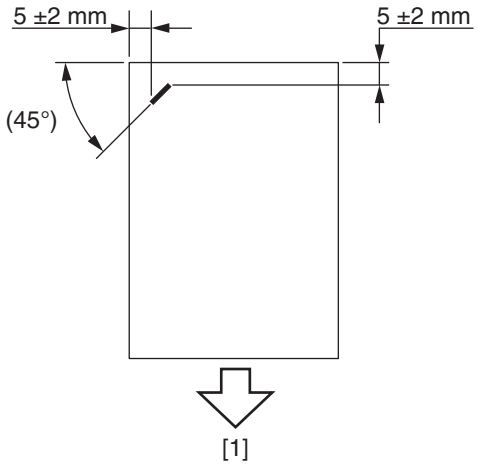


Fig. 1-1

• Stapling Position



[1] Transport direction

Fig. 1-2

• Paper Size for stapling

Stapling Position	Paper Size
Single	A4, B5, Executive, Folio, LG13", LG13.5", LG14", LT, 16K (184 × 260, 195 × 270, 197 × 273)

Stapling is not available for paper in sizes other than the above.

• Paper Basis Weight for stapling 64 - 220 g/m^2

• Number of sheets that can be stapled

Paper Size	64 - 82 g/m^2 Paper	83 - 104 g/m^2 Paper	105 - 220 g/m^2
Folio, LG13", LG13.5", LG14"	30	15	2 (Cover paper)
A4, B5, Executive, LT, 16K (184 × 260, 195 × 270, 197 × 273)	50	30	2 (Cover paper)

• Staple Loading exclusive cartridge

• Manual Stapling Function is not included

1.2 Accessory

Symbol	Name	Quantity
B	BKT MOUNT LEFT	1pc
D	BKT MOUNT RIGHT	1pc
E	Stacker tray	1pc
F	Film	1 sheet
G	Film	2 sheets
a	Screw: M3x6	6pc
f	Screw: M4x6	2pc
g	Screw: M3x10	2pc
	Unpacking Instruction	1set

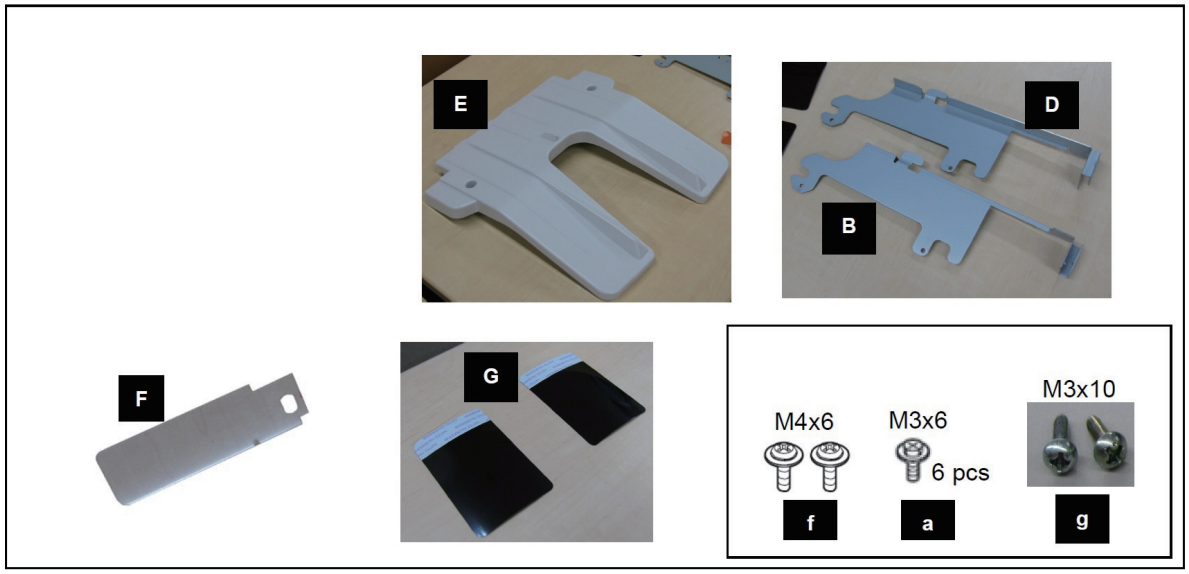


Fig. 1-3

1.3 Consumables

- Staple cartridge exclusive cartridge (45574401)

2. GENERAL DESCRIPTION

2.1 Main Components

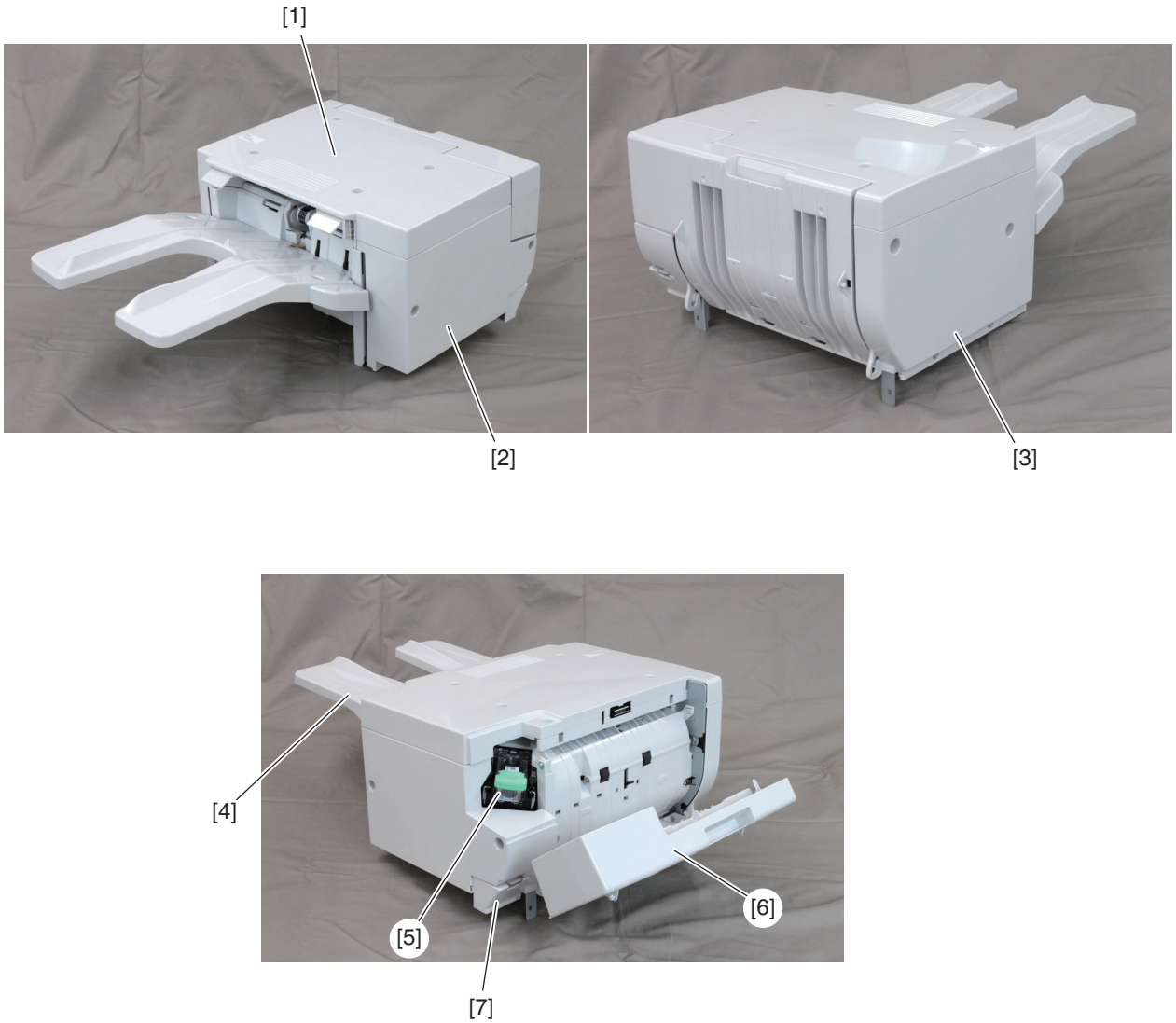


Fig. 2-1

1	Upper cover	5	Stapler
2	Front cover	6	Side cover
3	Rear cover	7	Connector cover
4	Stacker tray		

2.2 Sectional View

[A] Front sectional view

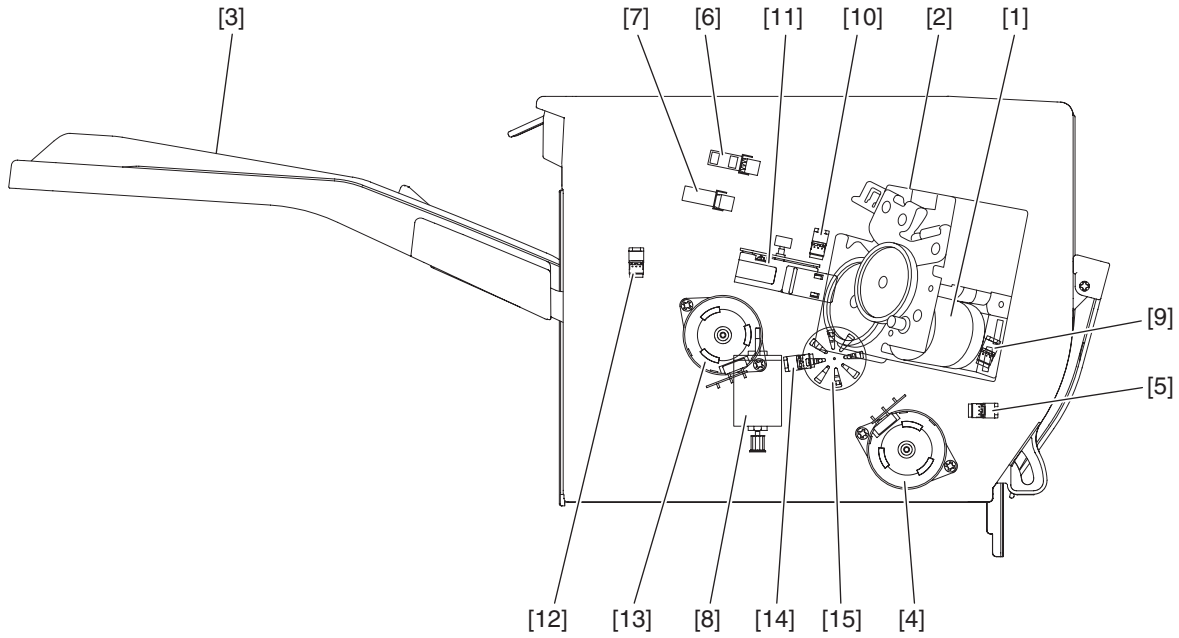


Fig. 2-2

1	Stapler motor	9	Paper support home position sensor
2	Stapler	10	Stapler paper sensor
3	Stacker tray	11	Front alignment motor
4	Lever path motor	12	Stack home position sensor
5	Lever path home position sensor	13	Paper support motor
6	Paddle home position sensor	14	Ejector encoder sensor
7	Front alignment plate home position sensor	15	Ejector motor
8	Stacker motor		

[B] Rear sectional view

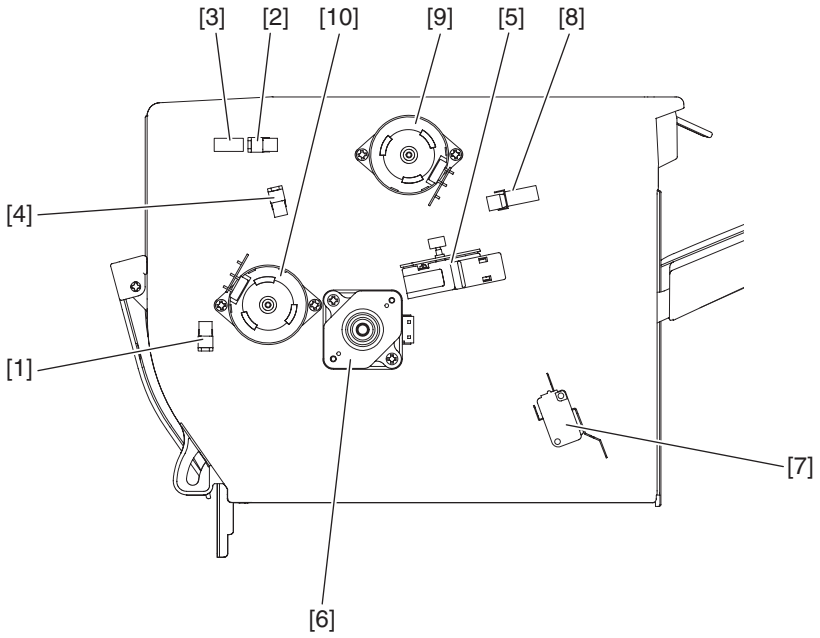


Fig. 2-3

1	Entrance transport sensor	6	Exit transport motor
2	Exit transport sensor	7	Stacker tray lower limit switch
3	Door switch	8	Rear alignment plate home position sensor
4	Ejector home position sensor	9	Paddle motor
5	Rear alignment motor	10	Entrance transport motor

2.3 Electric Parts Layout

[A] Sensors and switches

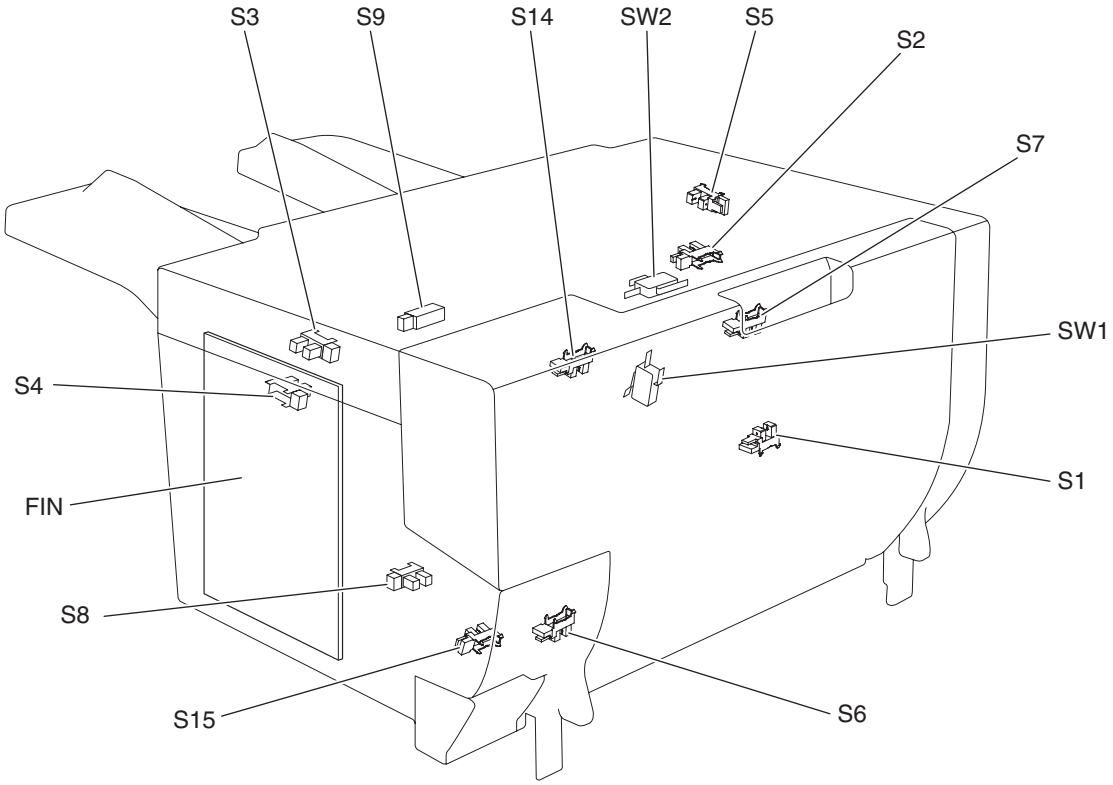


Fig. 2-4

[B] Motors and PC boards

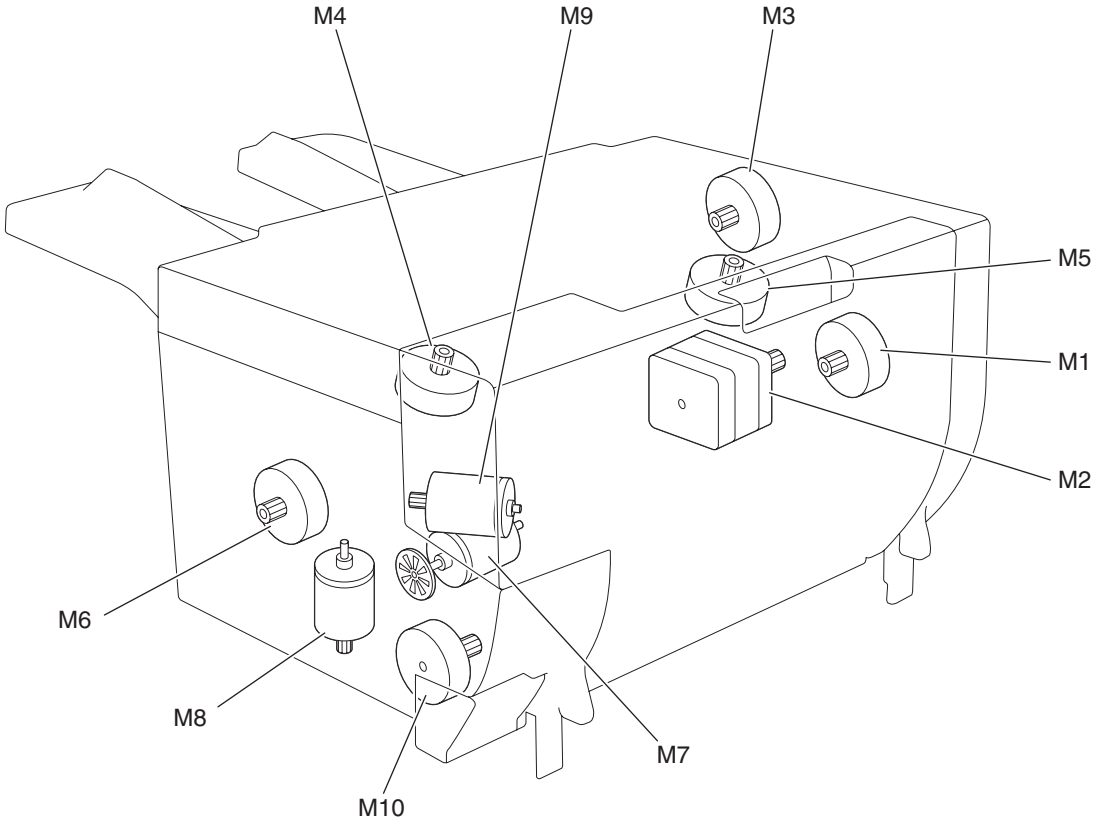


Fig. 2-5

2.4 Symbols and Functions of Various Components

The column <P-I> shows the page and item number in the parts list.

1. Motors

Symbol	Name	Function	P-I	Remarks
M1	Entrance transport motor	Drives the entrance transport roller		
M2	Exit transport motor	Drives the exit transport roller		
M3	Paddle motor	Drives the paddle		
M4	Front alignment motor	Drives the front alignment plate		
M5	Rear alignment motor	Drives the rear alignment plate		
M6	Paper support motor	Drives the paper support		
M7	Ejector motor	Drives the ejector		
M8	Stacker motor	Drives the stacker tray		
M9	Stapler motor	Drives the Stapler		
M10	Lever path motor	Drives the lever path		

2. Sensors and switches

Symbol	Name	Function	P-I	Remarks
S1	Entrance transport sensor	Detects the paper of the entrance transport roller.		
S2	Exit transport sensor	Detects the paper of the exit transport roller.		
S3	Paddle home position sensor	Detects the home position of the paddle.		
S4	Front alignment plate home position sensor	Detects the home position of the front alignment plate.		
S5	Rear alignment plate home position sensor	Detects the home position of the rear alignment plate.		
S6	Paper support home position sensor	Detects the home position of the paper support.		
S7	Ejector home position sensor	Detects the home position of the ejector.		
S8	Ejector encoder sensor	Detects the position of the ejector.		
S9	Stack home position sensor	Detects the home position of the stacker tray.		
S14	Stapler paper sensor	Detects whether there is paper to staple.		
S15	Lever path home position sensor	Detects the home position of the lever path.		
SW1	Stacker tray lower limit switch	Detects the lower limit of the stacker tray.		
SW2	Door switch	Detects the opening/closing of the side cover.		

3. PC board

Symbol	Name	Function	P-I	Remarks
FIN	Finisher control PC board	Controls the Finisher.		

2.5 Diagram of Signal Blocks

The operational sequence of the finisher is controlled by the Finisher control PC board (FIN).
The CPU on the PC board controls paper transportation and serial transmissions of the machine.
A block diagram of the finisher is shown below.

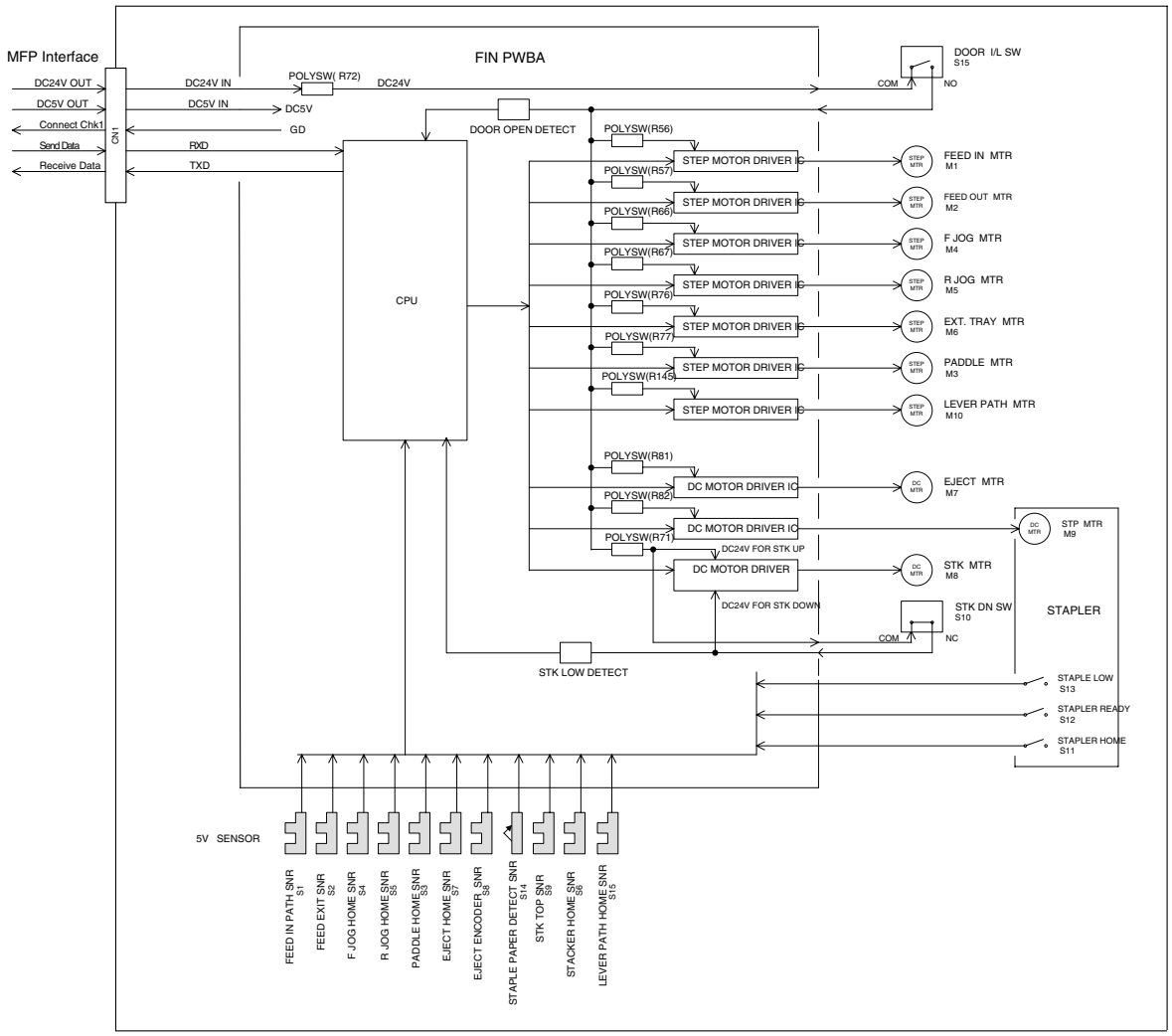


Fig. 2-6

3. DESCRIPTION OF OPERATIONS

3.1 Basic Operations

3.1.1 Specifications

The Finisher exits paper transported from the equipment. Paper exit modes available are; the simple stack (straight-through paper exit) mode, offset mode and staple stack mode.
The operations noted above are controlled by the Finisher control PC board (FIN) in accordance with commands from the equipment.

3.1.2 Transport drive system - General description

The Finisher selects an appropriate exiting mode among the simple stack (straight-through paper exit) mode, offset mode and staple stack mode in accordance with commands from the equipment, and then exits the finished paper onto a tray.

