FINISHER SR5000 (Machine Code: B830)



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1. REPLACEMENT AND ADJUSTMENT

1.1 COVERS





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1.1.1 FRONT DOOR, INNER COVER

Front Door

- 1. Remove the front door screw [A] ($\hat{\mathscr{F}} \times 1$).
- 2. Remove the front door [B].

Left Inner Cover

- 1. Remove the front door.
- 2. Remove the left inner cover [C] ($\hat{\mathscr{F}} \times 1$).

Inner Cover

1. Remove the inner cover [D] ($\hat{P} \times 3$).

Peripherals



- 1. Remove the side table [A] ($\mathscr{F} \times 2$). Slide to the right to remove it.
- 2. Click the release lever [B] and remove the upper tray [C].



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1.1.3 LEFT COVERS, REAR COVER

Remove:

- Shift tray jogger unit (
 1.8.1)
- Remove the door and left inner cover. (1.1.1)
- [A] Remove the left upper cover ($\hat{P} \times 2$, $\mathbb{P} \times 2$).
- [B] Remove the rear cover ($\hat{\beta} \times 2$).

[C] Remove the left lower cover ($\hat{\beta} \times 4$).

1.1.4 TOP COVER

Remove:

Side table, upper tray (☞1.1.2)
[D] Step screws (𝔅 x 2).
[E] Top cover (𝔅 x 2). Slide to the right to remove.

1.1.5 SHIFT TRAY

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

Remove:

[F] Remove the shift tray ($\hat{\beta}^2 \times 4$).

[G] Shift tray rear cover (x 1)

[H] Shift tray front cover [H] (X 1).

1.1.6 JOGGER UNIT COVER



- 1. Open the front door.
- 2. Pull out the stapler tray unit [A].
- 3. Remove the jogger unit cover [B] ($\hat{P} x2$)

1.2 ROLLERS

1.2.1 DRAG ROLLER



B830R905.WMF

- 1. Above the shift tray, pull the roller mount [A] out.
- 2. Remove the rollers [B] and [C] ($\overline{\bigcirc}$ x 1 each)



1.2.2 POSITIONING ROLLER



- 1. Remove the jogger unit cover (•1.1.6)
- 2. Remove the snap ring [A].
- 3. Release the rubber belt [B].
- 4. Replace the positioning roller [C].





- 1. Open the front door and pull out the staple unit.
- 2. Remove the rear cover.
- 3. Remove the main board bracket and all connectors ($\cancel{P} \times 8$). (-1.4.6)
- 4. Remove the screw [A] and tension spring [B] for the tension bracket [C], and release the tension of the timing belt.
- 5. Remove the pulley [D] and bearing [E].
- 6. Remove the inner cover [F] ($\hat{P} \times 1$).
- 7. Open the guide [G], then remove the alignment brush roller assembly [H].
- 8. Remove the alignment brush roller [I] (0 x2, Bearing x 1 front/back, 0x1).

1.3 JOGGER FENCE



B830R909.WMF

- 1. Open the front door.
- 2. Pull out the jogger and stapler unit.
- 3. Push both fences to the center.
- 4. Remove the left jogger fence [A] ($\hat{\mathscr{F}} \times 1$)
- 5. Remove the right jogger fence [B] (x 1).
 NOTE: If the screws are difficult to remove or re-attach, remove the jogger fence belt and spring plate.

1.4 SENSORS

1.4.1 PAPER HEIGHT SENSORS



Remove:

- Top cover. (•1.1.1)
- [A] Protector plate (² x 1).
- [B] Feeler (∦ x 1).
- [C] Sensor bracket (²/_ℓ x 1).
- [D] Paper height sensor staple mode (^[] x 1, Pawls x4)
- [E] Paper height sensor standby mode (x 1, Pawls x4)
- [F] Paper height sensor shift/Z-Fold(x 1, Pawls x4).



1.4.2 EXIT GUIDE HP SENSOR

- 1. Remove the top cover. (•1.1.1)
- 2. Remove the left upper panel and left upper cover ($\mathscr{F} \times 2$, $\mathfrak{V} \times 2$).
- 3. Remove:

[A] Sensor bracket [A] ($\hat{\beta}^{2} \times 1$).



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[B] Exit guide HP sensor (≝ x 1, Pawls x3).



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1.4.3 UPPER TRAY FULL AND EXIT SENSORS

Upper Tray Full Sensor

- 1. Remove the top cover.
- 2. Remove the sensor cover [A] ($\hat{\mathscr{F}} \times 2$).
- 3. Remove the sensor bracket [B] ($\hat{\mathscr{F}} \times 1$).
- 4. Replace the upper tray full sensor [C] (x 1, x 1, x 1).

Upper Tray Exit Sensor

- 5. Remove the sensor bracket [D] ($\hat{\mathscr{F}} \times 1$).
- 6. Replace the upper tray exit sensor [E] (x 1, x 1, x 1).

Peripherals

1.4.4 SHIFT TRAY EXIT SENSOR

Remove the top cover (•1.1.4) Remove:

[A] Sensor bracket (2 x1)



B830R982.BMP



B830R983.BMP



B830R984.BMP

[C] Shift tray exit sensor 2 (Ĝ x1, ⊑ x1)

1.4.5 ENTRANCE AND STAPLER TRAY ENTRANCE SENSORS



B830R986.WMF

Entrance Sensor

- 1. Disconnect the finisher from the copier.
- 2. Remove the sensor bracket [A] ($\hat{\not}$ x 1).
- 3. Replace the entrance sensor [B] ($\hat{\beta} \times 1$) ($\mathbb{Z} \times 1$).

Stapler Tray Entrance Sensor

- 1. Open the front door.
- 2. Remove the sensor bracket [C] ($\hat{\mathscr{F}} \times 1$).
- 3. Replace the stapler tray entrance sensor [D] ($\hat{\not} x 1$)($\mathbb{I} = x 1$).



1.4.6 MAIN BOARD, PRE-STACK PAPER SENSOR



B830R987.BMP

- 1. Remove the rear cover. (-1.1.4)
- 2. Remove the main board bracket ($\hat{\mathscr{F}} \times 4$, $\stackrel{\frown}{\Longrightarrow} \times 8$, $\stackrel{\frown}{\Longrightarrow} \times AII$).
- 3. Open the front door.



