

**TOSHIBA**

**SERVICE MANUAL**  
**AUTOMATIC DOCUMENT FEEDER**

**MR-2014**



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TOSHIBA TEC CORPORATION

Parts marked with “△” are important for maintaining the safety of the machine. Be sure to replace these parts with the replacement parts specified to maintain the safety and performance of the machine.

This document has been published to be used for after sales service only.

The contents are subject to change without notice.

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# [1] GENERAL

## 1. List of available options

Model	e-STUDIO120	e-STUDIO150	e-STUDIO12	e-STUDIO15
Option				
MR-2014	○	○	×	×

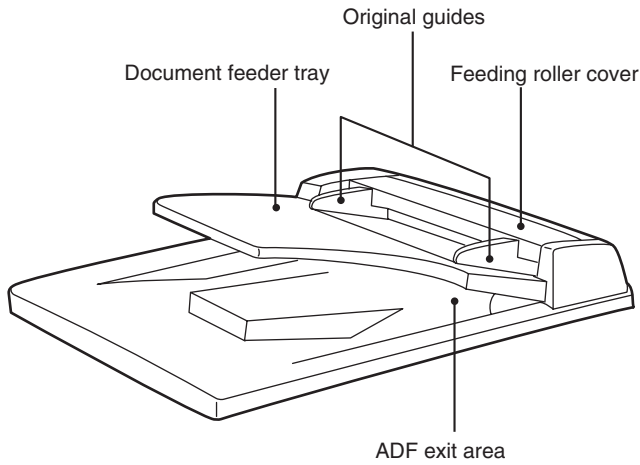
- : Option available
- ×: Option not available

## 2. Outline and specifications of each option

### A. MR-2014

The Automatic Document Feeder (ADF) holds up to 30 originals for automatic feeding.

#### Part names



#### Specifications

Acceptable originals	Weight: 14 to 23.9 lbs.
	Size: 5-1/2" × 8-1/2" to 8-1/2" × 14"
	Capacity: Up to 30 sheets
Power supply	Drawn from the copier
Weight	Approx. 6.6 lbs. (3kg)
Dimensions	19.6" (W) × 15" (D) × 4.3" (H) (498 mm (W) × 380 mm (D) × 110 mm (H))

# [2] UNPACKING AND INSTALLATION

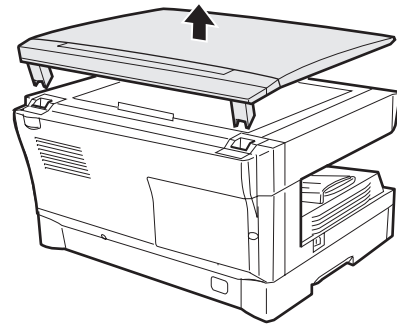
## 1. MR-2014 Installation Manual

• **Parts included**

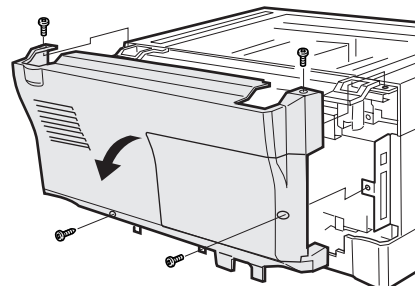
- ADF unit
- Hinge guide L
- Hinge guide R
- ADF rear cover, 1 pc.
- Screws (M3 × 8), 1 pcs.
- Book sensor unit, 1 pc.
- Installation manual, 1 sheet

Turn the main switch to the "OFF" position and remove the power plug from the outlet.

- 1) Remove the document cover.  
Remove the document cover from the copier.

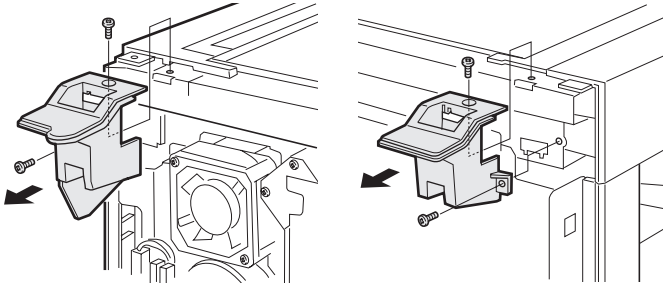


- 2) Remove the rear cabinet.  
Remove the four screws and then remove the rear cabinet.



3) Remove the hinge guides L and R.