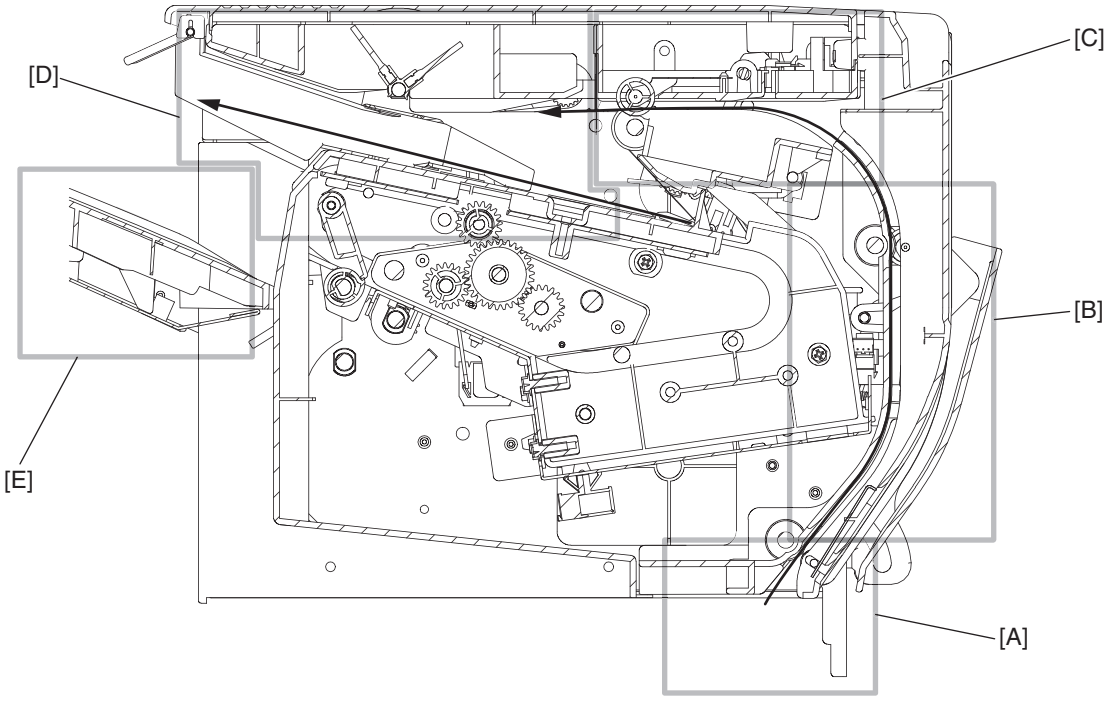


Fig. 3-1

[A] MFP Interface Section
[B] Entrance transport section
[C] Exit transport section
[D] Finishing tray section
[E] Stacker tray section

[A] MFP Interface Section

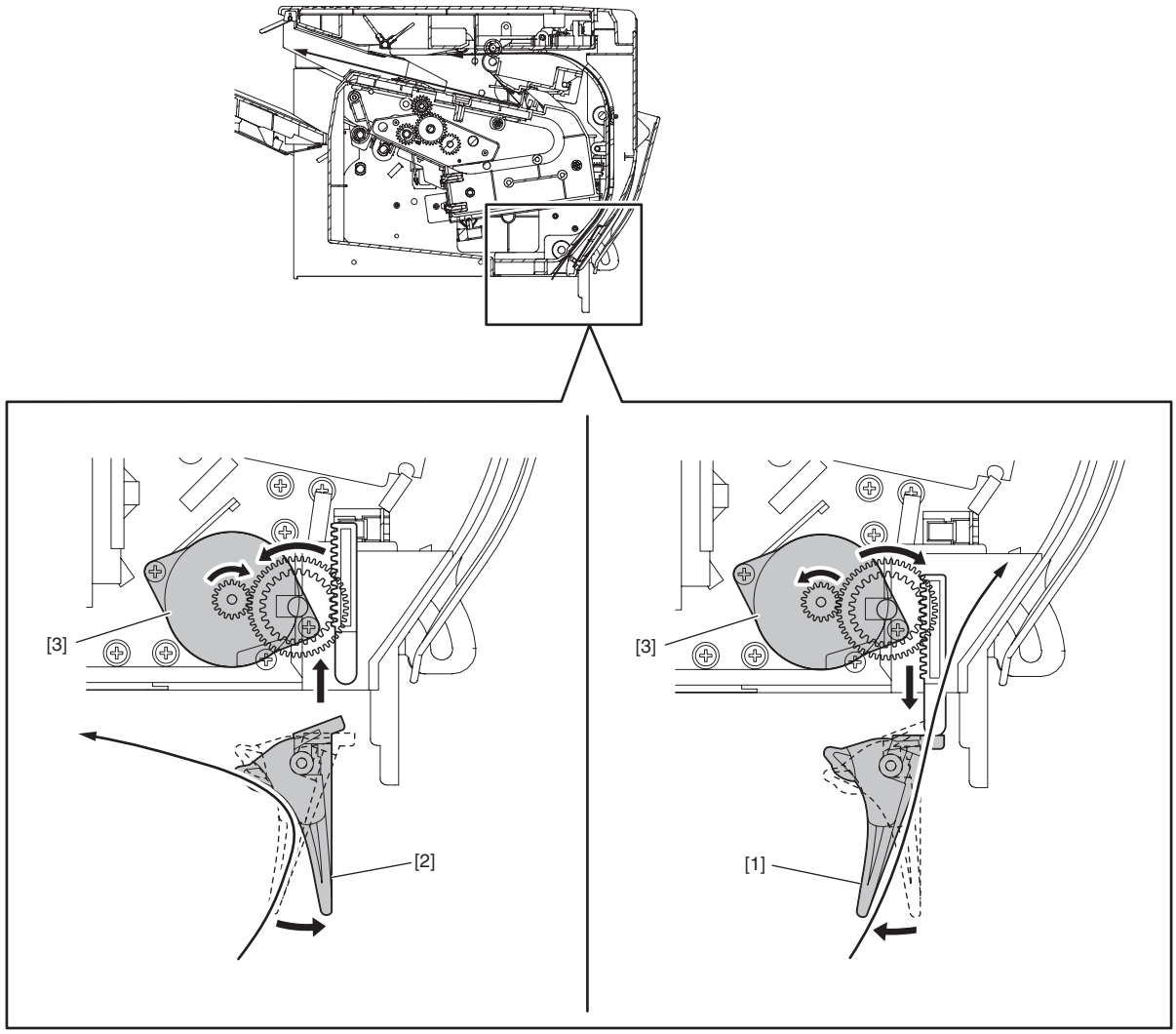


Fig. 3-2

[1] Flapper (Finisher side)
[2] Flapper (MFP side)
[3] Lever path motor (M10)

If the finisher is specified as the paper discharge destination, the lever path motor (M10) rotates forward and drives the lever so the machine's flapper (transport pass gate) switches to the finisher side, and the paper is transported into the finisher.

When transportation of the paper into the finisher is complete, the lever path motor (M10) rotates backward driving the lever so the lever returns to the home position, and the machine's flapper (transport pass gate) switches to the machine's tray side.

[B] Entrance transport section

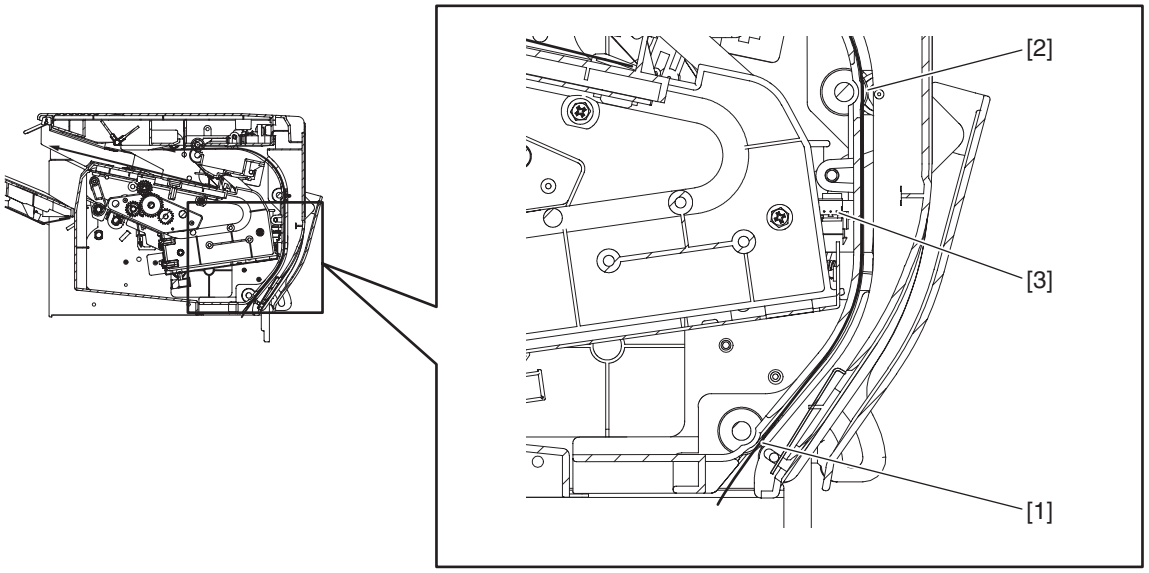


Fig. 3-3

[1] Entrance transport roller
[2] Transport roller
[3] Entrance transport sensor

Paper transported from the machine is conveyed by the paper transport belt, which is driven by the entrance transport motor (M1), and the entrance transport roller and transport roller rotate to transport it to the discharge section.
The entrance transport sensor (S1) detects the paper being transported.

[C] Exit transport section

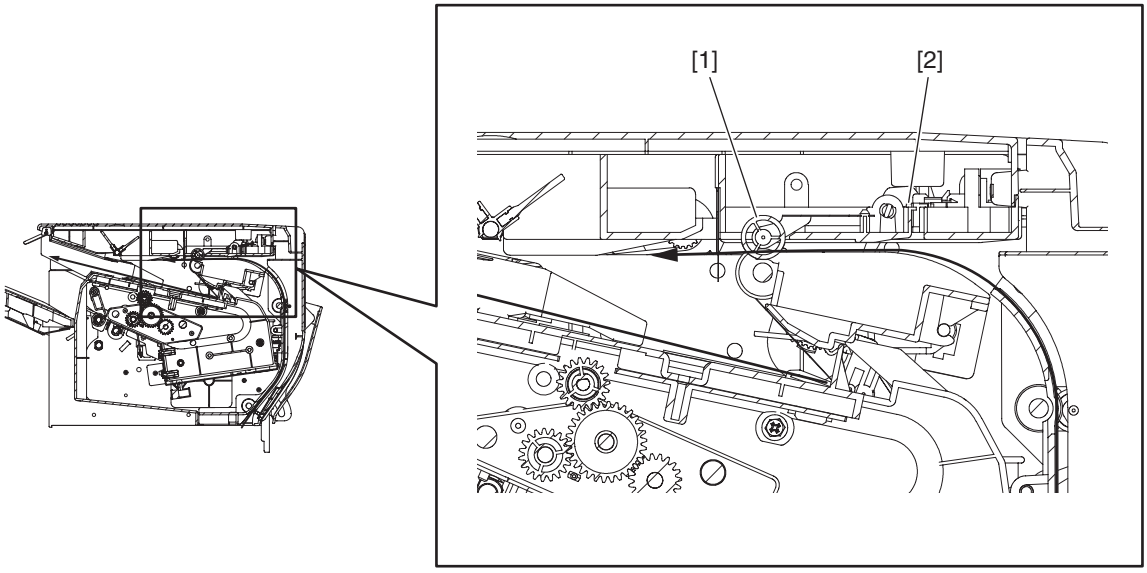


Fig. 3-4

[1] Exit roller
[2] Exit transport sensor

Paper transported from the entrance transport section is conveyed by the paper transport belt, which is driven by the exit transport motor (M2), and the exit roller rotates to transport it to the finishing tray section.
The exit transport sensor (S2) detects the paper being transported.

[D] Finishing tray section

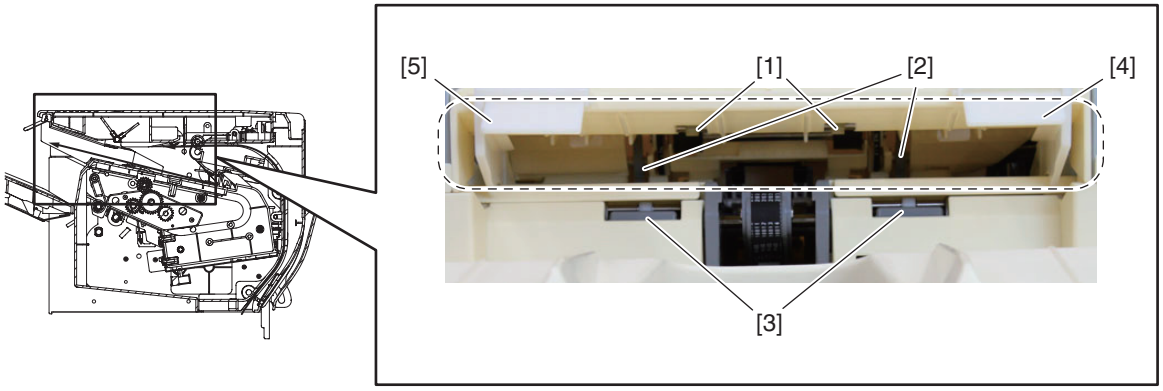


Fig. 3-5

[1] Main paddle
[2] Sub paddle
[3] Paper support
[4] Front alignment plate
[5] Rear alignment plate

While the paper passes the entrance transport sensor, the paper support motor (M6) drives the paper support out the stacker tray side to wait for the paper being transported.
The paper support returns to the home position after the paper is discharged to the stacker tray.

The paper transported to the discharge section is aligned lengthwise by the main paddle and sub paddle which are driven by the paddle motor (M3), and is aligned crosswise by the front alignment plate and the rear alignment plate, which are driven by the front alignment motor (M4) and the rear alignment motor (M5).

[D-1] Offset operation

When the offset is set, the position that paper is discharged to the stacker tray is shifted by a definite unit, either in batch units or job units, to identify the separation of paper sets.

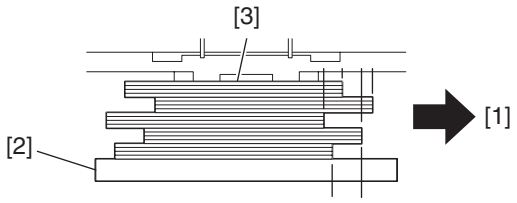


Fig. 3-6

[1] Front side
[2] Stacker tray
[3] Paper

[D-2] Stapler operation

When the stapler is set, the jogger moves the paper to the position it is stapled, the stapler motor (M9) drives the stapler to staple the paper.
The stapler empty sensor (S13) detects when there are only a few staples and sends an alarm. (Approximately 20 operations are possible after the alarm is sent.) The alarm is cancelled by refilling the stapler.

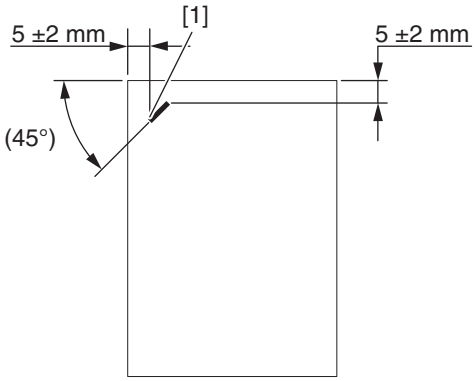


Fig. 3-7

[1] Staple

[E] Stacker tray section

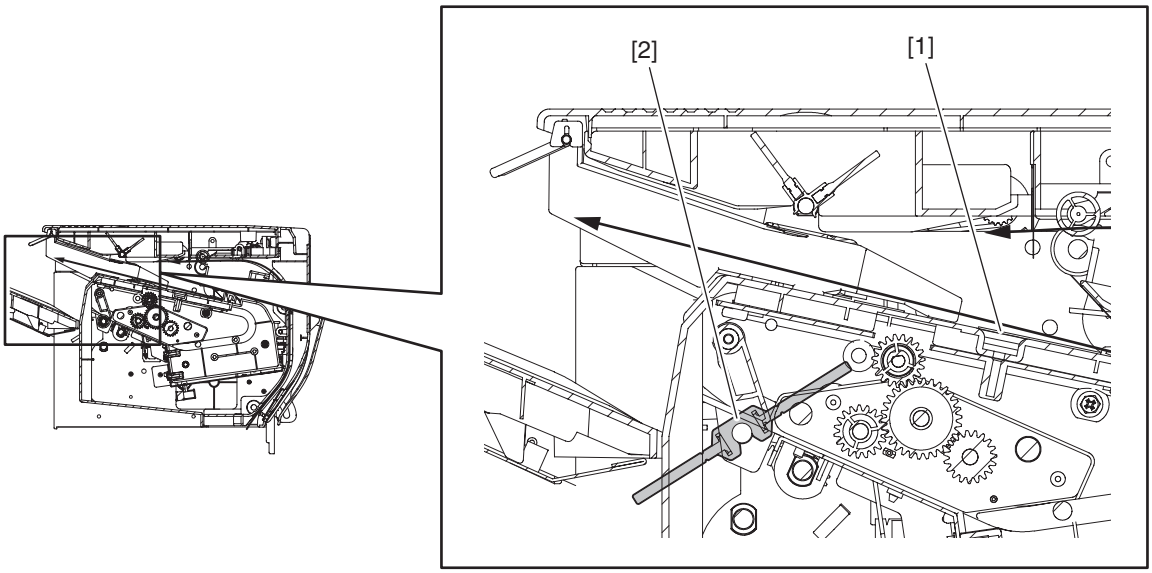


Fig. 3-8

[1] Ejector belt
[2] SCU paddle

Paper that is aligned in the finishing tray section is discharged to the stacker tray by the rotating ejector belt which is driven by the ejector motor (M7). When paper is discharged from the processing tray, the stacker tray is raised by the stacker motor (M8).
The SCU paddle tamps the trailing edge of the paper being discharged to the tray.

[E-1] Paper full alarm

The stacker tray lower limit detector switch (SW1) sends an alarm when it detects that the paper is "Full" when the stacker tray is almost full of paper. (Approximately 50 sheets of paper can be added after the alarm is sent.) The alarm is cancelled when paper is removed from the stacker tray.

3.1.3 Jam detection

Timing for checking paper jams in the Finisher is programmed in a microcomputer (CPU) on the Finisher control PC board (FIN) in advance. It checks paper jams at the set timing in accordance with whether paper exists in the sensor section or not. When a paper jam occurs, the Finisher control PC board (FIN) sends the data of the jam to the equipment in a form of a self-diagnostic code, so that a user can identify the jam in the self-diagnostic mode on the control panel of the equipment.
The paper jam error is cancelled when all the jammed paper is removed and the cover is closed.

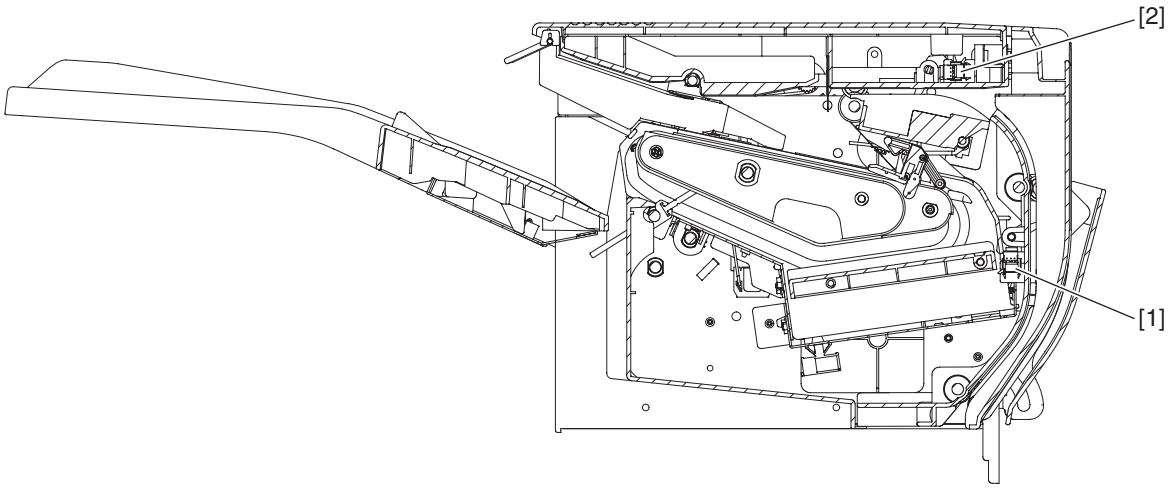


Fig. 3-9

[1] Entrance transport sensor
[2] Exit transport sensor

[A] Paper remaining jam
Any of the following:
Either of the entrance transport sensor (S1) and the exit transport sensor (S2) detects paper after power-ON or when the jam access side cover is closed.
When a stop notification is sent from the machine while the finisher is transporting paper.

[B] Paper not reaching entrance transport sensor
The entrance transport sensor (S1) does not detect paper after the specified period of time has passed since a signal was received from the equipment.

[C] Stationary jam at exit transport sensor
When a specified time has passed after paper is detected by the entrance transport sensor (S1) or if paper is not detected by the exit transport sensor (S2).

[D] Door open jam
When an open door is detected by the door switch (SW2) while the finisher is operating.

[E] Stapling jam
When the stapler is not detected in the home position by the stapler home position sensor (S11).

[F] Paper too fast jam
When paper is detected by the entrance transport sensor (S1) faster than the delay time requested by the finisher.

[G] Malfunction jam
When a malfunction of the ejector is detected by the ejector encoder sensor (S8).
When a malfunction of the stack tray is detected by the stack home position sensor (S9).

[H] Stationary jam at exit transport sensor
When a specified time has passed after paper is detected by the exit transport sensor (S2) and the exit transport sensor (S2) cannot detect that there is no paper.

[I] Home position detection malfunction jam
When a malfunction of the home position of the paper support is detected by the paper support home position sensor (S6).
When a malfunction of the home position of the lever path is detected by the lever path home position sensor (S15).
When a malfunction of the home position of the front jogger is detected by the front alignment plate home position sensor (S4).
When a malfunction of the home position of the rear jogger is detected by the rear alignment plate home position sensor (S5).
When a malfunction of the home position of the paddle is detected by the paddle home position sensor (S3).

4. DISASSEMBLY AND INSTALLATION

4.1 Disassembly and Replacement of Covers

4.1.1 Upper cover

(1) Open the side cover [1] and remove 5 screws, and remove the top cover [2].

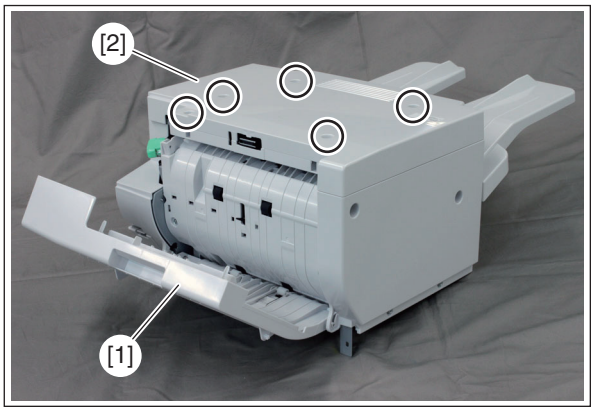


Fig. 4-1

4.1.2 Front cover

(1) Remove 4 screws and take off the front cover [1].

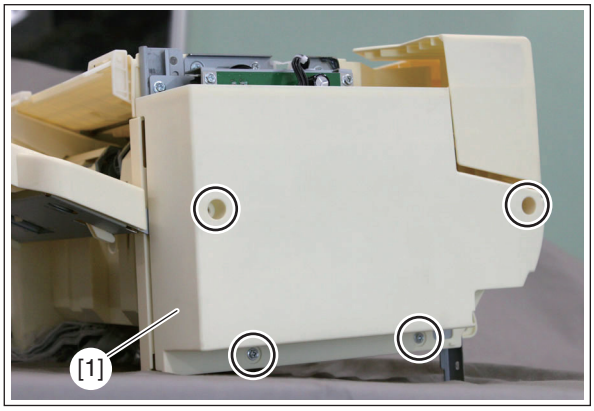


Fig. 4-2

4.1.3 Rear cover

(1) Remove 4 screws and take off the rear cover [1].

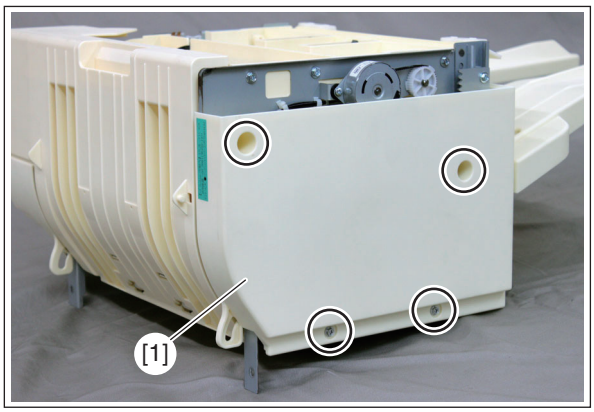


Fig. 4-3

4.2 Disassembly and Replacement of Sensors and Switches

4.2.1 Guide upper ASSY

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")

(2) Take off the front cover.
(P.4-1 "4.1.2 Front cover")

(3) Remove 3 screws and take off the Finisher control PC board ASSY [1].

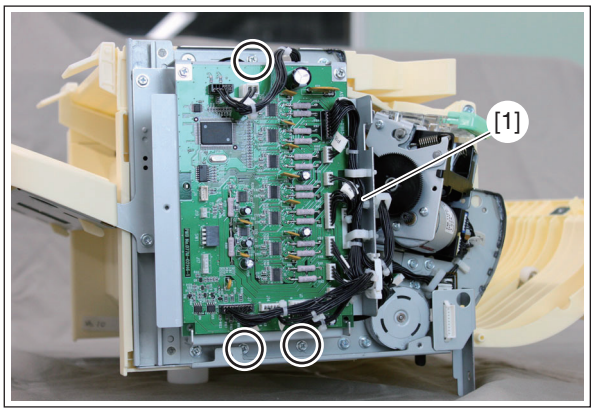


Fig. 4-4

(4) Remove 5 screws and 1 connector [1], remove the Guide upper ASSY [3].

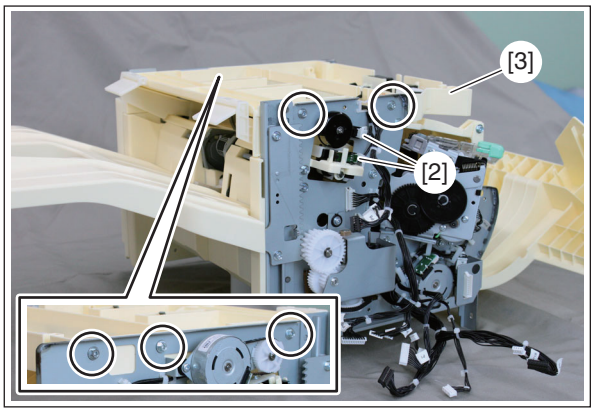


Fig. 4-5

4.2.2 Guide rear ASSY

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")

(2) Take off the front cover.
(P.4-1 "4.1.2 Front cover")

(3) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")

(4) Loosen 1 screw and take off the timing belt [1].

