

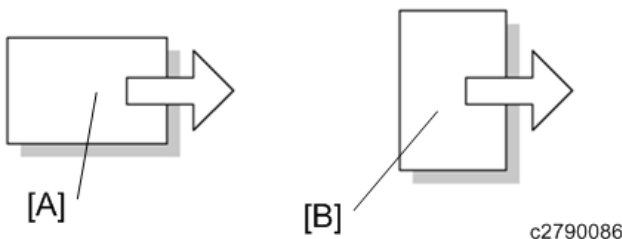
Punch Unit PU3040
Machine Code: D716
Field Service Manual

May, 2016

Symbols, Abbreviations and Trademarks

This manual uses several symbols and abbreviations. The meaning of those symbols and abbreviations are as follows:

	Clip ring
	Screw
	Connector
	Clamp
SEF	Short Edge Feed
LEF	Long Edge Feed



[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

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1. Replacement and Adjustment

Punch Unit

1

Punch Unit

1. Open the front cover [A].



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2. Left upper cover [A] (🔩×1)



d197f0109

3. Left rear cover [A] (⌚×2)



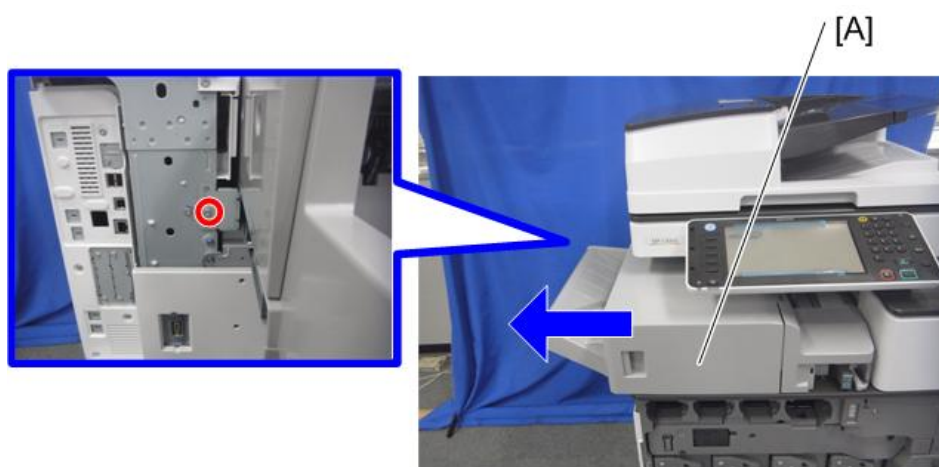
d1462962

4. Interface cable [A]



d1462963

5. Internal finisher [A] (⌚×1)



d1462964

6. Punch hopper [A]



7. Punch unit front cover [A] (⌚×1)



8. Punch unit [A] (⌚×1)



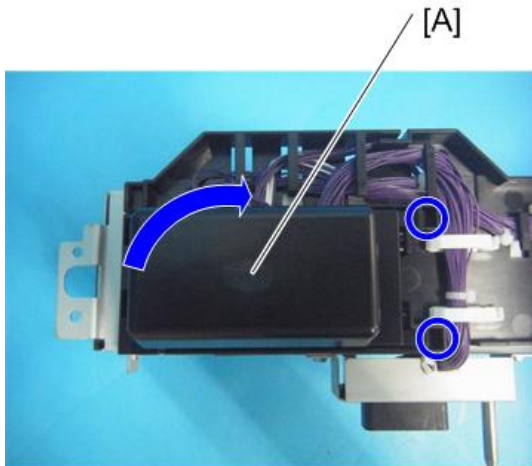
Controller Board

1

Controller Board

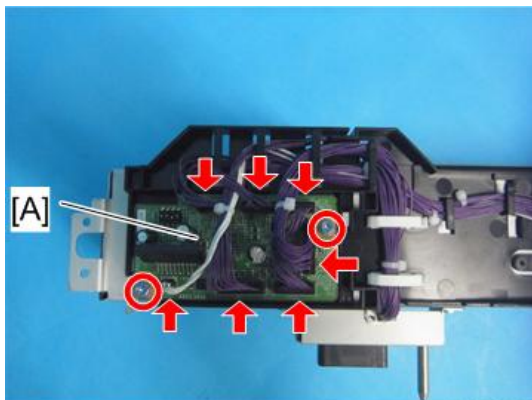
1. Punch unit (page 5).
2. Turn over the punch unit.
3. Control plate cover [A]

Release the claws (blue circles). Lift the plate cover in the direction of the blue arrow.



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4. Controller board [A] (⚙️ x2, 📦 x7)



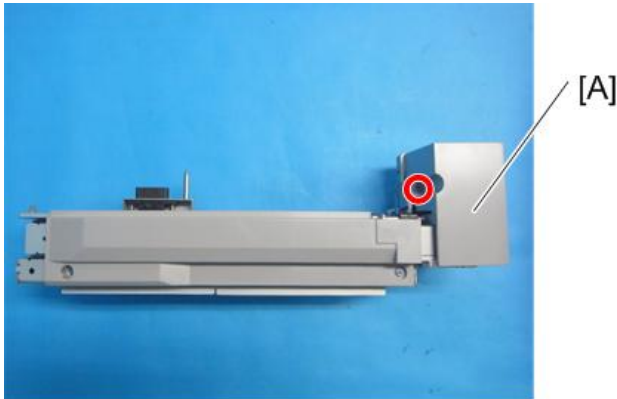
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Punch Unit Home Position Sensor