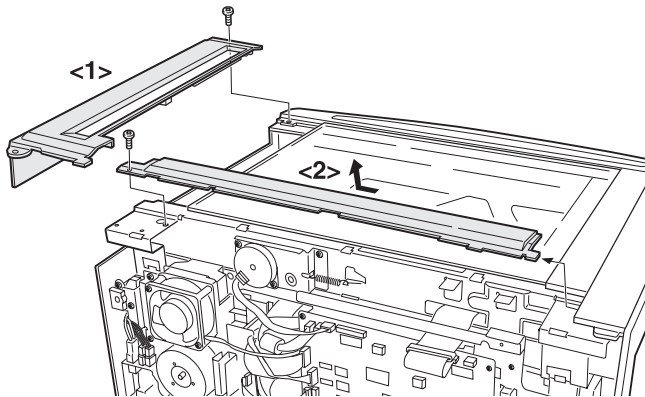
Remove the screws (two for each) and then remove the hinge guides L and R.



4) Remove the rear cover for the document glass.

<1> Remove the screw and then remove the right glass holder.

<2> Remove the screw and slide the rear cover for the document glass to remove it.

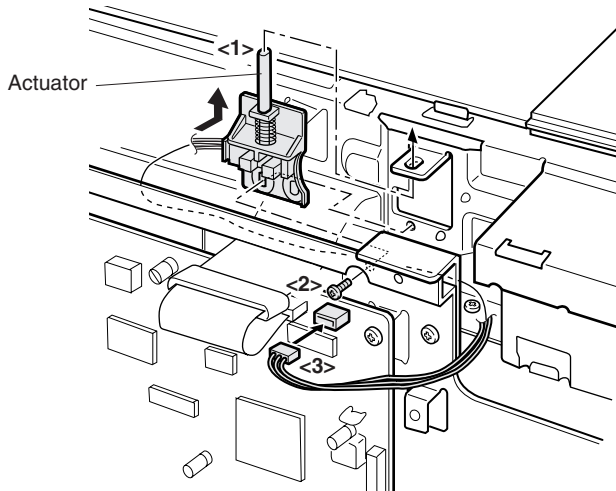


5) Attach the book sensor unit.

Insert the actuator of the book sensor unit into the mounting portion in the copier and fix it using the supplied screw (M3 × 8).

Note: When attaching the sensor unit, fix it using the screw while pushing the unit upward.

Connect the connector to the connector of the copier and arrange the wiring as shown in the illustration.



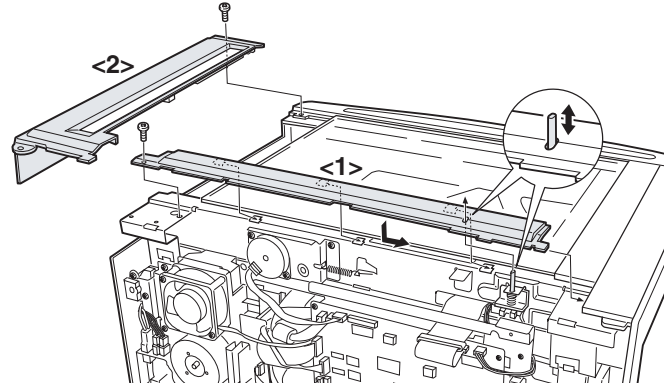
6) Attach the ADF rear cover.

<1> Pass the actuator of the book sensor into the hole of the ADF rear cover and slide the ADF rear cover to the side as shown. Secure it with the screw removed in step 4. At this time, check that the pawl on the back side of the ADF rear cover is inserted into the copier frame.

<2> Reattach the right glass holder to its original position and fix it using the screw.

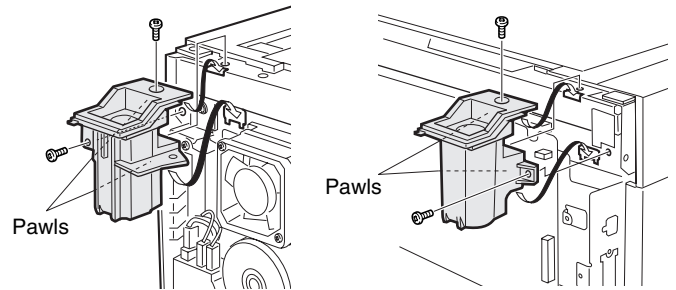
Note: Check that the actuator moves smoothly.

Take care to prevent entry of dirt into the scanner unit.

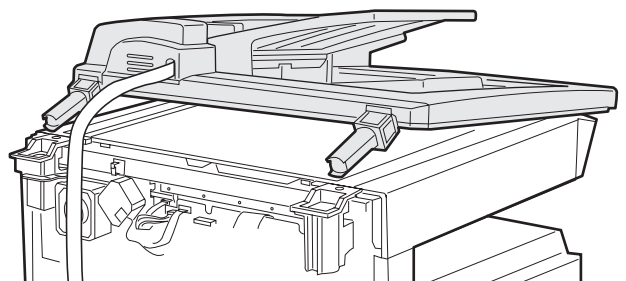


7) Attach the new hinge guides L and R.

Attach the new hinge guides L and R by fitting the pawls (two for each) into the frame of the copier and secure them with the two screws (for each) removed in step 3.