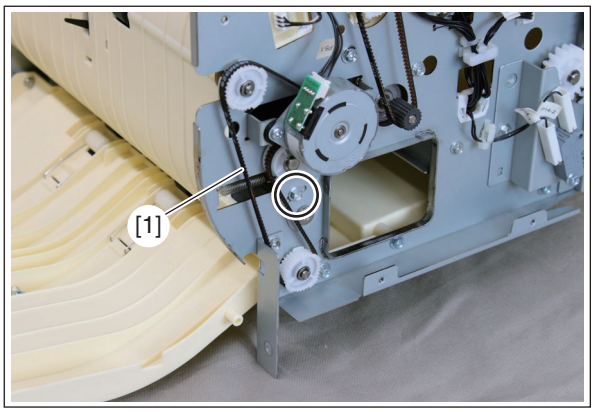


Fig. 4-6

(5) Remove 1 e-ring [2], and remove gear [3].

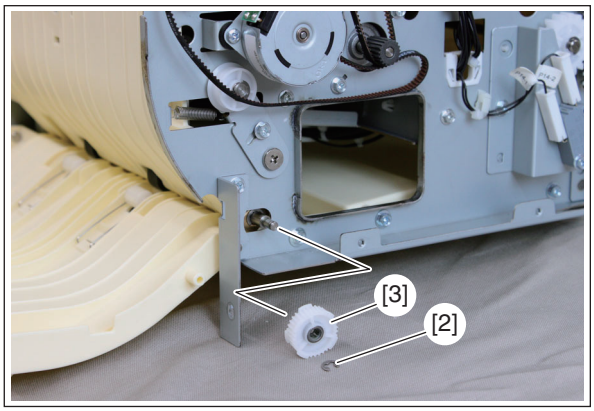


Fig. 4-7

(6) Remove 1 screw and take off the Front bracket [4] and side cover open [5].

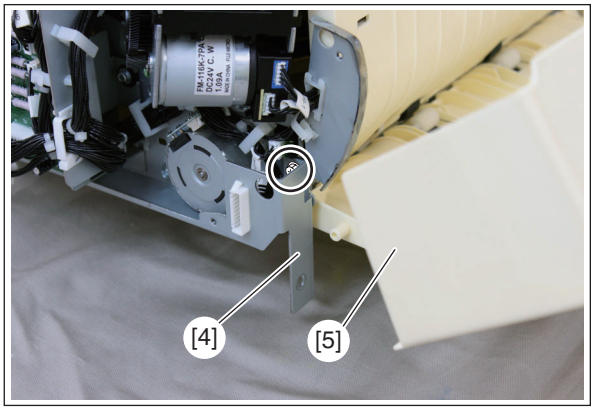


Fig. 4-8

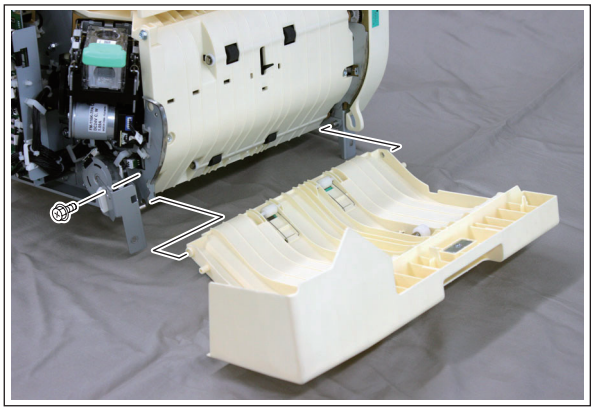


Fig. 4-9

(7) Remove 1 screw and take off the Rear bracket [6].

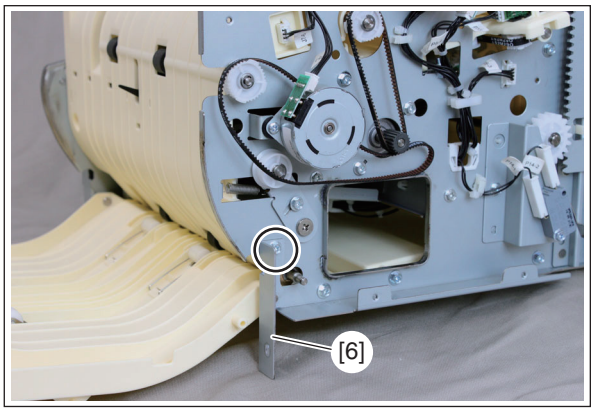


Fig. 4-10

(8) Remove 2 screws and take off the Guide rear-1 [7].

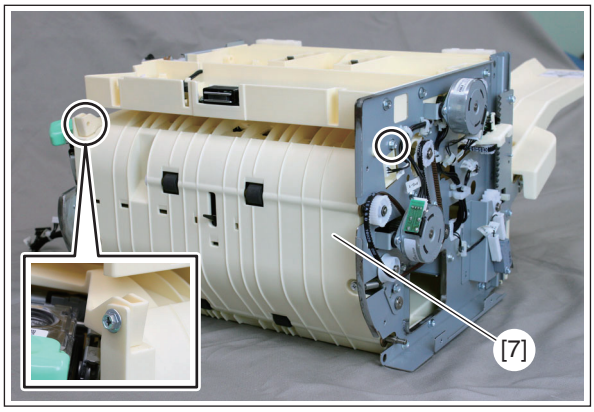


Fig. 4-11

(9) Remove 4 screws and take off the Guide rear-2 [8].

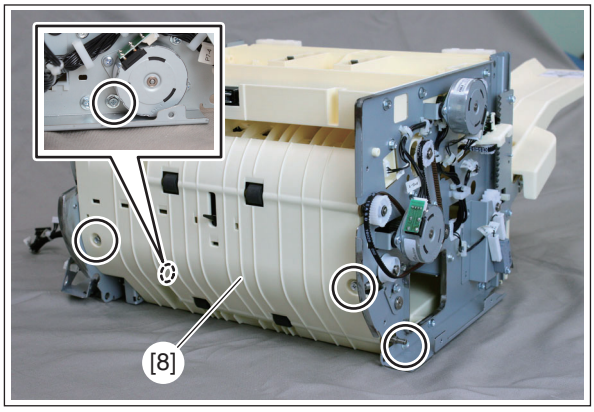


Fig. 4-12

4.2.3 Entrance transport sensor (S1)

(1) Take off the Guide rear ASSY.
(P.4-3 "4.2.2 Guide rear ASSY")
(2) Disconnect 1 connector [1] and then take off the entrance transport sensor [2].

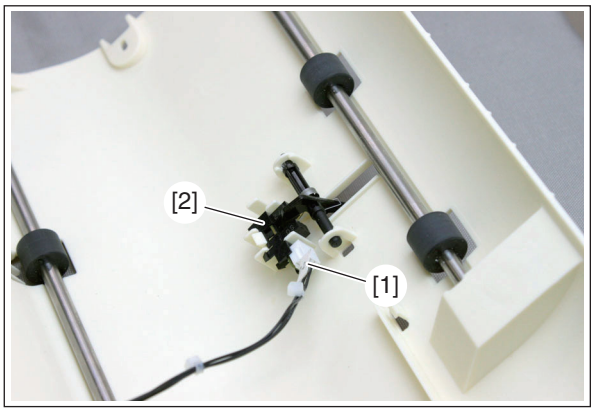


Fig. 4-13

4.2.4 Exit transport sensor (S2)

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")
(2) Disconnect 1 connector [1] and then take off the exit transport sensor [2].

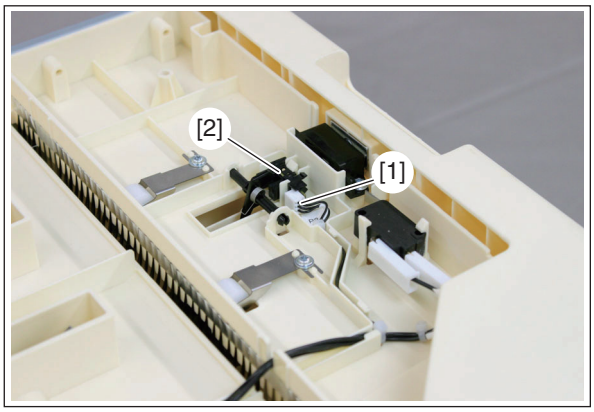


Fig. 4-14

4.2.5 Front alignment plate home position sensor (S4)

(1) Take off the Finisher control PC board ASSY. (P.4-45 "4.5.1 Finisher control PC board ASSY")

(2) Remove 1 e-ring [1], and remove main paddle flag [2].

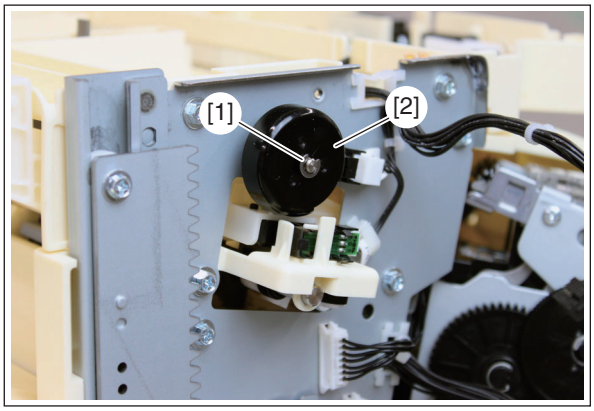


Fig. 4-15

(3) Disconnect 1 connector [3] and then take off the front alignment plate home position sensor [4].

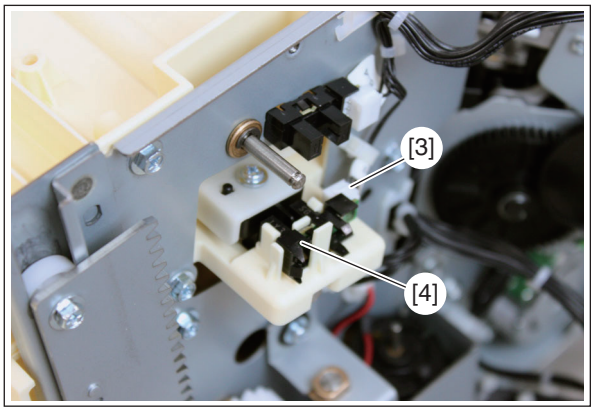


Fig. 4-16

4.2.6 Rear alignment plate home position sensor (S5)

(1) Take off the Guide upper ASSY.
(P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 1 e-ring [1], and remove main paddle flag [2].

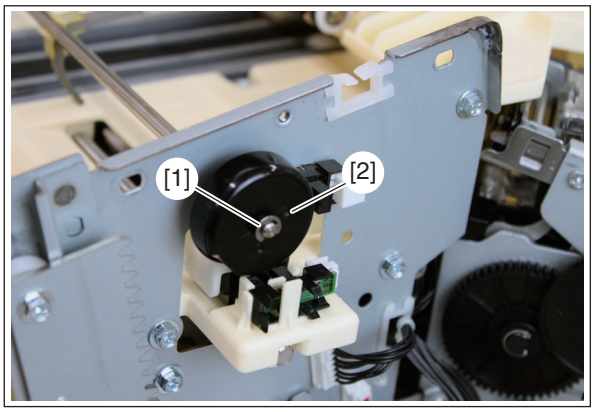


Fig. 4-17

(3) Disconnect 1 connector [3] and then take off the paddle home position sensor [4].

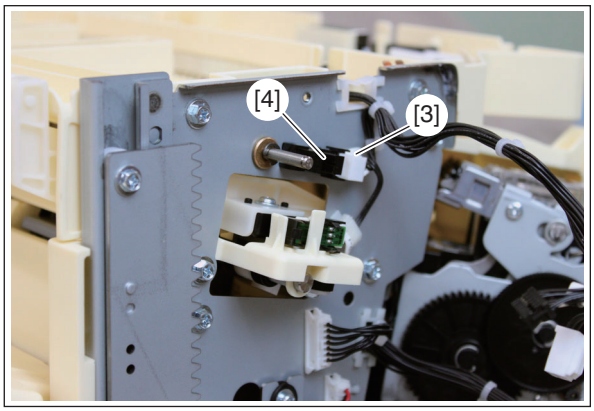


Fig. 4-18

4.2.7 Ejector home position sensor (S7)

(1) Take off the Guide upper ASSY.
(P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 4 screws and 1 connector [1], remove the Guide upper ASSY [2].

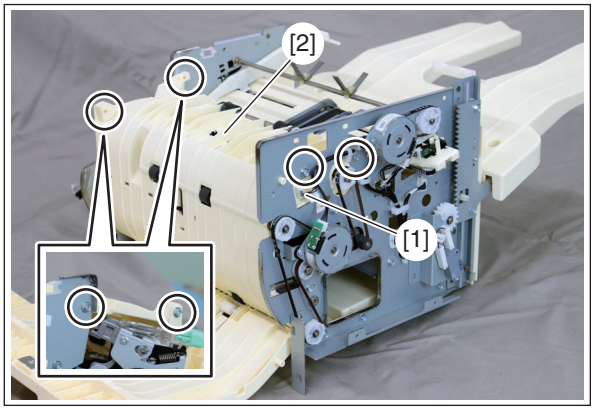


Fig. 4-19

Note:

Do not forget to install the belt [3].

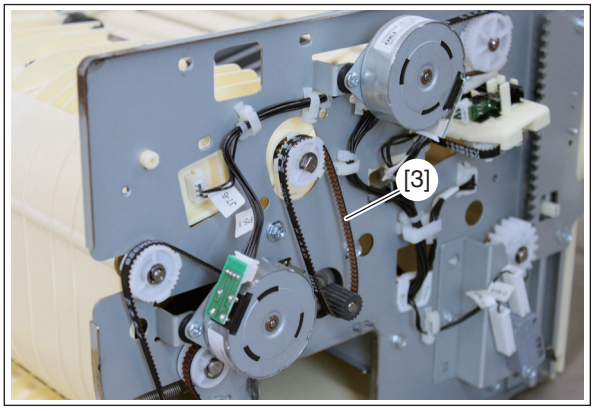


Fig. 4-20

(3) Remove the sensor actuator [4].

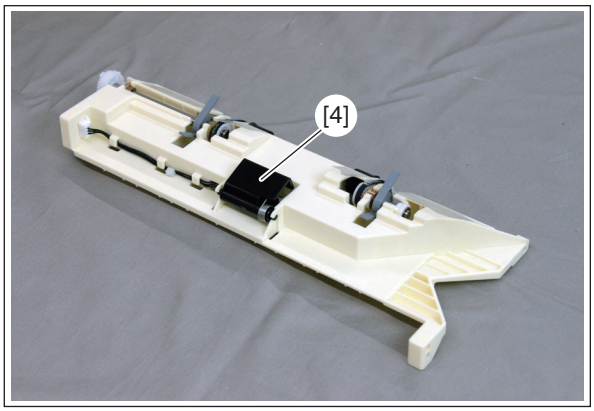


Fig. 4-21

Note:
Do not forget to install the spring [5].

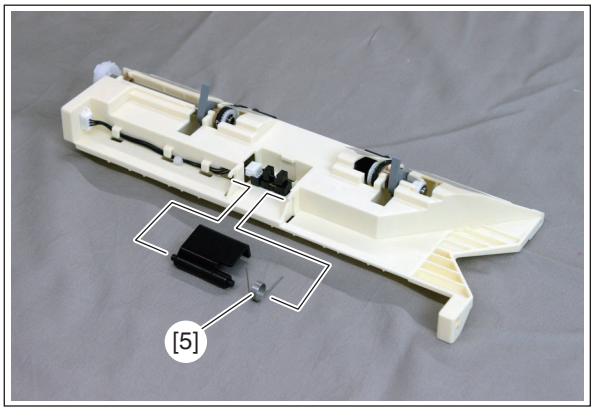


Fig. 4-22

(4) Disconnect 1 connector [6] and then take off the ejector home position sensor [7].

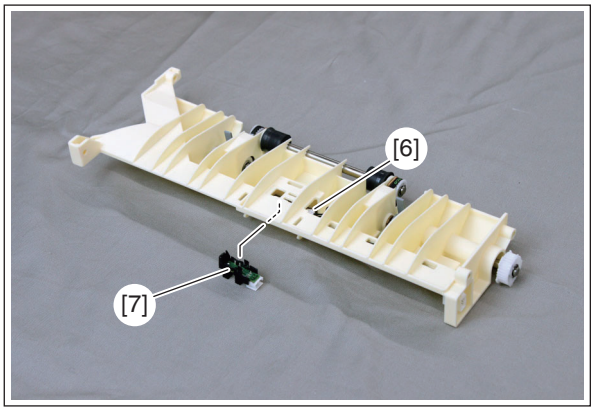


Fig. 4-23

4.2.8 Ejector encoder sensor (S8)

(1) Take off the Guide upper ASSY.
(📖 P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

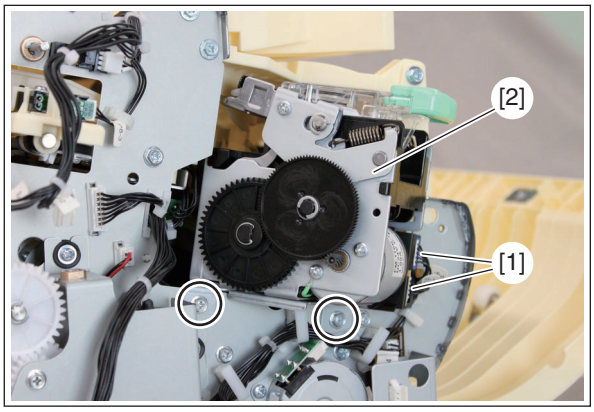


Fig. 4-24

(3) Remove 4 screws and 1 connector [3], remove the Guide compile ASSY [4].

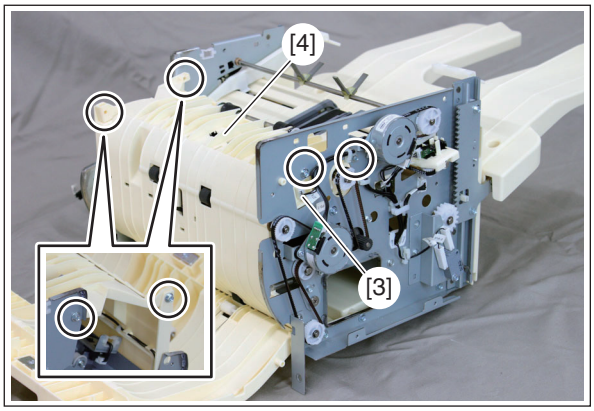


Fig. 4-25

Note:

Do not forget to install the belt [5].

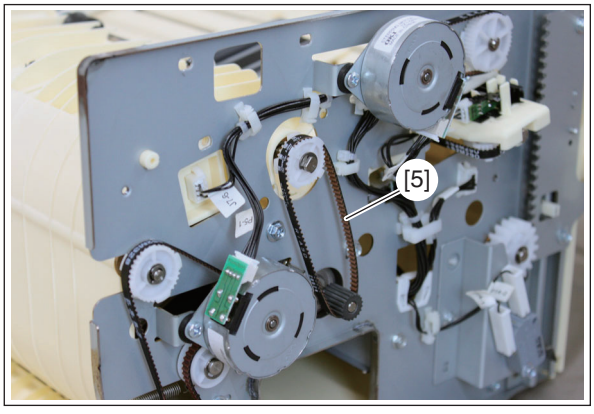


Fig. 4-26

(4) Remove 3 screws and 1 connector [6], remove the Tray compile F ASSY [7].

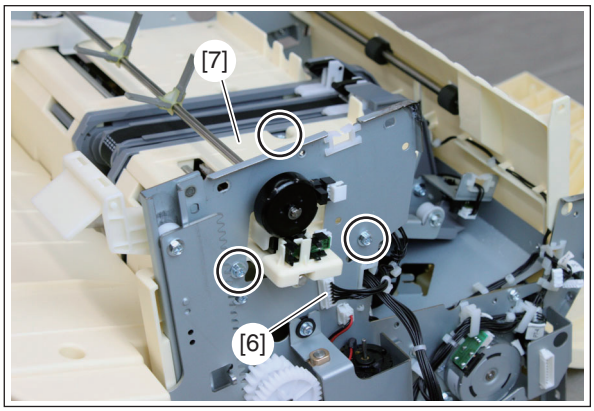


Fig. 4-27

Note:

Do not forget to install the belt [8].

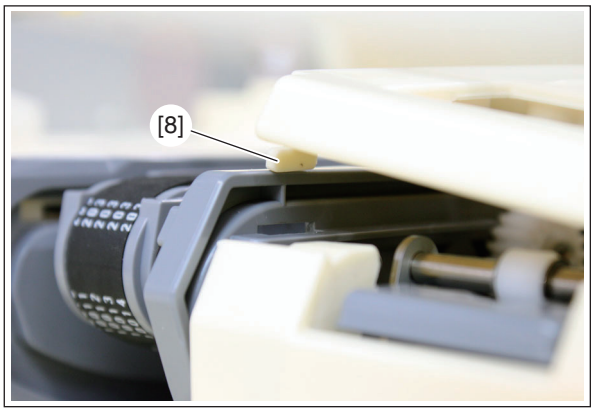


Fig. 4-28

(5) Remove 2 screws and take off the Paper support F ASSY [9].

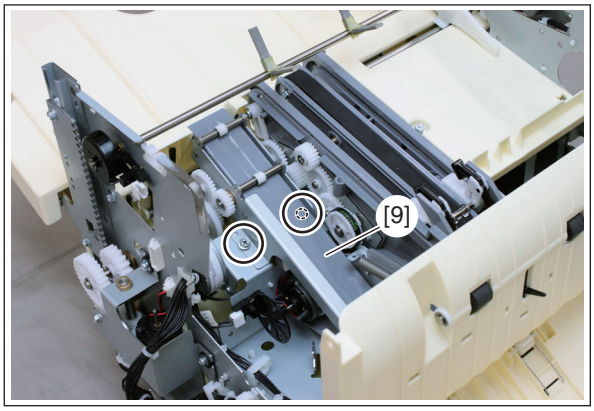


Fig. 4-29

(6) Remove 3 screws and 2 connectors [10], remove the ejector motor ASSY [11].

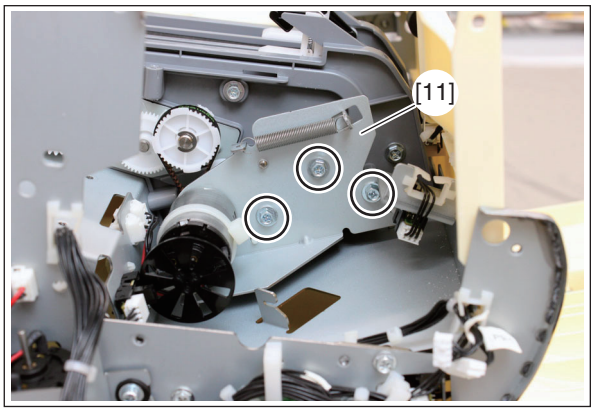


Fig. 4-30

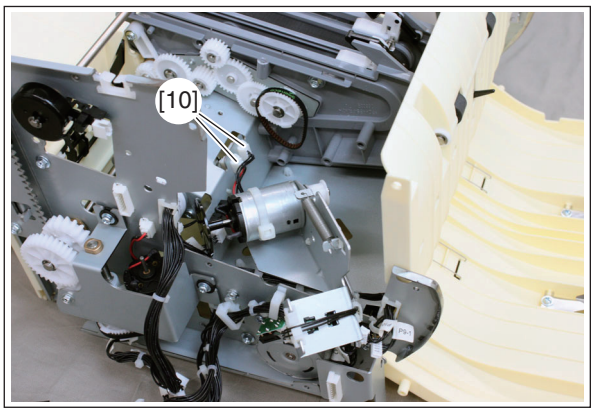


Fig. 4-31

(7) Disconnect 1 connector [12] and then take off the Ejector encoder sensor [13].

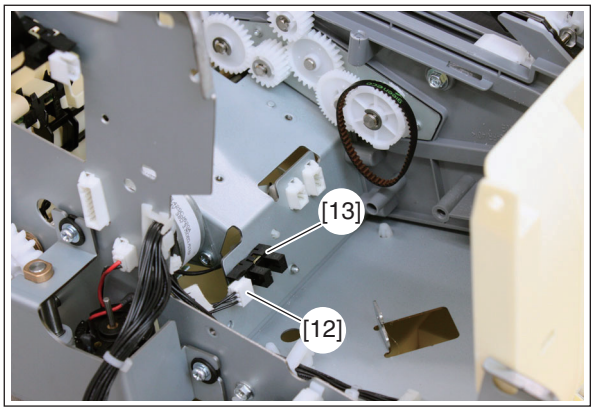


Fig. 4-32

4.2.9 Stapler paper sensor (S14)

(1) Take off the Guide upper ASSY.
(P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

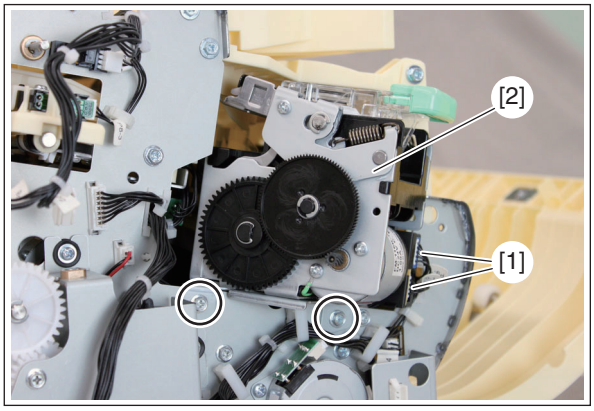


Fig. 4-33

(3) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")

(4) Remove 4 screws and disconnect 1 connector [3] and then take off the Guide compile ASSY [4].