Punch Unit Home Position Sensor

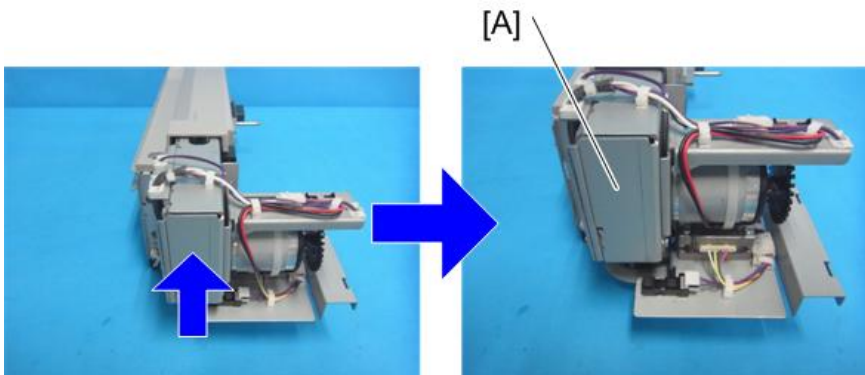
1

1. Punch unit (page 5)
2. Upper rear cover [A] (🔩×1)



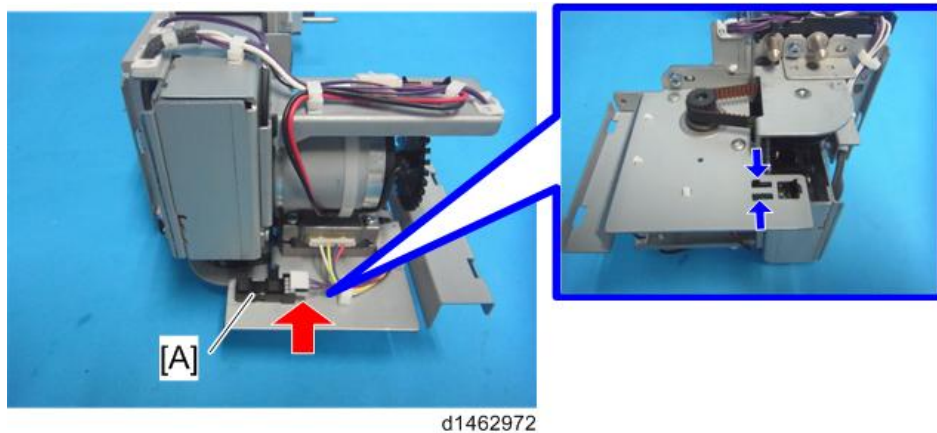
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3. Push out the punch unit [A].



