Service Manual

High Capacity Stacker-A1

Contents

Contents

Chapter 4   Maintenance

Chapter 5   Error Codes

Chapter 1 Specifications

Contents

1.1 Product Specifications

Product Name	High Capacity Stacker-A1	
Sheet Size/Sheet Weight Range	Stack Tray	A3, A4, B4, B5, 11" x 17", LGL, LTR, LTRR, EXEC, 8K (270 x 390 mm), 16K (270 x 195 mm), Tab Paper (A4, LTR), Free size (Max: 297 x 431.8 mm, Min: 216 x 182 mm)
		64 to 200 gsm
	OUTPUT TRAY	A3, A4, A4R, A5R, B4, B5, B5R, 11" x 17", LGL, LTR, LTRR, EXEC, STMTR, Post card, 8K (270 x 390 mm), 16K (270 x 195 mm), Tab Paper (A4, LTR), Free size (Max: 297 x 431.8 mm, Min: 100 x 148 mm)
		64 to 200 gsm
	Downstream Output	A3, A4, A4R, A5R, B4, B5, B5R, 11" x 17", LGL, LTR, LTRR, EXEC, STMTR, 8K (270 x 390 mm), 16K (270 x 195 mm), Tab Paper (A4, LTR), Free size (Max: 297 x 431.8 mm, Min: 100 x 182 mm)
		64 to 200 gsm
Tray Capacity	Stack Tray	5,000 sheets (All sizes / 80 gsm) / height: 570 mm (22.4")
	OUTPUT TRAY	1,000 sheets (All sizes / 80 gsm) / height: 100 mm (3.9")
Machine Dimensions	860 (W) x 765 (D) x 1,290 (H) mm (33.9" x 30.2" x 50.8")	

Weight		Approximately 200 kg (440 lb)
Installation Space with Host Machine		2,081 (W) x 783 (D) mm (82.0" x 30.9")
Voltage / Power Consumption		120-127V / 300W max. (50, 60 Hz) 220-240V / 300W max. (50, 60 Hz)
Rated Current / Frequency		120-127V: One Stacker Unit: 2.16A / 50Hz, 2.11A / 60Hz Three Stacker Units: 7A / 50, 60Hz 220-240V: One Stacker Unit: 1.05A / 50Hz, 1.07A / 60Hz Three Stacker Units: 4A / 50, 60Hz
Maximum Load Current (One Stacker Unit)		3 A (120-127V) 1.2A (220-240V)
Noise Level		74.7 dBA
Environmental	Temperature in Use	10 to 33 $^{\circ}$C (50 to 91.4 F)
	Temperature in Storage	-10 to 40 $^{\circ}$C (14 to 104 F)
	Temperature in Transportation	-10 to 50 $^{\circ}$C (14 to 122 F)
	Relative Humidity	20 to 80% (RH)
	Pressure	608 to 1,013 hPa

1.2 Names of Parts

1.2.1 External View

Horizontal
Transport Section

OUTPUT TRAY

Top Cover

Power Switch

Left Turn-Over
Section

Downstream
Exit

Offset Section

Left Upper Cover

Left Lower Cover

Stacking Section

Stack Tray

Front Cover

Right Turn-Over Section

Control Panel

Entrance
Section

Communication
Cable

Circuit
Breaker

Power Plug

Rear Cover
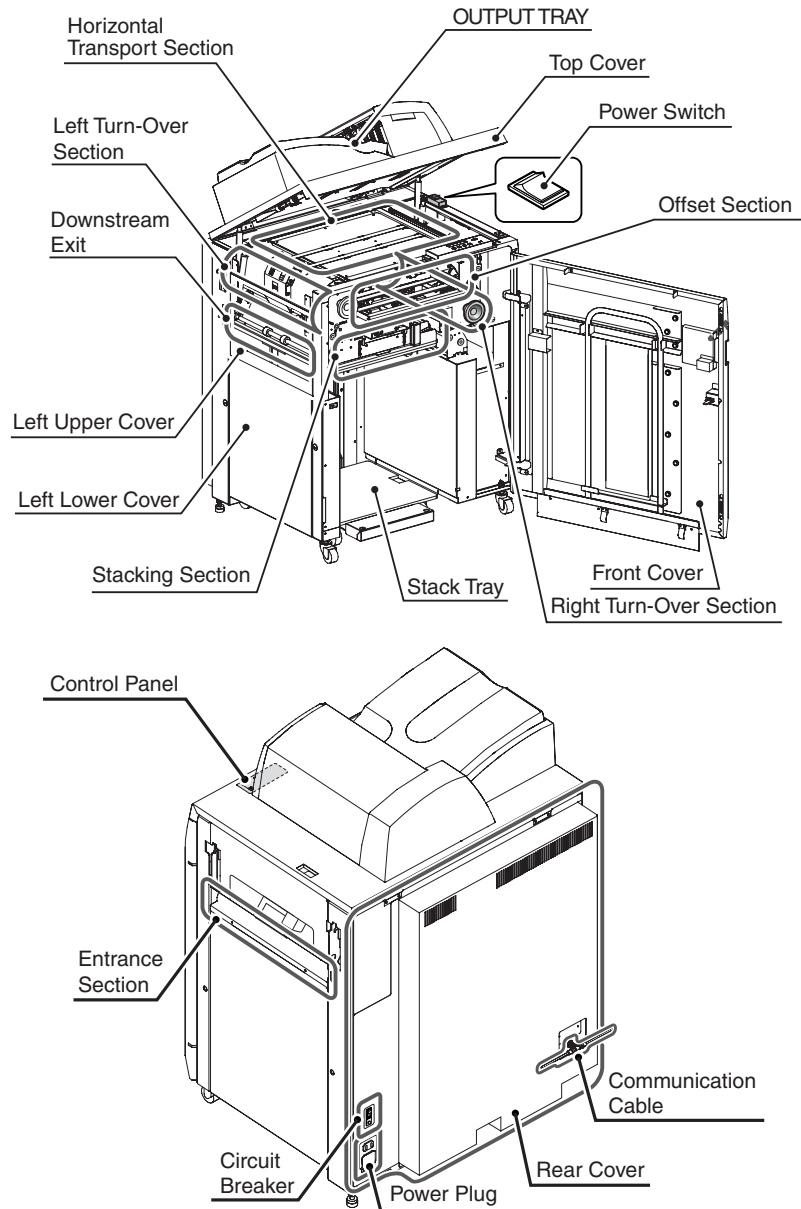
1.2.2 Cross Section
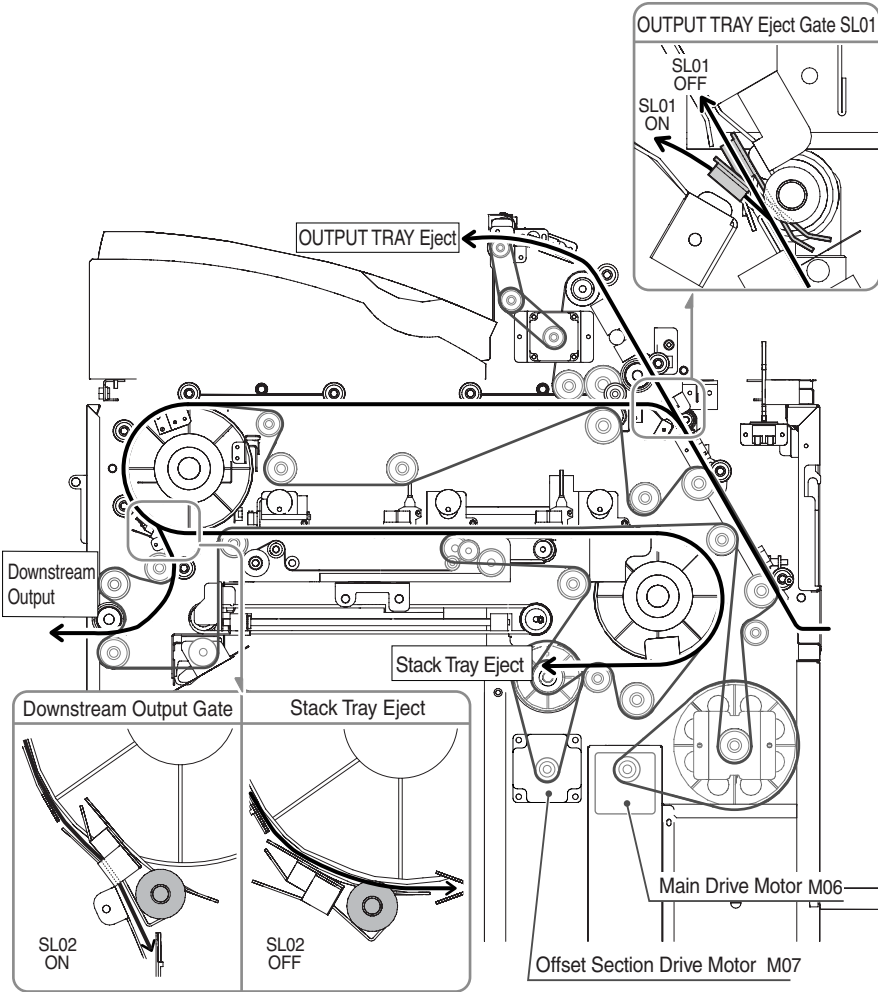
Chapter 2 Functions

Contents

2.1 Basic Operation

2.1.1 Basic Operation of the Stacker

The stacker stacks sheets delivered from a host machine. There are three kinds of stacking operations:
• Stacking on the OUTPUT TRAY
• Offset stacking on the stack tray
• Straight stacking on the stack tray

If several stacker units are connected in series, the sheets can be passed through the upstream unit(s) and delivered from the downstream exit. The downstream stacker unit can perform one of the three kinds of stacking operations described above.

Up to three stacker units can be connected in series. [*]

Definitions:
Offset stacking:
Alternate batches of sheets are "offset" to the front and rear in the stack, making it easier to separate them.
Straight stacking:
The sheets are arranged in a single stack, with no offsetting.

* The maximum number of stacker units which can be connected depends on the host machine. See the service manual of the host machine for details.

Stacker Operated as a Single Unit

Stacking to the OUTPUT TRAY

Host Machine

Stacking to the stack
tray
- Offset stacking
- Straight stacking

Several Stackers Operated in Line
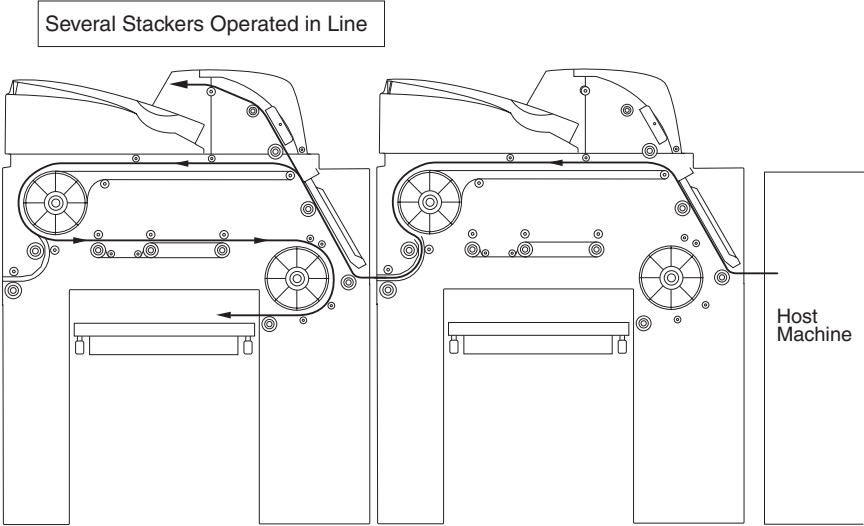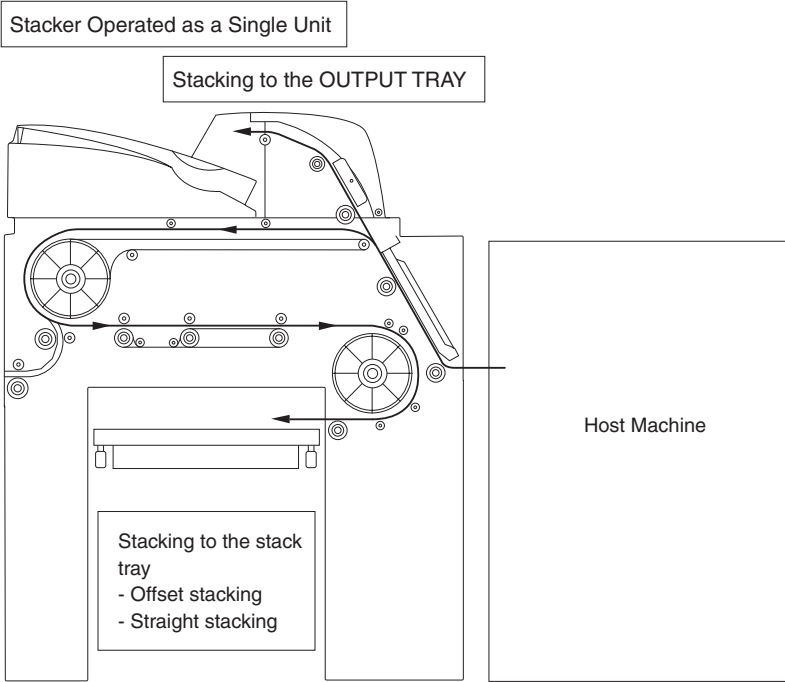
Host
Machine

The operation of the stacker is controlled by the stacker controller PCB QPM-186. QPM-186 follows the commands from the host machine.

2.1.2 Communication Between the Stacker and the Host Machine

The control commands from the host machine initially enter the option controller PCB in the stacker. This communication is performed by the ARC-NET network. If several stacker units are connected, each unit has its own option controller PCB, and each unit communicates independently with the host machine. The control commands that enter the option controller PCB are sent to the stacker controller PCB QPM-186. This communication is performed using both serial and parallel communications.
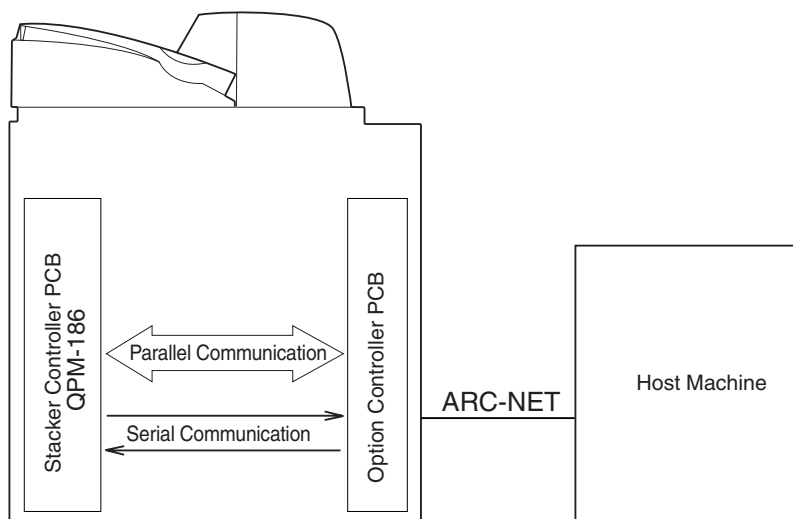
The serial communication link exchanges the following information:

Information input to the stacker
• Option controller information
• Stacker operation mode information (energy saving, stacker priority, print ready, idling run)
• Sheet size information
• Mixed size stack information
• Stacking/output pattern information
• Speed information
• Sheet ID information
• Idling running speed information etc.

Information output from the stacker
• Stacker model information
• Stacker status information
• Error information
• Jam information
• Stacker full information
• Sheet interval information
• Stack tray stacking size information etc.

The parallel communication exchanges the following information:

Signals input to the stacker

Signals	Contents	Details
CycleUp	Start up command	1. This signal is input to start up the stacker. 2. When the stacker has stacked or ejected all of the sheets or suspends operation, this signal is turned off. 3. If an error occurs on the stacker, and it sends the Faulted signal to the host machine, this signal is turned off.
SheetExit	Timing of sheet ejection from the host machine or the upstream unit.	1. When the top of a sheet is ejected from the upstream unit or host machine, this signal is sent to the stacker. 2. The host machine turns this signal off when it receives the SheetExitAck signal.
ForceExit Req	Forced ejection to the OUTPUT TRAY	1. This signal is input to request forced ejection to the OUTPUT TRAY. 2. The host machine turns this signal off when it receives the SheetExitAck signal.
Sample Sheet DeliveredAck	Response signal for Sample Sheet Delivered	1. When the host machine receives the SampleSheetDelivered signal, it returns this signal to the stacker. 2. When the stacker turns the SampleSheetDelivered signal off, the host machine also turns this signal off.

Signals	Contents	Details
StackSheet DeliveredAck	Response signal for StackSheet-Delivered	1. When the host machine receives the Stack-SheetDelivered signal, it returns this signal to the stacker. 2. When the stacker turns the StackSheet-Delivered signal off, the host machine also turns this signal off.
Sheet EjctOnAck	Response signal for SheetEjctOn	1. When the host machine receives the Sheet-EjctOn signal, it returns this signal to the stacker. 2. When the stacker turns the SheetEjctOn signal off, the host machine also turns this signal off.
SuspendAck	Response signal for SuspendReq	1. When the host machine receives the SuspendReq and suspends the stacking job to the stack tray, this signal is input into the stacker. 2. When the stacker turns the SuspendReq off, the host machine also turns this signal off.
ConfigSet	Configuration setup	1. When the stacker receives this signal, it starts serial communication with the option controller PCB, and sends the "stacker model information." 2. When the option controller PCB receives the "stacker model data", it turns this signal off.
Emergcy Stop	Emergency stop request	1. When the stacker receives this signal, it stops operation immediately even if some sheets are being transported. 2. When the stacker turns the Standby signal off, the host machine also turns this signal off.

Signals output from the stacker

Signal Name	Contents	Details
Standby	Sheet accept ready	1. When the stacker receives the CycleUp signal, the stacker outputs this signal. 2. After the stacker stacks or ejects all the sheets completely, and the host machine turns the CycleUp signal off, the stacker also turns this signal off. 3. When the stacker stops for an emergency stop request caused by an error or jam, the stacker also turns this signal off. • While the machine is idling, if the host machine turns CycleUp off before completing the idling operation to detect a jam, the stacker first completes the idling operation and then turns this signal off. • If the stacker detects a jam, it stacks or ejects all the sheets which can be stacked or ejected, stops operation, and then turns this signal off. • If an error occurs on the stacker, it stops operation immediately, and then turns this signal off. • If the stacker receives an emergency stop request, it stops operation immediately, and then the stacker turns this signal off.
Sheet ExitAck	Response signal for SheetExit	1. When the stacker receives the SheetExit signal, it returns this signal to the host machine. 2. When the host machine turns the SheetExit signal off, the stacker also turns this signal off.
ForceExit Abnomal Accepted	OUTPUT TRAY forced ejection abnormal acceptance	1. If the stacker receives a request for forced ejection to the OUTPUT TRAY but cannot perform, the stacker outputs this signal to the host machine. 2. The stacker outputs this signal before outputting the SheetExitAck signal. 3. The stacker turns this signal off before turning the SheetExitAck signal off.

Signal Name	Contents	Details
Sample Sheet Delivered	OUTPUT TRAY delivery complete	1. When the stacker has delivered all of the sheets to the OUTPUT TRAY, the stacker outputs this signal. 2. When the stacker receives the SampleSheet-DeliveredAck signal, the stacker turns this signal off.
StackSheet Delivered	OUTPUT TRAY delivery complete	1. When the stacker has delivered all of the sheets to the OUTPUT TRAY, the stacker outputs this signal. 2. When the stacker receives the StackSheet-DeliveredAck signal, the stacker turns this signal off.
SheetEjctOn	Output to the downstream unit	1. When the upstream unit starts delivering the sheets to the downstream unit, the upstream unit outputs this signal. 2. When the upstream unit has passed all of the sheets to the downstream unit, and received the SheetEjctOnAck signal, the upstream unit turns this signal off.
SuspendReq	Stack tray ejection suspend request	1. When the operation is suspended to remove the stacked sheets or when the Stack On/Off button is turned off, the stacker outputs this signal. 2. When the stacker receives the SuspendAck signal, and the causes for suspension described above are cleared, the stacker turns this signal off.
Faulted	Emergency stop request	1. If an error or jam occurs inside the stacker, and the machine cannot accept the sheets, the stacker outputs this signal. 2. After the error or jam is cleared, first, the stacker confirms that the CycleUp signal is turned off, and then the stacker turns this signal off.
SerialError	Serial communication error	1. When the stacker detects a serial communication error, the stacker outputs this signal. 2. The stacker outputs this signal to the option controller PCB, independent of the Faulted signal.
Full	Full of sheets	1. When the OUTPUT TRAY or stack tray is full, the stacker sends the "stacker full information" and also outputs this signal. 2. After the stacked sheets are removed, the stacker turns this signal off and then updates the "stacker full information."

2.1.3   The Stacker Control System

■   Initial Control

When the host machine and the stacker are powered on, first, the ConfigSet signal is sent from the host machine (option controller PCB) to the stacker via parallel communication. Upon receiving the ConfigSet signal, the stacker begins serial communication with the host machine (option controller PCB), and sends the stacker model information. The host machine receives the stacker model information and returns an Ack signal. Next, the host machine sends option controller information to the stacker, and the stacker returns an Ack signal. Finally, the host machine turns off the ConfigSet signal. The stacker detects this, sends the stacker status information, and completes the initial communication.

Host Machine
(Option Controller PCB)   Stacker

Power On   Power On

ConfigSet On

Stacker Actions

- Checks if any sheets are left on the sheet path and stack tray.

Stacker Model Information

Ack

Sends the following signal to the option controller PCB.
If a sheet is left on the sheet path: Faulted signal
If the sheet is left on the stack tray:Full signal

Option Controller Information

Ack

ConfigSet Off

Parallel Signal

Stacker Status Information

Serial Signal

The stacker checks for any sheets left on the sheet path or stack tray. If there are any sheets left on the stack tray, the stacker sends the Full signal to the option controller PCB.

■ Main Control

The stacker operation sequence is controlled by the stacker controller PCB QPM-186. A 32-bit micro-computer (CPU) is mounted on the QPM-186, and handles the sequence control and communication with the host machine.

QPM-186 controls the motors (motor drivers) or solenoids according to the commands sent from the host machine via the option controller PCB. QPM-186 also receives signals from the sensors and switches and informs the host machine using serial communication.
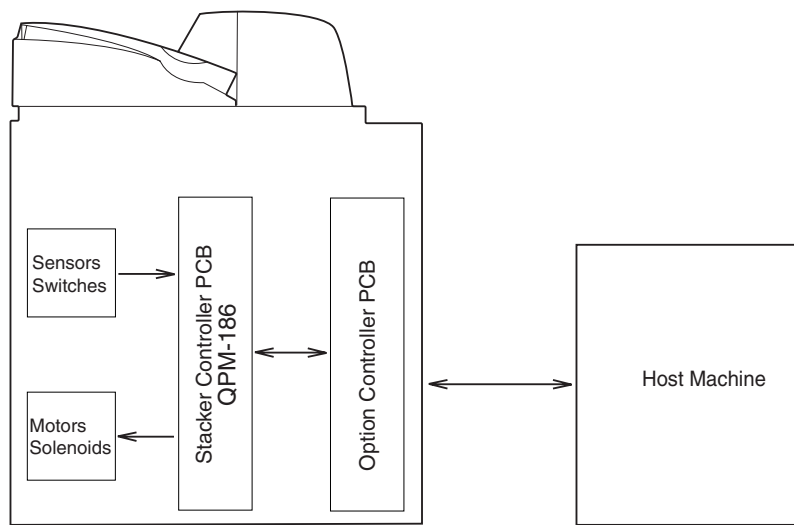
■ Control Panel

Control panel PCB QPW-706 and the LCD display are controlled by the stacker controller PCB QPM-186. The power for QPW-706 is supplied from QPM-186. The power for the LCD display is supplied from QPW-706. When a button on the control panel is pressed, its input signal is sent to the QPM-186.

LCD Display

Control Panel PCB QPW-706

CON1 — Switch Input Signal — Stacker Controller PCB QPM-186 CON7

Menu	1	ORN*	13	Menu [DS85]
-	2	YEL*	14	- [DS80]
+	3	GRN*	15	+ [DS86]
Enter	4	BLU*	16	Enter [DS81]
Stack ON/OFF	5	VIO*	17	Stack ON/OFF [DS82]
DebugSW1	6	GRY*	18	Debug SW1
DebugSW2	7	WHT*	19	Debug SW2
GND	8	BLK*	20	GND

SW1 SW2 SW3
SW4 SW5 SW6
SW7

CON5
1
2
3
4
5 5V
6 LED1
7 LED2
8

CON2 / CON4 — Power

1	1	GND	CON4	
2	2	+5V	1 GRN	GRN
3	3	VO	2 BLU	BLU
4	4	RS	3 VIO	VIO
5	5	R/W		
6	6	E		
7	7			
8	8			
9	9			
10	10			
11	11	D4		
12	12	D5		
13	13	D6		
14	14	D7		
15	15	(+4.3V)5V		
16	16	GND		

Backlight Power

CON3 — LCD Indication Data — CON7

CON3			CON7	
1	BRN	BRN	1	RS
2	RED	RED	2	R/W
3	ORN	ORN	3	E
4	YEL	YEL	4	D4
5	GRN	GRN	5	D5
6	BLU	BLU	6	D6
7	VIO	VIO	7	D7
8	GRY	GRY	8	VO
9	WHT	WHT	9	VCC
10	BLK	BLK	10	GND
11		RED(*)	11	
12			12	Backlight Power

* The mark "*" indicates the wire with a gray label to discriminate the same color wires.

The Stack On/Off button operates only while the printing is stopped. The display languages can be selected (English/French/German/Italian/Japanese) using the control panel.

■ LED Control

Stacker has 4 LEDs: Stack On/Off LED, Error LED (on the control panel), Stacking LED, and Open LED (front cover). All of the LEDs are controlled by QPM-186.

Here are the LED indications:

	LED	Stacker Status	LED Status
[1]	Stack On/Off LED	When Stack On active	ON
		When Stack Off active	OFF
[2]	Stacking LED	Delivering to the stack tray	Blinking
		Stack tray is full	ON
		Other condition	OFF
[3]	Front Cover Open LED	In preparation for sheet removal/stacking	Blinking
		Front cover is unlocked	ON
		Other condition	OFF
[4]	Error LED	Service call condition	ON
		Other situation: jam, cover open, machine in service mode, or stack full	Blinking
		Other condition	OFF
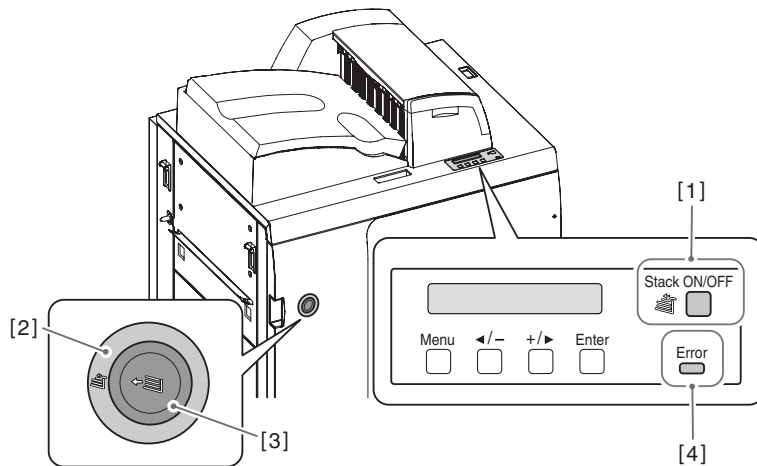
■ Front Cover Control

Pressing the Front Cover Open button unlocks the cover, however the control operation depends on the stacker status.

Pressing the button during the stacking operation:
1. The Front Cover Open LED blinks.
2. The stacker stops stacking, and then the stack tray (M08) descends.
3. The stack tray stops at the lower limit (PI19) and the front cover unlocks (SL09).
4. The Front Cover Open LED lights.

Pressing the button while the machine is stopped or stacking onto the OUTPUT TRAY or ejecting to the downstream exit:
1. The Front Cover Open LED blinks.
2. The stack tray (M08) lowers.
3. The stack tray stops at the lower limit (PI19) and the front cover unlocks (SL09).
4. The Front Cover Open LED lights.

Pressing the button again while the stack tray is descending:
1. The stack tray stops (M08).
2. The front cover unlocks (SL09).
3. The front cover open LED lights.
When the front cover is closed:
4. The front cover locks (SL09).
5. The Front Cover Open LED blinks.
6. The stack tray (M08) rises, and stops at the stack tray receiving position (PI14).
7. The Front Cover Open LED goes out.