Loosen the screw [A] (F x1)

Remove:

- [B]
- Gear cover (\mathscr{F} x1) Gear (0 x1, Timing belt x1) Gear (0 x1) [C]
- [D]
- Plate (🖗 x2) [E]
- Left vertical transport guide [F]
- [G] Middle vertical transport guide
- [H] Pre-stack paper sensor (1 x1)



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1.4.7 STAPLE TRIMMINGS HOPPER FULL SENSOR



B830R988.BMP



B830R989.BMP

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

Remove:

- [A] Staple trimmings hopper [B] Hopper holder (A x1, Hook x1, (N x1)
- [C] Hopper full sensor ([™] x 1)
- [D] Hopper set sensor (⊑[⊥] x 1)

1.4.8 STAPLER ROTATION HP AND STAPLER RETURN SENSORS



B830R990.WMF

- 1. Remove the stapler unit. (See next page.)
- 2. Remove the stapler mount bracket [A] ($\mathscr{F} \times 4$) (Springs x 2).
- 3. Replace the stapler rotation HP sensor [B] ($III \times 1$).
- 4. Replace the stapler return sensor [C] (x = 1).



1.5 STAPLER



- 1. Open the front door and pull out the staple tray.
- 2. Remove the stapler unit harness cover [A] ($\hat{\mathscr{F}} \times 2$).
- 3. Lift the stapler [B] off of its pegs (⊑^{IJ} x 2)
- 4. Remove plate [C] (𝔅 x 2).
- 5. Attach this plate to the new stapler with the same screws ($\hat{\beta}^2 \times 2$)



B830R421.BMP

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



1.6 SHIFT TRAY

1.6.1 SHIFT TRAY EXIT, SHIFT TRAY LIFT MOTOR



B830R901.BMP

- (1) Shift Tray Exit Motor
- (2) Shift Tray Lift Motor

Shift Tray Exit Motor

- Rear cover (1.1.4)
- [B] Shift tray exit motor (²/_ℓ x2)



Peripherals

B830R940.BMP

Shift Tray Lift Motor



B830R946.BMP



B830R947.BMP

- Rear cover (1.1.4)
- [A] Gear cover (🖗 x2)
- [B] Shift tray lift motor bracket ($\hat{\mathscr{F}} x2$)
- [C] Shift tray lift motor (x,2 x1, Timing belt x1)

1.6.2 DRAG ROLLER/DRAG DRIVE MOTORS, DRAG DRIVE HP SENSOR



Remove:

- Front door and all covers, except the left lower cover, top cover (<
 1.1)
 NOTE: Be sure to lower the shift tray by pulling the gear toward you. The shift tray must be down.
- 1. Remove the left stay [A] ($\hat{\mathscr{F}}x$ 2)
- 2. Remove the shift tray mounting plate [B] ($\mathscr{F} \times 2$).

Peripherals



- 3. Remove the end fence [A] and plate ($\hat{\mathscr{F}} x8$, $\mathbb{R} x6$, $\mathbb{R} x2$).
- 4. Remove cover [B] (ℬ x 4).
- Remove the motor stay [C] (x4, k x7, k



B830R992.BMP

- 6. Remove the drag roller motor unit [A] (Bearing x1, \Im x2, \Re x1)
- 7. Remove the drag roller motor ($\hat{\beta}^2 x^2$)
- 8. Remove the drag roller HP sensor unit [B] ($\hat{\beta}$ x1)
- 9. Remove the drag roller HP sensor (\mathbb{Z} x1, Pawls x3)
- 10. Remove the paper height sensor shift/Z-fold unit [C] ($\Re x2$, $\Re x2$)
- 11. Remove the paper height sensor shift/Z-fold (^[] x1, Pawls x3)
- 13. Remove the drag drive motor (⊑^Jx2)



1.6.3 SHIFT MOTOR AND SENSORS





- 1. Remove the end fence (1.6.2)
 - 2. Remove the shift motor bracket [A] (with motor) ($\hat{\beta} \ge x 4$, $\hat{\Box} \ge x 1$, $\underline{\Box} \ge x 1$)
 - 3. Remove the shift motor ($\hat{\mathscr{F}} x4$)
 - 4. Remove the half-turn sensor bracket [B] ($\hat{\mathscr{F}} \times 1$)
 - 5. Remove half-turn sensor 1 [C] (x1, Pawls x3)
 - 6. Remove half-turn sensor 2 [D] (^[] x1, Pawls x3)

1.6.4 JOGGER TOP FENCE MOTOR



- 1. Open the front door and pull out the stapler tray unit. (•1.1.6)
- 2. Remove the jogger unit cover ($\hat{\mathscr{F}} x2$)
- 3. Remove the motor bracket [A] ($\overset{\circ}{\&}$ x2, timing belt x1)



1.6.5 JOGGER UNIT



- 1. Open the front door and pull out the stapler tray unit.
- 2. Remove the jogger unit cover ($\hat{F} x2$)
- 3. Remove the jogger unit [A] (*≩* x4, 🛱 x5, 🗊 x5)

1.6.6 JOGGER BOTTOM FENCE MOTOR



B830R993.BMP

- 1. Open the front door and pull out the stapler tray unit.
- Remove the jogger bottom fence motor unit [A] (
 ^ŷ x3, timing belt x1, ^ŷ x1, [¶] x1, [¶] x1,



1.7 PUNCH UNIT

1.7.1 PUNCH POSITION ADJUSTMENT



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

Front to Rear Adjustment

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

- 2 mm (x 1)
- 1 mm (x 2)
- **NOTE:** One spacer was installed at installation and the remaining spacers were fastened with a screw to the rear frame of the finisher under the rear cover and slightly above the lock bar.

Right to Left Adjustment

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

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

1.8 SHIFT TRAY JOGGER UNIT

1.8.1 SHIFT TRAY JOGGER UNIT



B830R996.WMF

- 1. Remove the jogger unit cover [A] ($\hat{\mathscr{F}} \times 2$).
- 2. Remove the jogger unit [B] ($\hat{\beta} \times 2$, $\forall x = 1$).