d1462971

4. Punch unit home position sensor [A] (📦 ×1)

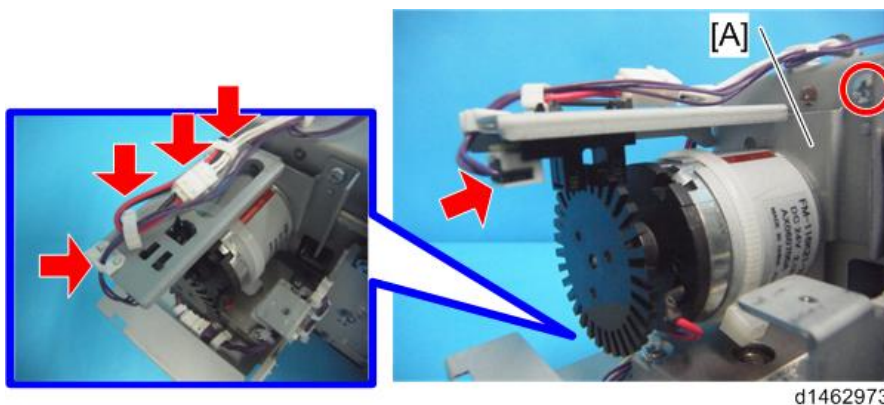


Punch Motor

Punch Motor

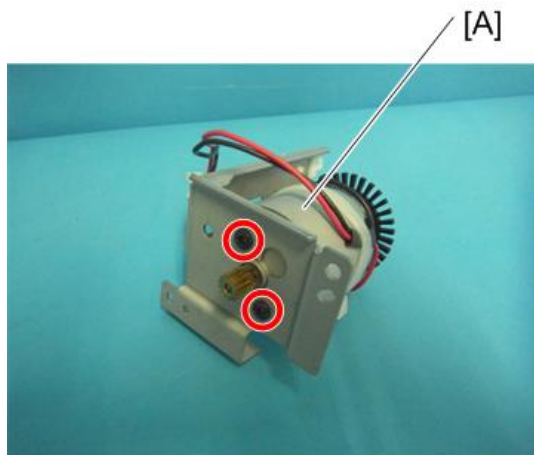
1

1. Upper rear cover (page 9)
2. Punch motor unit [A] (⚙️×2, 📦×2, 🛠️×3)



d1462973

3. Punch motor [A] (⚙️×2)



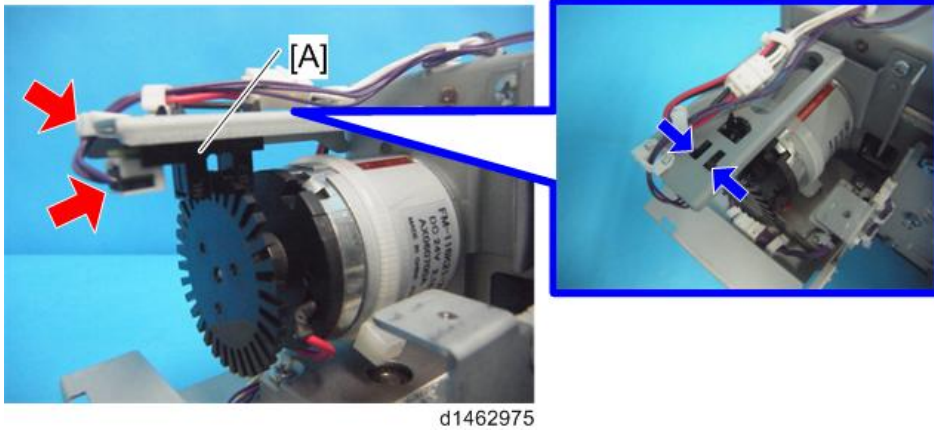
d1462974

Punch Unit Motor Pulse Sensor

1

Punch Unit Motor Pulse Sensor

1. Upper rear cover (page 9)
2. Punch unit motor pulse sensor [A] (📦 ×1, 🔩 ×1)

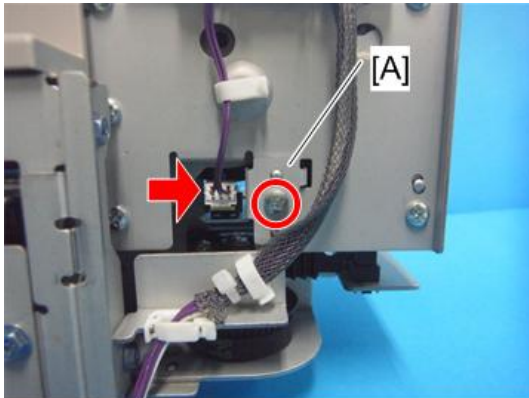


Horizontal Registration Transport Unit Home Position Sensor

1

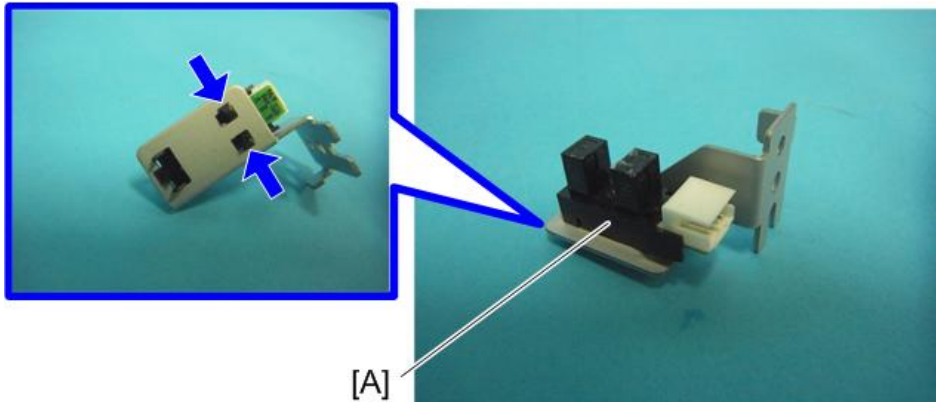
Horizontal Registration Transport Unit Home Position Sensor

1. Punch Unit (page 5)
2. Horizontal registration transport unit home position sensor unit [A] (⚙️ ×1, 📦 ×1)



d1462976

3. Horizontal registration transport unit home position sensor [A]



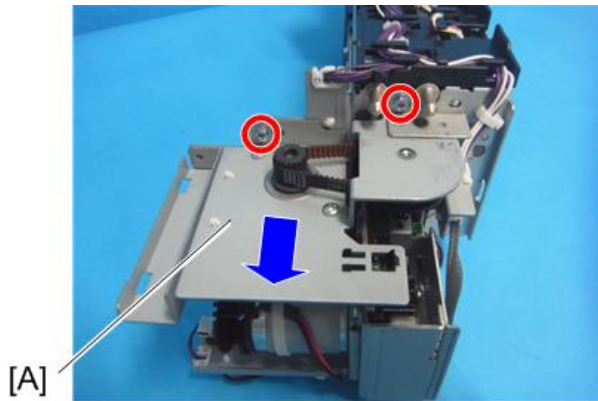
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Horizontal Registration Transport Unit Motor

1

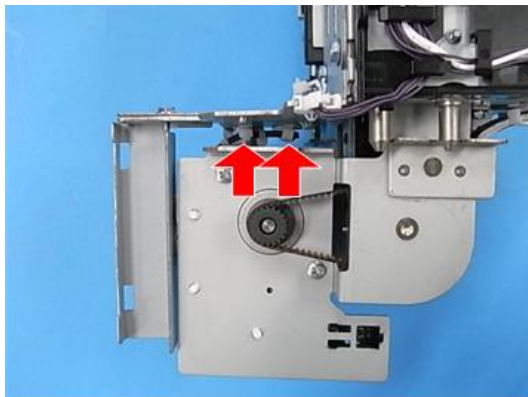
Horizontal Registration Transport Unit Motor

