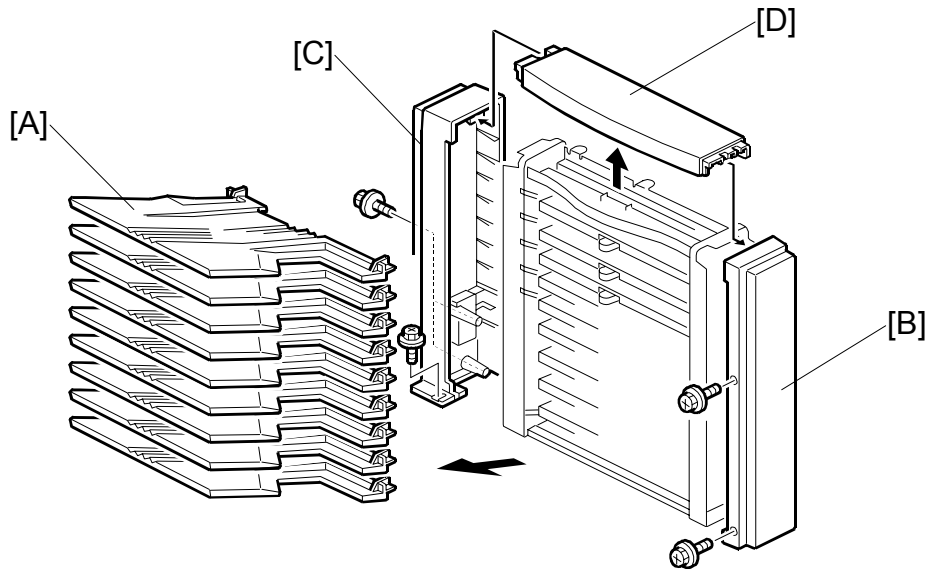
9-BIN MAILBOX
(Machine Code: B471/B762)

1. REPLACEMENT AND ADJUSTMENT

⚠CAUTION

Switch the machine off and unplug the machine before starting and procedure in this section.

1.1 COVERS AND TRAYS

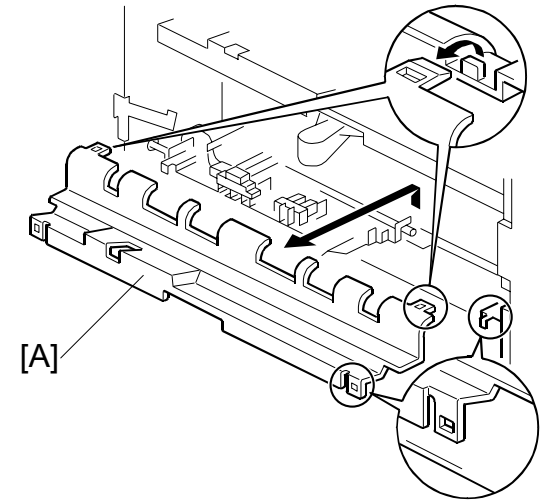


B471R001.WMF

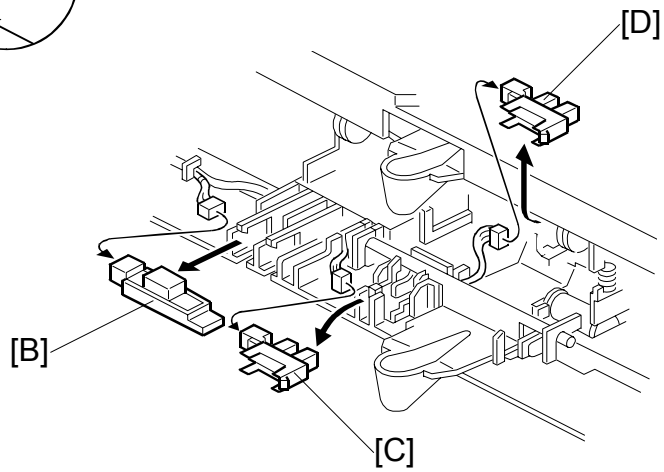
[A]: Trays
- Grip each tray by the front and lift out.