1.8.2 SHIFT TRAY JOGGER UNIT PCB



- 1. Remove the jogger unit from the finisher. (🖝 1.8.1)
- 2. Remove the jogger unit control PCB [A] (x 2, I x 3)

<image><image>

1.8.3 SHIFT TRAY JOGGER UNIT MOTORS

- 1. Remove the jogger unit from the finisher. (1.8.1)
- 2. Remove the shift tray jogger motor [A] ($\hat{\mathscr{F}} \times 2$, $\exists \mathbb{P} \times 1$).
- 3. Remove the shift tray jogger retraction motor [B] ($\mathscr{F} \times 2$, $\mathfrak{P} \times 1$).



1.9 MOTORS

1.9.1 TRANSPORT MOTORS, EXIT GUIDE MOTOR



B830R901.BMP

1	Upper Transport Motor
2	Lower Transport Motor

Upper Tray Transport Motor

- Rear cover (
 1.1.4)
- [A] Upper transport motor (ℰ x4, ⊑ x1)



B830R905.BMP
Lower Transport Motor

Rear cover (€1.1.4)
[A] Lower transport motor (²/₂ x4, ¹/₂ x1)



B830R906.BMP

Exit Guide Motor



B830R955.BMP



B830R956.BMP

- Top cover (**•**1.1.4)
- [A] Bracket (🖗 x2, 🖏 x1)
- [B] Exit guide motor (² x2, [™] x1, Timing belt x1)

1.9.2 UPPER TRAY MOTORS



B830R901.BMP

1	Upper Tray Exit Motor	
2	Upper Tray Junction Gate Motor	

Upper Tray Exit Motor

- Rear cover (**•**1.1.4)
- [A] Motor bracket (ℰ x2, ⊑^{IJ} x1)
- [B] Upper tray exit motor ($\hat{\beta}^2 x^2$, Timing belt x1)



B830R910.BMP



Upper Tray Junction Gate Motor

Rear cover (←1.1.4)
[A] Upper tray junction gate motor(x2, x1)



B830R911.BMP



1.9.3 PRE-STACK MOTORS



The photograph above shows the main control board removed ($\hat{\beta}$ x4, $\hat{\mu}$ x All).

1	Pre-Stack Transport Motor	
2	Pre-Stack Junction Gate Motor	
3	Pre-Stack Stopper Motor	

Pre-Stack Transport Motor

- Rear cover (**•**1.1.4)
- Main control board bracket
 (
 ² x4,
 ² x All,
 ² x8)
- Motor unit (ℰ x2, 🖾 x1)

[A] Pre-stack transport motor ($\hat{\beta}^2 x^2$)



B830R920.BMP

Pre-Stack Junction Gate Motor

- Rear cover (**•**1.1.4)
- Main control board bracket
 (ℰ x4, ≅ x All, ♀ x8)



B830R921.BMP

Pre-Stack Stopper Motor

- Rear cover (**•**1.1.4)
- Main control board bracket (斧 x4, ⊑ x All, ♀ x8)
- [A] Pre-stack stopper motor (x2,
 ☆ x1, v1)



B830R922.BMP



1.9.4 PUNCH MOTOR



B830R901.BMP



Punch Motor

Punch Motor

- Rear cover (**•**1.1.4)
- [A] Punch motor bracket (
 x3,
 x2,
 x1, Timing belt x1)
- [B] Punch motor (² x2)



B830R925.BMP

1.9.5 STAPLE MOTORS





B830R901.BMP



Staple Junction Gate Motor

• Rear cover (**•**1.1.4)

[A] Staple junction gate motor (ℰ x2, 🛱 x1, 🗊 x1)



Peripherals

B830R930.BMP

Stapler Exit Motor



B830R931.BMP



B830R932.BMP



- Main control board bracket (ℰ x4, 🛱 x 8, 🖽 x All)

2. SERVICE TABLES

For details about 3000-Sheet Finisher B830 SP codes, please refer to "5. Service Tables" in the main machine service manual.

2.1 DIP SWITCHES

DIP SW100

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

DIP SW 101: 1 to 4

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

2.2 TEST POINTS

100 to 110

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

2.3 FUSES

No.	Function
FU100	Protects 24 V.

3. DETAILS

3.1 UPPER TRAY AND STAPLER JUNCTION GATES



Depending on the finishing mode, the copies are directed up, straight through, or down by the combinations of open and closed junction gates.

Solenoid/Gate		Selected Operation Mode		
	obientitia/Gate	Upper Tray	Sort/Stack	Staple
[A]	Upper tray junction gate motor	ON	Off	Off
[B]	Upper tray junction gate	OPEN	Closed	Closed
[C]	Stapler junction gate	Closed	Closed	OPEN
[D]	Stapler junction gate motor	Off	Off	ON

3.2 PAPER PRE-STACKING



Sequence 1

The first three sheets of each job feed to trays $(1 \rightarrow @ \rightarrow @)$ ([A], [B], [C]), then the first three sheets feed together to the staple tray [D].

Sequence 2

Thereafter, the remaining sheets feed to trays $@ \rightarrow ③$ ([E], [F]), then the two sheets feed together to the staple tray [G]. Sequence 2 continues until the end of the job.

Junction gate mechanism:

- Three junction gates at the top of the pre-stack tray send the sheet of paper down path ①, ②, or ③.
- The pre-stack junction gate motor controls the junction gates.
- The pre-stack junction gate HP sensor detects when the junction gates are at home position.
- The pre stack paper sensor left detects paper jams in path $\boldsymbol{\Theta}$.
- The pre stack paper sensor right detects paper jams in path O.

Stopper mechanism:

- The pre-stack stopper releases the three sheets of paper from the pre-stack tray after the previous set is stapled.
- The pre-stack stopper motor controls the stopper at the bottom of the tray.
- The pre-stack stopper HP sensor detects when the stopper is at home position.

3.3 JOGGER UNIT PAPER POSITIONING

In the staple mode, as every sheet of paper arrives in the jogger unit, it is vertically and horizontally aligned, then the staple edge is pressed flat to ensure the edge of the stack is aligned correctly for stapling.

