RICOH	Technical Bulletin	No. RTB-001
SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE		DATE: PAGE: 1 of 20
PREPARED BY: CHECKED BY:	FROM: Copier Technical Support Section	
CLASSIFICATION: ■ Action Required ■ Troubleshooting ☐ Retrofit Information ☐ Revision of service manual ☐ Information only ☐ Other		MODEL:

To aid the technician in troubleshooting matt20 misfeeds we are issuing this troubleshooting guide. If the guide is used properly it will resolve the majority of misfeeding problems the field is experiencing.

TABLE OF CONTENTS SYMPTOM TYPE

ROLLER DRIVE MOTOR STALLS AND PAPER EXIT JAMS

[Symptom]

In Sort/Stack mode, when copy paper is fed out to a bin, the roller drive motor speed should become higher. The motor occasionally hesitates at that moment and paper exit jam occurs.

[Possible Cause]

The load of the roller drive motor is excessive when the roller shafts and bushing became dirty, the friction between the roller shafts and bushings exceeds the roller drive motor torque.

[Action Required]

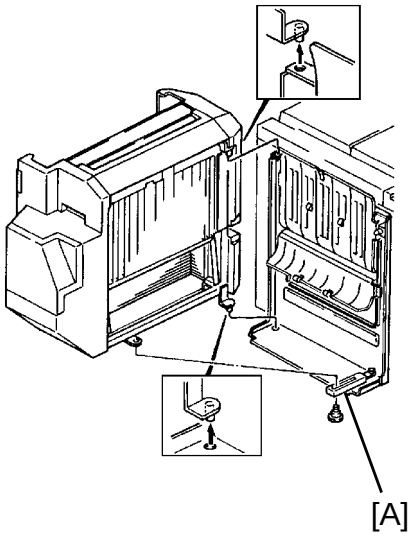
1. Lubricate the drive parts using launa oil. (See page 2 ~ 4)

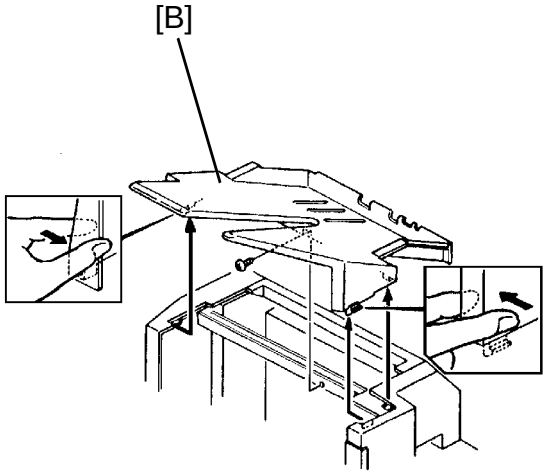
NOTE : If the drive parts have not been initially cleaned with alcohol, clean them before lubricating.

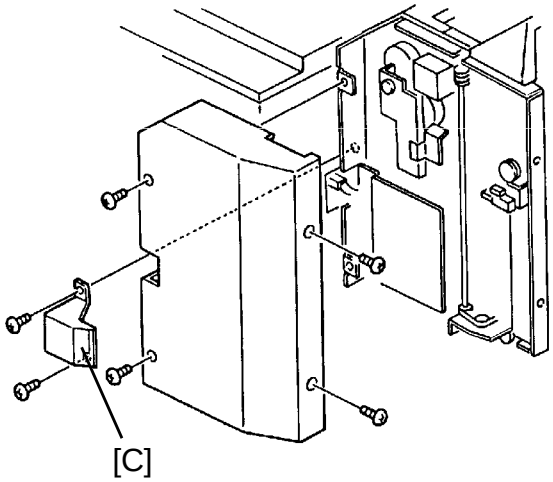
NOTE: If the same symptom appear within 1PM even after the lubrication, perform the Action 2.

2. Increase the drive motor torque. (See page 5 ~ 6)

LUBRICATION

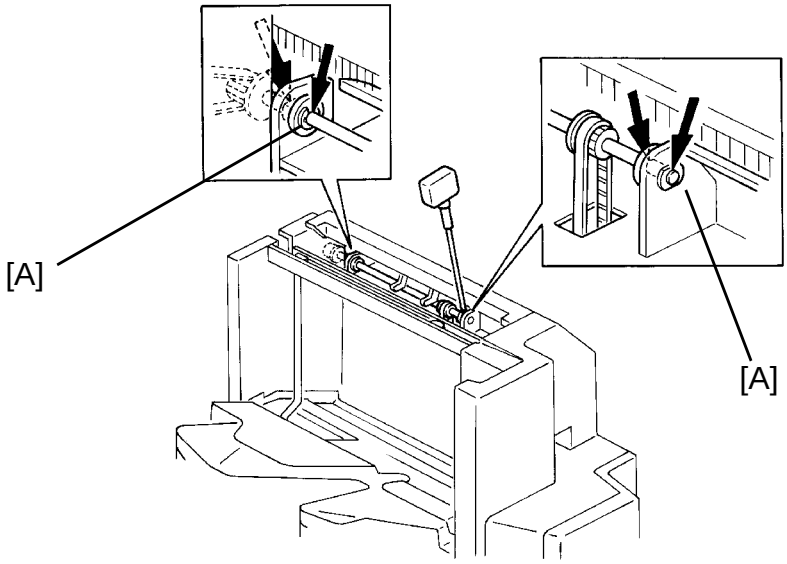


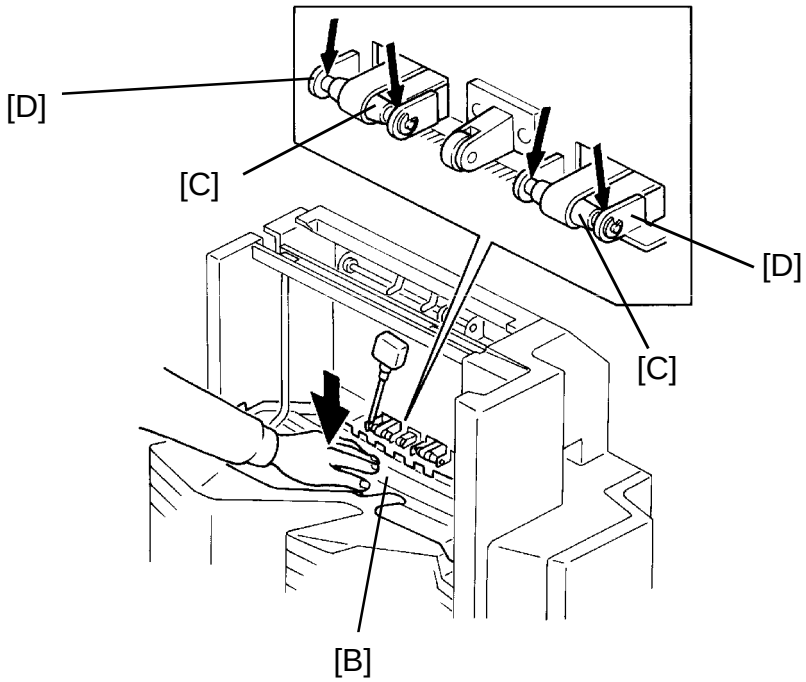




To reduce the load to the roller drive motor, lubricate as follows at every PM:

1. Open the sorter stapler then disconnect the link lever [A] (1 stepped screw).
2. Disconnect the sorter stapler interface harnesses and a grounding wire (1 screw).
3. Remove the sorter stapler from the mounting frame.
4. Remove the proof tray [B] (1 screw).
5. Remove the rear covers [C] (6 screws).



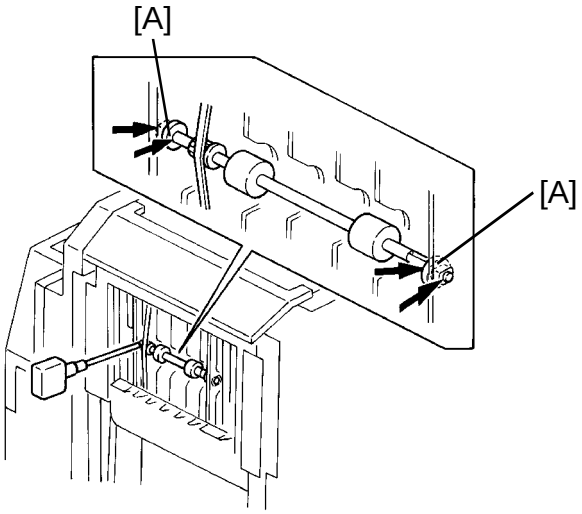


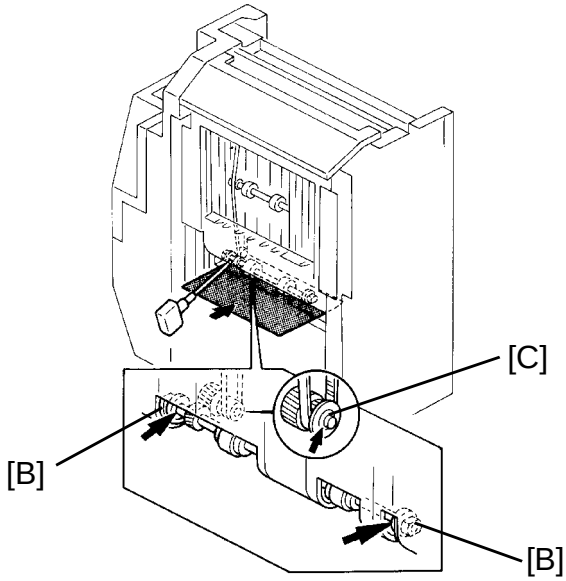
6. Lubricate the bushings [A] with launa oil.

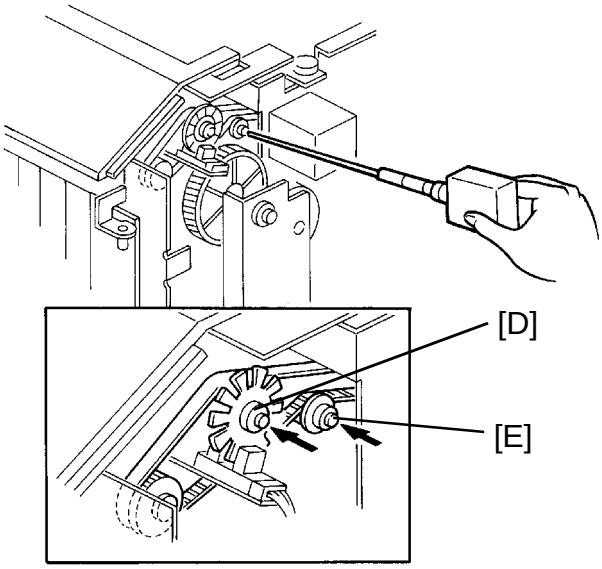
NOTE: Lubricate the bushings from the both sides so that the oil is fully supplied between the shaft and the bushing.

7. Gently push down the support bin [B] then lubricate the rollers [C] with launa oil.

NOTE: Lubricate the inner side of the brackets [D] so that launa oil is fully supplied between the shaft and the roller.







8. Lubricate the bushings [A] with launa oil.

NOTE: Lubricate the bushings from the both sides so that the oil is fully supplied between the shaft and the bushing.

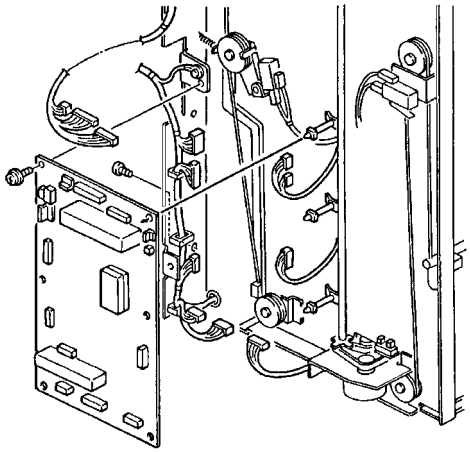
9. Lubricate the bushings [B] and gear pulley [C] with launa oil.

NOTE: Place a sheet of paper underneath the bushing so that the oil does not drop on the guide plate.

Wipe off excess oil so that launa oil does not drop on the guide plate during copying.

10. Lubricate the pulse generator disc [D] and idle pully [E] with launa oil.

DRIVE MOTOR TORQUE INCREMENT



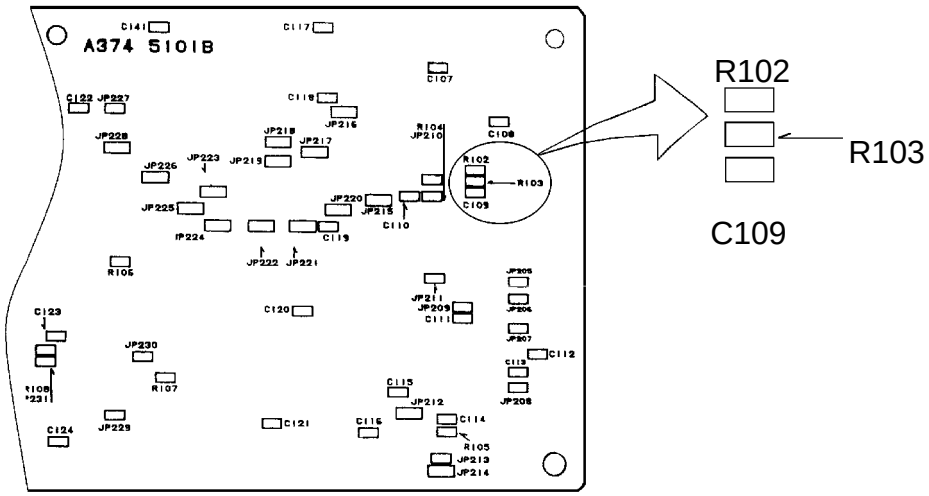
To increase the drive motor torque, replace the main control board with the upgraded board as mentioned below:

1. Remove the proof tray (1 screw) and the rear cover (4 screws).

2. Replace the main control board (1 screw, 5 support studs).

3. Reassemble the machine.
   - If you have equipment to modify the board, upgrade the main control board as follows:

A. If your main control board is A3745100:

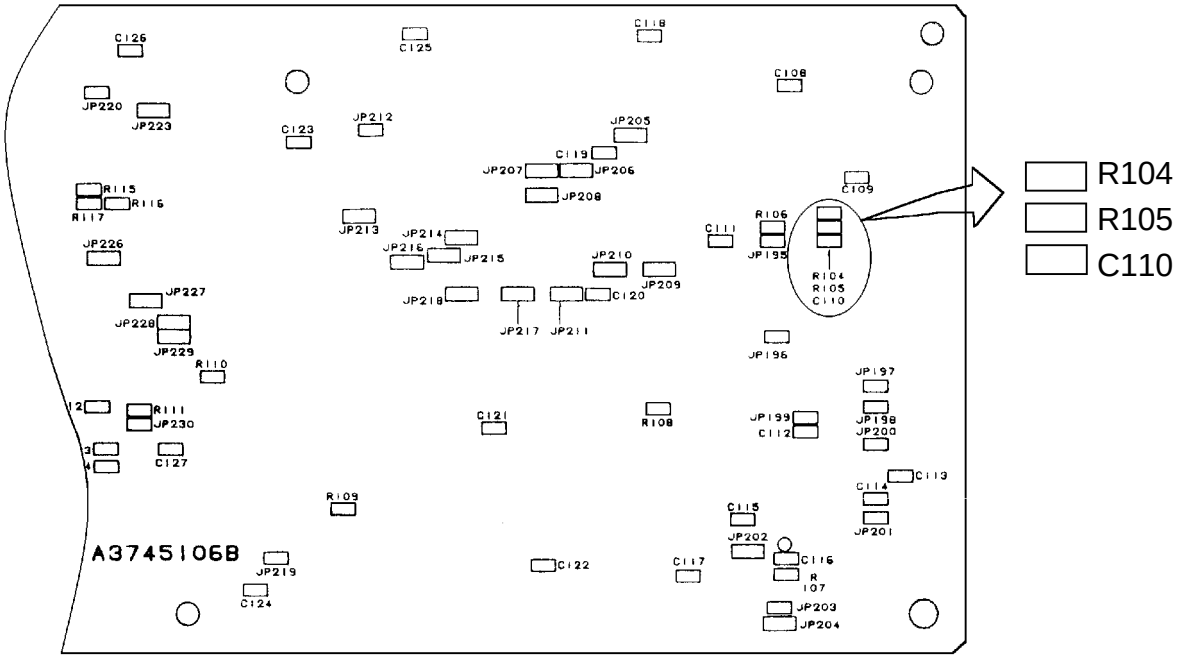


A-1. Replace R102 [A] with a 1.5KΩ resistor. (from 2.4KΩ to 1.5KΩ)

A-2. Replace R103 [B] with a 620Ω resister. (470Ω to 620Ω)

A-3. Change the main ROM to ROM part # A3745113.

B. If your main control board is A3745105:



B-1. Replace R104 [C] with a 1.5KΩ resistor. (2.4KΩ to 1.5KΩ)

B-2. Replace R105 [D] with a 470Ω resister. (470Ω to 620Ω)

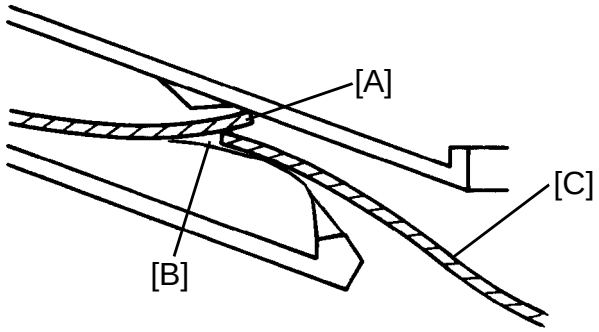
B-3. Change the main ROM to ROM part # A3745113.

CAUTION: The interchangeability of the Main ROM is X/O.
Whenever the R102 and R103 (R104 and R105) are replaced, the main ROM must be replaced by the new ROM.

SORTER BIN JAMS OR COPIES OUT OF ORDER

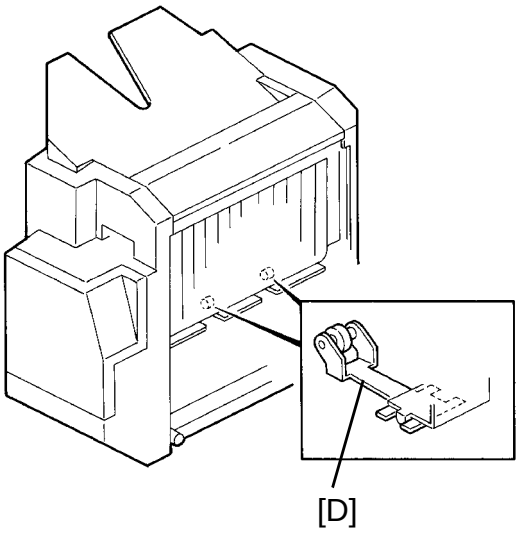
[Symptom]

The copy's trailing edge [A] remains on the guide mylar [B]. When the following paper [C] comes to the bin, it hits the trailing edge of the proceeding paper, resulting in the paper jam, or incorrect copy order when the following paper goes underneath the proceeding paper.



[Cause]

The technician bent the lower bin exit roller holder (spring plate) (P/N : A3742163) [D], trying to correct the normal paper skew when the paper exits into the bins. This reduces the paper transport ability causing bin jams.



- **Supplemental Technical Explanation about the way how paper is stacked in the bin.**

When the copy paper comes out of the sorter, it is angled. This is normal for proper stacking of the copy paper.