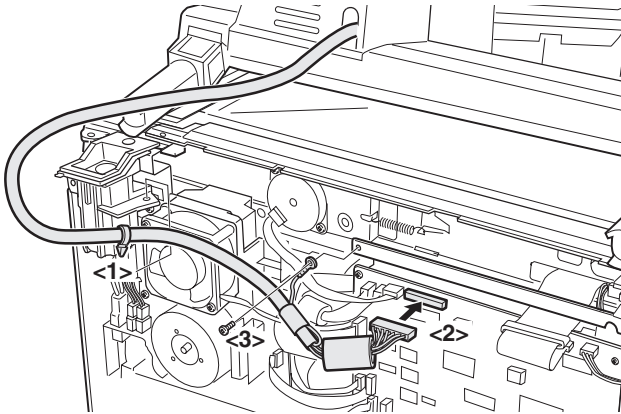
8) Place the ADF on the copier.



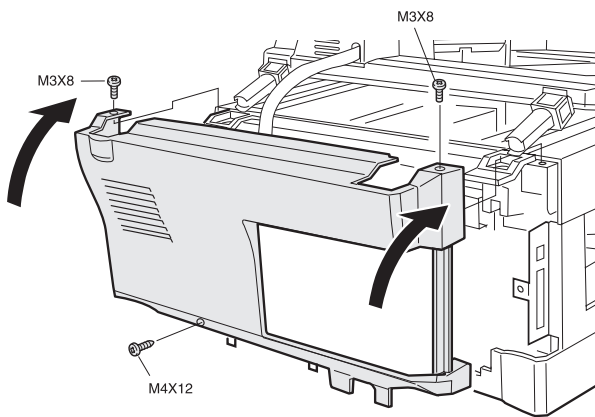
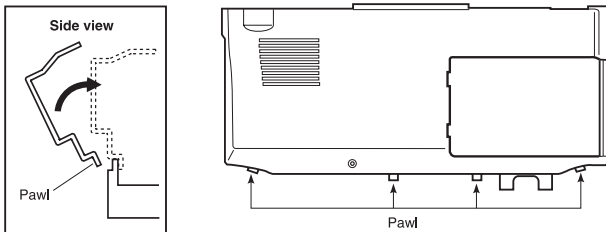
Note: Do not insert the ADF into the hinge guides.

Gently place it on top of the machine.

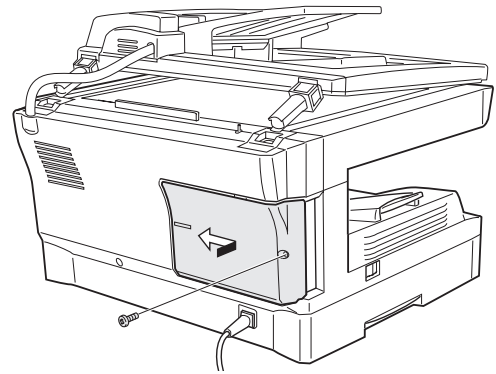
- 9) Connect the ADF with the copier using the relay harness.
- <1> Secure the snap band to the position shown in the illustration.
  - <2> Attache the connector as shown in the illustration.
  - <3> Secure the grounding terminal using the supplied screw (M3 × 8).



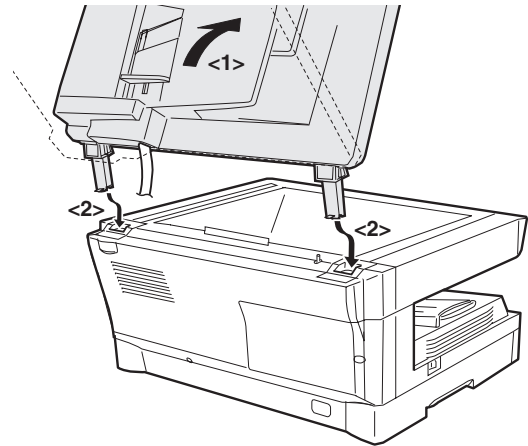
- 10) Attach the rear cover.
- <1> Remove the access panel from the rear cover.
  - <2> Hang the four pawls shown in the illustration on the machine base plate.
  - <3> Pivot the rear cover forward to the upper screw positions.
  - <4> Secure the rear cover with the screws removed in step 2.



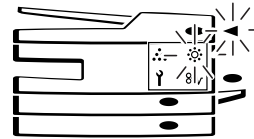
- 11) Attach the access panel to the rear cover.
- <1> Align the panel as shown in the illustration.
  - <2> Then slide the panel to the left.
  - <3> Secure the panel with the screw removed in step 2.



- 12) Attach the ADF to the copier.
- Attach the ADF by inserting the hinge guide sections of the ADF into the hinge guides L and R.



- 13) Insert the power plug into the outlet and turn the main switch of the copier to the "ON" position.
- 14) Perform SIM setting.
- Execute simulation [2] of [26] and enter [1].
- 15) Check the ON/OFF operation of the open detection sensor.
- Execute simulation [2] of [2] and check that the indicator on the operation panel lights up and goes out by opening and closing the ADF.



