MODEL TITANIUM2
(Machine Code: C261)
SERVICE MANUAL
(Insert version)

OVERALL INFORMATION

The Titanium2 will be released in 2006 as the successor to the Titanium. A new model code will be assigned to the Titanium 2 (C261), as there is full compliance with the RoHS and WEEE directives.

This service manual details information unique to the Titanium 2 and some additional contents for the Titanium for servicing in the field. Please add the following to your Titanium Service Manuals.

Comments for Each Section:

C252/C261: Some additional contents to the Titanium service manual (these contents apply to both the C252 and C261 models).

C261 only: These contents are only for the C261 model.

Service Manual:

Section	Item	Remarks
1	Installation	Some new contents concerning the installation were added. • Accessory check • Installation procedure
2	Preventive maintenance	No differences
3	Replacement and adjustment	Some new contents concerning the replacements and adjustments were added. • Close screen • Clamper/Metal screen • Ink pump adjustment • Vacuum fan motor position
4	Troubleshooting	Some new contents concerning troubleshooting were added • Others
5	Service table	No differences
6	Detailed section descriptions	Some new contents concerning the detailed section description were added. • Image processing flow (C261 only) • Registration guide plate • Detection of master on the drum (C261 only) • Metal screen • Paper delivery unit drive mechanism (C261 only) • Main control board
7	Point to point diagram	Separated from Service Manual.
Spec	Specifications	No differences

1. INSTALLATION

1.2 INSTALLATION PROCEDURE

1.2.1 MAIN BOBY

Accessory check

Description

Change: The accessories are changed (C261 only).

3. Operating Instructions 1

5. Model Name Plate 1

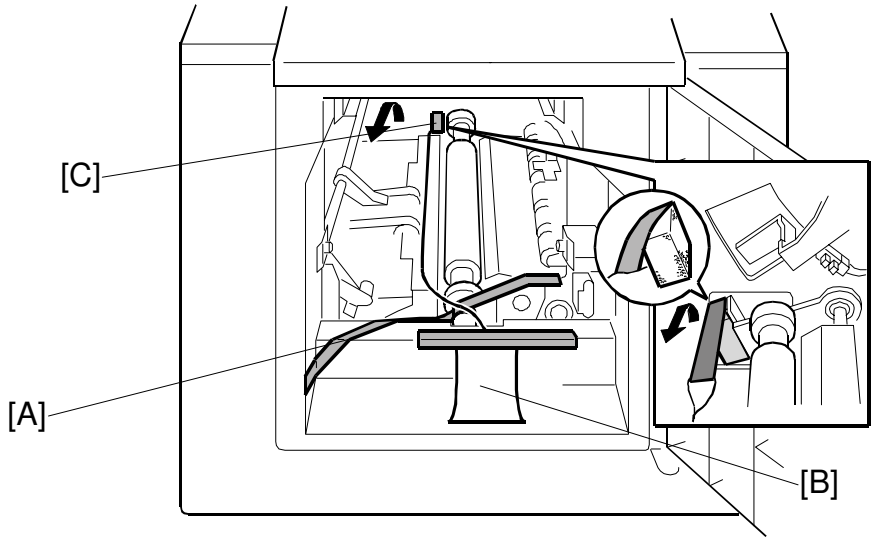
8. Easy Operation Guide 1

9. Safety Information (C261-93 and C261-94 only) 1

10. Bundled Items List (C261-76 and C261-78 only).....1

Installation procedure

C252/C261: Remove the front tape, the tag and the rear tape after step 2. Then do step 3.



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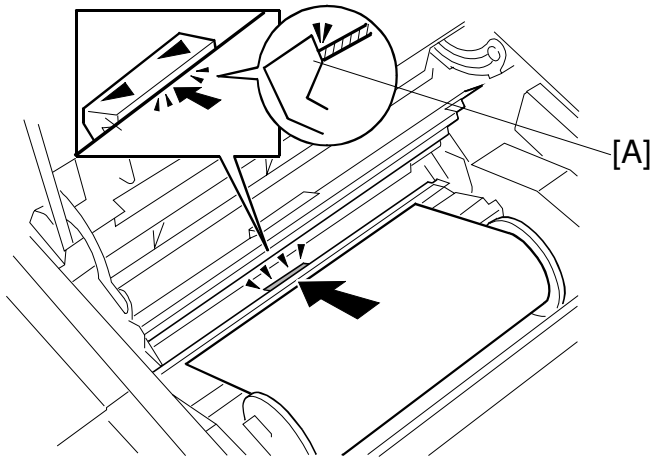
Remove the front tape [A], the tag [B], and the rear tape [C].