1. Upper rear cover (page 9)
2. Pull the bracket forward [A] (⚙️ x2).



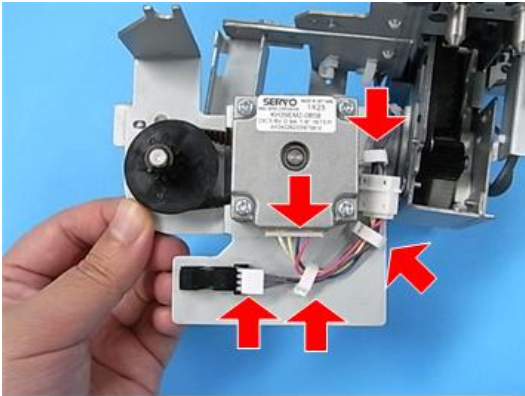
d146z0043

3. Release the two clamps (⚙️ x2)



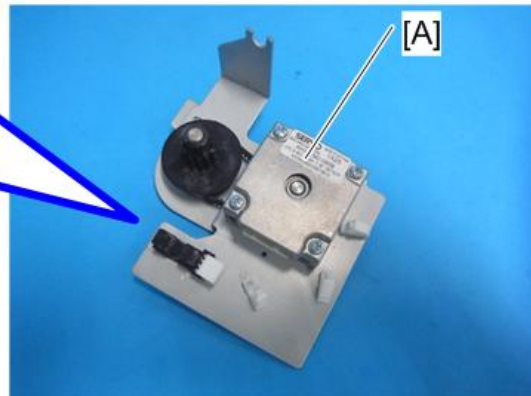
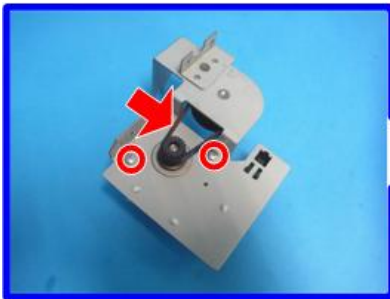
d146z0044

4. Bracket with the horizontal registration transport unit motor (⚙️ x3, 📦 x2)



d146z0045

5. Horizontal registration transport unit motor [A] (⚙️ x2, timing belt x1)



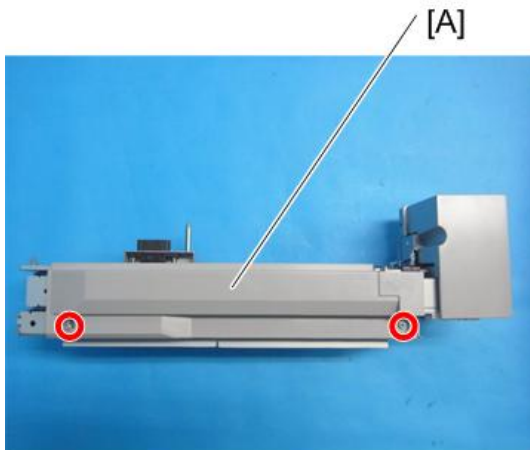
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Punching Unit

1

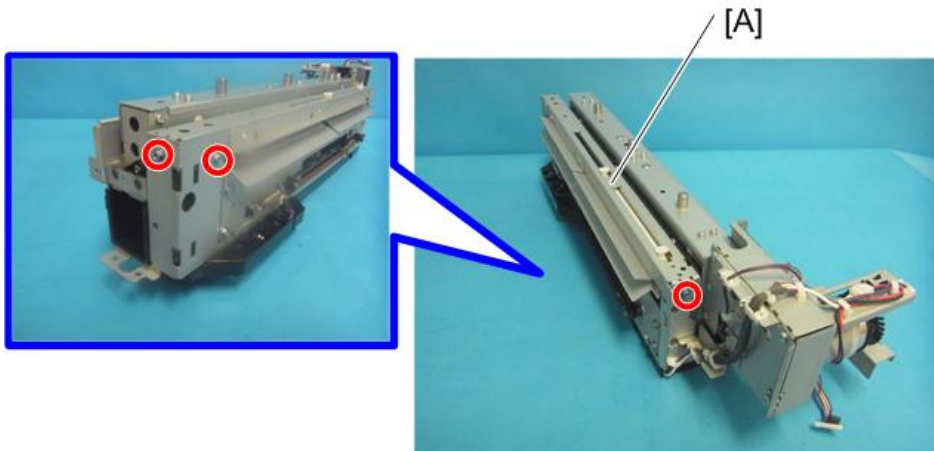
Punching Unit

1. Punch Unit (page 5).
2. Upper cover [A] (🔩×2).



d1462980

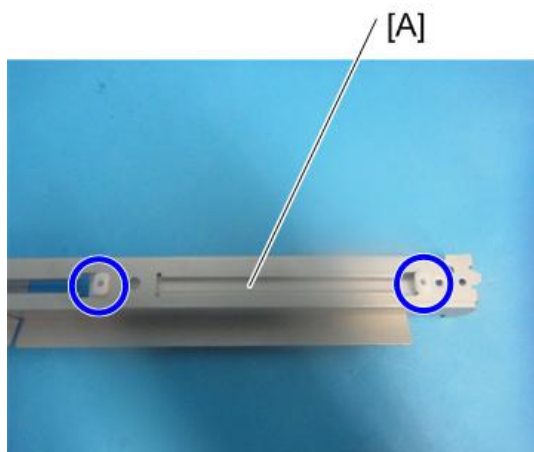
3. Horizontal registration transport unit motor unit (page 14)
4. Upper entrance guide plate [A] (🔩×3)



d1462981

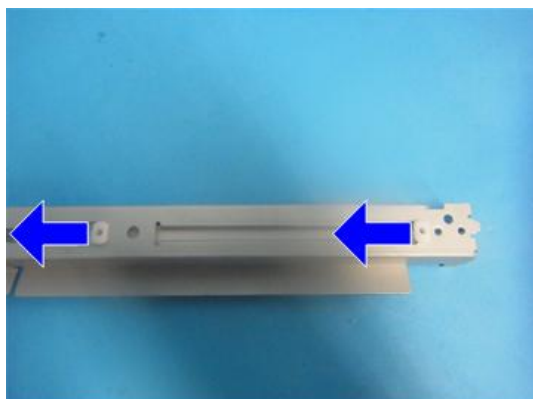
Note

- To prevent the guide plate from dropping, set the movable parts [A] into the groove as shown by the blue circles.