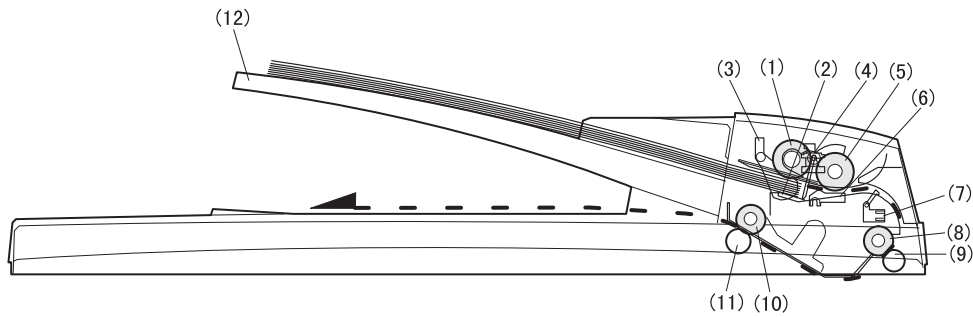
- 16) Carry out automatic adjustment of ADF scanning position.
- Execute simulation 53-08 to carry out automatic adjustment of ADF scanning position.
- If this adjustment is performed properly, the adjustment value is displayed. If it is abnormal, the jam lamp lights up. If the adjustment is not made properly, "—" is displayed. Execute the simulation again.
- For details, see the e-STUDIO120/150 service manual.
- 17) Check the copy ratio, and then check the center displacement and leading edge image void.
- Place an original on the document glass and make a copy.
- Then, place an original in the document feeder tray and make a copy.
- If the center of the copy from the document glass is displaced from the center of the copy from the document feeder, adjust the center referring to the e-STUDIO120/150 service manual.

# [3] OPERATIONAL DESCRIPTIONS

## 1. Outline

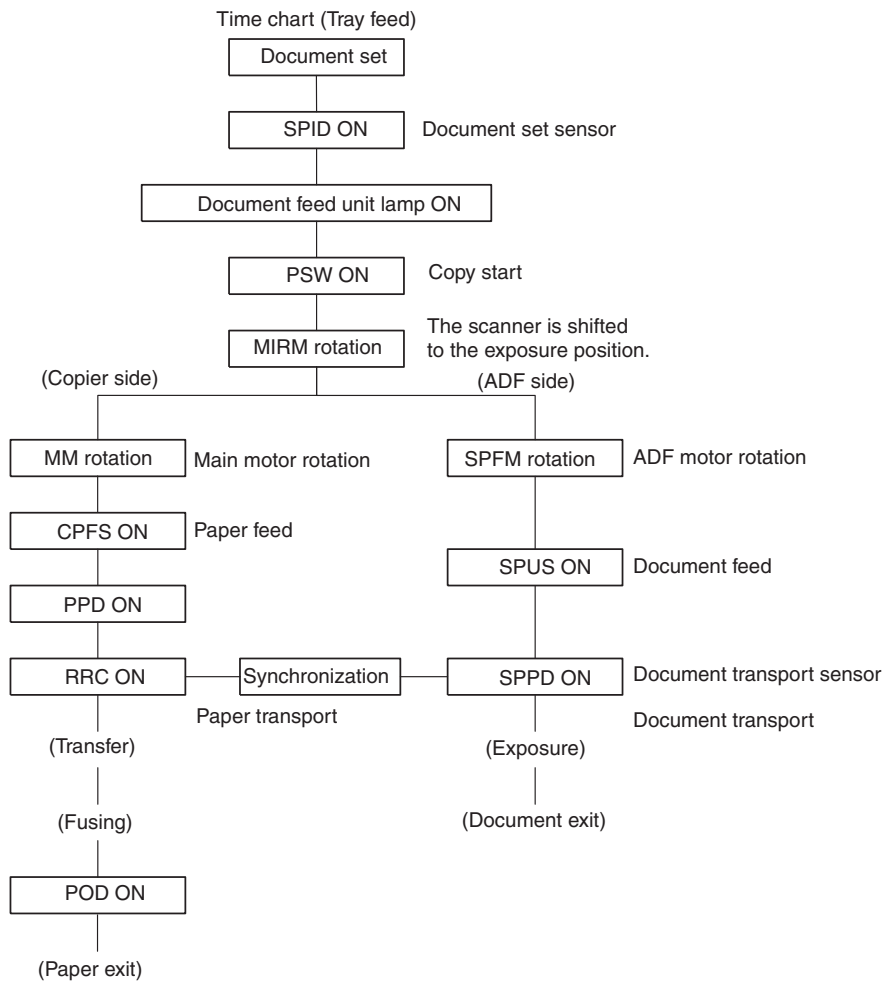
The ADF is automatically copies up to 30 sheets of documents of a same size. (Only one set of copies)