Front Cover Open LED

Front Cover Lock (SL09)
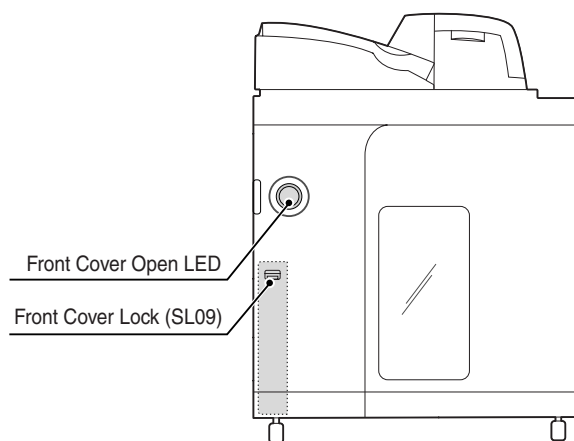
Operation after the front cover is unlocked and the Front Cover Open LCD lights:
1. Open the front cover.
- When closing the front cover after removing sheets: Go to A.
- When closing the front cover without removing sheets: Go to B.

A: When closing the front cover after removing sheets
2. The stack tray rises until PI14 detects the stack tray and the front cover locks.
3. The Front Cover Open LED goes out.

B: When closing the front cover without removing sheets
2. The stack tray lowers for some distance.
3. The stack guide returns to the home position and the stopper moves 10 mm (0.39") to left.
4. The stack tray rises until PI14 detects the sheet.
5. The stack tray lowers for some distance.
6. Each guide and stopper moves to the set position.
7. The stack tray rises until PI14 detects the sheet, and the front cover locks.
8. The Front Cover Open LED goes out.

2.2 Transport Drive System

2.2.1 Overview

The stacker does several kinds of stacking according to the commands sent from the host machine: to the OUTPUT TRAY, offset stacking on the stack tray.

If several stacker units are connected in line, the sheets can be passed through each upstream unit and delivered from the downstream exit of each unit to the unit downstream. The downstream unit can then do the stacking operations described above.

Stacker Operated as a Single Unit

Stacking to the OUTPUT TRAY

Host Machine

Stacking to the stack tray
- Offset stacking
- Straight stacking
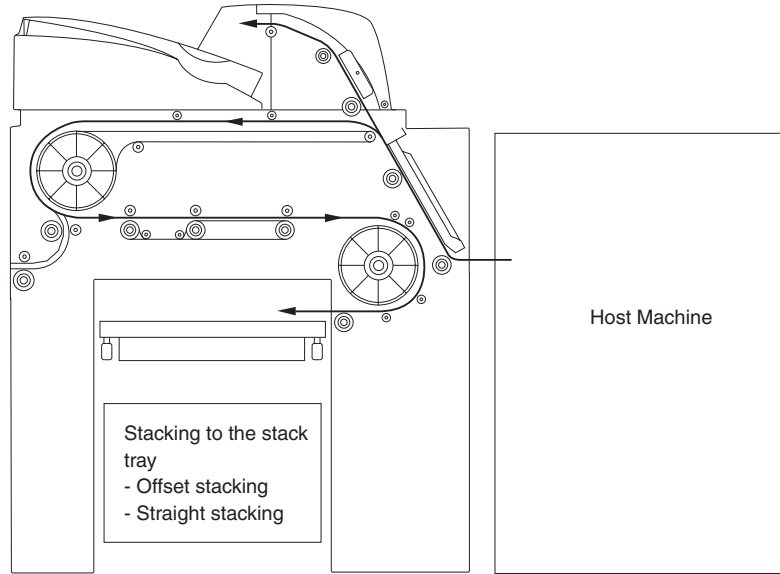
Several Stackers Operated in Line

Host Machine
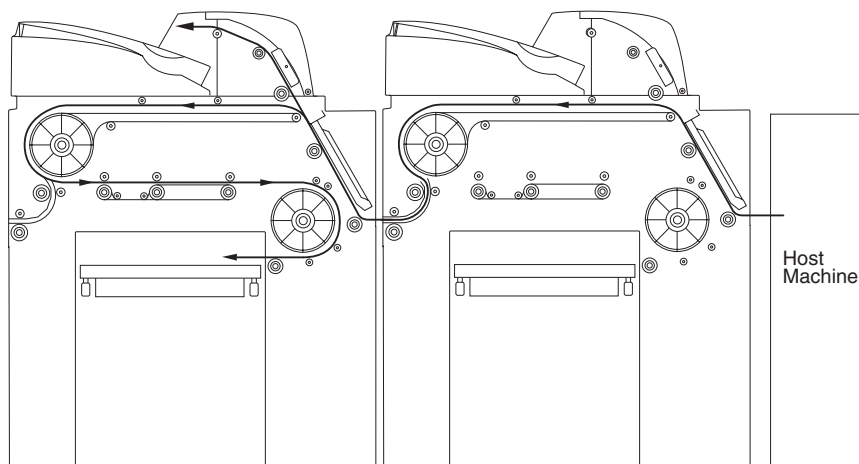
2.2.2 Control System

■ Transport Drive Motors

The transport drive motors M06 and M07 are brushless DC motors, and each is driven by a driver PCB. The driver PCBs are controlled by the stacker controller PCB QPM-186. M06 powers the transport system from the entrance section, through the transport section, left turn-over section, to the downstream output section. M07 powers the transport system from the offset section to the right turn-over section. M10 powers the delivery rollers at the OUTPUT TRAY exit. It operates slowly (270 mm or 10.63"/sec) just before the sheets are ejected.

■ Gate Solenoids

There are two gates:
• OUTPUT TRAY eject gate (SL01)
• Downstream output gate (SL02)

These gates are controlled by the stacker controller PCB QPM-186 depending on the commands from the host machine. When delivering to the OUTPUT TRAY, SL01 activates and the gate turns toward the OUTPUT TRAY. When delivering from the downstream exit, SL02 activates and the gate turns toward the downstream exit.
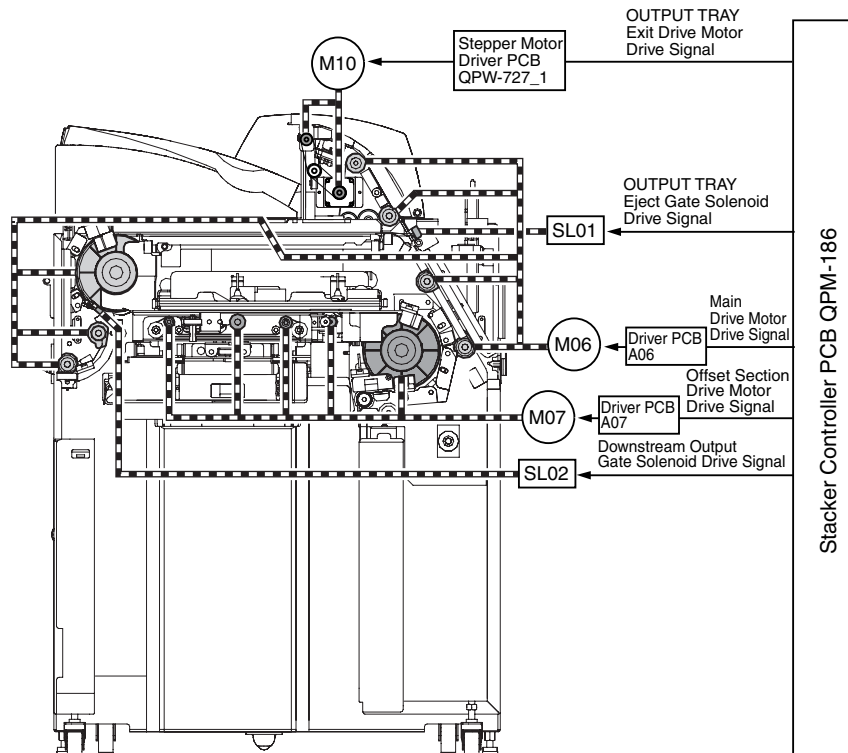
■ Sheet Sensors

The following sensors are installed on the sheet path. They detect the arrival or passage of each sheet.

Entrance Section
• Entrance sheet sensor (PI01)
• Gate entrance sheet sensor (PI02)

OUTPUT TRAY Section
• OUTPUT TRAY exit sheet sensor (PI03)

Transport Section
• Horizontal transport sheet sensor (PI06)

Offset Section
• Offset entrance sheet sensor (PI08)
• Left offset sheet sensor (PI09)
• Right offset sheet sensor (PI10)

Right Turn-Over Section
• Right turn-over sheet sensor (PI11)

Stacker Section
• Stacker exit sheet sensor (PI07)

Downstream Exit Section
• Downstream exit sheet sensor (PI15)

OUTPUT TRAY Exit
Sheet Sensor PI03

Left Offset
Sheet Sensor PI09

Right Offset
Sheet Sensor PI10

Horizontal Transport
Sheet Sensor PI06

Gate Entrance
Sheet Sensor PI02

Offset Entrance
Sheet Sensor PI08

Entrance
Sheet Sensor PI01

Stacker Exit
Sheet Sensor PI07

Downstream Exit
Sheet Sensor PI15

Right Turn-Over
Sheet Sensor PI11
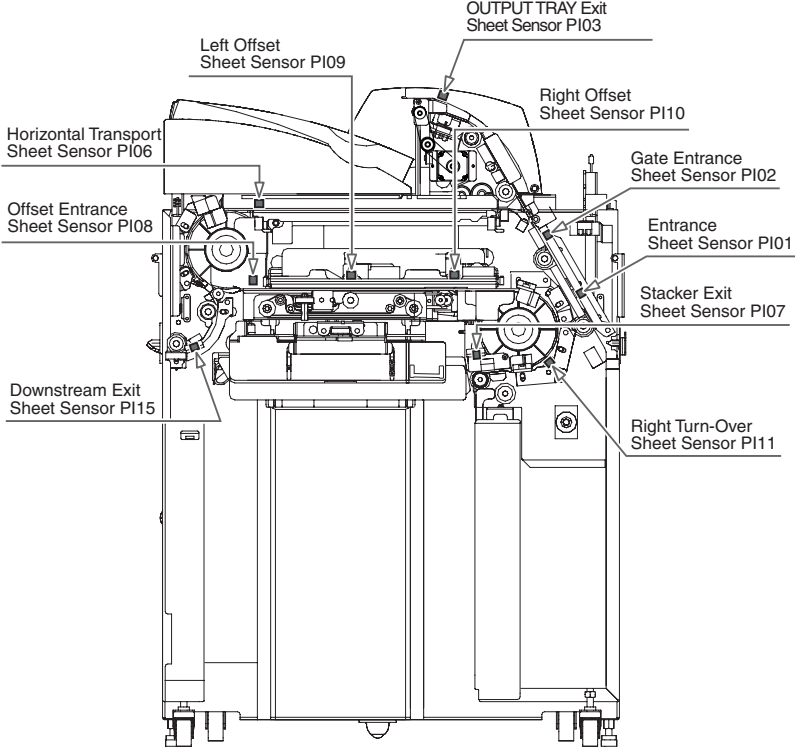
2.3   OUTPUT TRAY Delivery Operation

2.3.1   Preparation Stage Control

When the stacker receives the CycleUp On (start up command) signal from the option controller PCB, it returns the Standby (sheet accept ready) signal.

When the stacker receives the job information (size, ejecting pattern etc.) from the host machine, it moves the transport belts (M06) and the OUTPUT TRAY exit drive motor (M10).

2.3.2   Delivering Stage Control

As a sheet is transported into the stacker, it passes the entrance sheet sensor (PI01), gate entrance sheet sensor (PI02), and OUTPUT TRAY exit sheet sensor (PI03). When PI03 turns off, the OUTPUT TRAY exit drive motor M10 decelerates down to a slow speed (270 mm or 10.63"/sec), and continues this until the sheet has been delivered. After that, M10 accelerates up to the original speed.

If the sheet sensors PI01, PI02, or PI03 detect a sheet jam, the stacker sends the Faulted On signal to the option controller PCB.

Once all of the sheets have been delivered, the stacker sends the SampleSheetDelivered On signal to the option controller PCB.

When the OUTPUT TRAY full sensor PI05 detects a full stack of sheets, the stacker sends the Full On signal to the option controller PCB.

2.3.3   Stop Control

When the last sheet is delivered from the host machine, the stacker receives the SheetExit Off signal and EndOfSet On signal. After the last sheet has been ejected completely, when the stacker receives the CycleUp Off signal from the option controller PCB, it stops the transport belt (M06) and returns the Standby Off signal.

Host Machine
(Option Controller PCB)

Stacker

Parallel Signal

Serial Signal

Print Start

CycleUp On

Standby On

Job Information
(size, ejecting pattern etc.)

- Transport belts (M06/M10) run.

Every time the host machine
feeds a sheet, the system
sends these signals.

Ack

Sheet Interval Information

Ack

When the top of the sheet
comes out of the delivery of
the host machine.

SheetExit On

- Immediately after the sheet passes PI03,
  M10 decelerates down to slow speed
  (270 mm or 10.63"/sec), and continues until
  the sheet has been delivered.

SheetExitAck On

After the host machine has
delivered the sheet.

SheetExit Off

In case of the last sheet,
send the EndOfSet On together.

SheetExitAck Off

- If any of the sensors (PI01, PI02, PI03) detect a jam,
  the stacker sends the Faulted On signal to the host machine.

Repeat for
every sheet

SampleSheetDelivered On

- These signals are sent each time a sheet is
  delivered properly.

SampleSheetDeliveredAck On

SampleSheetDelivered Off

- If the OUTPUT TRAY full sensor (PI05) detects
  a full stack of sheets, the stacker sends the
  Full On signal to the host machine

SampleSheetDeliveredAck Off

CycleUp Off

- Transport belts (M06/M10) stop

Standby Off

2.4 Stack Tray Delivery Operation

2.4.1 Preparation Stage Control

When the stacker receives the CycleUp On (start up command) signal from the option controller PCB, it returns the Standby (sheet accept ready) signal. Next, when the stacker receives the job information from the option controller PCB, the stacker operates as follows:

1. The stacker moves the transport belts (M06/M07).
2. The stack tray (M08) lowers. (It does this to avoid a collision with the stack guides.)
3. The guides move to their home positions.
   - Offset section guide motor (M01)
   - Stopper motor (M02)
   - Stack guide motor (M03)
4. The stacker operates to do a front offset.
   - Offsetting motors (M04/M05/M11/M12)
   - Stack guide solenoids (front SL04: On, rear SL05: Off)
5. The guides move to match the size data from the host machine.
   - Offset section guide motor (M01)
   - Stopper motor (M02)
   - Stack guide motor (M03)
6. The stack tray (M08) rises. (It stops when the stack tray is detected by the receiving position sensor PI14.)

If there is a problem in this operation, the stacker sends the error information to the option controller PCB.

When a sheet is delivered from the host machine and the stacker receives the SheetExit On signal, the OUTPUT TRAY eject gate solenoid (SL01) activates and the gate moves toward the horizontal transport section.

2.4.2 Offsetting and Stacking Operation Control

[1] Offsetting

First sheet:

When the stacker receives the SheetExit On signal, it starts the offsetting operation described below, according to the job information.

- Offsetting motors move up or down (M04/M05/M11/M12)
- The stack guide solenoids operate.

    For front offsetting:

      Front solenoid SL04 activates to move the front guide up.

      Rear solenoid SL05 deactivates to move the rear guide down.

    For rear offsetting:

      Front solenoid SL04 deactivates to move the front guide down.

      Rear solenoid SL05 activates to move the rear guide up.

Second and later sheets:

After the previous sheet passes the offsetting left sheet sensor PI09, the stacker starts the offset operation by moving the offset motors M11/M12 up or down according to the job information, and after the sheet passes the offsetting right sheet sensor PI10, the stacker starts the offset operation by moving the offset motors M04/M05 up or down.

After the previous sheet passes the stacker exit sheet sensor PI07, the stacker starts the offsetting operation as follows:
• Stack guide solenoid offsetting operation
    For front offsetting:
      Front solenoid SL04 activates to move the front guide up
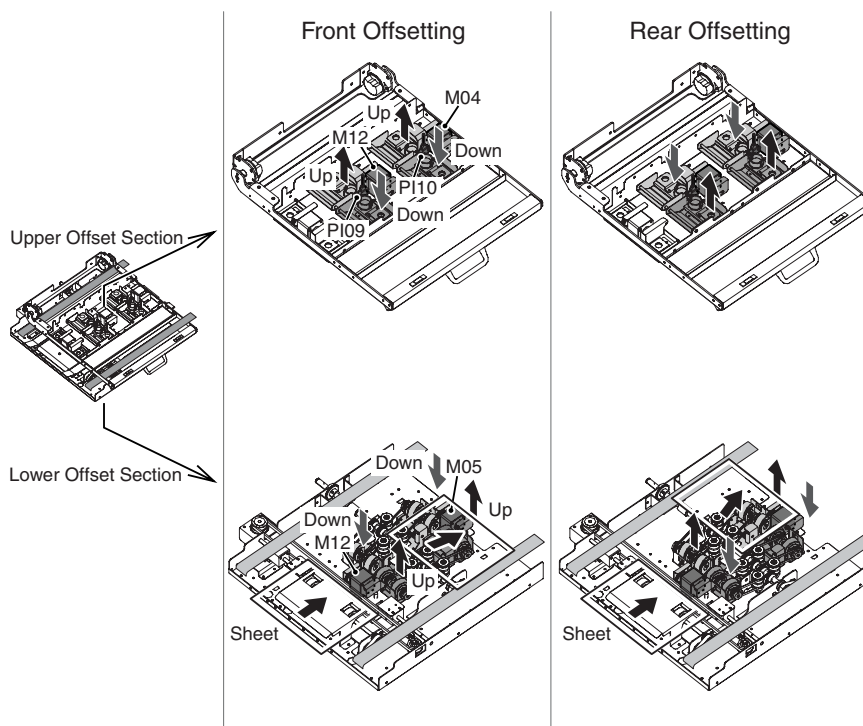   Rear solenoid SL05 deactivates to move the rear guide down.
    For rear offsetting:
      Front solenoid SL04 deactivates to move the front guide down.
      Rear solenoid SL05 activates to move the rear guide up.

[2] Offset section sheet holding
When both the left offset sheet sensor PI09 and the offset entrance sheet sensor PI08 detect the sheet, and the sheet length in feed direction is over 216.0 mm (8.50"), the offset section sheet hold motor M09 runs to release the sheet.

[3] If any of the sensors PI01, PI02, PI06, PI08, PI09, PI10, PI11 or PI07 detect a sheet jam, the stacker sends the Faulted On signal to the option controller PCB.

[4] Once all of the sheets are delivered correctly, the stacker sends the StackSheet-Delivered On signal to the option controller PCB.

[5] Stack tray lowering
When the stacked sheets lift the actuator up, and the stack tray receiving position sensor PI14 detects the actuator, the stack tray (M08) lowers until PI14 is not activated any longer.
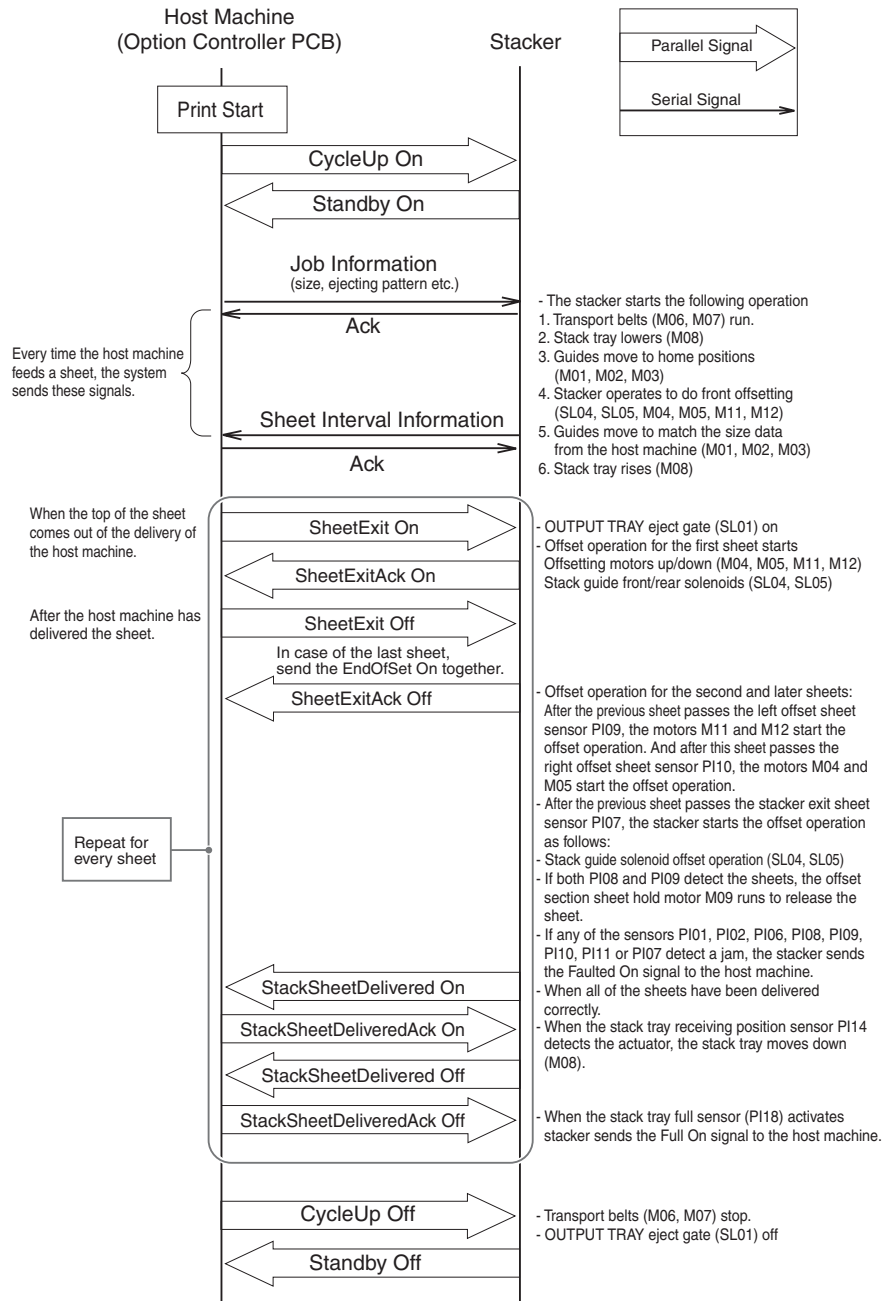
[6] Stack tray full
When the stack tray full sensor PI18 activates, the stacker sends the Full On signal to the option controller PCB.

2.4.3 Stop Control

When the last sheet is delivered from the host machine, the stacker receives the Sheet-Exit Off signal. After the stacker ejects the last sheet completely and receives the CycleUp Off signal from the option controller PCB, it stops the transport belts (M06, M07), deactivates the OUTPUT TRAY eject gate (SL01) and returns the Standby Off signal.

Host Machine
(Option Controller PCB)   Stacker

| Parallel Signal |
| Serial Signal |

Print Start

CycleUp On →

← Standby On

Job Information
(size, ejecting pattern etc.)

← Ack →

Every time the host machine feeds a sheet, the system sends these signals.

Sheet Interval Information

← Ack →

When the top of the sheet comes out of the delivery of the host machine.

SheetExit On →

← SheetExitAck On

After the host machine has delivered the sheet.

SheetExit Off →

In case of the last sheet, send the EndOfSet On together.

← SheetExitAck Off

Repeat for every sheet

← StackSheetDelivered On

StackSheetDeliveredAck On →

← StackSheetDelivered Off

StackSheetDeliveredAck Off →

CycleUp Off →

← Standby Off

- The stacker starts the following operation
1. Transport belts (M06, M07) run.
2. Stack tray lowers (M08)
3. Guides move to home positions (M01, M02, M03)
4. Stacker operates to do front offsetting (SL04, SL05, M04, M05, M11, M12)
5. Guides move to match the size data from the host machine (M01, M02, M03)
6. Stack tray rises (M08)

- OUTPUT TRAY eject gate (SL01) on
- Offset operation for the first sheet starts
  Offsetting motors up/down (M04, M05, M11, M12)
  Stack guide front/rear solenoids (SL04, SL05)

- Offset operation for the second and later sheets:
  After the previous sheet passes the left offset sheet sensor PI09, the motors M11 and M12 start the offset operation. And after this sheet passes the right offset sheet sensor PI10, the motors M04 and M05 start the offset operation.
- After the previous sheet passes the stacker exit sheet sensor PI07, the stacker starts the offset operation as follows:
- Stack guide solenoid offset operation (SL04, SL05)
- If both PI08 and PI09 detect the sheets, the offset section sheet hold motor M09 runs to release the sheet.
- If any of the sensors PI01, PI02, PI06, PI08, PI09, PI10, PI11 or PI07 detect a jam, the stacker sends the Faulted On signal to the host machine.
- When all of the sheets have been delivered correctly.
- When the stack tray receiving position sensor PI14 detects the actuator, the stack tray moves down (M08).

- When the stack tray full sensor (PI18) activates stacker sends the Full On signal to the host machine.

- Transport belts (M06, M07) stop.
- OUTPUT TRAY eject gate (SL01) off

2.5   Downstream Output Operation

2.5.1   Preparation Stage Control

When the stacker receives the CycleUp On (start up command) signal from the option controller PCB, it returns the Standby (sheet accept ready) signal. When the stacker receives the job information (size, ejecting pattern etc.) from the host machine, it runs the transport belts (M06). And when the host machine delivers the sheets and the stacker receives the SheetExit On signal, the OUTPUT TRAY eject gate solenoid (SL01) activates, the gate moves toward the horizontal transport section, and the downstream output gate solenoid (SL02) activates and the gate moves toward the downstream side.

2.5.2   Delivering Stage Control

As a sheet is being transported into the stacker, it passes the entrance sheet sensor (PI01), gate entrance sheet sensor (PI02) and horizontal transport sheet sensor (PI06), and arrives at the downstream exit sheet sensor (PI15). When the sheet starts to pass PI15, the stacker sends the SheetEjctOn signal to the option controller PCB. After that, when all of the sheets have been completely delivered and the stacker receives the SheetEjctOnAck signal from host machine, it turns off the SheetEjctOn signal.
If any of the sensors PI01, PI02, PI06 or PI15 detect a sheet jam, the stacker sends the Faulted On signal to the option controller PCB.

2.5.3   Stop Control

When the last sheet has been delivered from the host machine, the stacker receives the SheetExit Off signal and EndOfSet On signal. After the last sheet has been ejected completely, when the stacker receives the CycleUp Off signal, it stops the transport belt (M06) and turns off the OUTPUT TRAY eject gate solenoid (SL01) and downstream output gate solenoid (SL02), and then returns the Standby Off signal to the option controller PCB.

Host Machine
(Option Controller PCB)   Stacker

Parallel Signal

Serial Signal

Print Start

CycleUp On →

← Standby On

Job Information
(size, ejecting pattern etc.) →
- Transport belts (M06) run.

← Ack

Sheet Interval Information →

← Ack

When top of the sheet comes
out of the delivery of the host
machine

SheetExit On →
- OUTPUT TRAY eject gate (SL01) on
- Downstream output gate (SL02) on

← SheetExitAck On

After the host machine has
delivered the sheet completely

SheetExit Off →
In case of the last sheet,
send the EndOfSet on together.

← SheetExitAck Off

Repeat for
every sheet
- If any of the sensors PI01, PI02, PI06 or PI15
  detect a jam, the stacker sends the Faulted On signal
  to the host machine.

← SheetEjct On
- When the sheet starts to pass the PI15

SheetEjct On →

← SheetEjct Off
- When the sheet has passed PI15 completely

SheetEjct Off →

CycleUp Off →
- Transport belts (M06) stop
- OUTPUT TRAY eject gate (SL01) off
- Downstream output gate (SL02) off

← Standby Off

2.6   Stack Tray Operation

2.6.1   Stack Tray Up/Down Operation

M08, a brushless DC motor, which is controlled by driver A08, moves the stack tray up or down. Driver A08 is controlled by stacker controller PCB QPM-186.
When a sheet is on the stack tray (PI16), the slow clutch (CL06) activates so the tray moves slowly. When there are no sheets on the stack tray, the quick clutch (CL10) activates.