d1462982

- When attaching the guide plate, shift the movable parts toward the left.



d1462983

5. Punching unit [A] (⚙️×1, 📦×3, 🛠️×7)

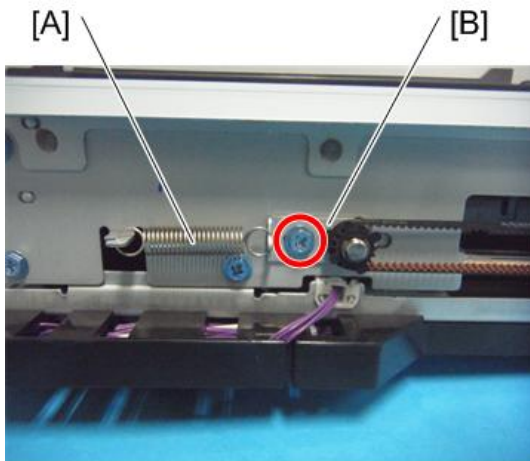


d1462984

Horizontal Registration Sensor Unit Home Position Sensor

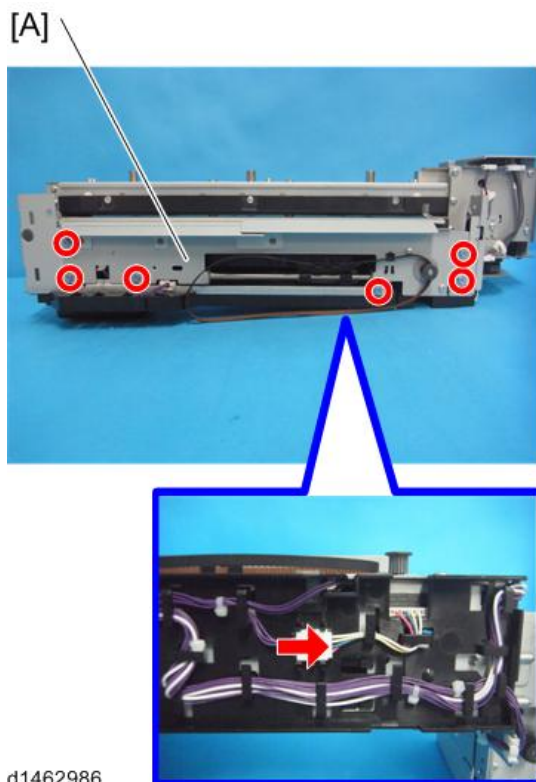
Horizontal Registration Sensor Unit Home Position Sensor

1. Upper cover (page 16)
2. Upper entrance guide plate (page 16)
3. Spring [A], bracket [B] (🔩×1)



d1462985

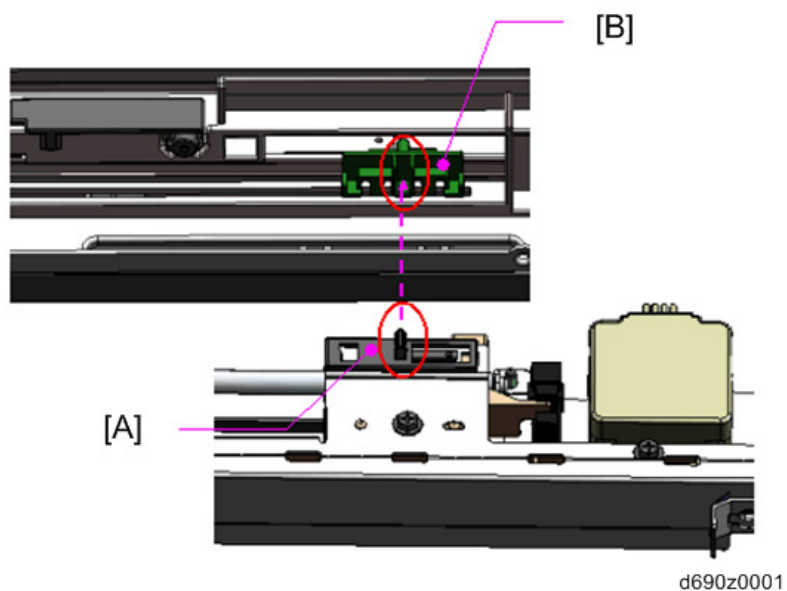
4. Horizontal registration sensor unit [A] (🔩×6, 📦×1)