## 2. Document transport path and basic composition

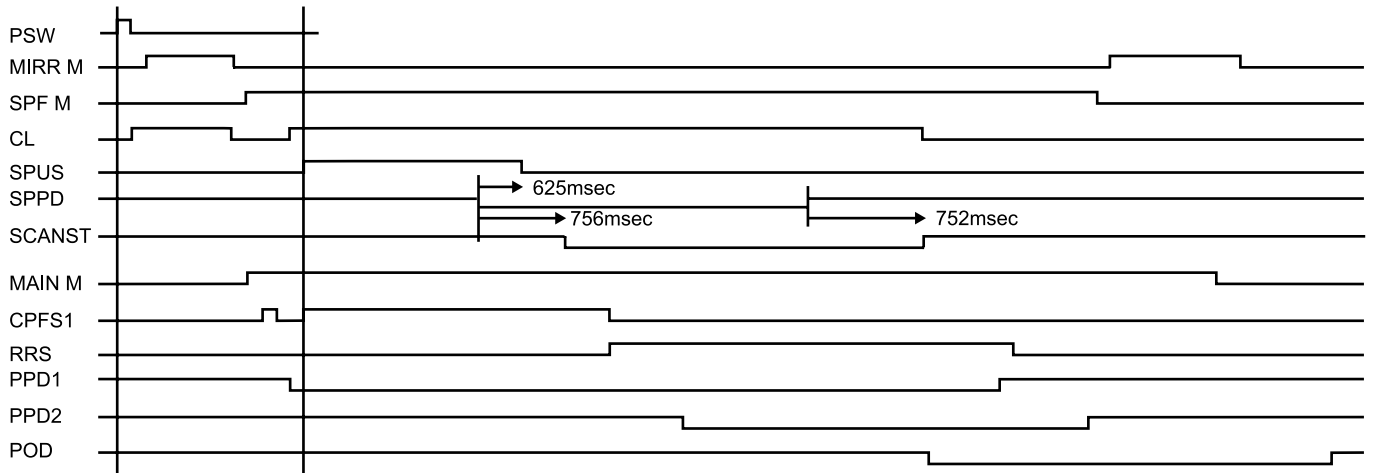


(1)	Pickup roller	(2)	Sheet of document for paper feed	(3)	Set detection ACT
(4)	Paper stopper	(5)	Document feed roller	(6)	Separation sheet
(7)	Paper entry sensor	(8)	PS roller D	(9)	Transport follower roller
(10)	Paper exit roller	(11)	Paper exit follower roller	(12)	Document tray

## 3. Operational descriptions



In the zooming mode, the magnification ratio in the sub scanning direction (paper transport direction) is adjusted by changing the document transport speed.



#### 4. Cases where a document jam is caused

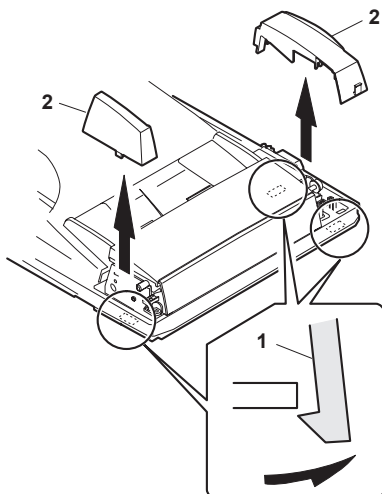
- When SPPD is ON (document remaining) when the power is turned on.
- When SPPD is not turned ON within about 1.5 sec (at 100% copy) after starting the document feed operation.
- When SPPD is not turned on within about 4.7 sec (at 100% copy) after turning on SPPD.
- When the ADF document jam release door or the OC cover is opened during document transport (ADF motor rotating).

#### [4] DISASSEMBLY AND ASSEMBLY

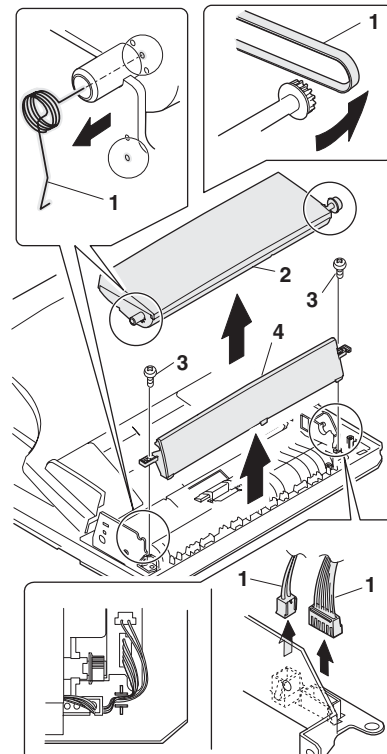
No.	Part name Ref.
A	Sensor PWB
B	Pickup solenoid
C	Clutch
D	Manual paper feed roller, pickup roller
E	Belt
F	ADF motor
G	Paper entry sensor
H	PS roller
I	Paper exit roller

##### Pickup unit removal

- Remove three fixing pawls from the bottom of the machine.
- Remove the front cover and the rear cover.