NOTE: To remove the rear tape, pull the portion shown in the diagram toward the front of the machine.

These tapes were also used in the Titanium (C252).

Change: C252/C261: Note the way to install the master roll.

Reason: To set the master leading edge at the correct position.



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7. Set the leading edge of the master in the correct position, as shown.

NOTE: The leading edge of the master does not enter the interior of the master making unit, because the part at the arrows [A] is convex.

1.2.2 ADDITIONAL DRUMS (OPTION)

The following drums are for RoHS compliance.

NOTE: The following drums can be used in the Titanium (C252).

There are two drum units:

- B4 size Color Drum: Color Drum Type 20 (B4)
- LG size Color Drum: Color Drum Type 20 (LG)

3. REPLACEMENT AND ADJUSTMENT

3.9 DRUM

3.9.2 CLOTH SCREEN

Change:

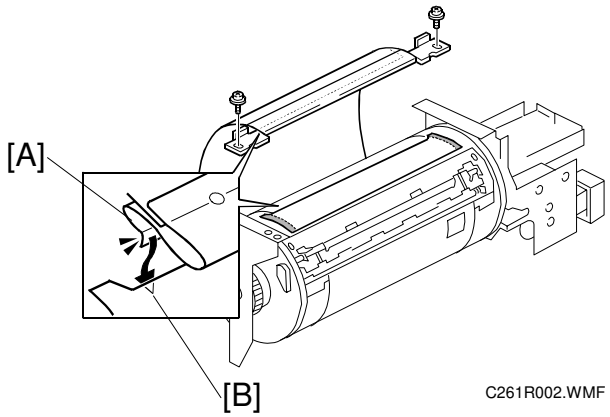
C252/C261: The mylar seal of the metal screen was changed only at the sides.

C252/C261: The cloth screen was changed to an all-in-one design (belt cloth).

- The metal screen (☛6.6.7)

NOTE: The procedure for installation was not changed.

Installation



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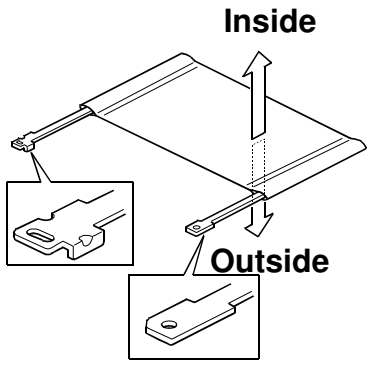

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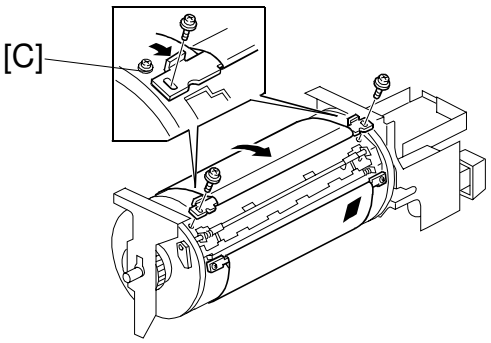

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- Do not scratch the cloth screen or metal screen.
- Properly insert the edge of the belt crossing [A] on the cloth screen under the mylar [B] on the metal screen, as shown above.
  Otherwise, ink will leak from the trailing edge of the master on the drum during a long printing run.

- Make sure that the correct side of the screen is facing up. In addition, make sure that the stays for securing the cloth screen are positioned correctly. (Refer to the upper right illustration.)
- When replacing the cloth screen, spread the screen around the metal screen while strongly pulling the stay [C]. Adjust the stay so that it is parallel to the master clamper, then tighten the screws.