2.6.2   Stack Tray Sensor Control

Two sensors are used to detect the stack tray upper and lower limits for the stack tray:
• Stack tray upper limit sensor (PI17)
• Stack tray lower limit sensor (PI19)
While the stack tray is rising, when the stack tray receiving position sensor (PI14) detects the tray or the top sheet, the tray (M08) stops. If the stack tray receiving position sensor (PI14) malfunctions, the stack tray rises to the stack tray upper limit sensor (PI17).

When the stack tray rises quickly, the stack tray speed reduction sensor (PI26) detects the stack tray and the speed decelerates. Also when the stack tray rises slowly, the stack tray speed reduction sensor (PI26) detects the stack tray. However, this detection is not processed.

Stack tray sensor (PI20) detects the stack tray at the lower limit.

Stack tray sheet sensor (PI16) detects a sheet on the stack tray.
All of the signals from these sensors are sent to the stacker controller PCB QPM-186 and are interpreted there.

Stack Tray
Upper Limit Sensor (PI17)

Stack Tray
Speed Reduction Sensor (PI26)

Stack Tray
Up/Down Motor (M08)

Stack Tray
Quick Up/Down Clutch (CL10)

Stack Tray
Slow Up/Down Clutch (CL06)

Stack Tray
Lower Limit Sensor (PI19)

Stack Tray
Sheet Sensor (PI16)

Stack Tray Sensor (PI20)

Stack Tray
Receiving Position
Sensor (PI14)
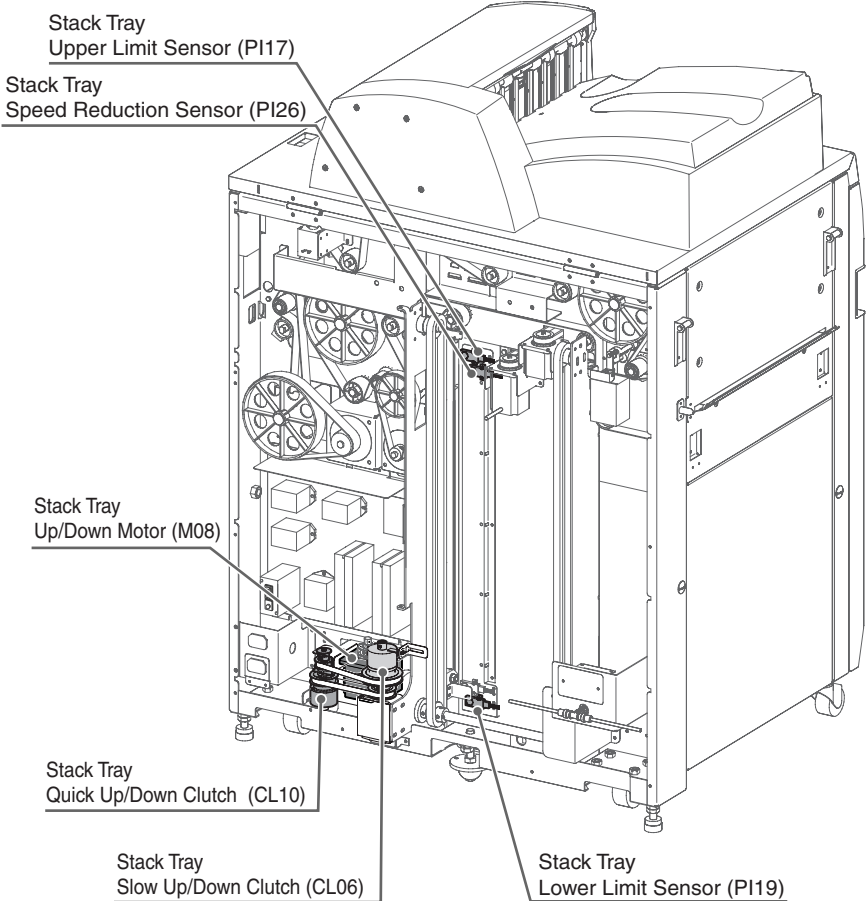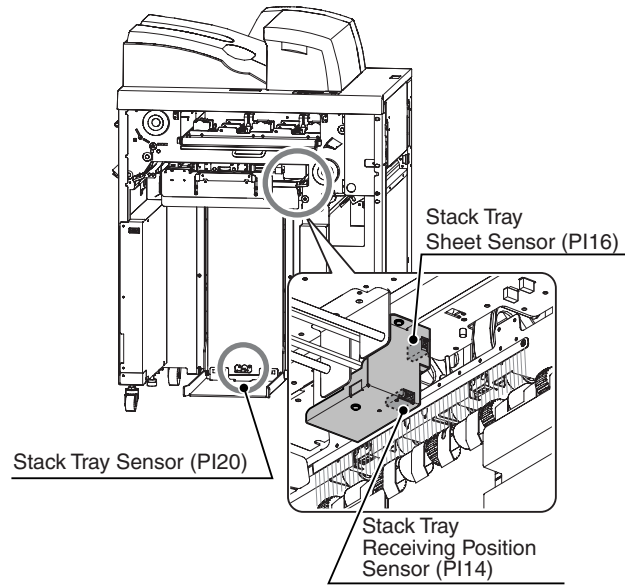
2.7 Detecting Jams

In order to detect a moving sheet or a sheet left in the machine, the following sheet sensors are installed:

Delivery to the OUTPUT TRAY
• Entrance sheet sensor PI01
• Gate entrance sheet sensor PI02
• OUTPUT TRAY exit sheet sensor PI03

Delivery to the Stack Tray
• Entrance sheet sensor PI01
• Gate entrance sheet sensor PI02
• Horizontal transport sheet sensor PI06
• Offset entrance sheet sensor PI08
• Left offset sheet sensor PI09
• Right offset sheet sensor PI10
• Right turn-over sheet sensor PI11
• Stacker exit sheet sensor PI07

Delivery to the Downstream Exit
• Entrance sheet sensor PI01
• Gate entrance sheet sensor PI02
• Horizontal transport sheet sensor PI106
• Downstream exit sheet sensor PI15

These sensors can detect a sheet jam while the machine is running. They also check for any sheets left in the machine when the power is turned on, and when the covers are closed.

Left Offset
Sheet Sensor PI09

OUTPUT TRAY Exit
Sheet Sensor PI03

Right Offset
Sheet Sensor PI10

Horizontal Transport
Sheet Sensor PI06

Gate Entrance
Sheet Sensor PI02

Offset Entrance
Sheet Sensor PI08

Entrance
Sheet Sensor PI01

Stacker Exit
Sheet Sensor PI07

Downstream Exit
Sheet Sensor PI15

Right Turn-Over
Sheet Sensor PI11
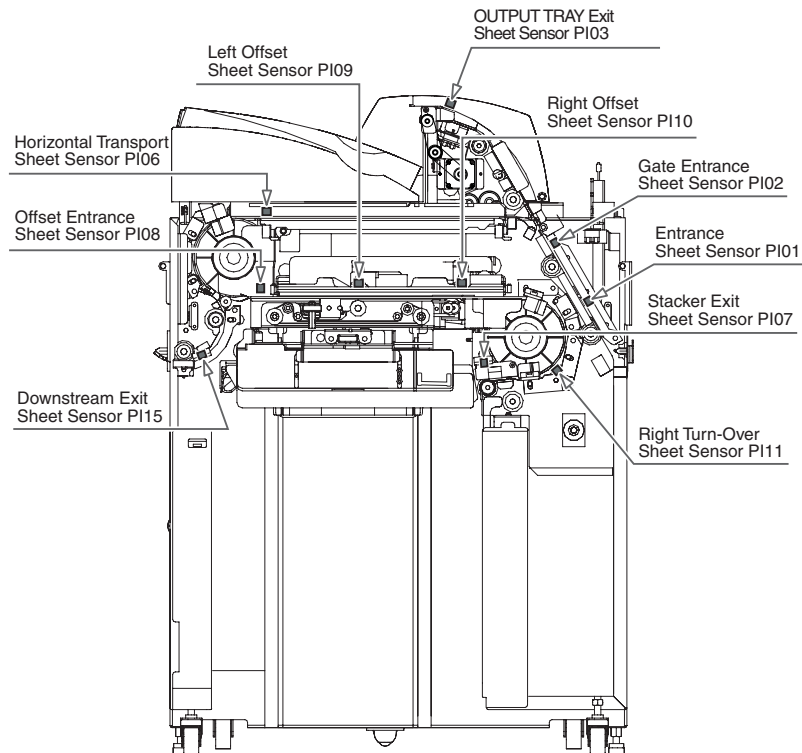
The micro-computer (CPU) on the stacker controller PCB QPM-186 has recorded the correct interval as a sheet moves between each pair of sensors. If a sheet does not pass between a pair of sensors within the correct interval, the CPU declares as a jam.
If the CPU declares a jam, the stacker stops running, and sends the Faulted On signal and jam information to the option controller PCB.

After the operator removes the jammed sheet and closes all of the covers, the stacker checks to see whether the sensors shown in the figure above still detect the sheet. If the sensors do not detect any sheet, the stacker declares this as a complete recovery and sends the Faulted Off signal to the option controller PCB.

Host Machine
(Option Controller PCB)   Stacker

| Parallel Signal |
| Serial Signal |

Jam occurs

Faulted On

Jam Information

— LCD display shows the jam location and remedy

Ack

CycleUp Off

Standby Off

Cover Open

— To open the front cover,
  press the Front Cover Open button.

Status Information (Cover Open)

Ack

Remove jammed sheets

Remove all jammed sheets

Cover Close

Status Information (Cover Close)

Ack

— Stacker checks to see that no sensors detect a sheet

Faulted Off

Jam Information

— LCD display clears the jam indication

Ack

Host machine
restarts printing

Jam Type	Sensor	Jam Condition	Jam Position Code
Delay to the entrance sheet sensor	PI01	After the stacker received the SheetExit signal, the sheet has not arrived at the entrance sheet sensor PI01 within the correct interval.	B
Sheet left on the entrance sheet sensor	PI01	A sheet has remained on the entrance sheet sensor PI01 for too long a time.	B
Delay to the gate entrance sheet sensor	PI02	A sheet which was detected by the entrance sheet sensor PI01 has not arrived at the gate entrance sensor PI02 within the correct interval.	B
Sheet left on the gate entrance sheet sensor	PI02	A sheet has remained on the gate entrance sheet sensor PI02 for too long a time.	B
Delay to the OUTPUT TRAY ejection	PI03	A sheet which was detected by the gate entrance sheet sensor PI02 has not arrived at the OUTPUT TRAY exit sheet sensor PI03 within the correct interval.	A
Sheet left on the OUTPUT TRAY exit sheet sensor	PI03	A sheet has remained on the OUTPUT TRAY exit sheet sensor PI03 for too long a time.	A
Delay to the horizontal transport sheet sensor	PI06	A sheet which was detected by the gate entrance sheet sensor PI02 has not arrived at the horizontal transport sheet sensor PI06 within the correct interval.	C
Sheet left on the horizontal transport sheet sensor	PI06	A sheet has remained on the horizontal transport sheet sensor PI06 for too long a time.	C

Jam Type	Sensor	Jam Condition	Jam Position Code
Delay to the offset entrance sheet sensor	PI08	A sheet which was detected by the horizontal transport sheet sensor PI06 has not arrived at the offset entrance sheet sensor PI08 within the correct interval.	D12
Sheet left on the offset entrance sheet sensor	PI08	A sheet has remained on the offset entrance sheet sensor PI08 for too long a time.	D12
Delay to the left offset sheet sensor	PI09	A sheet which was detected by the offset entrance sheet sensor PI08 has not arrived at the left offset sheet sensor PI09 within the correct interval. (This interval is based on the sheet speed).	D1
Sheet left on the left offset sheet sensor	PI09	A sheet has remained on the left offset sheet sensor PI09 for too long a time.	D1
Delay to the right offset sheet sensor	PI10	A sheet which was detected by the left offset sheet sensor PI09 has not arrived at the right offset sheet sensor PI10 within the correct interval.	D13
Sheet left on the right offset sheet sensor	PI10	A sheet has remained on the right offset sheet sensor PI10 for too long a time.	D13
Delay to the right turn-over sheet sensor	PI11	A sheet which was detected by the right offset sheet sensor PI10 has not arrived at the right turn-over sheet sensor PI11 within the correct interval.	D45
Sheet left on the right turn-over sheet sensor	PI11	A sheet has remained on the right turn-over sheet sensor PI11 for too long a time.	D45

Jam Type	Sensor	Jam Condition	Jam Position Code
Delay to the stacker exit sheet sensor	PI07	A sheet which was detected by the right turn-over sheet sensor PI11 has not arrived at the stacker exit sheet sensor PI07 within the correct interval.	∗
Sheet left on the stacker exit sheet sensor	PI07	A sheet has remained on the stacker exit sheet sensor PI07 for too long a time.	∗
Delay to the downstream exit sheet sensor	PI15	A sheet which was detected by the horizontal transport sheet sensor PI06 has not arrived at the downstream exit sheet sensor PI15 within the correct interval.	E12
Sheet left on the downstream exit sheet sensor	PI15	A sheet has remained on the downstream exit sheet sensor PI15 for too long a time.	E12

The correct interval will change, depending on the sheet size

2.8   Power Supply

2.8.1   120-240V Power Supply Route

120-240V is supplied to the stacker inlet. It goes through circuit breaker CB01, and line filter LF01, and is then supplied to power switch SW00. When power switch SW00 is turned on, the 120-240V is supplied to power supply G01. Power supply G01 generates two voltages: 24VDC and 5VDC. 24VDC and 5VDC are supplied to the option controller PCB, stacker controller PCB, and stepper motor drivers.

If two or three stacker units are connected in line, the 120-240V power for the downstream unit is supplied from the unit upstream. The power circuit branches off between circuit breaker CB01 and line filter LF01, and connects through the power receptacle for the downstream unit.

The 120-240V power supply route is as shown in the next page:

Single Phase
120 to 240VAC
Customer Power
Inlet

Circuit Breaker   Line Filter   Power Switch   Power Supply

CB01   LF01   SW00   G01

N   │2│   3   4   N   N   │7│   3   4   │8│   N
L   1   2   P   P   1   2   L
PE   E   E

│3│

N
Power Receptacle
L
for the downstream unit
PE

SW00

7

8

G01

2

120-
240VAC

3

CB01 LF01
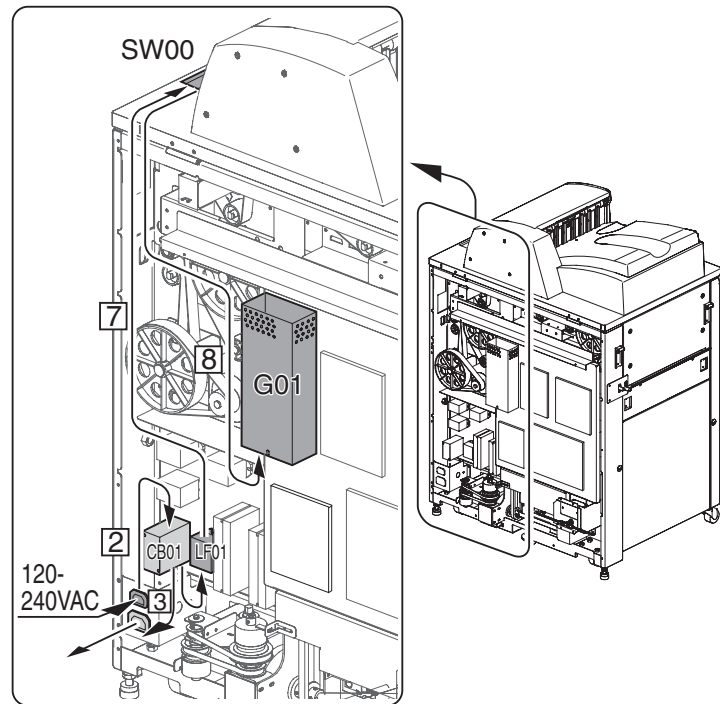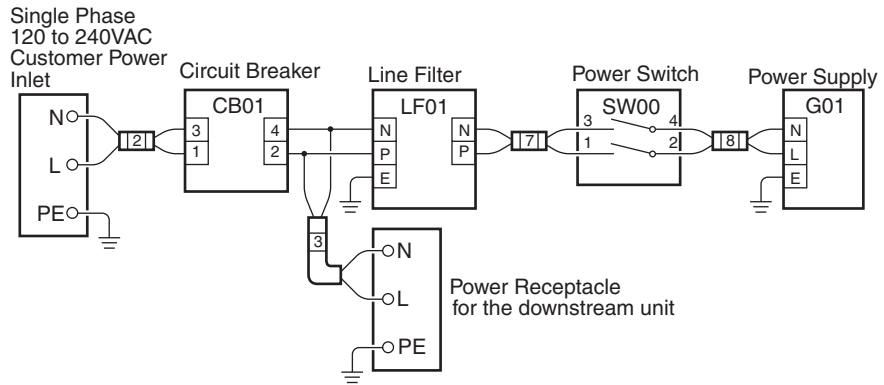
2.8.2   5V/24V Power Supply Route

Power supply G01 generates two voltages: 24VDC and 5VDC. Power supply G01 supplies 24 VDC and 5VDC for the logic system on the stacker controller PCB QPM-186, and also supplies 24VDC for the logic system on the option controller PCB. Both are supplied without a standby relay.

24VDC for the solenoids, clutch, and sensors is supplied to the QPM-186 from G01 via standby relay K01. In energy saving mode, the standby relay circuit opens and the 24VDC is shut off.

24VDC for the motors is supplied to the motor driver PCB from G01 via standby relay K01 and interlock relays K02/K03. In energy saving mode, or when the interlock switches (SW01/SW02/SW03) are activated, the power is shut off.
The 5V/24V power supply route is as follows:
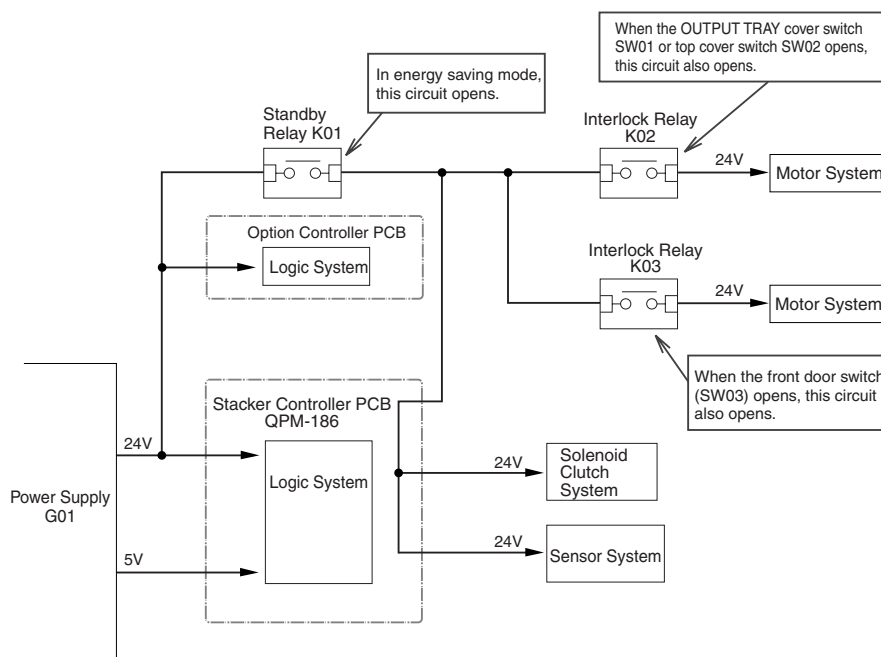
Chapter 3 Parts Replacement Procedures

Caution
- Turn off the power switch before you remove any external cover.
- When you do the service maintenance on the back side of the machine, turn off the power switch and disconnect the power cable.

Contents

3.1 External Covers

OUTPUT TRAY Cover

Top Cover

Front Cover

OUTPUT TRAY Rear Cover

Rear Small Cover

Left Upper Cover

Main Rear Cover

3.1.1 Main Rear Cover

1) Disconnect the power plug [1] and communication cable [2].
2) Remove the 13 screws [3], and remove the main rear cover [4].
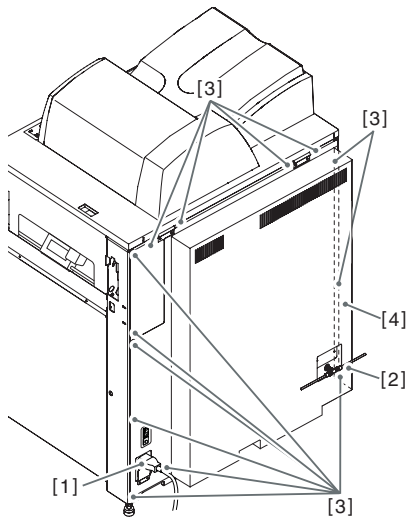
3.1.2 OUTPUT TRAY Rear Cover

1) Remove the 4 screws [1], and remove the OUTPUT TRAY rear cover [2].
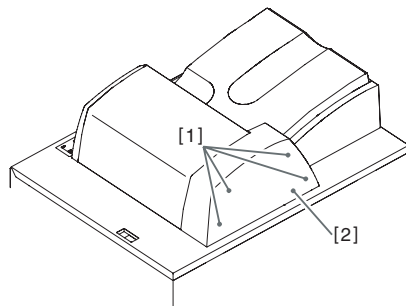
3.1.3 How to Open the OUTPUT TRAY Cover Guide

1) Open the OUTPUT TRAY cover [1].
2) Remove the 2 screws [2], and return the guide [3].
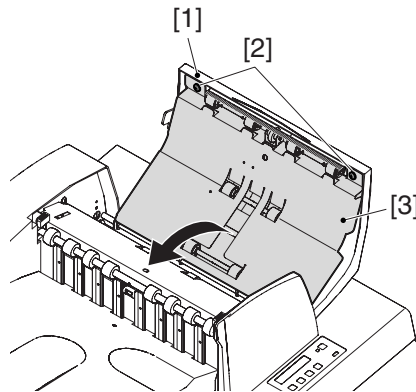
3.1.4 Front Cover

1) Open the top cover.
2) Open the front cover and remove the cover [1].
3) Disconnect the cable connector [2].
4) Remove the screw [3] and remove the bracket [4].
5) Remove the connecting plate [5] from the pin [6].
6) Remove the cover bracket [7].
7) Close the front cover [8] and lift it to remove.
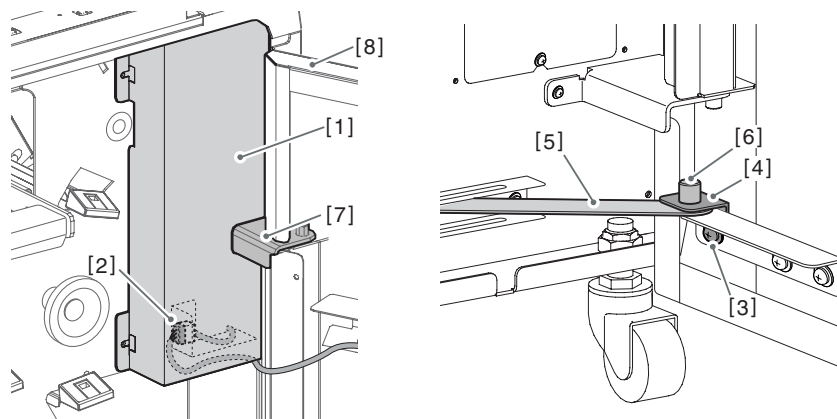
3.1.5 Left Upper Cover

1) Remove the 6 screws [1], and remove the left top cover [2].
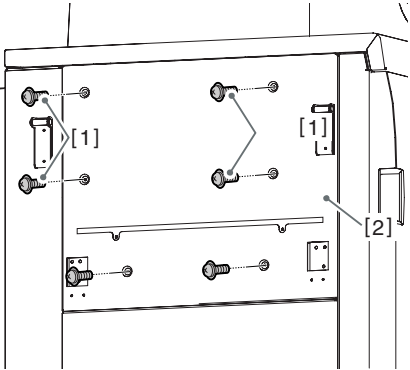
3.2 Drive System

3.2.1 Main Drive Motor M06

1) Remove the main rear cover. (See section 3.1.1.)

2) Remove the belt [1].

- Remove the belt from the plastic pulley [2].

3) Disconnect the connectors for motor M06 from CN3 and CN4 on the driver board A06.

4) Remove the 2 screws [3] from the motor cover.

5) Remove the 3 screws [4] from the motor and replace the motor.
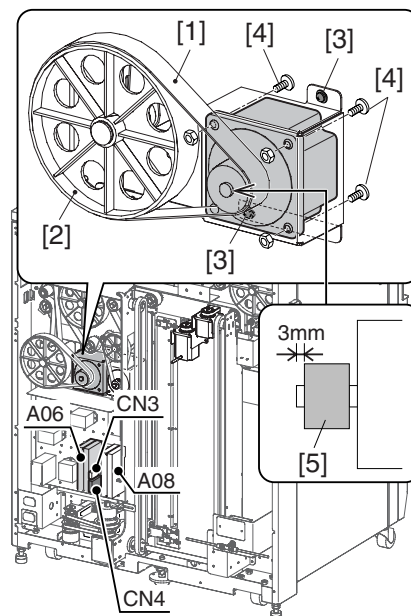
Caution

- When you install the belt, see section 4.3.3 to match the belt installing direction.
- See the figure above for the installing position of the motor pulley [5].
- The driver boards A06 and A08 are similar in appearance. When connecting a cable to the driver board, connect the cable to the driver board referring "M06" sticker, which is stuck under the driver board.

3.2.2   Offset Section Drive Motor M07

1) Remove the main rear cover. (See section 3.1.1.)
2) Remove the main transport motor M06. (See section 3.2.1.)
- Remove so as not to interfere the motor M06 when the motor M07 is removed.
3) Disconnect the connector for motor M07 from CN3 on the driver board A07.
4) Remove the 2 screws [1] from the motor cover.
5) Remove the 4 screws [2] from the motor, and replace the motor.
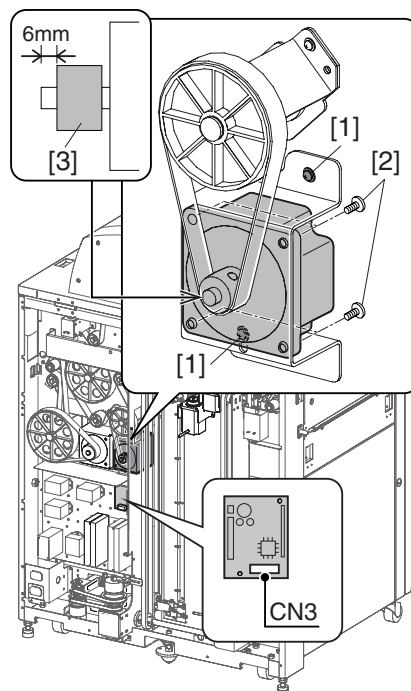
Caution
- When you install the belt, see section 4.3.3 to match the belt installing direction.
- See the figure above for the installing position of the motor pulley [3].

3.2.3   Stack Tray Up/Down Motor M08

1) Remove the main rear cover. (See section 3.1.1.)
2) Remove the 2 screws [1] from the bracket for the stack tray quick up/down clutch CL10.
3) Disconnect the connector for motor M08 from CN3 and CN4 on the driver board A08.
4) Remove the 2 screws [2] from the motor cover.
5) Remove the 3 screws [3] from the motor, and replace the motor.
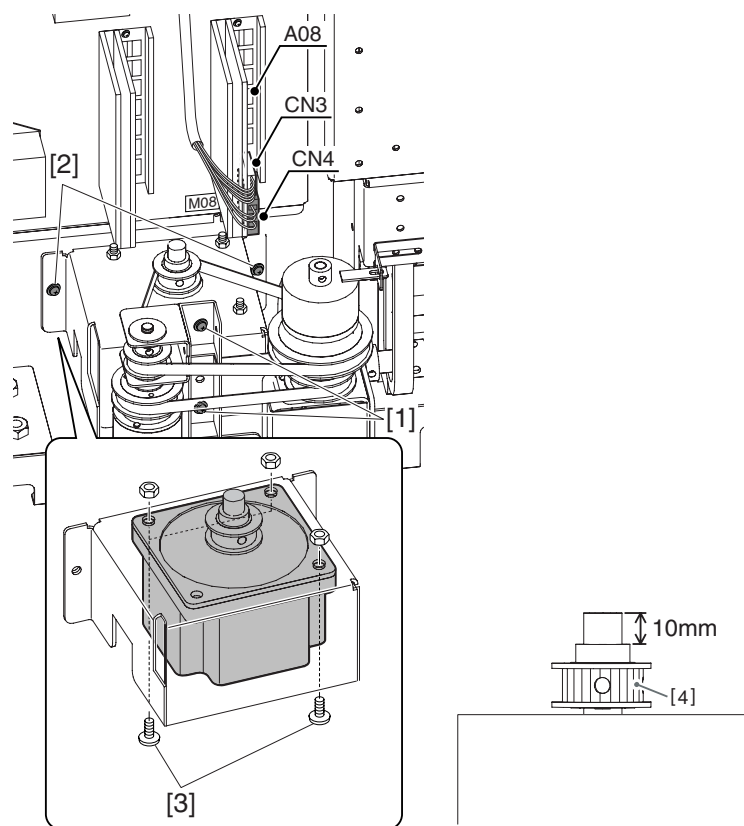
Caution
- The driver boards A06 and A08 are similar in appearance. When connecting a cable to the driver board, connect the cable to the driver board referring "M08" sticker, which is stuck under the driver board.
- See the figure above for the installing position of the motor pulley [4].