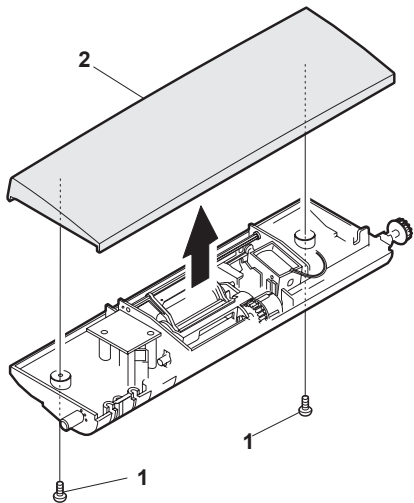
- Remove the belt, the paper feed frame Spring, and two harnesses.
- Remove the pickup unit.



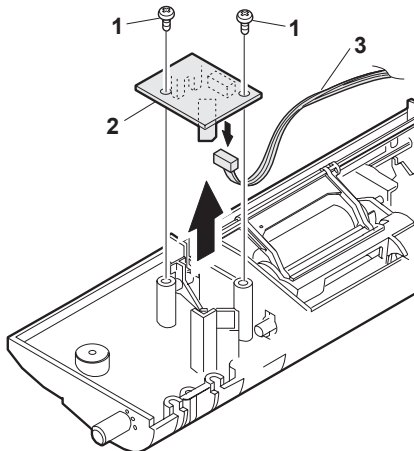
\* When installing the parts, be careful of the hole position of the paper frame Spring.

### A. Sensor PWB

- 1) Remove two screws from the bottom of the pickup unit.
- 2) Remove the upper cover.

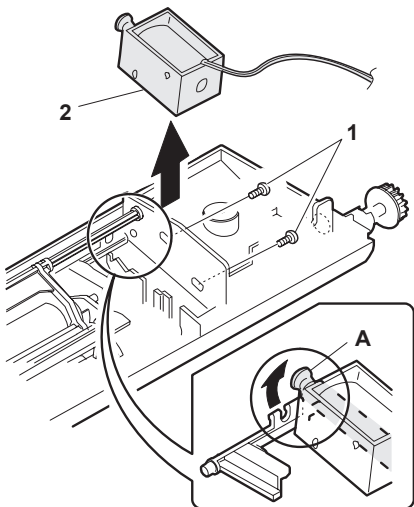


- 1) Remove two screws.
- 2) Remove the sensor PWB.
- 3) Remove the harness.



### B. Pickup solenoid

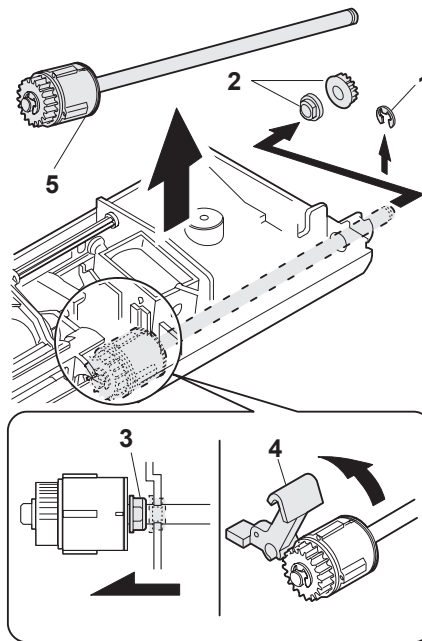
- 1) Remove two screws.
- 2) Remove the pickup solenoid



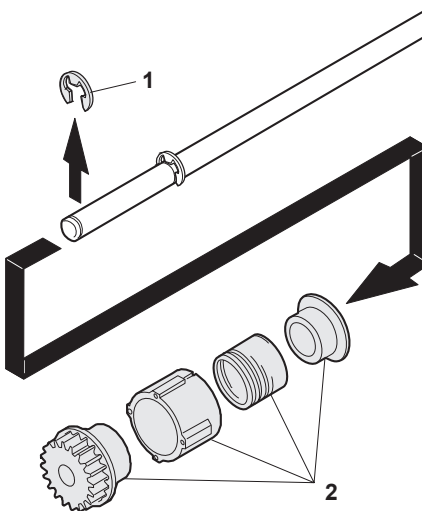
\* When installing, hang iron core A on the solenoid arm.

### C. Clutch

- 1) Remove the E-ring.
- 2) Remove the pulley and bush.
- 3) Slide the bush in the arrow direction.
- 4) Lift the clutch, and 5) remove the clutch.