[Mechanism of Paper Stacking]

1. As shown in the illustration, the front side of paper [A] comes out of the sorter first.

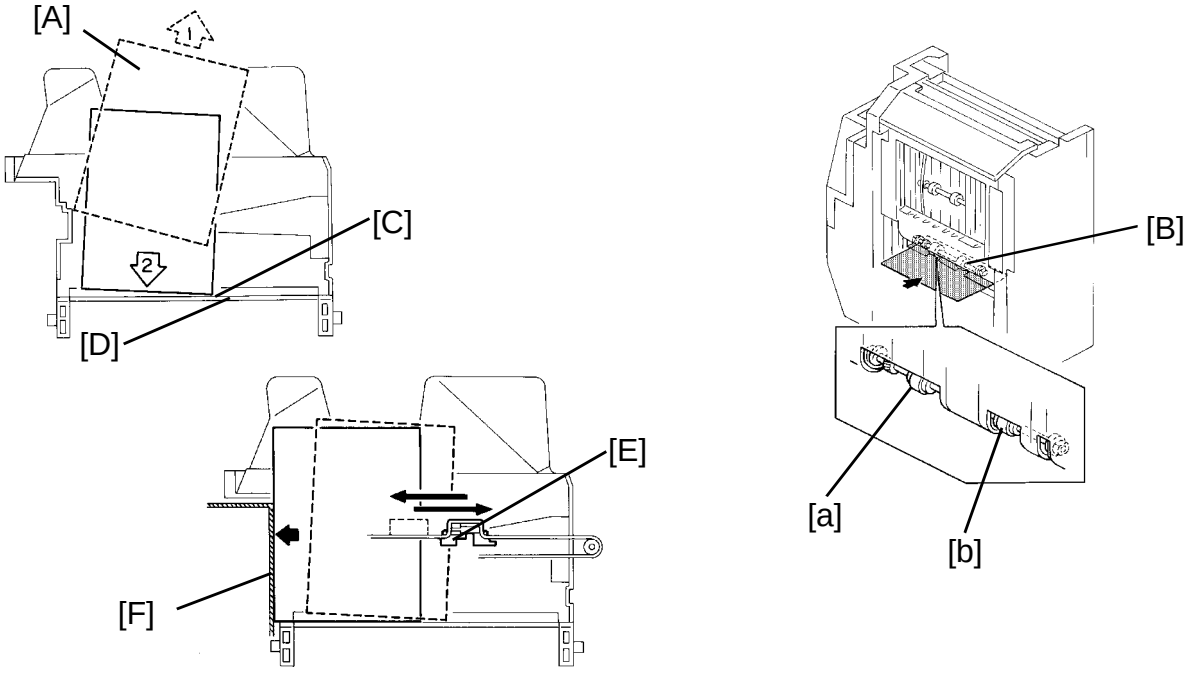
NOTE: In order to angle the paper, the diameter of the front and rear transport rollers [B] are slightly different (front roller: 20.0mm [a], rear roller : 19.7mm [b]).

2. After the entire sheet comes out of the sorter, the paper slides back to the rear fence, being supported by the gravity for smooth slide.
3. When the corner [C] of the paper contacts the rear fence [D], the paper is still slightly angled.
4. At this moment, the jogger bar [E] pushes the paper to the front.
5. Because only one corner of the copy paper is touching the rear fence (minimal friction), the paper can be jogged smoothly.
6. Finally the paper sits squared in the bin because the paper stops being aligned by the front side frame [F]

[Solution]

Straighten the lower bin exit roller holders so they are flat and ensure that the paper comes out of the sorter with the correct angle.

NOTE: Once the holders are bent, it may be difficult to completely straighten the holders. In such a case, replace the entire lower bin exit rollers.



BIN JAM OR COPIES OUT OF ORDER

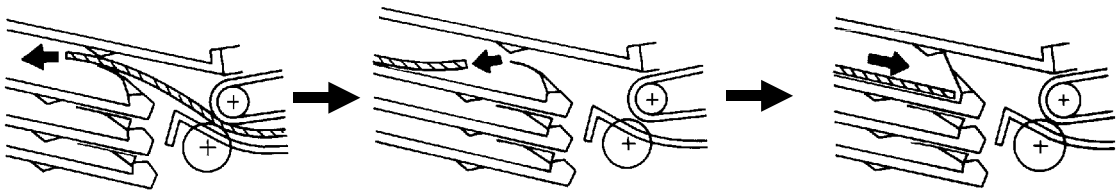


Fig. 1 (Correct action)

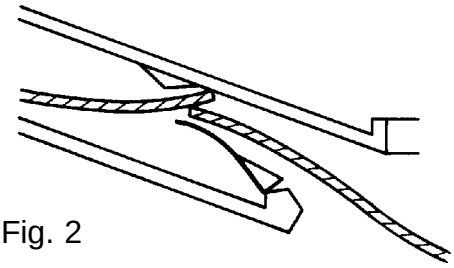


Fig. 2

[Symptom]

When the paper slides back against the end fence, the trailing edge of the paper enters the gap between the guide mylar and the upper bin. Thus, the paper is stacked incorrectly in the bin, or in the worst case, the next sheet of paper jams or goes underneath the proceeding paper (copies out of order) (see Fig. 2).

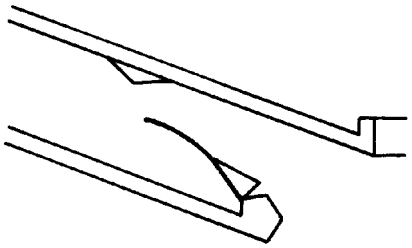


Fig. 3 (Incorrect condition)

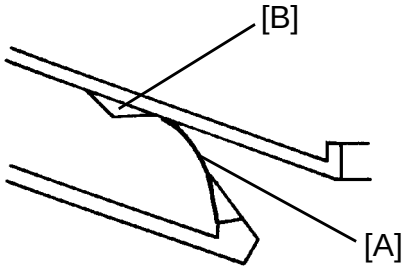


Fig. 4 (Correct condition)

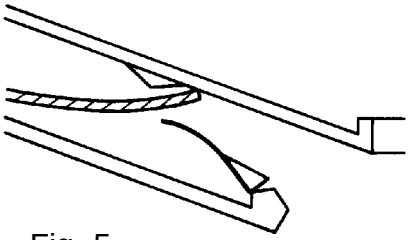


Fig. 5

[Cause]

The paper has a face-up curl and the guide mylar [A] is not touching the projection [B] on the upper bin.

Ideally, if the gap between the guide mylar and the upper bin is zero, the paper can not enter between the guide mylar and the upper bin when it slides down against the end fence. This is normal operation.
However, if there is a gap which is big enough to allow the curled edge of paper to enter between the guide mylar and the upper bin (see Fig. 5) the above symptom may occur.

[Solution]

If the above symptom is observed in the field with the customer application, check which bin(s) have gap(s) which creates the problem. Follow the checking procedure described below to determine which bins should be replaced.

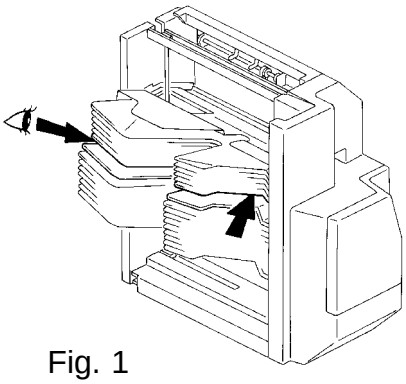


Fig. 1

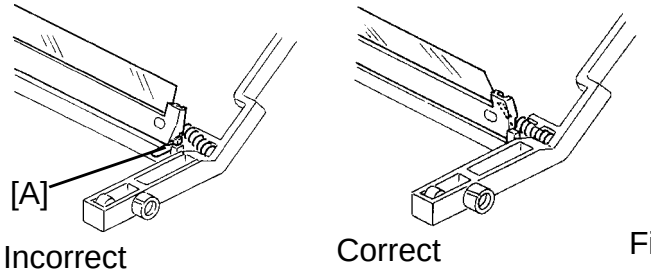


Fig. 3

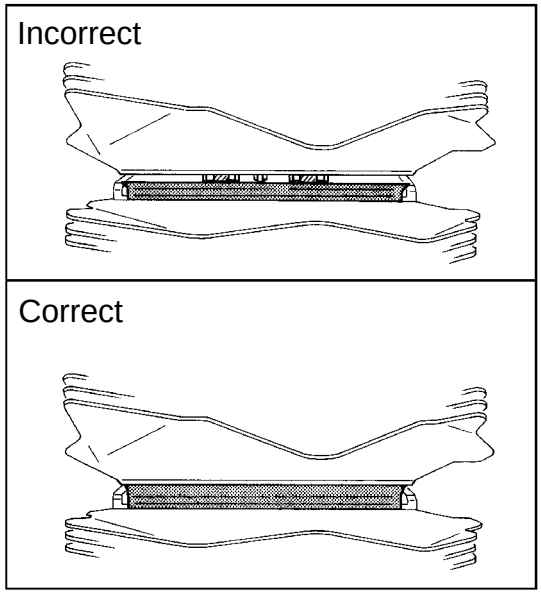


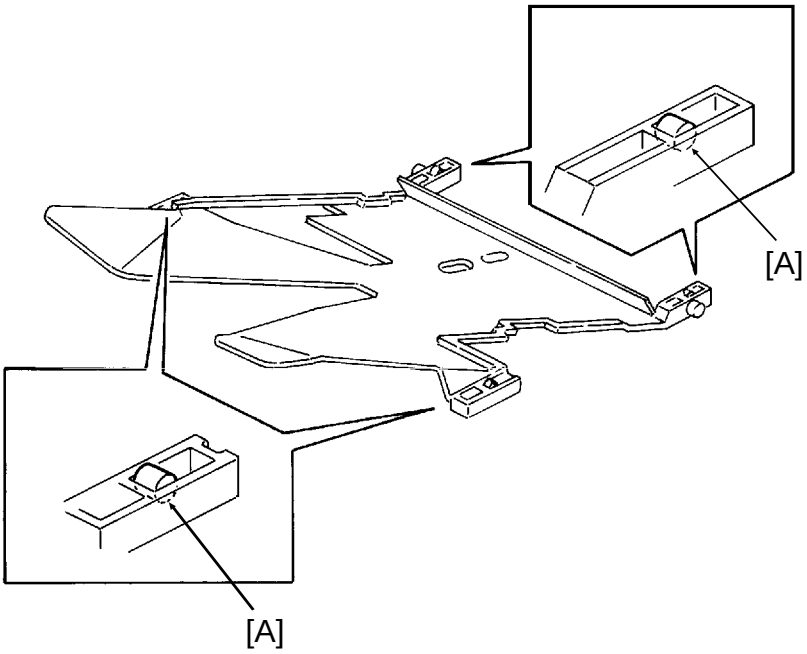
Fig. 2

1. Turn on the copier main switch.
2. Remove the sorter rear cover and turn on the DIP switch 100-1 and -2 to start the sorter free run.
3. Using a flash light, observe the mylar condition from both the front and rear angles.
4. If there is a gap above guide mylar of each bin, put any mark for the bin with the gap.

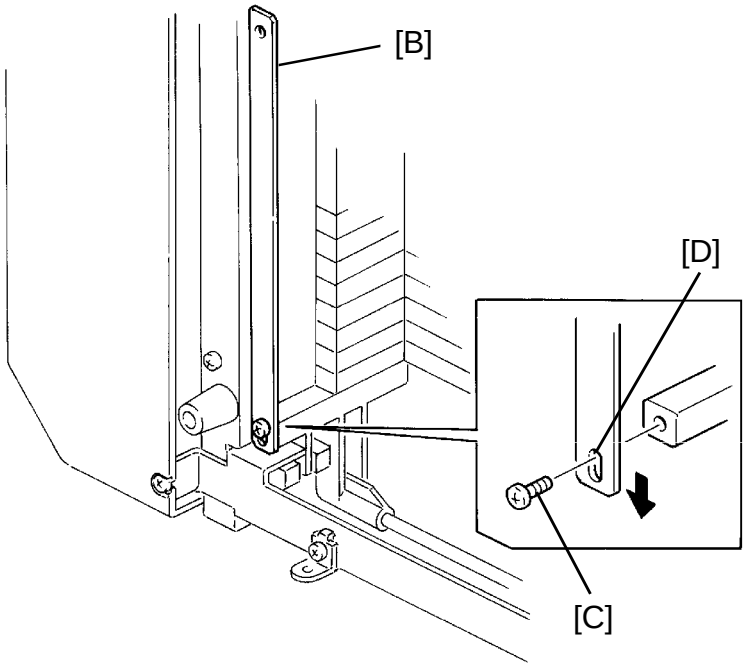
NOTE: The both ends of the mylar (50mm from the edge) do not have to touch the upper bin. Just mark the bins which have the gaps at the center.
After the observation is completed, replace the marked bins (see page 38 of the Service Manual).

NOTE: The old bin (P/N A3743505) and the new bin are slightly different in shape. Although it is technically no problem to mix the old and new bins, it is recommended to use the new bins for upper position and the old bins for lower position. This is to maintain the good appearance of the bins and to use new bin for the position which are more frequently used.

NOTE: Before installing new bins, lubricate the four points [A] on each bin using grease 501.



NOTE: Install the bin links (A3743550) [B] so that the screw [C] is at the top of the hole [D].



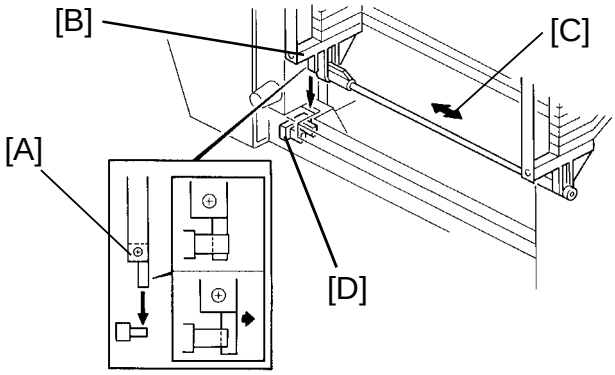
INCORRECT BIN POSITION AND BIN ENTRANCE JAMS

[Symptom]

The 1st copy hits the support bin causing a bin entrance jam.

[Possible Cause]

Due to gap between the projection [A] of the bin support block [B] and the side frame, the block can move in the arrow [C] direction. If the block moves away from the bin home position sensor [D] when the sensor should be actuated, the bin will not stop at the correct home position. In this case a paper jam occurs at the bin entrance.



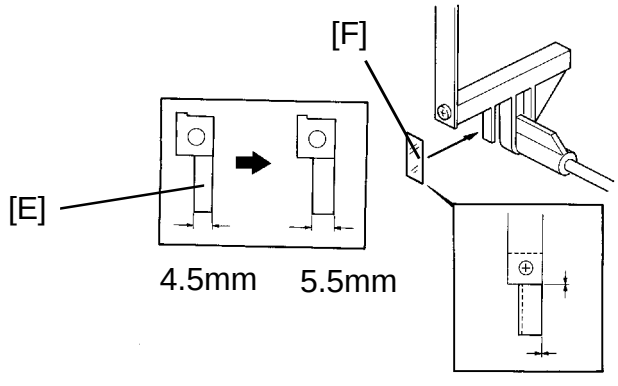
[Permanent Countermeasure]

From the march '93 production, the width of the interrupter [E] for the bin home position sensor has been increased from 4.5mm to 5.5mm to ensure sensor actuation.

[Countermeasure in the field]

To modify the machines in the field, stick a black mylar strip (5.5mm x 17mm) [F] as shown in the illustration to expand the width of the sensor actuator.

NOTE: Align the upper and right side edges of the mylar with the sensor actuator.
The part number of the black mylar strip is A3749500.



Front view from paper path

PROOF TRAY JAMS WITH THICK PAPER

[Symptom]

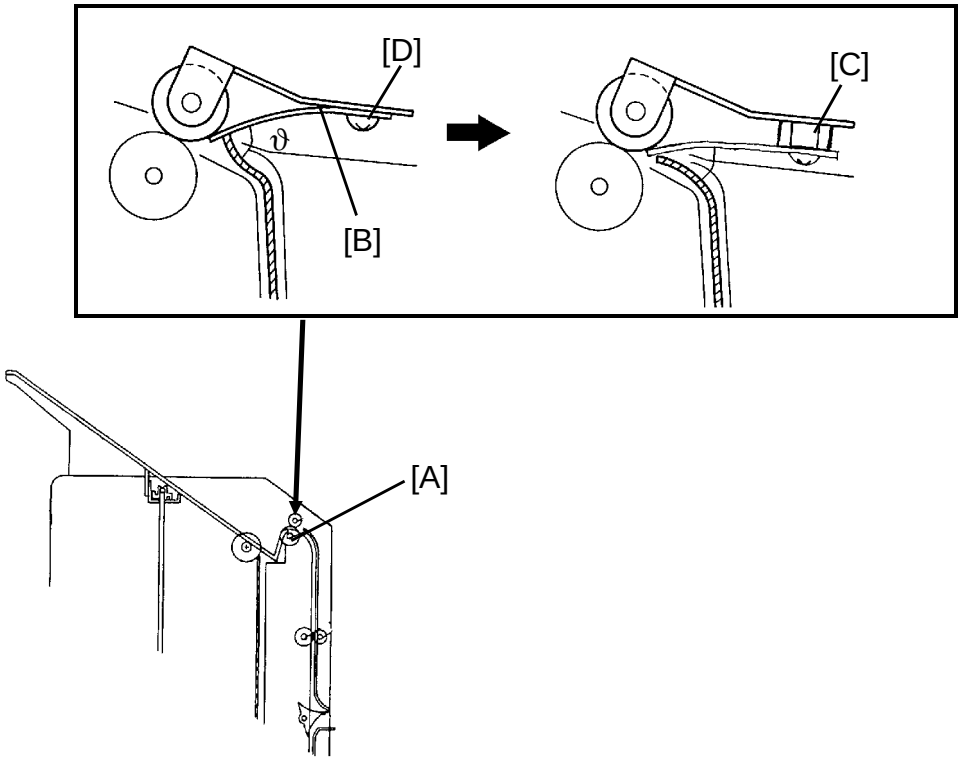
When thick paper (like a post card) is used in the proof tray mode, the paper might not be fed onto the proof tray. The paper stops just before reaching the exit roller [A].

[Cause]

If the paper is face curled, the leading edge of the paper hits the exit roller guide [B] and the paper does not reach the exit rollers [A].

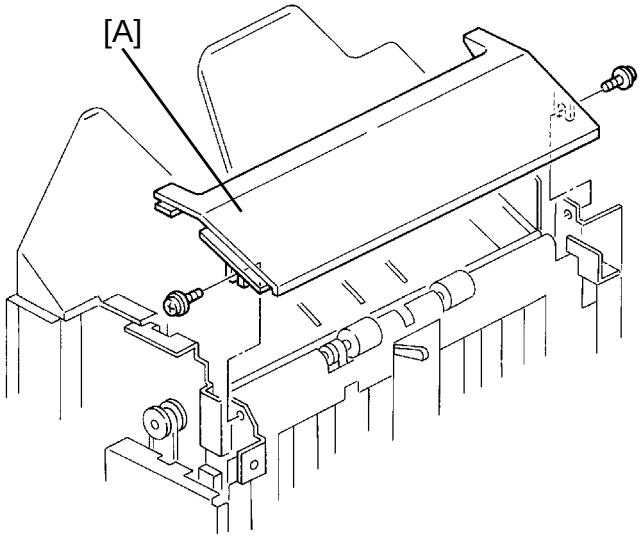
[Countermeasure]

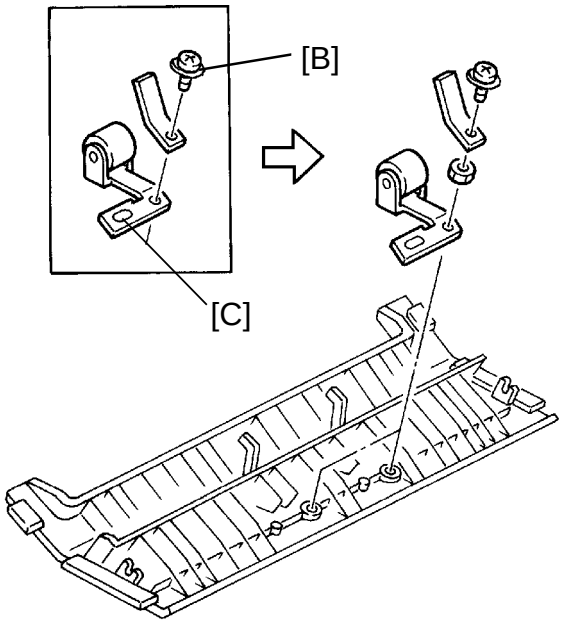
A hexagon nut (07100050B) [C] has been inserted between the plate spring [D] and the exit roller guide, so that the angle [θ] between the guide and paper has been reduced. Due to this modification, the length of the screw [D] fixing the plate spring has been changed from 6 mm to 8 mm. This modification has been applied from the March '94 production.



