

CHAPTER 3. MECHANISM BLOCKS

[1] General description

1. Document feed block and diagram

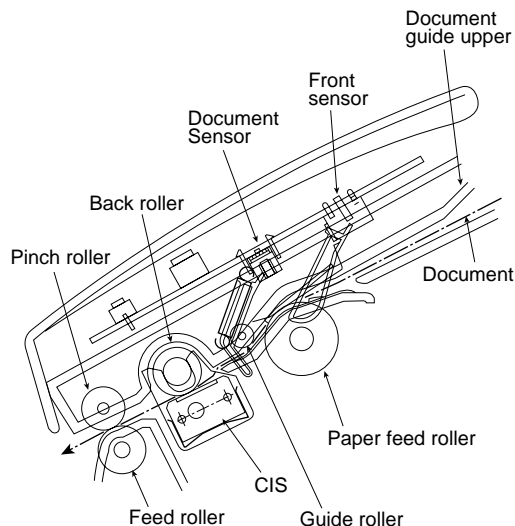


Fig. 1

2. Document feed operation

- 1) The original, which is set in the document hopper, feeds automatically when the front sensor is activated. This in turn activates the pulse motor which drives the document supply roller. The document stops when the lead edge is detected by the document sensor.
- 2) The lead edge of the original is fed a specified number of pulses after the lead edge of the document is detected for the reading process to begin.
- 3) The trailing edge of the original is fed a specific number of pulses after the trailing edge of the document deactivates the document sensor. The read process then stops and the original is discharged.
- 4) When the front sensor is in the OFF state (any document is not set up in the hopper guide), the drive will be stopped when the document is discharged.

3. Hopper mechanism

3-1. General view

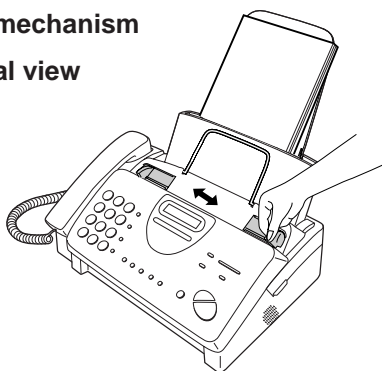


Fig. 2

The hopper section contains document guides that are used to adjust the hopper to the width of the original document. This ensures that the original feeds straight into the fax machine for scanning.

Document width: 148 mm to 216 mm (A5 longitudinal size to Letter longitudinal size)

NOTE: Adjust the document guide after setting up the document.

3-2. Automatic document feed

- 1) Use of the paper feed roller and separation rubber plate ensures error-free transport and separation of documents. The plate spring presses the document to the paper feed roller to assure smooth feeding of the document.
- 2) Document separation method: Separation rubber plate

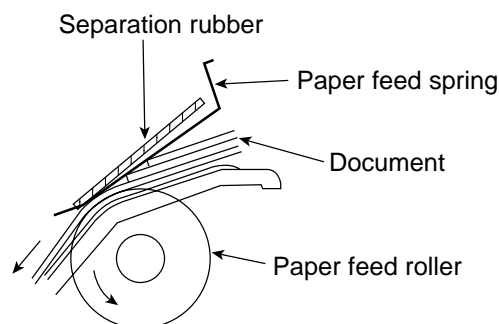


Fig. 3

3-3. Documents applicable for automatic feed

	4x6 series (788mm x 1091mm x 1000mm sheets)		Square meter series	
	Minimum	Maximum	Minimum	Maximum
Feeder capacity	10 sheets, max.			
Paper weight	45kg	64.3kg	52g/m ²	74.3g/m ²
Paper thickness (ref.)	0.06mm	0.09mm	0.06mm	0.09mm
Paper size	B6 (128mm x 182mm) ~ A4 (210mm x 297mm), Letter (216mm x 279mm)			

NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually. The document feed quantity may be changed according to the document thickness.

Documents corresponding to a paper weight heavier than 64.3kg (74.3g/m²) and lighter than 135kg (157g/m²) are acceptable for manual feed.

Documents heavier than 135kg in terms of the paper weight must be duplicated on a copier to make it operative in the facsimile.

3-4. Loading the documents

- 1) Make sure that the documents are of suitable size and thickness, and free from creases, folds, curls, wet glue, wet ink, clips, staples and pins.
- 2) Place documents face down in the hopper.
 - i) Adjust the document guides to the document size.
 - ii) Align the top edge of documents and gently place them into the hopper. The first page under the stack will be taken up by the feed roller to get ready for transmission.

NOTES: 1) Curled edge of documents, if any, must be straighten out.

2) Do not load the documents of different sizes and/or thicknesses together.

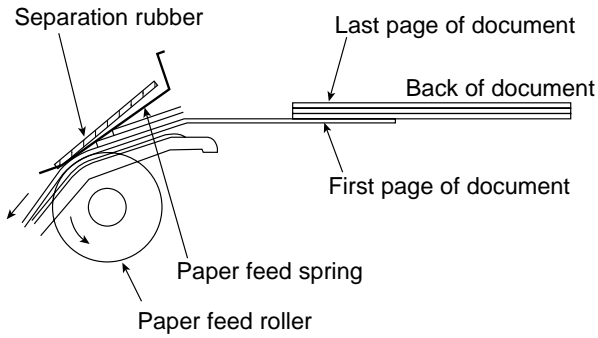


Fig. 4

3-5. Documents requiring use of document carrier

- 1) Documents smaller than B6 (128mm x 182mm).
- 2) Documents thinner than the thickness of 0.06mm.
- 3) Documents containing creases, folds, or curls, especially those whose surface is curled (maximum allowable curl is 5mm).
- 4) Documents containing tears.
- 5) Carbon-backed documents. (Insert a white sheet of paper between the carbon back and the document carrier to avoid transfer of carbon to the carrier.)
- 6) Documents containing an easily separable writing material (e.g., those written with a lead pencil).
- 7) Transparent documents.
- 8) Folded or glued documents.

Document in document carrier should be inserted manually into the feeder.

4. Document release

4-1. General

To correct a jammed document or to clean the document running surface, pull the insertion side of document center of the operation panel. To open the upper document guide, the operation panel must be opened first.