[B]: Front cover (🔩 x 2)
[C]: Rear cover (🔩 x 3)
[D]: Top cover

1.2 SENSORS



B471R003.WMF



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Remove the tray (☛ 1.1)

[A]: Bin cover

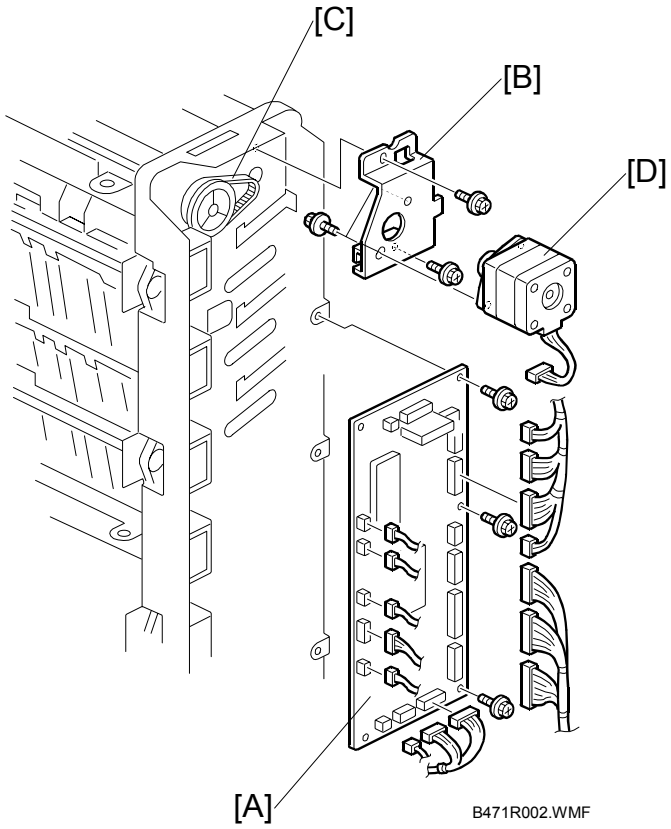
[B]: Tray sensor (✋ x 1)

[C]: Tray overflow sensor (✋ x 1)

[D]: Vertical transport sensor (✋ x 1)

- Raise the pawl, then grip the bottom of the sensor to remove.

1.3 MAIN MOTOR AND CONTROL BOARD



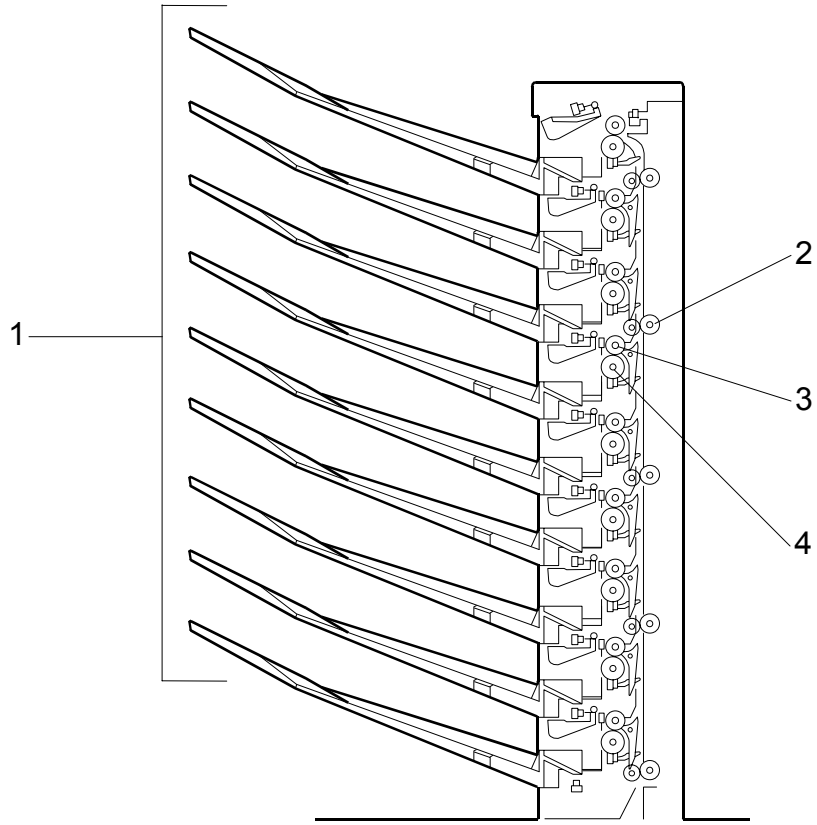
Rear cover (☛ 1.1)