The procedure to apply this modification is as follows:

1. Remove the front and rear covers of the Matt20.
2. Remove the upper cover [A] (2 screws).
3. Remove the two screws [B] fixing the spring plates [C].
4. Insert a hexagon nut (07100050B) between the each plate spring and the exit roller guide mylar. Fix them using a Philips truss head screw - M4x8 (03440080F).

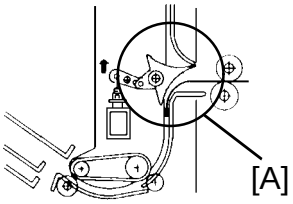




PAPER JAMS IN TURN GATE SECTION (A7 Series RTB No. - 014) (N440 Series RTB No. - 005)

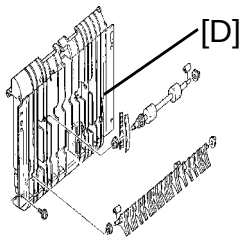
[PHENOMENON]

Paper jams occur in the turn gate section [A] intermittently in sort, stack, or staple mode.



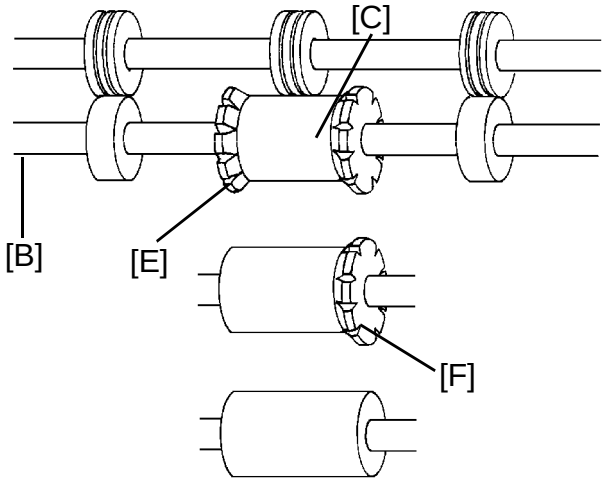
[POSSIBLE CAUSE]

The sorter adapter lower exit roller [B] has a stiffness increasing roller [C] at the middle. This rubber roller has a flange on each end. The flanges produce slight waves on copy paper perpendicular to the paper transport direction to increase paper stiffness.
The rear side wave position may not be proper for one of the ribs on the sorter stapler vertical paper guide [D] especially when paper has excessive face curl. The rib may make a mark on the paper lead edge or may cause paper jams.



[ACTION IN THE FIELD]

1. Cut off the rear flange [E] with cutting pliers and smooth the roller's edge with a knife. This will eliminate the rear side wave on paper.
   (As the flanges have wedge grooves originally and the roller is turning in forwarding direction, the roller surface does not have to be completely smooth after you cut off the flange.)
2. If step 1 does not cure the problem, cut off the front flange [F] as well.
   (Paper transport reliability without flanges on the roller was tested for thin paper under high humidity condition, resulting in no problem.)



[PERMANENT COUNTERMEASURE]

The width of the rib on the sorter stapler vertical paper guide will be increased to improve the paper transport ability. The part number of the vertical paper guide will remain as it is. This modification will be applied to the production machines from April,1993.

PAPER JAM AT SORTER STAPLER ENTRANCE (N440 ONLY RTB No. - 009)

[Symptom]

On the N440 + Matt20 system, the copier CPU sometimes does not recognize the Matt20 when the main switch is turned on. Under this condition, the "C5" code is not displayed on the operation panel even if the sorter unit or the sorter front cover is opened. When copies are made, paper jams will occur between the sorter adapter and the sorter entrance as the sorter roller drive motor does not rotate. Even when this happens, no jam indication is displayed since the copier is operating without recognizing the Matt20.

This problem may occur on some machines. According to information from the field, copiers with main control board A0855111G or A0855151 might have this problem, but not all copiers with them. On the machines with this problem, the symptom is observed for approximately 50% times when the main switch is turned off and on.

When the menu sheet reader is installed, this problem disappears.

[Cause]

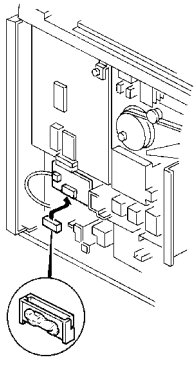
When the main switch is turned on, the communication IC (MB89371) on the optional interface (I/F) board does not reset, resulting in a communication error with the Matt20. When the menu sheet reader is not equipped, the reset circuit of the main control board for the communication IC will include an open circuit through the I/F board. Under this condition electrical noise might affect the reset circuit, causing a reset error to the communication IC.

[Countermeasure in the field]

Install a jumper connector (P/N: A0889500) on the CN702 (the connector for the menu sheet reader) of the I/F board which makes a short circuit between CN702-1 and CN702-4 with 2.2k ohms resistor.
This connector has the same effect as when the menu sheet reader is equipped, eliminating the problem.

[Permanent countermeasure]

The I/F board circuit has been modified from August 1993.



89500

[Other information]

This problem won't occur on the A7 + Matt20 system as the reset circuit pattern of the main control board for the communication I/C is independent from the menu sheet reader circuit.

It won't cause any problem if the jumper connector is installed on a new I/F board or on the A7 system by mistake.

Neither the software of the copier main ROM nor the main control board have any relation to this problem. But the type and manufacturer of the main ROM might affect the occurrence ratio of this problem.
The following are our test results:

Manufacturer	Type	Occurrence Ratio
AMD	am27c010-150DC	21/30
AMD	am27c010-155DC	0/30
Hitachi	HN27c101AG-17	0/30
SGS	M27c1001-12FI	0/30

SORTER ENTRANCE JAMS WITH F400 ONLY

[Symptom]

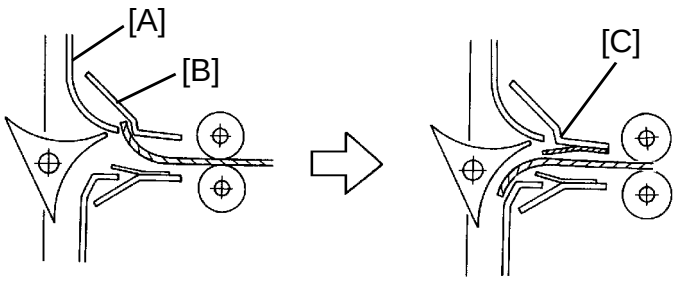
In the combination of the F400 and Matt20, paper jam occurs at the exit of the copier main body if the paper is face curled.

[Possible Cause]

The leading edge of the curled paper is caught between the entrance guide plate-upper [A] and the upper support guide [B].

[Countermeasure]

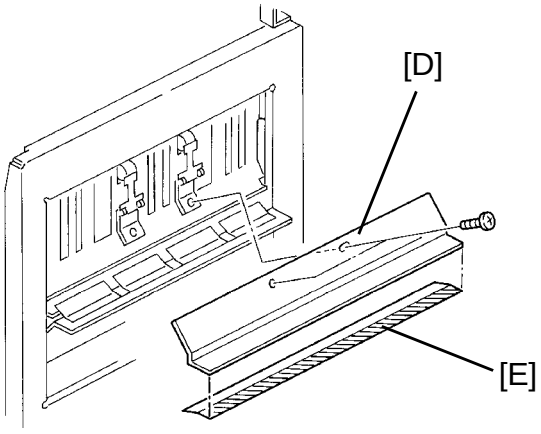
The exit pawl guide mylar (A3742266) [C] has been added on the guide plate from the February '94 production.



The procedure to apply this modification is as follows:

1. Remove the sorter stapler and the mounting bracket from the copier (2 connectors, 1 grounding wire, 5 screws).
2. Remove the upper support guide [D] (2 screws).
3. Stick the exit pawl guide mylar [E] on the upper support guide.

NOTE: The edge of the mylar should be aligned with the edge of the upper support guide.



TURN GATE AREA MISFEEDS

[Symptom]

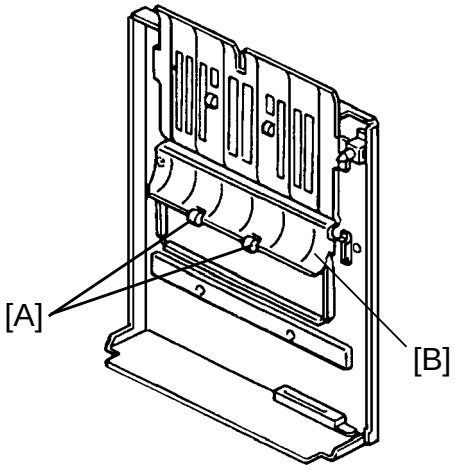
Paper jams in turn gate - area

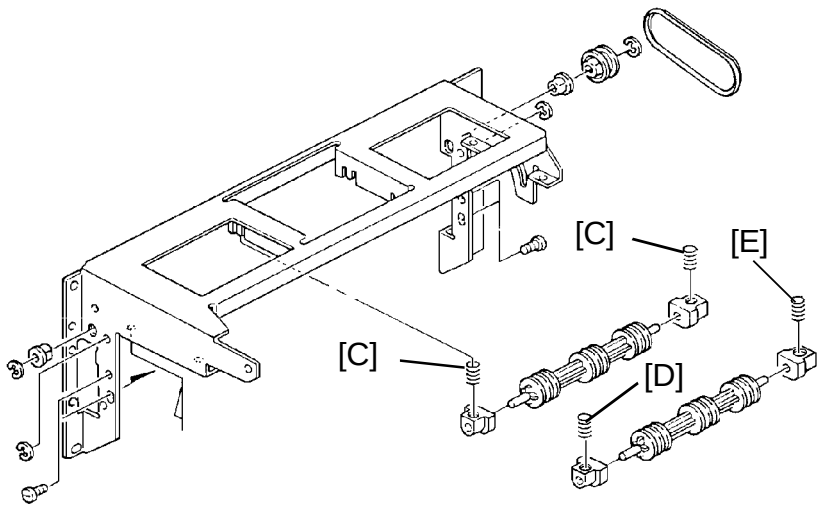
[Cause]

1. The bin transport rollers [A] (P/N A3742163) are bent.
2. The entrance guide plate - lower [B] (P/N A3742131) is bent.
3. The technician removes the pressure springs (P/N AA063164 [C], P/N AA066130 [D] P/N AA066131 [E]) of the upper rollers in the sorter adapter.

[Solution]

1. Straighten bin transport roller bracket so it is flat.
2. Replace or reform entrance guide plate - lower to it's original shape.
3. Install the pressure springs.





RICOH	Technical Bulletin	No. RTB-023
SUBJECT: **Sorter Stapler (Matt20: A374)** **Paper Exit Jam**		DATE: Feb.15,'94 PAGE: 1 of 2
PREPARED BY: J. Mochizuki CHECKED BY:	FROM: 2nd Technical Support Section	
CLASSIFICATION: ☐ Action Required ■ Troubleshooting ☐ Retrofit Information ☐ Revision of service manual ☐ Information only ☐ Other		MODEL: **F400/F410**

Symptom:

In Sort/Stack mode, when copy paper is fed out to a bin, the roller drive motor speed becomes higher. The motor occasionally hesitates at that moment, paper exit jam occurs.

Possible Cause:

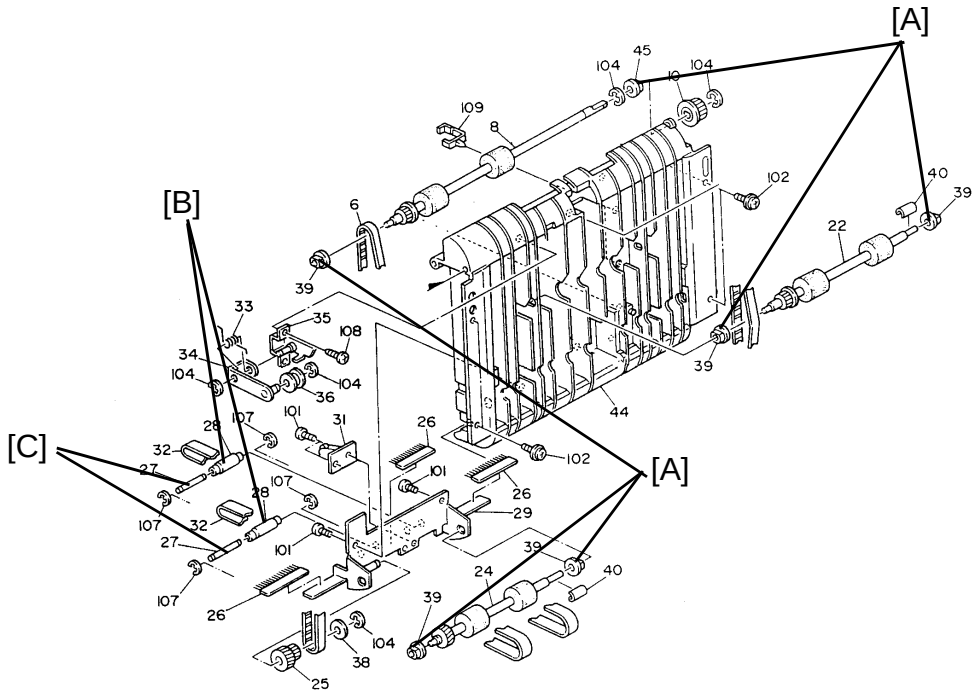
The load of the roller drive motor is too large. The friction between the shafts and bearings exceeds the roller drive motor torque.

Action Required:

1. Lubricate the the following parts using launa oil.

    1) Between the bushings [A] and shafts

    2) Between the exit rollers [B] and the shafts [C]



We recommend to do this lubrication at every PM.

	EM	120K	240K	360K	NOTE
Bushings and exit rollers		L	L	L	Use Launa oil

2. Reduce the timing belt tension.

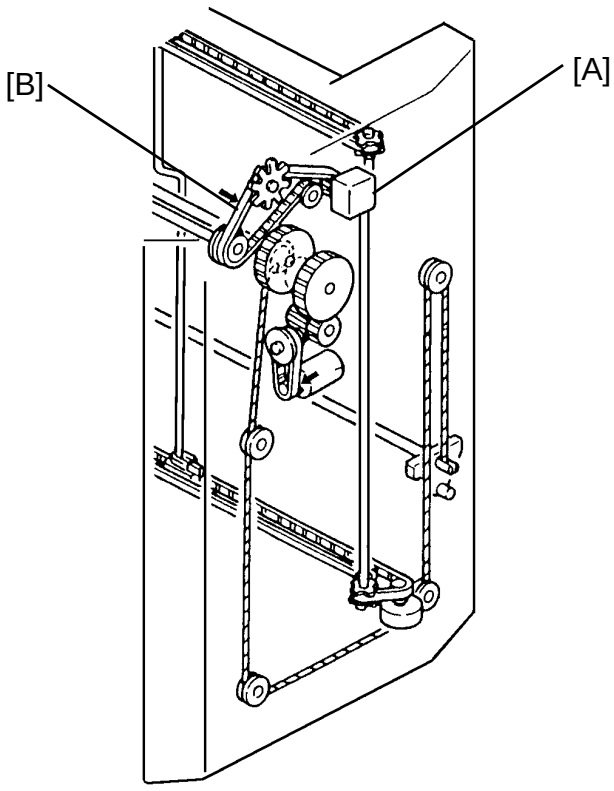
1) Remove the proof tray.

2) Remove the rear cover.

3) Loosen the screws fixing the roller drive motor [A] bracket.

4) Slightly reduce the timing belt [B] tension, and retighten the screw.

Note: After reducing the belt tension, make A3 size copies in normal mode to make sure no belt jumping.



RICOH	Technical Bulletin	No. RTB-044
SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE		DATE: Oct. 31, '94 PAGE: 1 of 12
PREPARED BY: F. Noguchi CHECKED BY: S. Hamano	FROM: Copier Technical Support Section	
CLASSIFICATION: ■ Action Required ■ Troubleshooting ☐ Retrofit Information ☐ Revision of service manual ☐ Information only ☐ Other		MODEL: F400

To aid the technician in troubleshooting matt20 misfeeds we are issuing this troubleshooting guide. If the guide is used properly it will resolve the majority of misfeeding problems the field is experiencing.

TABLE OF CONTENTS SYMPTOM TYPE

1. ROLLER DRIVE MOTOR STALLS AND PAPER EXIT JAMS

[Symptom]

In Sort/Stack mode, when copy paper is fed out to a bin, the roller drive motor speed should become higher. The motor occasionally hesitates at that moment and paper exit jam occurs.

[Possible Cause]

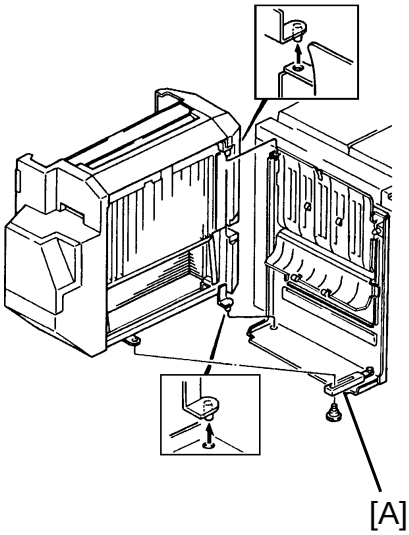
The load of the roller drive motor is excessive when the roller shafts and bushing became dirty, the friction between the roller shafts and bushings exceeds the roller drive motor torque.

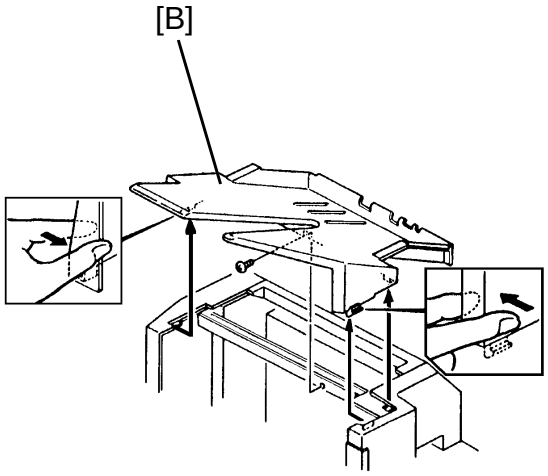
[Action Required]

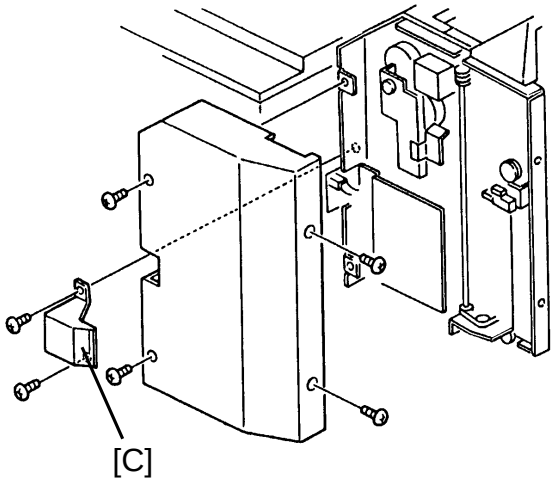
Lubricate the drive parts using launa oil. (See page 2 ~ 4)

NOTE : If the drive parts have not been initially cleaned with alcohol, clean them before lubricating.