Vertical Paper Alignment: About 60 ms after the trailing edge of the copy passes the staple tray entrance sensor [A], the positioning roller motor [B] is energized to push the positioning roller [C] into contact with the paper. The positioning roller and alignment brush roller [D] rotate to push the paper back and align the trailing edge of the paper against the stack stopper [E].

Horizontal Paper Alignment: When the print key is pressed, the jogger motor [F] turns on and the jogger fences [G] move to the wait position about 7.2 mm wider than the selected paper size on both sides. When the trailing edge of the paper passes the staple tray entrance sensor, the jogger motor moves the jogger fences 3.7 mm towards the paper. Next, the jogger motor turns on again for 3.5 mm for the horizontal paper alignment then goes back to the wait position.

Paper Stack Correction: After the paper is aligned in the stapler tray, the left [H], center [I], and right [J] stack plate motors switch on briefly and drive the front stack, center stack, and rear stack plates against the edge of the stack to flatten the edge completely against the staple tray for stapling. When the next copy paper turns on the stapler entrance sensor, the stack plate motors turn on and return to their home positions. The home positions are detected by stack plate HP sensors $\mathbf{0}, \mathbf{0}, \mathbf{0}$.

(6)

 $\overline{\mathbf{7}}$

3.4 STAPLING



B830D005.WMF

Here is the operation sequence for jogging and stapling:

- ① The lower jogger fence lifts to receive the sheets.
- (2) The top fence moves down, to the horizontal position.
- (3) A sheet of paper goes into the stapler tray.
- (4) The positioning roller turns when each sheet is fed to the stapler tray.
- (5) Each sheet is fed down against the lower jogger fence to align the bottom edge.
- 6 After the set number of sheets come in, the top fence motor switches on and lowers the top fence against the top of the stack. This aligns the stack for stapling.
- (7) The bottom fence motor lowers the aligned stack to the stapling position.
- (8) The stapler staples the stack.

3.5 STAPLER UNIT MOVEMENT



Side-to-Side

The stapler motor [A] moves the stapler [B] from side to side. After the start key is pressed, the stapler moves from its home position to the stapling position.

If two-staple-position mode is selected, for the first stack the stapler moves to the rear stapling position first, staples, moves to the front position, staples and waits at the front. For the second stack, the stapler staples the front corner first, then moves to the rear corner and staples.

NOTE: For continuous stapling jobs, the corners are stapled rear then front for the odd number stacks and stapled front then rear for even number stacks.

After the job is completed, the stapler returns to its home position. This is detected by the stapler HP sensor [C].



Rotation (1)

In the oblique staple position mode, the stapler rotation motor [A] rotates the stapler unit [B] 45° to counterclockwise after it moves to the stapling position.

Rotation (2)

When the staple end condition arises, the stapler motor moves the stapler to the front and the stapler rotation motor rotates the stapler unit to clockwise to remove the staple cartridge [C]. This allows the user to add new staples.

Once the staples have been installed, and the front door closed, the stapler unit returns to its home position.

Sensors

Two sensors [D] and [E] detect the angle of the stapler. There are three positions: horizontal, 45 degrees, 75 degrees.

3.6 STAPLER



When the stapler cartridge is locked and in position, actuator [A] deactivates the cartridge set sensor [B] and the stapler is ready for operation.

When aligned copies are brought to the stapling position by the positioning roller and jogger fences, the staple hammer motor [C] starts stapling.

During stapling, the stapler trims off the excess length of the staples. This length of the trimmings depends on the number of copies in the set. They will be very small for a stack containing 100 sheets.

The staple trimmings drop into the trap door [D] inside the stapler. When the stapler unit returns to its home position, solenoid {E} energizes opens the trap door.

The staple trimmings drop into the staple trimmings hopper [F].

The staple trimmings hopper descends as it fills, until actuator [G] activates the staple trimmings hopper full sensor [H]. A message asks the user to empty the staple trimmings.



The stapler has a staple end sensor [A] and cartridge set sensor [B]. When the staple cartridge is inserted, it pushes the actuator [C] into the gap of the cartridge set sensor. This tells the machine the stapler is ready for operation.

When a staple end or no cartridge condition is detected, a message is displayed advising the operator to install a staple cartridge. If this condition is detected during a copy job, the indication will appear, and the copy job will stop.

The staple cartridge has a clinch area [D] where jammed staples collect. The operator can remove the jammed staples from the clinch area by raising and lowering bracket lever [E].

3.7 FEED-OUT



After the copies have been stapled, the stack feed-out motor [A] starts.

The pawl [B] on the stack feed-out belt [C] transports the set of stapled copies up and feeds it to the shift tray exit roller [D].

When stapling starts, the exit guide motor [E] opens the upper exit guide [F], which includes the upper shift tray exit roller [G], in order to feed out the leading edge of the copy set smoothly.

The exit guide motor turns on again at the prescribed time after stapling finishes, and the upper exit guide plate is lowered. Then the shift tray exit roller takes over the stack feed-out.

The on-off timing of the exit guide motor is detected by the exit guide open sensor [H].

The stack-feed-out motor turns off when the pawl actuates the stack feed-out belt home position sensor [I].

3.8 PAPER EXIT STACKING



The drag roller assembly [A] is fastened to a plate [B] on a shaft by a spring [C]. The cam [D], in contact with the bottom of the plate, is connected to the drag drive motor [E] via a timing belt.

The drag drive motor and timing belt rotate the cam against the bottom of the plate to move the rollers forward and back with each sheet ejected onto the shift tray.

The drag roller motor [F] drives the shaft [G] that rotates the drag rollers counterclockwise as the rollers move back. The simultaneous rotation and backward movement of the roller assembly pulls each sheet back toward the copier to align the edges of the stack on the shift tray.

The actuator [H] is mounted on the cam and rotating with both rotating clockwise) and detects the roller assembly home position when the actuator leaves the gap of the drag drive HP sensor [I] and signals the machine that the rollers are at the home position. The machine uses this information to control paper feed timing and confirm that the mechanism is operating correctly. The cam and actuator make one complete rotation for every sheet fed out of the machine onto the shift tray.

3.9 SHIFT TRAY OPERATION

3.9.1 OVERVIEW



B830D010.WMF

The movement of the shift tray is controlled by four sensors $\mathbf{0}$, \mathbf{O} , \mathbf{O} , \mathbf{O} , and \mathbf{O} and a feeler [A] with two actuators [B] and [C].