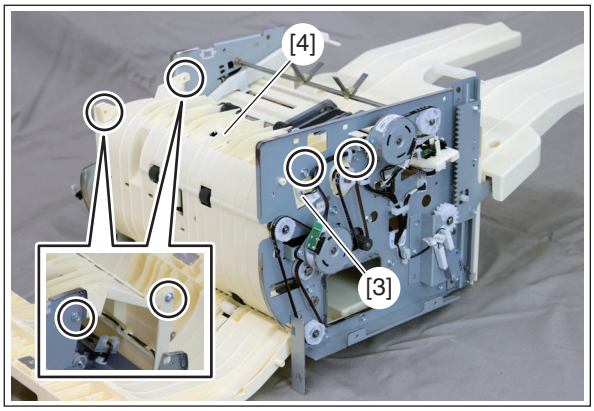


Fig. 4-34

Note:
Do not forget to install the belt [5].

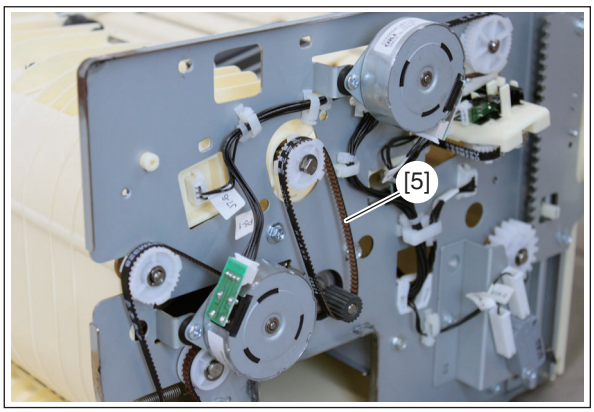


Fig. 4-35

(5) Remove 3 screws and 1 connector [6], remove the Tray compile F ASSY [7].

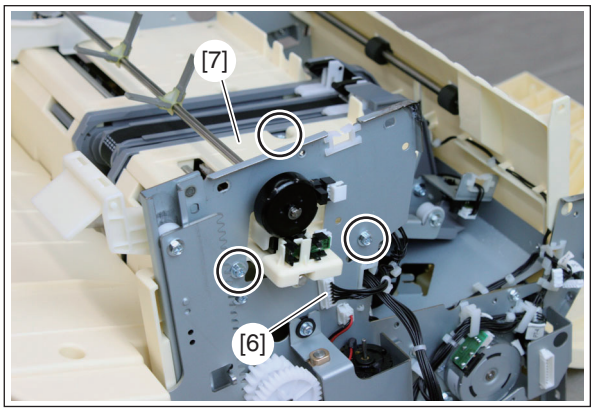


Fig. 4-36

Note:

Do not forget to install the belt [8].

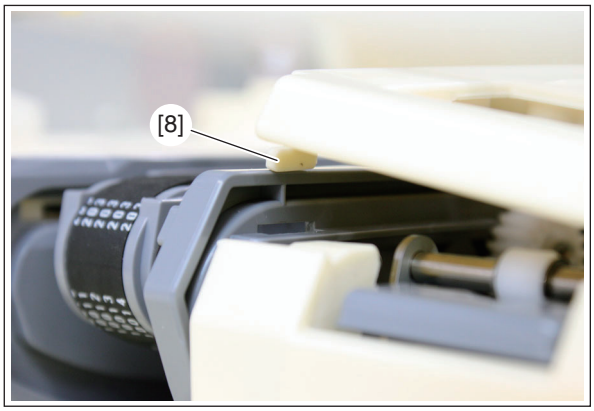


Fig. 4-37

(6) Disconnect 1 connector [9] and then take off the stapler paper sensor [10].

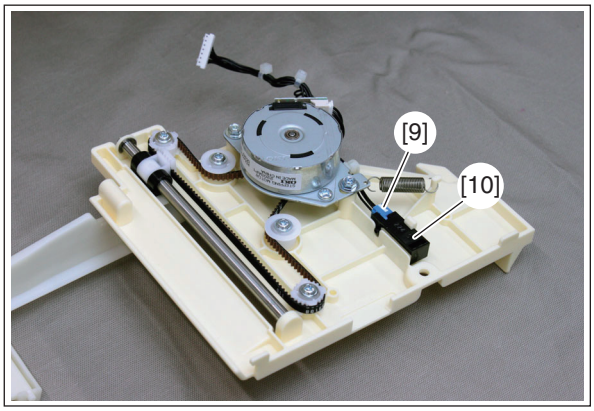


Fig. 4-38

4.2.10 Stack home position sensor (S9)

(1) Take off the Guide upper ASSY.
(📖 P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

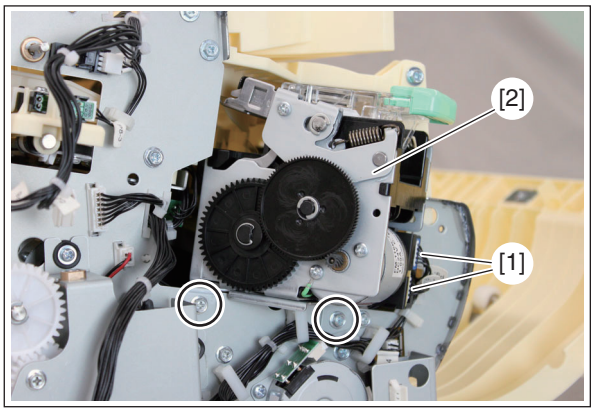


Fig. 4-39

(3) Remove 4 screws and 1 connector [3], remove the Guide compile ASSY [4].

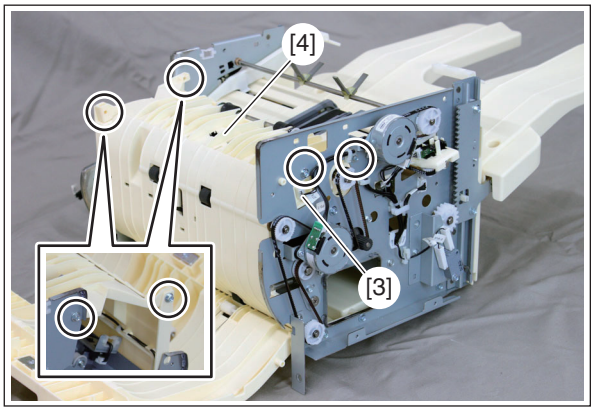


Fig. 4-40

Note:
Do not forget to install the belt [5].

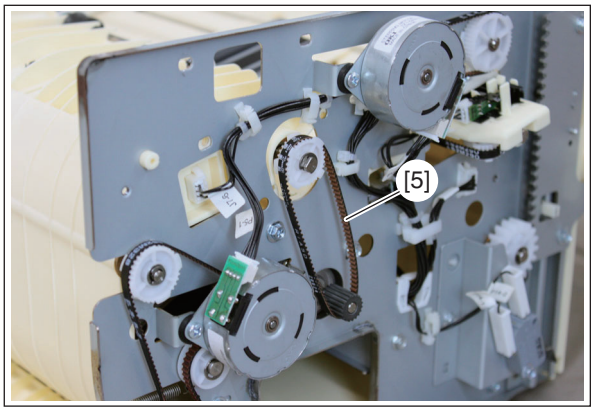


Fig. 4-41

(4) Remove 3 screws and 1 connector [6], remove the Tray compile F ASSY [7].

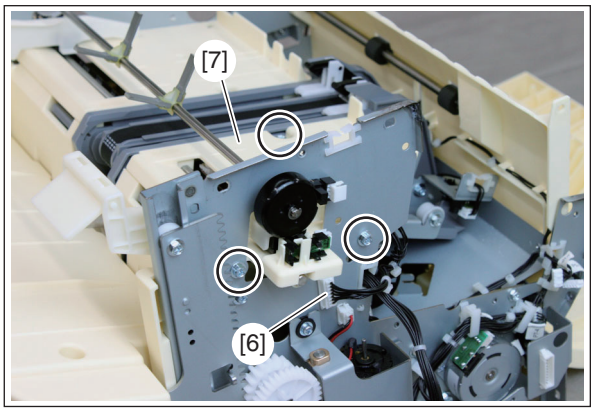


Fig. 4-42

Note:

Be careful of the hooks [8] during installation.

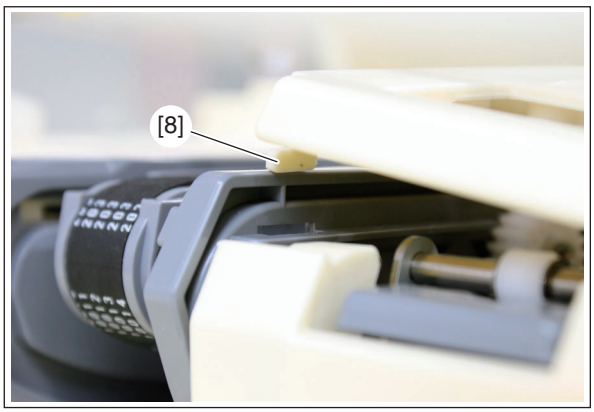


Fig. 4-43

(5) Remove 2 screws and take off the Paper support F ASSY [9].

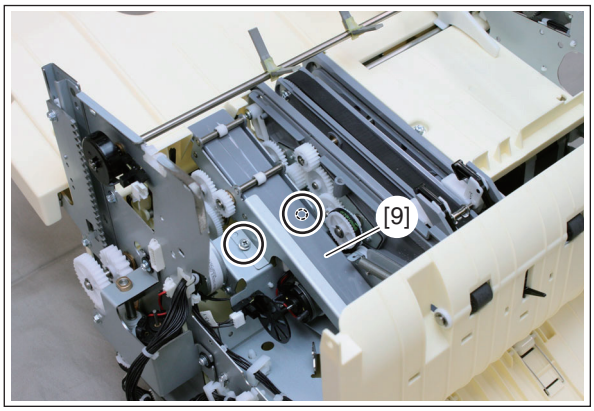


Fig. 4-44

(6) Disconnect 1 connector [10] and then take off the stack home position sensor [11].

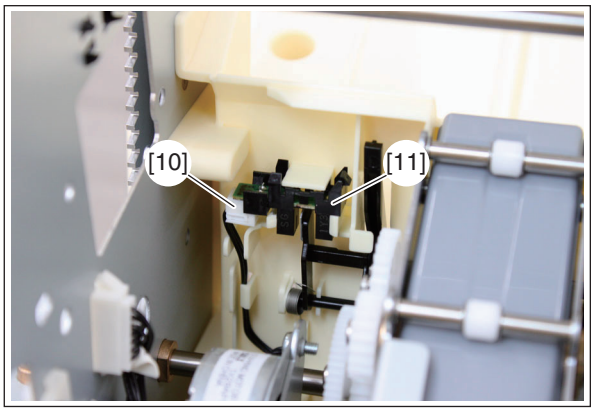


Fig. 4-45

4.2.11 Paper support home position sensor (S6)

(1) Take off the Guide upper ASSY.
(P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

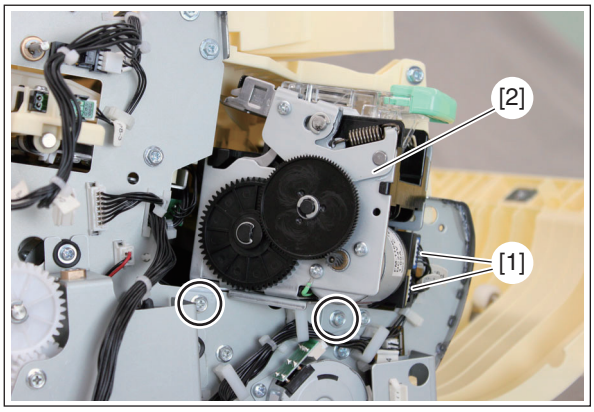


Fig. 4-46

(3) Remove 4 screws and 1 connector [3], remove the Guide compile ASSY [4].

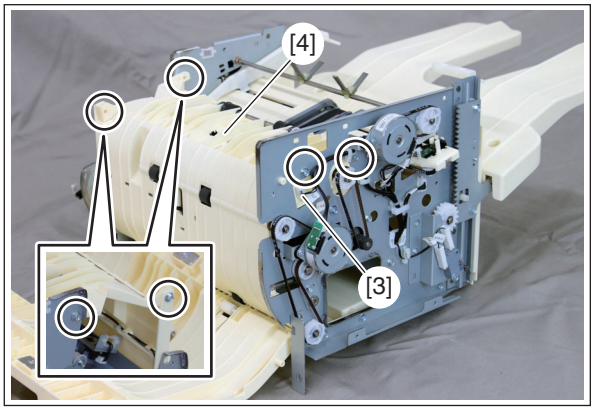


Fig. 4-47

Note:

Do not forget to install the belt [5].

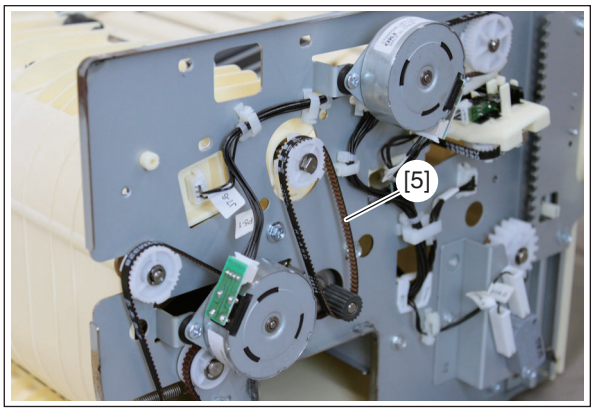


Fig. 4-48

(4) Remove 3 screws and 1 connector [6], remove the Tray compile F ASSY [7].

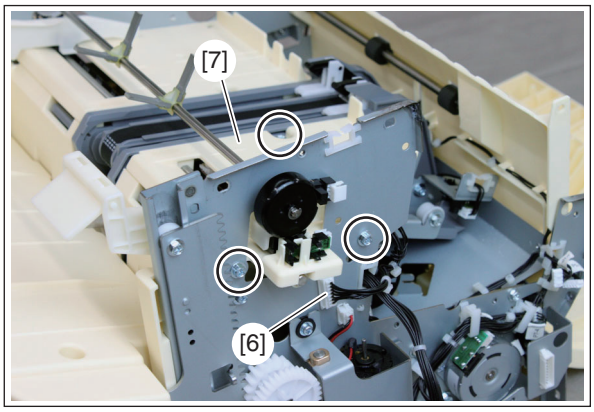


Fig. 4-49

Note:

Be careful of the hooks [8] during installation.

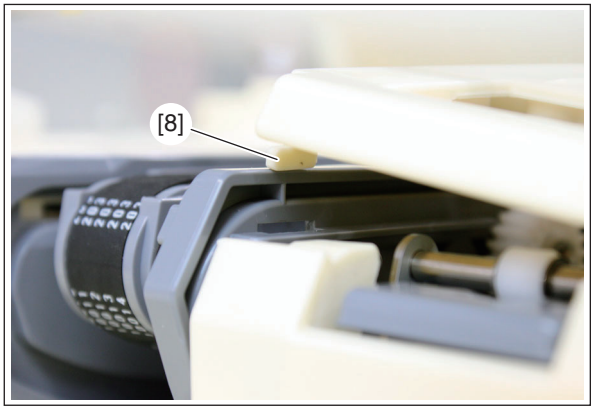


Fig. 4-50

(5) Remove 2 screws and take off the Paper support F ASSY [9].

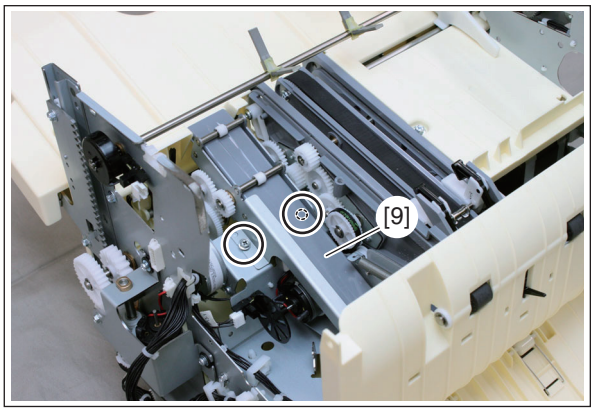


Fig. 4-51

(6) Remove 3 screws and 2 connectors [10], remove the ejector motor ASSY [11].

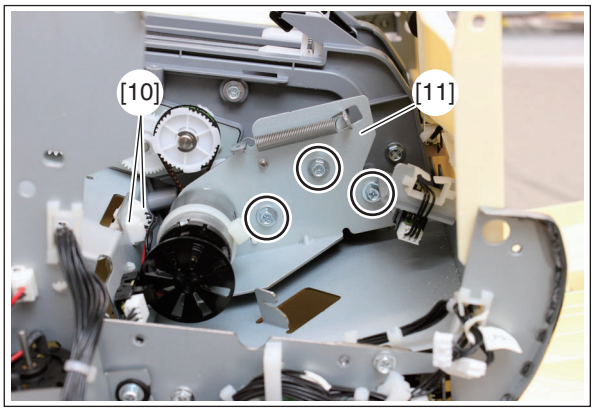


Fig. 4-52

Remark:

Be sure to attach the 2 connectors previously.

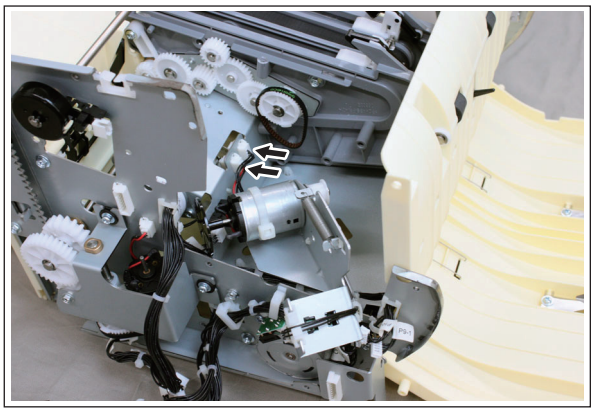


Fig. 4-53

(7) Disconnect 1 connector [12] and then take off the Paper support home position sensor [13].

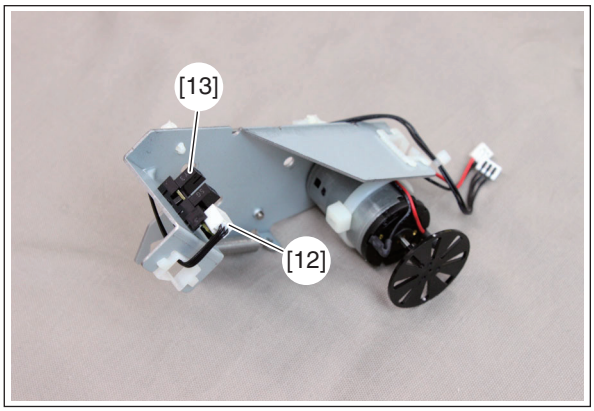


Fig. 4-54

4.2.12 Door switch (SW2)

(1) Take off the Upper cover.
(P.4-1 "4.1.1 Upper cover")

(2) Disconnect 1 connector [1] and then take off the door switch [2].

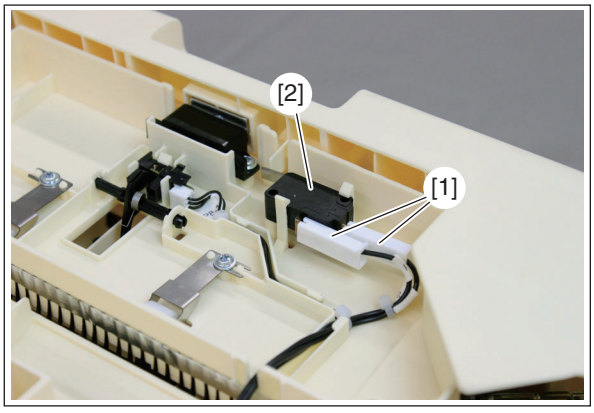


Fig. 4-55

4.2.13 Stacker tray lower limit switch (SW1)

(1) Take off the Upper cover.
(P.4-1 "4.1.1 Upper cover")

(2) Take off the Rear cover.
(P.4-2 "4.1.3 Rear cover")

(3) Remove 1 screw and disconnect 1 connector [1] and then take off the stacker tray lower limit switch [2].

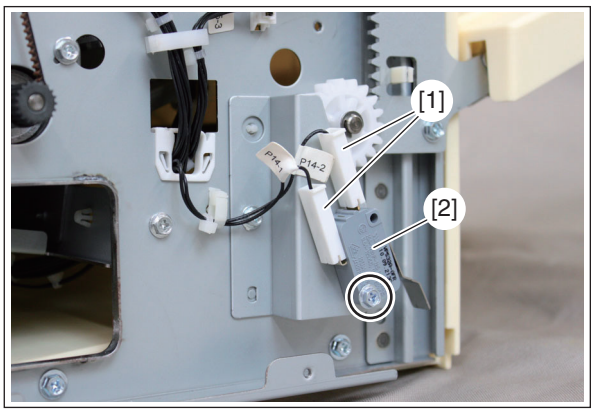


Fig. 4-56

4.2.14 Lever path home position sensor (S15)

(1) Take off the Guide rear ASSY.
(P.4-3 "4.2.2 Guide rear ASSY")

(2) Remove 1 screw and 1 connector [1], remove the Lever path bracket [2].

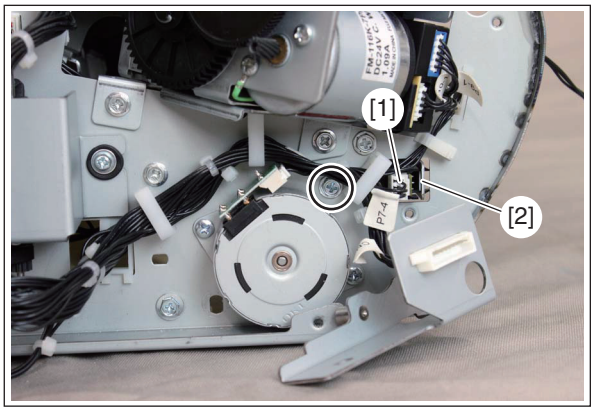


Fig. 4-57

(3) Remove the lever path home position sensor [3] from the lever path bracket.

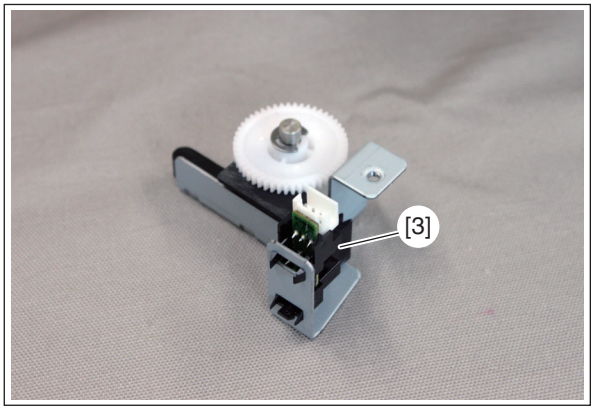


Fig. 4-58

4.3 Disassembly and Replacement of motors

4.3.1 Entrance transport motor (M1)

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")
(2) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")
(3) Remove 2 screws and 1 connector [1], remove the Entrance transport motor [2].

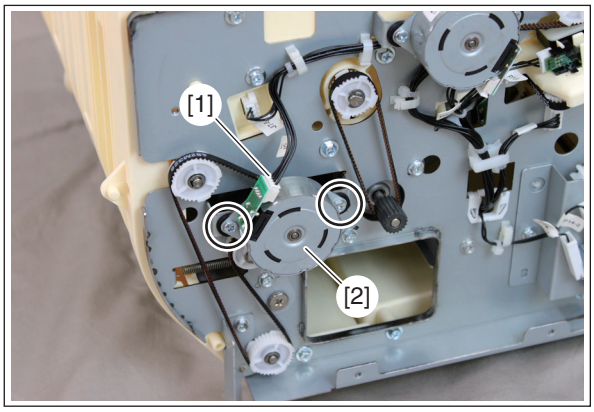


Fig. 4-59

Note:
Do not forget to install the rubber vibration suppressor [3].

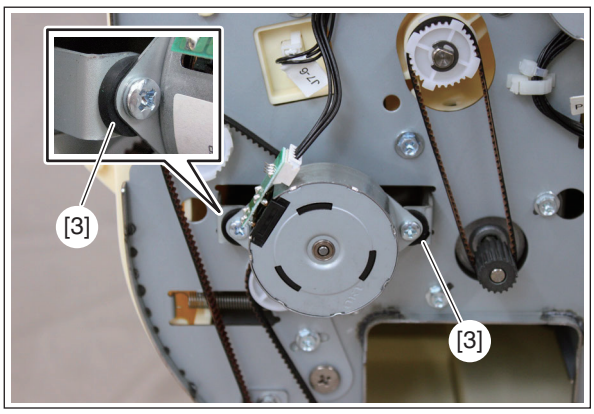


Fig. 4-60

4.3.2 Exit transport motor (M2)

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")
(2) Take off the front cover.
(P.4-1 "4.1.2 Front cover")
(3) Remove 3 screws and take off the Finisher control PC board ASSY [1].

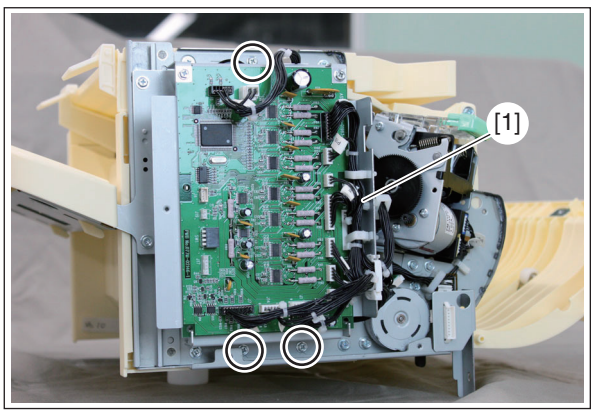


Fig. 4-61

(4) Remove 5 screws and 2 connectors [2], remove the Guide upper ASSY [3].