3.2.4 OUTPUT TRAY Exit Drive Motor M10

1) Remove the OUTPUT TRAY rear cover [1]. (See section 3.1.2.)

[1]
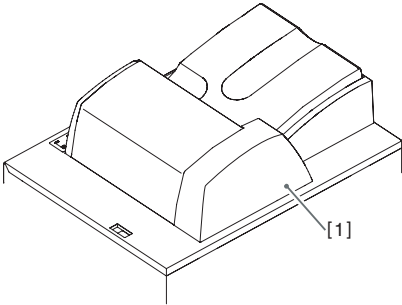
2) Open the top cover. Remove the 2 screws [2], and remove the OUTPUT TRAY front cover.

[2]
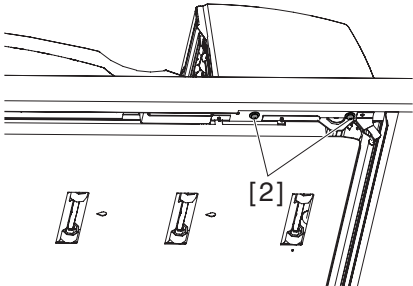
3) Loosen the 2 screws [4] and remove the 2 screws [5] on the guide [3].
4) Remove the screw [6] for the cover stay.
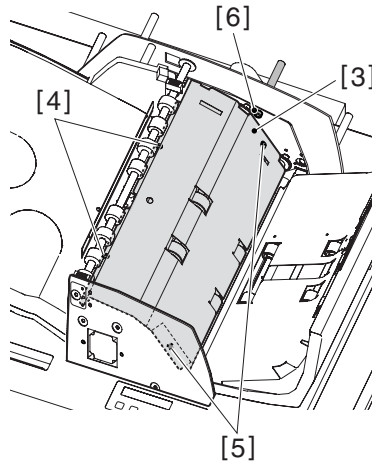
5) Remove the 2 screws [7] on the rear to remove the magnet bracket, and open the guide [3].
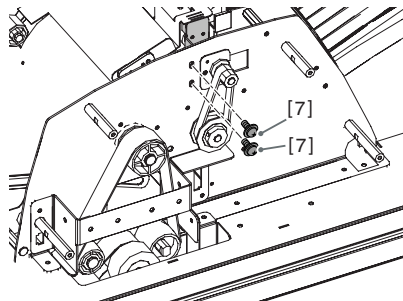
6) Disconnect the connector for motor M10.
7) Remove the 2 screws [8] from the motor bracket.
8) Remove the 4 screws [9] from the motor, and replace the motor.
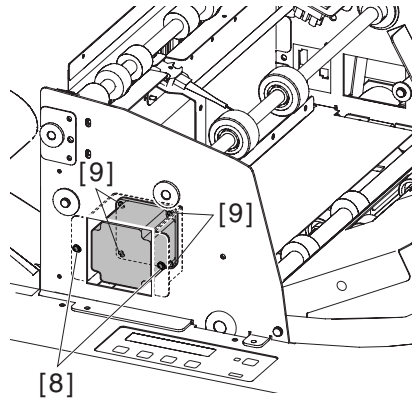
3.3 Document Feeding System

3.3.1 Horizontal Transport Section Lower Guide Plate

1) Loosen the 2 screws [1], and remove the belt cover [2].
2) Remove the 2 screws [3].
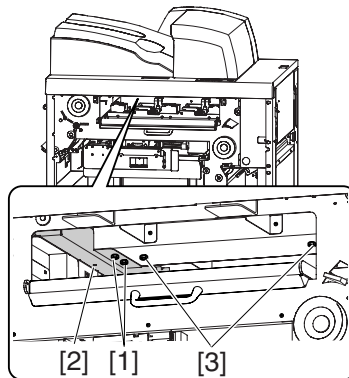
3) Disconnect the sensor connector [4] (connected with the cable No.29).
4) Remove the end plate [5].
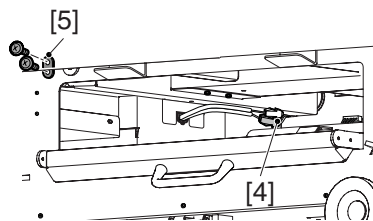
5) Push the roller unit [6] to the right, and then raise it and remove the belt [7].
6) Remove the 6 screws [8], and remove the guide plate and roller unit [6].
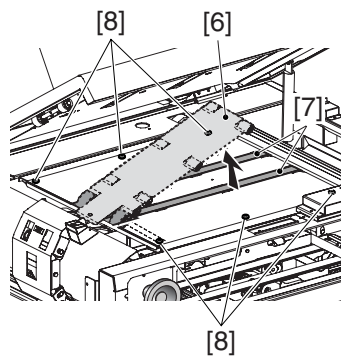
3.3.2   Offset Section Upper Unit

1) Remove the main rear cover. (See section 3.1.1.)
2) Remove the 2 screws [1] from the bracket, and remove the bracket.
3) Open the front cover and disconnect the 8 connectors [3] at the far side of the offset section.
- Do not disconnect the connector X21.
4) Remove the 6 screws [2], and take out the offset section top unit from the front side.
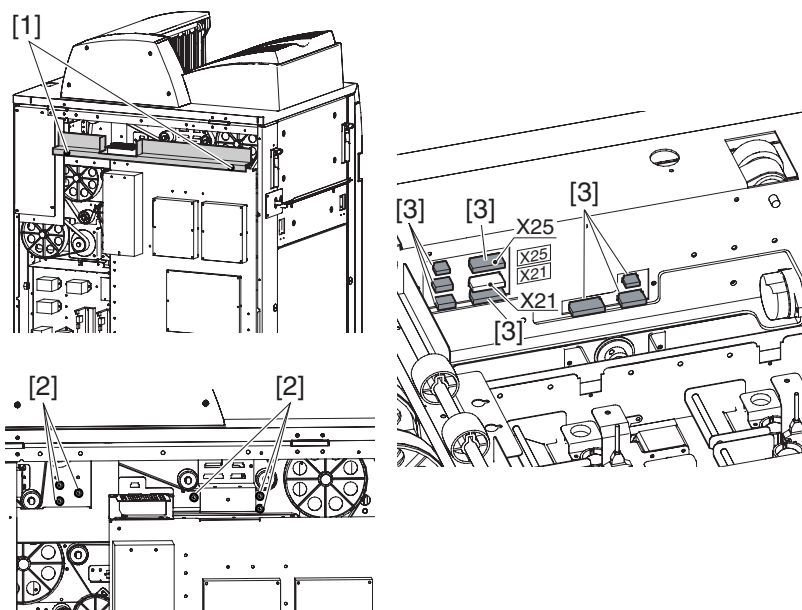

Note:
- The connectors X21 and X25 are similar in appearance. If the X21 and X25 are disconnected at the same time, connect the cable referring to the stickers attached on the cable and frame.
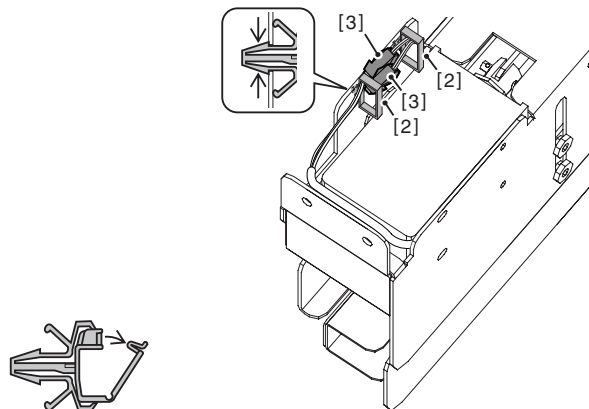
3.3.3 Stack Guide

1) Turn on the power switch and move the stack tray down.
2) Turn off the power switch.

- Front Stack Guide

3) Remove the two snap ties [1] from the guide.
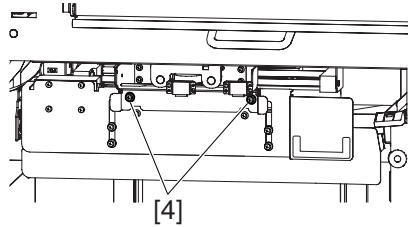- Pinch the part shown by arrows and pull out the snap ties.
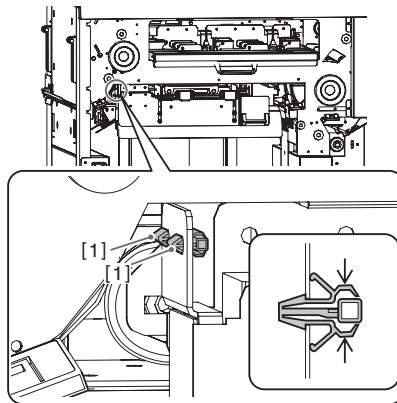
4) Open the front stack guide and remove the wire saddle [2] from the guide.
- Pinch the wire saddle in the arrow direction in the figure below to remove it.
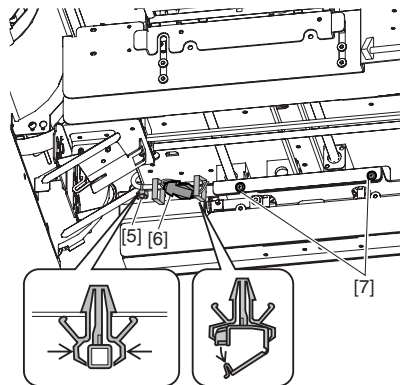5) Release the wire from the wire saddle and disconnect the connector [3].

6) Close the front stack guide and remove the 2 screws [4], holding the guide by hands.

[4]

- Rear Stack Guide

7) Remove the snap tie [5] from the guide.

- Pinch the part shown by arrows and pull out the snap tie.

8) Disconnect the connector [6].

9) Remove the 2 screws [7].
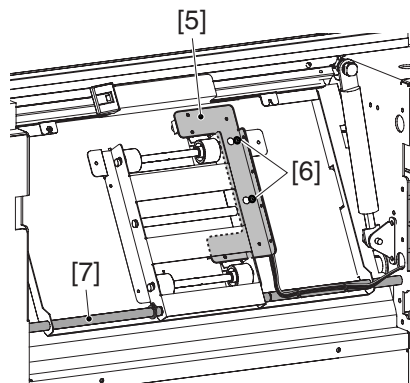
10) Move the stack guide to the left and remove it.

[5] [6]

[7]

3.3.4   Entrance Section Upper Guide

1) Disconnect the stacker from the host machine.
2) Remove the rear small cover.
3) Remove the 2 snap rings [1].
4) Remove the cable band [2].
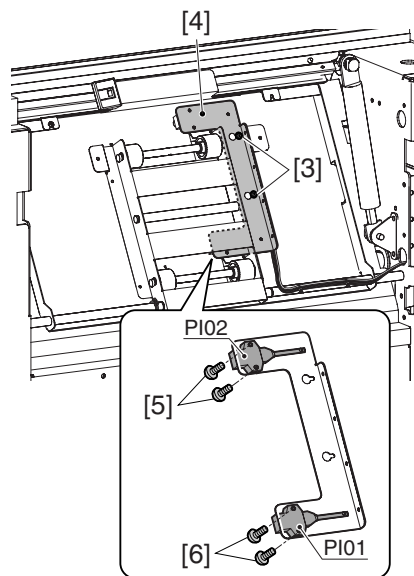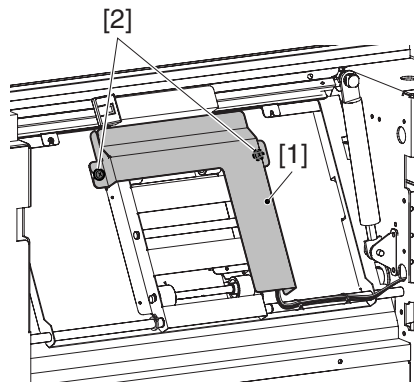5) Remove the 2 screws [3], and open the guide cover [4].
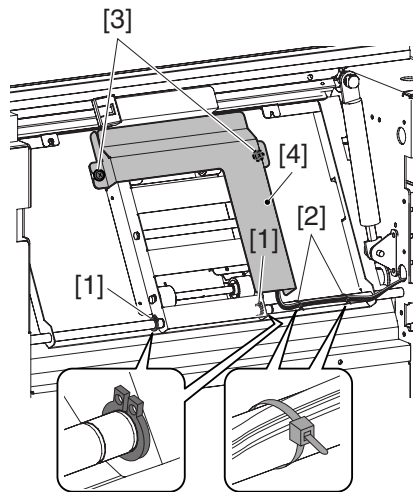
6) Loosen the screw [6], and remove the sensor bracket [5].
7) Pull out the shaft [7] from the rear of the machine.

3.3.5 Entrance Sheet Sensor PI01/Gate Entrance Sheet Sensor PI02

1) Remove the rear small cover.
2) Remove the 2 screws [2] from the cover [1].
3) Remove the 2 screws [3], and remove the sensor bracket [4].
4) Remove the 2 screws from each of the sensors [5] for PI01 and [6] for PI02, and remove the sensors.
5) Disconnect the connectors to the sensors.

3.3.6   OUTPUT TRAY Exit Sheet Sensor PI03

1) Open the OUTPUT TRAY cover.
2) Remove the 2 screws [1], and open the guide [2].
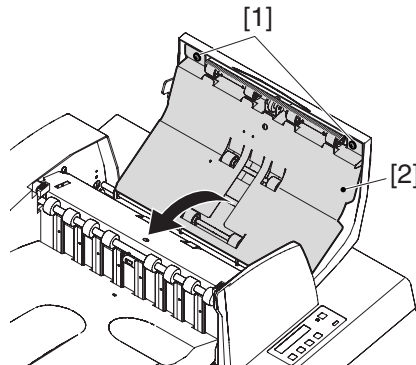
3) Remove the 2 nuts [3] from the sensor bracket and remove the sensor bracket.
4) Disconnect the sensor connector.
5) Remove the 2 screws [4] from the sensor, and replace the sensor.
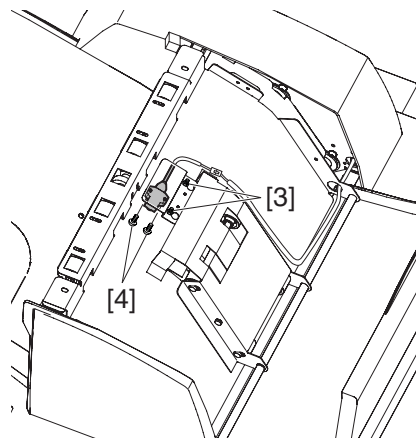
3.3.7   OUTPUT TRAY Sheet Sensor PI04

1) Open the top cover and remove the 3 screws [1].

[1]
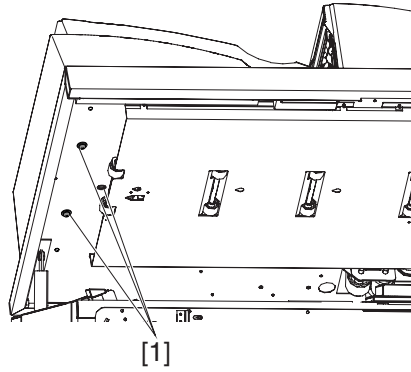
2) Remove the sheet stacking section [2].
3) Remove the 3 screws [3] from the sensor bracket.
4) Disconnect the sensor connector.
5) Remove the 2 screws [4] from the sensor, and replace the sensor.

[2]

[3]

[4]
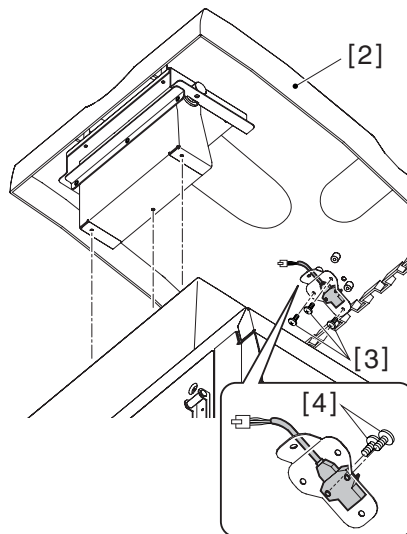
3.3.8   OUTPUT TRAY Full Sensor PI05

1) Open the OUTPUT TRAY cover.
2) Remove the OUTPUT TRAY rear cover. (See section 3.1.2.)
3) Open the guide [1]. (See section 3.2.4, step 3 to 5.)
4) Disconnect the sensor connector.
5) Remove the 2 screws [2] from the sensor, and replace the sensor.
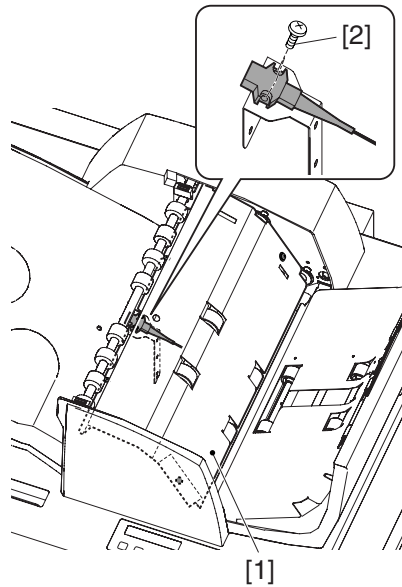
3.3.9   Horizontal Transport Sheet Sensor PI06

1) Remove the 2 screws [1].
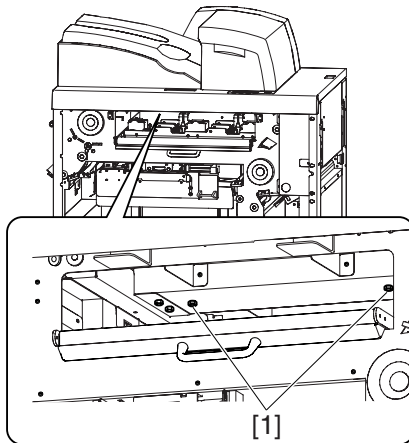
2) Disconnect the sensor connector [2] (connected to cable no 29).
3) Remove the end plate [3].
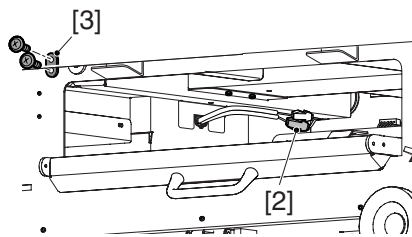
4) Push the roller unit [5] to the right, and then raise it and remove the belt [4].
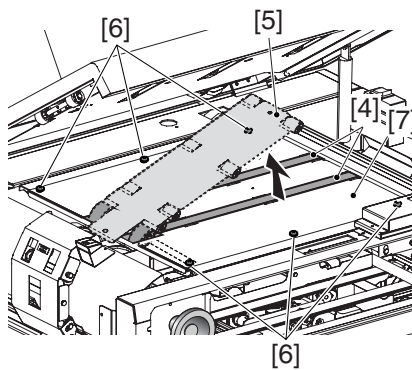
5) Remove the 6 screws [6] and remove the guide plate [7] and roller unit [5].
6) Remove the 2 screws to remove the sensor.

3.3.10 Offset Entrance Sheet Sensor PI08

1) Remove the 2 screws [1].
2) Remove the end plate [2].
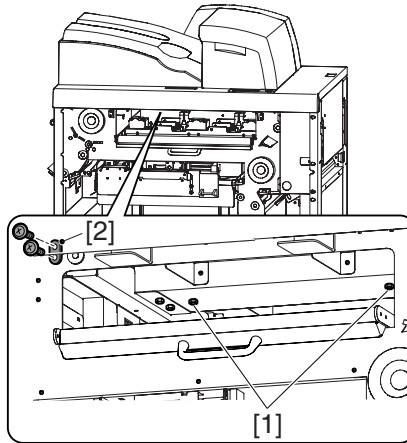
3) Push the roller unit [4] to the right, and then raise it and remove the belt [3].
4) Remove the 6 screws [5] and remove the guide plate [6] and roller unit [4].
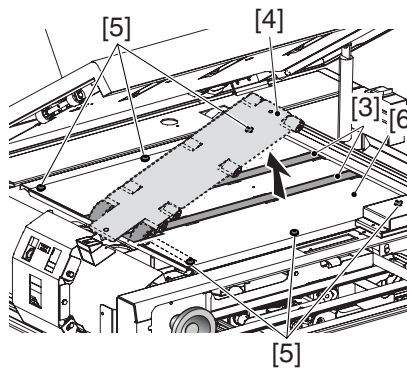
5) Disconnect the sensor connector [7] (connected to cable no 30).
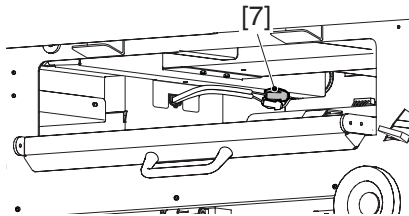
6) Loosen the 2 nuts [8] and remove the sensor bracket [9].
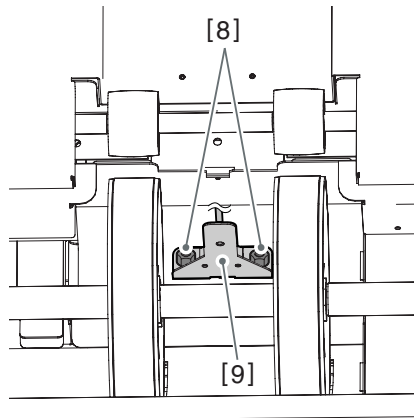
3.3.11 Left Offset Sheet Sensor PI09/Right Offset Sheet Sensor PI10

1) Remove the spring [1] and turn the ball bracket [2] over.
2) Disconnect the sensor connector [3].
3) Remove the sensor [4].
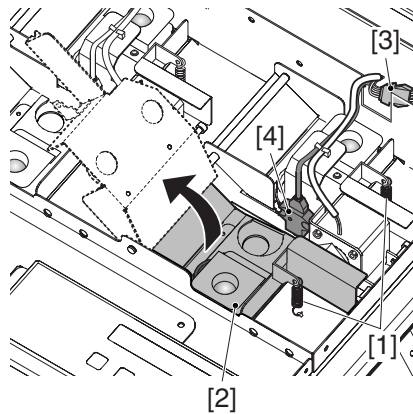
3.3.12 Right Turn-Over Sheet Sensor PI11

1) Open the front cover.
2) Insert a stubby screwdriver from the opening on the side of right turn-over section, and loosen the 2 screws [1] on the sensor bracket.
3) Move the sensor bracket to the right and remove it.
4) Disconnect the sensor connector.
5) Remove the 2 screws [2] from the sensor, and replace the sensor.
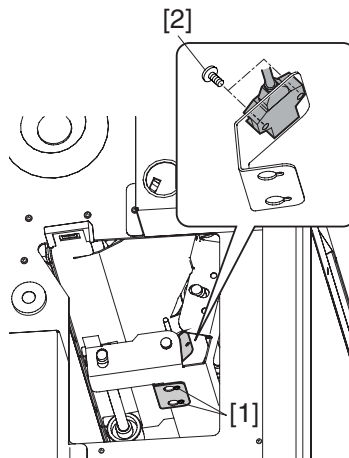
3.3.13 Stacker Exit Sheet Sensor PI07

1) Open the front cover.
2) Remove the 2 screws [1] from the PI07 [4] sensor bracket.
3) Disconnect the sensor connector [2].
4) Remove the sensor PI07 [4] from the sensor bracket, and replace the sensor.
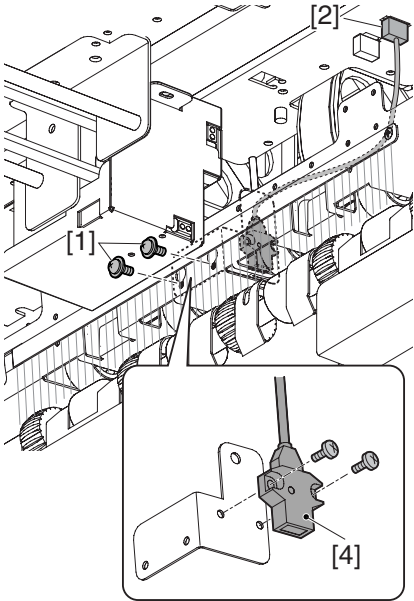
3.3.14 Stack Tray Receiving Position Sensor PI14

1) Open the front cover.
2) Remove the 2 screws [2] from the motor cover [1].
3) Disconnect the 2 sensor connectors [4].
4) Remove the 2 screws [5] from the sensor, and replace the sensor.
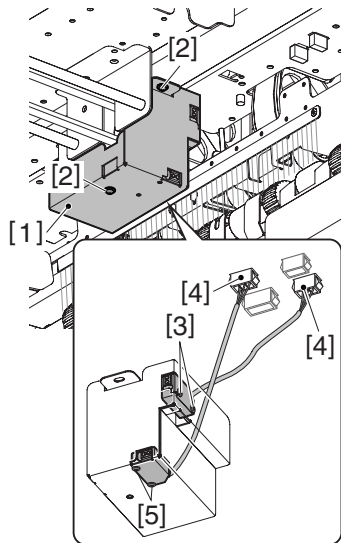
3.3.15 Downstream Exit Sheet Sensor PI15

1) Open the front cover.
2) Loosen the 2 screws [1] of the sensor bracket, and remove the sensor bracket.
3) Disconnect the sensor connector.
4) Remove the 2 screws [2] from the sensor, and replace the sensor.
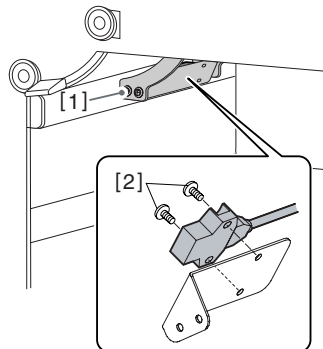
3.3.16 Stack Tray Sheet Sensor PI16

1) Open the front cover.
2) Remove the 2 screws [2] from the motor cover [1].
3) Disconnect 2 sensor connectors [3].
4) Remove the 2 screws [4] from the sensor, and replace the sensor.
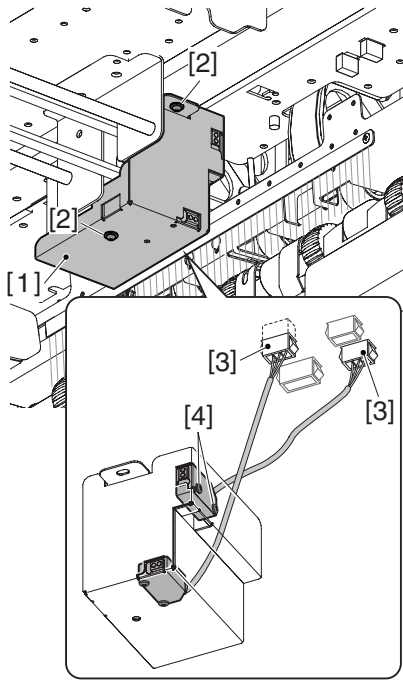
3.3.17 Stack Tray Upper Limit Sensor PI17
Stack Tray Full Sensor PI18
Stack Tray Lower Limit Sensor PI19
Stack Tray Speed Reduction Sensor PI26

1) Remove the main rear cover. (See section 3.1.1.)
2) Remove the screw [1] and open the chassis.
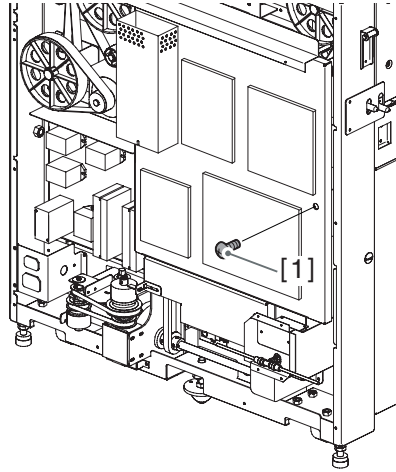
3) Remove the sensor brackets [2].
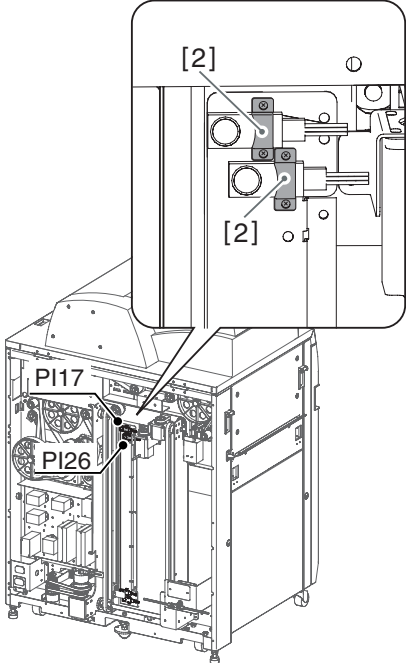
- If the actuator prevents the sensor bracket from being removed, turn the belt [3] to move the actuator away.
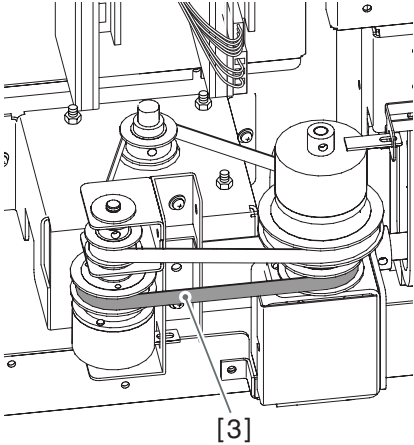
4) Disconnect the sensor connector.