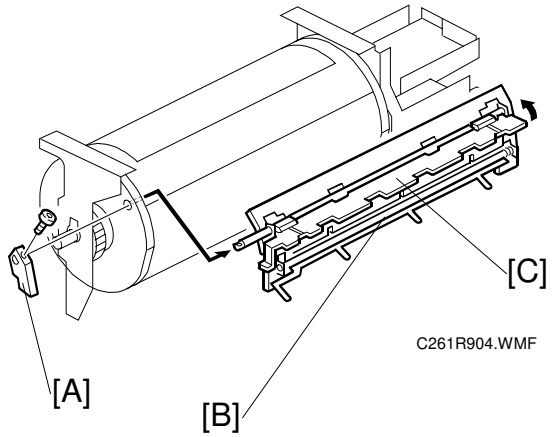
Make sure that the cloth screen is not wrinkled while spreading it around the drum.

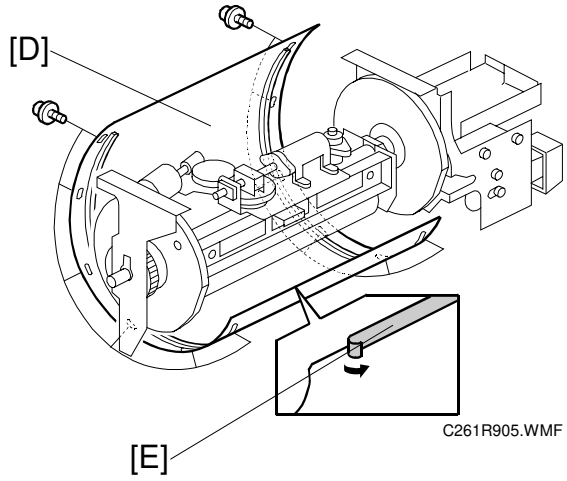
3.9.3 CLAMPER / METAL SCREEN

Change:

C252/C261: Notes about the method for overlapping the metal screen are added.

NOTE: The procedure for installation was not changed.



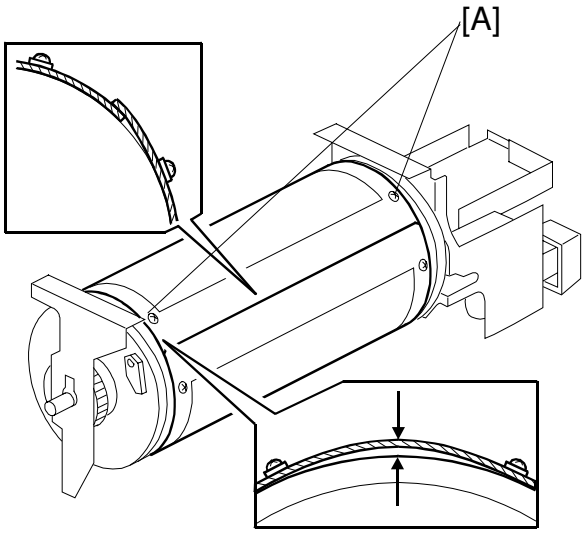


- Remove the drum
- Cloth screen (☛ 3.9.2)

[A]: Clamper lever (1 hexagon screw)
[B]: Clamper - open the clamping plate [C], then remove the clamper.

NOTE: 1) Do not allow ink to get on the inside of the clamping plate [C]. Otherwise, the master may slip off and the image position on the prints will move toward the trailing edge of the prints during a printing run.
2) Use a cloth dampened with water to clean the inside of the clamping plate [C]. Never use alcohol or other solvents, or the clamping force of the magnet will be weakened.

[D]: Tape (do not lose it)
[E]: Metal screen (🔩 x 12)



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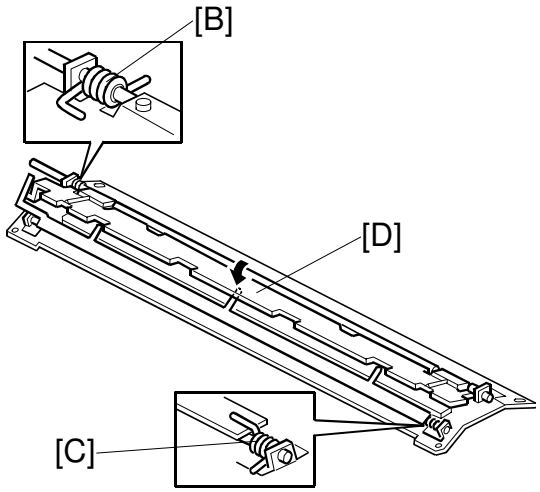