- The notched actuator [B] is used with sensors **0** and **2**.
- The flat actuator [C] is used with sensor **③**.
- Sensor **3** is provided with its own actuator [D].

The operation mode determines which parts are used to control the movement of the shift tray.

Sensor Names

No.	Name
0	Paper Height Sensor – Staple Mode
0	Paper Height Sensor – Standby Mode
Ø	Paper Height Sensor – Z-Fold Full
0	Paper Height Sensor – Shift/Z-Fold



Sensors and Operation Modes

Mode	Function
Shift	Sensor 9 detects the amount of paper on the shift tray in shift mode to control operation of the tray lift motor.
Staple	Sensor ① detects the amount of paper on the shift tray in staple mode to control the tray lift motor.
Standby	 When the machine is turned on, Sensor <i>Q</i> is used to position the tray at the standby position and keep it there when the shift is not in use or when the upper tray (proof tray) is used. If the shift tray is not attached to the machine (if it has been removed for servicing, for example), if the machine is switched on the tray mount will push up the feeler and switch off Sensor <i>Q</i> to switch off the tray lift motor. (Sensor <i>Q</i> cannot operate if the tray has been removed.)
Z-Fold, Z-Fold Staple	 Sensor ⁽¹⁾ detects the height of the tray when the output includes Z-folded sheets with and without stapling. Sensor ⁽²⁾ detects when the tray is full when the output includes Z-folded sheets with and without stapling.

These operations are described in more detail in the following sections.



3.9.2 SHIFT TRAY OPERATION: STAND-BY MODE

Standby Mode

When the machine is switched on:

- 1. The shift tray lift motor switches on and lowers the tray.
- 2. The feeler [A] descends and raises the hooked actuator [B] out of the gap of Sensor *Q* and switches Sensor *Q* ON.
- 3. When Sensor *e* switches ON this reverses the shift tray motor.
- 4. The shift tray motor raises the shift tray and pushes up the feeler, the actuator descends into the gap of Sensor **2**, and switches Sensor **2** OFF
- 5. When Sensor *e* switches OFF, this stops the shift tray lift motor with the shift tray at the standby position.

This sequence repeats every time the machine is powered on.

Sensor $\boldsymbol{\Theta}$ also switches off the shift tray lift motor when the machine is switched on with the shift tray removed for servicing. When the machine is switched on without the shift tray attached to the side of the finisher:

- 1. The shift tray mount will push the feeler [A] up until the actuator [B] enters the gap of Sensor *e* and switches Sensor 2 ON.
- 2. When Sensor *Q* switches ON this switches the shift tray motor OFF and stops the tray.

NOTE: Sensor **o** cannot operate with the shift tray removed so Sensor **o** is used to switch off the shift tray motor and stop the shift tray mount.



3.9.3 SHIFT TRAY OPERATION: SHIFT MODE

Sensor **o** and its feeler [A] and actuator [B] control the movement of the shift tray when paper is output in the sort/stack mode:

- 1. Paper is output to the tray.
- 2. As the height of the stack increases, this pushes up the feeler [A].
- 3. When the actuator [B] of the ascending feeler actuates Sensor **o**, this switches the sensor OFF and switches the tray lift motor ON.
- 4. The tray lift motor lowers the tray until the feeler descends far enough to raise the actuator out of the gap of Sensor **o**.
- 5. When the actuator leaves the gap of Sensor **o**, this switches Sensor **o** ON, switches the motor OFF, and stops the tray.

The sequence repeats until the end of the job or until the tray becomes full. ((-3.9.6)



3.9.4 SHIFT TRAY OPERATION: STAPLE MODE

Sensor **①**, feeler [A] and its notched actuator [B] control the movement of the shift tray when paper is output to the shift tray in the staple mode:

- 1. A stapled stack is output to the tray.
- 2. The tray lift motor switches ON and lowers the tray the prescribed distance.
- 3. Next, the tray lift motor raises the tray and feeler [Å] until actuator [B] leaves the gap of Sensor **●**.
- 4. When the actuator [b] leaves the gap of sensor **①**, this switches Sensor **①** OFF and switches the tray lift motor OFF.

This sequence repeats every time a stack is output to the tray until the end of the job or until the tray becomes full. ($rac{3.9.6}$)



3.9.5 SHIFT TRAY OPERATION: Z-FOLDED PAPER

Sensor **③** and its feeler [A] and actuator [B], and Sensor **④** with its feeler [C] and flat actuator [D] control the movement of the shift tray when Z-folded paper is output to the shift tray.

- 1. Z-folded paper is output to the tray.
- 2. As the height of the stack increases, this pushes up feeler [A] of Sensor **3**.
- 3. When the actuator [B] of the ascending feeler enters the gap of Sensor ④, this switches the sensor OFF and switches the tray lift motor ON.
- 4. The tray lift motor lowers the tray until the feeler descends far enough to raise the actuator out of the gap of Sensor **③**.
- 5. When the actuator leaves the gap of Sensor **④**, this switches Sensor **④** ON, switches the motor OFF, and stops the tray.
- 6. Steps 1 to 5 repeat until the top of the paper stack pushes feeler [C] up and actuator [C] into the gap of Sensor ❸.
- 7. When the actuator enters the gap of Sensor **④**, this switches the sensor off and switches Sensor **④** OFF, signals that the tray is full and stops the job.

3.9.6 SHIFT TRAY FULL AND NEAR-FULL DETECTION

This machine has two shift tray full sensors: the shift tray full sensor (large paper) [A] for B4 and larger, and the shift tray full sensor [B] for small paper (smaller than B4).

NOTE: Sensor [C] (S20) is the near-full sensor.

When the actuator [D] enters sensor [A] while using large paper (about 1500 sheets are on the tray), a message will be displayed and copying will stop.

When the actuator [D] enters sensor [B] while using small paper (about 3,000 sheets are on the tray), a message will be displayed and copying will stop.



3.10 SHIFT TRAY SIDE-TO-SIDE MOVEMENT

In sort/stack mode, the shift tray [A] moves from side to side to separate the sets of copies.