3.3.18 Stack Tray Sensor PI20

1) Open the front cover and pull out the stack tray.
2) Remove the screw [1] from the sensor PI20.
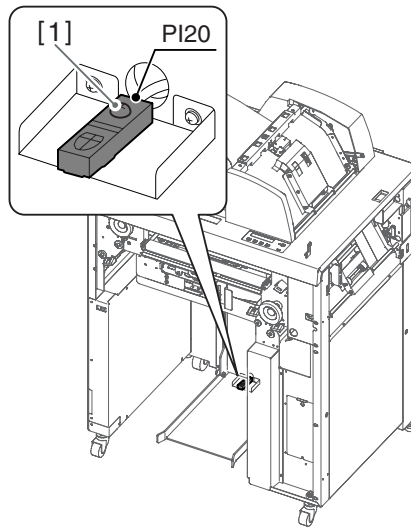
3) Remove the main rear cover. (See section 3.1.1.)
4) Disconnect the connector [2] from the sensor PI20.
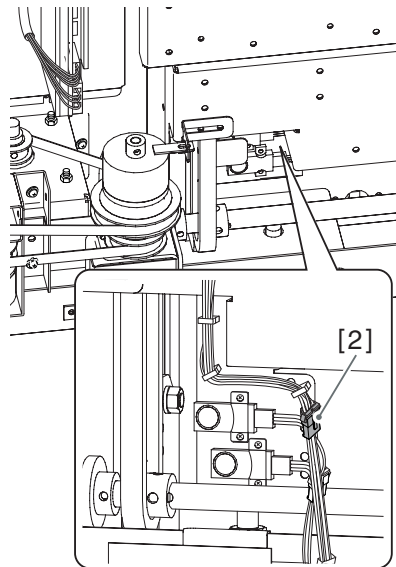
3.3.19   Offset Section Guide Home Position Sensor PI21

1) Remove the horizontal transport section lower guide plate. (See section 3.3.1.)
2) Remove the offset section upper unit. (See section 3.3.2.)
3) Move the rear offset guide to the front.
4) Remove the sensor bracket [1].
5) Disconnect the connector [2], and remove the sensor.
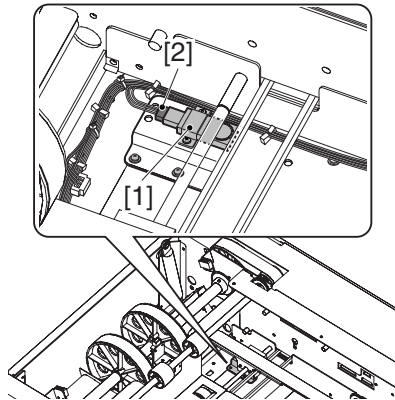
Caution

After replacing the offset section guide home position sensor PI21, reset the home position of the D1 guide by the guide and stopper width adjustment in the service mode. (See section 4.3.1.3.)

3.3.20 Stopper Home Position Sensor PI22

1) Open the front cover.
2) Open the front stack guide.
3) Move the stopper [1] to the right.
4) Disconnect the sensor connector.
5) Remove the screw [2] from the sensor, and replace the sensor.
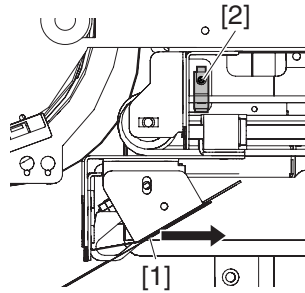
Caution

After replacing the stopper home position sensor PI22, reset the home position of the stopper by the guide and stopper width adjustment in the service mode. (See section 4.3.1.3.)

3.3.21 Stack Guide Home Position Sensor PI23

1) Remove the main rear cover. (See section 3.1.1.)
2) Disconnect the connector [1] from the sensor PI23.
3) Remove the screws [2] from the bracket and remove the bracket.
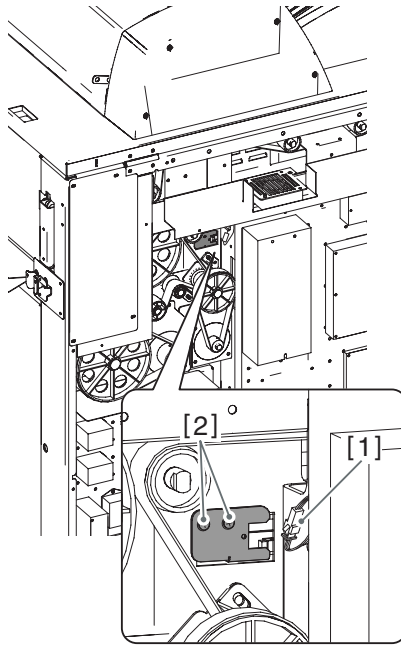
4) Remove the sensor from the sensor bracket.
Caution
After replacing the stack guide home position sensor PI23, reset the home position of the stack guide by the stopper width adjustment in the service mode. (See section 4.3.1.3.)

3.3.22 Front Stack Guide Open/close Sensor PI24

1) Open the front cover and front stack guide.
2) Remove the wire saddle [1] from the guide.
3) Release the cable from the wire saddle [1].
4) Disconnect the connector from the thinner cable.
5) Remove the screw [2] and sensor PI24.
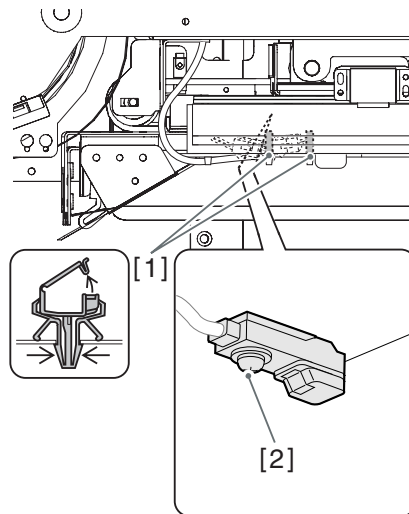
3.3.23 Stopper Motor M02

1) Open the front cover.
2) Remove the 2 screws [2] from the motor cover [1].
3) Disconnect the motor connector [5].
4) Remove the 2 screws [3] from the motor bracket.
5) Remove the 4 screws [4] from the motor, and replace the motor.
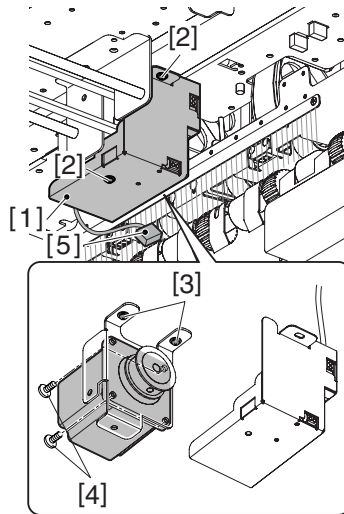
3.3.24 Upper Offset Motors M04/M11

1) Remove the horizontal transport section lower guide plate. (See section 3.3.1.)
2) Remove the spring [1].
3) Turn the ball bracket [2] over.
4) Disconnect the connector [3], and remove the motor.
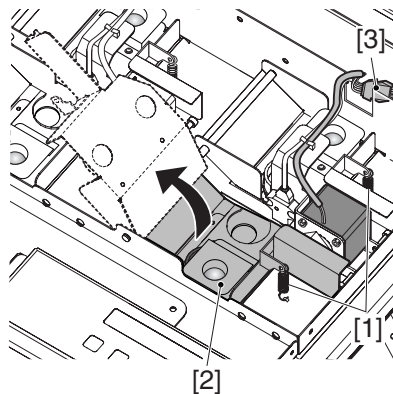
3.3.25 Lower Offset Motors M05/M12

1) Remove the horizontal transport section lower guide plate and the offset section upper unit. (See sections 3.3.1. and 3.3.2.)
2) Move the rear offset guide to the rear.
3) Remove both guides [1] and [2].
4) Disconnect the connector [3], and untie the cables.
5) Remove the motor bracket [4].
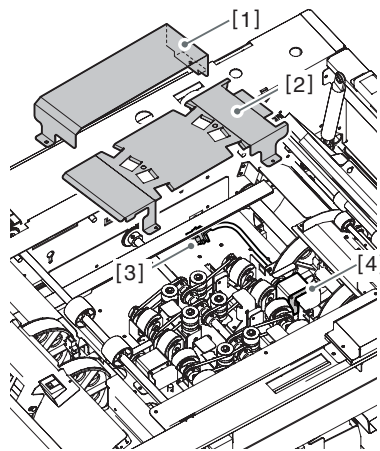
3.3.26 Offset Section Sheet Hold Motor M09

1) Remove the horizontal transport section lower guide plate. (See section 3.3.1.)
2) Remove the spring [1].
3) Turn the ball bracket [2] over.
4) Disconnect the connector [3], and remove the motor.
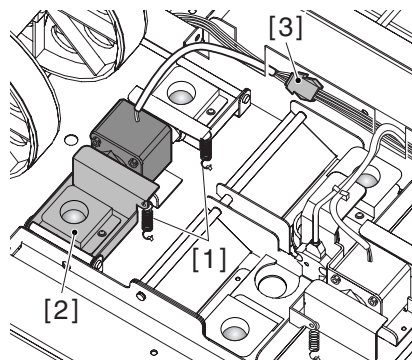
3.3.27 Stack Tray Quick Up/Down Clutch CL10

1) Remove the main rear cover. (See section 3.1.1.)
2) Disconnect the clutch connector.
3) Remove the 2 screws [1] on the bracket [3], and remove the clutch unit.
4) Remove the screw [2].
- Remove the clutch unit from the clutch bracket [3].
5) Remove the bushing [4], and loosen the screw [5].
6) Remove the thrust ring [6], clutch [7], and rotor [8].
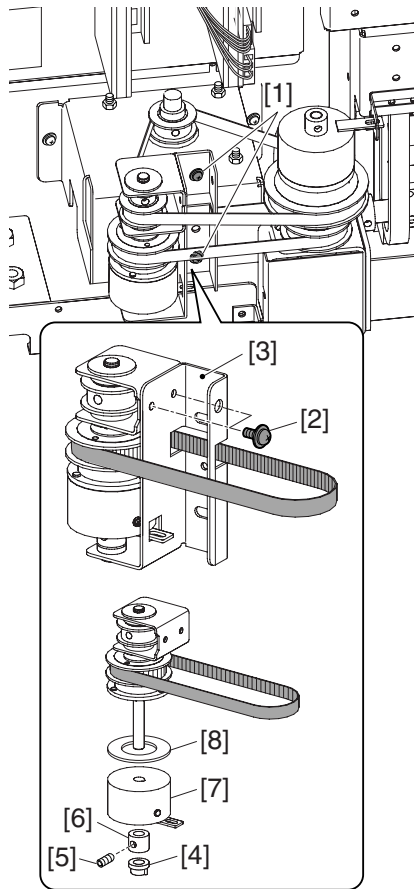
7) Remove the key [9].
8) Remove the pulley [10].

[9]

[10]
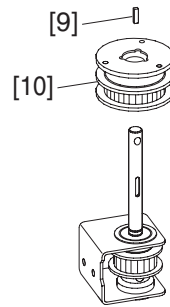
9) Remove the 3 screws [11] and remove the stator [12].

[12]

[11]
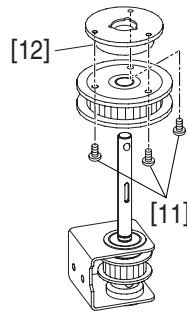
10) Replace the clutch (parts [7], [8] and [12]).

3.3.28 Stack Tray Slow Up/Down Clutch CL06

1) Remove the main rear cover. (See section 3.1.1.)
2) Disconnect the clutch connector.
3) Remove the 2 screws [2] on the bracket [1], and remove the belt [3].
4) Loosen the screw [4] and remove the thrust ring [5].
5) Remove the 2 screws [6], and move the stop plate [7] away.
6) Remove the clutch [8] and rotor [9].
7) Remove the key [10] and pulley [11].
8) Remove the 3 screws [12] to remove the stator [13].
9) Replace the clutch (parts; [8], [9] and [13]).
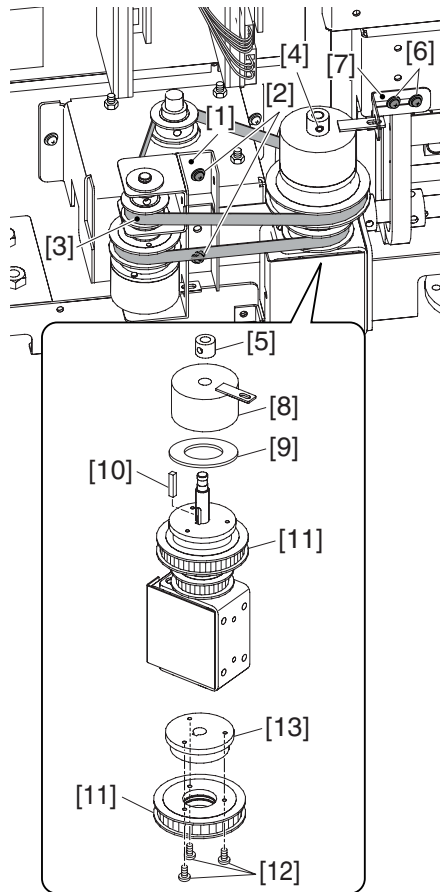
3.3.29 Offset Section Round Belt

1) Remove the horizontal transport section lower guide plate and the offset section upper unit. (See sections 3.3.1. and 3.3.2.)
2) Move the rear offset guide to the rear.
3) Remove the guides [1], [2] and [3].
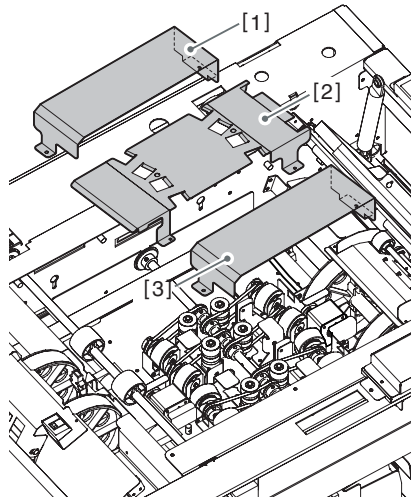
4) Loosen the screws [4] of the bearing.
- The timing belt [5] becomes loose.
5) Loosen the screw [6] of the coupling.
6) Move the drive shaft [7] to the front and remove it from the side plate [8].
7) Remove the round belts [9].
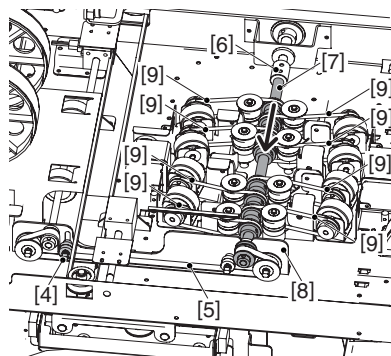
3.3.30 Horizontal Transport Section Lower Belt

1) Remove the horizontal transport section lower guide plate. (See section 3.3.1.)
2) Remove the main rear cover. (See section 3.1.1.)
3) Loosen the tension pulley [1] to loosen the belt [2].
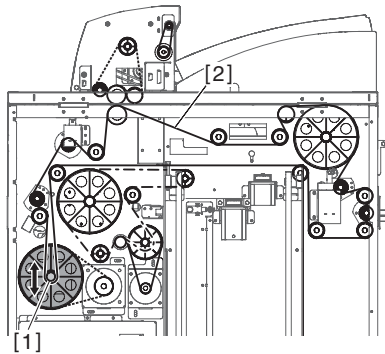
4) Remove the bracket [3].
5) Loosen the 2 screws [4] on the bearing and move the shaft [5] to the rear.
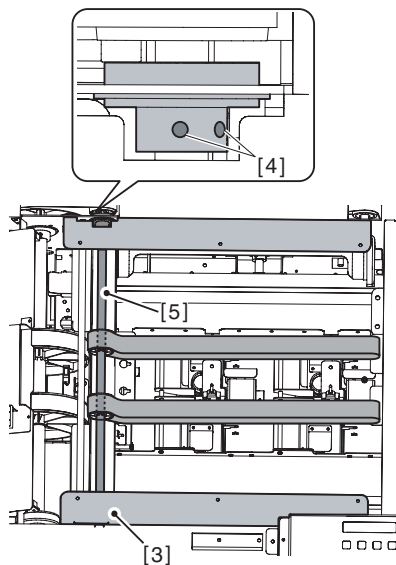
6) Remove the belt from the front space.

3.3.31 Stack Guide Front Solenoid SL04

1) Remove the front stack guide. (See section 3.3.3.)
2) Remove the screw [1] and upper guide [2].
3) Remove the snap pin [3].
4) Remove the 4 screws [4] from the solenoid and pull out the joint pin [5].
5) Remove the solenoid.
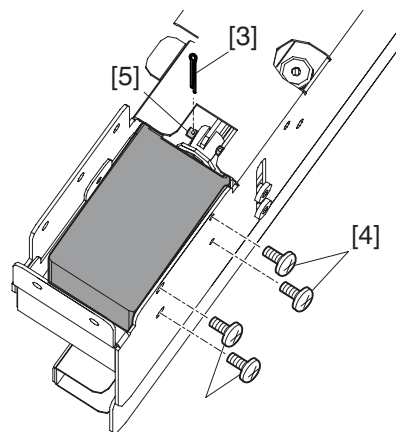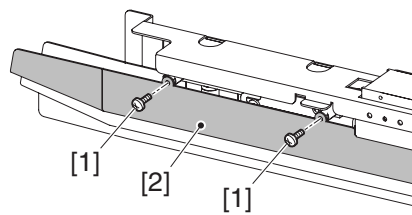
3.3.32 Stack Guide Rear Solenoid SL05

1) Remove the rear stack guide. (See section 3.3.3.)
2) Remove the screw [1] and upper guide [2].
3) Remove the snap pin [3].
4) Remove the 4 screws [4] from the solenoid and pull out the joint pin [5].
5) Remove the solenoid.
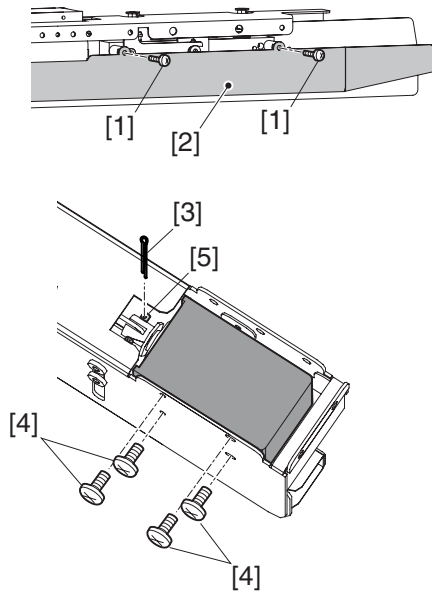
3.3.33 Anti-static Brush

There are 2 types of anti-static brushes which have different length of fiber.
- Long anti-static brush : in the stack tray exit (D4)
- Short anti-static brush : in the OUTPUT TRAY exit (A), entrance (B) and
downstream exit (E1)

Installing location of the anti-static brush

Ⓐ Short anti-static brush

D4 Long anti-static brush

Ⓑ Short anti-static brush
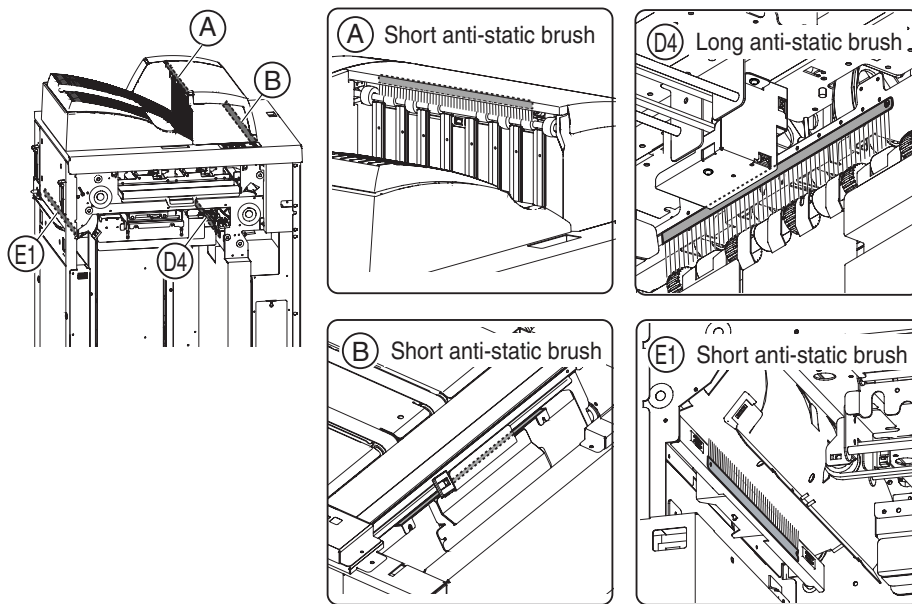
E1 Short anti-static brush

- Removal

Anti-static brush A:
1) Open the OUTPUT TRAY cover [1].
2) Loosen the screw [2] and remove the bracket.
3) Replace the anti-static brush.
- Stick the anti-static brush on the bracket after removing the back sheet.
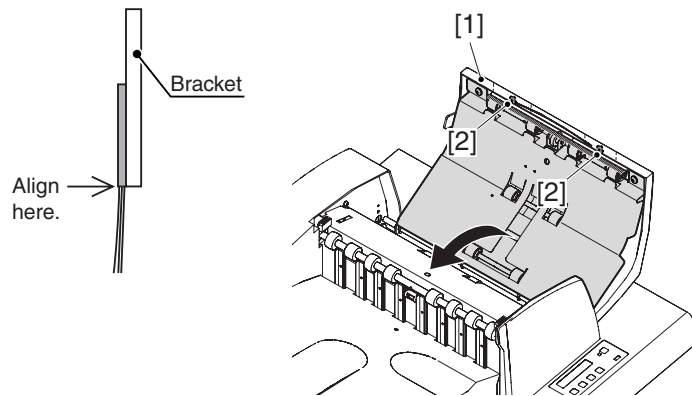
- Tips for sticking

Anti-static brush B:
1) Open the top cover.
2) Loosen the screw [3] and remove the bracket.
3) Replace the anti-static brush.
- Stick the anti-static brush on the bracket after removing the back sheet.

- Tips for sticking
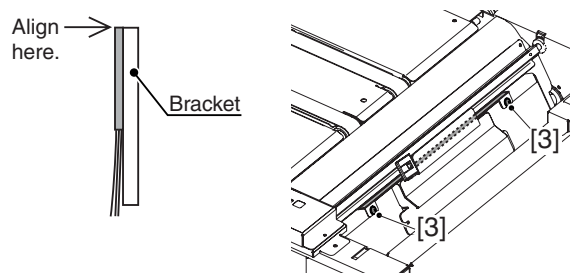
Anti-static brush D4:
1) Lower the stack tray and turn off the power switch.
2) Open the front cover.
3) Remove the screw [4].
4) Pull the bracket to the front.
5) Replace the anti-static brush.
- Stick the anti-static brush on the bracket after removing the back sheet.

- Tips for sticking

Bracket

Align
here.

[4]
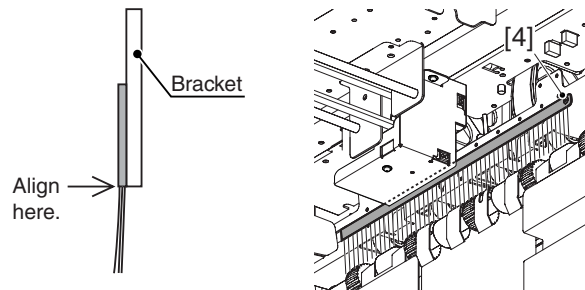
Anti-static brush E1:
1) Lower the stack tray and turn off the power switch.
2) Open the front cover.
3) Loosen the screw [5], remove the screw [6] and remove the bracket.
4) Replace the anti-static brush.
- Stick the anti-static brush on the bracket after removing the back sheet.

- Tips for sticking

Bracket

Align
here.

[6]

[5]
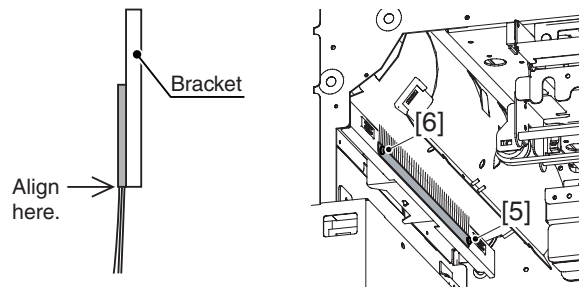
Note:
Open the guide E1 before installing the anti-static brush E1.

3.3.34 Reflector

1) Remove the screw [1] and reflector [2].
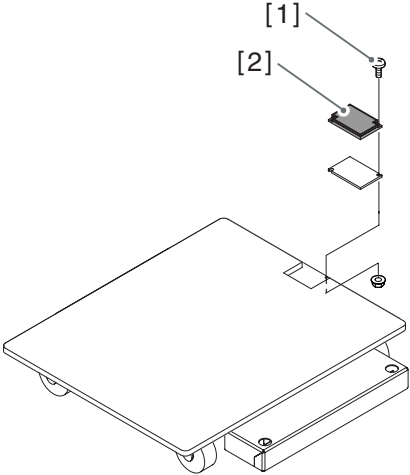
3.4   Electrical System

3.4.1   Power Switch SW00

1) Open the top cover.
2) Remove the 2 screws [1] from the switch cover.
3) Pull the switch up to remove it.
4) Disconnect the cable, and replace the switch.

Caution
When you install the switch, connect the cables to the correct terminals as shown below.
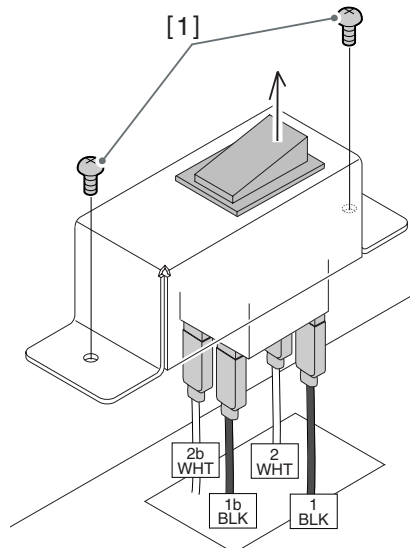
3.4.2 OUTPUT TRAY Cover Switch SW01

1) Open the OUTPUT TRAY cover.
2) Open the guide [1]. (See section 3.2.4, step 3 to 5.)
3) Remove the 2 screws [2] from the switch bracket.
4) Pull the switch out to remove it.
5) Disconnect the cable and replace the switch.
Caution
When you install the switch, connect the cables to the correct terminals as shown below.
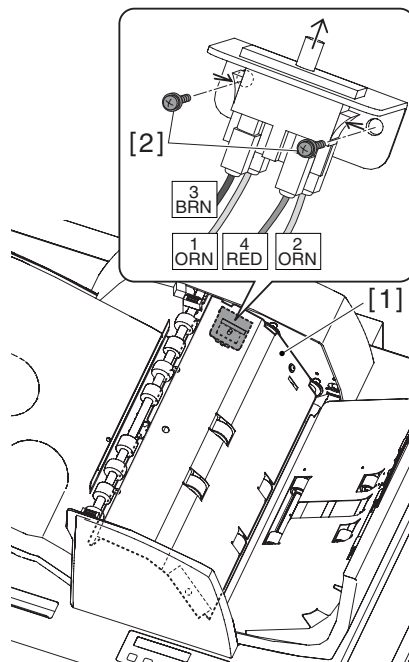
3.4.3 Top Cover Switch SW02

1) Open the front cover.
2) Loosen the 2 screws [2] from the cover [1].
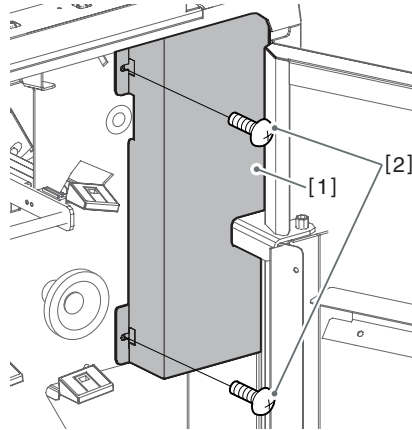
3) Remove the 2 screws [3] from the switch bracket.
4) Push the switch upward to remove it.
5) Disconnect the cable and replace the switch.