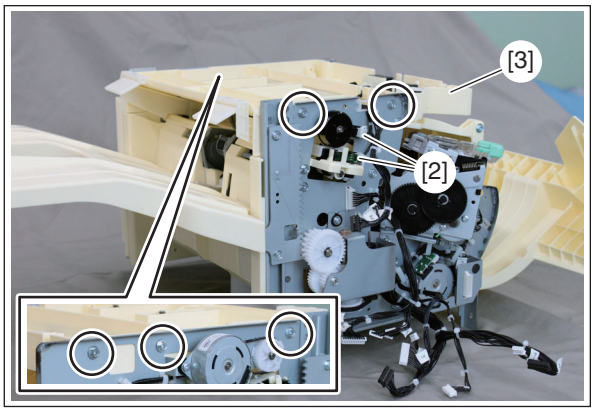


Fig. 4-62

(5) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")

(6) Loosen 1 screw, remove 1 screw and 1 connector [4], remove the exit transport motor [5].

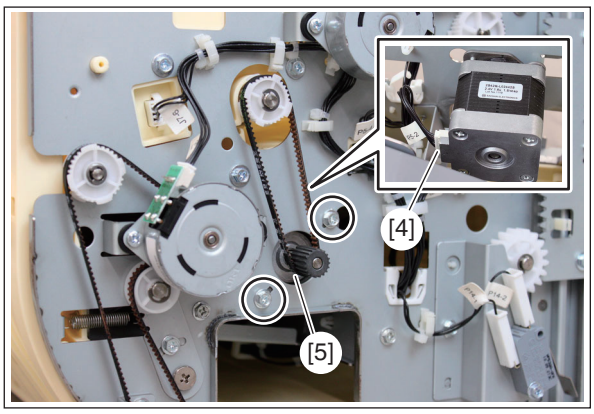


Fig. 4-63

4.3.3 Front alignment motor (M4)

(1) Take off the Guide upper ASSY.
(P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

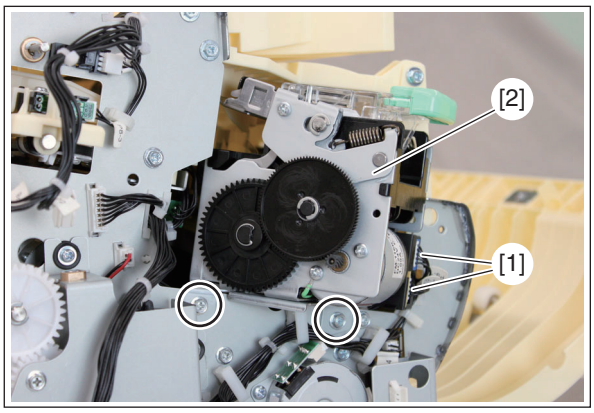


Fig. 4-64

(3) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")

(4) Remove 4 screws and 1 connector [3], remove the Guide compile ASSY [4].

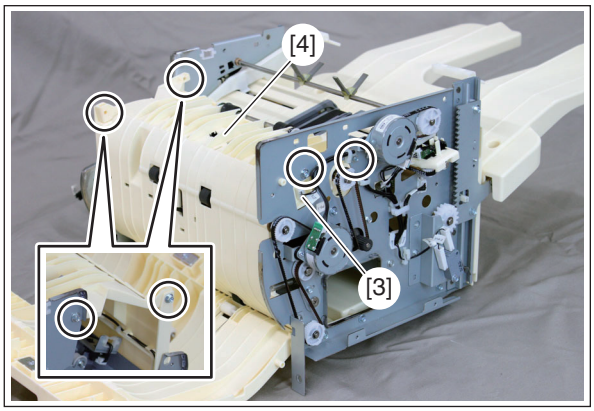


Fig. 4-65

Note:
Do not forget to install the belt [5].

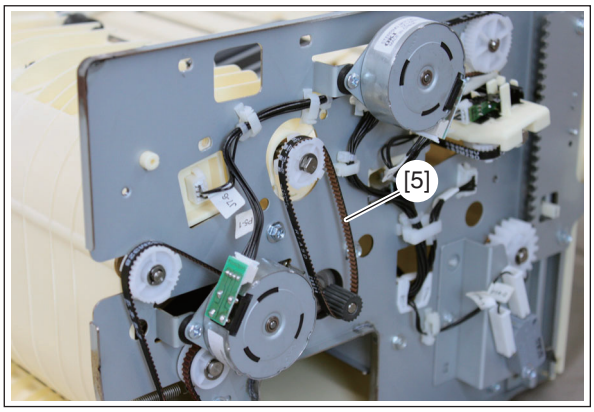


Fig. 4-66

(5) Remove 3 screws and 1 connector [6], remove the Tray compile F ASSY [7].

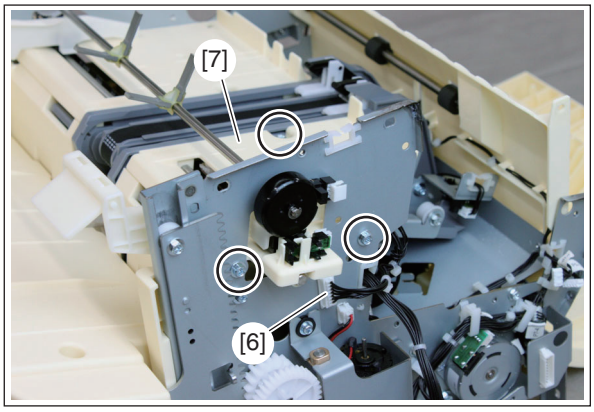


Fig. 4-67

Note:

Be careful of the hooks [8] during installation.

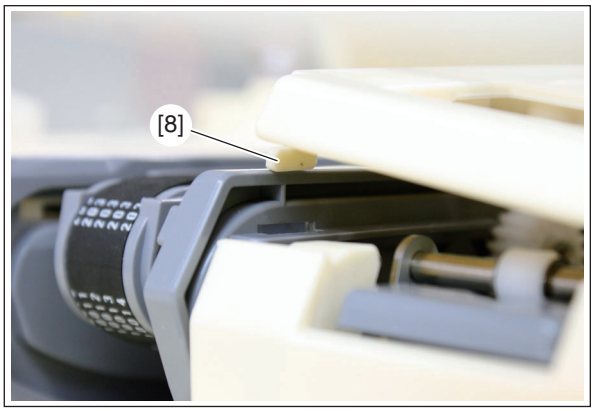


Fig. 4-68

(6) Remove 2 screws and 1 connector [9], remove the Front alignment motor [10].

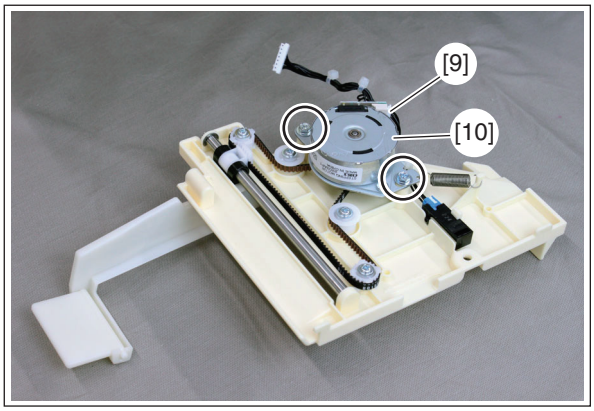


Fig. 4-69

4.3.4 Rear alignment motor (M5)

(1) Take off the Guide upper ASSY.
(📖 P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

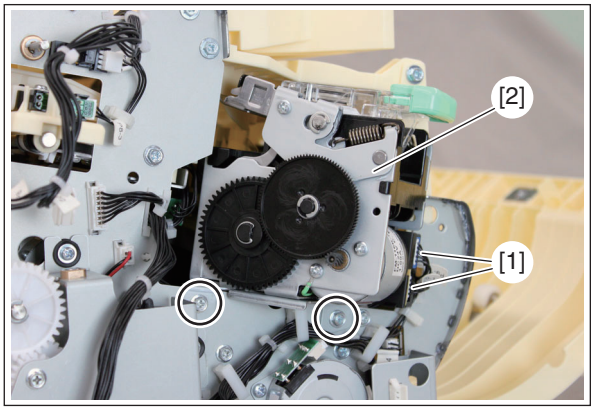


Fig. 4-70

(3) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")

(4) Remove 4 screws and disconnect 1 connector [3] and then take off the Guide compile ASSY [4].

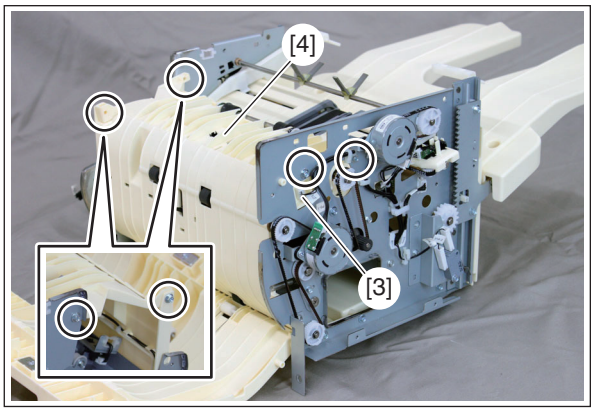


Fig. 4-71

Note:

Do not forget to install the belt [5].

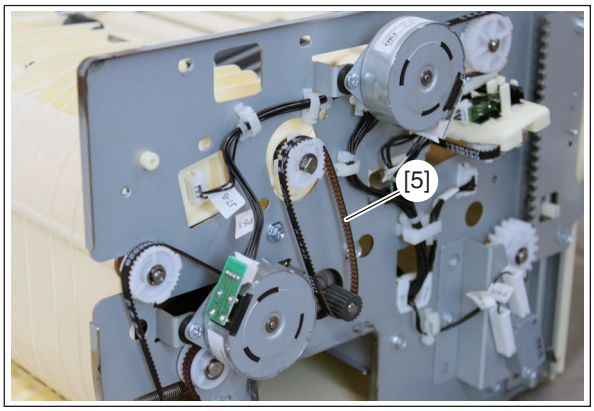


Fig. 4-72

(5) Remove 3 screws and disconnect 2 connectors [6] and then take off the Tray compile R ASSY [7].

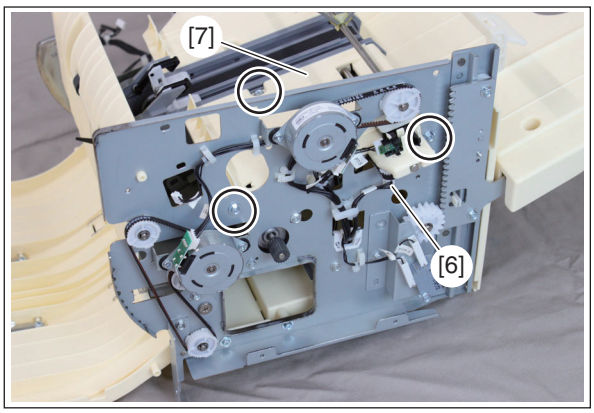


Fig. 4-73

Note:

Be careful of the hooks [8] during installation.

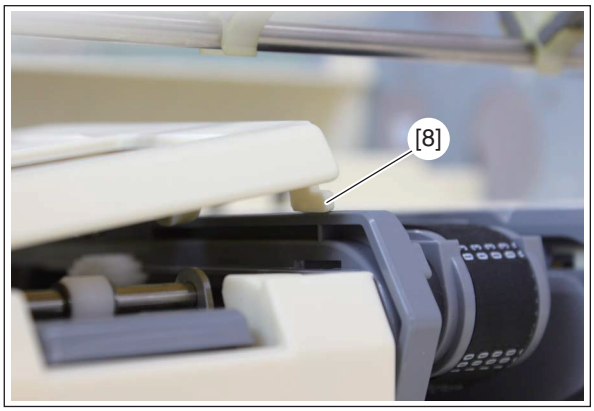


Fig. 4-74

(6) Remove 2 screws and 1 connector [9], remove the Front alignment motor [10].

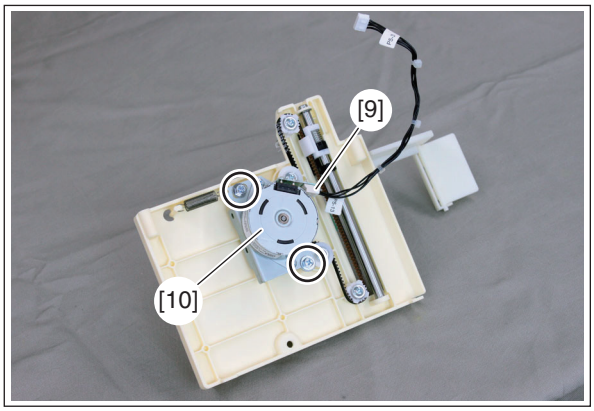


Fig. 4-75

4.3.5 Paddle motor (M3)

(1) Take off the upper cover.
(📖 P.4-1 "4.1.1 Upper cover")

(2) Take off the rear cover.
(📖 P.4-2 "4.1.3 Rear cover")

(3) Remove 2 screws and 1 connector [1], remove the Paddle motor [2].

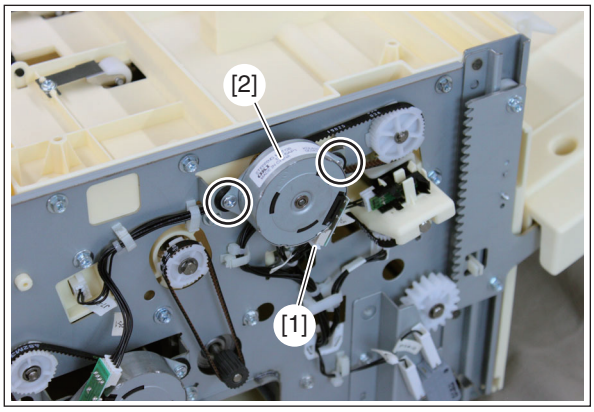


Fig. 4-76

Note:

Do not forget to install the rubber vibration suppressor [3].

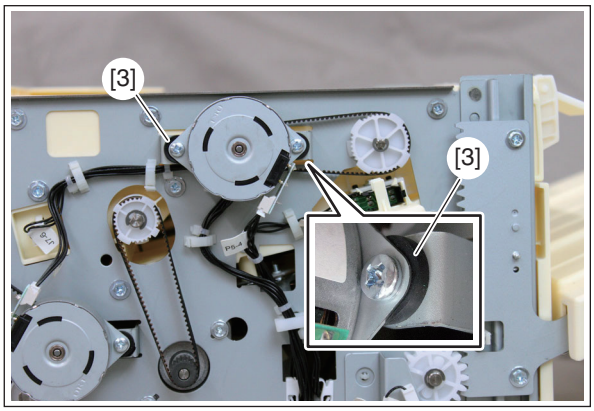


Fig. 4-77

4.3.6 Paper support motor (M6)

(1) Take off the Guide upper ASSY.
(P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

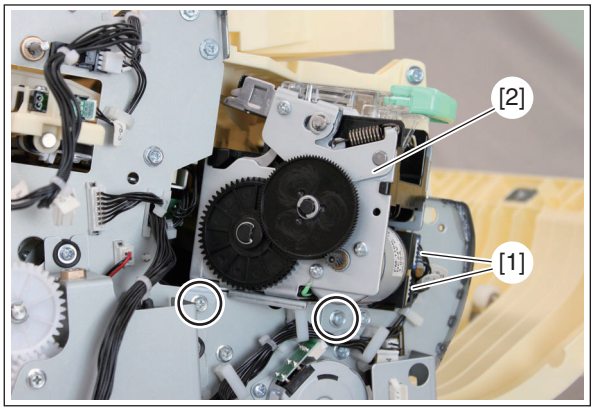


Fig. 4-78

(3) Remove 4 screws and 1 connector [3], remove the Guide compile ASSY [4].

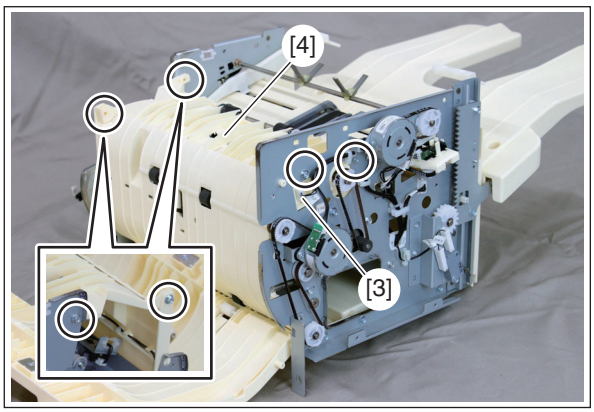


Fig. 4-79

Note:

Do not forget to install the belt [5].

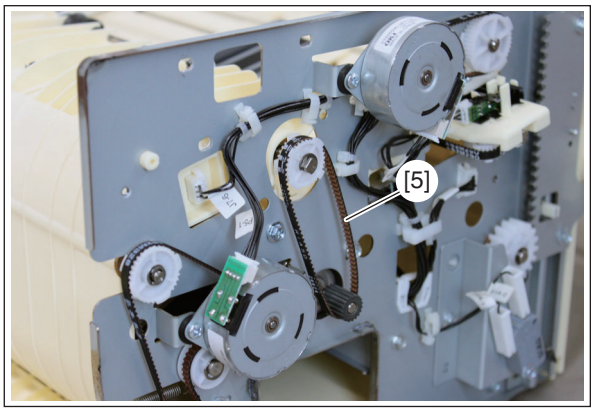


Fig. 4-80

(4) Remove 3 screws and 1 connector [6], remove the Tray compile F ASSY [7].

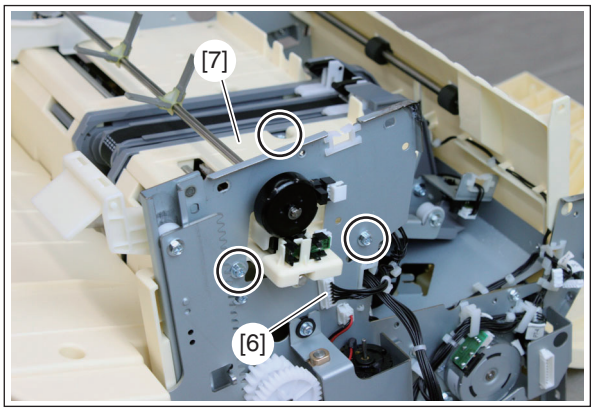


Fig. 4-81

Note:

Be careful of the hooks [8] during installation.

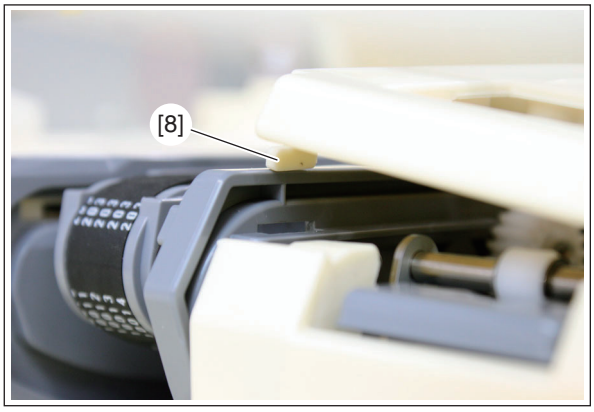


Fig. 4-82

(5) Remove 2 screws and take off the Paper support F ASSY [9].

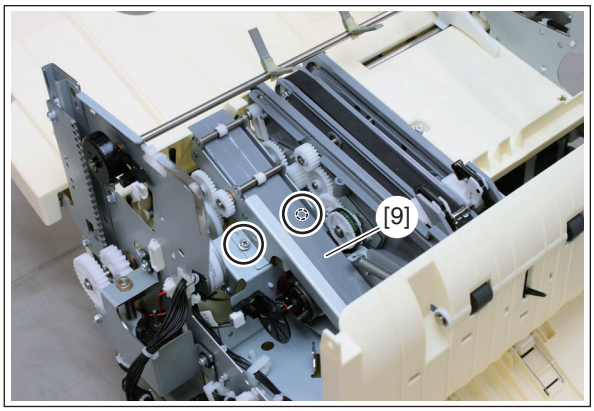


Fig. 4-83

(6) Remove 1 e-ring [10], and remove gear [11].

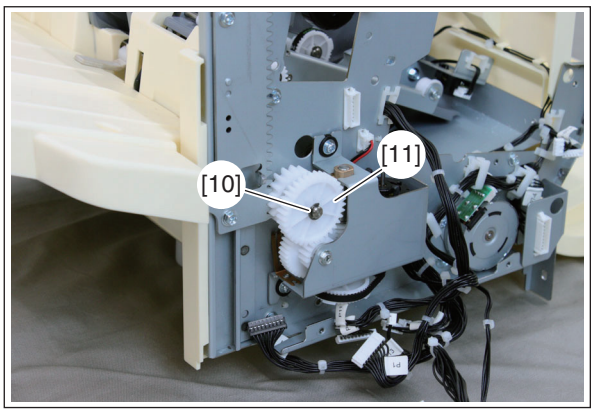


Fig. 4-84

(7) Remove 3 screws and 1 connector [12], remove the Stacker motor ASSY [13].

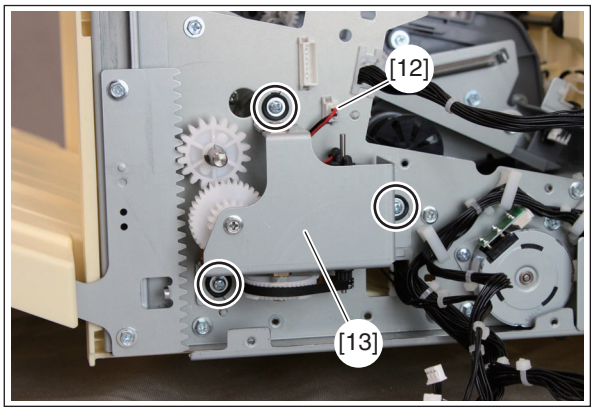


Fig. 4-85

(8) Remove 2 screws and 1 connector [14], remove the Paper support motor [15].

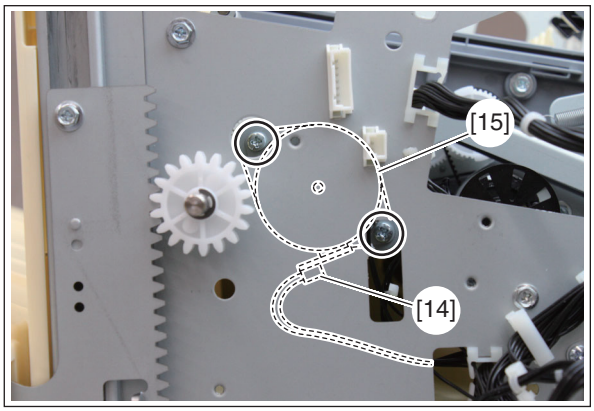


Fig. 4-86

4.3.7 Ejector motor (M7)

(1) Take off the Guide upper ASSY.
(P.4-3 "4.2.1 Guide upper ASSY")

(2) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

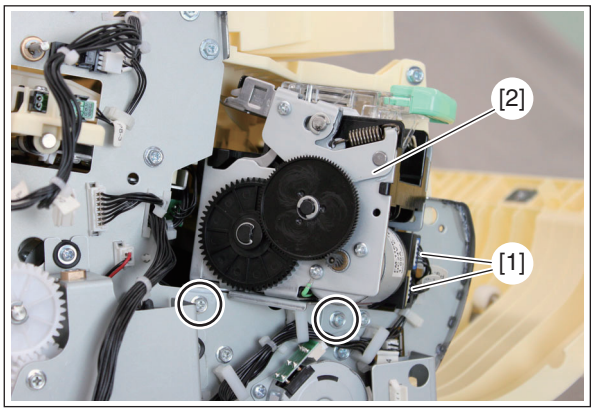


Fig. 4-87

(3) Remove 4 screws and 1 connector [3], remove the Guide compile ASSY [4].

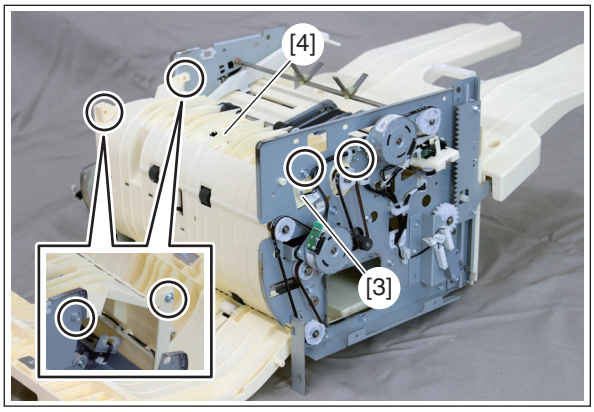


Fig. 4-88

Note:

Do not forget to install the belt [5].

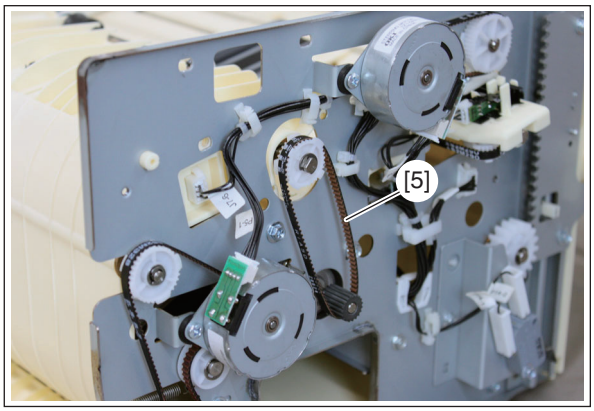


Fig. 4-89

(4) Remove 3 screws and 1 connector [6], remove the Tray compile F ASSY [7].

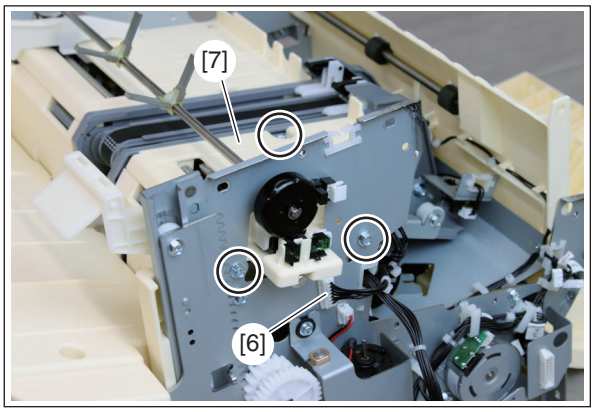


Fig. 4-90

Note:

Be careful of the hooks [8] during installation.