4-2. Cross section view

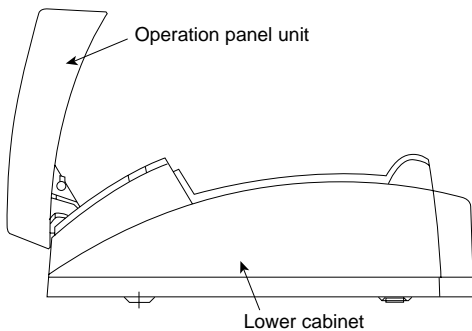


Fig. 5

5. Recording block

(1) General view

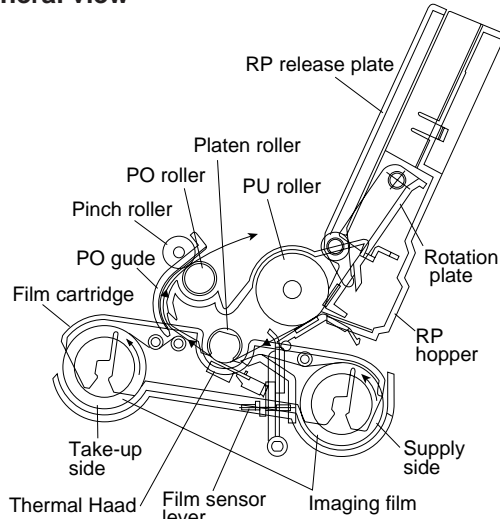


Fig. 6

5-1. Driving

In the drive mechanism, the rotating force of the pulse motor for both transmission and reception is transmitted to the paper supply roller, the recording paper feed roller and imaging film drive gear through the pulse motor axle gear, reduction gear and planetary gear.

5-2. Recording

This equipment employs the thermal transcription system which used the thermal head imaging film.

1) Thermal head

The thermal head is composed of 2,016 heating elements in traverse line, and the resolution power is 8 dots/mm. The maximum speed is 10 ms/line.

2) Structure of recording mechanism

Recording is achieved by applying a suitable pressure to the thermal head through the imaging film of the recording paper feed roller and the recording paper.

The main scanning is electronically done, and the sub-scanning is mechanically done (by sending the recording paper with the recording paper feed roller).

3) Recording paper transfer sequence

- a) The recording paper stored in the RP hopper is fed with the PU roller, and the recording paper is stopped when the P-IN sensor is turned on by sensing its lead edge.
- b) Hereafter, the imaging film and recording paper are transferred with the recording paper feed roller, and thermal transcription is done on the recording paper.
- c) After thermal transcription, the imaging film is taken up by the roller on the take-up side, and the recording paper is discharged by the PO roller.

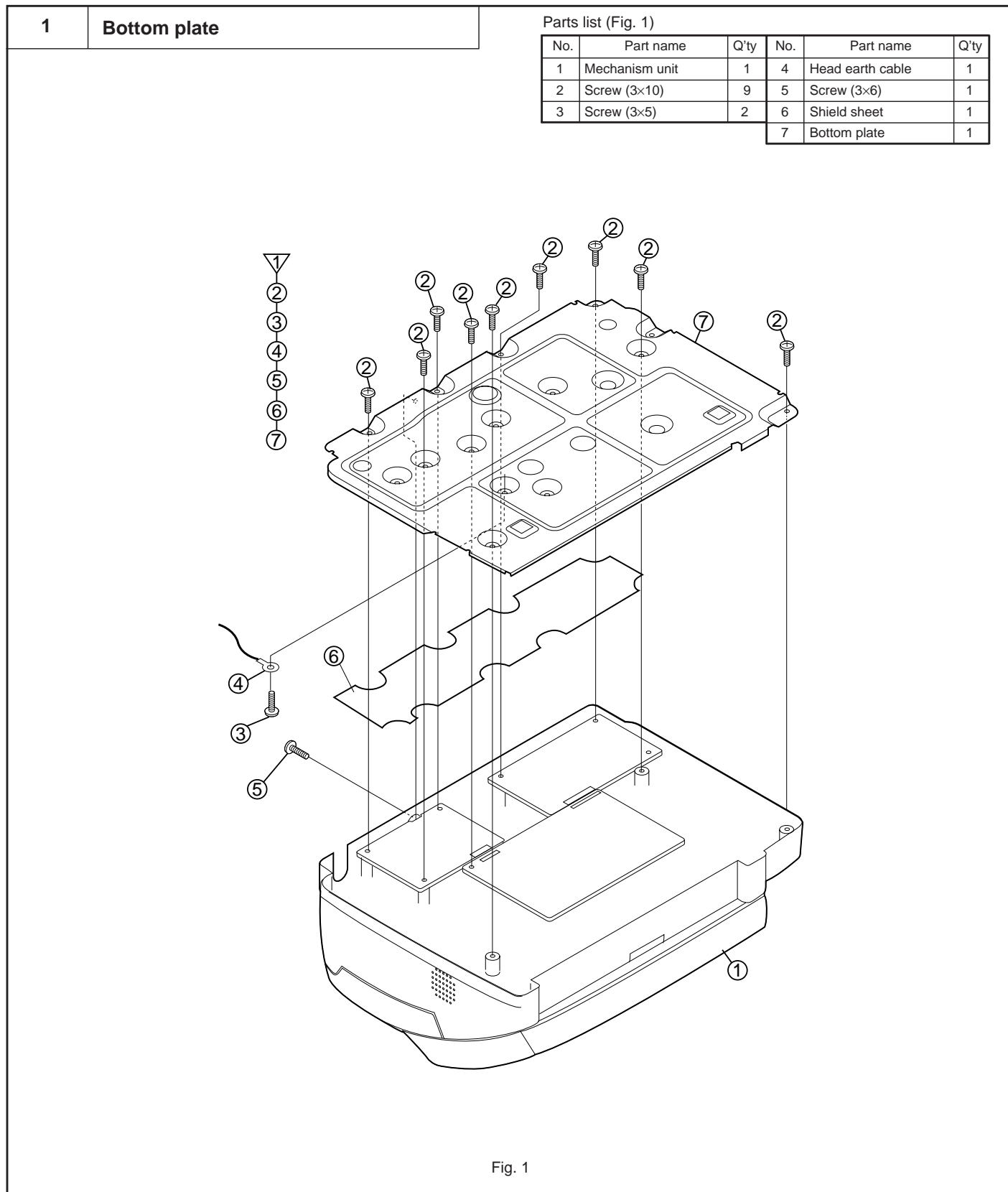
As basic, the density unevenness mainly results from the longitudinal misalignment of the thermal head to the heater line. Otherwise, the head is in uneven contact with the recording paper feed roller, or the imaging film is wrinkled.

The following items are described as the simplified checking method.

- ① Are the power and signal cables of the thermal head suitably treated?
- ② Does the same symptom appear even if the thermal head pressure spring is replaced?
- ③ Is the feed roller of the recording paper concentric? (Density is uneven at intervals.)
- ④ Does the same symptom appear even if the thermal head is replaced?
- ⑤ Is the imaging film stained or wrinkled?

[2] Disassembly and assembly procedures

- This chapter mainly describes the disassembly procedures. For the assembly procedures, reverse the disassembly procedures.
- Easy and simple disassembly/assembly procedures of some parts and units are omitted. For disassembly and assembly of such parts and units, refer to the Parts List.
- The numbers in the illustration, the parts list and the flowchart in a same section are common to each other.
- To assure reliability of the product, the disassembly and the assembly procedures should be performed carefully and deliberately.