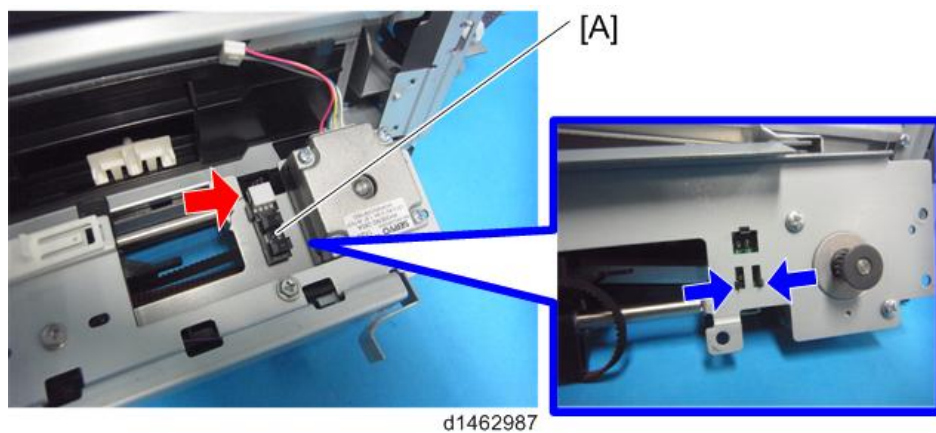
d1462986

↓ Note

- When reinstalling the horizontal registration sensor unit, make sure that the protruded part of the joint [A] fits into the groove on the cam [B].