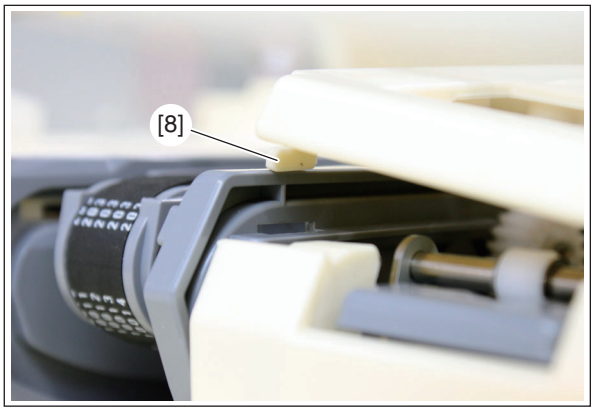


Fig. 4-91

(5) Remove 2 screws and take off the Paper support F ASSY [9].

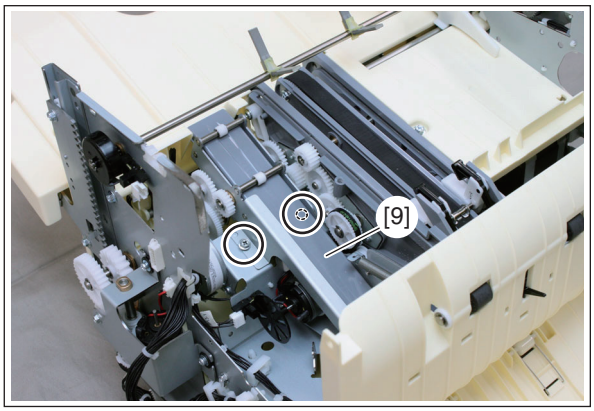


Fig. 4-92

(6) Remove 3 screws and 2 connectors [10], remove the Ejector motor ASSY [11].

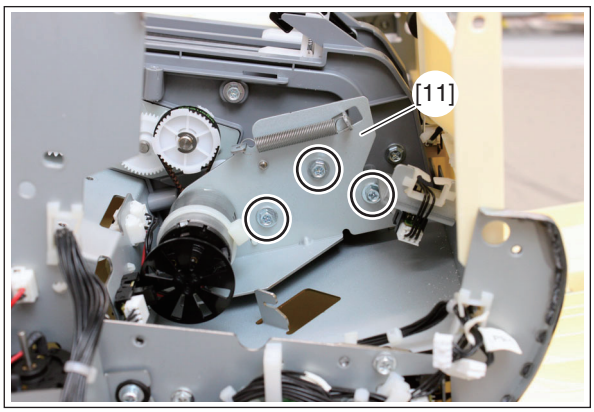


Fig. 4-93

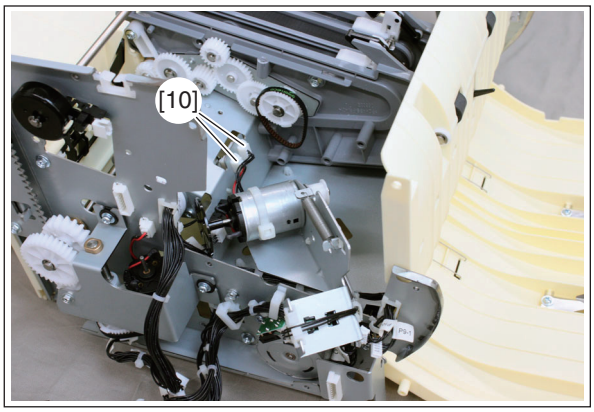


Fig. 4-94

(7) Remove 2 screws and take off the jector motor [12].

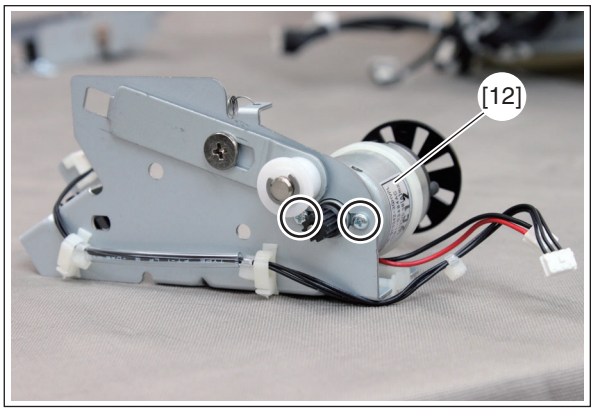


Fig. 4-95

4.3.8 Stacker motor (M8)

(1) Take off the Finisher control PC board ASSY. (P.4-45 "4.5.1 Finisher control PC board ASSY")

(2) Remove 1 e-ring [1], and remove gear [2].

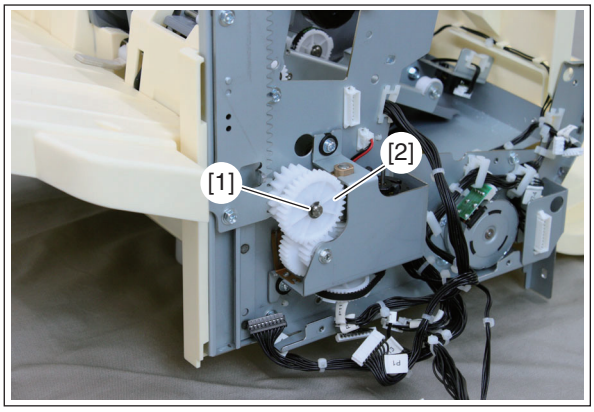


Fig. 4-96

(3) Remove 3 screws and 1 connector [3], remove the Stacker motor ASSY [4].

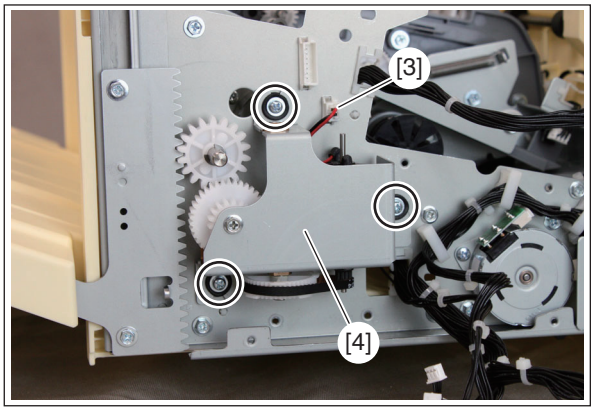


Fig. 4-97

(4) Remove 2 screws and take off the stacker motor [5].

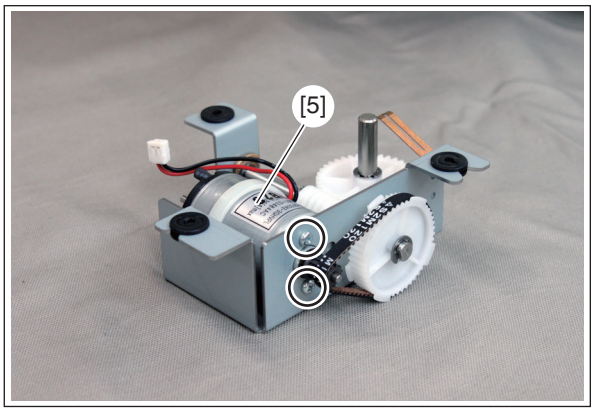


Fig. 4-98

4.3.9 Lever path motor (M10)

(1) Take off the upper cover.
(📖 P.4-1 "4.1.1 Upper cover")

(2) Take off the front cover.
(📖 P.4-1 "4.1.2 Front cover")

(3) Remove 1 screw and 1 connector [1], remove the front bracket [2] and side cover open [3].

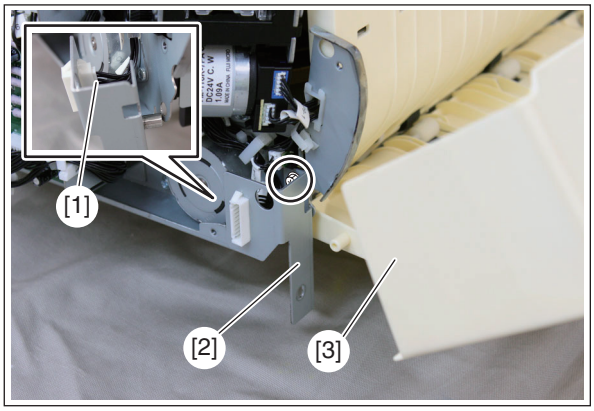


Fig. 4-99

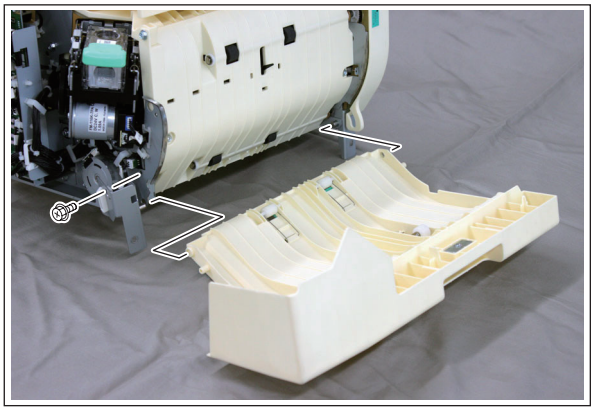


Fig. 4-100

(4) Remove 2 screws and 1 connector [4], remove the Lever path motor [5].

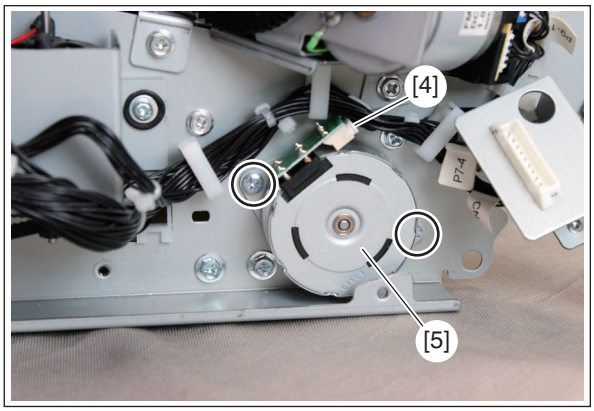


Fig. 4-101

4.4 Disassembly and Replacement of transport system

4.4.1 Entrance transport roller

(1) Take off the Guide rear ASSY.
(P.4-3 "4.2.2 Guide rear ASSY")
(2) Disconnect 1 connector [1]

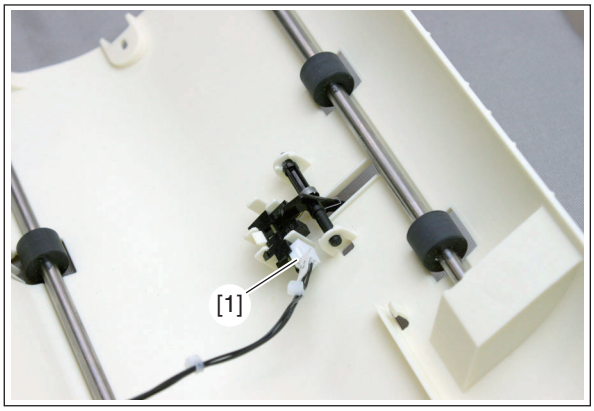


Fig. 4-102

(3) Remove 2 E-ring [2], and take off the transport roller [3].

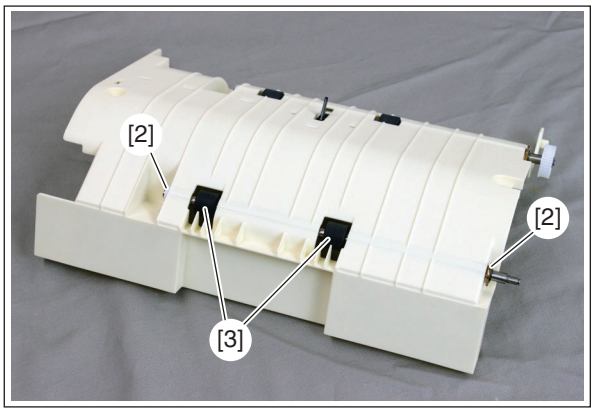


Fig. 4-103

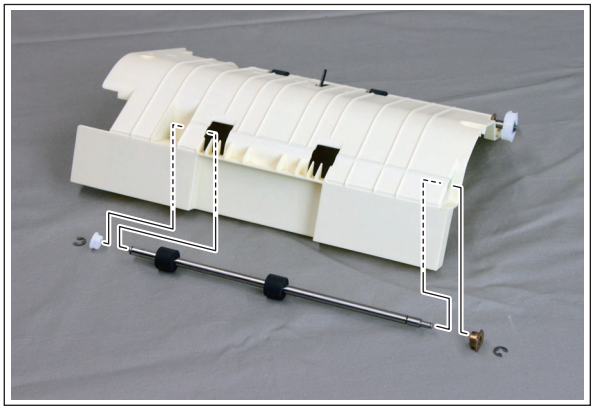


Fig. 4-104

4.4.2 Exit Transport roller

(1) Take off the Guide rear ASSY.
(P.4-3 "4.2.2 Guide rear ASSY")
(2) Disconnect 1 connector [1]

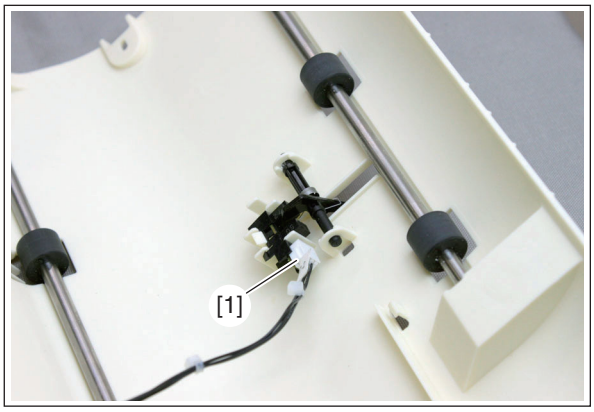


Fig. 4-105

(3) Remove 2 E-ring [2], and take off the gear [3].

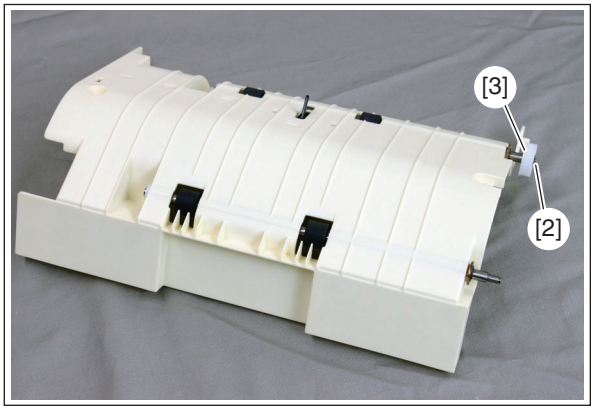


Fig. 4-106

(4) Remove 2 E-ring [4], and take off the transport roller [5].

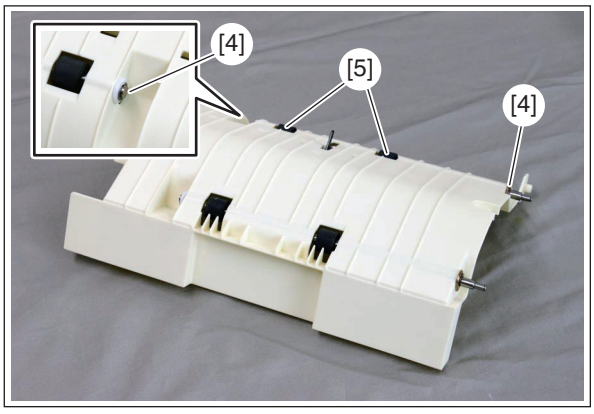


Fig. 4-107

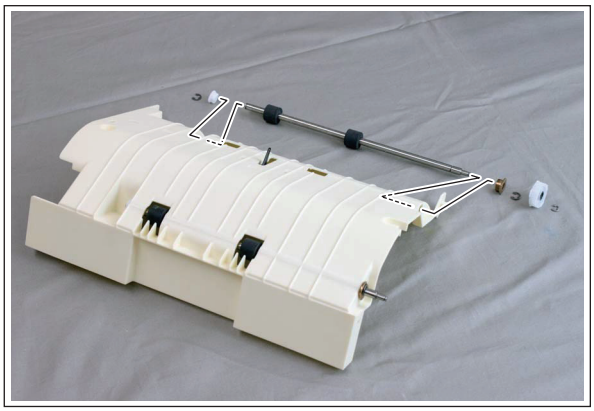


Fig. 4-108

4.4.3 Exit roller (PM)

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")
(2) Take off the front cover.
(P.4-1 "4.1.2 Front cover")
(3) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")
(4) Remove 5 screws and 2 connectors [1], remove the Guide upper ASSY [2].

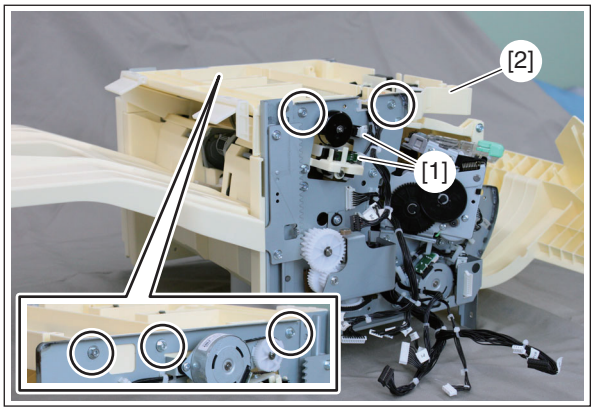


Fig. 4-109

(5) Remove 4 screws and 1 connector [1], remove the Guide compile ASSY [4].

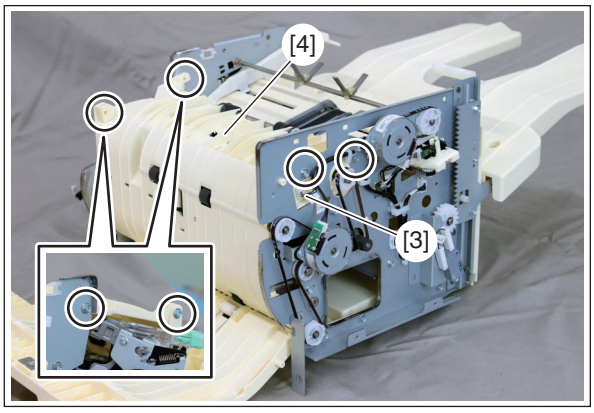


Fig. 4-110

Note:

Do not forget to install the belt [5].

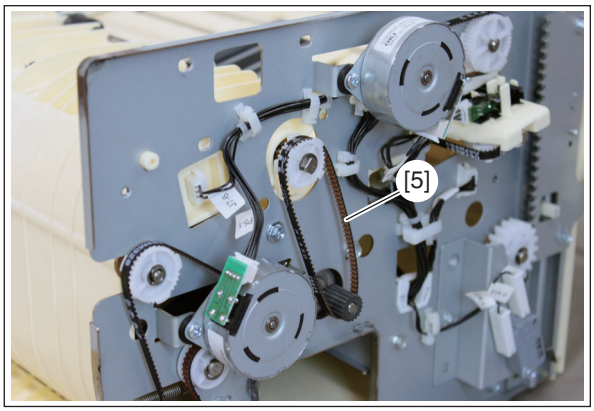


Fig. 4-111

(6) Remove 2 E-ring [6], and take off the exit roller [7].

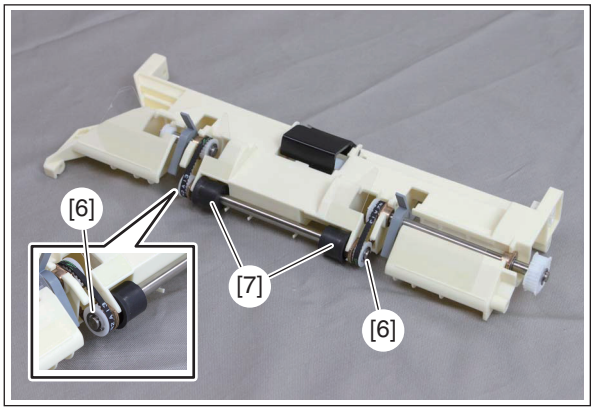


Fig. 4-112

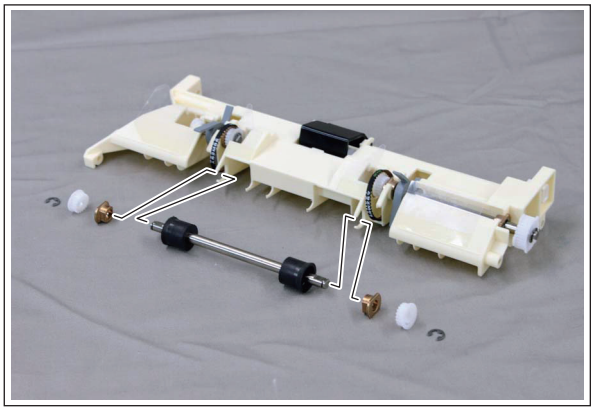


Fig. 4-113

4.4.4 Sub paddle

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")
(2) Take off the front cover.
(P.4-1 "4.1.2 Front cover")
(3) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")
(4) Remove 5 screws and 2 connectors [1], remove the Guide upper ASSY [2].

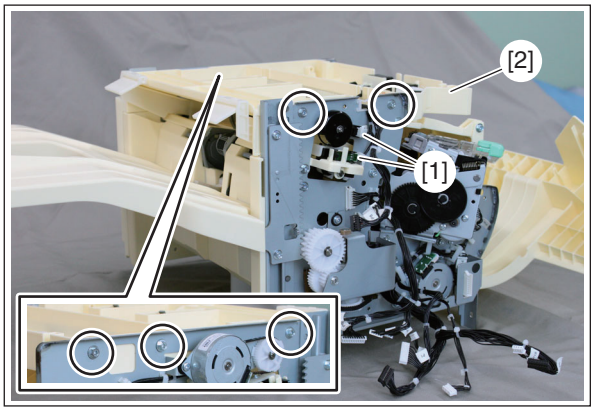


Fig. 4-114

(5) Remove 4 screws and 1 connector [3], remove the Guide compile ASSY [4].

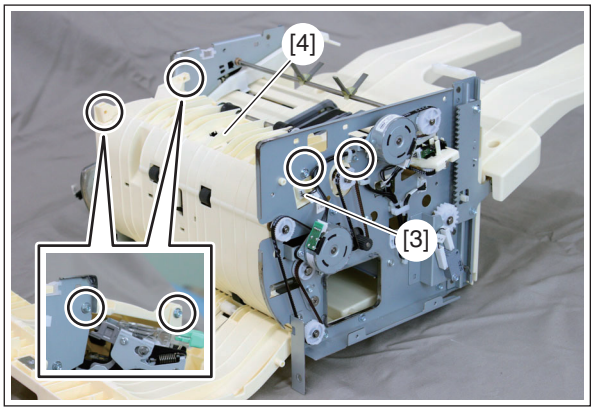


Fig. 4-115

Note:
Do not forget to install the belt [5].

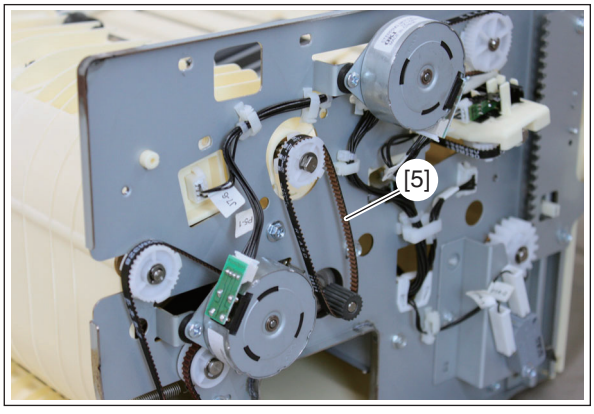


Fig. 4-116

(6) Remove 2 E-ring [6], and take off the 2 sub paddle [7].

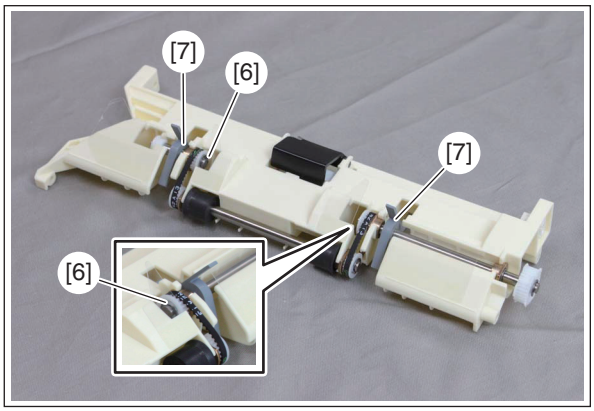


Fig. 4-117

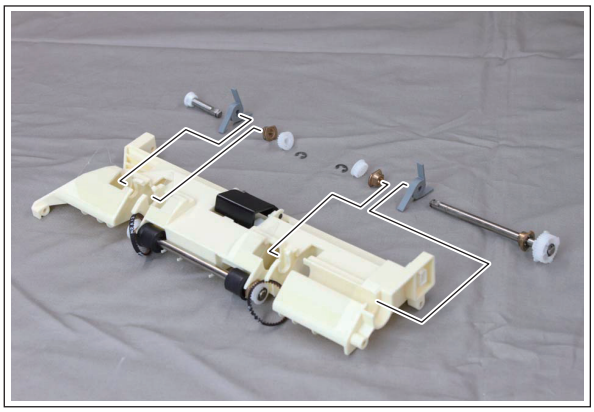


Fig. 4-118

4.4.5 Main paddle (PM)

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")

(2) Take off the front cover.
(P.4-1 "4.1.2 Front cover")

(3) Take off the rear cover.
(P.4-2 "4.1.3 Rear cover")

(4) Remove 5 screws and 2 connectors [1], remove the Guide upper ASSY [2].