LUBRICATION

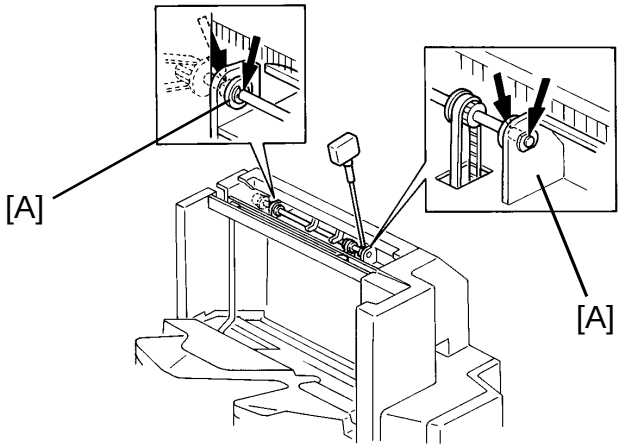


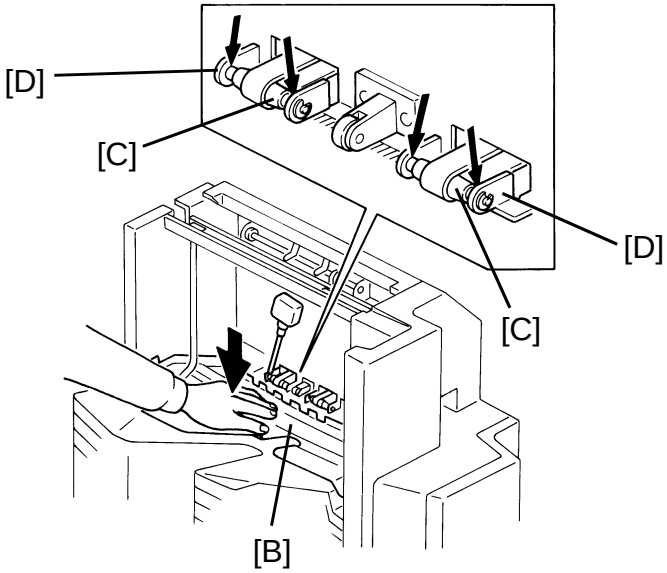


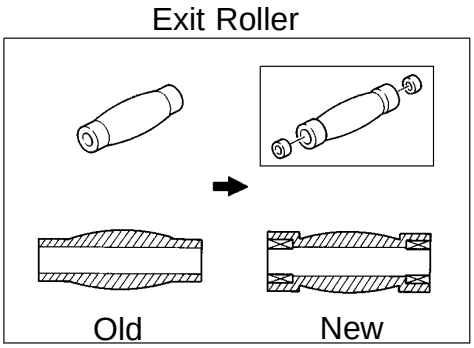


To reduce the load to the roller drive motor, lubricate as follows at every PM:

1. Open the sorter stapler then disconnect the link lever [A] (1 stepped screw).
2. Disconnect the sorter stapler interface harnesses and a grounding wire (1 screw).
3. Remove the sorter stapler from the mounting frame.
4. Remove the proof tray [B] (1 screw).
5. Remove the rear covers [C] (6 screws).







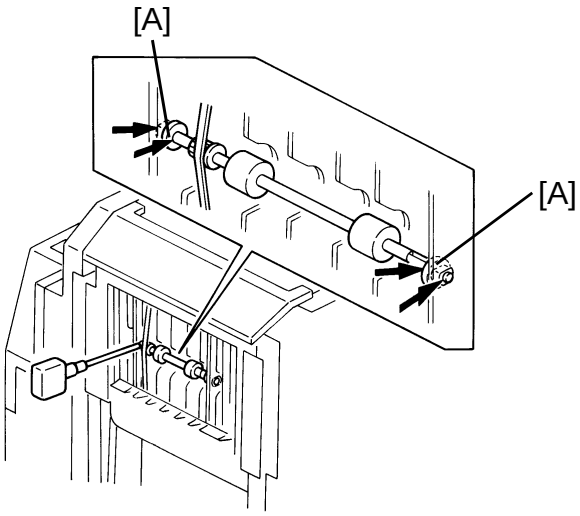
6. Lubricate the bushings [A] with launa oil.

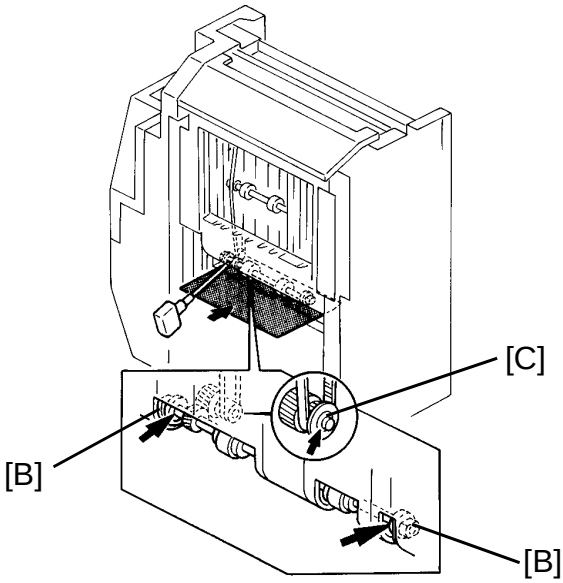
NOTE: Lubricate the bushings from the both sides so that the oil is fully supplied between the shaft and the bushing.

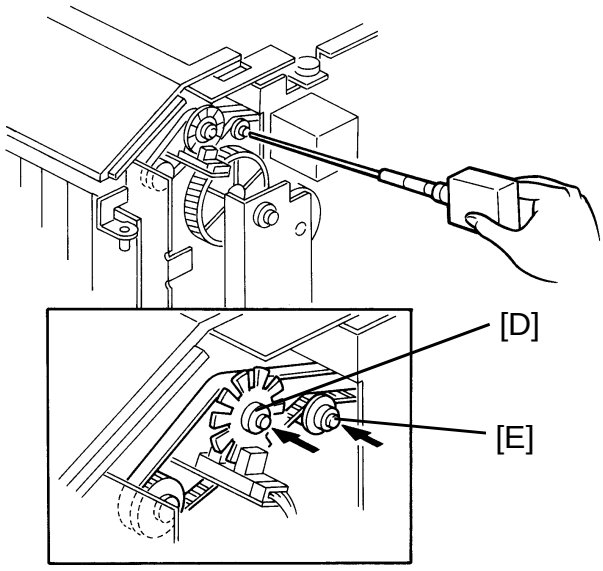
7. Gently push down the support bin [B] then lubricate the exit rollers [C] with launa oil.

NOTE: 1. Lubricate the inner side of the brackets [D] so that launa oil is fully supplied between the shaft and the roller.

2. When the exit rollers [C] are replaced with new ones (P/N A3742541), no lubrication at every PM will be required.
This is because the new exit roller contains oil in the bushing.







8. Lubricate the bushings [A] with launa oil.

NOTE: Lubricate the bushings from the both sides so that the oil is fully supplied between the shaft and the bushing.

9. Lubricate the bushings [B] and gear pulley [C] with launa oil.

NOTE: Place a sheet of paper underneath the bushing so that the oil does not drop on the guide plate.

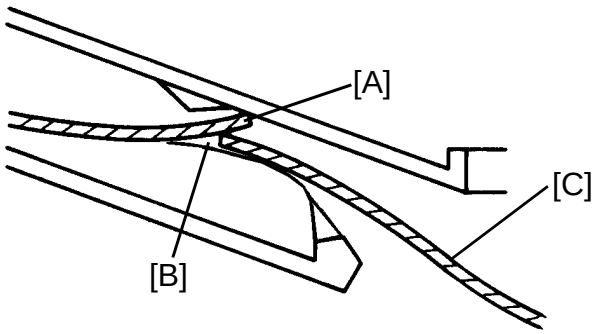
Wipe off excess oil so that launa oil does not drop on the guide plate during copying.

10. Lubricate the pulse generator disc [D] and idle pulley [E] with launa oil.

2. SORTER BIN JAMS OR COPIES OUT OF ORDER

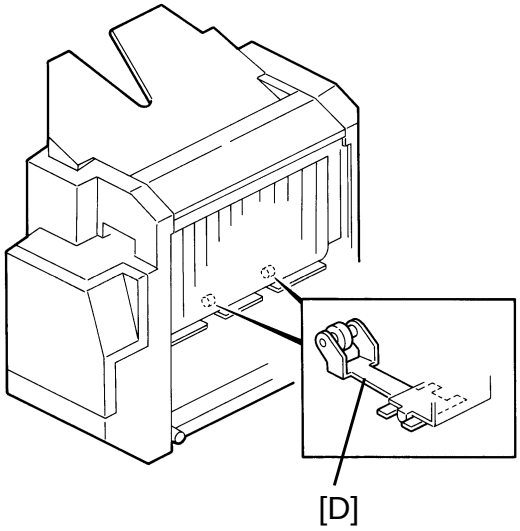
[Symptom]

The copy's trailing edge [A] remains on the guide mylar [B]. When the following paper [C] comes to the bin, it hits the trailing edge of the proceeding paper, resulting in the paper jam, or incorrect copy order when the following paper goes underneath the proceeding paper.



[Cause]

The technician bent the lower bin exit roller holder (spring plate) (P/N : A3742163) [D], trying to correct the normal paper skew when the paper exits into the bins. This reduces the paper transport ability causing bin jams.



- **Supplemental Technical Explanation about the way how paper is stacked in the bin.**

When the copy paper comes out of the sorter, it is angled. This is normal for proper stacking of the copy paper.

[Mechanism of Paper Stacking]

1. As shown in the illustration, the front side of paper [A] comes out of the sorter first.

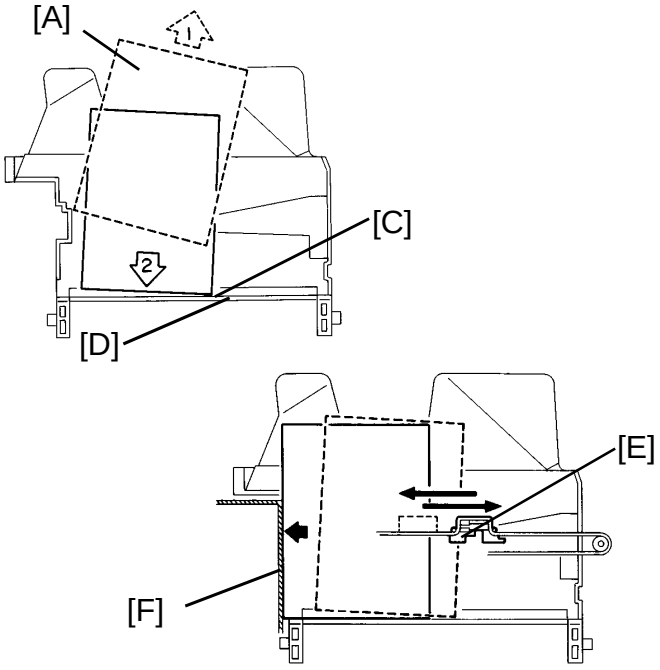
NOTE: In order to angle the paper, the diameter of the front and rear transport rollers [B] are slightly different (front roller: 20.0mm [a], rear roller : 19.7mm [b]).

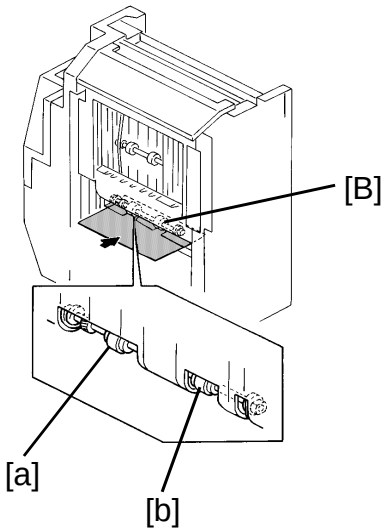
2. After the entire sheet comes out of the sorter, the paper slides back to the rear fence, being supported by the gravity for smooth slide.
3. When the corner [C] of the paper contacts the rear fence [D], the paper is still slightly angled.
4. At this moment, the jogger bar [E] pushes the paper to the front.
5. Because only one corner of the copy paper is touching the rear fence (minimal friction), the paper can be jogged smoothly.
6. Finally the paper sits squared in the bin because the paper stops being aligned by the front side frame [F]

[Solution]

Straighten the lower bin exit roller holders so they are flat and ensure that the paper comes out of the sorter with the correct angle.

NOTE: Once the holders are bent, it may be difficult to completely straighten the holders. In such a case, replace the entire lower bin exit rollers.





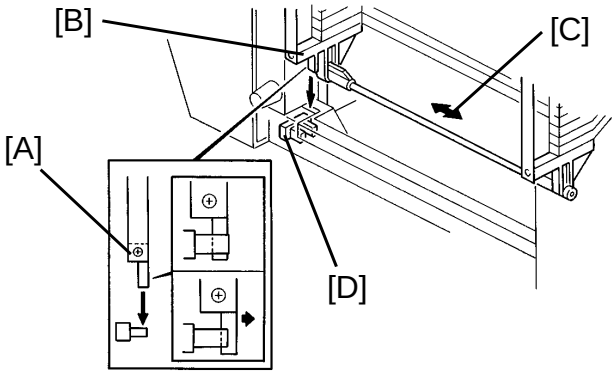
3. INCORRECT BIN POSITION AND BIN ENTRANCE JAMS

[Symptom]

The 1st copy hits the support bin causing a bin entrance jam.

[Possible Cause]

Due to gap between the projection [A] of the bin support block [B] and the side frame, the block can move in the arrow [C] direction. If the block moves away from the bin home position sensor [D] when the sensor should be actuated, the bin will not stop at the correct home position. In this case a paper jam occurs at the bin entrance.



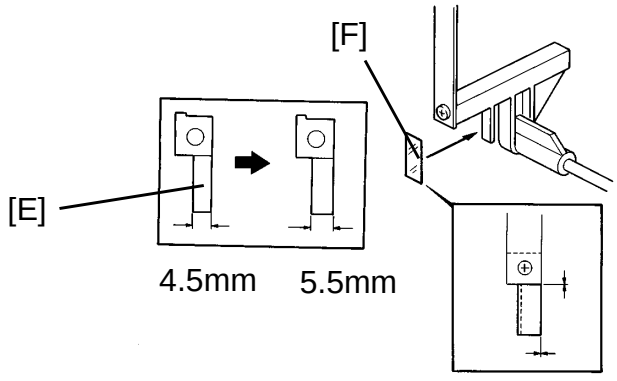
[Permanent Countermeasure]

From the march '93 production, the width of the interrupter [E] for the bin home position sensor has been increased from 4.5mm to 5.5mm to ensure sensor actuation.

[Countermeasure in the field]

To modify the machines in the field, stick a black mylar strip (5.5mm x 17mm) [F] as shown in the illustration to expand the width of the sensor actuator.

NOTE: Align the upper and right side edges of the mylar with the sensor actuator. The part number of the black mylar strip is A3749500 (10 pcs / set).



Front view from paper path

4. PROOF TRAY JAMS WITH THICK PAPER

[Symptom]

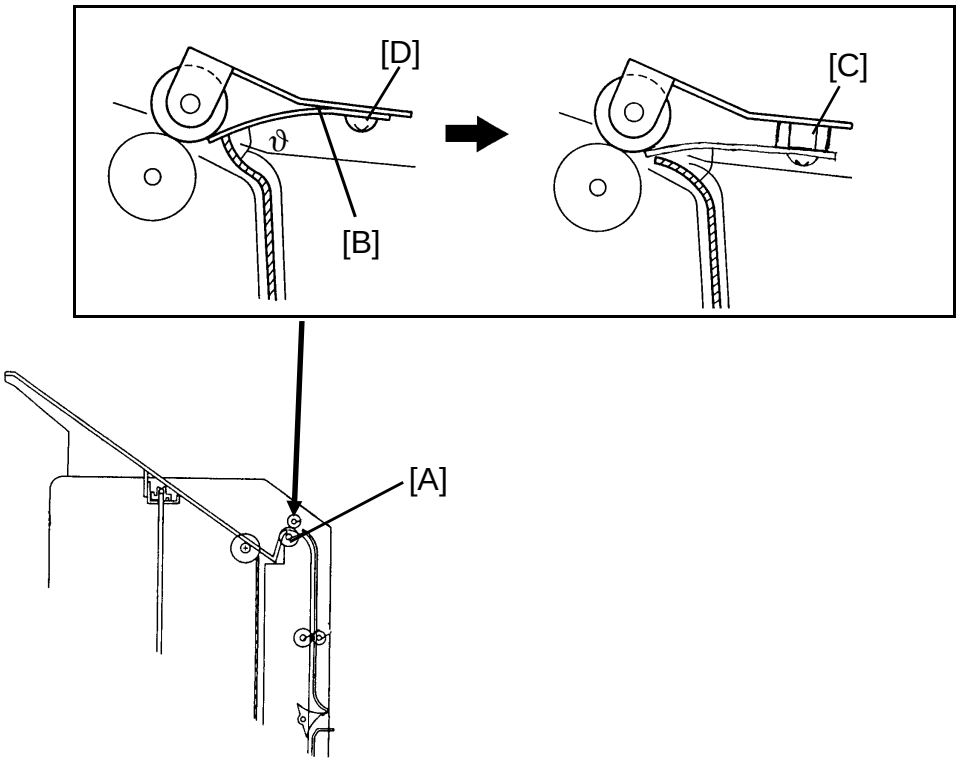
When thick paper (like a post card) is used in the proof tray mode, the paper might not be fed onto the proof tray. The paper stops just before reaching the exit roller [A].

[Cause]

If the paper is face curled, the leading edge of the paper hits the exit roller guide [B] and the paper does not reach the exit rollers [A].

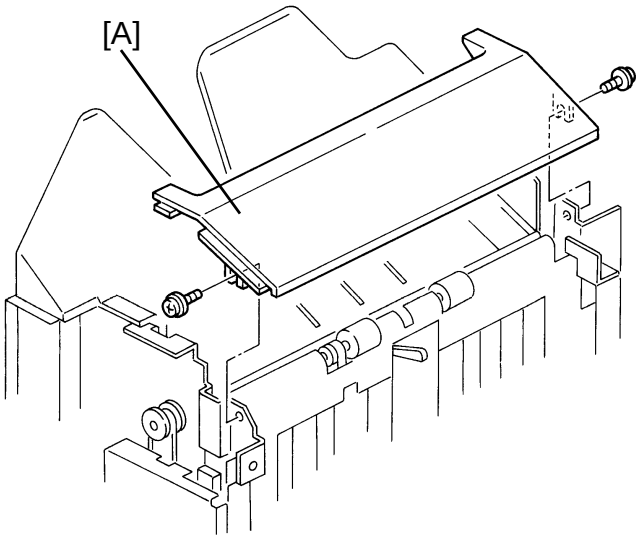
[Countermeasure]

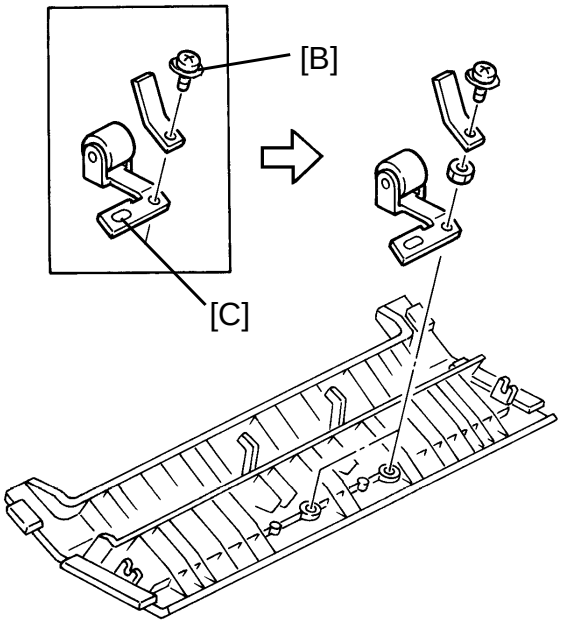
A hexagon nut (07100050B) [C] has been inserted between the plate spring [D] and the exit roller guide, so that the angle [θ] between the guide and paper has been reduced. Due to this modification, the length of the screw [D] fixing the plate spring has been changed from 6 mm to 8 mm. This modification has been applied from the March '94 production.



The procedure to apply this modification is as follows:

1. Remove the front and rear covers of the Matt20.
2. Remove the upper cover [A] (2 screws).
3. Remove the two screws [B] fixing the spring plates [C].
4. Insert a hexagon nut (07100050B) between the each plate spring and the exit roller guide mylar. Fix them using a Philips truss head screw - M4x8 (03440080F).





5. SORTER ENTRANCE JAMS

[Symptom]

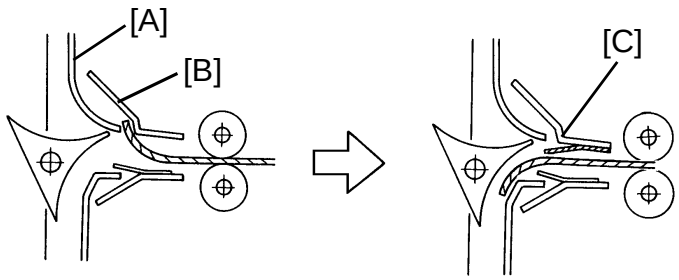
In the combination of the F400 and Matt20, paper jam occurs at the exit of the copier main body if the paper is face curled.