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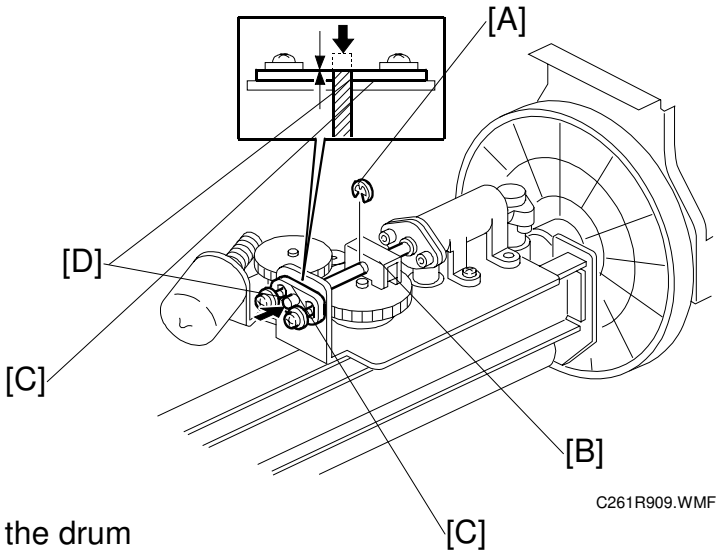
- Make sure that the correct end of the metal screen is overlapping. (The right side overlaps, as viewed from the non-operation side, as shown above.)
- Secure the metal screen with filament tape.
- The 4 screws holding the drum master clamper are longer than the 12 screws holding the metal screen, although they are similar in appearance. Be careful not to mix them up or use the wrong screws.
- When installing the metal screen, secure the trailing edge first with the 2 screws. Then, tighten the other screws while removing the slack from the screen. Make sure that the gap between the drum flanges and the screen is 0.3 mm or less, as shown above. (The two holes [A] on the trailing side are round holes and the other holes are long holes, to allow for the removal of the slack.)
- Position the springs [B] and [C] (one each at the front and rear) as shown when reinstalling the drum master clamper [D].
- Do not scratch the cloth screen or metal screen.

3.9.4 INK PUMP ADJUSTMENT

Change:

C252/C261: To improve the accuracy of the adjustment, the plunger adjustment was changed.

Purpose: To ensure the smooth operation of the ink pump plunger by properly positioning its holder.



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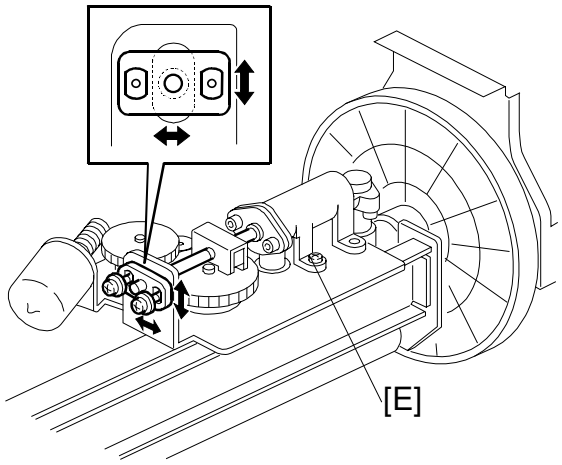
- Remove the drum
- Cloth screen (☛ 3.9.2)
- Clamper / Metal screen (☛ 3.9.3)

1. Remove the E-ring [A] to free the plunger from the pump drive slider [B].
2. Loose the two screws securing the holder [C]. (Do not remove the holder.)
3. Push the plunger [D] until it reaches the bottom.

NOTE: The end of the plunger [D] should not project outside from the holder [C].



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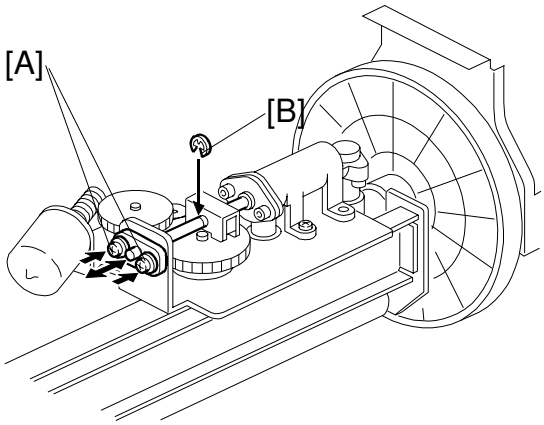
4. Check that the piston motion is smooth.
5. If the motion is stiff, loosen the pump screws [E] and adjust the pump position.