2

PWB's, drive unit, AC cord ass'y and speaker

Parts list (Fig. 2)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	7	Screw (4×6)	1
2	Connector	3	8	AC cord ass'y	1
3	Cable	6	9	Screw (3×10)	2
4	Control PWB unit	1	10	Drive unit	1
5	TEL/Liu PWB unit	1	11	Speaker hold spring	1
6	Power supply PWB unit	1	12	Speaker	1

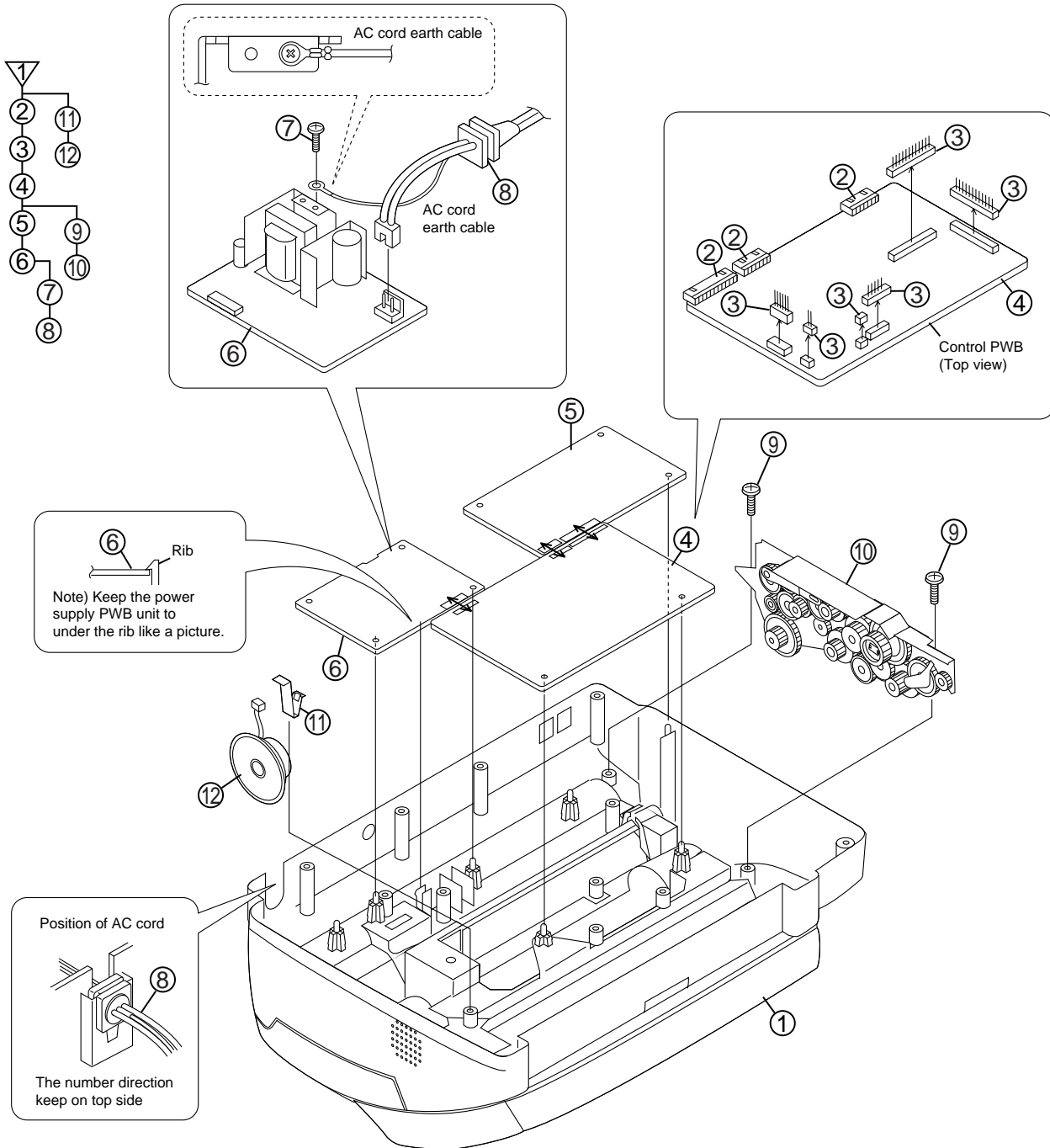


Fig. 2

3 Paper roller etc. and sensor lever

Parts list (Fig. 3)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	8	Platen lock bracket	1
2	Sheet A	1	9	Platen lock lever, left	1
3	P-IN sensor lever B	1	10	Platen lock lever, right	1
4	PE sensor lever B	1	11	Platen lock lever spring	1
5	PE sensor lever spring B	1	12	PO roller	1
6	Screw (3x10)	1	13	Transfer bearing	2
7	BT gear ass'y	1	14	Back roller gear	1

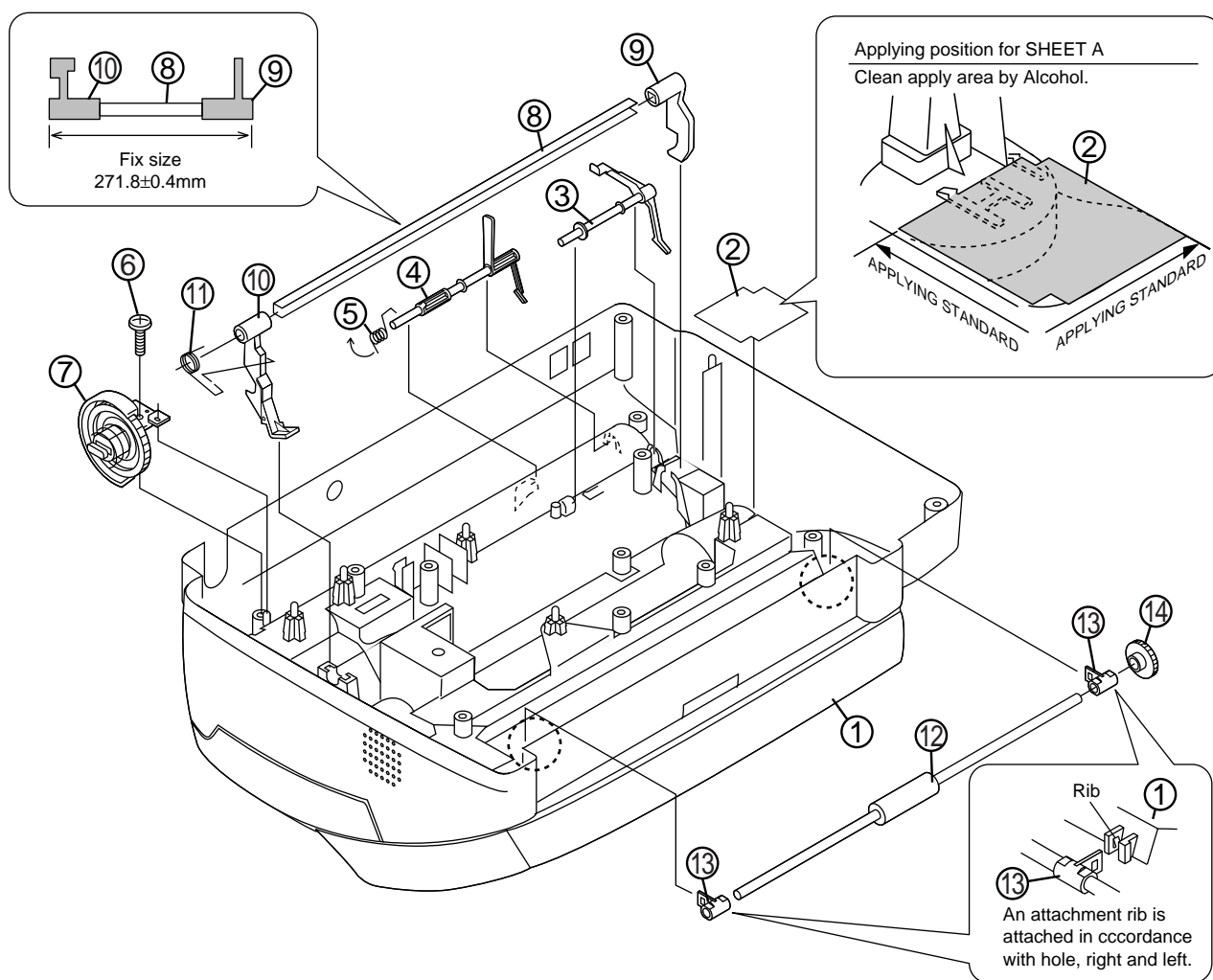
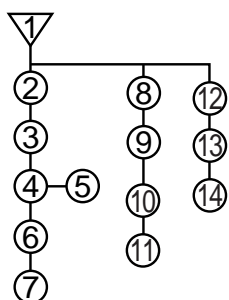