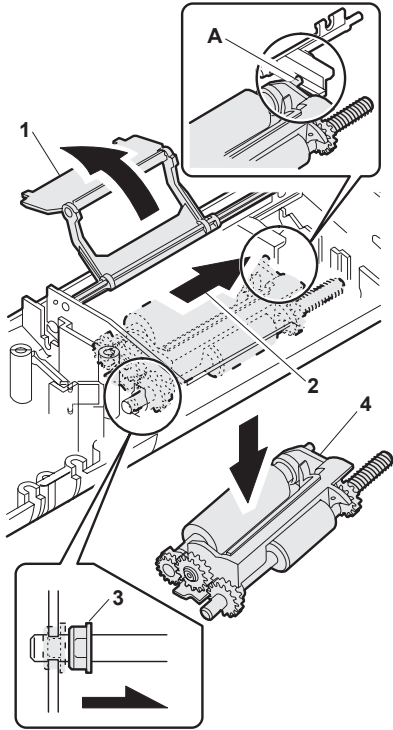


- 1) Remove the E-ring.
- 2) Remove the parts.



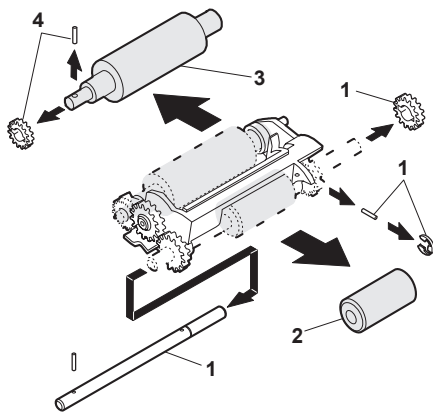
## D. Manual paper feed roller, pickup roller

- 1) Lift the paper stopper.
- 2) Slide the take-up roller unit.
- 3) Slide the bushing in the direction of the arrow.
- 4) Remove the take-up roller unit.



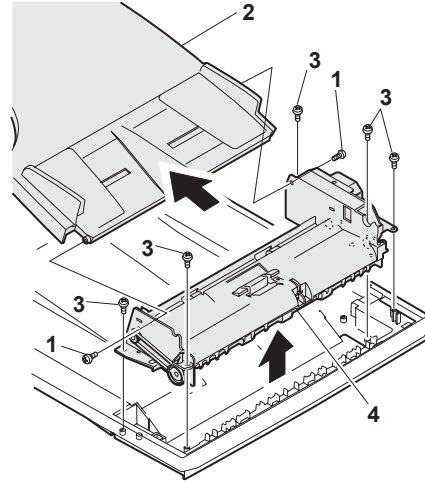
\* When installing the take-up roller, hang the projection of the take-up roller unit on the solenoid arm.

- 1) Remove the parts.
- 2) Remove the manual paper feed roller.
- 3) Remove the pickup roller.
- 4) Remove the parts.



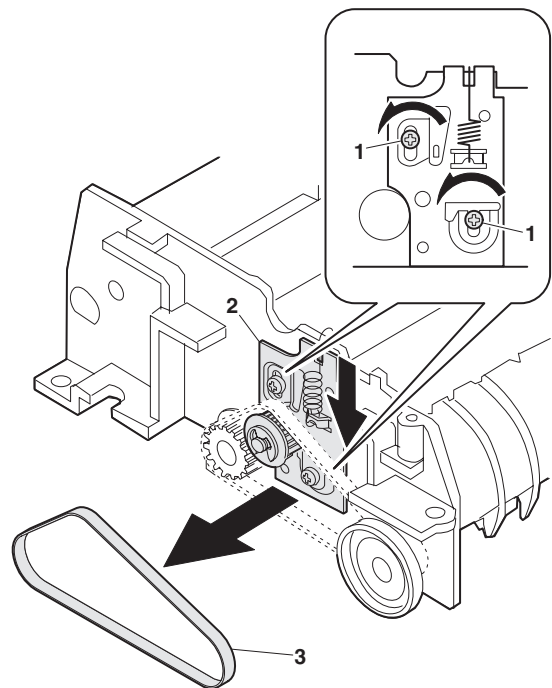
## Transport unit removal

- 1) Remove two screws.
- 2) Remove the document tray unit.
- 3) Remove five screws.
- 4) Remove the transport unit.



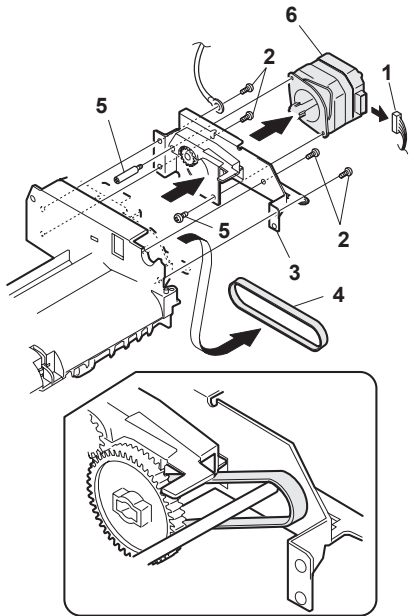
## E. Belt

- 1) Remove the belt.