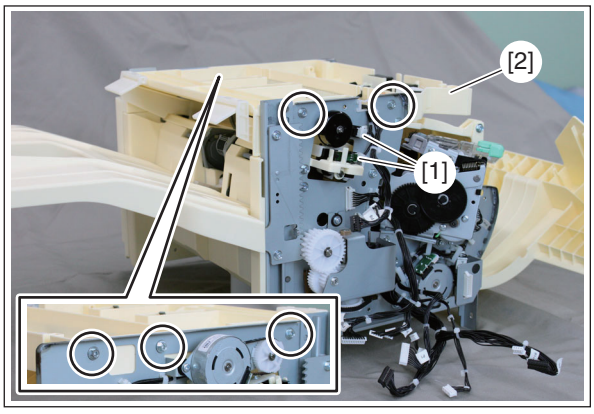


Fig. 4-119

(5) Remove the main paddle [3] with its holder.

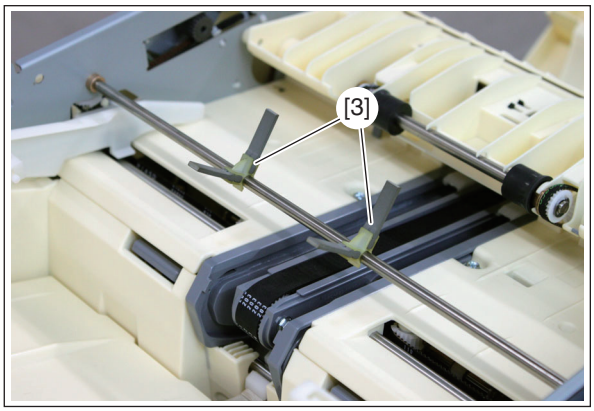


Fig. 4-120

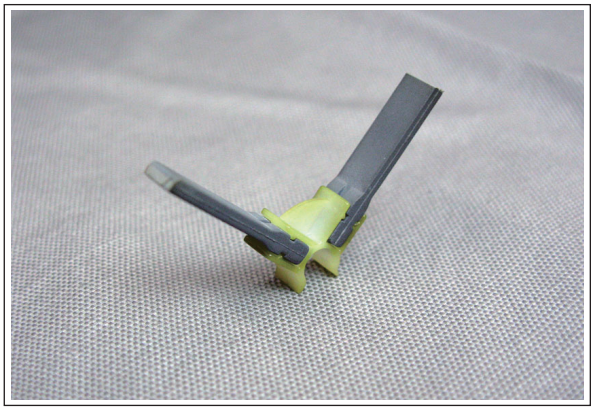


Fig. 4-121

4.4.6 SCU paddle

(1) Remove the SCU paddle [1] with its holder.

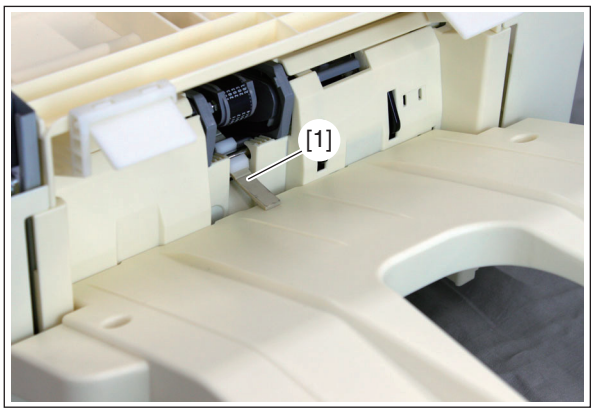


Fig. 4-122

Fig. 4-123

4.5 Disassembly and Replacement of Others

4.5.1 Finisher control PC board ASSY

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")

(2) Take off the front cover.
(P.4-1 "4.1.2 Front cover")

(3) Remove 3 screws and 13 connectors [1], remove the Finisher control PC board ASSY [2].

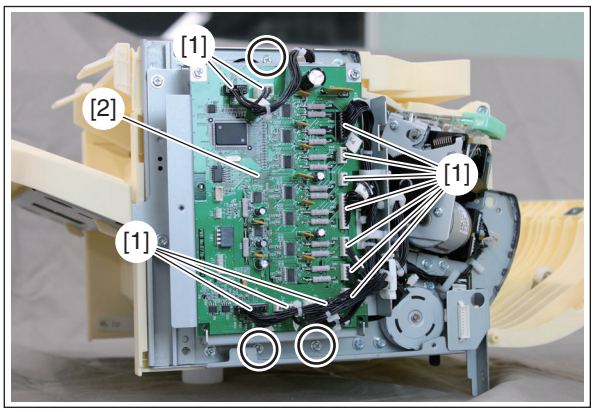


Fig. 4-124

4.5.2 Finisher control PC board

(1) Take off the Finisher control PC board ASSY. (P.4-45 "4.5.1 Finisher control PC board ASSY")

(2) Remove 2 screws and take off the Finisher control PC board ASSY [1].

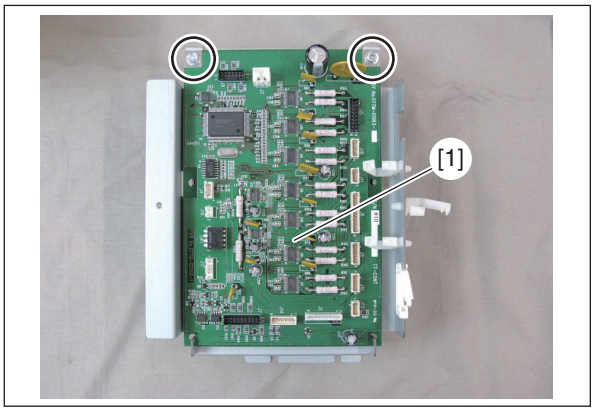


Fig. 4-125

4.5.3 Stapler

(1) Take off the upper cover.
(P.4-1 "4.1.1 Upper cover")
(2) Take off the front cover.
(P.4-1 "4.1.2 Front cover")
(3) Remove 3 screws and take off the Finisher control PC board ASSY [1].

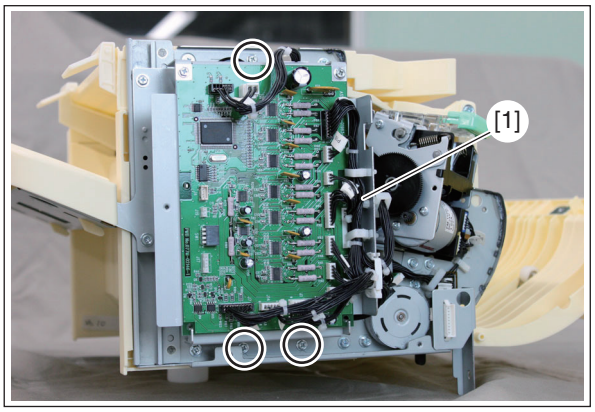


Fig. 4-126

(4) Remove 2 screws and 2 connectors [1], remove the Stapler [2].

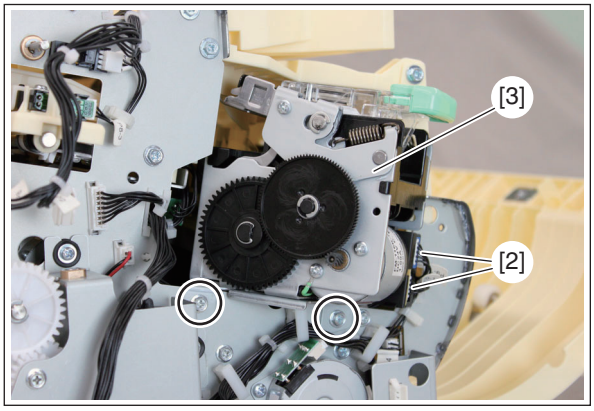


Fig. 4-127

5. ADJUSTMENT

5.1 General description

There are no items to be adjusted on this product.

6. TROUBLESHOOTING

6.1 Troubleshooting

[EA10] Paper not detected

Classification	Error content
Paper jam in finisher section	Paper was not detected at the finisher within the set period after the paper was fed by the main unit.

Check item	Measures
Entrance transport sensor	• Sensor check (S1) • Connector check (P7-2) • Harness check
Finisher control PC board	• Board check • Connector check (J7) • Harness check

Parts to be replaced	Remark
Entrance transport sensor	
Finisher control PC board	

[EA20] Early arrival jam

Classification	Error content
Paper jam in finisher section	A sheet of paper is fed and then the next sheet of paper is fed at an interval shorter than the specified time.

Check item	Measures
Transport path	If there is paper in the paper transport path, remove the paper.
Entrance transport sensor	• Sensor check (S1) • Connector check (P7-2) • Harness check
Exit transport sensor	• Sensor check (S2) • Connector check (P8-1) • Harness check
Finisher control PC board	• Board check • Connector check (J7,J8) J7: input, J8: output • Harness check

Parts to be replaced	Remark
Entrance transport sensor	
Exit transport sensor	
Finisher control PC board	

[EA26] Paper transport jam (stop command request)

Classification	Error content
Paper jam in finisher section	Main unit requested finisher to stop operating while finisher was feeding paper.

Check item	Measures
Transport path	If there is paper in the paper transport path, remove the paper.
Entrance transport sensor	• Sensor check (S1) • Connector check (P7-2) • Harness check
Exit transport sensor	• Sensor check (S2) • Connector check (P8-1) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J8) J7: input, J8: output • Harness check

Parts to be replaced	Remark
Entrance transport sensor	
Exit transport sensor	
Finisher control PC board	

[EA2A] Paper transport jam (Between entrance transport and exit transport)

Classification	Error content
Paper jam in finisher section	Leading edge of paper in finisher transport path passed entrance transport sensor, but did not arrive at exit transport sensor.

Check item	Measures
Transport path	If there is paper in the paper transport path, remove the paper.
Entrance transport sensor	• Sensor check (S1) • Connector check (P7-2) • Harness check
Exit transport sensor	• Sensor check (S2) • Connector check (P8-1) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J8) J7: input, J8: output • Harness check

Parts to be replaced	Remark
Entrance transport sensor	
Exit transport sensor	
Finisher control PC board	

[EA2B] Paper transport jam (Exit transport sensor)

Classification	Error content
Paper jam in finisher section	Paper stayed for longer than set period at exit transport sensor while being transported in finisher transport path.

Check item	Measures
Transport path	If there is paper in the paper transport path, remove the paper.
Exit transport sensor	• Sensor check (S2) • Connector check (P8-1) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J8) • Harness check

Parts to be replaced	Remark
Exit transport sensor	
Finisher control PC board	

[EA31] Power-ON jam

Classification	Error content
Paper jam in finisher section	Paper was detected at either the entrance transport sensor or the exit transport sensor when the power was on or the finisher's side cover was closed.

Check item	Measures
Transport path	If there is paper in the paper transport path, remove the paper.
Entrance transport sensor	• Sensor check (S1) • Connector check (P7-2) • Harness check
Exit transport sensor	• Sensor check (S2) • Connector check (P8-1) • Harness chec
Finisher control PC board	• Board check • Connector check (J7, J8) • Harness check

Parts to be replaced	Remark
Entrance transport sensor	
Exit transport sensor	
Finisher control PC board	

[EA40] Side cover open jam

Classification	Error content
Paper jam in finisher section	Jam occurred because finisher's side cover was opened while finisher was transporting paper.

Check item	Measures
Transport path	If there is paper in the paper transport path, remove the paper.
Side cover	Close the cover if it is open.
Door switch	• Switch check (SW2) • Connector check (P2-12, P2-13) • Harness check
Finisher control PC board	• Board check • Connector check (J2) • Harness check

Parts to be replaced	Remark
Door switch	
Finisher control PC board	

[EA50] Stapling jam

Classification	Error content
Paper jam in finisher section	Staple jam occurred at stapler.

Check item	Measures
Stapler	• Remove the staple cartridge, remove any jammed staples, install the staple cartridge. • Connector check (P9-1, P10-1) • Harness check
Finisher control PC board	• Board check • Connector check (J9, J10) • Harness check

Parts to be replaced	Remark
Stapler	
Finisher control PC board	

[EAF2] Stapler motor HP abnormality

Classification	Error content
Finisher related service call	Stapler motor HP abnormality

Check item	Measures
Stapler	• Connector check (P9-1) • Harness check
Stapler motor	• Motor check (M9) • Connector check (P9-1) • Harness check
Finisher control PC board	• Board check • Connector check (J9, J10) • Harness check

Parts to be replaced	Remark
Stapler	
Stapler motor	
Finisher control PC board	

[EAF3] Ejector abnormality

Classification	Error content
Finisher related service call	Ejector abnormality

Check item	Measures
Ejector home position sensor	• Sensor check (S7) • Connector check (P7-16) • Harness check
Ejector encoder sensor	• Sensor check (S8) • Connector check (P13-1) • Harness check
Ejector motor	• Motor check (M7) • Connector check (P6-3) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J13) • Harness check

Parts to be replaced	Remark
Ejector home position sensor	
Ejector encoder sensor	
Ejector motor	
Finisher control PC board	

[EAF4] Paper support HP abnormality

Classification	Error content
Finisher related service call	Paper support HP abnormality

Check item	Measures
Paper support home position sensor	• Sensor check (S6) • Connector check (P7-13) • Harness check
Paper support motor	• Motor check (M6) • Connector check (P6-1) • Harness check
Finisher control PC board	• Board check • Connector check (J6, J7) • Harness check

Parts to be replaced	Remark
Paper support home position sensor	
Paper support motor	
Finisher control PC board	

[EAF5] Lever path HP abnormality

Classification	Error content
Finisher related service call	Lever path HP abnormality

Check item	Measures
Lever path home position sensor	• Sensor check (S15) • Connector check (P7-4) • Harness check
Lever path motor	• Motor check (M10) • Connector check (P18-1) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J18) • Harness check

Parts to be replaced	Remark
Lever path home position sensor	
Lever path motor	
Finisher control PC board	

[EAF6] Front alignment HP abnormality

Classification	Error content
Finisher related service call	Front alignment HP abnormality

Check item	Measures
Front alignment plate home position sensor	• Sensor check (S4) • Connector check (P8-3) • Harness check
Front alignment motor	• Motor check (M4) • Connector check (P6-12) • Harness check
Finisher control PC board	• Board check • Connector check (J6, J8) • Harness check

Parts to be replaced	Remark
Front alignment plate home position sensor	
Front alignment motor	
Finisher control PC board	

[EAF7] Rear alignment HP abnormality

Classification	Error content
Finisher related service call	Rear alignment HP abnormality

Check item	Measures
Rear alignment plate home position sensor	• Sensor check (S5) • Connector check (P7-5) • Harness check
Rear alignment motor	• Motor check (M5) • Connector check (P5-13) • Harness check
Finisher control PC board	• Board check • Connector check (J5, J7) • Harness check

Parts to be replaced	Remark
Rear alignment plate home position sensor	
Rear alignment motor	
Finisher control PC board	

[EAF8] Stacker motor position detection error

Classification	Error content
Finisher related service call	Stacker motor position detection error

Check item	Measures
Stack home position sensor	• Sensor check (S9) • Connector check (P7-11) • Harness check
Stacker motor	• Motor check (M8) • Connector check (P14-3) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J14) • Harness check

Parts to be replaced	Remark
Stack home position sensor	
Stacker motor	
Finisher control PC board	

[ED15] Paddle HP abnormality

Classification	Error content
Finisher related service call	Paddle HP abnormality

Check item	Measures
Paddle home position sensor	• Sensor check (S3) • Connector check (P8-4) • Harness check
Paddle motor	• Motor check (M3) • Connector check (P5-4) • Harness check
Finisher control PC board	• Board check • Connector check (J5, J8) • Harness check

Parts to be replaced	Remark
Paddle home position sensor	
Paddle motor	
Finisher control PC board	

[CB30] Stacker motor abnormality

* If [EAF8] occurs two times consecutively, it becomes a [CB30] error.

Classification	Error content
Finisher related service call	Stacker motor abnormality

Check item	Measures
Stack home position sensor	• Sensor check (S9) • Connector check (P7-11) • Harness check
Stacker motor	• Motor check (M8) • Connector check (P14-3) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J14) • Harness check

Parts to be replaced	Remark
Stack home position sensor	
Stacker motor	
Finisher control PC board	

[CB40] Rear alignment HP abnormality

* If [EAF7] occurs two times consecutively, it becomes a [CB40] error.

Classification	Error content
Finisher related service call	Rear alignment HP abnormality

Check item	Measures
Rear alignment plate home position sensor	• Sensor check (S5) • Connector check (P7-5) • Harness check
Rear alignment motor	• Motor check (M5) • Connector check (P5-13) • Harness check
Finisher control PC board	• Board check • Connector check (J5, J7) • Harness check

Parts to be replaced	Remark
Rear alignment plate home position sensor	
Rear alignment motor	
Finisher control PC board	

[CB50] Stapler motor HP abnormality

* If [EAF2] occurs two times consecutively, it becomes a [CB50] error.

Classification	Error content
Finisher related service call	Stapler motor HP abnormality

Check item	Measures
Stapler	• Connector check (P9-1) • Harness check
Stapler motor	• Motor check (M9) • Connector check (P9-1) • Harness check
Finisher control PC board	• Board check • Connector check (J9, J10) • Harness check

Parts to be replaced	Remark
Stapler	
Stapler motor	
Finisher control PC board	

[CC03] Download abnormality

Classification	Error content
Finisher related service call	Download abnormality

Check item	Measures
Setting	Update the firmware again.

[CC80] Front alignment HP abnormality

* If [EAF6] occurs two times consecutively, it becomes a [CC80] error.

Classification	Error content
Finisher related service call	Front alignment HP abnormality

Check item	Measures
Front alignment plate home position sensor	• Sensor check (S4) • Connector check (P8-3) • Harness check
Front alignment motor	• Motor check (M4) • Connector check (P6-12) • Harness check
Finisher control PC board	• Board check • Connector check (J6, J8) • Harness check

Parts to be replaced	Remark
Front alignment plate home position sensor	
Front alignment motor	
Finisher control PC board	

[CC91] Ejector abnormality

* If [EAF3] occurs two times consecutively, it becomes a [CC91] error.

Classification	Error content
Finisher related service call	Ejector abnormality

Check item	Measures
Ejector home position sensor	• Sensor check (S7) • Connector check (P7-16) • Harness check
Ejector encoder sensor	• Sensor check (S8) • Connector check (P13-1) • Harness check
Ejector motor	• Motor check (M7) • Connector check (P6-3) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J13) • Harness check

Parts to be replaced	Remark
Ejector home position sensor	
Ejector encoder sensor	
Ejector motor	
Finisher control PC board	

[CC95] Paper support HP abnormality

* If [EAF4] occurs two times consecutively, it becomes a [CC95] error.

Classification	Error content
Finisher related service call	Paper support HP abnormality

Check item	Measures
Paper support home position sensor	• Sensor check (S6) • Connector check (P7-13) • Harness check
Paper support motor	• Motor check (M6) • Connector check (P6-1) • Harness check
Finisher control PC board	• Board check • Connector check (J6, J7) • Harness check

Parts to be replaced	Remark
Paper support home position sensor	
Paper support motor	
Finisher control PC board	

[CC96] Lever path abnormality

* If [EAF5] occurs two times consecutively, it becomes a [CC96] error.

Classification	Error content
Finisher related service call	Lever path abnormality

Check item	Measures
Lever path home position sensor	• Sensor check (S15) • Connector check (P7-4) • Harness check
Lever path motor	• Motor check (M10) • Connector check (P18-1) • Harness check
Finisher control PC board	• Board check • Connector check (J7, J18) • Harness check

Parts to be replaced	Remark
Lever path home position sensor	
Lever path motor	
Finisher control PC board	

[CDE0] Paddle HP abnormality

* If [ED15] occurs two times consecutively, it becomes a [CDE0] error.

Classification	Error content
Finisher related service call	Paddle HP abnormality

Check item	Measures
Paddle home position sensor	• Sensor check (S3) • Connector check (P8-4) • Harness check
Paddle motor	• Motor check (M3) • Connector check (P5-4) • Harness check
Finisher control PC board	• Board check • Connector check (J5, J8) • Harness check

Parts to be replaced	Remark
Paddle home position sensor	
Paddle motor	
Finisher control PC board	

6.2 Alarm

The CPU on the Finisher control PC board (FIN) is equipped with a self-diagnostic function to check the Finisher condition as needed; when it detects an error, the Finisher transmits the content of the error to the equipment.

Error	Condition	Timing of detection	Operation	Resetting
Staple cartridge empty	The staple empty sensor detects that the staple cartridge has run out of staples while the staple unit is not operating.	When the staple unit is not operating.	Normal operation will continue; however, operation is subject to instructions from the equipment.	Replace the staple cartridge; or, set it correctly.
Stack tray full	"Full" detected by stacker lower limit switch.	Monitoring at all times.	Approximately 50 sheets of paper can be added after the alarm is sent.	The stack of paper was removed from the stacker tray and the stacker lower limit switch detected "Not full".

7. PREVENTIVE MAINTENANCE (PM) / FIRMWARE UPDATE

7.1 PM Parts

- Main paddle (500,000 sheet cycle)
- Staple unit: 300,000 operations (equivalent to the life of the staple unit)

7.2 Consumables and Duration

Some components of the units may require replacement once or more over the period of the equipment warranty because of deterioration or damage. Replace them as needed.

7.2.1 Finisher section

No.	Name	Qty	Expected life	Remarks
1	Stapler	1	300,000 operations	A single cartridge is good for about 5,000 operations.

7.3 Maintenance by Customers

No.	Item	Remarks
1	Replacement of the staple cartridge	When the symbol is displayed (on the control panel of the equipment)

7.4 Maintenance and Inspection Points

Item	Time period	Description	Remarks
Entrance transport roller	Minimum maintenance interval set for the equipment	Wipe with a dry cloth or alcohol	
Transport roller			
Exit roller			
Entrance transport sensor			
Exit transport sensor			
Stacker motor	Every 500,000 sheets	Lubrication	Refer to Figure 7-1.

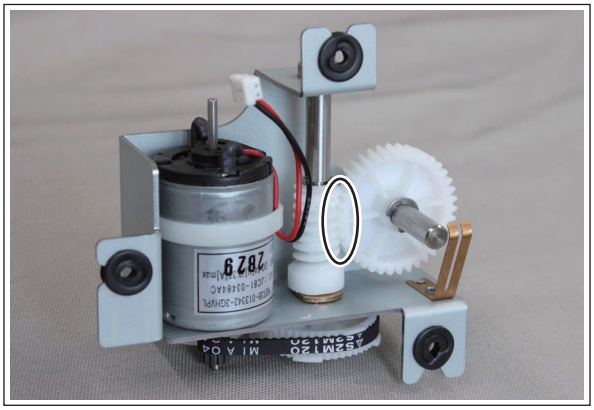


Fig. 7-1

7.5 Grease

No.	Name	Intended use	Components	Remarks
1	White grease	Lubrication of sliding parts		Molykote EM-30L

7.6 Firmware Update

For updating firmware, refer to "FIRMWARE UPDATING" in the Service Manual for MFP.