5. Horizontal registration sensor unit home position sensor [A] (📦 ×1)

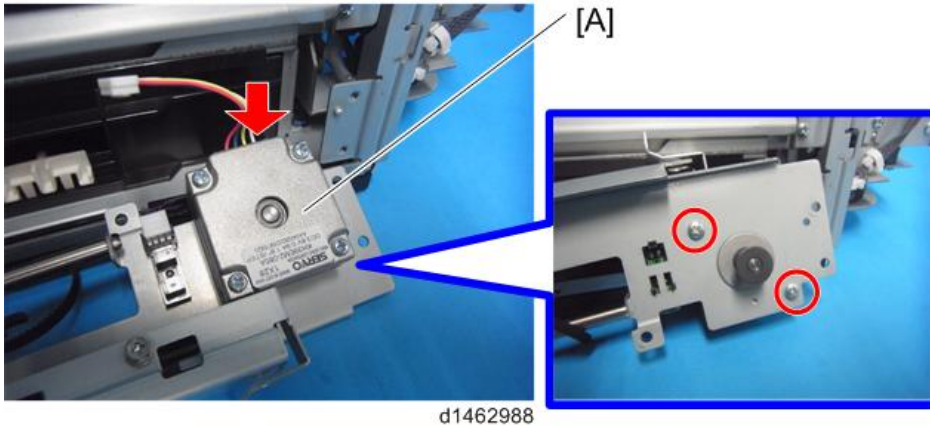


Horizontal Registration Sensor Unit Motor

Horizontal Registration Sensor Unit Motor

1

1. Horizontal registration sensor unit (page 18).
2. Horizontal registration sensor unit motor [A] (⌀ × 2, ⓧ × 1)



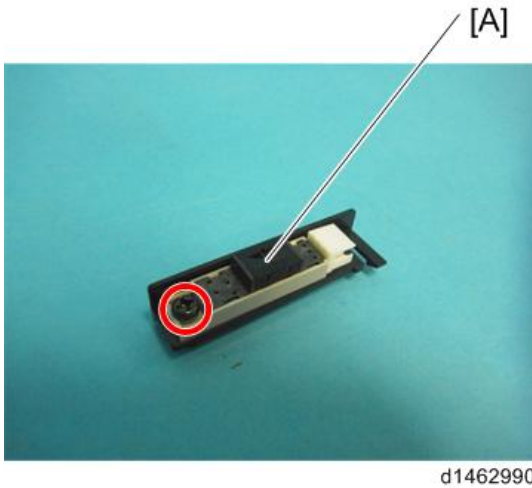
Punch Hopper Full Sensor

1

1. Horizontal registration sensor unit (page 18).
2. Punch hopper full sensor unit [A] (📦 ×1)

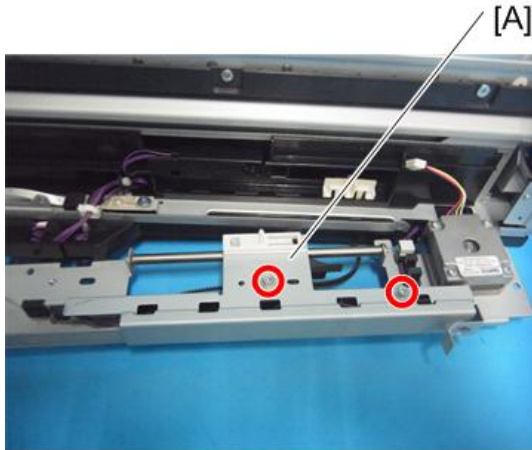


3. Punch hopper full sensor [A] (🔧 ×1)



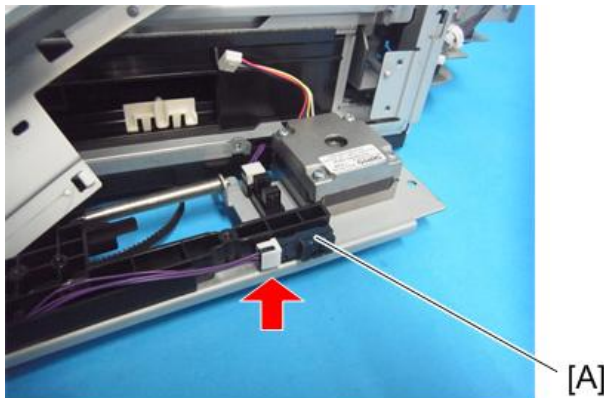
Horizontal Registration Sensor

1. Horizontal registration sensor unit (page 18).
2. Horizontal registration unit bracket [A] (🔩×2)



d1462991

3. Horizontal registration sensor [A] (🔧×1)



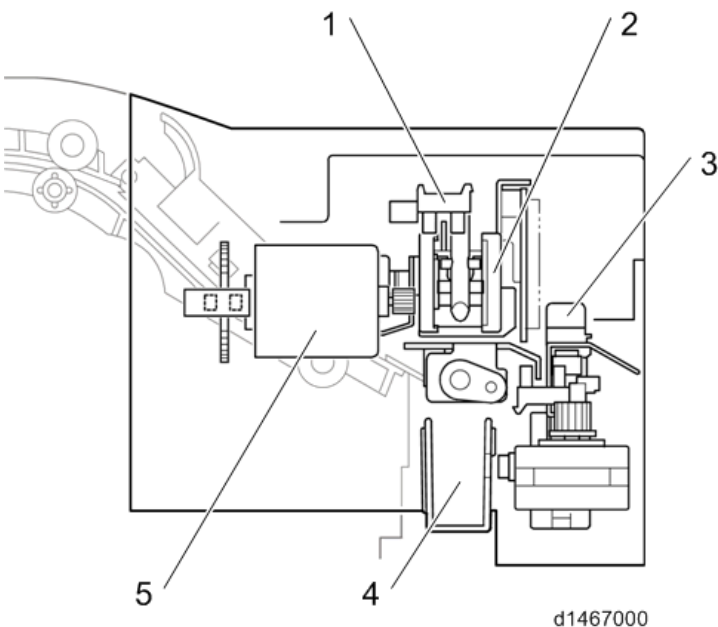
d1462992

2. Detailed Descriptions

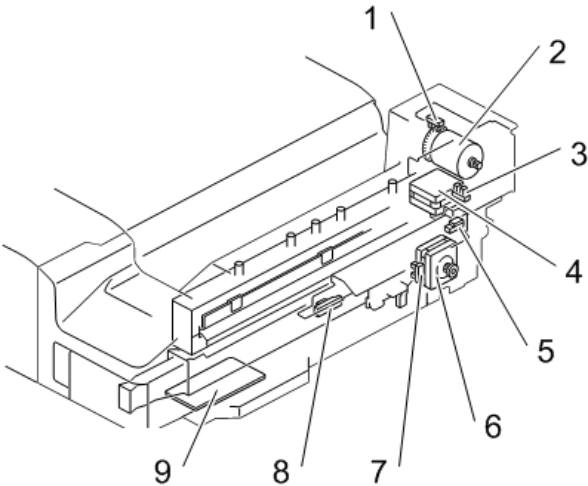
Punch Unit PU3040 (D716)

Parts Layout

2



No.	Description	No.	Description
1	Punch unit home position sensor	4	Punch hopper
2	Punch unit	5	Punch unit motor
3	Horizontal registration sensor unit		



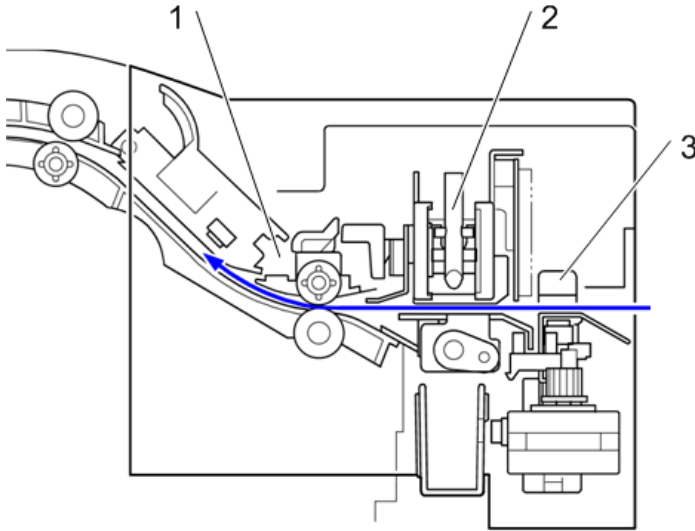
d7160201

No.	Description	No.	Description
1	Punch unit pulse sensor	6	Horizontal registration sensor unit motor
2	Punch unit motor	7	Horizontal registration sensor unit home position sensor
3	Horizontal registration sensor	8	Punch hopper full sensor
4	Horizontal registration transport unit motor	9	Punch unit controller board
5	Horizontal registration transport unit home position sensor		

Mechanism

Transport mechanism

Paper from the main machine passes through the horizontal registration sensor unit, and is transported to the punch unit and the entrance of the finisher.



d1467001

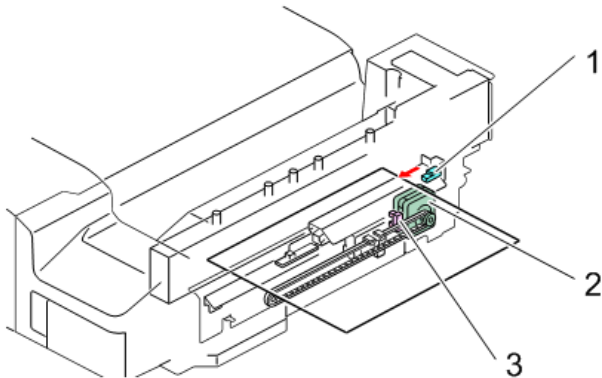
No.	Description	No.	Description
1	Finisher paper entrance	3	Horizontal registration sensor unit
2	Punch unit		

Horizontal registration transport unit mechanism

When the entrance sensor of the finisher detects the leading edge of the paper, the horizontal registration transport unit motor rotates to measure the horizontal registration of the paper. The horizontal registration sensor unit home position sensor detects the home position.