[A]: Control board (🔩 x 3, 🖐 x 17)
[B]: Main motor bracket (main motor 🖐 x 1, 🔩 x 2)
[C]: Timing belt
[D]: Main motor (🔩 x 1)

2. DETAILS

2.1 OVERVIEW

2.1.1 MAIN COMPONENT LAYOUT



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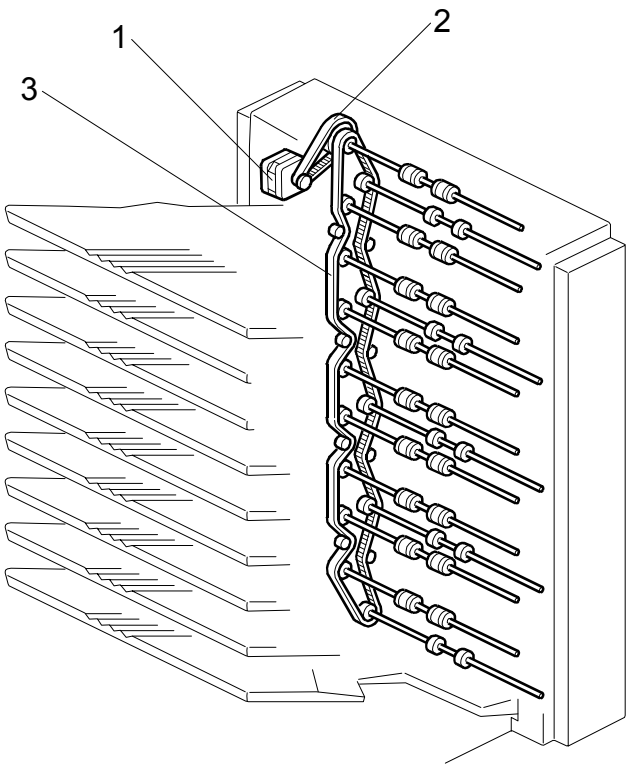
1. Bins (x 9)
2. Vertical Transport Rollers (x 5)
3. Turn Gates (x 8)
4. Exit Rollers (x 9)

The trays are 1 to 9 (bottom to top). The numbers are clearly marked on the side of the unit. The top tray does not require a turn gate. When the top tray is selected for output, all turn gates remain closed, leaving only the top bin open.