8. ELECTRIC CIRCUIT

8.1 Harness Diagram

[A] Harness Diagram (1)

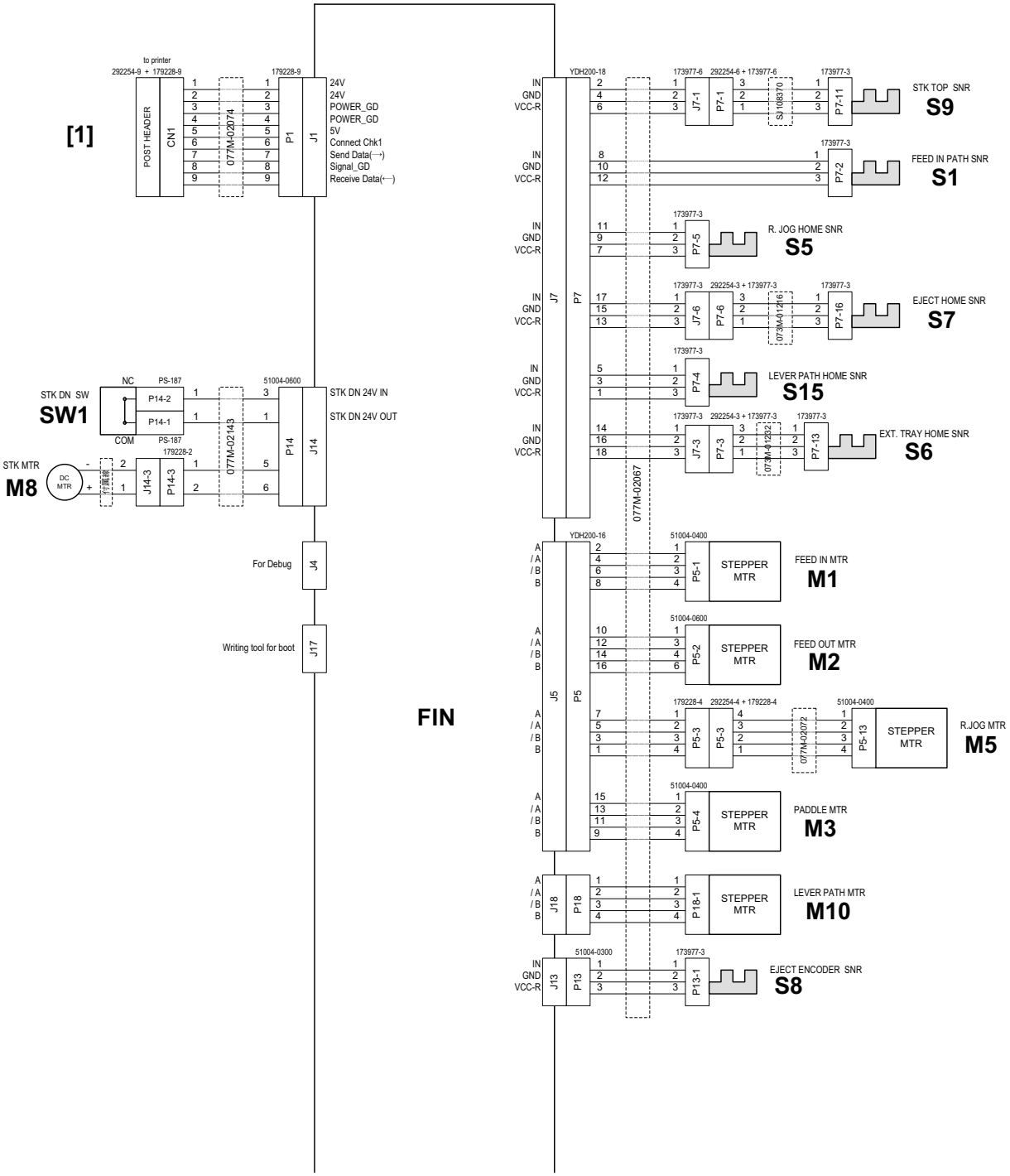


Fig. 8-1

[1]	MFP Interface	S15	Lever path home position sensor
FIN	Finisher control PC board	SW1	Stacker tray lower limit switch
S1	Entrance transport sensor	M1	Entrance transport motor
S5	Rear alignment plate home position sensor	M2	Exit transport motor
S6	Paper support home position sensor	M3	Paddle motor
S7	Ejector home position sensor	M5	Rear alignment motor
S8	Ejector encoder sensor	M8	Stacker motor
S9	Stack home position sensor	M10	Lever path motor

[B] Harness Diagram (2)

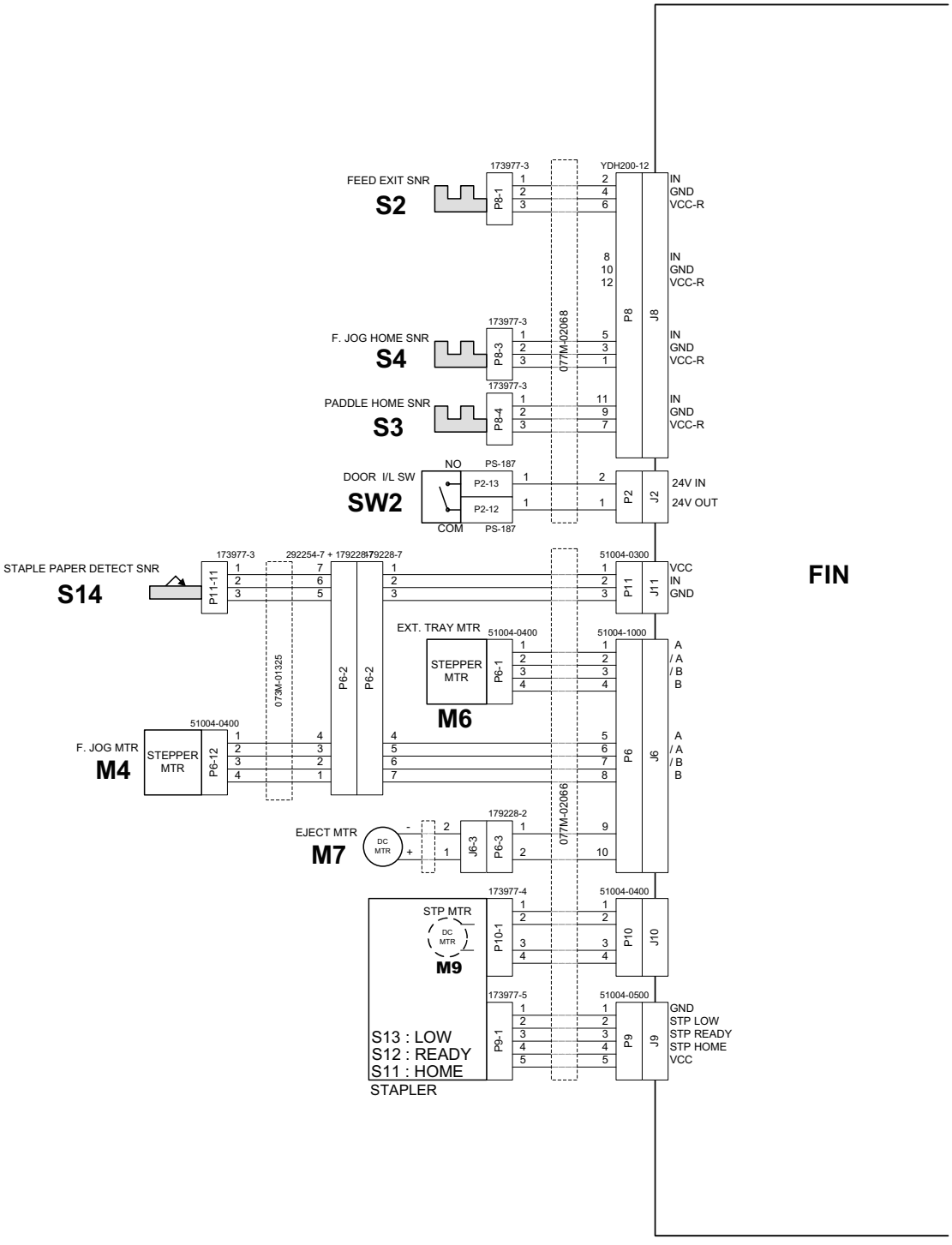


Fig. 8-2

S2	Exit transport sensor	S14	Stapler paper sensor
S3	Paddle home position sensor	SW2	Door switch
S4	Front alignment plate home position sensor	M4	Front alignment motor
S11	Stapler home position sensor	M6	Paper support motor
S12	Stapler self-priming sensor	M7	Ejector motor
S13	Stapler empty sensor	M9	Stapler motor

8.2 Circuit Diagram

[A] Circuit Diagram (1)

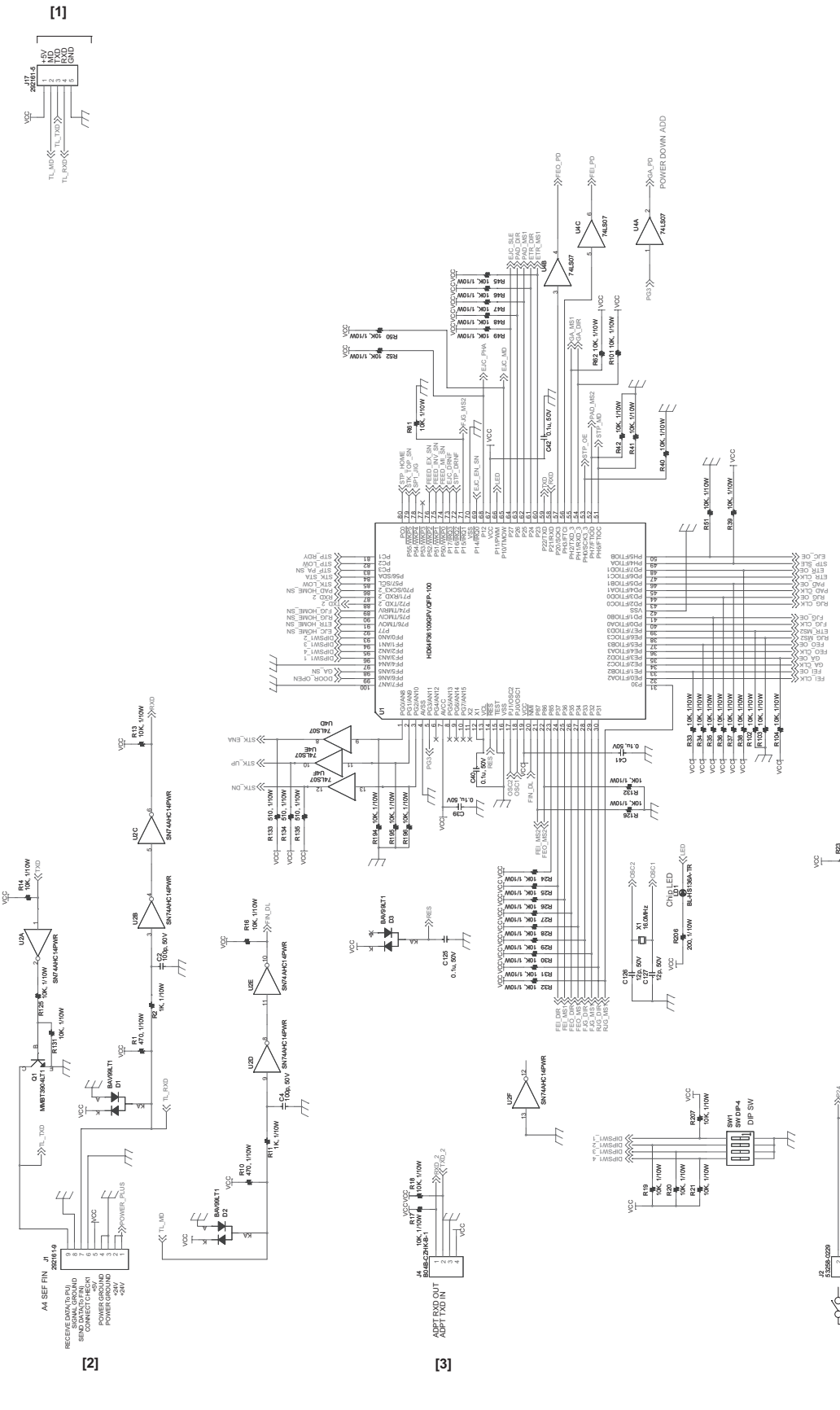


Fig. 8-3

[1]	Writing tool for boot mode	[3]	Communication port for debugging
[2]	MFP Interface	SW2	Door switch

[B] Circuit Diagram (2)

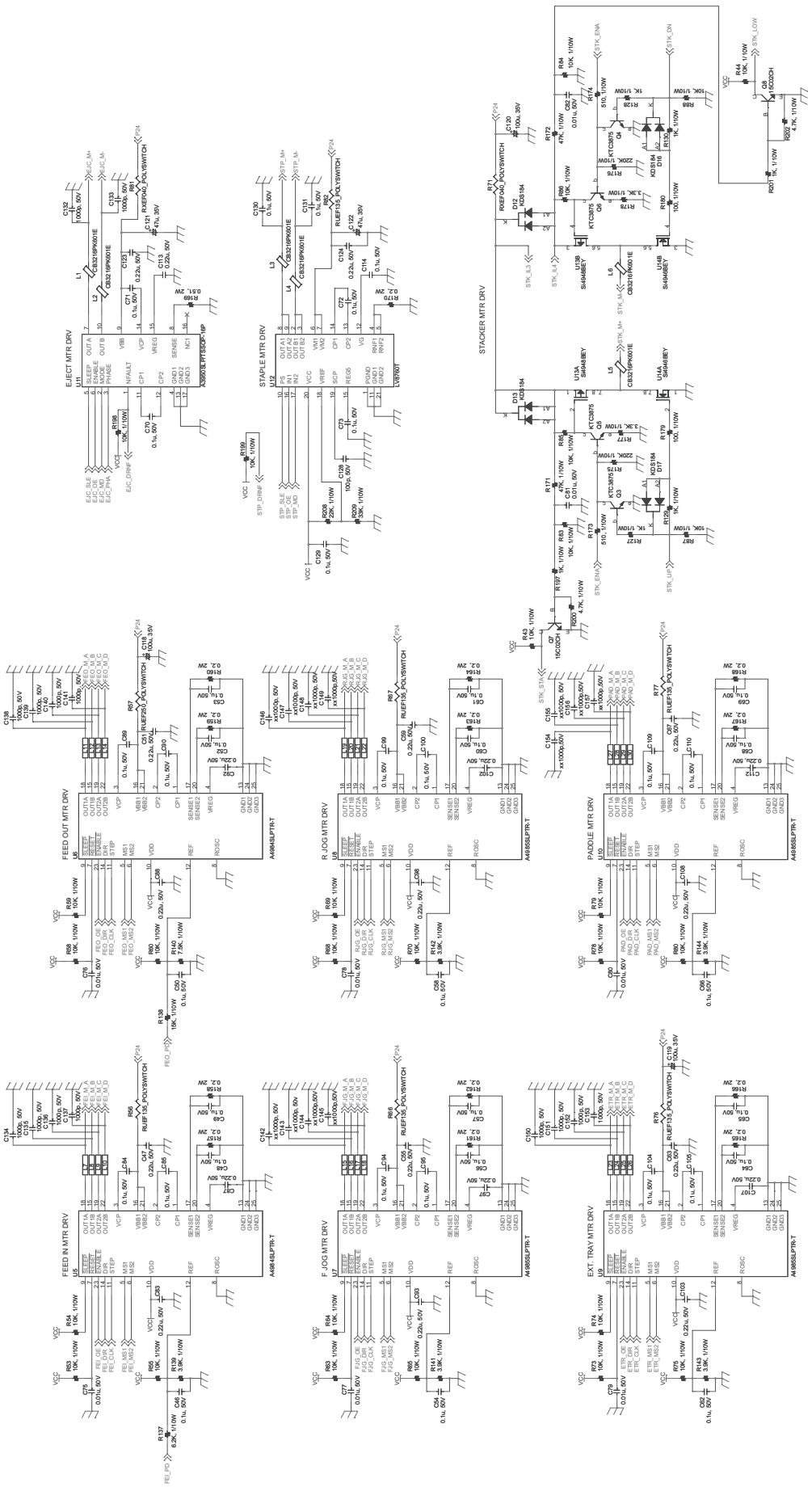


Fig. 8-4

[C] Circuit Diagram (3)

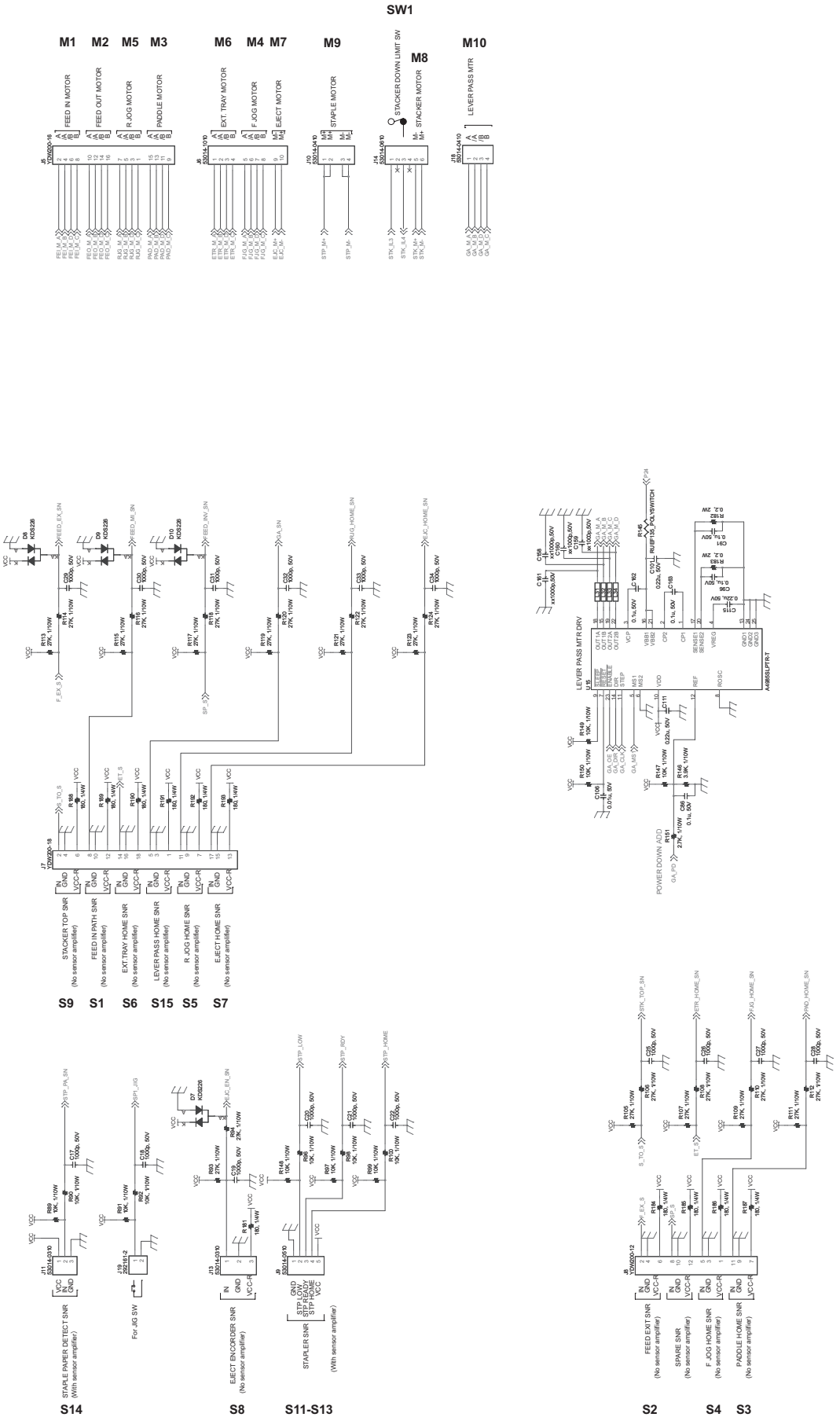


Fig. 8-5

S1	Entrance transport sensor	S15	Lever path home position sensor
S2	Exit transport sensor	SW1	Stacker tray lower limit switch
S3	Paddle home position sensor	M1	Entrance transport motor
S4	Front alignment plate home position sensor	M2	Exit transport motor
S5	Rear alignment plate home position sensor	M3	Paddle motor
S6	Paper support home position sensor	M4	Front alignment motor
S7	Ejector home position sensor	M5	Rear alignment motor
S8	Ejector encoder sensor	M6	Paper support motor
S9	Stack home position sensor	M7	Ejector motor
S11	Stapler home position sensor	M8	Stacker motor
S12	Stapler self-priming sensor	M9	Stapler motor
S13	Stapler empty sensor	M10	Lever path motor
S14	Stapler paper sensor		

8.3 PC Boards

[A] Finisher control PC board

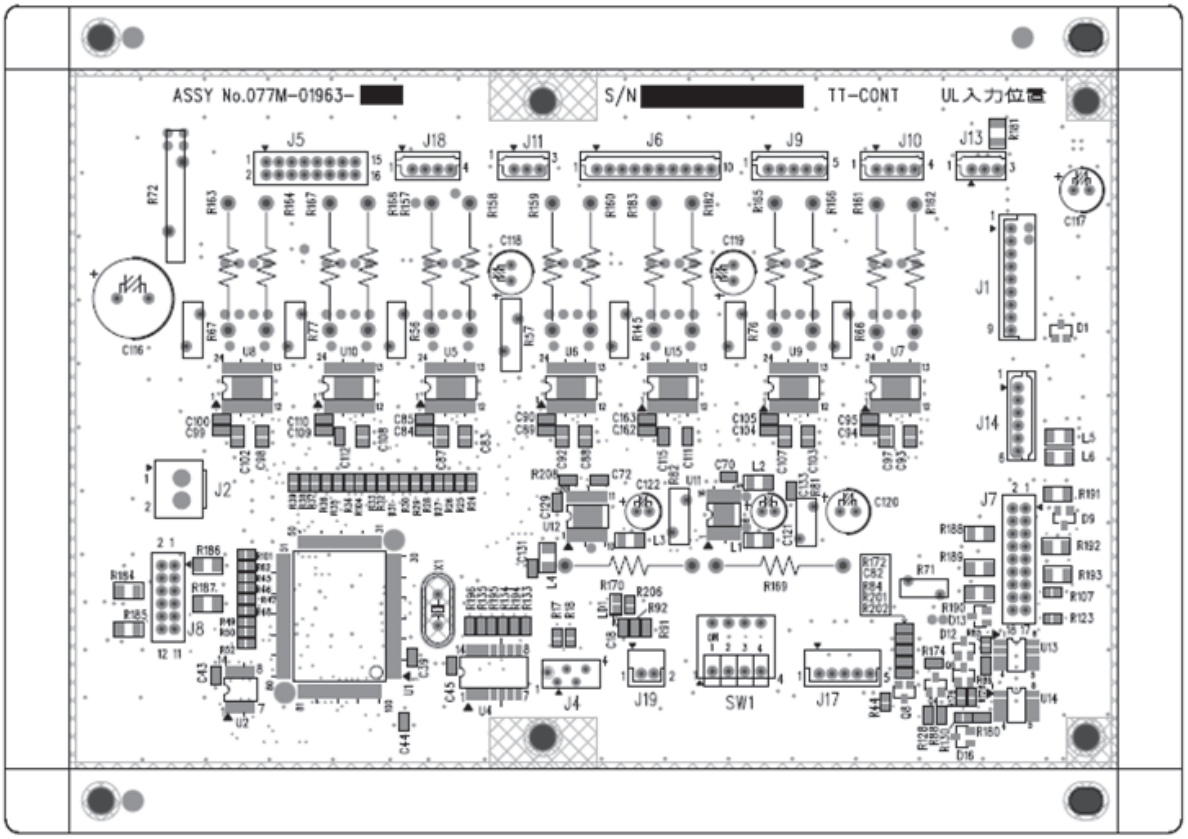


Fig. 8-6

8.4 Electric Signals

8.4.1 Finisher section

No.	Contents	Signal name	Connector	I/O	Remarks
1	Stack home position sensor	IN	P7-2	IN	
2	Stack home position sensor (-)	GND	P7-4		
3	Stack home position sensor (+)	VCC-R	P7-6		
4	Entrance transport sensor	IN	P7-8		
5	Entrance transport sensor (-)	GND	P7-10		
6	Entrance transport sensor (+)	VCC-R	P7-12		
7	Rear alignment plate home position sensor	IN	P7-11		
8	Rear alignment plate home position sensor (-)	GND	P7-9		
9	Rear alignment plate home position sensor (+)	VCC-R	P7-7		
10	Ejector home position sensor	IN	P7-17		
11	Ejector home position sensor (-)	GND	P7-15		
12	Ejector home position sensor (+)	VCC-R	P7-13		
13	Stapler paper sensor	IN	P7-5		
14	Stapler paper sensor (-)	GND	P7-3		
15	Stapler paper sensor (+)	VCC-R	P7-1		
16	Paper support home position sensor	IN	P7-14		
17	Paper support home position sensor (-)	GND	P7-16		
18	Paper support home position sensor (+)	VCC-R	P7-18		
19	Ejector encoder sensor	IN	P13-1	IN	
20	Ejector encoder sensor (-)	GND	P13-2		
21	Ejector encoder sensor (+)	VCC-R	P13-3		
22	Exit transport sensor	IN	P8-2	IN	
23	Exit transport sensor (-)	GND	P8-4		
24	Exit transport sensor (+)	VCC-R	P8-6		
25	Front alignment plate home position sensor	IN	P8-5		
26	Front alignment plate home position sensor (-)	GND	P8-3		
27	Front alignment plate home position sensor (+)	VCC-R	P8-1		
28	Paddle home position sensor	IN	P8-11		
29	Paddle home position sensor (-)	GND	P8-9		
30	Paddle home position sensor (+)	VCC-R	P8-7		
31	Stapler empty sensor	IN	P11-1	IN	
32	Stapler empty sensor (-)	GND	P11-2		
33	Stapler empty sensor (+)	VCC-R	P11-3		

No.	Contents	Signal name	Connector	I/O	Remarks
34	Entrance transport motor Phase A output	A	P5-2	OUT	
35	Entrance transport motor Phase /A output	/A	P5-4		
36	Entrance transport motor Phase /B output	/B	P5-6		
37	Entrance transport motor Phase B output	B	P5-8		
38	Exit transport motor Phase A output	A	P5-10		
39	Exit transport motor Phase /A output	/A	P5-12		
40	Exit transport motor Phase /B output	/B	P5-14		
41	Exit transport motor Phase B output	B	P5-16		
42	Rear alignment motor Phase A output	A	P5-7		
43	Rear alignment motor Phase /A output	/A	P5-5		
44	Rear alignment motor Phase /B output	/B	P5-3		
45	Rear alignment motor Phase B output	B	P5-1		
46	Paddle motor Phase A output	A	P5-15		
47	Paddle motor Phase /A output	/A	P5-13		
48	Paddle motor Phase /B output	/B	P5-11		
49	Paddle motor Phase B output	B	P5-9		
50	Lever path motor Phase A output	A	P18-1	OUT	
51	Lever path motor Phase /A output	/A	P18-2		
52	Lever path motor Phase /B output	/B	P18-3		
53	Lever path motor Phase B output	B	P18-4		
54	Paper support motor Phase A output	A	P6-1	OUT	
55	Paper support motor Phase /A output	/A	P6-2		
56	Paper support motor Phase /B output	/B	P6-3		
57	Paper support motor Phase B output	B	P6-4		
58	Front alignment motor Phase A output	A	P6-5		
59	Front alignment motor Phase /A output	/A	P6-6		
60	Front alignment motor Phase /B output	/B	P6-7		
61	Front alignment motor Phase B output	B	P6-8		
62	Ejector motor output (-)	-	P6-9		
63	Ejector motor output (+)	-	P6-10		
64	Stapler motor output (+)	-	P10-1	OUT	
65	Built-in staple motor output (+)	-	P10-2		
66	Built-in staple motor output (-)	-	P10-3		
67	Built-in staple motor output (-)	-	P10-4		
68	Built-in staple sensor (-)	GND	P9-1	IN	
69	Built-in staple sensor (LOW)	STP LOW	P9-2		
70	Built-in staple sensor (READY)	STP READY	P9-3		
71	Built-in staple sensor (HOME)	STP HOME	P9-4		
72	Built-in staple sensor (+)	VCC	P9-5		

No.	Contents	Signal name	Connector	I/O	Remarks
73	Stacker motor output (-)	-	P14-5	OUT	
74	Stacker motor output (+)	-	P14-6		
75	Stacker tray lower limit switch (+24V IN)	STK DN 24V OUT	P14-1		
76	Stacker tray lower limit switch (+24V OUT)	STK DN 24V IN	P14-3	IN	
77	Door switch (+24V OUT)	24V OUT	P2-1	OUT	
78	Door switch (+24V IN)	24V IN	P2-2	IN	
79	DC24V	24V	P1-1	IN	
80	DC24V	24V	P1-2		
81	GND	POWER_GD	P1-3		
82	GND	POWER_GD	P1-4		
83	DC5V	5V	P1-5		
84	Finisher connection	Connect Chk1	P1-6	OUT	
85	Send Data	Send Data	P1-7	IN	
86	Signal GND	Signal_GD	P1-8		
87	Receive_Data	Receive_Data	P1-9	OUT	