Horizontal registration sensor unit mechanism

The horizontal registration sensor unit has a horizontal registration sensor, which detects the horizontal registration (offset) of the paper relative to the punch unit position.

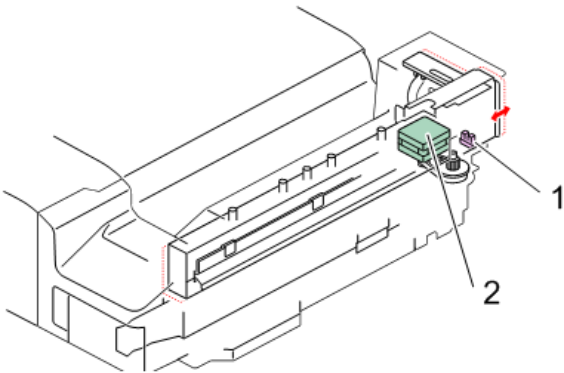


d7160202

No.	Description	No.	Description
1	Horizontal registration sensor	3	Horizontal registration sensor unit home position sensor
2	Horizontal registration sensor unit motor		

Punch unit mechanism

The punch unit moves according to information from the horizontal registration sensor, so that punch holes can be made in the correct positions. The punch unit is moved by the horizontal registration transport unit motor. The horizontal registration transport unit home position sensor detects the home position.

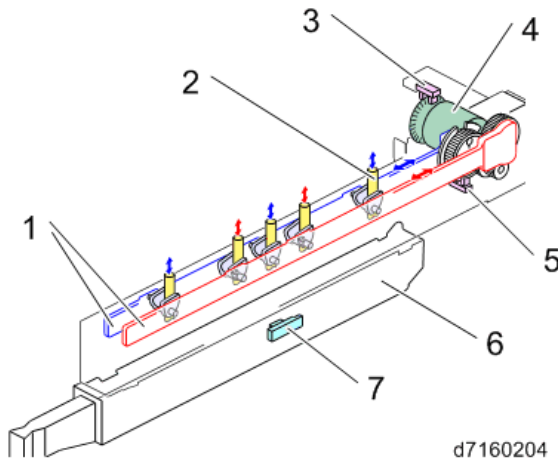


d7160203

No.	Description	No.	Description
1	Horizontal registration transport unit home position sensor	2	Horizontal registration transport unit motor

Punch mechanism

The punch unit motor rotates to move the links via gears. This moves the punch pin up and down. After punching, punch waste is collected in the punch hopper under the unit. The hopper has a punch hopper full sensor so that punch waste does not overflow. Because the punch motor is a DC motor, the motor shaft has an encoder, and there is a punch unit motor pulse sensor. The punch unit also has a mechanism for changing the punch positions according to the country/region of installation.



No.	Description	No.	Description
1	Links	5	Punching position sensor
2	Punch pin	6	Punch hopper
3	Punch motor unit pulse sensor	7	Punch hopper full sensor
4	Punch motor		

Punching position changing mechanism

The punch unit also has a mechanism for changing the punch positions according to the country/region of installation.

- Japan: 2 holes
- North America: 2/3 holes
- Europe: 2/4 holes
- Northern Europe: 4 holes

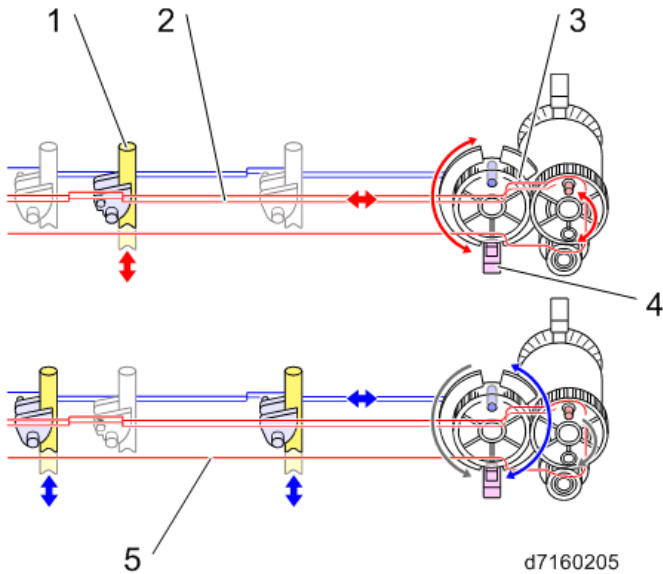
The punching position sensor detects a change in the punching position.

2 holes

The position where the 1st drive gear has not moved is the 2-hole home position. The 1st drive gear rotates clockwise/anti-clockwise, and only one link is moved, and this moves the necessary punch pins.

3 or 4 holes

The position where the 1st drive gear has rotated forward by 180° is the 3 or 4-hole home position. The 1st drive gear rotates clockwise/anti-clockwise, and the two links are moved, and these move the necessary punch pins.



No.	Description	No.	Description
1	Punch pin	4	Punching position sensor
2	2-hole link	5	3/4-hole link
3	1st drive gear		

MEMO

MEMO