6. After tightening, repeat step 4 and step 5.



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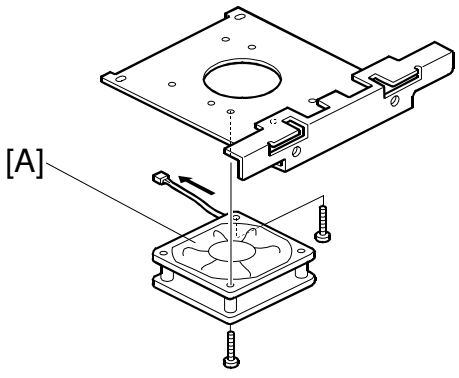
7. Re-tighten the two screws [A].
8. Check that the piston motion is smooth.
9. Reinstall the E-ring [B].

3.10 PAPER DELIVERY

3.10.3 VACUUM FAN MOTOR POSITION

Change: The vacuum fan motor [A] position is the same for all models.

Reason: The type of the fan motor was changed from a 'sirocco vane' type to an axial fan motor, to improve the performance of paper delivery.



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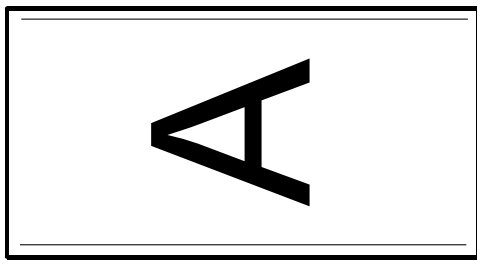
4. TROUBLESHOOTING

4.5 OTHERS

These procedures also apply to the C252.

Subject: Black line on the copy

Symptom



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The left or/and right edges of the original can be seen on the printout as black lines.

Cause

1. The paper tray side fences are not aligned with the scanner unit side fences.

Or

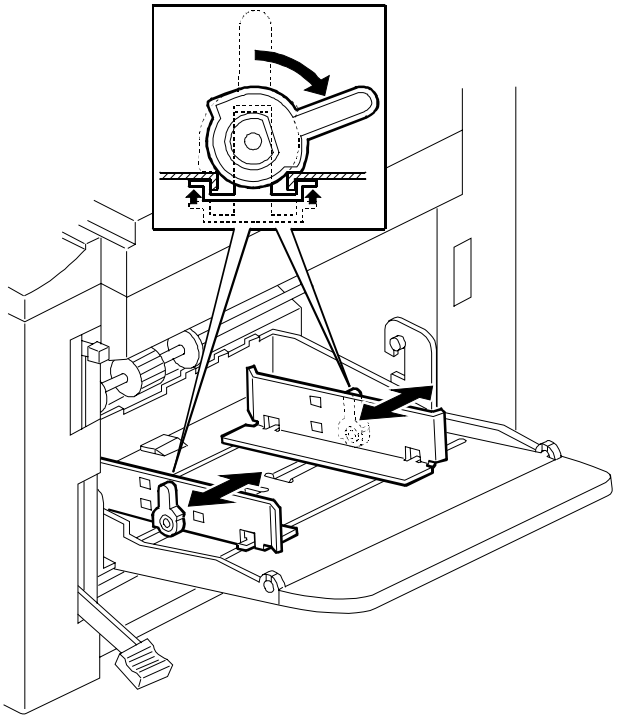
2. The original is smaller than the printing paper.

NOTE: The Titanium and Titanium 2 have the following limitations.

- The machine cannot detect the original size or printing paper size.
- The machine makes the master image onto two sizes only: 253mm x 358mm (B4 model) or 216mm x 358mm (LG model). It does not change the size of the master image to match the size of the original or printing paper.

Solution

For cause 1:



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1. Measure the distance from the paper edge to the black line (this distance is ‘X mm’).
2. Move the side fences a distance of about X mm, so that the edge of the paper aligns with the edge of the original.
3. Check the print results. Repeat this until you cannot see the black line on the printout.

For cause 2:

1. Decrease the image density setting, or
2. Increase the magnification setting so that the original size matches the print paper size.

Subject: Areas of the original that are of an orange color do not show on the master.

Symptom

Areas of the original that have an orange color do not appear on the master, but areas in other colours do appear.