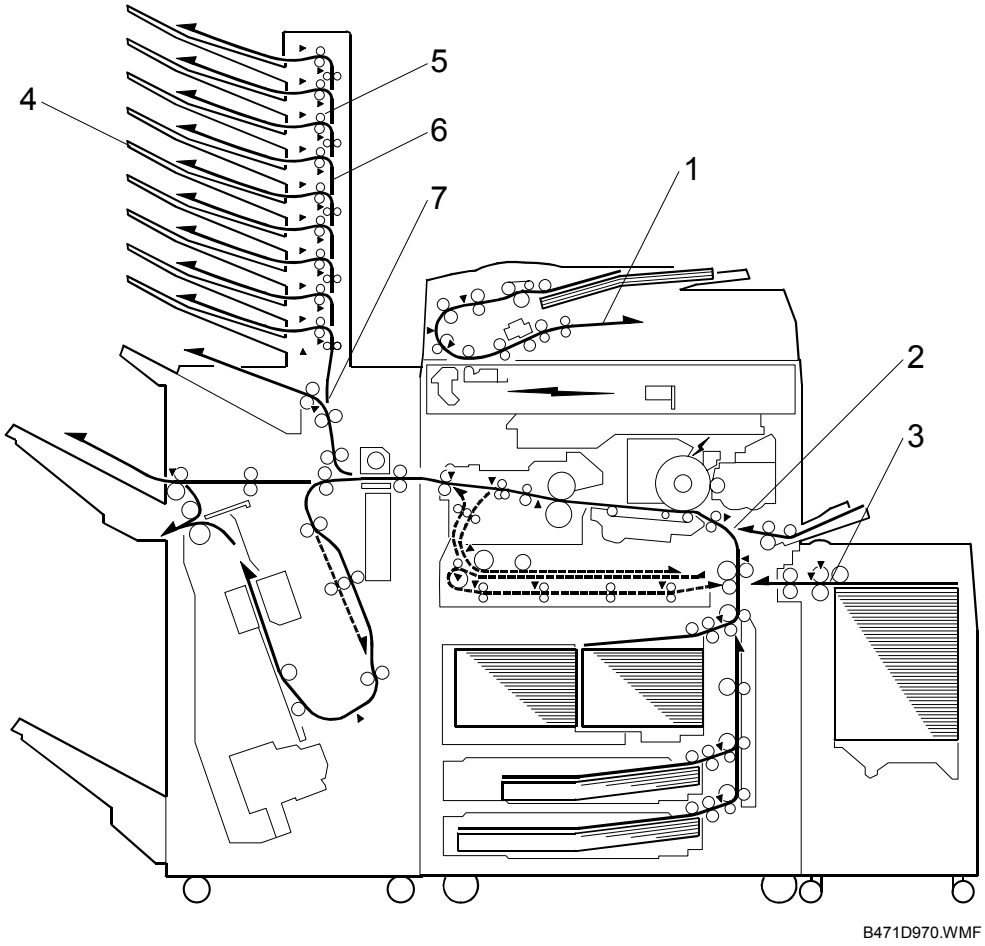
2.1.2 DRIVE LAYOUT



B471D002.WMF

1. Main Motor
2. Main Timing Belt
3. Timing Belt

2.1.3 PAPER PATH

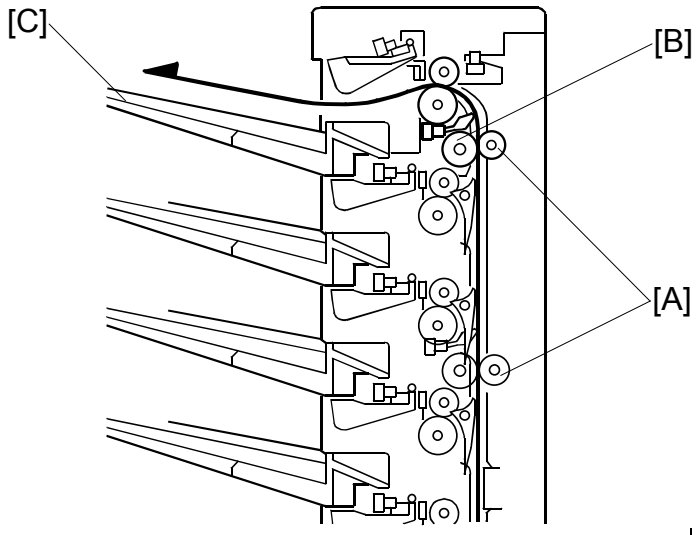


1. Original Paper Path
2. Vertical Transport Path
3. LCT Feed
4. Selected Trays
5. Turn Gates
6. Mailbox Paper Path
7. Junction Gate (paper goes either up to the mailbox or out to the finisher's proof tray)

The solenoid for the junction gate (7) is part of the mailbox.

2.2 BASIC OPERATION

2.2.1 PAPER PATH



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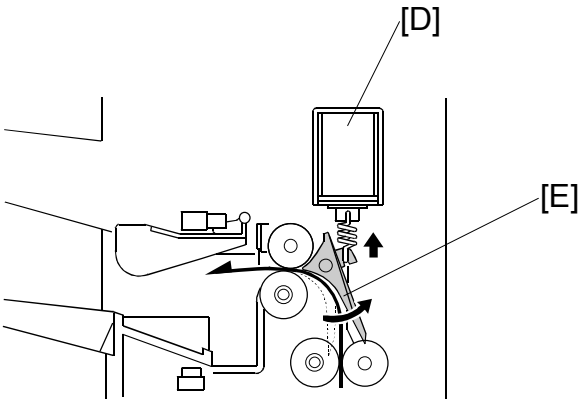

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The unit is mounted on top the finisher and connected to the finisher by a 14-pin connector. When the leading edge of the paper passes and activates the entrance sensor of the finisher, the mailbox main motor switches on and the mailbox vertical transport rollers [A] begin to turn. The exit roller [B] feeds the paper out to the selected tray [C].