Fig. 3

4 Drive frame

Parts list (Fig. 4)

No.	Part name	Q'ty	No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (3×10)	2	9	Idler gear, 52Z	1	17	Reduction gear, 4	1
2	Motor	1	10	Reduction gear, 3	1	18	Planet gear lever C ass'y	1
3	Motor plate	1	11	Reduction gear, 2	1	19	Planet gear lever B ass'y	1
4	Take up gear	1	12	Reduction gear, 5	1	20	Reduction gear, 1	1
5	Slip gear ass'y	1	13	Reduction gear C	1	21	Cam hold spring	1
6	Reduction gear, 6	1	14	Link lever	1	22	Cam A	1
7	Planet gear lever D ass'y	1	15	Planet gear lever A ass'y	1	23	Cam B	1
8	Idler gear B	1	16	Idler gear, 30Z	3	24	Cam switch	1
						25	Drive frame	1

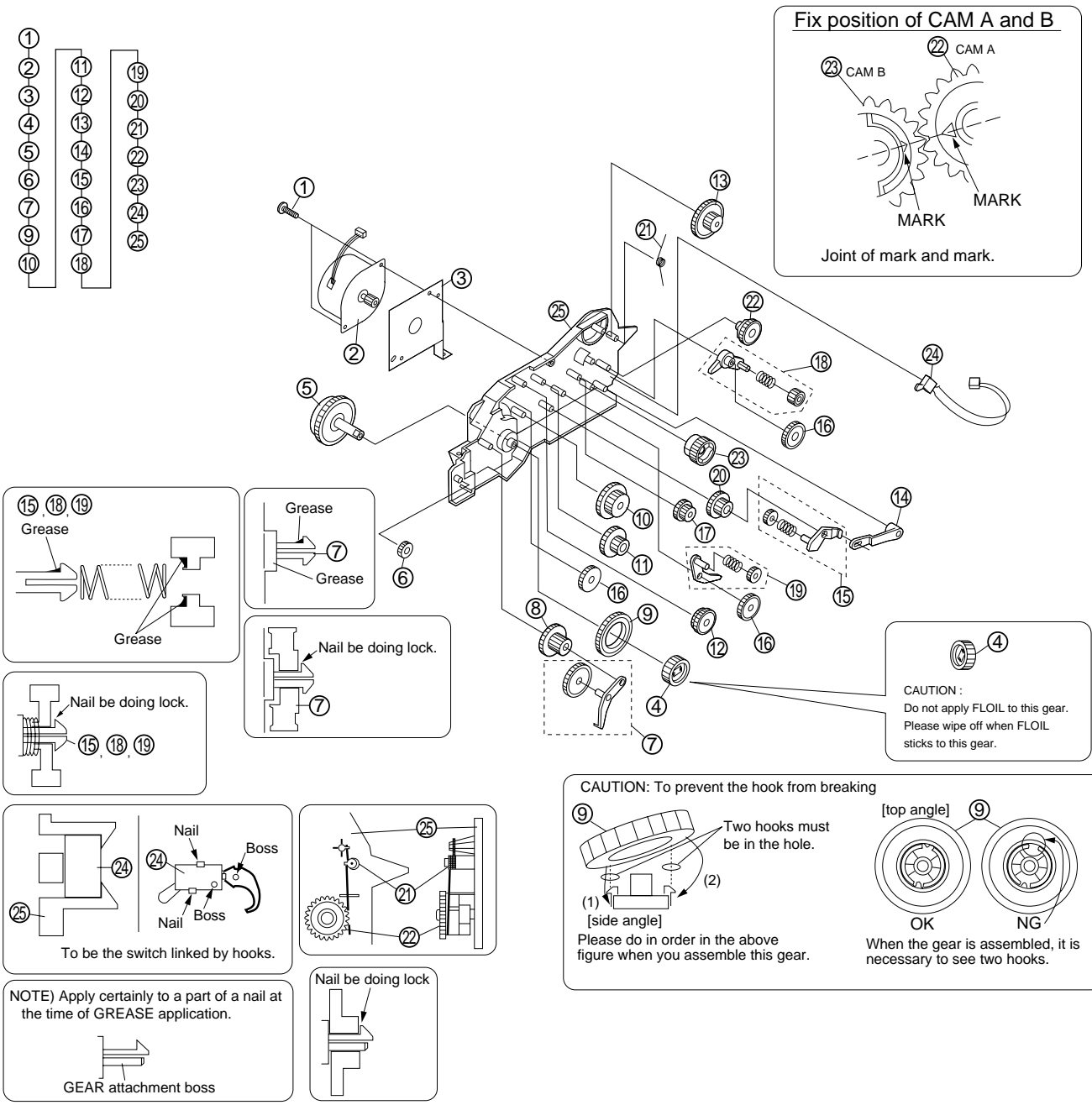


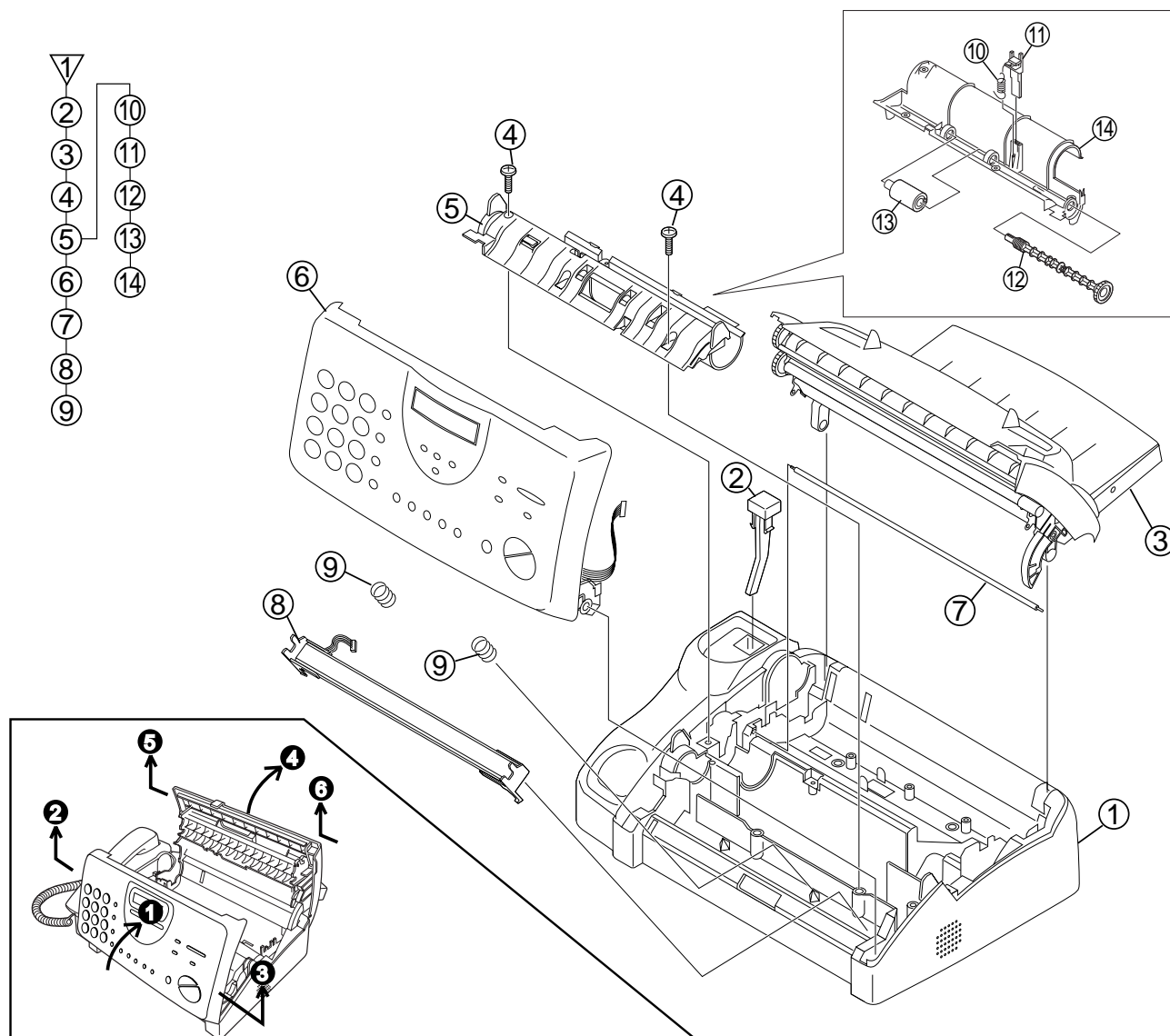
Fig. 4

5

Sub frame unit, original paper guide, operation panel unit and CIS unit

Parts list (Fig. 5)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	8	CIS unit	1
2	Hook switch lever	1	9	CIS spring	2
3	Sub frame unit	1	10	Cover switch spring	1
4	Screw (3×10)	2	11	Cover switch lever	1
5	Original paper guide unit	1	12	Feed roller shaft	1
6	Operation panel unit	1	13	Feed roller	1
7	Film guide shaft	1	14	Original paper guide	1



Operation panel unit disassembly

- ① Close insignificantly the operation panel unit from the FULL OPEN position.
- ② Shift the operation panel unit to the left side, and remove the left-side fulcrum.
- ③ Shift the operation panel unit to the right side, and remove the right-side fulcrum.

Sub frame unit disassembly

- ④ Fully open the sub frame unit.
- ⑤ Shift the sub frame unit to the left side, and remove the left-side fulcrum.
- ⑥ Shift the sub frame unit to the left side, and remove the right-side fulcrum.

Fig. 5

6

Upper cabinet and document guide upper unit

Parts list (Fig. 6)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (3×8)	1	6	Operation panel PWB	1
2	Document guide upper unit	1	7	Direct key	1
			8	Mode key	1
3	Operation panel unit	1	9	Stop key	1
4	Screw (2×6)	5	10	Start key	1
5	Cable	1	11	12 key	1
			12	Upper cabinet	1