Caution

When you install the switch, connect the cables to the correct terminals as shown below.
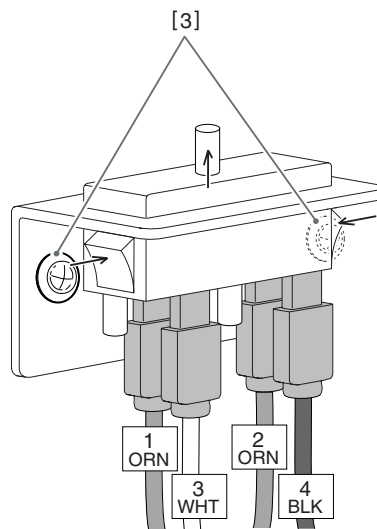
3.4.4 Front Cover Switch SW03/Front Cover Lock Solenoid SL09

1) Open the front cover.
2) Remove the 7 screws [2] from the cover [1].
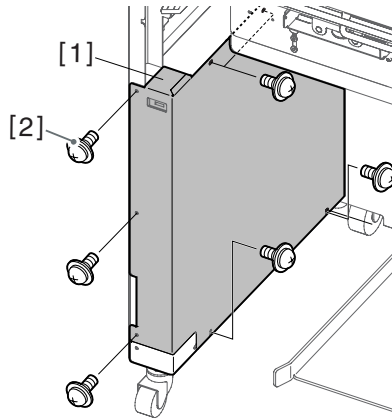
3) Disconnect the switch connector [4].
4) Remove the 4 screws [3] from the switch and solenoid, and replace the switch and solenoid.
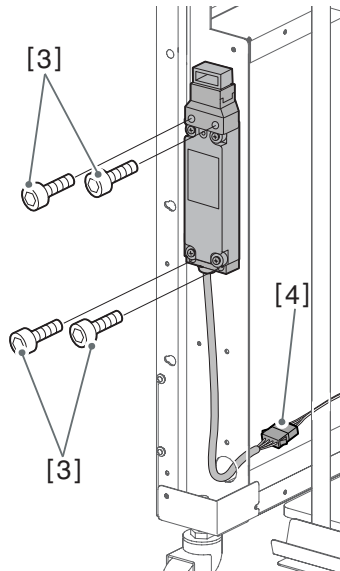
3.4.5 Power Supply G01

1) Remove the main rear cover. (See section 3.1.1.)
2) Disconnect the connector [2] from the power supply [1].
3) Remove the 2 screws [3], loosen the screw [4] and remove the power supply.
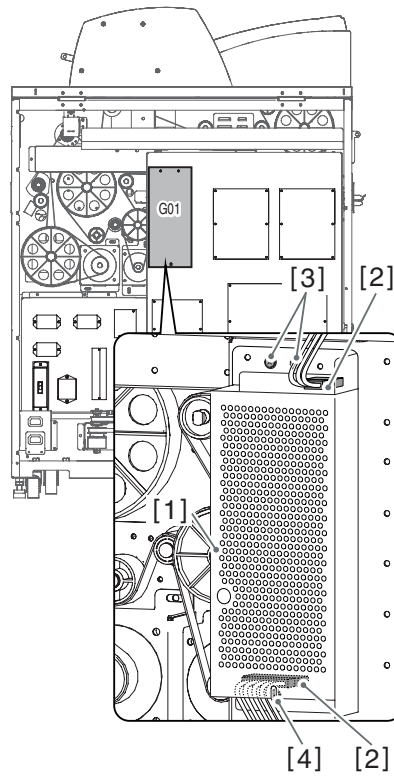
3.4.6   Front Cover Open Button SW04

1) Open the front cover.
2) Remove the 2 screws [1] to remove the cover [2].
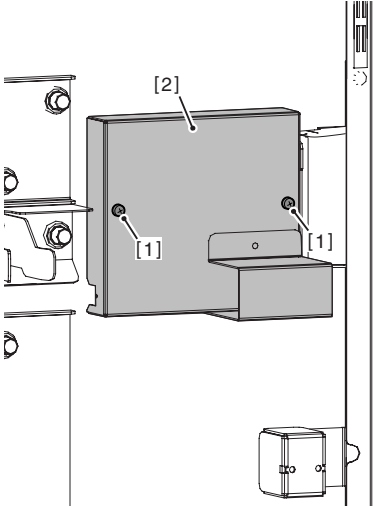
3) Disconnect the connector [3].
4) Remove the 3 screws [4] to remove the P.C.board bracket.
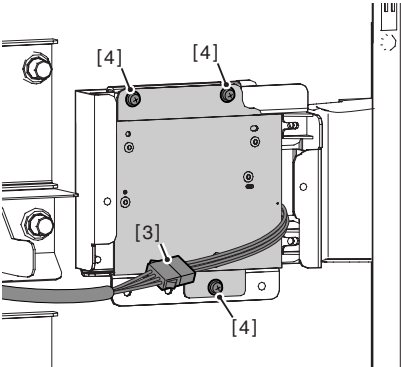
5) Remove the 3 screws [5] to remove SW04 from the bracket.

[5]

[5]

[5]

SW04
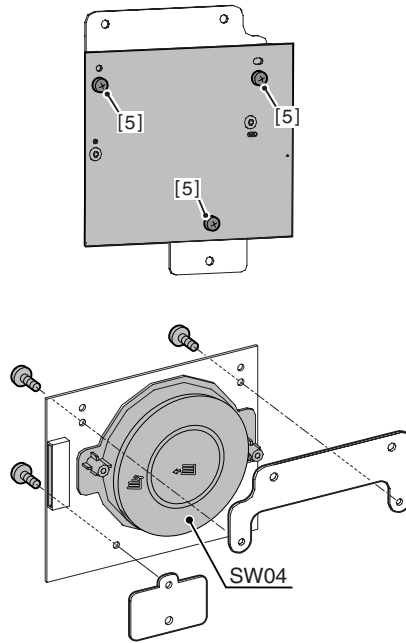
Chapter 4　Maintenance

Contents

4.1 User Maintenance

There are not any parts which must be maintained by the user.

4.2 Maintenance and Inspection

4.2.1 Periodic Parts Replacement

There are not any parts to be replaced periodically.

4.2.2 Consumables

The following parts may need to be replaced once or more during the warranty period because of failure or damage. Replace these parts if they are worn out:

No.	Part Name	Number	Service Life	Location
1	Long anti-static brush	1	5,000,000 sheets	Stack tray exit
2	Short anti-static brushes	3	5,000,000 sheets	OUTPUT TRAY exit, entrance, downstream exit

4.2.3　Periodic Servicing

Open the top cover and wipe the following parts using a wrung cloth with water.
If the dirt cannot be removed using water, wipe off using alcohol cleaner.
For the belts, clean only the top surface.

No.	Items	Cleaning Frequency
1	Transport Belts	Every after 500,000 sheets
2	Transport Rollers	Every after 500,000 sheets
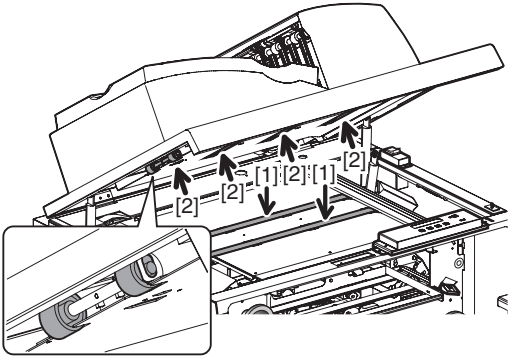
And clean the following parts every 500,000 sheets using a blower brush to remove any paper powder.

No.	Part Name	ID	Cleaning Frequency
1	Entrance sheet sensor	PI01	500,000 sheets
2	Gate entrance sheet sensor	PI02	500,000 sheets
3	OUTPUT TRAY exit sheet sensor	PI03	500,000 sheets
4	OUTPUT TRAY sheet sensor	PI04	500,000 sheets
5	OUTPUT TRAY full sensor	PI05	500,000 sheets
6	Horizontal transport sheet sensor	PI06	500,000 sheets
7	Stacker exit sheet sensor	PI07	500,000 sheets
8	Offset entrance sheet sensor	PI08	500,000 sheets
9	Left offset sheet sensor	PI09	500,000 sheets
10	Right offset sheet sensor	PI10	500,000 sheets
11	Right turn-over sheet sensor	PI11	500,000 sheets
12	Stack tray receiving position sensor	PI14	500,000 sheets
13	Downstream exit sheet sensor	PI15	500,000 sheets
14	Stack tray sheet sensor	PI16	500,000 sheets

When cleaning the sensors PI08, PI14 and PI16, remove them once from the stacker.
See the following sections for procedures of removal.
PI08: section 3.3.10
PI14: section 3.3.14
PI16: section 3.3.16

4.3 Adjustment

4.3.1 Service Mode
(Guide and Stopper Width Adjustment/Motion Test)

In the service mode, you can adjust the width of the guides and stopper and perform the motion test of the solenoids or stepper motors.

4.3.1.1 Entering the Service Mode

Press and hold the Stack On/Off button and Menu button, and turn on the power switch. When the machine enters the service mode, the Error lamp blinks.
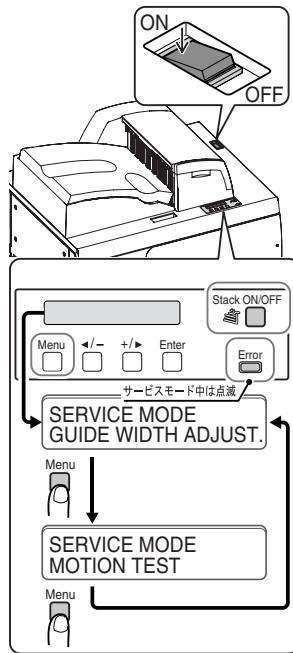
4.3.1.2 Finishing the Service Mode

Turn off the power switch and turn it on again.

4.3.1.3   Guide and Stopper Width Adjustment

The home positions of the stepper motors for the offset guides, stopper, and stack guide are stored on the controller PCB. If the controller PCB is replaced, these values should be reset. The home positions for each guide and stopper are described in the sticker on the chassis. Reset the value by following the operation on the control panel shown in the next page.
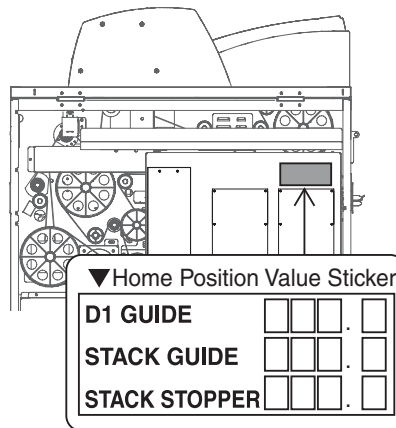
And if the sheet hits the guide and a sheet jam occurs frequently, or if the sheets are not stacked correctly on the stack tray, the positional relation between the sheet and the guides or stopper should be checked.

To check the home position, put a sheet between the guides. If the positional relation between the sheet and the guides or stopper is not proper (See the next page), make this adjustment. And also when the home position sensor (PI21, PI22 or PI23) is replaced, make this adjustment.

If the values are changed, correct also the home position values on the sticker.

The screen flow for the guide and stopper width adjustment mode is shown on the next page.

SERVICE MODE
GUIDE WIDTH ADJUST.

Menu   ◄/−   +/►   Enter

↓

GUIDE WIDTH
    A3   LEDGER

Menu   ◄/−   +/►   Enter

Cancel

A3 GUIDE WIDTH
XXX.X XXX.X XXX.X

Menu   ◄/−   +/►   Enter

D1 guide Stack Stopper
          guide

Values on the home position sticker

LEDGER GUIDE WIDTH
XXX.X, XXX.X, XXX.X

Menu   ◄/−   +/►   Enter

D1 GUIDE
< XXX.X >

Menu   ◄/−   +/►   Enter

Cancel -1mm 1mm
        Narrow Wide

D1 GUIDE
home
position
is saved.

STACK GUIDE
< XXX.X >

Menu   ◄/−   +/►   Enter

Cancel -1mm 1mm
        Narrow Wide

STACK
GUIDE
home
position
is saved.

STACK STOPPER
< XXX.X >

Menu   ◄/−   +/►   Enter

    -0.5mm 0.5mm
    Narrow Wide

STACK
STOPPER
home
position
is saved.

Return to the initial
screen without changing
the home position.

The new home
position is recorded,
and saved even
when power is
turned off.

D1 Guides

Stopper   Stack Guides

⊞ ← → ⊟   ⊟ ← → ⊞

Sheet   There should be no gap
         between the sheet and guide.

⊞ ← → ⊟   ⊟ ← → ⊞

1.5mm   Sheet   1.5mm

⊞ ← ⊟   Align the sheet
          with the jog plate.

3 mm   Sheet

4.3.1.4 Motion Test

If you want to move one of the solenoids or stepper motors individually to check its function, use the motion test mode.

The screen flow for the motion test mode is shown on the next page.

* When the "Menu" button is pressed, the screen will return to the "MOTION TEST" Screen.

SERVICE MODE
MOTION TEST

Menu   ◄/−   +/►   Enter

↓

DRIVE
−OFF   ON+   M06 / M07

Menu   ◄/−   +/►   Enter

↓

STACK TRAY
−DOWN   UP+   M08

Menu   ◄/−   +/►   Enter

Moves down   Moves up
while pressed while pressed

↓

OUTPUT TRAY GATE
−OFF   ON+   SL01

Menu   ◄/−   +/►   Enter

To   To
stack tray   OUTPUT tray

↓

DOWNSTREAM GATE
−OFF   ON+   SL02

Menu   ◄/−   +/►   Enter

To   To
stack tray   downstream

↓

DRIVE SPEED ∗∗∗ mm/s   Speed to each
−DOWN   UP+   drive belt
                              (M06/M07)
Menu   ◄/−   +/►   Enter

↓

OFFSET SIDE   M04 / M05
−FRONT   REAR+   M11 / M12
                              SL04 / SL05
Menu   ◄/−   +/►   Enter

Front   Rear
stack   stack

↓

OFFSET SHEET HOLD   M09
−OFF   ON+

Menu   ◄/−   +/►   Enter

OFFSET GUIDE MOVE   M01
−IN   OUT+

Menu   ◄/−   +/►   Enter

To   To
inside   outside

↓

STOPPER MOVE   M02
−IN   OUT+

Menu   ◄/−   +/►   Enter

To   To
inside   outside

↓

STACK GUIDE MOVE   M03
−IN   OUT+

Menu   ◄/−   +/►   Enter

To   To
inside   outside

↓

CHANGEOVER   M01
A4   +   M02
                           M03
Menu   ◄/−   +/►   Enter

Distance between the   Press to start
offset guides is set wider changeover
than A4 by +30 mm (1.18")
          During changeover   Changeover completed

CHANGEOVER
              STOP

Menu   ◄/−   +/►   Enter

Stop

CHANGEOVER   M01
A3   +   M02
                           M03
Menu   ◄/−   +/►   Enter

Distance between the   Press to start
offset guides is set wider changeover
than A3 by +30 mm (1.18")
          During changeover   Changeover completed

CHANGEOVER
              STOP

Menu   ◄/−   +/►   Enter

Stop

IDLING RUN
−OFF   ON+

Menu   ◄/−   +/►   Enter

Stop   Start

Returns to the
initial screen.

4.3.2 Language Switch

The language used on the display can be changed when the stacker is in standby status ("Ready" appears on the LCD display).
The screen flow for the language switch mode is shown below.

4.3.3 Flat Belts Installing Direction

The flat belts have a direction to install them. The direction is shown on the belts by arrow. If you replace one of the flat belts on the rear of the machine, install the belt so that the rotating direction of the belt matches the arrow printed on the belts.

This arrow shows the rotating direction of the belt.
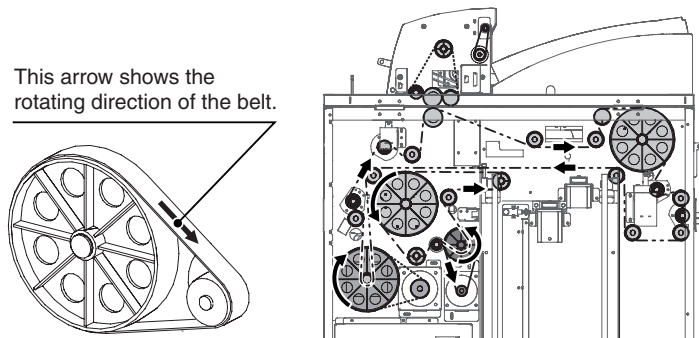
4.3.4 Gate Position Adjustment

If you replace the OUTPUT TRAY eject gate solenoid SL01, or downstream output gate solenoid SL02, or if one of the gate positions must be corrected for other reasons, make the following adjustment.

4.3.4.1 OUTPUT TRAY Eject Gate Solenoid SL01

Adjust the bracket of SL01 up or down so that the gate touches the rubber cushion when the solenoid plunger is pushed in.

No Clearance

Touches

Rubber Cushion
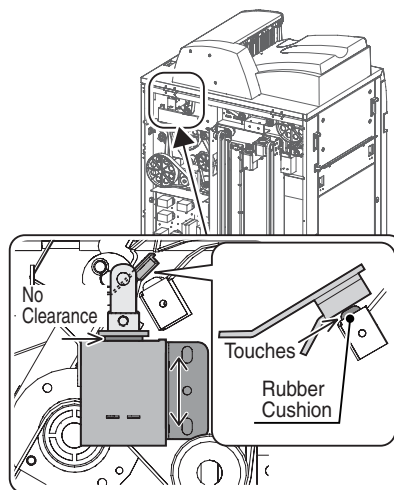
4.3.4.2 Downstream Output Gate Solenoid SL02

Adjust the bracket of SL02 up or down so that the gate hits the rubber stopper when the solenoid plunger is pushed in.
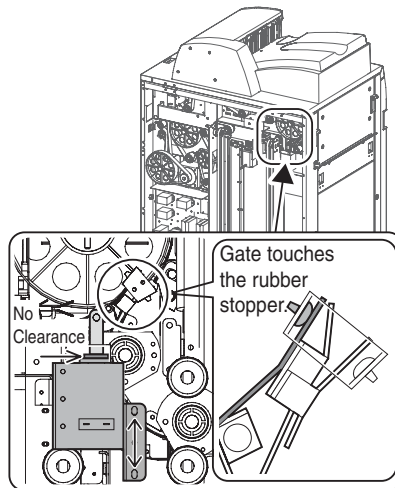
4.3.5 Clutch Clearance

If you replace the stack tray up/down clutch CL06 or CL10, or if the clutch clearance needs to be corrected for other reasons, make the following adjustment.
Insert a thickness gauge to check the clutch clearance. The standard clearance is 0.2 mm (0.008") +/-0.05 mm (0.002").
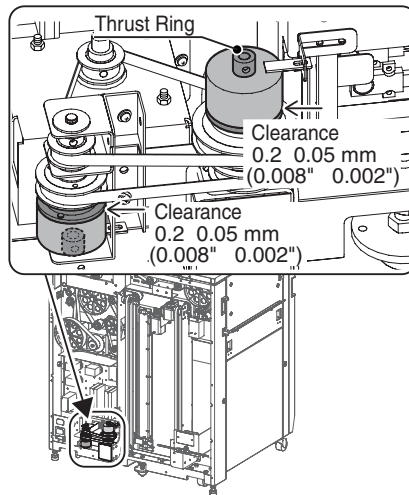
If the clearance is incorrect, adjust it as follows:
1. Turn off the power switch.
2. Remove the stopper bracket.
3. Remove the thrust ring.
4. Remove the clutch.
5. Add or remove shims.
6. Reinstall the removed parts in the reverse order.

4.3.6 How to Use the Door Switch Tool

Warning
- Be careful so that your hands or fingers are not caught by the rotating parts, if you use the door switch tool and are operating the machine with the cover opened.
- Keep the door switch tool carefully so that it is not used by a user.
  After using the door switch tool, make sure to take it away.

In this section, handling of the door switch tool is explained.

- Normally, when the cover is opened, the machine does not operate because of interlock function. However, if this door switch tool is used, the sheet flow and operating condition of each section can be checked with the cover opened.
- However, when the OUTPUT TRAY cover is opened, the sheets cannot be transported correctly.

How to use the door switch tool
- Insert the door switch tool into the switch.
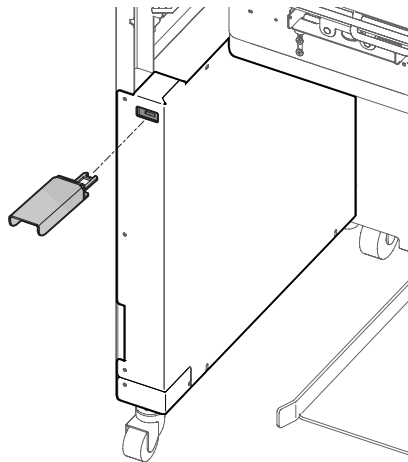
4.4 Troubleshooting

4.4.1 Error Codes

Caution

After replacing the stacker controller PCB, reset the width of the guides and stopper (See Section 4.3.1.)

4.4.1.1 E000501-00D0: CycleUp Off Error

■ Does LED DS43 on the stacker controller PCB QPM-186 light up?

YES: On the host machine, check for a condition that could be keeping the CycleUp On signal active. If there is not an obvious problem on the host machine, replace QPM-186.

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186. If the error is still not corrected, replace the option controller PCB.

4.4.1.2 E000501-00D1: SheetExit Off Error

■ Does LED DS42 on the stacker controller PCB QPM-186 light up?

YES: On the host machine, check for a condition that could be keeping the SheetExit On signal active. If there is not an obvious problem on the host machine, replace QPM-186. If the error is still not corrected, replace the option controller PCB.

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

4.4.1.3 E000501-00D2: ForceExitReq Off Error

■ Does LED DS41 on the stacker controller PCB QPM-186 light up?

YES: On the host machine, check for a condition that could be keeping the ForceExitReq On signal active. If there is not an obvious problem on the host machine, replace QPM-186. If the error is still not corrected, replace the option controller PCB.

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

4.4.1.4 E000501-00D3: SampleSheetDeliveredAck Off Error

■ Does LED DS40 on the stacker controller PCB QPM-186 light up?

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

■ The stacker may not be sending the SampleSheetDelivered signal to the host machine. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

NO: Fix the wiring.

■ On the host machine, check for a condition that could be keeping the SampleSheetDeliveredAck On signal active. If there is not an obvious problem on the host machine, replace the stacker controller PCB QPM-186. If the error is still not corrected, replace the option controller PCB.

4.4.1.5   E000501-00D4: StackSheetDeliveredAck Off Error

■ Does LED DS39 on the stacker controller PCB QPM-186 light up?

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

■ The stacker may not be sending the StackSheetDelivered signal to the host machine. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

NO: Fix the wiring.

■ On the host machine, check for a condition that could be keeping the StackSheetDeliveredAck On signal active. If there is not an obvious problem on the host machine, replace the stacker controller PCB QPM-186. If the error is still not corrected, replace the option controller PCB.

4.4.1.6   E000501-00D5: SheetEjctOnAck Off Error

■ Does LED DS38 on the stacker controller PCB QPM-186 light up?

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

■ The stacker may not be sending the SheetEjctOn signal to the host machine. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

NO: Fix the wiring.

■ On the host machine, check for a condition that could be keeping the SheetEjctOnAck On signal active. If there is not an obvious problem on the host machine, replace the stacker controller PCB QPM-186. If the error is still not corrected, replace the option controller PCB.

4.4.1.7   E000501-00D6: SuspendAck Off Error

◼ Does LED DS37 on the stacker controller PCB QPM-186 light up?

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

◼ The stacker may not be sending the SuspendReq signal to the host machine. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

NO: Fix the wiring.

◼ On the host machine, check for a condition that could be keeping the SuspendAck On signal active. If there is not an obvious problem on the host machine, replace QPM-186. If the error is still not corrected, replace the option controller PCB.

4.4.1.8   E000501-00D7: EmergcyStop Off Error

◼ Does LED DS52 on the stacker controller PCB QPM-186 light up?

YES: On the host machine, check for a condition that could be keeping the EmergcyStop On signal active. If there is not an obvious problem on the host machine, replace QPM-186. If the error is still not corrected, replace the option controller PCB.

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

4.4.1.9   E000501-00D8: SampleSheetDeliveredAck No Response

◼ Does LED DS69 on the stacker controller PCB QPM-186 light up?

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

◼ The host machine may not be sending the SampleSheetDeliveredAck signal to the stacker. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

NO: Fix the wiring.

◼ The stacker may not be sending the SampleSheetDelivered signal to the host machine. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

YES: If there is no obvious problem on the host machine, replace QPM-186. If the error is still not corrected, replace the option controller PCB.

NO: Fix the wiring.

4.4.1.10   E000501-00D9: StackSheetDeliveredAck No Response

■ Does LED DS68 on the stacker controller PCB QPM-186 light up?

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

■ The host machine may not be sending the StackSheetDeliveredAck signal to the stacker. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

NO: Fix the wiring.

■ The stacker may not be sending the StackSheetDelivered signal to the host machine. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

YES: If there is no obvious problem on the host machine, replace QPM-186. If the error is still not corrected, replace the option controller PCB.

NO: Fix the wiring.

4.4.1.11   E000501-00DA: SheetEjctOnAck No Response

■ Does LED DS67 on the stacker controller PCB QPM-186 light up?

NO: The LED indication is correct, but the signal is being processed incorrectly by QPM-186. Replace QPM-186.

■ The host machine may not be sending the SheetEjctOnAck signal to the stacker. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

NO: Fix the wiring.

■ The stacker may not be sending the SheetEjctOn signal to the host machine. Is the wiring between the option controller PCB and the stacker controller PCB QPM-186 OK?

YES: If there is no obvious problem on the host machine, replace QPM-186. If the error is still not corrected, replace the option controller PCB.

NO: Fix the wiring.

4.4.1.12   E000501-00E0: Unexpected Data (Stacker Operation Mode)

■ Check the host machine.

4.4.1.13   E000501-00E1: Unexpected Data (Sheet Size Data)

■ Check the sheet size setup on the host machine.

4.4.1.14 E000501-00E2: Unexpected Data (Mixed Sheet Size Data)

■ Check the sheet size setup on the host machine.

4.4.1.15 E000501-00E3: Unexpected Data (Speed Data)

■ Check the speed data on the host machine.

4.4.1.16 E000501-00E4: Unexpected Data (Delivery Pattern)

■ Check the delivery pattern code on the host machine.

4.4.1.17 E000501-00E5: Unexpected Data (Sheet ID)

■ Check the sheet ID on the host machine.

4.4.1.18 E000501-00E6: Unexpected Data (Idling Speed)

■ Check the idling speed on the host machine.

4.4.1.19 E000505-0010: EEPROM Data Loading Error

■ Reset the home position of each guide and stopper. (See section 4.3.1.3.)
Additional Information:
After replacing the stacker controller PCB QPM-186, this error occurs. Because the value for the home positions is reset to the default value.
If this error still occurs after resetting the home position, replace the stacker controller PCB QPM-186.

4.4.1.20 E000505-0011: EEPROM Guide Data Range Error

■ Reset the home position of each guide and stopper. (See section 4.3.1.3.)