[Possible Cause]

The leading edge of the curled paper is caught between the entrance guide plate-upper [A] and the upper support guide [B].

[Countermeasure]

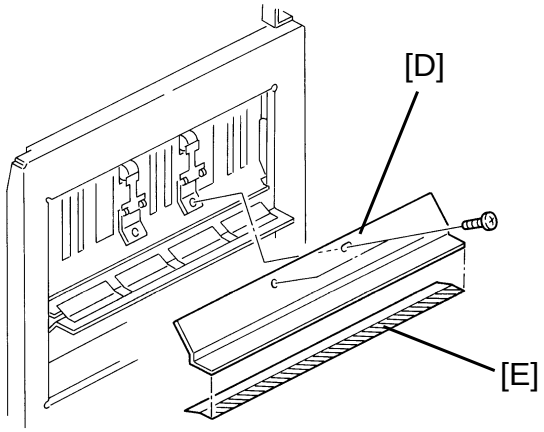
The exit pawl guide mylar (A3742266) [C] has been added on the guide plate from the February '94 production.



The procedure to apply this modification is as follows:

1. Remove the sorter stapler and the mounting bracket from the copier (2 connectors, 1 grounding wire, 5 screws).
2. Remove the upper support guide [D] (2 screws).
3. Stick the exit pawl guide mylar [E] on the upper support guide.

NOTE: The edge of the mylar should be aligned with the edge of the upper support guide.



6. TURN GATE AREA MISFEEDS

[Symptom]

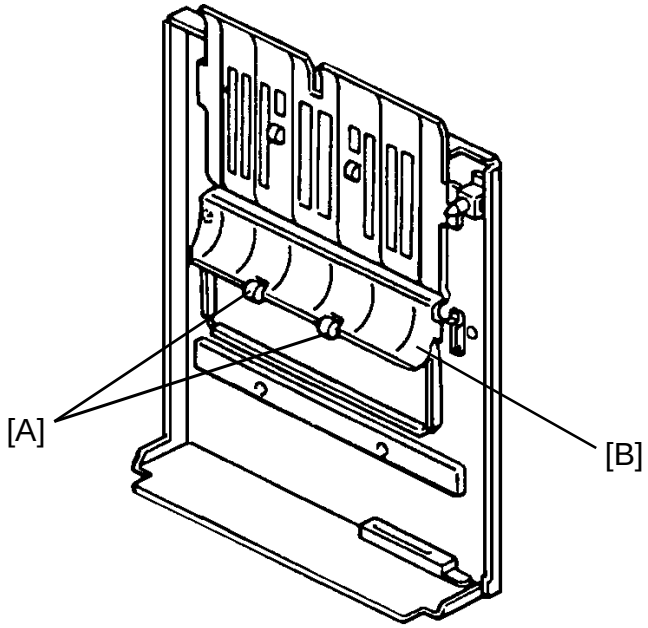
Paper jams in turn gate - area

[Cause]

1. The bin transport rollers [A] (P/N A3742163) are bent.
2. The entrance guide plate - lower [B] (P/N A3742131) is bent.

[Solution]

1. Straighten bin transport roller bracket so it is flat.
2. Replace or reform entrance guide plate - lower to it's original shape.



2. "B" version ROMs

From the following serial numbers, the EPROMs (A0965151A and A0965153A) on the main board have been updated to version "B".

NOTE: We will re-issue this RTB as soon as the cut-in serial number becomes available.

Code	Serial Number
A095-10	5204
A095-15	264
A095-17	A3354
A095-22	5234
A095-26	3D5
A095-27	A3354
A095-29	A3354
A096-10	5244
A096-15	284
A096-17	A3364
A096-22	5274
A096-26	3D6
A096-27	A3364
A096-29	A3364
A097-10	
A097-15	
A097-17	
A097-22	
A097-26	
A097-27	
A097-29	

Caution: Whenever replacing from the old main ROMs to the new version ROMs in the field, this modification is necessary.

2-5. MATT20 (compact sorter stapler for F400) incorrect stock limitation

For the sort function, the maximum capacity limitation should be as follows:

- A4, 8 1/2"x11" or smaller: 30 sheets/bin
- B4, 8 1/2"x14" or larger: 15 sheets/bin

However, in front cover mode, the maximum capacity was 15 sheets/bin regardless of the paper size. If a larger number was entered, it was canceled and the number "15" was accepted. Even in this case, the maximam capacity limitation should be as mentioned above.

RICOH

Technical Bulletin No. RTB-005

SUBJECT: Sorter Stapler "MATT20" (A374)
Paper Jams in Turn Gate Section

DATE: Mar. 15, '93
PAGE: 1 of 1

PREPARED BY: M. Furusawa
CHECKED BY: T. Ito

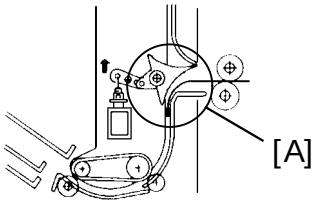
FROM: Copier Technical Support Section

CLASSIFICATION:
- ☐ Action Required
- ■ Troubleshooting
- ☐ Retrofit Information
- ☐ Revision of service manual
- ☐ Information only
- ☐ Other

MODEL:
N440 Series
(A085/A087/A088)

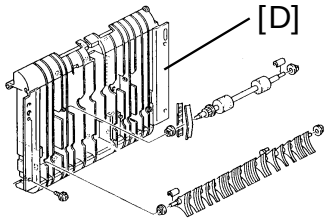
[PHENOMENON]

Paper jams occur in the turn gate section [A] intermittently in sort, stack, or staple mode.



[POSSIBLE CAUSE]

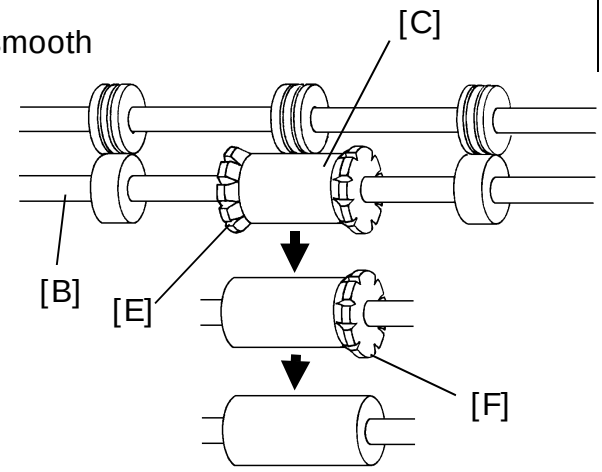
The sorter adapter lower exit roller [B] has a stiffness increasing roller [C] at the middle. This rubber roller has a flange on each end. The flanges produce slight waves on copy paper perpendicular to the paper transport direction to increase paper stiffness.
The rear side wave position may not be proper for one of the ribs on the sorter stapler vertical paper guide [D] especially when paper has excessive face curl. The rib may make a mark on the paper lead edge or may cause paper jams.



[ACTION IN THE FIELD]

1. Cut off the rear flange [E] with cutting pliers and smooth the roller's edge with a knife. This will eliminate the rear side wave on paper.
   (As the flanges have wedge grooves originally and the roller is turning in forwarding direction, the roller surface does not have to be completely smooth after you cut off the flange.)

2. If step 1 does not cure the problem, cut off the front flange [F] as well.
   (Paper transport reliability without flanges on the roller was tested for thin paper under high humidity condition, resulting in no problem.)



[PERMANENT COUNTERMEASURE]

The width of the rib on the sorter stapler vertical paper guide will be increased to improve the paper transport ability. The part number of the vertical paper guide will remain as it is. This modification will be applied to the production machines from April,1993.

Technical Bulletin No. RTB-008

SUBJECT: Sorter Stapler (Matt20)
Bin Lift Wire Installation Procedure

DATE: July 31, '93
PAGE: 1 of 2

PREPARED BY: M. Furusawa
CHECKED BY: T. Ito

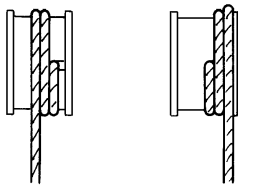
FROM: Copier Technical Support Section

CLASSIFICATION:
- ☐ Action Required
- ☐ Troubleshooting
- ☐ Retrofit Information
- ☐ Revision of service manual
- ■ Information only
- ☐ Other

MODEL:
N440 Series
(A085/A087/A088)

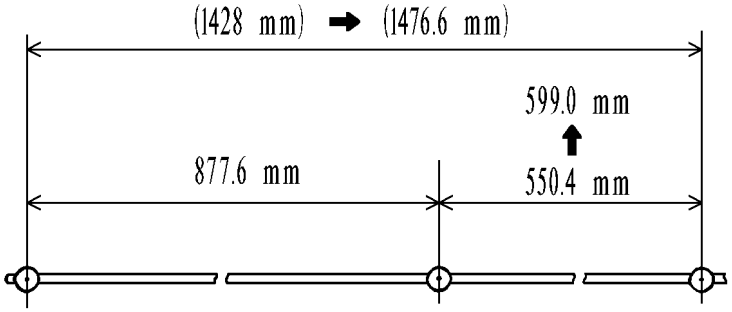
The bin lift wire may loosen on the wire pulley during transportation. When the wire pulley is driven from the home position under this condition, the wire may be wound up wrongly as shown in the figure 1. This will change the bin stop positions, resulting in paper jams.

To eliminate this possibility, the bin lift wire has been lengthened as shown in the figure 2. This will give another half turn of the lift wire on the pulley to prevent the wire from being wound up wrongly.



[Figure 1]

Refer to the Modification Bulletin No. 7 (Model: Sorter stapler for A7/N440) for the cut-in serial numbers.



[Figure 2]

With this modification, the wire installation procedure should be altered as follows when replacing the wire with the new type.

Service Manual:
SORTER STAPLER (A374)
15. REPLACEMENT AND ADJUSTMENT
15.4 BIN LIFT WIRE REPLACEMENT
15.4.2 Wire Installation (Page 46)
Step 3

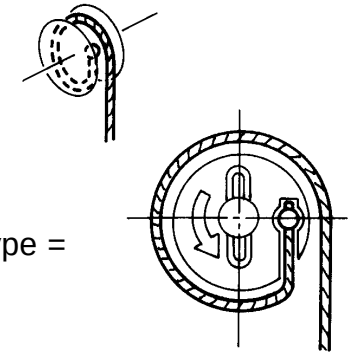
For the old type:
Wind the wire <u>once</u> as shown and ----
Refer to the figures 3 and 5 in the next page.

For the new type:
Wind the wire <u>one and a half turns</u> as shown and ------
Refer to the figures 4 and 6 in the next page.

NOTE: When replacing either of front and rear wires with the new type, the wire installation procedure should be a combination of those for the old and new types. It won't give any problem.

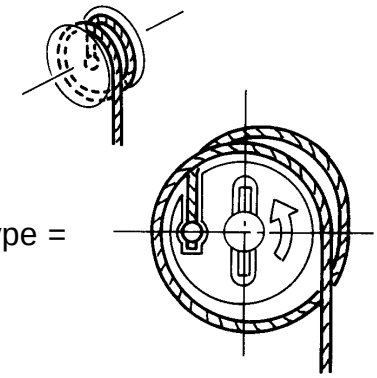
FRONT SIDE:

= Old type =



[Figure 3]

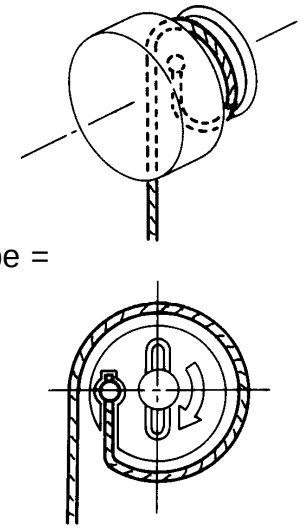
= New type =



[Figure 4]

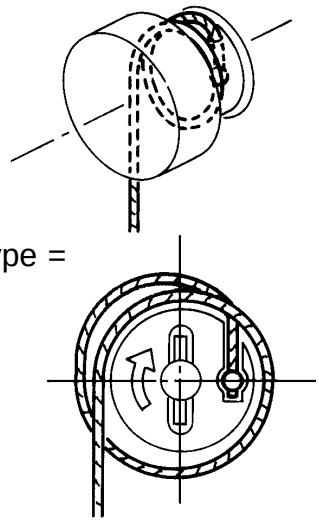
REAR SIDE:

= Old type =



[Figure 5]

= New type =



[Figure 6]

RICOH

Technical Bulletin No. RTB-009

SUBJECT: Paper Jam at Sorter Stapler (Matt20) Entrance

DATE: Sep. 30, '93
PAGE: 1 of 2

PREPARED BY: M. Furusawa
CHECKED BY: T. Ito

FROM: Copier Technical Support Section

CLASSIFICATION:
- ☐ Action Required
- ■ Troubleshooting
- ☐ Retrofit Information
- ☐ Revision of service manual
- ☐ Information only
- ☐ Other

MODEL:
N440 Series
(A085/A087/A088)

[Symptom]

On the N440 + Matt20 system, the copier CPU sometimes does not recognize the Matt20 when the main switch is turned on. Under this condition, the "C5" code is not displayed on the operation panel even if the sorter unit or the sorter front cover is opened. When copies are made, paper jams will occur between the sorter adapter and the sorter entrance as the sorter roller drive motor does not rotate. Even when this happens, no jam indication is displayed since the copier is operating without recognizing the Matt20.

This problem may occur on some machines. According to information from the field, copiers with main control board A0855111G or A0855151 might have this problem, but not all copiers with them. On the machines with this problem, the symptom is observed for approximately 50% times when the main switch is turned off and on.

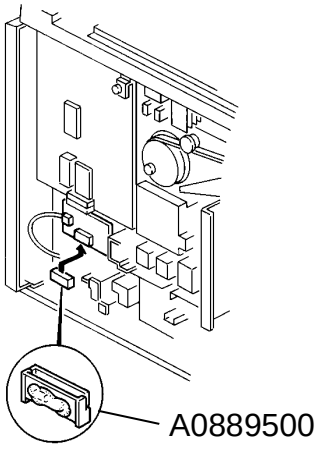
When the menu sheet reader is installed, this problem disappears.

[Cause]

When the main switch is turned on, the communication IC (MB89371) on the optional interface (I/F) board does not reset, resulting in a communication error with the Matt20. When the menu sheet reader is not equipped, the reset circuit of the main control board for the communication IC will include an open circuit through the I/F board. Under this condition electrical noise might affect the reset circuit, causing a reset error to the communication IC.

[Countermeasure in the field]

Install a jumper connector (P/N: A0889500) on the CN702 (the connector for the menu sheet reader) of the I/F board which makes a short circuit between CN702-1 and CN702-4 with 2.2k ohms resistor.
This connector has the same effect as when the menu sheet reader is equipped, eliminating the problem.



[Permanent countermeasure]

The I/F board circuit has been modified from August 1993.

[Other information]

This problem won't occur on the A7 + Matt20 system as the reset circuit pattern of the main control board for the communication I/C is independent from the menu sheet reader circuit.

It won't cause any problem if the jumper connector is installed on a new I/F board or on the A7 system by mistake.

Neither the software of the copier main ROM nor the main control board have any relation to this problem. But the type and manufacturer of the main ROM might affect the occurrence ratio of this problem.
The following are our test results:

Manufacturer	Type	Occurrence Ratio
AMD	am27c010-150DC	21/30
AMD	am27c010-155DC	0/30
Hitachi	HN27c101AG-17	0/30
SGS	M27c1001-12FI	0/30

RICOH	Technical Bulletin	No. RTB-011
SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE		DATE: Oct. 31, '94 PAGE: 1 of 14
PREPARED BY: F. Noguchi CHECKED BY: S. Hamano	FROM: Copier Technical Support Section	
CLASSIFICATION: ■ Action Required ■ Troubleshooting ☐ Retrofit Information ☐ Revision of service manual ☐ Information only ☐ Other		MODEL: N440

To aid the technician in troubleshooting matt20 misfeeds we are issuing this troubleshooting guide. If the guide is used properly it will resolve the majority of misfeeding problems the field is experiencing.

TABLE OF CONTENTS SYMPTOM TYPE

1. ROLLER DRIVE MOTOR STALLS AND PAPER EXIT JAMS

[Symptom]

In Sort/Stack mode, when copy paper is fed out to a bin, the roller drive motor speed should become higher. The motor occasionally hesitates at that moment and paper exit jam occurs.

[Possible Cause]

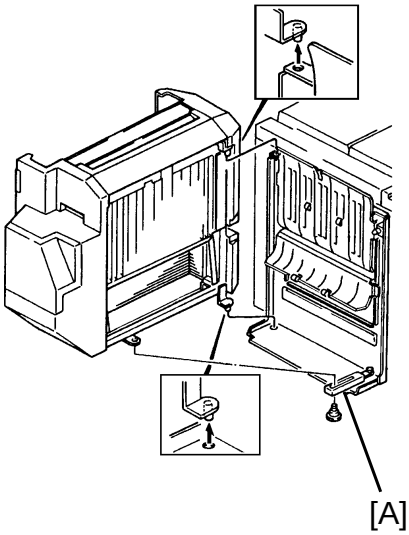
The load of the roller drive motor is excessive when the roller shafts and bushing became dirty, the friction between the roller shafts and bushings exceeds the roller drive motor torque.

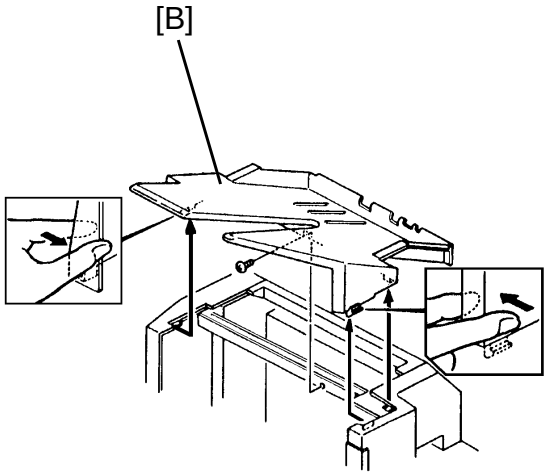
[Action Required]

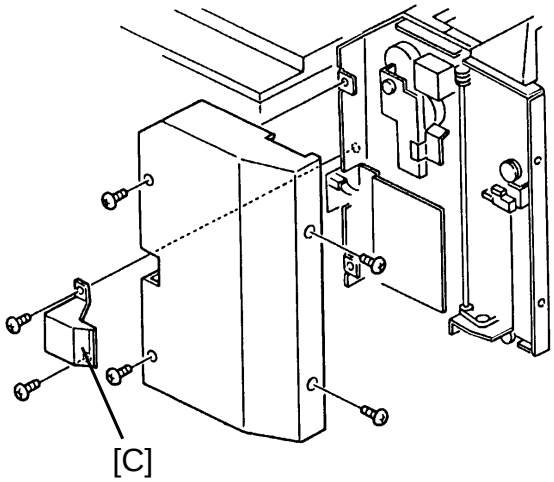
Lubricate the drive parts using launa oil. (See page 2 ~ 4)

NOTE : If the drive parts have not been initially cleaned with alcohol, clean them before lubricating.