The horizontal position of the shift tray is controlled by the shift motor [B] and shift gear disk [C]. After one set of copies is made and delivered to the shift tray, the shift motor turns on, driving the shift gear disk and the shaft [D]. The end fence [E] is positioned by the shaft, creating the side-to-side movement.

The next set of copies is then delivered. The motor turns on, repeating the same process and moving the tray back to the previous position.

The disk is rotated alternately clockwise and counter-clockwise through an arc of 180 degrees.

The notches cut into the shift gear disk control the operation of the shift motor, using shift tray half-turn sensors [F] and [G].

If the job ends with the disk at ① with only one sensor deactivated, the motor rotates the disk to the ② position where both sensors are deactivated. This is the home position.

3.11 PUNCH UNIT

3.11.1 PUNCH UNIT DRIVE



The punch unit makes 2 or 3 holes at the trailing edge of the paper. The number of holes depends on a selection made on the operation panel.

The cam [A] has 2 punches on one side and 3 punches on the other, and is turned by the punch motor [B]. The punch motor turns on immediately after the trailing edge of the paper passes the entrance sensor. The punches on the cam rotate downward and punch holes in the paper.

After punching a sheet of paper, the cam returns to home position and stops. Home position depends on whether 2 holes or 3 holes are being made, so there are two punch HP sensors. Punch HP sensor 1 [C] is used when 2-hole punching is selected, and punch HP sensor 2 [D] is used when 3-hole punching is selected. When the cut-out [E] enters the slot of the punch HP in use (sensor 1 or 2-hole punching) the motor stops.

The knob (not shown) on the front end of the punch unit can be turned in either direction to clear paper jammed in the punch unit.

3.11.2 PUNCH WASTE COLLECTION



Punch waste is collected in the punch waste hopper [A] positioned under the punch unit.

When the level of the punch waste in the hopper rises as far as the hole [B] in the hopper, the punch hopper full sensor [C] turns on, stops the job, and triggers a message on the operation to indicate that the hopper is full and must be removed and emptied.

The job resumes automatically after the hopper is emptied and returned to the finisher.

The punch hopper full sensor also functions as the hopper set sensor. When the hopper is not in the finisher, or if it is not inserted completely, the spring loaded sensor arm rotates up and to the right with the punch waste sensor away from the hole in the hopper holder and a message is displayed. The message in this case is the same as the hopper full message.

3.12 SHIFT TRAY JOGGER UNIT

3.12.1 JOGGER UNIT MECHANICAL LAYOUT



- 1. Shift Tray Jogger Retraction Motor
- 2. Shift Tray Jogger Motor Timing Belt
- 3. Shift Tray Jogger Motor
- 4. Shift Tray Jogger Fence Timing Belt
- 5. Shift Tray Jogger Fences
- 6. Shift Tray Jogger HP Sensor
- 7. Shift Tray Jogger Lift HP Sensor

3.12.2 JOGGER UNIT DRIVE



After the first sheet exits, the shift tray jogger motor [A] switches on and rotates the jogger timing belt [B], gear [C] and jogger fence timing belt [D]. This closes the jogger fences [E] against the sides of the first sheet to align it and stops. Next, the motor reverses to open the fences for the next sheet. The jogger motor alternates its direction of rotation to open and close the jogger fences. The timing is prescribed by the width of the paper selected for the job.

At the end of the job, the actuator [F] activates the shift tray jogger HP sensor [G] which shuts off the jogger motor and starts the jogger fence retraction motor [H].

The jogger fence retraction motor rotates the shaft which raises the jogger fences and lowers the actuator [I] into the slot of the jogger fence retraction HP sensor [J]. The activated sensor turns off the jogger fence retraction motor and the jogger fences remain at the raised position.

4. OVERALL MACHINE INFORMATION

4.1 MECHANICAL COMPONENT LAYOUT



- 1. Upper Tray
- 2. Middle Transport Rollers
- 3. Upper Tray Exit Roller
- 4. Upper Transport Rollers
- 5. Upper Tray Junction Gate
- 6. Stapler Junction Gate
- 7. Entrance Rollers
- 8. Punch Unit
- 9. Pre-stack Junction Gates (x2)
- 10. Punch Waste Hopper
- 11. Pre-stack Tray

- 12. Stack Plate
- 13. Stapler
- 14. Staple Trimmings Hopper
- 15. Alignment Brush Roller
- 16. Positioning Roller
- 17. Stack Feed-out Belt
- 18. Shift Tray Drive Belt
- 19. Lower Transport Rollers
- 20. Shift Tray
- 21. Shift Tray Exit Roller

4.2 DRIVE LAYOUT

4.2.1 MAIN DRIVE



B830V503.WMF

- 1. Upper Transport Motor
- 2. Upper Tray Exit Motor
- 3. Shift Tray Lift Motor
- 4. Shift Tray Exit Motor
- 5. Stapler Exit Motor
- 6. Pre-Stack Transport Motor
- 7. Lower Transport Motor

4.2.2 STAPLING TRAY DRIVE



- 1. Stack Feed-Out Belt Motor
- 2. Jogger Motor
- 3. Top Fence Motor
- 4. Positioning Roller Drive Motor
- 5. Positioning Roller Motor
- 6. Stack Plate Motor (Rear)
- 7. Stapler Movement Motor
- 8. Stack Plate Motor (Center)
- 9. Stack Plate Motor (Front)
- 10. Stapler Rotation Motor

4.3 ELECTRICAL COMPONENTS



- 1. Top Fence HP Sensor
- 2. Top Fence Motor
- 3. Positioning Roller Drive Motor
- 4. Positioning Roller Motor)
- 5. Positioning Roller HP Sensor
- 6. Bottom Fence HP Sensor
- 7. Stack Plate HP Sensor (Rear)
- 8. Stack Plate Motor (Rear)
- 9. Stack Plate HP Sensor (Center)
- 10. Stack Plate Motor (Center)
- 11. Staple Hammer Motor
- 12. Stack Plate HP Sensor (Front)