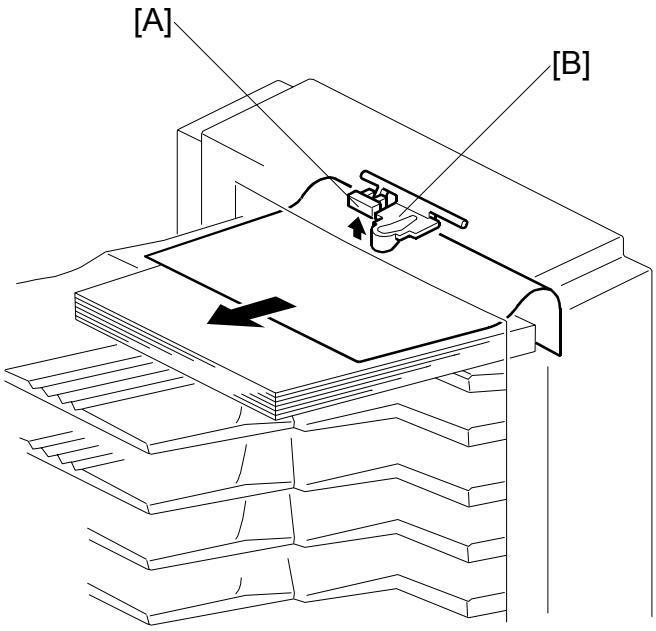
A solenoid [D] opens and closes the junction gate [E]. When a solenoid switches on, the gate opens and directs to the paper to the tray.

NOTE: When the top tray (bin 9) is selected, all solenoids are off and closed, allowing the paper to pass to the top tray (bin 9 does not require a solenoid).

When the last sheet is fed out, it switches off the vertical transport sensor, and both the mailbox main motor and the junction gate solenoid of the selected bin switch off. The mailbox normally feeds paper at 372 mm/s, about the same speed as the finisher. (The finisher speed is 370 mm/s.)

2.3 OVERFLOW DETECTION

2.3.1 OVERVIEW



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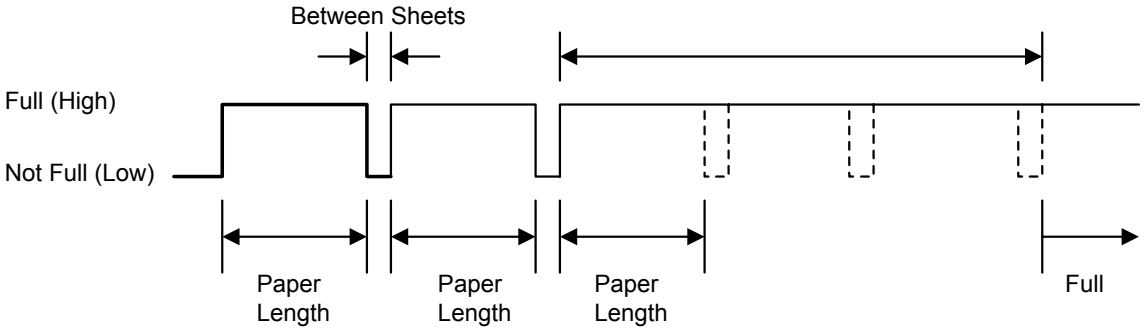
An overflow sensor [A] and actuator [B] are above the exit of each paper tray. The actuator, mounted on a swivel arm, remains in contact with the top of the stack. The actuator rises as the stack becomes higher until it activates the sensor. Then, a tray full message appears on the operation panel and the job halts. If the paper is removed before the tray is full, the job continues.

2.3.2 DETECTION TIMING



B471D010.WMF

When the mailbox exit sensor goes high for the prescribed time (T), the machine determines that the tray is full. The value of T is calculated, regardless of paper size, as follows:

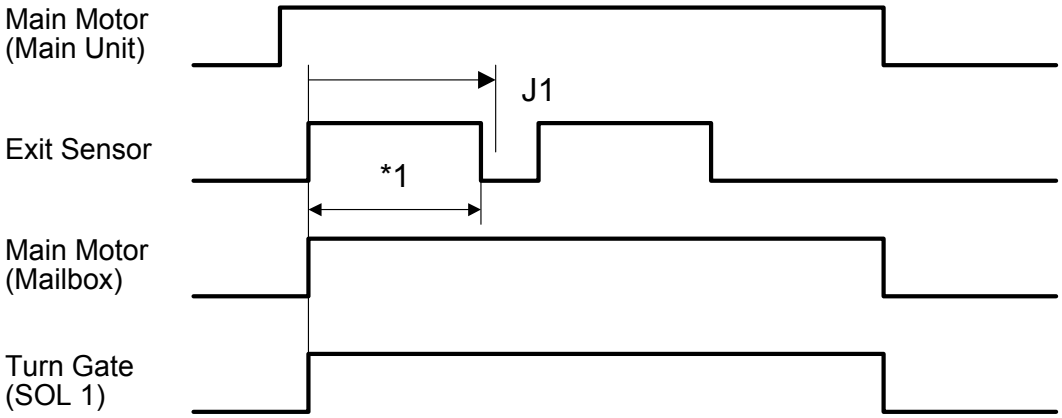
T (s) = (60/s x max. size ppm) x 3 s

After the tray full sensor switches on, if it remains on for the feeding of eight additional sheets, then this notifies the machine that the tray is full.

“T” is calculated as shown below. For example, for a minimum ppm of 12 prints (regardless of paper size), the value T is 15 s. Then, if the sensor detects paper for 15 s or more, the machine stops the copy job.

2.4 PAPER MISFEED DETECTION TIMING

2.4.1 A4 SIDEWAYS (LEF) → 1ST BIN TRAY



***1: Time required for A4 LEF**

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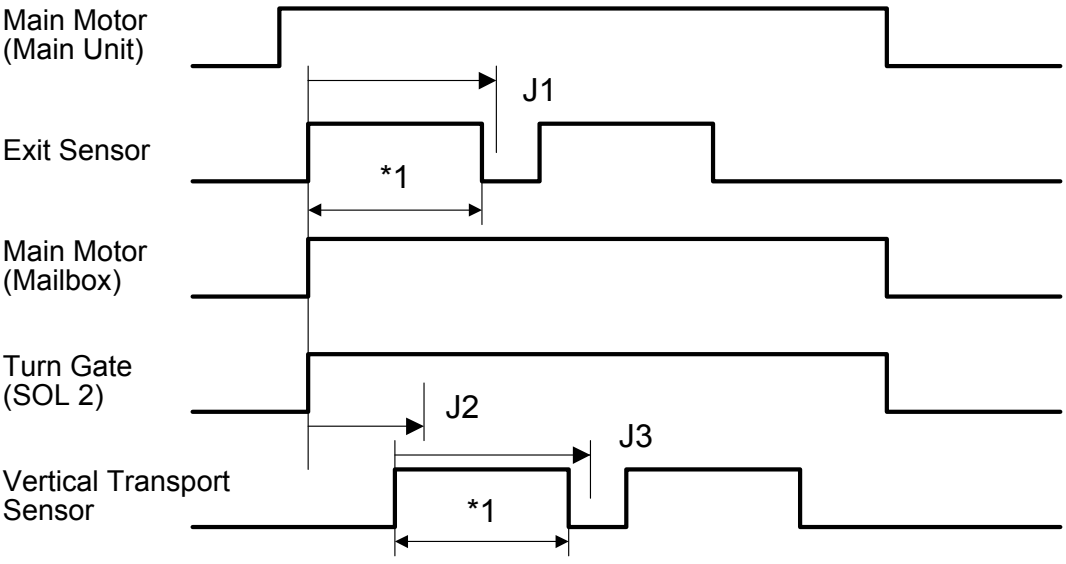
2.4.2 A4 SIDEWAYS (LEF) → 2ND ~ 9TH BIN TRAY



***1: Time required for A4 Sideways (LEF)**
***2: Feed to 9th Tray: All SOLs OFF.**

B471D012.WMF

J1 Timing: After the leading edge of the sheet activates the mailbox exit sensor, a misfeed is detected if the sensor does not switch off within:

X+0.5 s

Where X = The amount of time prescribed for the paper size to pass the sensor. (X = 1.74 s for A4 Sideways for example)

J2 Timing: After the mailbox paper exit sensor is activated, the machine determines that the paper has not yet fed and detects a misfeed if the vertical transport sensor does not activate within the time prescribed for the paper size (1.94 s for A4 paper, for example)

J3 Timing: After the vertical transport sensor is activated, a misfeed is detected if the vertical transport sensor does not turn off within:

X+0.52 s

Where X = The amount of time prescribed for the paper size to pass the sensor. (X = 2.26 s for A4 Sideways for example)