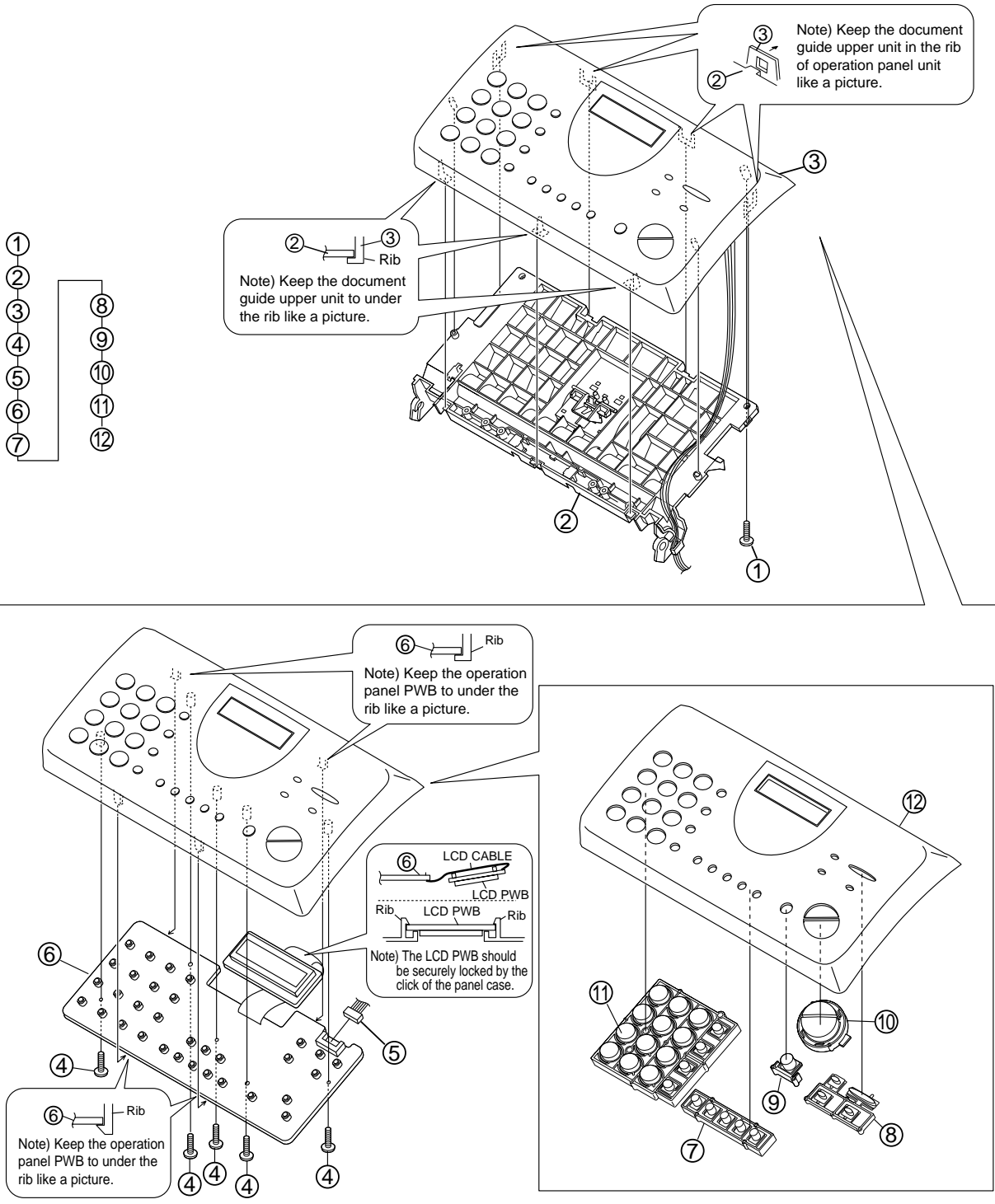


Fig. 6

7

Document guide upper

Parts list (Fig. 7)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Back roller gear	1	7	Separate spring	1
2	Transfer bearing	1	8	Separator plate	1
3	Back roller	1	9	Paper feed spring	1
4	Pinch roller spring	2	10	Separator rubber	1
5	Pinch roller	2	11	Guide roller	1
6	Pinch roller shaft	1	12	Document guide upper	1

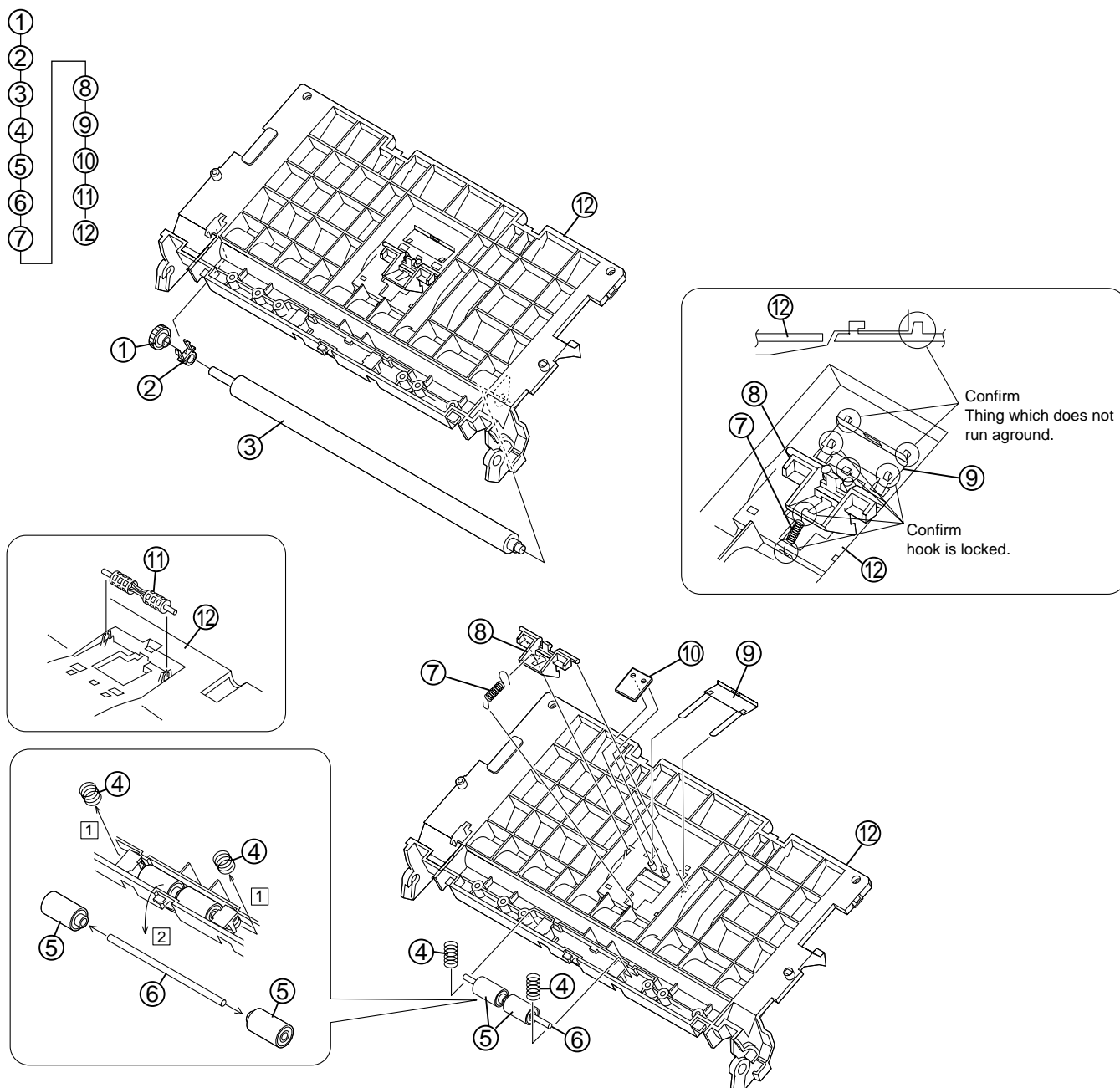


Fig. 7

8

Sub frame, top cover unit RP hopper unit

Parts list (Fig. 8)

No.	Part name	Q'ty	No.	Part name	Q'ty	No.	Part name	Q'ty
1	Top cover unit	1	10	PO pinch roller spring	2	19	Platen bearing, right	1
2	Screw (3×10)	2	11	PO pinch roller	2	20	Platen roller	1
3	Sub frame unit	1	12	PO guide	1	21	PU shaft	1
4	RP hopper unit	1	13	PE sensor lever	1	22	PU roller ass'y	1
5	Sub frame ass'y	1	14	PO gear	1	23	P-IN sensor lever spring	1
6	Screw (3×10)	1	15	PO roller ass'y	1	24	P-IN sensor lever	1
7	Tension gear	1	16	Film guide shaft	1	25	Sub frame	1
8	Tension spring	1	17	Platen gear	1	26	PO roller rubber	2
9	PO guide ass'y	1	18	Platen bearing, left	1	27	PO roller shaft	1