4.4.1.21 E0005F0-8010: Stack Tray Overflow

■ When you place a ferrous chip against the stack tray full sensor PI18, does LED DS16 on the stacker controller PCB QPM-186 light up?
YES: PI18 is OK. Go to CHECK 1.
NO: Go to CHECK 2.

■ CHECK 1

PI19 may activate before PI18 does.

When the detecting plate is away from PI19, does LED DS20 on the stacker controller PCB QPM-186 go out?

YES: PI19 is OK. The signal from the sensor is being processed incorrectly by QPM-186. Replace QPM-186.

■ Is the wiring between PI19 and the stacker controller PCB QPM-186 OK?

YES: Replace PI19. If the problem is still not corrected, replace QPM-186.

NO: Fix the wiring.

■ CHECK2

Is the wiring between PI18 and the stacker controller PCB QPM-186 OK?

YES: Replace PI18. If the error is still not corrected, replace QPM-186.

NO: Fix the wiring.

4.4.1.22 E000511-0010: Main Drive Motor M06 Alarm

■ Is a sheet jammed inside the machine?

YES: Remove the jammed sheet.

■ Is the wiring between the main transport motor M06, driver A06, and stacker controller PCB QPM-186 OK?

YES: Correct the cause of the overload.

NO: Fix the wiring.

4.4.1.23 E000512-8011: Stack Tray Up/Down Motor M08 Alarm

■ Is there an obstacle which prevents the stack tray from moving up or down?

YES: Remove the obstacle.

■ Is the wiring between M08, driver A08, and the stacker controller PCB QPM-186 OK?

NO: Fix the wiring.

■ Do the chains and worm gear on the rear move smoothly?

YES: If there are not any other causes for the problem, replace M08. If the error is still not corrected, replace driver A08, and then the stacker controller PCB QPM-186.

NO: Fix the chains or gears so that they drive smoothly.

4.4.1.24 E000515-8010: Offset Section Drive Motor M07 Alarm

■ Is a sheet jammed inside the machine?

YES: Remove the jammed sheet.

■ Is the wiring between the offset section drive motor M07, driver A07, and stacker controller PCB QPM-186 OK?

YES: Correct the cause of the overload.

NO: Fix the wiring.

4.4.1.25 E000520-8010: Stack tray Upper Limit Sensor PI17 Off Error

■ When the detecting plate is away from the stack tray upper limit sensor PI17, does LED DS23 on the stacker controller PCB QPM-186 go out?

YES: The signal from the sensor is being processed incorrectly by QPM-186.
　　Replace QPM-186.

■ Is the wiring between PI17 and the stacker controller PCB QPM-186 OK?

YES: Replace PI17. If the error is still not corrected, replace QPM-186.

NO: Fix the wiring.

4.4.1.26 E000520-8011: Stack Tray Lower Limit Sensor PI19 Off Error

■ When the detecting plate is away from the stack tray lower limit sensor PI19, does LED DS20 on the stacker controller PCB QPM-186 go out?

YES: The signal from the sensor is being processed incorrectly by QPM-186.
　　Replace QPM-186.

■ Is the wiring between PI19 and the stacker controller PCB QPM-186 OK?

YES: Replace PI19. If the error is still not corrected, replace QPM-186.

NO: Fix the wiring.

4.4.1.27 E000522-8010: Offset Section Guide Motor M01 Home Positioning Error 1

■ Check the offset section guide home position sensor PI21.

When the offset section guide moves out to the end, does the LED DS13 on the stacker controller PCB QPM-186 light up?

YES: Go to CHECK 1.

NO: Go to CHECK 2.

■ CHECK 1

Sensor PI21 is OK. Is the wiring between M01, stepper motor driver PCB QPW-727, and stacker controller PCB QPM-186 OK?

YES: Go to CHECK 3.

NO: Fix the wiring.

■ CHECK 2

Sensor PI21 is not working. Is the wiring between PI21 and stacker controller PCB QPM-186 OK?

YES: Replace PI21. If the error is still not corrected, replace QPM-186.

NO: Fix the wiring.

■ CHECK 3

Turn the power switch off and move the guide manually, and check if it moves smoothly.

YES: Replace M01. If the error is still not corrected, replace QPW-727, and then QPM-186.

NO: Correct the cause of the overload.

4.4.1.28 E000522-8011: Offset Section Guide Motor M01 Home Position Error 2

■ Check the offset section guide home position sensor PI21.

When the offset section guide moves inside, does the LED DS13 on the stacker controller PCB QPM-186 go out?

YES: Go to CHECK 1.

NO: Go to CHECK 2.

■ CHECK 1

Sensor PI21 is OK.

Is the wiring between the M01, stepper motor driver PCB QPW-727, and stacker controller PCB QPM-186 OK?

YES: Go to CHECK 3.

NO: Fix the wiring.

■ CHECK 2

Sensor PI21 is not working.

Is the wiring between PI21 and stacker controller PCB QPM-186 OK?

YES: Replace PI21. If the error is still not corrected, replace QPM-186.

NO: Fix the wiring.

■ CHECK 3

Does the feed screw have too much load to rotate?

YES: Correct the cause of the overload.

NO: Replace M01. If the error is still not corrected, replace the stepper motor driver PCB QPW-727, and then the stacker controller PCB QPM-186.

4.4.1.29 E000523-8010: Stopper Motor M02 Home Position Error 1

■ Check the stopper home position sensor PI22.
When the stopper moves out to the end, does LED DS12 on the stacker controller PCB QPM-186 light up?
YES: Go to CHECK 1.
NO: Go to CHECK 2

■ CHECK 1
Sensor PI22 is OK.
Is the wiring between M02, stepper motor driver PCB QPW-727, and the stacker controller PCB QPM-186 OK?
YES: Go to CHECK 3.
NO: Fix the wiring.

■ CHECK 2
Sensor PI22 is not working.
Is the wiring between PI22 and the stacker controller PCB QPM-186 OK?
YES: Replace PI22. If the error is still not corrected, replace QPM-186.
NO: Fix the wiring.

■ CHECK 3
Turn the power switch off and move the stopper manually, and check if it moves smoothly.
YES: Replace M02. If the error is still not corrected, replace the stepper motor driver
       PCB QPW-727, and then stacker controller PCB QPM-186.
NO: Correct the cause of the overload.

4.4.1.30 E000523-8011: Stopper Motor M02 Home Position Error 2

■ Check the stopper home position sensor PI22.
When the stopper moves inside, does LED DS12 on the stacker controller PCB QPM-186 go out?
YES: Go to CHECK 1.
NO: Go to CHECK 2.

■ CHECK 1
Sensor PI22 is OK.
Is the wiring between M02, the stepper motor driver PCB QPW-727, and the stacker controller PCB QPM-186 OK?
YES: Go to CHECK 3.
NO: Fix the wiring.

■ CHECK 2

Sensor PI22 is not working.

Is the wiring between PI22 and the stacker controller PCB QPM-186 OK?

YES: Replace PI22. If the error is still not corrected, replace PCB QPM-186.

NO: Fix the wiring.

■ CHECK 3

Turn the power switch off and move the stopper manually, and check if it moves smoothly.

YES: Replace M02. If the error is still not corrected, replace the stepper motor driver PCB QPW-727, and then stacker controller PCB QPM-186.

NO: Correct the cause of the overload.

4.4.1.31 E000524-8010: Stack Guide M03 Home Position Error 1

■ Check the stack guide home position sensor PI23. When the stack guide moves out to the end, does LED DS8 on the stacker controller PCB QPM-186 light up?

YES: Go to CHECK 1.

NO: Go to CHECK 2.

■ CHECK 1

Sensor PI23 is OK.

Is the wiring between the stack guide motor, stepper motor driver PCB QPW-727, and the stacker controller PCB QPM-186 OK?

YES: Go to CHECK 3.

NO: Fix the wiring.

■ CHECK 2

Sensor PI23 is not working.

Is the wiring between PI23 and the stacker controller PCB QPM-186 OK?

YES: Replace PI23. If the error is still not corrected, replace QPM-186.

NO: Fix the wiring.

■ CHECK 3

Turn the power switch off and move the stack guide manually, and check if it moves smoothly.

YES: Replace M03. If the error is still not corrected, replace stepper motor driver PCB QPW-727, and then stacker controller PCB QPM-186.

NO: Correct the cause of the overload.

4.4.1.32 E000524-8011: Stack Guide Motor M03 Home Position Error 2

■ Check the stack guide home position sensor PI23. When the stack guide moves inside, does LED DS8 on the stacker controller PCB QPM-186 go out?

YES: Go to CHECK 1.

NO: Go to CHECK 2.

■ CHECK 1

Sensor PI23 is OK.

Is the wiring between the stack guide motor M03, the stepper motor driver PCB QPW-727, and the stacker controller PCB QPM-186 OK?

YES: Go to CHECK 3.

NO: Fix the wiring.

■ CHECK 2

Sensor PI23 is not working.

Is the wiring between PI23 and the stacker controller PCB QPM-186 OK?

YES: Replace PI23. If the error is still not corrected, replace QPM-186.

NO: Fix the wiring.

■ CHECK 3

Turn the power switch off and move the stack guide manually, and check if it moves smoothly.

YES: Replace M03. If the error is still not corrected, replace the stepper motor driver PCB QPW-727, and then the stacker controller PCB QPM-186.

NO: Correct the cause of the overload.

4.4.1.33 E000527-8010: Stack Tray Receiving Position Sensor PI14 Off Error

■ When the stack tray is positioned at the low limit, does LED DS19 on the stacker controller PCB QPM-186 go out?

YES: The signal from the sensor is being processed incorrectly by QPM-186. Replace QPM-186.

■ Is the wiring between PI14 and the stacker controller PCB QPM-186 OK?

YES: Replace PI14. If the error is still not corrected, replace QPM-186.

NO: Fix the wiring.

4.4.1.34 E000527-8011: Stack Tray Receiving Position Sensor PI14 On Error

■ When the stack tray is positioned at the upper limit, does LED DS19 on the stacker controller PCB QPM-186 light up?
YES: The signal from the sensor is being processed incorrectly by QPM-186.
    Replace QPM-186.

■ Is the wiring between the PI14 and the stacker controller PCB QPM-186 OK?
YES: Replace PI14. If the error is still not corrected, replace QPM-186.
NO: Fix the wiring.

4.4.1.35 E000580-8010: Stack Tray Rising Timeout

■ Is something blocking the motion of the stack tray?
YES: Remove the object blocking the motion.

■ Does the stack tray actually rise to the point where the tray is detected by PI14?
YES: PI14 is not working correctly. Go to CHECK 1.
NO: Go to CHECK 3.

■ CHECK 1
When the stack tray is positioned at the point where it is detected by PI14, does LED DS19 on the stacker controller PCB QPM-186 light up?
YES: The signal from the sensor is being processed incorrectly by QPM-186.
    Replace QPM-186.
NO: Go to CHECK 2.

■ CHECK 2
Is the wiring between PI14 and the stacker controller PCB QPM-186 OK?
YES: Replace PI14. If the error is still not corrected, replace QPM-186.
NO: Fix the wiring.

■ CHECK 3
Do the chains and worm gears on the rear of the machine move smoothly?
YES: If there are not any other causes for the problem, replace the stack tray up/down motor M08. If the error is still not corrected, replace driver A08, and then QPM-186.
NO: Repair the chains or gears so that they move smoothly.

4.4.1.36   E000580-8011: Stack Tray Lowering Timeout

■ Is something blocking the motion of the stack tray?
YES: Remove the object blocking the motion.

■ Does the stack tray actually move down to the lower limit?
YES: PI19 is not working correctly. Go to CHECK 1.
NO: Go to CHECK 3.

■ CHECK 1
When the stack tray is positioned at the lower limit, does LED DS20 on the stacker controller PCB QPM-186 light up?
YES: The signal from the sensor is being processed incorrectly by QPM-186.
      Replace QPM-186.
NO: Go to CHECK 2.

■ CHECK 2
Is the wiring between the PI19 and the QPM-186 OK?
YES: Replace PI19. If the error is still not corrected, replace QPM-186.
NO: Fix the wiring.

■ CHECK 3
Do the chains and worm gears on the rear of the machine smoothly?
YES: If there are not any other causes for the problem, replace the stack tray up/down motor M08. If the error is still not corrected, replace driver A08, and then stacker controller PCB QPM-186.
NO: Repair the chains or gears so that they move smoothly.

4.4.2 The Front Cover Does Not Open Even If the Power Switch Is Turned Off

Normally, when the power switch is turned off, the front cover lock solenoid (SL09) does not activate and the front cover can be opened. However, if the front cover does not open because of problem of the solenoid, open the front cover as following procedure and deactivate the solenoid, and then replace the front cover switch. (See section 3.4.4.)

How to deactivate the solenoid
1) Insert a screwdriver from the side hole of the front cover, and remove the 2 screws [1].
- The front cover can be opened.
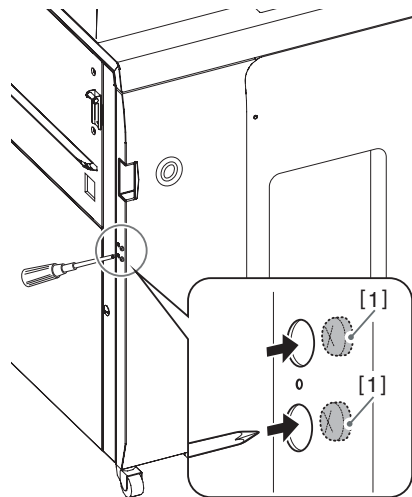
2) Remove the screw [2] and the cover [3].
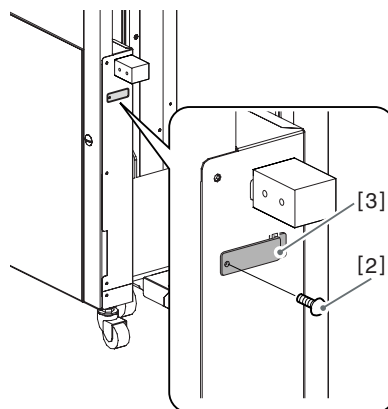
3) Insert the deactivating tool [4] into the solenoid, turn it counterclockwise, and pull out the switch key [5].

- Pull out the deactivating tool.
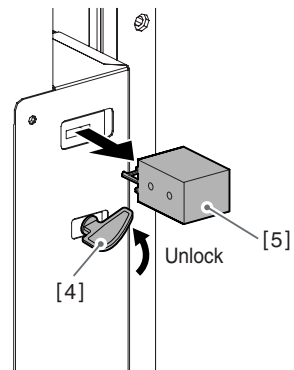
4) Replace the front cover switch. (See section 3.4.4.)

4.5 Electrical Components/Functions

4.5.1 Sensors
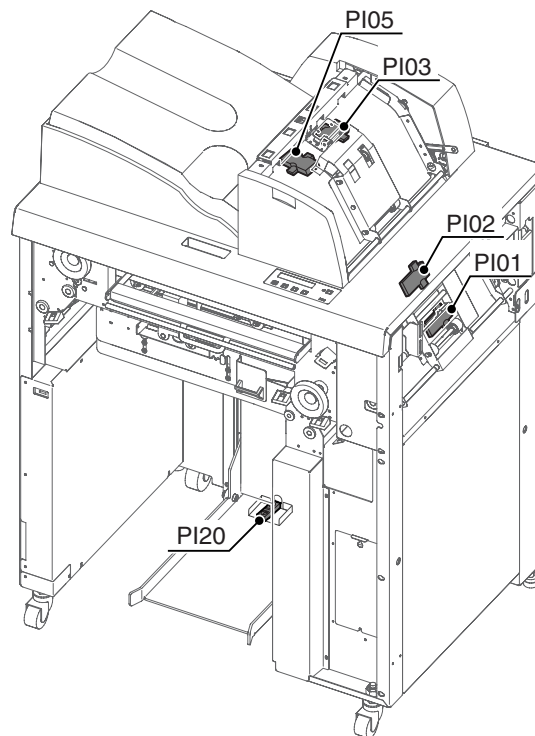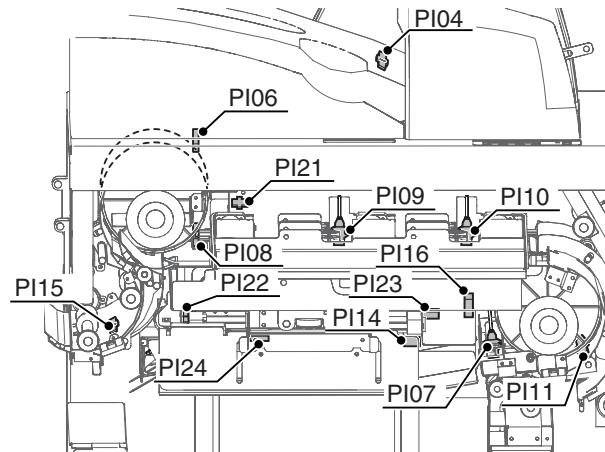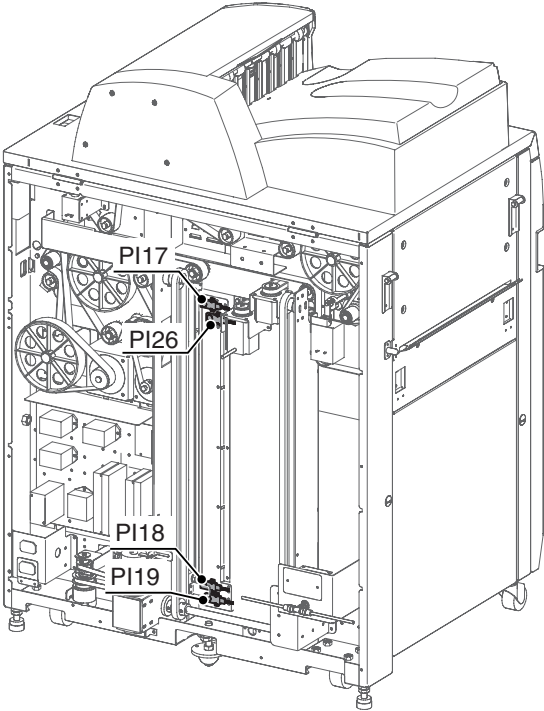
Code	Name	Function	Jam	Error Code	Stacker Controller PCB QPM-186
PI01	Entrance sheet sensor (Photoelectric)	Sheet detection at machine entrance	B		CON10
PI02	Gate entrance sheet sensor (Photoelectric)	Sheet detection at gate entrance	B		CON10
PI03	OUTPUT TRAY exit sheet sensor (Photoelectric)	Sheet sensor at OUTPUT TRAY exit	A		CON10

Code	Name	Function	Jam	Error Code	Stacker Controller PCB QPM-186
PI04	OUTPUT TRAY sheet sensor (Photoelectric)	Sheet detection on OUTPUT TRAY			CON12
PI05	OUTPUT TRAY full sensor (Photoelectric)	Sheet full detection on OUTPUT TRAY			CON13
PI06	Horizontal transport sheet sensor (Photoelectric)	Sheet detection at horizontal transport section	C		CON10
PI07	Stacker exit sheet sensor (Photoelectric)	Sheet detection at stacker exit	∗		CON29
PI08	Offset entrance sheet sensor (Photoelectric)	Sheet detection at offset entrance	D12		CON29
PI09	Left offset sheet sensor (Photoelectric)	Sheet detection at left offset section	D1		CON16
PI10	Right offset sheet sensor (Photoelectric)	Sheet detection at right offset section	D13		CON17
PI11	Right turn-over sheet sensor (Photoelectric)	Sheet detection at right turn-over section	D45		CON29

Code	Name	Function	Jam	Error Code	Stacker Controller PCB QPM-186
PI14	Stack tray receiving position sensor (Photoelectric reflection)	To keep the level of the top sheet at the receiving position (When the sensor detects the actuator, the stack tray stops moving up). When the green LED lights up: The on/off input signal of the sensor is stable. When the orange LED lights up: The light is blocked. (sensor deactivated)		E000527-8010/ E000527-8011	CON13
PI15	Downstream exit sheet sensor (Photoelectric)	Sheet detection at downstream exit	E12		CON29
PI16	Stack tray sheet sensor (Photoelectric reflection)	Sheet detection on the stack tray When the green LED lights up: The on/off input signal of the sensor is stable. When the orange LED lights up: The light is blocked. (sensor deactivated)			CON13
PI17	Stack tray upper limit sensor (Proximity)	Stack tray upper limit detection		E000520-8010	CON12

Code	Name	Function	Jam	Error Code	Stacker Controller PCB QPM-186
PI18	Stack tray full sensor (Proximity)	Sheet full detection on stack tray			CON16
PI19	Stack tray lower limit sensor (Proximity)	Stack tray lower limit detection		E000520-8011	CON12
PI20	Stack tray sensor (Proximity)	Stack tray detection			CON16
PI21	Offset section guide home position sensor (Proximity)	Offset section guide home position detection		E000522-8010/ E000522-8011	CON16
PI22	Stopper home position sensor (Proximity)	Stopper home position detection		E000523-8010/ E000523-8011	CON16
PI23	Stack guide home position sensor (Proximity)	Stack guide home position detection		E000524-8010/ E000524-8011	CON17
PI24	Front stack guide open/ close sensor (Proximity)	Front stack guide open/close detection			CON16
PI26	Stack tray speed reduction sensor (Proximity)	Stack tray speed reducing position detection when moving up at high speed.			CON17

4.5.2 Switches
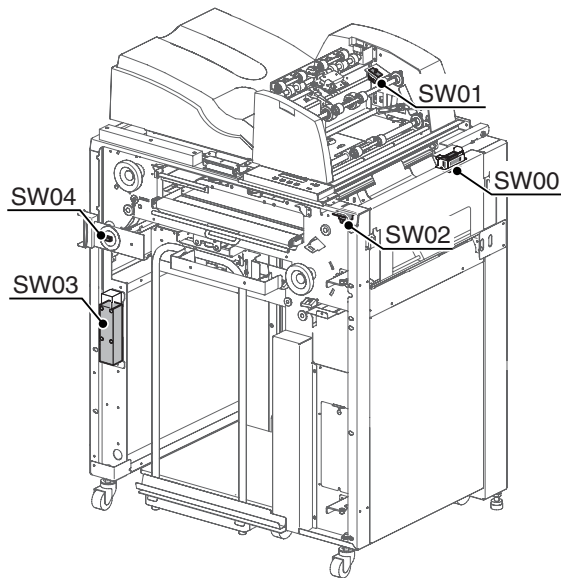
Code	Name	Function	Motor driver shut up the power	Stacker Controller PCB QPM-186
SW00	Power switch	Main power supply	-	-
SW01	OUTPUT TRAY cover switch	OUTPUT TRAY cover opening detection	A06/QPW-727_1	CON18
SW02	Top cover switch	Top cover opening detection	A06/QPW-727_1	CON18
SW03	Front cover switch	Front cover opening detection	A07/A08/QPW-727_2	CON18
SW04	Front cover open button	Allow to open the front cover	A07/A08/QPW-727_2	CON18

4.5.3 Solenoids

SL01

SL02

SL05

SL04

SL09(SW03)
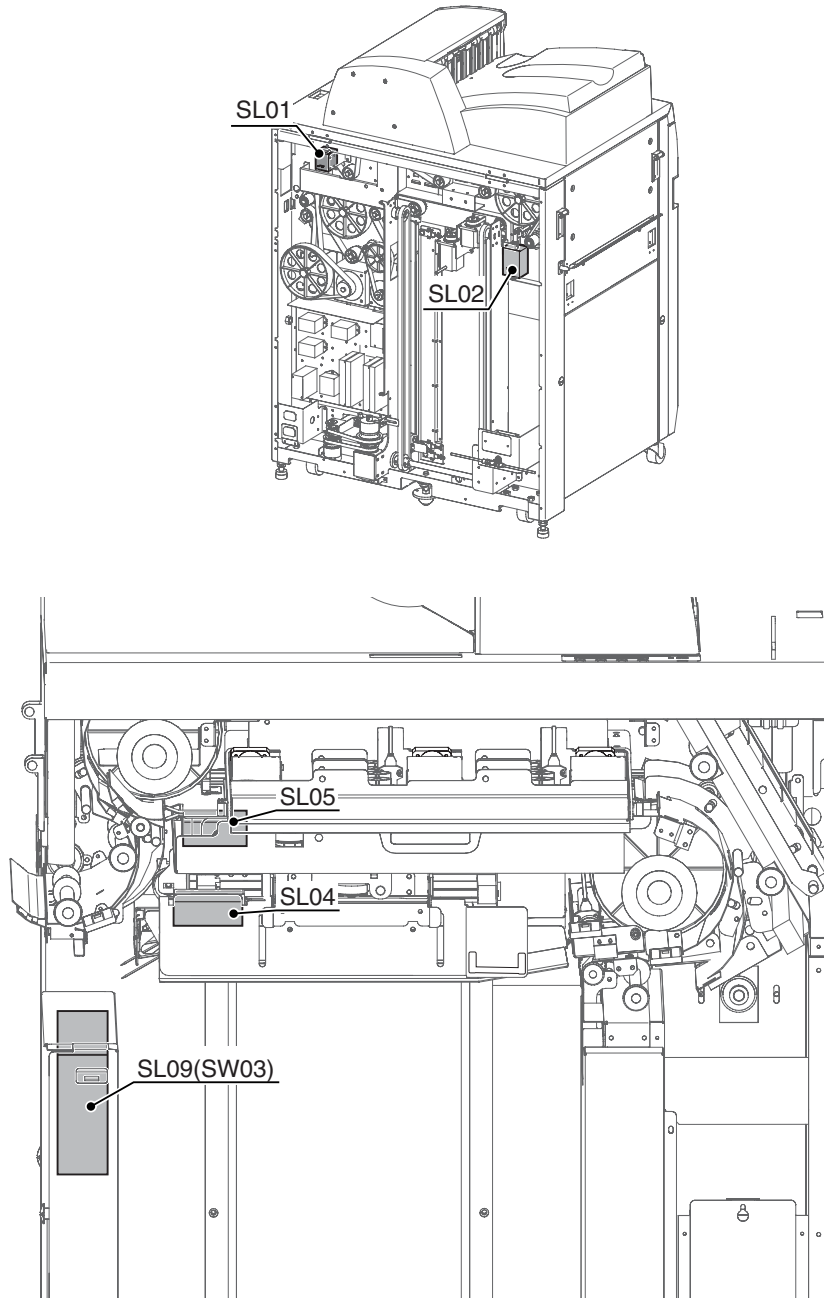
Code	Name	Function	Stacker Controller PCB QPM-186
SL01	OUTPUT TRAY eject gate solenoid	On: Ejecting to OUTPUT TRAY	CON15
SL02	Downstream output gate solenoid	On: Downstream output	CON15
SL04	Stack guide front solenoid	On: Offsetting to front	CON15
SL05	Stack guide rear solenoid	On: Offsetting to rear	CON15
SL09	Front cover lock solenoid	On: Front cover locked	CON14

4.5.4 Motors
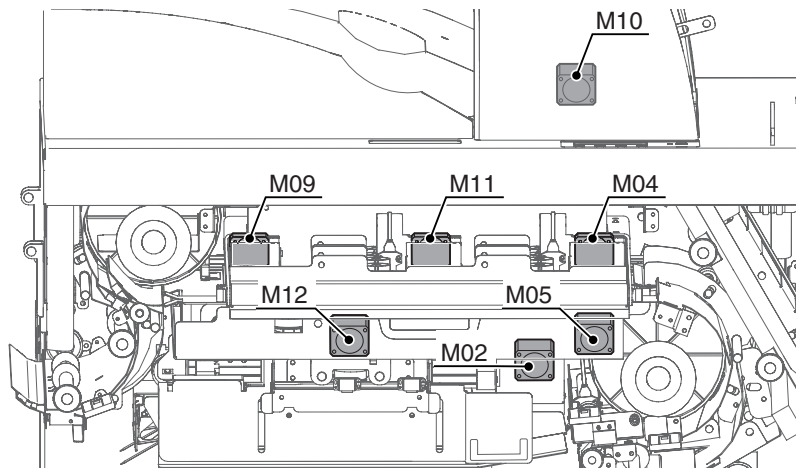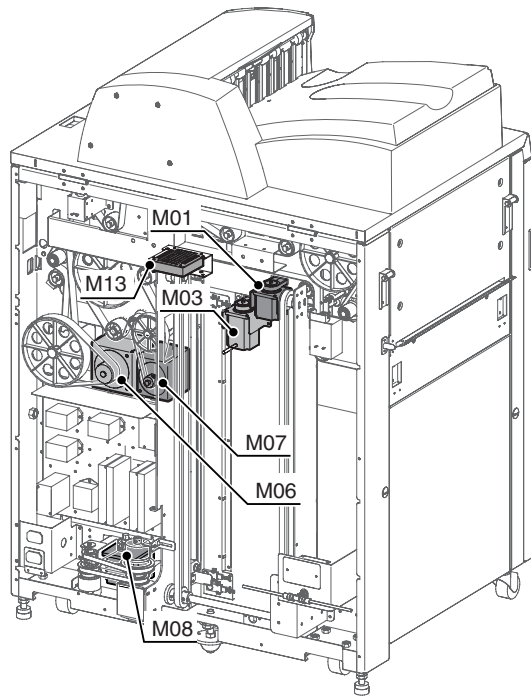
Code	Name	Function	Error Code
M01	Offset section guide motor	Moves the offset section guide	E000522-8010/ E000522-8011
M02	Stopper motor	Moves the stopper	E000523-8010/ E000523-8011
M03	Stack guide motor	Moves the stack guides	E000524-8010/ E000524-8011
M04	Upper offset motor (downstream)	Moves the offset balls up or down (downstream)	
M05	Lower offset motor (downstream)	Moves the offset rollers up or down (downstream)	
M06	Main drive motor	Moves the entrance, horizontal transport, OUTPUT TRAY, and downstream output	E000511-0010
M07	Offset section drive motor	Moves the offset section and right turn-over section	E000515-8010
M08	Stack tray up/down motor	Moves the stack tray up or down	E000512-8011
M09	Offset section sheet hold motor	Holds the sheet at the offset entrance section	
M10	OUTPUT TRAY exit drive motor	Moves the OUTPUT TRAY exit roller	
M11	Upper offset motor (upstream)	Moves the offset balls up or down (upstream)	
M12	Lower offset motor (upstream)	Moves the offset rollers up or down (upstream)	
M13	Fan motor	Cools down the electric box	