Solution

Select ‘Letter’ for the Type of Original (Letter) and select ‘Darker’ for the Image Density (Darker) at the same time.

NOTE: The C252 (main firmware: C2525105F or newer) and Titanium 2 can use this countermeasure.

6. DETAILED SECTION DESCRIPTIONS

6.4 IMAGE PROCESSING

6.4.1 IMAGE PROCESSING FLOW

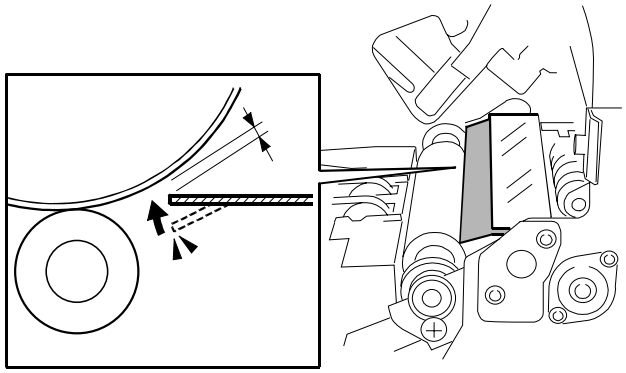
Grayscale Processing:

Change:
C261 only: The Text/Photo mode was added. Text/Photo mode: Error diffusion (Text is reproduced better than with Photo mode.)

6.7 PAPER FEED

Registration guide plate

C252/C261: Paper feed is more stable, because the guide plate brings the paper in more close to the drum, and the amount of room at this location has reduced the occurrence of wrinkling for thin paper.



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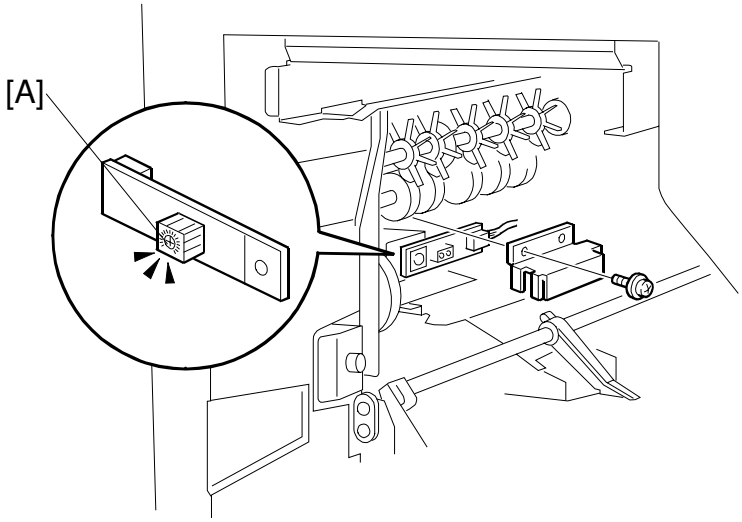
6.6 DRUM

6.6.6 DETECTION OF MASTER ON THE DRUM

Drum master sensor

Change:

C261 only: A VR [A] was added for this sensor. This VR is for factory use only. Do not adjust it in the field.



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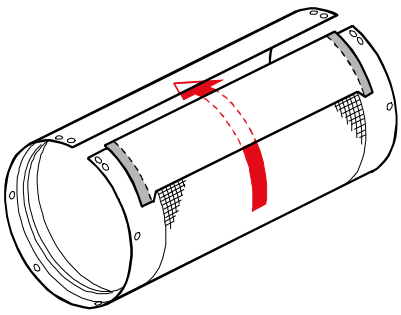
6.6.7 METAL SCREEN

Change:

- C252/C261: The metal screen was changed to improve image production on the paper.



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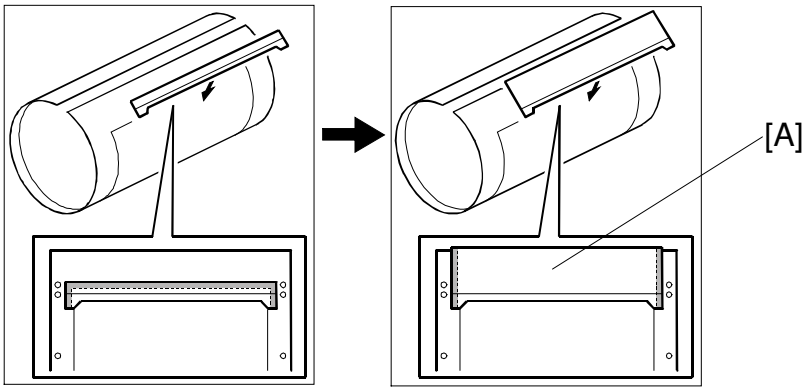
The flow of ink is shown above. The excess ink goes back to the inside of the drum from the leading edge of the metal screen.