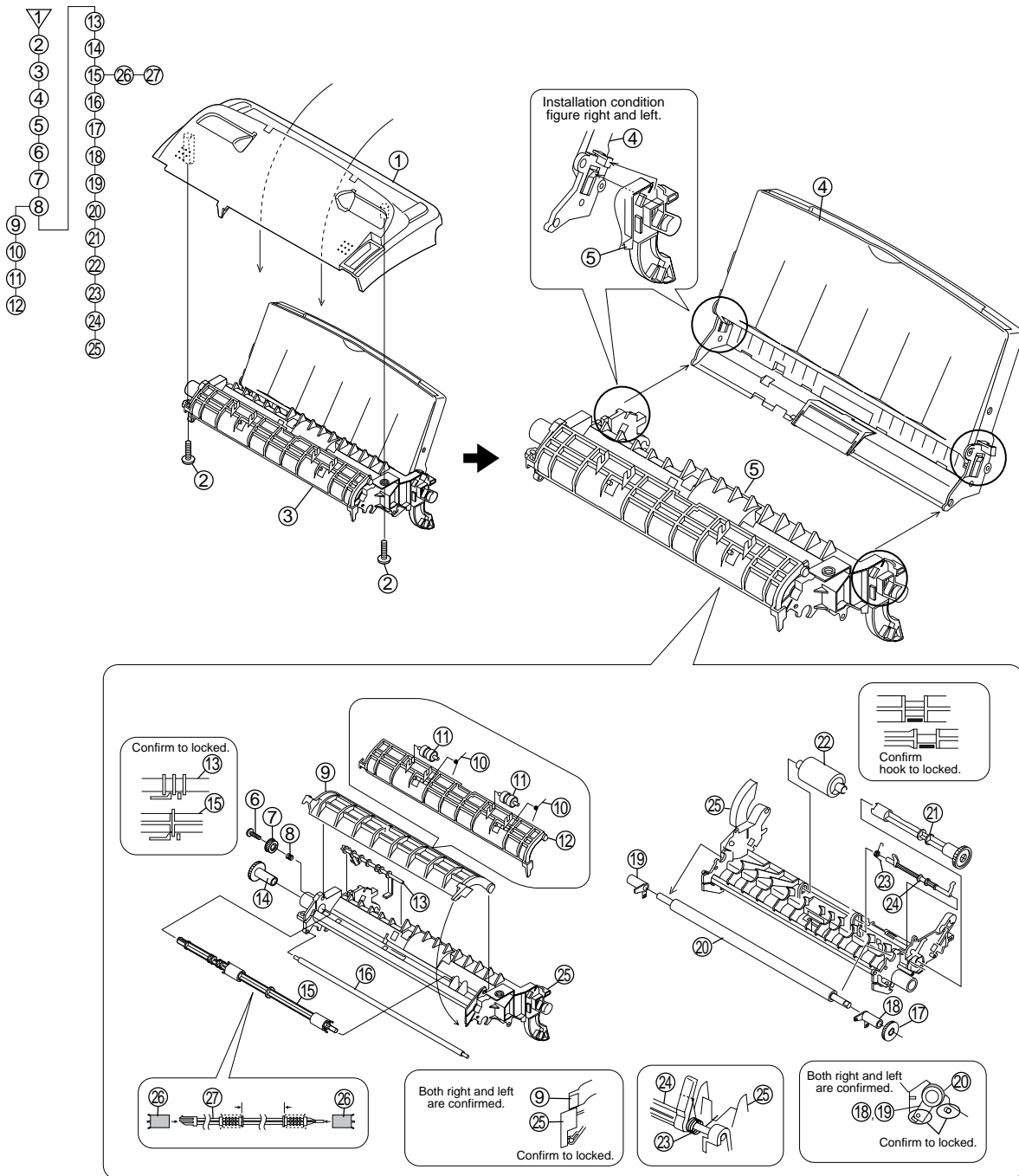


Fig. 8

9 Top cover and RP hopper

Parts list (Fig. 9)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Release knob	1	9	RP release plate	1
2	Screw	1	10	Rotation plate	1
3	Pinion gear	1	11	RP pad	1
4	Hopper spring	1	12	C-spring	1
5	Hopper guide, right	1	13	Separate plate	1
6	Hopper guide, left	1	14	Separate plate sheet	1
7	TC sheet	1	15	Separate spring	1
8	Top cover	1	16	A4 paper guide	1
			17	RP hopper	1

- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦
- ⑧
- ⑨
- ⑩
- ⑪
- ⑫
- ⑬
- ⑭
- ⑮
- ⑯
- ⑰

Note) Hopper guides move smoothly.
Operation load is 450 g range from 80 g.

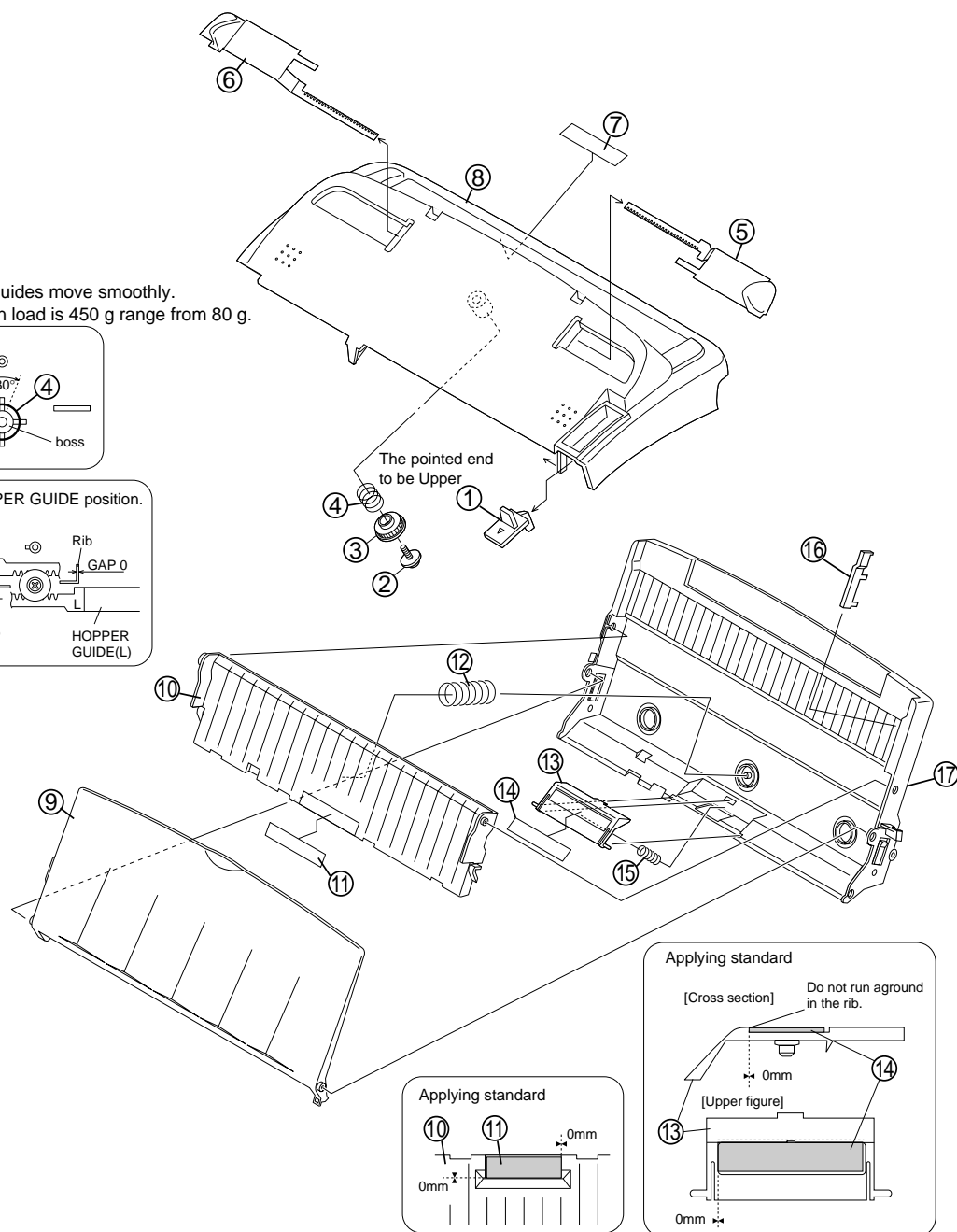
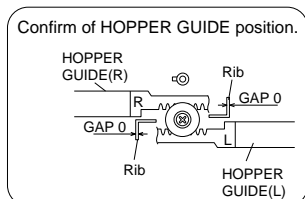
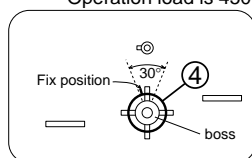
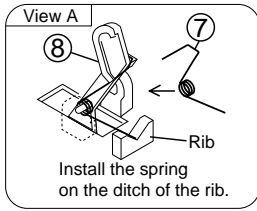
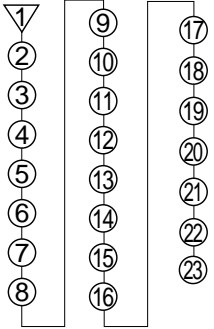