LUBRICATION

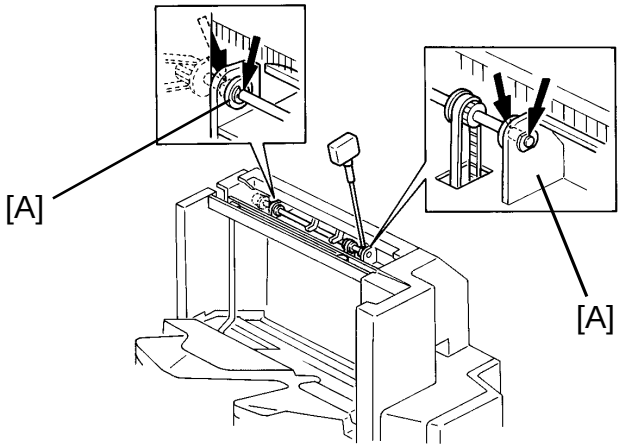


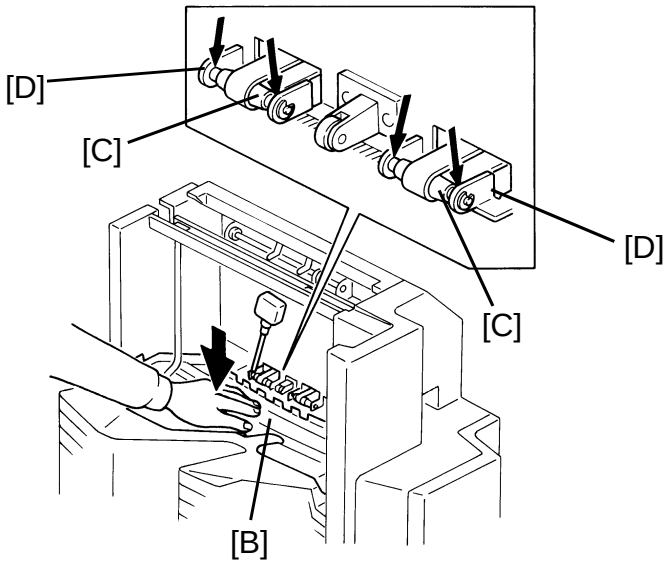


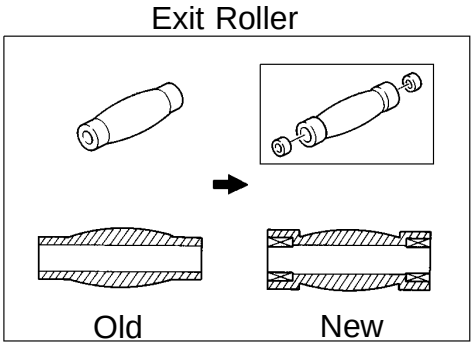


To reduce the load to the roller drive motor, lubricate as follows at every PM:

1. Open the sorter stapler then disconnect the link lever [A] (1 stepped screw).
2. Disconnect the sorter stapler interface harnesses and a grounding wire (1 screw).
3. Remove the sorter stapler from the mounting frame.
4. Remove the proof tray [B] (1 screw).
5. Remove the rear covers [C] (6 screws).







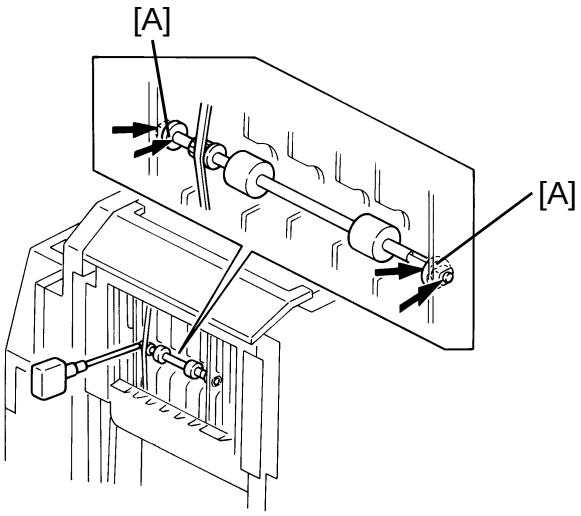
6. Lubricate the bushings [A] with launa oil.

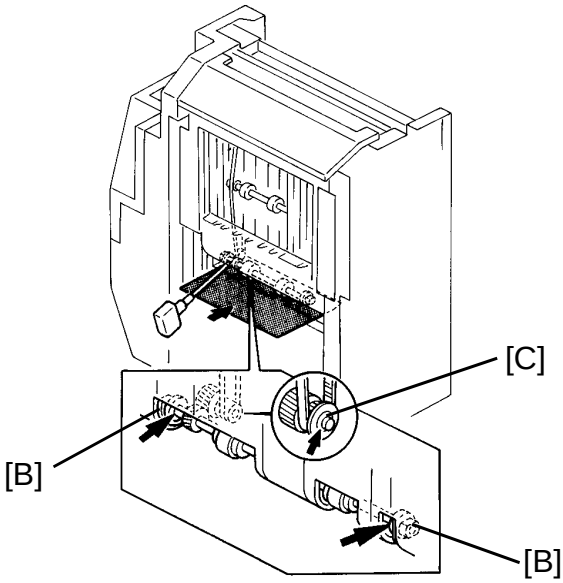
NOTE: Lubricate the bushings from the both sides so that the oil is fully supplied between the shaft and the bushing.

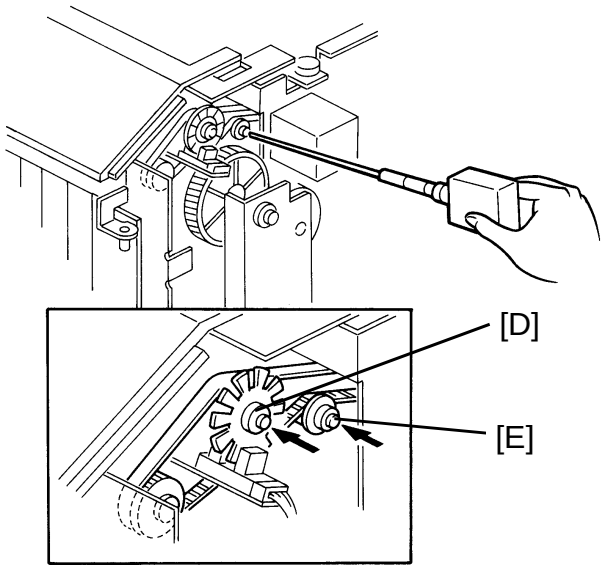
7. Gently push down the support bin [B] then lubricate the exit rollers [C] with launa oil.

NOTE: 1. Lubricate the inner side of the brackets [D] so that launa oil is fully supplied between the shaft and the roller.

2. When the exit rollers [C] are replaced with new ones (P/N A3742541), no lubrication at every PM will be required.
This is because the new exit roller contains oil in the bushing.







8. Lubricate the bushings [A] with launa oil.

NOTE: Lubricate the bushings from the both sides so that the oil is fully supplied between the shaft and the bushing.

9. Lubricate the bushings [B] and gear pulley [C] with launa oil.

NOTE: Place a sheet of paper underneath the bushing so that the oil does not drop on the guide plate.

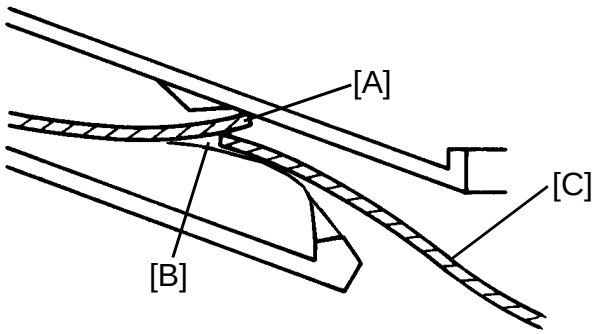
Wipe off excess oil so that launa oil does not drop on the guide plate during copying.

10. Lubricate the pulse generator disc [D] and idle pulley [E] with launa oil.

2. SORTER BIN JAMS OR COPIES OUT OF ORDER

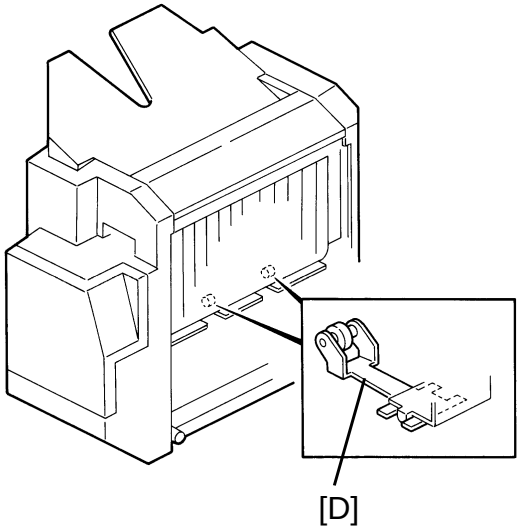
[Symptom]

The copy's trailing edge [A] remains on the guide mylar [B]. When the following paper [C] comes to the bin, it hits the trailing edge of the proceeding paper, resulting in the paper jam, or incorrect copy order when the following paper goes underneath the proceeding paper.



[Cause]

The technician bent the lower bin exit roller holder (spring plate) (P/N : A3742163) [D], trying to correct the normal paper skew when the paper exits into the bins. This reduces the paper transport ability causing bin jams.



- **Supplemental Technical Explanation about the way how paper is stacked in the bin.**

When the copy paper comes out of the sorter, it is angled. This is normal for proper stacking of the copy paper.

[Mechanism of Paper Stacking]

1. As shown in the illustration, the front side of paper [A] comes out of the sorter first.

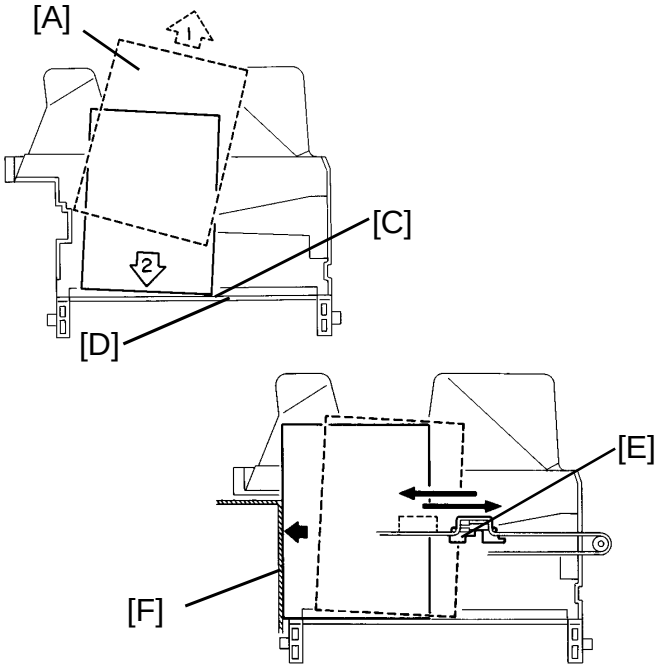
NOTE: In order to angle the paper, the diameter of the front and rear transport rollers [B] are slightly different (front roller: 20.0mm [a], rear roller : 19.7mm [b]).

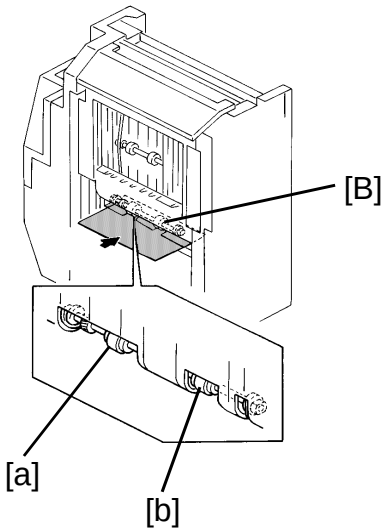
2. After the entire sheet comes out of the sorter, the paper slides back to the rear fence, being supported by the gravity for smooth slide.
3. When the corner [C] of the paper contacts the rear fence [D], the paper is still slightly angled.
4. At this moment, the jogger bar [E] pushes the paper to the front.
5. Because only one corner of the copy paper is touching the rear fence (minimal friction), the paper can be jogged smoothly.
6. Finally the paper sits squared in the bin because the paper stops being aligned by the front side frame [F]

[Solution]

Straighten the lower bin exit roller holders so they are flat and ensure that the paper comes out of the sorter with the correct angle.

NOTE: Once the holders are bent, it may be difficult to completely straighten the holders. In such a case, replace the entire lower bin exit rollers.





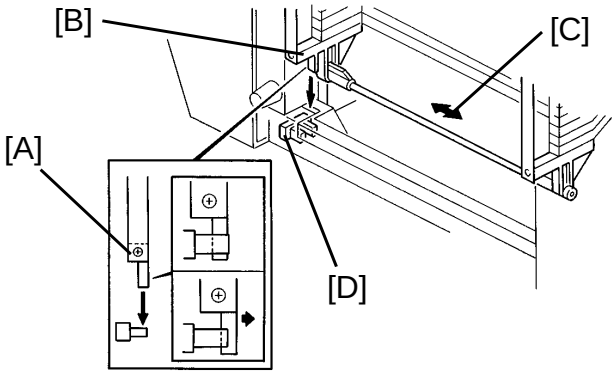
3. INCORRECT BIN POSITION AND BIN ENTRANCE JAMS

[Symptom]

The 1st copy hits the support bin causing a bin entrance jam.

[Possible Cause]

Due to gap between the projection [A] of the bin support block [B] and the side frame, the block can move in the arrow [C] direction. If the block moves away from the bin home position sensor [D] when the sensor should be actuated, the bin will not stop at the correct home position. In this case a paper jam occurs at the bin entrance.



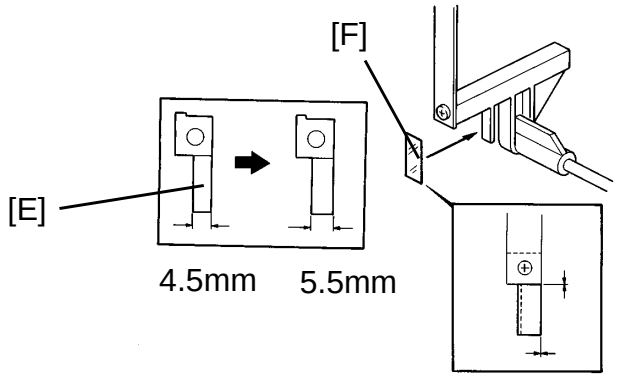
[Permanent Countermeasure]

From the march '93 production, the width of the interrupter [E] for the bin home position sensor has been increased from 4.5mm to 5.5mm to ensure sensor actuation.

[Countermeasure in the field]

To modify the machines in the field, stick a black mylar strip (5.5mm x 17mm) [F] as shown in the illustration to expand the width of the sensor actuator.

NOTE: Align the upper and right side edges of the mylar with the sensor actuator.
The part number of the black mylar strip is A3749500 (10pcs / set).



Front view from paper path

4. PROOF TRAY JAMS WITH THICK PAPER

[Symptom]

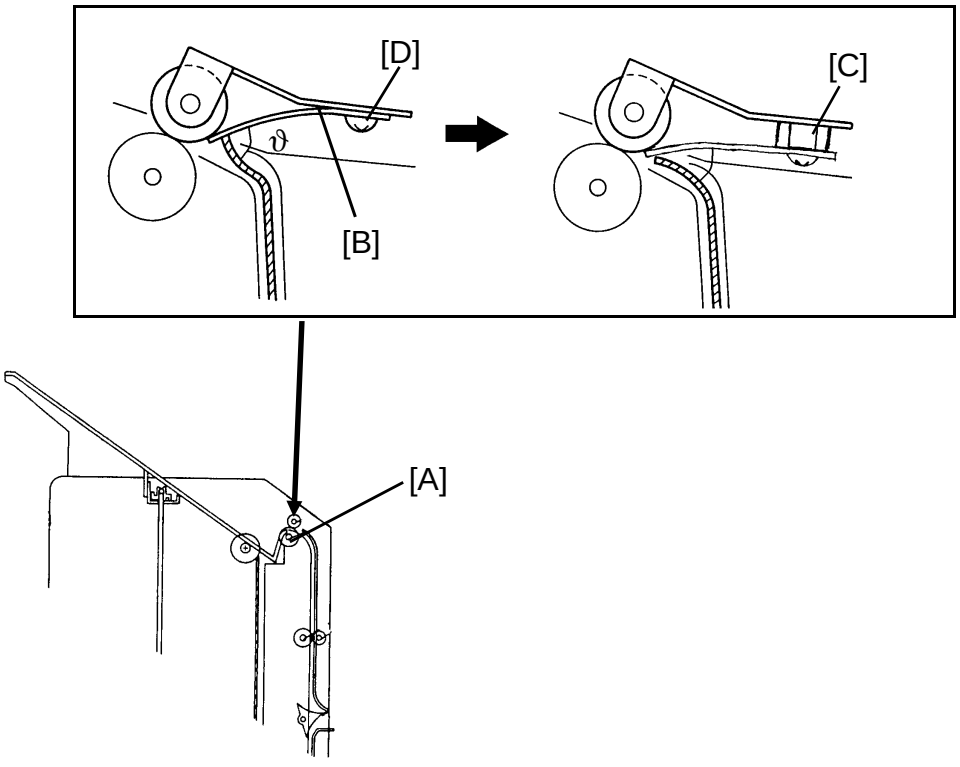
When thick paper (like a post card) is used in the proof tray mode, the paper might not be fed onto the proof tray. The paper stops just before reaching the exit roller [A].

[Cause]

If the paper is face curled, the leading edge of the paper hits the exit roller guide [B] and the paper does not reach the exit rollers [A].

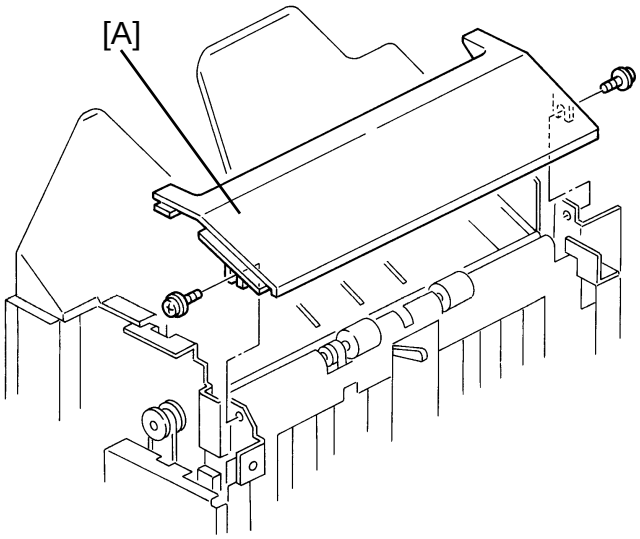
[Countermeasure]

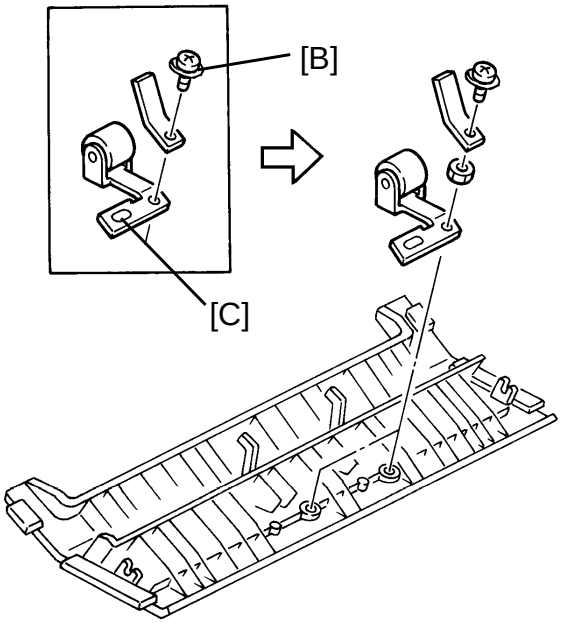
A hexagon nut (07100050B) [C] has been inserted between the plate spring [D] and the exit roller guide, so that the angle [θ] between the guide and paper has been reduced. Due to this modification, the length of the screw [D] fixing the plate spring has been changed from 6 mm to 8 mm. This modification has been applied from the March '94 production.



The procedure to apply this modification is as follows:

1. Remove the front and rear covers of the Matt20.
2. Remove the upper cover [A] (2 screws).
3. Remove the two screws [B] fixing the spring plates [C].
4. Insert a hexagon nut (07100050B) between the each plate spring and the exit roller guide mylar. Fix them using a Philips truss head screw - M4x8 (03440080F).