- 13. Stack Plate Motor (Front)
- 14. Staple Trimming Chute Solenoid
- 15. Stapler Rotation Motor
- 16. Stapler HP Sensor (Front/Rear)
- 17. Stapler Rotation Sensor 2
- 18. Stapler Rotation Sensor 1
- 19. Stack Feed-Out Belt HP Sensor
- 20. Staple Tray Full Sensor
- 21. Bottom Fence Motor
- 22. Jogger HP Sensor
- 23. Jogger Motor
- 24. Stack Feed-Out Belt Motor



- 1. Exit Guide HP Sensor
- 2. Exit Guide Motor
- 3. Upper Tray Full Sensor
- 4. Upper Tray Exit Sensor
- 5. Stapler Tray Entrance Sensor
- 6. Entrance Sensor
- 7. Punch-Out Hopper Full Sensor
- 8. Pre-Stack Tray Paper Sensor (Left)

- 9. Staple Trimmings Hopper Set Sensor
- 10. Staple Trimmings Hopper Full Sensor
- 11. Stapler Tray Exit Sensor
- 12. Pre-Stack Tray Paper Sensor (Right)
- 13. Front Door Safety Switch
- 14. Shift Tray Exit Sensor 2
- 15. Shift Tray Exit Sensor 1


- 1. Upper Transport Motor
- 2. Stapler Junction Gate HP Sensor
- 3. Upper Tray Exit Motor
- 4. Shift Tray Lift Motor
- 5. Shift Tray Exit Motor
- 6. Lower Transport Motor
- 7. Pre-Stack Stopper HP Sensor
- 8. Pre-Stack Stopper Motor

- 9. Pre-Stack Junction Gate HP Sensor
- 10. Pre-Stack Junction Gate Motor)
- 11. Pre-Stack Transport Motor
- 12. Upper Tray Junction Gate Motor
- 13. Upper Tray Junction Gate HP Sensor
- 14. Stapler Junction Gate Motor
- 15. Punch Motor

4.4 ELECTRICAL COMPONENT SUMMARY

Motors	S	• • • •
NO.	Name	Description
M01	Shift Iray Exit Motor	Drives the exit roller for the shift tray.
M02	Shift Tray Lift Motor	Moves the shift tray up or down.
1003	Exit Guide Motor	Opens and closes the upper exit guide. When stapling starts, the
		upper shift trav exit roller, in order to feed out the leading edge of
		the copy set smoothly. The exit guide motor turns on again a
		certain time after stapling is complete, and the upper exit guide
		plate is lowered. Then the shift tray exit roller takes over the stack
		feed-out. The on-off timing of the exit guide motor is detected by
M04	Chamler Evit Mater	the exit guide HP sensor.
1VI04	Stapler Exit Motor	Drives the rollers that reed stapled stacks out of the stapling unit.
MOG	Shift Motor	Drives the rollers that output paper to the proof tray (top tray).
M07	Upper Tray Junction Cate	Operates the upper trav junction gate
10107	Motor	Operates the upper tray junction gate.
M08	Stapler Junction Gate Motor	Operates the staple junction gate that directs paper into the stapling path.
M09	Pre-Stack Junction Gate Motor	Operates the pre-stack junction gates that direct paper into path 1, 2, or 3 of the pre-stack unit.
M10	Pre-Stack Transport Motor	Drives the rollers that feed paper into the pre-stack paper paths.
M11	Pre-Stack Stopper Motor	Controls the stopper that stops the sheets in the pre-stack unit and then releases them to the staple tray.
M12	Positioning Roller Motor	Moves the positioning roller into contact with the paper.
M13	Positioning Roller Drive Motor	Rotates the positioning roller.
M14	Drag Drive Motor	Extends the sponge roller that drags the stapled stack on the shift
		tray toward the finisher so that the edge of the stack is aligned
M15	Drag Poller Motor	against the back of the shift tray.
WI I J		toward the machine so that the edge of the stack on the shift trav
		is aligned against the back of the shift tray.
M16	Jogger Motor	Moves the jogger fences of the stapling tray.
M17	Stack Feed-Out Belt Motor	Drives the stack feed-out belt which lifts the stapled stack and
		feeds it out of the finisher. The stack-feed-out motor turns off when
M10	Staak Plata Matar (Captor)	the pawl actuates the stack feed-out belt nome position sensor.
M10	Stack Plate Motor (Center)	Presses down the front corner of the edge for stapling.
M20	Stack Plate Motor (Rear)	Presses down the rear corner of the edge for stapling.
M21	Stapler Movement Motor	Moves the staple unit side-to-side
M22	Stapler Rotation Motor	Rotates the stapler 45 degrees for obligue stapling.
M23	Staple Hammer Motor	Drives the staple hammer.
M24	Ton Fence Motor	After the specified number of sheets has been fed, this motor
		lowers the top fence against the leading edges of the sheets to
		align them for stapling and then raises the top fence to its home
		position after stapling.
		Operates the top fence that jogs pre-stacked paper vertically (in the direction of paper feed)
M25		
10120	Bottom Fence Motor	After the specified number of sheets has been fed, this motor
		raises the bottom fence to its home position after stabiling
M27	Linner Transport Motor	Feeds namer in the unner transport area. Drives the rollers that
		transport paper toward the proof trav (top trav).
I		· · · · · · · · · · · · · · · · · · ·

Motors		
No.	Name	Description
M28	Lower Transport Motor	Drives the rollers that transport paper in the shift and stapling paper path.
M29	Punch Motor	Drives the punch shaft and roller.
M30	Shift Tray Jogger Motor	Drives the shift tray jogger fences against the sides of the sheets to align the stack, then reverses to return them to the home position
M31	Shift Tray Jogger Retraction Motor	Raises the shift tray jogger fences after aligning the stack, then reverses and lowers them to them to the home position.

PCBs		
No.	Name	Description
PCB	Main Board (Output Jogger)	Controls operation of the shift and output jogger mechanisms.
PCB	Main Board	Controls the finisher and communicates with the copier.