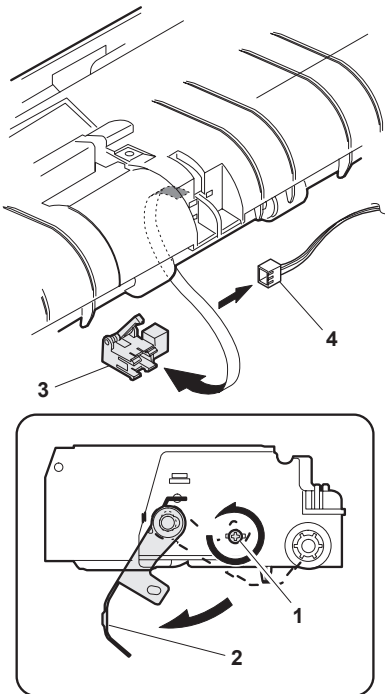
## F. ADF motor

- 1) Remove the harness.
- 2) Remove four screws.
- 3) Remove the drive unit.
- 4) Remove the belt.
- 5) Remove two screws.
- 6) Remove the ADF motor.



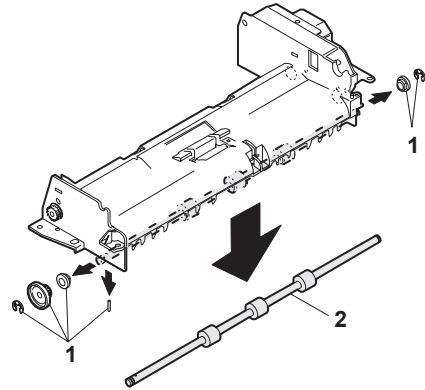
## G. Paper entry sensor

- 1) Loosen the screw.
- 2) Open the paper exit paper guide.
- 3) Remove the paper entry sensor.
- 4) Remove the harness.



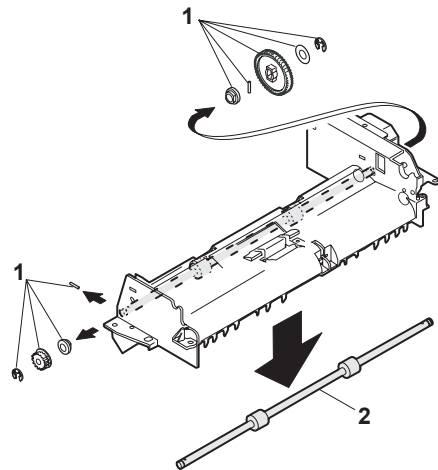
## H. PS roller

- 1) Remove the parts.
- 2) Remove the paper supply roller.



## I. Paper exit roller

- 1) Remove the parts.
- 2) Remove the paper exit roller.



#### CAUTION FOR BATTERY REPLACEMENT

- (Danish)                      ADVARSEL !  
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.  
Udskiftning må kun ske med batteri  
af samme fabrikat og type.  
Levér det brugte batteri tilbage til leverandoren.
- (English)                      Caution !  
Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type  
recommended by the manufacturer.  
Dispose of used batteries according to manufacturer's instructions.
- (Finnish)                      VAROITUS  
Paristo voi räjähtää, jos se on virheellisesti asennettu.  
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan  
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden  
mukaisesti.
- (French)                      ATTENTION  
Il y a danger d'explosion s' il y a remplacement incorrect  
de la batterie. Remplacer uniquement avec une batterie du  
même type ou d'un type équivalent recommandé par  
le constructeur.  
Mettre au rebut les batteries usagées conformément aux  
instructions du fabricant.
- (Swedish)                      VARNING  
Explosionsfara vid felaktigt batteribyte.  
Använd samma batterityp eller en ekvivalent  
typ som rekommenderas av apparattillverkaren.  
Kassera använt batteri enligt fabrikantens  
instruktion.
- (German)                      Achtung  
Explosionsgefahr bei Verwendung inkorrektter Batterien.  
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder  
vom Hersteller empfohlene Batterien verwendet werden.  
Entsorgung der gebrauchten Batterien nur nach den vom  
Hersteller angegebenen Anweisungen.

#### CAUTION FOR BATTERY DISPOSAL

- (For USA,CANADA)  
Contains lithium-ion battery. Must be disposed of properly.  
Remove the battery from the product and contact  
federal or state environmental  
agencies for information on recycling and disposal options.

**TOSHIBA**

**TOSHIBA TEC CORPORATION**

1-1, KANDA NISHIKI-CHO, CHIYODA-KU, TOKYO, 101-8842 JAPAN