Code	Stepper Motor Driver PCB QPW-727_1	Stepper Motor Driver PCB QPW-727_2	Motor Driver PCB A06	Motor Driver PCB A07	Motor Driver PCB A08	Stacker Controller PCB QPM-186
M01		CON103/ CON102				CON25
M02		CON104/ CON102				CON25
M03		CON104/ CON102				CON25
M04	CON103/ CON102					CON24
M05	CON103/ CON102					CON24
M06			CN3,4/ CN2			CON30
M07				CN3/ CN2		CON30
M08					CN3,4/ CN2	CON31
M09		CON104/ CON102				CON25
M10	CON104/ CON102					CON24
M11	CON104/ CON102					CON24
M12	CON104/ CON102					CON24
M13						CON22

4.5.5   Clutches
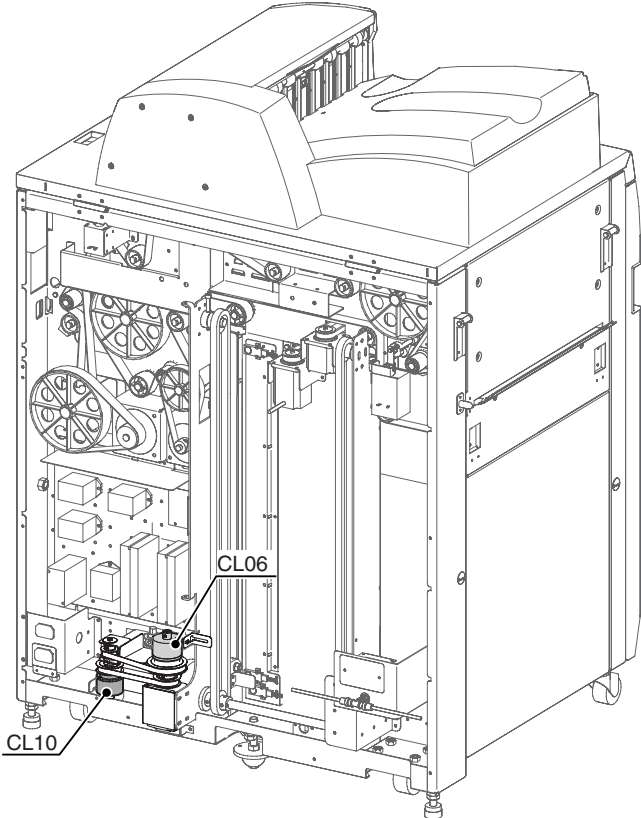
Code	Name	Function	Stacker Controller PCB QPM-186
CL06	Stack tray slow up/down clutch	This activates when the stack tray moves up or down without sheets on it.	CON14
CL10	Stack tray quick up/down clutch	This activates when the stack tray moves up or down with sheets stacked on it.	CON14

4.5.6   Printed Circuit Boards and Other Parts
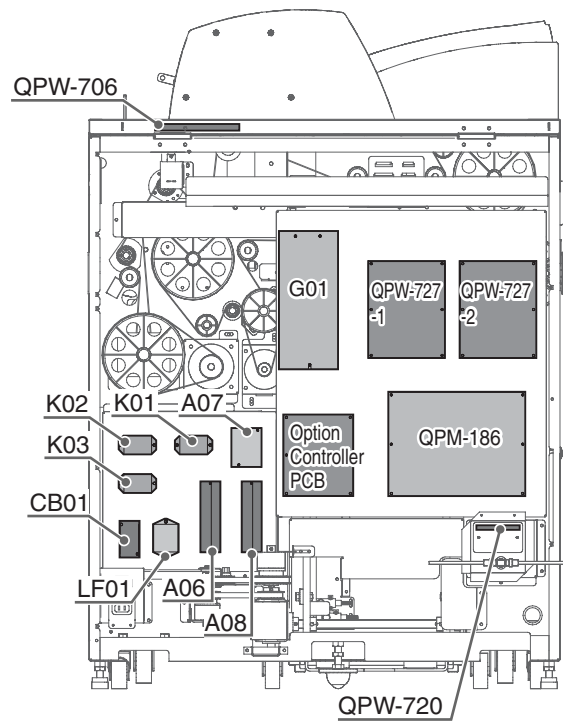
Code	Name	Control Functions
QPM-186	Stacker controller PCB	
QPW-706	Control panel PCB	
QPW-727_1	Stepper motor driver PCB	M04/M05/M10/M11/M12
QPW-727_2	Stepper motor driver PCB	M01/M02/M03/M09
A06	Main drive motor driver PCB	M06
A07	Offset section drive motor driver PCB	M07
A08	Stack tray up/down motor driver PCB	M08

Code	Name	Control Functions
-	Option controller PCB	
QPW-720	Upgrade PCB	For program upgrade
K01	Standby relay	K02/K03
K02	Interlock relay	A06/QPW-724_1
K03	Interlock relay	A07/A08/QPW-724_2
LF01	Line filter	
G01	Power switch	24VDC/5VDC
CB01	Circuit breaker	

4.6 Variable Resistors (VR), LEDs, and DIP Switches (DSW)

4.6.1 Overview

This section describes the LEDs, variable resistors (VR) and DIP switches (DSW) which are important for field service operations.

The variable resistors (VR) which are not described are adjusted at the factory. Special tools and gauges are needed to adjust and check them, and high accuracy is required. Do not try to adjust them in the field.

4.6.2 Stacker Controller PCB QPM-186

LCD Display Brightness Adjustment
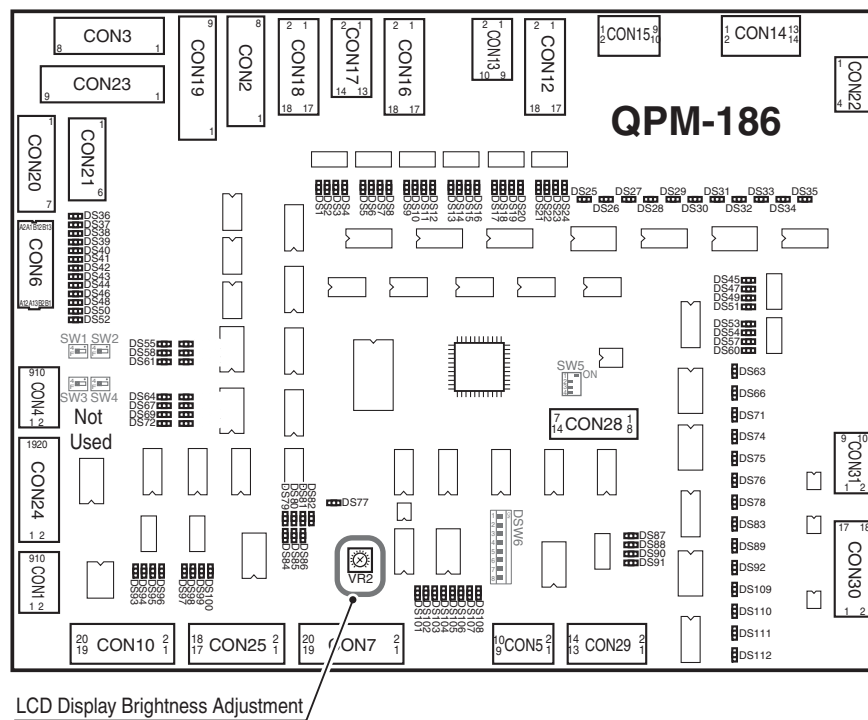
LED	Code	Lighted when . . .
DS1	SW04	the front cover open button is being pressed.
DS2	SW03	the front cover switch is being pressed.
DS3	SW02	the top cover switch is being pressed.
DS4	SW01	the OUTPUT TRAY cover switch is being pressed.
DS8	PI23	the stack guide home position sensor activates.
DS9	PI26	the stack tray speed reduction sensor activates.
DS10	PI10	the right offset sheet sensor activates.
DS11	PI09	the left offset sheet sensor activates.
DS12	PI22	the stopper home position sensor activates.
DS13	PI21	the offset section guide home position sensor activates.
DS14	PI20	the stack tray sensor activates.
DS15	PI24	the front stacker guide closes (the sensor activates).
DS16	PI18	the stack tray full sensor activates.
DS17	PI05	the OUTPUT TRAY full sensor activates.
DS18	PI16	the stack tray sheet sensor detects a sheet.
DS19	PI14	the stack tray receiving position sensor detects the actuator.
DS20	PI19	the stack tray lower limit sensor activates.
DS23	PI17	the stack tray upper limit sensor activates.
DS24	PI04	the OUTPUT TRAY sheet sensor activates.
DS25	SL01	the OUTPUT TRAY eject gate solenoid activates.
DS26	SL02	the downstream output gate solenoid activates.
DS28	SL04	the front stack guide solenoid activates.
DS29	SL05	the rear stack guide solenoid activates.
DS30	CL06	the stack tray slow up/down clutch activates.
DS33	K01	Normally this is on. It goes out for energy saving mode.
DS34	SL09	the front cover lock solenoid activates.
DS35	CL10	the stack tray quick up/down clutch activates.
DS36		the ConfigSet signal is received.
DS37		the SuspendAck signal is received.
DS38		the SheetEjctOnAck signal is received.
DS39		the StackSheetDeliveredAck signal is received.
DS40		the SampleSheetDeliveredAck signal is received.
DS41		the ForceExitReq signal is received.
DS42		the SheetExit signal is received.
DS43		the CycleUp signal is received.
DS45	A06	the speed pulse signal is received from A06.

LED	Code	Lighted when . . .
DS47	A07	the speed pulse signal is received from A07.
DS49	A08	the speed pulse signal is received from A08.
DS51	A06	the alarm signal is received from A06.
DS52		the EmergcyStop signal is received.
DS53	A07	the alarm signal is received from A07.
DS54	A08	the alarm signal is received from A08.
DS61		the SerialError signal is sent.
DS62		the Full signal is sent.
DS63	M08	the M08 runs in the normal direction.
DS64		the Faulted signal is sent.
DS65		the SuspendReq signal is sent.
DS66	M08	the M08 runs in the reverse direction.
DS67		the SheetEjctOn signal is sent.
DS68		the StackSheetDelivered signal is sent.
DS69		the SampleSheetDelivered signal is sent.
DS70		the ForceExitAbnomalAccepted signal is sent.
DS71	A08	switching the direction of rotation of M08.
DS72		the SheetExitAck signal is sent.
DS73		the Standby signal is sent.
DS74	A08	the Alarm Reset signal is sent to A08.
DS75	M08	SCL
DS76	M08	SDA
DS77		the backlight power is provided to the LCD display.
DS78	M06	SCL
DS80		the "-" button is being pressed.
DS81		the Enter button is being pressed.
DS82		the Stack On/Off button is being pressed.
DS83	M06	SDA
DS85		the Menu button is being pressed.
DS86		the "+" button is being pressed.
DS87	PI08	the offset entrance sheet sensor activates.
DS88	PI15	the downstream exit sheet sensor activates.
DS89	A06	the Alarm Reset signal is sent to A06.
DS90	PI07	the stacker exit sheet sensor activates.
DS91	PI11	the right turn-over sheet sensor activates.
DS92	M06	the Run/Brake signal is sent to A06.

LED	Code	Lighted when . . .
DS93	PI06	the horizontal transport sheet sensor activates.
DS94	PI03	the OUTPUT TRAY exit sheet sensor activates.
DS95	PI02	the gate entrance sheet sensor activates.
DS96	PI01	the entrance sheet sensor activates.
DS109	M07	SCL
DS110	M07	SDA
DS111	M07	the Run/Brake signal is sent to A07.
DS112	A07	the Alarm Reset signal is sent to A07.

4.6.3 Stepper Motor Driver PCB QPW-727

The DIP switch setups on QPW-727_1 and QPW-727_2 are identical.
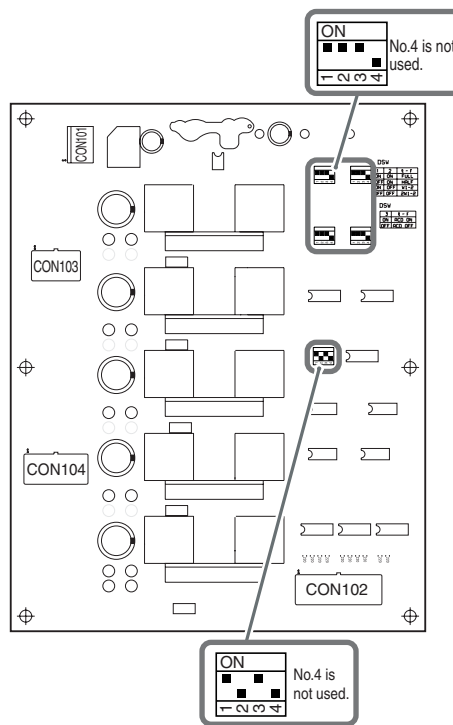
4.6.4   Driver PCB A07
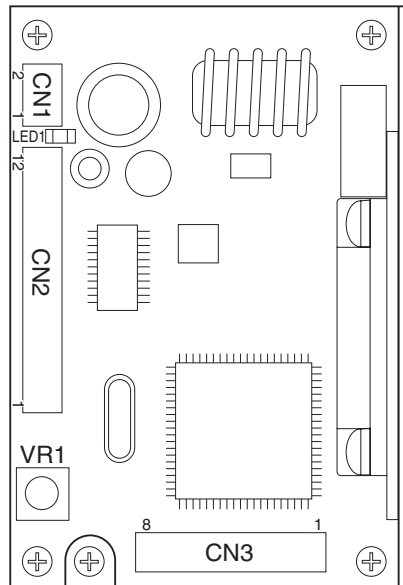
4.6.5   Driver PCB A06/A08
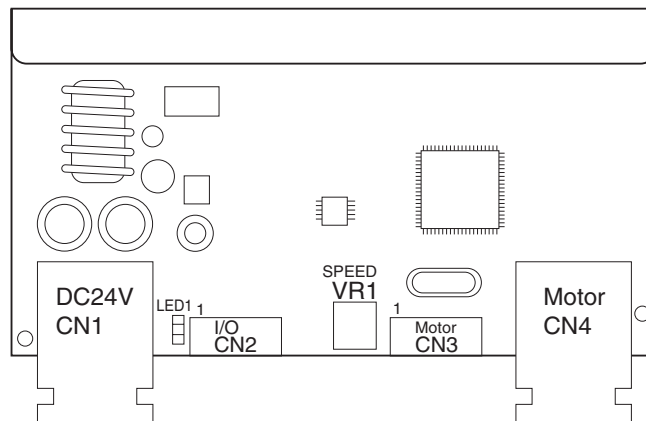
4.6.6   Control Panel PCB QPW-706
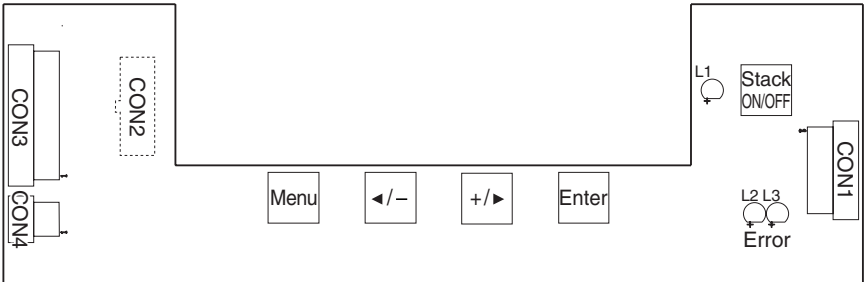
4.6.7   Upgrade PCB QPW-720
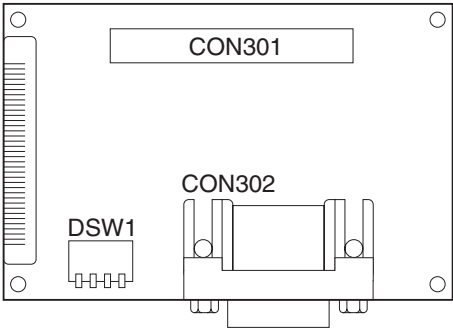
4.7 Upgrading the Control Program

■ Overview

Upgrade the stacker program from the host machine using a PC in which the service support tool is installed. See the service manual of the host machine for details.

4.8   Service Tools

4.8.1   Solvents

No.	Name	Purpose	Ingredients	Remarks
1	Alcohol cleaner	Cleaning exterior covers, belts, plastic parts, or rubber parts such as rollers	Fluorine hydrocarbon, alcohol, surface-active agent, water	- Keep away from fire. - Substitute; IPA (Isopropyl alcohol)

4.8.2   Accessory Tools

No.	Name	Quantity
1	Double-head thin wrench 19 mm / 21 mm	1
2	Double-head wrench 10 mm / 13 mm	1
3	Single open wrench 7 mm	1
4	Allen wrench 5 mm	1
5	Box wrench 5.5 mm	1
6	Wrench for installing the caster 23 mm / 24 mm	1

Chapter 5 Error Codes

Contents

5.1 Overview

There are three kinds of error indications:

- User error codes (stack full, cover open etc.): Only the message is displayed.
- Service error codes (home position error, driver alarm, and serial or parallel communication errors): "Service Call" and the error code (E000XXX-00XX) are displayed.
- Jam codes (sheet remains or does not pass within the timeout interval): The message and sensor code are displayed.

5.2 User Error Codes

Error	Causes	Detection timing	Status after error	Resetting
Top cover open	Top cover is open.	• Always checked on power-up	M04/M05/M06/ M10/M11/M12 stop	Close the cover.
OUTPUT TRAY cover open	OUTPUT TRAY cover is open.	• Always checked on power-up	M04/M05/M06/ M10/M11/M12 stop	Close the cover.
OUTPUT TRAY full	Sheets are stacked on the OUTPUT TRAY higher than the stacking capacity.	• Checked when the machine stops because of a jam or error • Checked during the printing operation	The stacker sends the Full signal to the host machine, and then follows the command from the host machine.	Remove the sheets.
Stack tray full	• Sheets are stacked on the stack tray higher than the stacking capacity. • A sheet is left on the stack tray when the power switch is turned on.	• Checked when the power switch is turned on • Checked when the machine stops because of a jam or error • Checked during the printing operation	The stacker sends the Full signal to the host machine, and then follows the command from the host machine.	Remove the sheets.
No stack tray	Stack tray is not installed.	• Checked when the stack tray lower limit sensor activates	The support does not move up automatically even when the front cover is closed. The stacker does not send the Standby signal.	Install the stack tray.

5.3 Service Error Codes

Error code	Error description	Cause
E000501-00D0	CycleUp Off error	The CycleUp signal is still being received when the stacker receives the first stacker operation mode information after power-up.
E000501-00D1	SheetExit Off error	The SheetExit signal is still being received when the stacker receives the first stacker operation mode information after power-up.
E000501-00D2	ForceExit-Req Off error	The ForceExitReq signal is still being received when the stacker receives the first stacker operation mode information after power-up.
E000501-00D3	SampleSheet-DeliveredAck Off error	The SampleSheetDeliveredAck signal is still being received when the stacker receives the first stacker operation mode information after power-up.
E000501-00D4	StackSheet-DeliveredAck Off error	The StackSheetDeliveredAck signal is still being received when the stacker receives the first stacker operation mode information after power-up.
E000501-00D5	SheetEjctOnAck Off error	The SheetEjctOnAck signal is still being received when the stacker receives the first stacker operation mode information after power-up.
E000501-00D6	SuspendAck Off error	The SuspendAck signal is still being received when the stacker receives the first stacker operation mode information after power-up.
E000501-00D7	EmergcyStop Off error	The EmergcyStop signal is still being received when the stacker receives the first stacker operation mode information after power-up.
E000501-00D8	SampleSheet-DeliveredAck no response	The previous SampleSheetDelivered signal is still on when the stacker tries to turn the SampleSheetDelivered signal on. (No Ack returns for the previous sheet.)
E000501-00D9	StackSheet-DeliveredAck no response	The previous StackSheetDelivered signal is still on when the stacker tries to turn the StackSheetDelivered signal on. (No Ack returns for the previous sheet.)

Error code	Error description	Cause
E000501-00DA	SheetEjctOnAck no response	The previous SheetEjctOn signal is still on when the stacker tries to turn the SheetEjctOn signal on. (No Ack returns for the previous sheet.)
E000501-00E0	Unexpected data (stacker operation mode)	The stacker has received operation mode data which cannot be interpreted.
E000501-00E1	Unexpected data (sheet size)	The stacker has received the sheet size data which cannot be interpreted.
E000501-00E2	Unexpected data (mixed size stack)	The stacker has received the sheet size data for sheets which cannot be mixed on the stacker.
E000501-00E3	Unexpected data (speed)	The stacker has received the delivery speed which is outside of the specifications.
E000501-00E4	Unexpected data (ejecting pattern)	The stacker has received an undefined ejecting pattern.
E000501-00E5	Unexpected data (sheet ID)	The stacker has received a discontinuous paper ID code.
E000501-00E6	Unexpected data (idling running speed)	The stacker has received an idling running speed which is out of the specifications.
E000505-0010	EEPROM Data Loading Error	The EEPROM data has a problem after turning on the power switch and the initial communication starts.
E000505-0011	EEPROM Guide Data Range Error	The home position data for each guide and stopper in the EEPROM have a problem after turning on the power switch and the initial communication starts.
E0005F0-8010	Over stacking on the stack tray	The stack tray lower limit sensor PI19 has turned on during stacking on the stack tray.
E000511-0010	Main drive motor M06 alarm	An alarm has occurred on the main drive motor driver PCB A06.
E000512-8011	Stack tray up/down motor M08 alarm	An alarm has occurred on the stack tray up/down motor driver PCB A08.
E000515-8010	Offset section drive motor M07 alarm	An alarm has occurred on the offset section drive motor driver PCB A07.
E000520-8010	Stack tray upper limit sensor PI17 Off error	During stack preparation, PI17 is still activated even after the stack tray has moved down.

Error code	Error description	Cause
E000520-8011	Stack tray lower limit sensor PI19 Off error	During stack preparation, PI19 is still activated even after the stack tray has moved up.
E000522-8010	Offset section guide motor M01 home position error 1	The offset section guide home position sensor PI21 is not activated.
E000522-8011	Offset section guide motor M01 home position error 2	The offset section guide home position sensor PI21 is not turned off.
E000523-8010	Stopper motor M02 home position error 1	The stopper home position sensor PI22 is not activated.
E000523-8011	Stopper motor M02 home position error 2	Stopper home position sensor PI22 is not turned off.
E000524-8010	Stack guide motor M03 home position error 1	Stack guide home position sensor PI23 is not activated.
E000524-8011	Stack guide motor M03 home position error 2	Stack guide home position sensor PI23 is not turned off.
E000527-8010	Stack tray receiving position sensor PI14 Off error	During stack preparation, PI14 is still activated even after the stack tray has moved down.
E000527-8011	Stack tray receiving position sensor PI14 On error	During stack preparation, when the stack tray is positioned at the upper limit (stack tray upper limit sensor PI17 activated), the stack tray receiving position sensor PI14 is not activated.
E000580-8010	Stack tray rising timeout	During stack preparation, while the stack tray is moving up, the stack tray receiving position sensor PI14 is not activated within the timeout period.
E000580-8011	Stack tray lowering timeout	While the stack tray is moving down to be removed, the stack tray lower limit sensor PI19 is not activated within the timeout period.

5.4   Jam Codes

Error Message	Error description	Cause	Sensor
REMOVE JAMMED PAPER B	A sheet has not arrived at the entrance sheet sensor.	After the stacker received SheetExit signal, the sheet has not arrived at the entrance sheet sensor within the timeout period.	PI01
	A sheet has been left on the entrance sheet sensor.	A sheet has been left on the entrance sheet sensor for the timeout period.	PI01
REMOVE JAMMED PAPER B	A sheet has not arrived at the gate entrance sheet sensor.	A sheet which was detected by the entrance sheet sensor has not arrived at the gate entrance sensor within the timeout period.	PI02
	A sheet has been left on the gate entrance sheet sensor.	A sheet has been left on the gate entrance sheet sensor for the timeout period.	PI02
REMOVE JAMMED PAPER A	A sheet has not arrived at the OUTPUT TRAY exit sheet sensor.	A sheet which was detected by the gate entrance sheet sensor has not arrived at the OUTPUT TRAY exit sheet sensor within the timeout period.	PI03
	A sheet has been left on the OUTPUT TRAY exit sheet sensor.	A sheet has been left on the OUTPUT TRAY exit sheet sensor for the timeout period.	PI03
REMOVE JAMMED PAPER C	A sheet has not arrived at the horizontal transport sheet sensor.	A sheet which was detected by the gate entrance sheet sensor has not arrived at the horizontal transport sheet sensor within the timeout period.	PI06
	A sheet has been left on the horizontal transport sheet sensor.	A sheet has been left on the horizontal transport sheet sensor for the timeout period.	PI06
REMOVE JAMMED PAPER D12	A sheet has not arrived at the offset entrance sheet sensor.	A sheet which was detected by the horizontal transport sheet sensor has not arrived at the offset entrance sheet sensor within the timeout period.	PI08
	A sheet has been left on the offset entrance sheet sensor.	A sheet has been left on the offset entrance sheet sensor for the timeout period.	PI08

Timeout period: depends on sheet size.

Error Message	Error description	Cause	Sensor
REMOVE JAMMED PAPER D1	A sheet has not arrived at the left offset sheet sensor.	A sheet which was detected by the offset entrance sheet sensor has not arrived at the left offset sheet sensor within the timeout period. (This period is decided by the sheet speed).	PI09
	A sheet has been left on the left offset sheet sensor.	A sheet has been left on the left offset sheet sensor for the timeout period.	PI09
REMOVE JAMMED PAPER D13	A sheet has not arrived at the right offset sheet sensor.	A sheet which was detected by the left offset sheet sensor has not arrived at the right offset sheet sensor within the timeout period.	PI10
	A sheet has been left on the right offset sheet sensor.	A sheet has been left on the right offset sheet sensor for the timeout period.	PI10
REMOVE JAMMED PAPER D45	A sheet has not arrived at the right turn-over sheet sensor.	A sheet which was detected by the right offset sheet sensor has not arrived at the right turn-over sheet sensor within the timeout period.	PI11
	A sheet has been left on the right turn-over sheet sensor.	A sheet has been left on the right turn-over sheet sensor for the timeout period.	PI11
REMOVE JAMMED PAPER ✱	A sheet has not arrived at the stacker exit sheet sensor.	A sheet which was detected by the right turn-over sheet sensor has not arrived at the stacker exit sheet sensor within the timeout period.	PI07
	A sheet has been left on the stacker exit sheet sensor.	A sheet has been left on the stacker exit sheet sensor for the timeout period.	PI07
REMOVE JAMMED PAPER E12	A sheet has not arrived at the downstream exit sheet sensor.	A sheet which was detected by the horizontal transport sheet sensor has not arrived at the downstream exit sheet sensor within the timeout period.	PI15
	A sheet has been left on the downstream exit sheet sensor.	A sheet has been left on the downstream exit sheet sensor for the timeout period.	PI15

Timeout period: depends on sheet size.