Sensors		
No.	Name	Description
S01	Entrance Sensor	Detects the copy paper entering the finisher and checks for misfeeds.
S02	Upper Tray Exit Sensor	Checks for misfeeds at the upper tray.
S03	Upper Tray Full Sensor	Detects when the upper tray is full.
S04	Shift Tray Exit Sensor 1	Controls the output timing of stapled stacks and detects jams.
S05	Shift Tray Exit Sensor 2	Controls the timing of paper in the shift path and detects paper jams.
S06	Exit Guide HP Sensor	Detects whether the guide plate is opened or not.
S07	Paper Height Sensor – Standby Mode	Detects the height of the tray when the machine is turned on to position the tray at the standby position.
S08	Paper Height Sensor – Staple Mode	Detects the height of the paper output on the shift tray and adjusts the height of the tray in the staple mode.
S09	Paper Height Sensor – Z- Fold Full	Detects the height of the paper output on the shift tray and signals when the tray is full when Z-folded paper is output to the shift tray.
S10	Paper Height Sensor – Shift/Z-Fold	Detects the amount of paper on the shift tray 1) in shift mode to control operation of the tray lift motor, and 2) when Z-folded paper is output to the shift tray.
S11	Drag Drive HP Sensor	Controls the push and pull movement of the drag roller when it extends and drags paper back against the back of the shift tray to keep the edge of the stack aligned on the shift tray.
S12	Shift Tray Half-Turn Sensor 1	Detects whether the shift tray is at either the front or back position. Controls the side-to-side movement of the shift tray. (This pair of sensors is used to detect the positions of the leading and trailing edges of the sheets controls operation of the shift mechanism.)
S13	Shift Tray Half-Turn Sensor 2	Detects whether the shift tray is at either the front or back position. Controls the side-to-side movement of the shift tray.
S14	Upper Tray Junction Gate HP Sensor	Detects the upper tray junction gate at its home position.
S15	Stapler Junction Gate HP Sensor	Detects the staple junction gate at its home position.
S16	Pre-Stack Junction Gate HP Sensor	Detects the pre-stack junction gate mechanism at its home position.
S17	Pre-Stack Tray Paper Sensor (Right)	Detects paper feed in the right side of the pre-stack unit and detects jams.
S18	Shift Tray Full Sensor	Detects when the shift tray is full for paper smaller than B4. The tray is at its lower limit.
S19	Shift Tray Full Sensor (Large Paper)	Detects when the shift tray is full for large size paper (B4 or larger).
S20	Shift Tray Near-Full Sensor	Detects when the shift tray is nearly full.
S21	Stapler Tray Exit Sensor	Detects jams at the staple tray exit.
S22	Staple Trimmings Hopper	Detects when the staple trimmings hopper is full.

Sensor	S	
No.	Name	Description
	Full Sensor	
S23	Staple Trimmings Hopper Set Sensor	Detects if the hopper that holds stapling trimmings is set correctly or incorrectly.
S24	Pre-Stack Stopper HP Sensor	Detects the pre-stack stopper mechanism at its home position.
S25	Pre-Stack Tray Paper Sensor (Left)	Detects paper feed in the right side of the pre-stack unit. Controls the release timing of the pre-stack stopper, and starts the pre-stack transport motor. Also detects paper jams.
S26	Stapler Tray Entrance Sensor	Detects a paper jam if there is paper at the entrance of the stapler unit junction gate when the machine is turned on or after the door is closed.
S27	Stack Feed-Out Belt HP Sensor	Detects the home position of the stack feed-out belt.
S28	Staple Tray Full Sensor	Detects paper in the stapler tray.
S29	Jogger HP Sensor	Detects the home position of the jogger fence in the stapler tray.
S30	Bottom Fence HP Sensor	Detects the bottom fence at its home position.
S31	Top Fence HP Sensor	Detects the top fence at its home position.
S32	Positioning Roller HP Sensor	Detects the home position of the positioning roller.
S33	Stack Plate HP Sensor (Center)	Detects the home position of the center stack plate.
S34	Stack Plate HP Sensor (Front)	Detects the home position of the front stack plate.
S35	Stack Plate HP Sensor (Rear)	Detects the home position of the rear stack plate.
S36	Stapler HP Sensor (Front/Rear)	Detects the home position of the staple unit for side-to-side movement.
S37	Stapler Rotation Sensor 1	Paired with Stapler Rotation Sensor 2. This sensor pair controls the positioning of the corner stapler for the horizontal, 45° angle, and 75° angle stapling positions.
S38	Stapler Rotation Sensor 2	Paired with Stapler Rotation Sensor 1 .This sensor pair controls the positioning of the corner stapler for the horizontal, 45° angle, and 75° angle stapling positions.
S39	Punch-out Hopper Full Sensor	Detects when the punch-out hopper is full and detects when the punch tray is set.
S40	Punch HP Sensor 1	Detects the cam home position for the 2-hole punch. After punching a sheet of paper, the cam returns to home position and stops. Home position depends on whether 2 holes or 3 holes are being made, so there are two punch HP sensors. Punch HP sensor 1 is used when 2-hole punching is selected, and punch HP sensor 2 is used when 3-hole punching is selected. When the cut- out enters the slot of the punch HP in use (sensor 1 or 2-hole punching) the motor stops.
S41	Punch HP Sensor 2	Detects the cam home position for 3-hole punch. After punching a sheet of paper, the cam returns to home position and stops. Home position depends on whether 2 holes or 3 holes are being made, so there are two punch HP sensors. Punch HP sensor 1 is used when 2-hole punching is selected, and punch HP sensor 2 is used when 3-hole punching is selected. When the cut-out enters the slot of the punch HP in use (sensor 1 or 2-hole punching) the motor stops.
S42	Shift Tray Jogger HP Sensor	Detects the actuator on the rear shift tray jogger fence and switches off the shift tray jogger motor, and signals the machine to turn on the shift tray jogger retraction motor to raise the fences at the end of a job.
S43	Shift Tray Jogger Retraction HP Sensor	Detects the jogger fences of the shift tray jogger unit at their home positions.

Solenoids		
No.	Name	Description
SOL	Staple Trimming Chute Solenoid	Opens and closes the trap door that drops staple trimmings into the stapling trimmings hopper.

Switches		
No.	Name	Description
SW	Front Door Safety Switch	Detects when the front door is open. The finisher does not operate until the front door has been closed.
SW	Emergency Stop Switch	Switches the current job off and on to allow time for the operator to remove paper from the shift tray.
SW	Shift Tray Upper Limit Switch	Cuts the power to the shift tray lift motor when the shift tray position is at its upper limit.