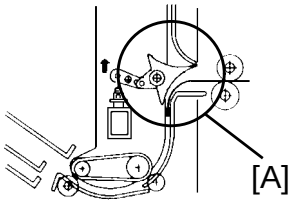




5. PAPER JAMS IN TURN GATE SECTION (RTB No. - 005)

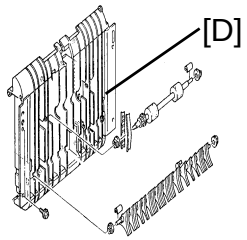
[PHENOMENON]

Paper jams occur in the turn gate section [A] intermittently in sort, stack, or staple mode.



[POSSIBLE CAUSE]

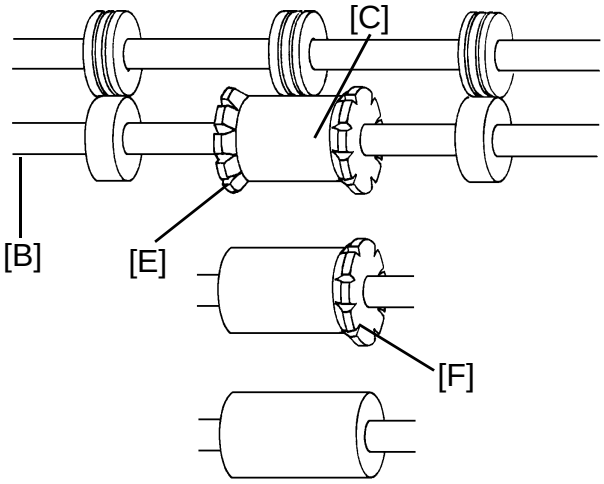
The sorter adapter lower exit roller [B] has a stiffness increasing roller [C] at the middle. This rubber roller has a flange on each end. The flanges produce slight waves on copy paper perpendicular to the paper transport direction to increase paper stiffness.
The rear side wave position may not be proper for one of the ribs on the sorter stapler vertical paper guide [D] especially when paper has excessive face curl. The rib may make a mark on the paper lead edge or may cause paper jams.



[ACTION IN THE FIELD]

1. Cut off the rear flange [E] with cutting pliers and smooth the roller's edge with a knife. This will eliminate the rear side wave on paper.
   (As the flanges have wedge grooves originally and the roller is turning in forwarding direction, the roller surface does not have to be completely smooth after you cut off the flange.)

2. If step 1 does not cure the problem, cut off the front flange [F] as well.
   (Paper transport reliability without flanges on the roller was tested for thin paper under high humidity condition, resulting in no problem.)



[PERMANENT COUNTERMEASURE]

The width of the rib on the sorter stapler vertical paper guide will be increased to improve the paper transport ability. The part number of the vertical paper guide will remain as it is. This modification will be applied to the production machines from April,1993.

6. PAPER JAM AT SORTER STAPLER ENTRANCE (RTB No. - 009)

[Symptom]

On the N440 + Matt20 system, the copier CPU sometimes does not recognize the Matt20 when the main switch is turned on. Under this condition, the "C5" code is not displayed on the operation panel even if the sorter unit or the sorter front cover is opened. When copies are made, paper jams will occur between the sorter adapter and the sorter entrance as the sorter roller drive motor does not rotate. Even when this happens, no jam indication is displayed since the copier is operating without recognizing the Matt20.

This problem may occur on some machines. According to information from the field, copiers with main control board A0855111G or A0855151 might have this problem, but not all copiers with them. On the machines with this problem, the symptom is observed for approximately 50% times when the main switch is turned off and on.

When the menu sheet reader is installed, this problem disappears.

[Cause]

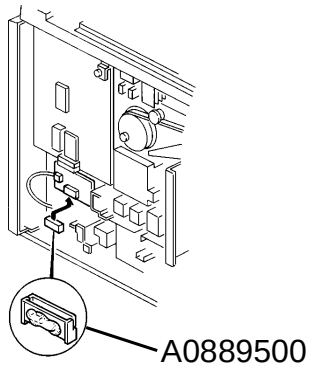
When the main switch is turned on, the communication IC (MB89371) on the optional interface (I/F) board does not reset, resulting in a communication error with the Matt20. When the menu sheet reader is not equipped, the reset circuit of the main control board for the communication IC will include an open circuit through the I/F board. Under this condition electrical noise might affect the reset circuit, causing a reset error to the communication IC.

[Countermeasure in the field]

Install a jumper connector (P/N: A0889500) on the CN702 (the connector for the menu sheet reader) of the I/F board which makes a short circuit between CN702-1 and CN702-4 with 2.2k ohms resistor.
This connector has the same effect as when the menu sheet reader is equipped, eliminating the problem.

[Permanent countermeasure]

The I/F board circuit has been modified from August 1993.



[Other information]

This problem won't occur on the A7 + Matt20 system as the reset circuit pattern of the main control board for the communication I/C is independent from the menu sheet reader circuit.

It won't cause any problem if the jumper connector is installed on a new I/F board or on the A7 system by mistake.

Neither the software of the copier main ROM nor the main control board have any relation to this problem. But the type and manufacturer of the main ROM might affect the occurrence ratio of this problem.
The following are our test results:

Manufacturer	Type	Occurrence Ratio
AMD	am27c010-150DC	21/30
AMD	am27c010-155DC	0/30
Hitachi	HN27c101AG-17	0/30
SGS	M27c1001-12FI	0/30

7. TURN GATE AREA MISFEEDS

[Symptom]

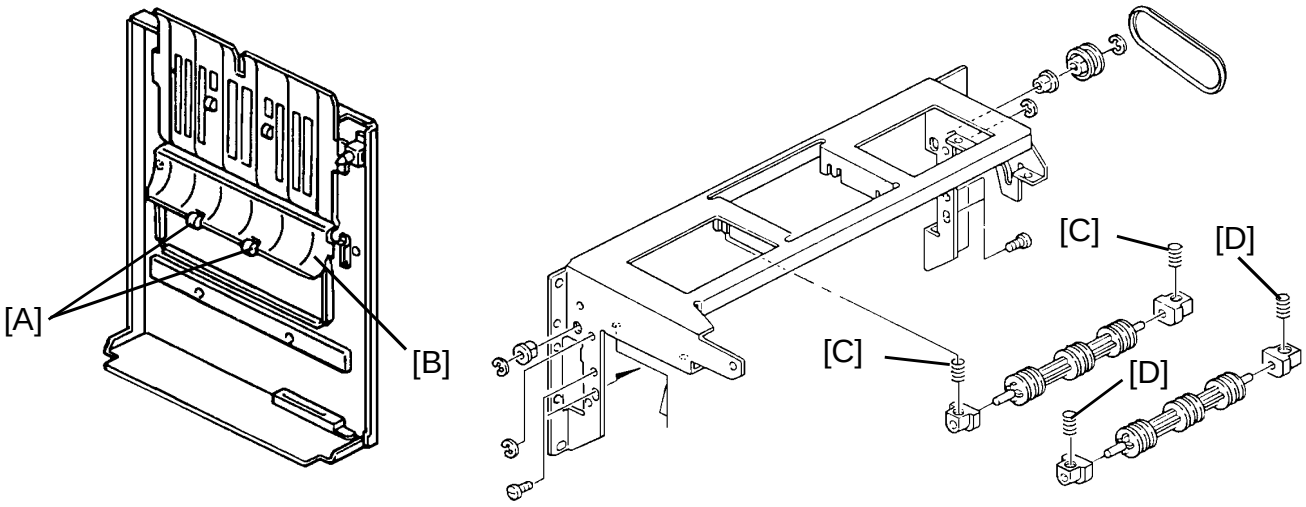
Paper jams in turn gate - area

[Cause]

1. The bin transport rollers [A] (P/N A3742163) are bent.
2. The entrance guide plate - lower [B] (P/N A3742131) is bent.
3. The technician removes the pressure springs (P/N 52054527 [C], P/N AA063164 [D]) of the upper rollers in the sorter adapter.

[Solution]

1. Straighten bin transport roller bracket so it is flat.
2. Replace or reform entrance guide plate - lower to it's original shape.
3. Install the pressure springs.



RICOH

Technical Bulletin No. RTB-008

SUBJECT: New Sorter Stapler "MATT20"	DATE: Feb. 15, '93 PAGE: 1 of 1
PREPARED BY: M. Furusawa CHECKED BY: T. Ito	FROM: Copier Technical Support Section

CLASSIFICATION:
- ☐ Action Required
- ☐ Troubleshooting
- ☐ Retrofit Information
- ☐ Revision of service manual
- ■ Information only
- ☐ Other

MODEL:
A7 Series (A069/A073/A074)

As it was informed by Modification Bulletin No. 32 issued on December 31,1992, a new sorter stapler "MATT20" (A374), originally designed for the the N440 series and SP40, has been adapted to A7 series copiers with the main control board A0705145.
A7 series copiers now can have the following 5 kinds of sorters:

1. Micro Sorter (A327) : 10 moving bins
2. Mini Sorter (A423) : 20 moving bins
3. Midi Sorter (A411) : 20 moving bins
4. Sorter Stapler (A366) : 20 fixed bins (Floor type)

New 5. Sorter Stapler "MATT20" (A374) : 20 moving bins (Hanging type)

[Installation]

The following items are required to install the MATT 20 on A7 series copiers:

1. Sorter Adapter (A328)
2. Interface PCB (A344)

NOTE: The MATT20 can be installed on the copiers with the main control board A0705145 (Main ROM = A0705114) without any change. Refer to M/B No. 32 for the cut-in serial numbers.
The copiers with the following main control boards need the modification:

1. A0705141: Replace the main ROM from A0695114 to A0705164
2. A0705191: Replace the main ROM from A0695114 to A0705164

* A0695191 cannot be used for MATT20 operation.
* A0705114 has already been changed to A0705164 to prevent SC54/55 problem. Refer to the RTB-007. Modification bulletin for this P/N change will follow soon.

There is no change to the A7 series copiers for MATT20 compatibility other than the software. This software change does not affect the installation procedure of the original sorter stapler (A366).
The main ROM size has been changed from 1 M-byte to 2 M-byte in order to enable the operation for both the original sorter stapler and the MATT20.

CAUTION: The MATT20 can be installed on almost all the A7 series copiers by applying the above modification. However, **you should not install the MATT20 on the copiers produced before July, 1992**. Because electrical safety standards such as UL, CSA, and TÜV, certify installing the MATT20 only on A7 series copiers produced from July 1992 onwards.

♦ The installation procedure of the MATT20 to N440 series copiers (A085/A087/A088) can be applied to A7 series copiers without any change.

REVISED ON: November 30, '94

RICOH **Technical Bulletin** **No. RTB-020**

SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE	DATE: Oct. 31, '94 PAGE: 1 of 12
PREPARED BY: F. Noguchi CHECKED BY: S. Hamano	FROM: Copier Technical Support Section

CLASSIFICATION:

- ■ Action Required
- ■ Troubleshooting
- ☐ Retrofit Information
- ☐ Revision of service manual
- ☐ Information only
- ☐ Other

MODEL: A7

To aid the technician in troubleshooting matt20 misfeeds we are issuing this troubleshooting guide. If the guide is used properly it will resolve the majority of misfeeding problems the field is experiencing.

TABLE OF CONTENTS SYMPTOM TYPE

1. ROLLER DRIVE MOTOR STALLS AND PAPER EXIT JAMS

[Symptom]

In Sort/Stack mode, when copy paper is fed out to a bin, the roller drive motor speed should become higher. The motor occasionally hesitates at that moment and paper exit jam occurs.

[Possible Cause]

The load of the roller drive motor is excessive when the roller shafts and bushing became dirty, the friction between the roller shafts and bushings exceeds the roller drive motor torque.

[Action Required]

Lubricate the drive parts using launa oil. (See page 2 ~ 4)

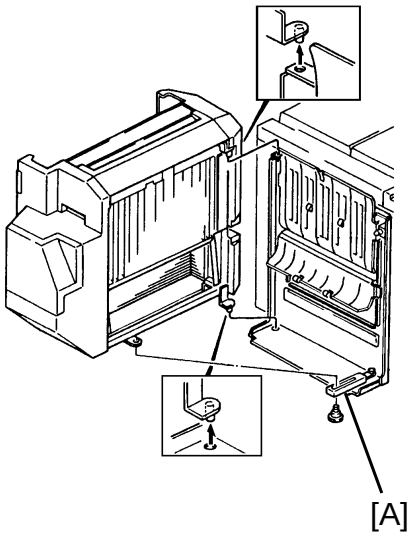
NOTE : If the drive parts have not been initially cleaned with alcohol, clean them before lubricating.

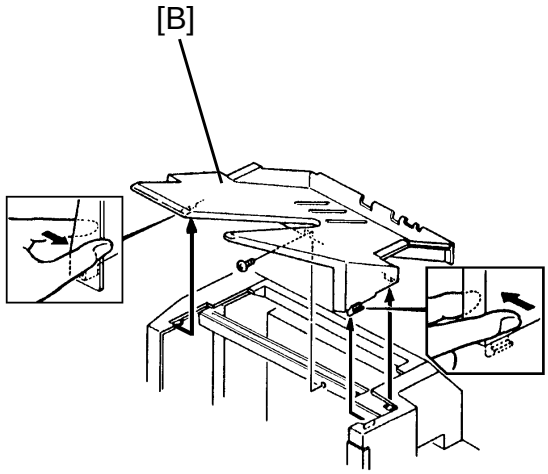
RICOH **Technical Bulletin** **No. RTB-020**

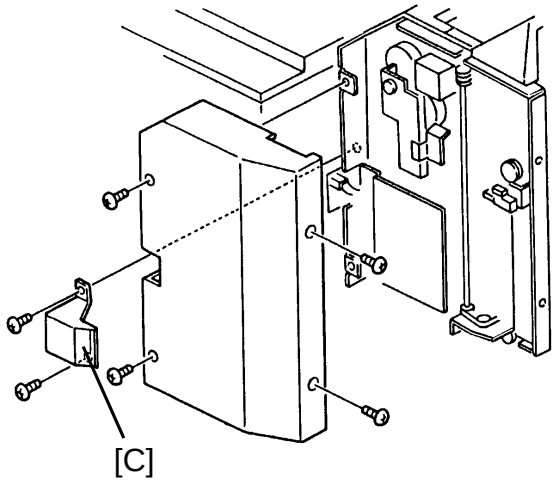
SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE

DATE: Oct. 31, '94
PAGE: 3 of 12

LUBRICATION







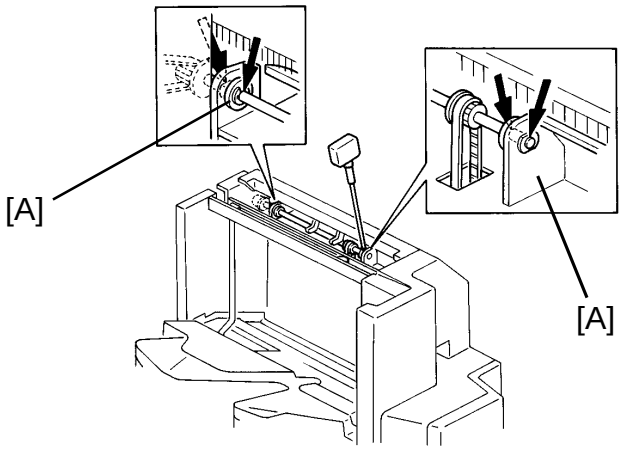
To reduce the load to the roller drive motor, lubricate as follows at every PM:

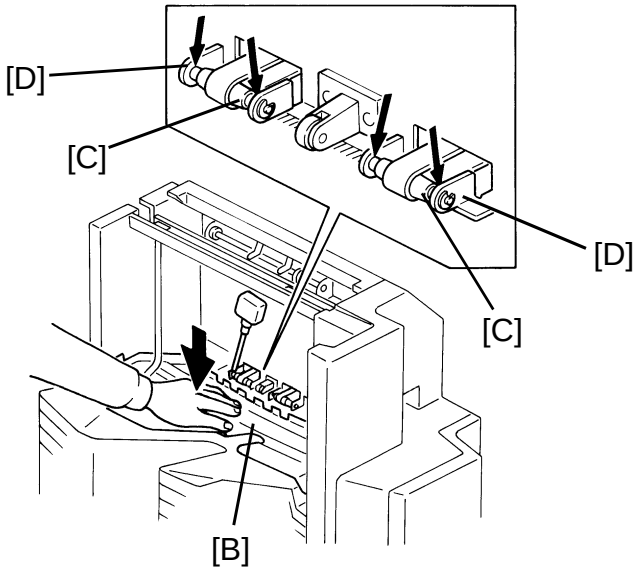
1. Open the sorter stapler then disconnect the link lever [A] (1 stepped screw).
2. Disconnect the sorter stapler interface harnesses and a grounding wire (1 screw).
3. Remove the sorter stapler from the mounting frame.
4. Remove the proof tray [B] (1 screw).
5. Remove the rear covers [C] (6 screws).

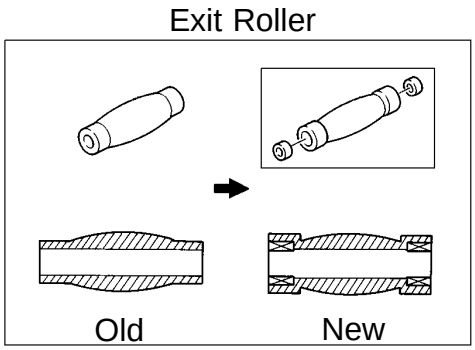
RICOH **Technical Bulletin** **No. RTB-020**

SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE

DATE: Oct. 31, '94
PAGE: 4 of 12







6. Lubricate the bushings [A] with launa oil.

NOTE: Lubricate the bushings from the both sides so that the oil is fully supplied between the shaft and the bushing.

7. Gently push down the support bin [B] then lubricate the exit rollers [C] with launa oil.

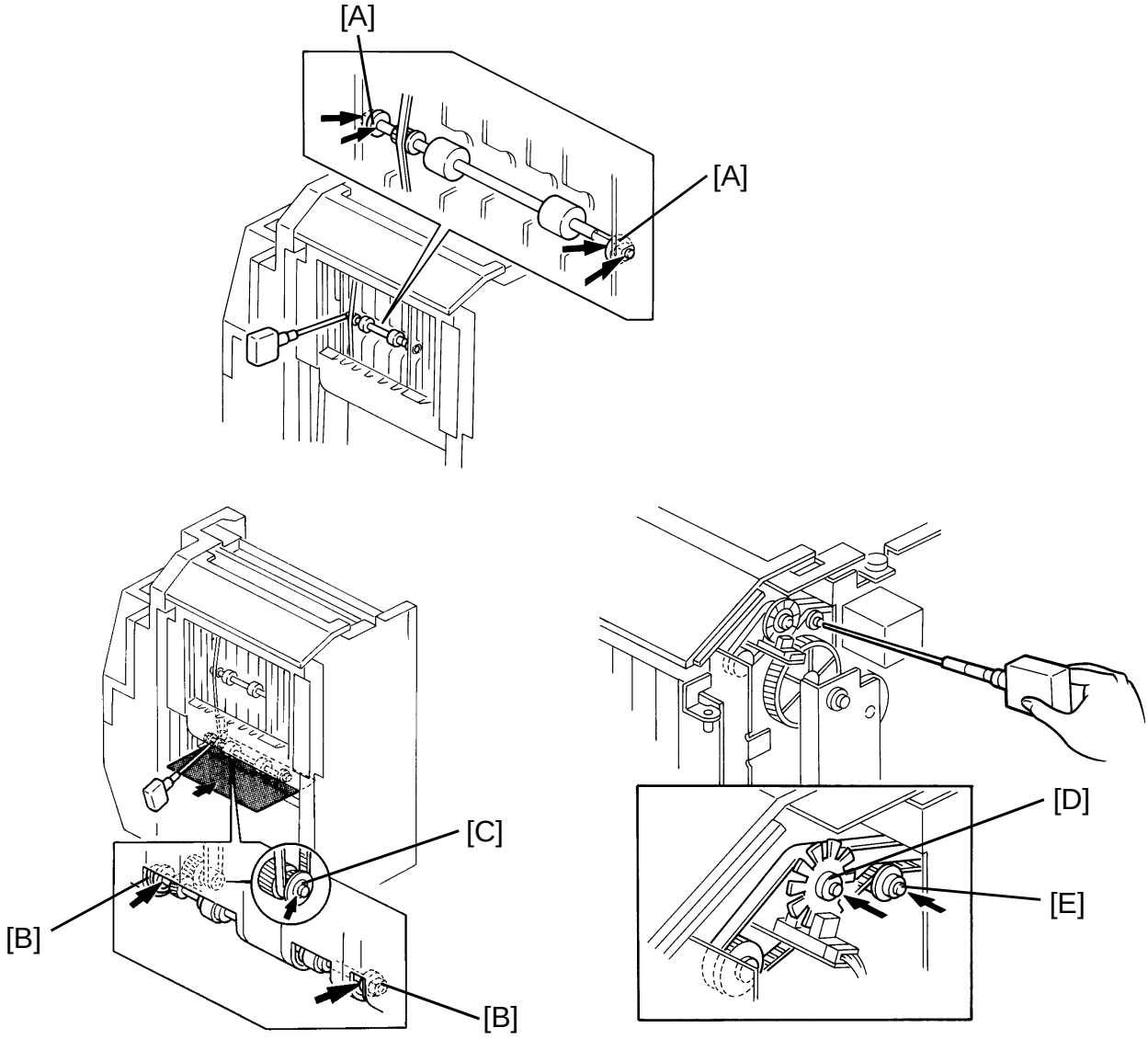
NOTE: 1. Lubricate the inner side of the brackets [D] so that launa oil is fully supplied between the shaft and the roller.