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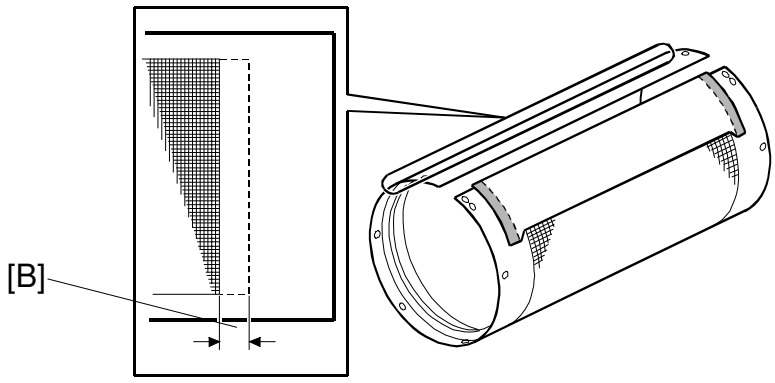
The adhesive parts [A] are only at the sides of the mylar seal for the metal screen. (They were removed from the trailing edge.) This prevents ink leakage from the trailing edge.



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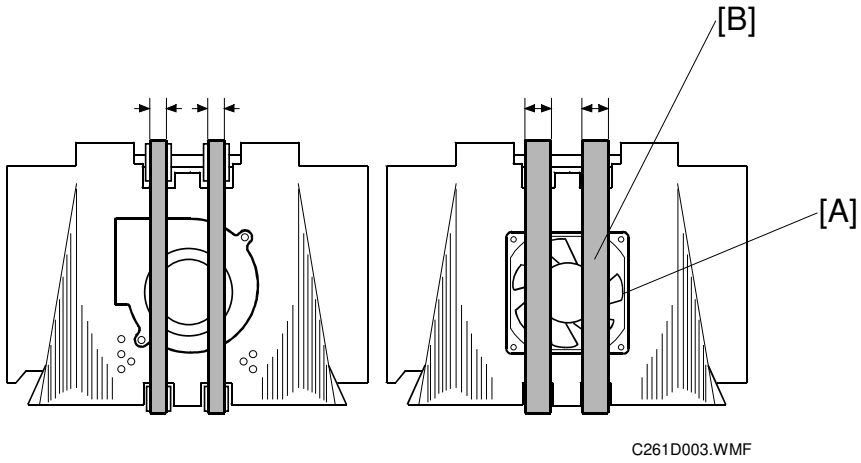
The leading edge of the mesh on the metal screen is reduced by 2.5 mm [B]. This prevents small dots at the leading edge of the paper.

6.8 PAPER DELIVERY

6.8.1 PAPER DELIVERY UNIT DRIVE MECHANISM

Change:

- C261 only: The paper delivery performance was improved by changes to the vacuum fan motor and the transport belt.



Vacuum fan motor:

The type of fan was changed from a sirocco vane motor to an axial fan motor [A].

Advantages of the axial fan motor

- The area of suction is larger, so paper delivery is more stable.
- The installation position of the fan motor is not changed. This is the best location for stable delivery of thin paper.

Transport belt:

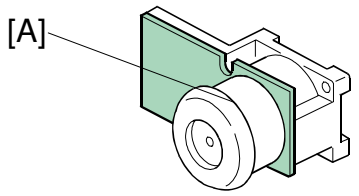
The transport belt [B] is wider.

Advantage of a wider belt

- The area of the paper that touches the belt is larger. This increases the force applied to the paper during delivery.

6.10 MAIN CONTROL BOARD

- C252/C261: An explanation about the main control board was added.



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The main motor controller board [A] is attached to the main motor as shown above. It is part of the main motor assembly. Do not separate the main motor from the controller board.

These machines do not have a separate main motor controller board.

NOTE: Models other than the C252/C261 have a separate main motor control board.