2. When the exit rollers [C] are replaced with new ones (P/N A3742541), no lubrication at every PM will be required.
This is because the new exit roller contains oil in the bushing.

RICOH **Technical Bulletin** **No. RTB-020**

SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE

DATE: Oct. 31, '94
PAGE: 5 of 12



8. Lubricate the bushings [A] with launa oil.

NOTE: Lubricate the bushings from the both sides so that the oil is fully supplied between the shaft and the bushing.

9. Lubricate the bushings [B] and gear pulley [C] with launa oil.

NOTE: Place a sheet of paper underneath the bushing so that the oil does not drop on the guide plate.

Wipe off excess oil so that launa oil does not drop on the guide plate during copying.

10. Lubricate the pulse generator disc [D] and idle pulley [E] with launa oil.

RICOH **Technical Bulletin** **No. RTB-020**

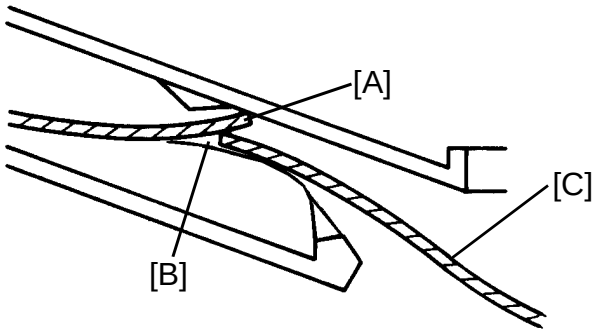
SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE

DATE: Oct. 31 '94
PAGE: 6 of 12

2. SORTER BIN JAMS OR COPIES OUT OF ORDER

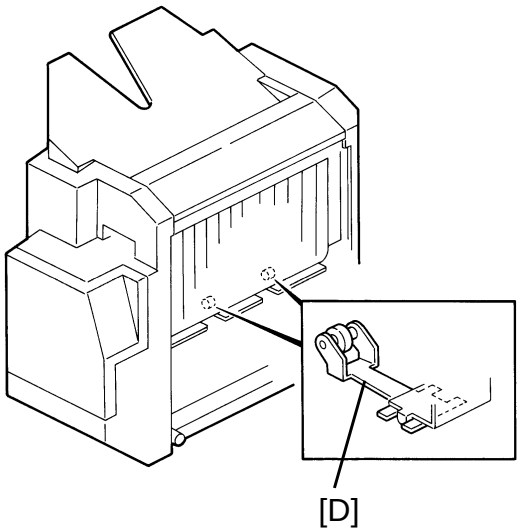
[Symptom]

The copy's trailing edge [A] remains on the guide mylar [B]. When the following paper [C] comes to the bin, it hits the trailing edge of the proceeding paper, resulting in the paper jam, or incorrect copy order when the following paper goes underneath the proceeding paper.



[Cause]

The technician bent the lower bin exit roller holder (spring plate) (P/N : A3742163) [D], trying to correct the normal paper skew when the paper exits into the bins. This reduces the paper transport ability causing bin jams.



RICOH **Technical Bulletin** **No. RTB-020**

SUBJECT: TROUBLESHOOTING GUIDE

DATE: Oct. 31 '94
PAGE: 7 of 12

- **Supplemental Technical Explanation about the way how paper is stacked in the bin.**

When the copy paper comes out of the sorter, it is angled. This is normal for proper stacking of the copy paper.

[Mechanism of Paper Stacking]

1. As shown in the illustration, the front side of paper [A] comes out of the sorter first.

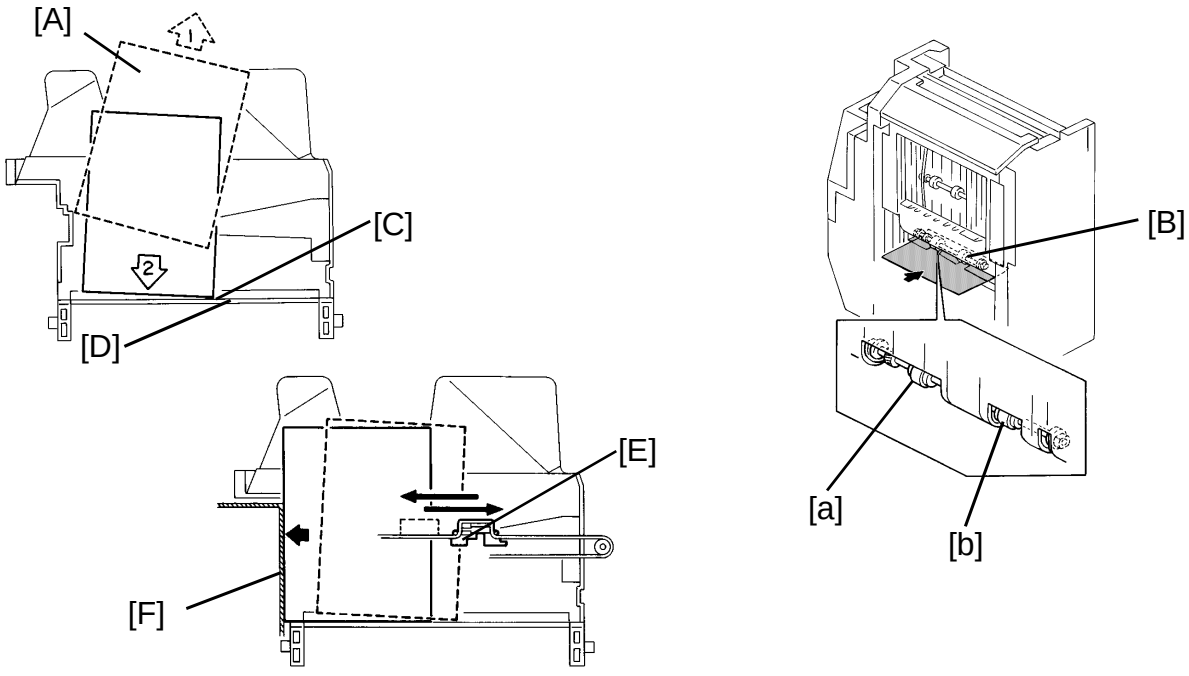
NOTE: In order to angle the paper, the diameter of the front and rear transport rollers [B] are slightly different (front roller: 20.0mm [a], rear roller : 19.7mm [b]).

2. After the entire sheet comes out of the sorter, the paper slides back to the rear fence, being supported by the gravity for smooth slide.
3. When the corner [C] of the paper contacts the rear fence [D], the paper is still slightly angled.
4. At this moment, the jogger bar [E] pushes the paper to the front.
5. Because only one corner of the copy paper is touching the rear fence (minimal friction), the paper can be jogged smoothly.
6. Finally the paper sits squared in the bin because the paper stops being aligned by the front side frame [F]

[Solution]

Straighten the lower bin exit roller holders so they are flat and ensure that the paper comes out of the sorter with the correct angle.

NOTE: Once the holders are bent, it may be difficult to completely straighten the holders. In such a case, replace the entire lower bin exit rollers.



RICOH **Technical Bulletin** **No. RTB-020**

SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE

DATE: Oct. 31 '94
PAGE: 8 of 12

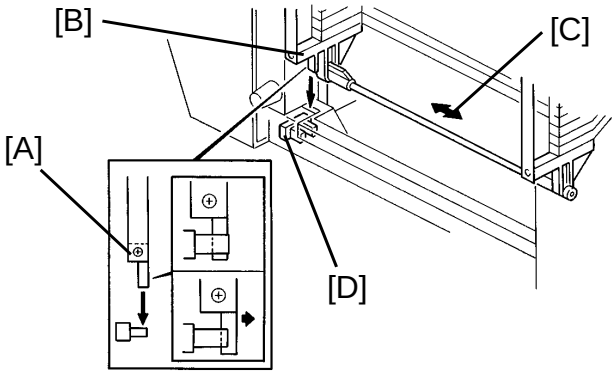
3. INCORRECT BIN POSITION AND BIN ENTRANCE JAMS

[Symptom]

The 1st copy hits the support bin causing a bin entrance jam.

[Possible Cause]

Due to gap between the projection [A] of the bin support block [B] and the side frame, the block can move in the arrow [C] direction. If the block moves away from the bin home position sensor [D] when the sensor should be actuated, the bin will not stop at the correct home position. In this case a paper jam occurs at the bin entrance.



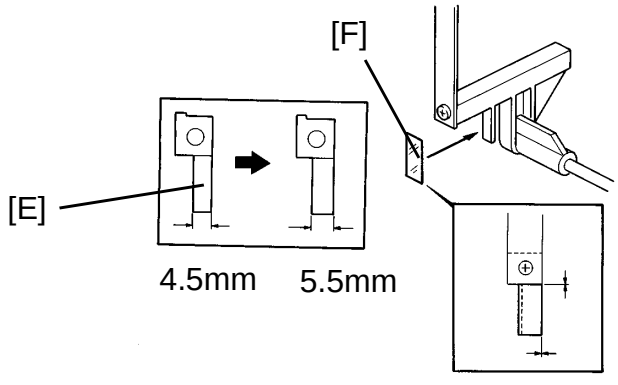
[Permanent Countermeasure]

From the march '93 production, the width of the interrupter [E] for the bin home position sensor has been increased from 4.5mm to 5.5mm to ensure sensor actuation.

[Countermeasure in the field]

To modify the machines in the field, stick a black mylar strip (5.5mm x 17mm) [F] as shown in the illustration to expand the width of the sensor actuator.

NOTE: Align the upper and right side edges of the mylar with the sensor actuator.
The part number of the black mylar strip is A3749500 (10 pcs / set).



Front view from paper path

4. PROOF TRAY JAMS WITH THICK PAPER

[Symptom]

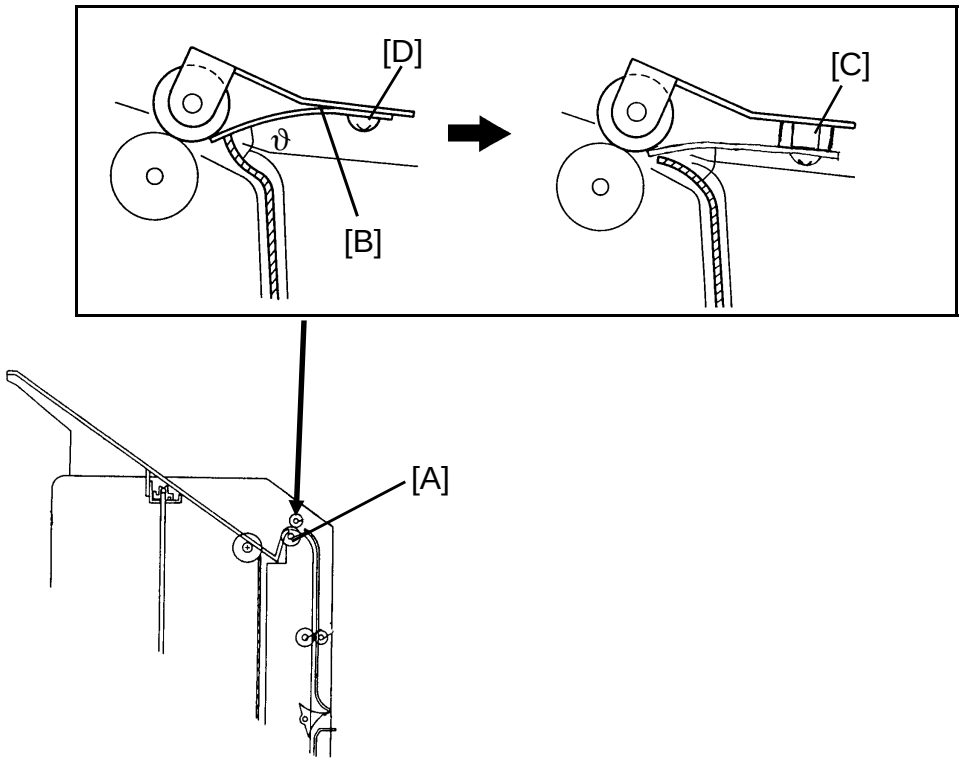
When thick paper (like a post card) is used in the proof tray mode, the paper might not be fed onto the proof tray. The paper stops just before reaching the exit roller [A].

[Cause]

If the paper is face curled, the leading edge of the paper hits the exit roller guide [B] and the paper does not reach the exit rollers [A].

[Countermeasure]

A hexagon nut (07100050B) [C] has been inserted between the plate spring [D] and the exit roller guide, so that the angle [θ] between the guide and paper has been reduced. Due to this modification, the length of the screw [D] fixing the plate spring has been changed from 6 mm to 8 mm. This modification has been applied from the March '94 production.



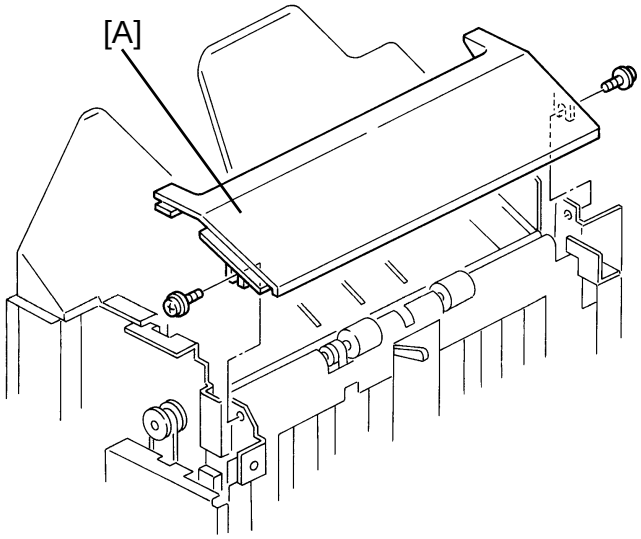
RICOH **Technical Bulletin** **No. RTB-020**

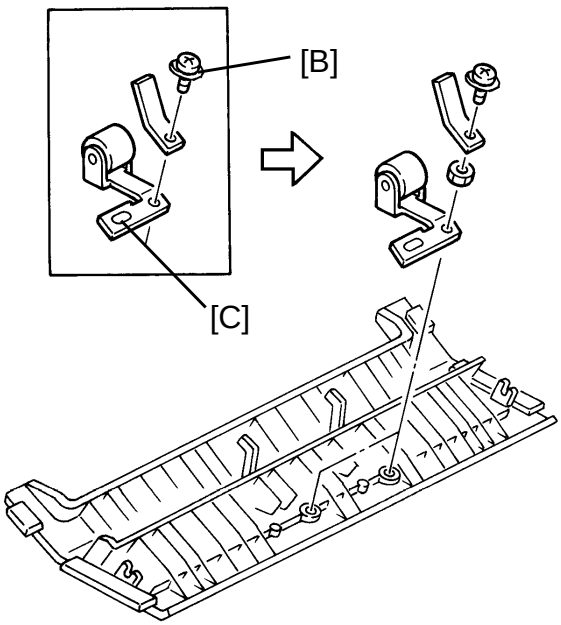
SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE

DATE: Oct. 31, ’94
PAGE: 10 of 12

The procedure to apply this modification is as follows:

1. Remove the front and rear covers of the Matt20.
2. Remove the upper cover [A] (2 screws).
3. Remove the two screws [B] fixing the spring plates [C].
4. Insert a hexagon nut (07100050B) between the each plate spring and the exit roller guide mylar. Fix them using a Philips truss head screw - M4x8 (03440080F).





RICOH **Technical Bulletin** **No. RTB-020**

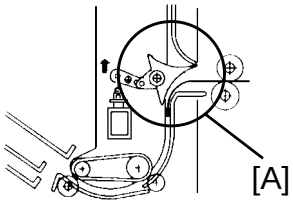
SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE

DATE: Oct. 31, '94
PAGE: 11 of 12

5. PAPER JAMS IN TURN GATE SECTION (RTB No. - 014)

[PHENOMENON]

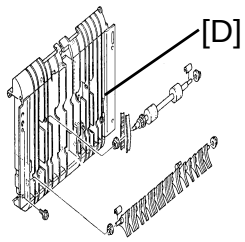
Paper jams occur in the turn gate section [A] intermittently in sort, stack, or staple mode.



[POSSIBLE CAUSE]

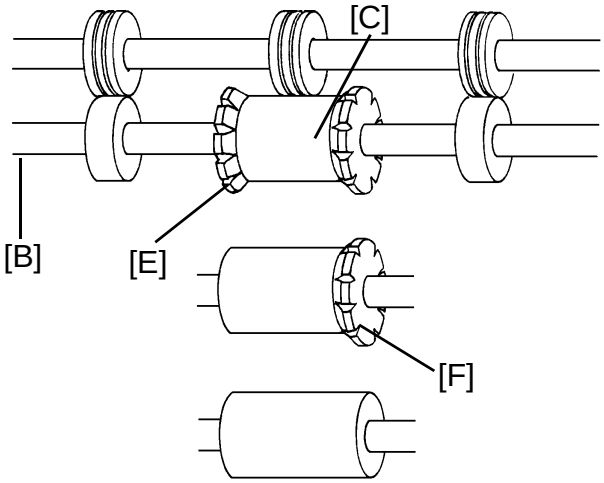
The sorter adapter lower exit roller [B] has a stiffness increasing roller [C] at the middle. This rubber roller has a flange on each end. The flanges produce slight waves on copy paper perpendicular to the paper transport direction to increase paper stiffness.

The rear side wave position may not be proper for one of the ribs on the sorter stapler vertical paper guide [D] especially when paper has excessive face curl. The rib may make a mark on the paper lead edge or may cause paper jams.



[ACTION IN THE FIELD]

1. Cut off the rear flange [E] with cutting pliers and smooth the roller's edge with a knife. This will eliminate the rear side wave on paper.
   (As the flanges have wedge grooves originally and the roller is turning in forwarding direction, the roller surface does not have to be completely smooth after you cut off the flange.)
2. If step 1 does not cure the problem, cut off the front flange [F] as well.
   (Paper transport reliability without flanges on the roller was tested for thin paper under high humidity condition, resulting in no problem.)



[PERMANENT COUNTERMEASURE]

The width of the rib on the sorter stapler vertical paper guide will be increased to improve the paper transport ability. The part number of the vertical paper guide will remain as it is. This modification will be applied to the production machines from April,1993.

RICOH **Technical Bulletin** **No. RTB-020**

SUBJECT: MATT20 (A374) TROUBLESHOOTING GUIDE

DATE: Oct. 31, '94
PAGE: 12 of 12

6. TURN GATE AREA MISFEEDS

[Symptom]

Paper jams in turn gate - area

[Cause]

1. The bin transport rollers [A] (P/N A3742163) are bent.
2. The entrance guide plate - lower [B] (P/N A3742131) is bent.
3. The technician removes the pressure springs (P/N 52054527 [C], P/N AA063164 [D]) of the upper rollers in the sorter adapter.

[Solution]

1. Straighten bin transport roller bracket so it is flat.
2. Replace or reform entrance guide plate - lower to it's original shape.
3. Install the pressure springs.