Fig. 9

10 Thermal head

Parts list (Fig. 10)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Mechanism unit	1	12	Thermal head ass'y	1
2	Screw (3×10)	1	13	Head spring E	2
3	Head cover	1	14	Head spring B	2
4	Screw (3×10)	2	15	Head spring F	1
5	Head earth cable	1	16	Head cushion	2
6	Head unit	1	17	Head frame	1
7	Film sensor lever spring	1	18	Head cable	1
8	Film sensor lever	1	19	Screw (3×6)	1
9	Screw (3×10)	2	20	Head guide, right	1
10	Panel lock lever spring	2	21	Screw (3×6)	1
11	Head spring D	2	22	Head guide, left	1
			23	Thermal head	1



The head and head earth cable pass to the core 2 times.

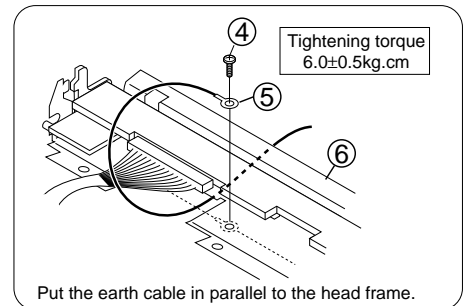
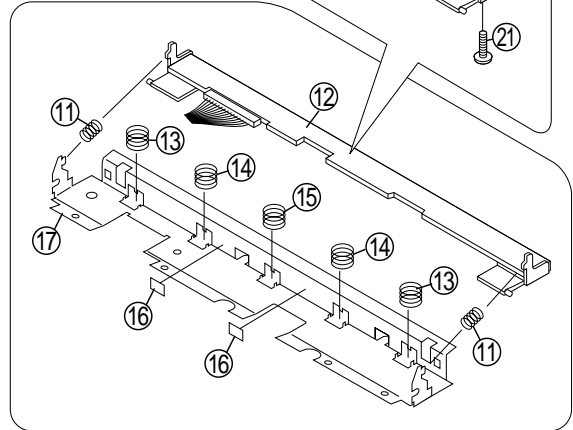
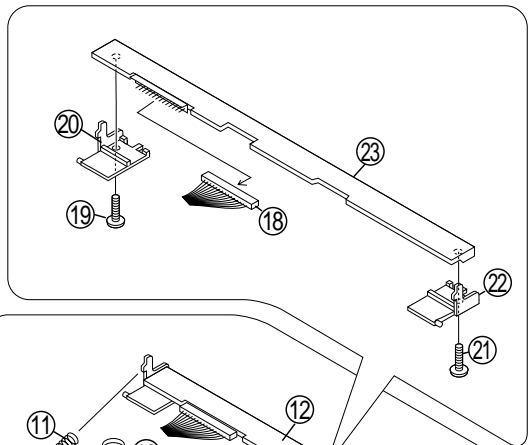
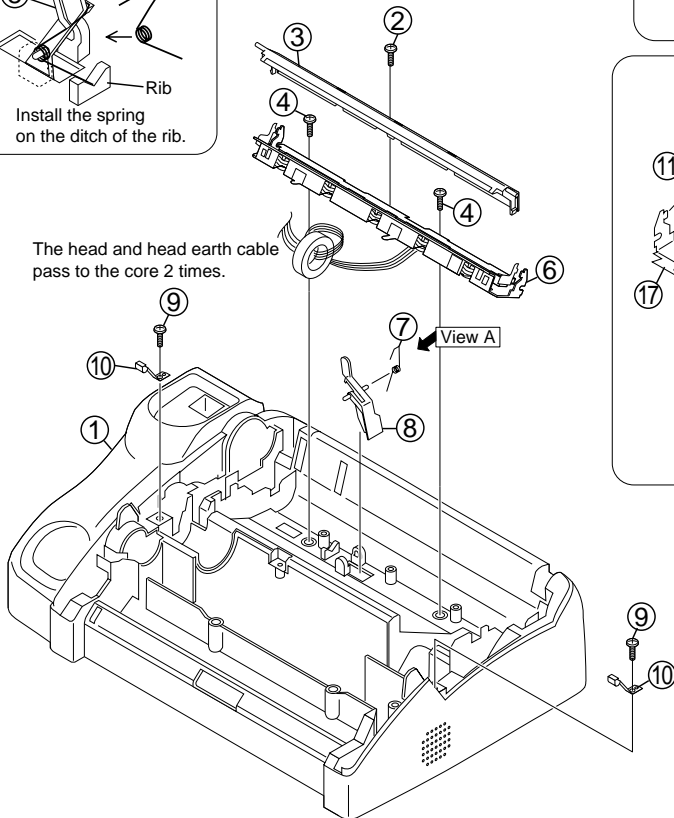


Fig. 10

11

Wire treatment

Parts list (Fig. 11)

No.	Part name	Q'ty
1	Screw (3×10)	1
2	Screw (4×6)	1
3	Core (F2064)	1
4	Core (F2063)	1
5	Screw (3×5)	1
6	Core (F2103)	1

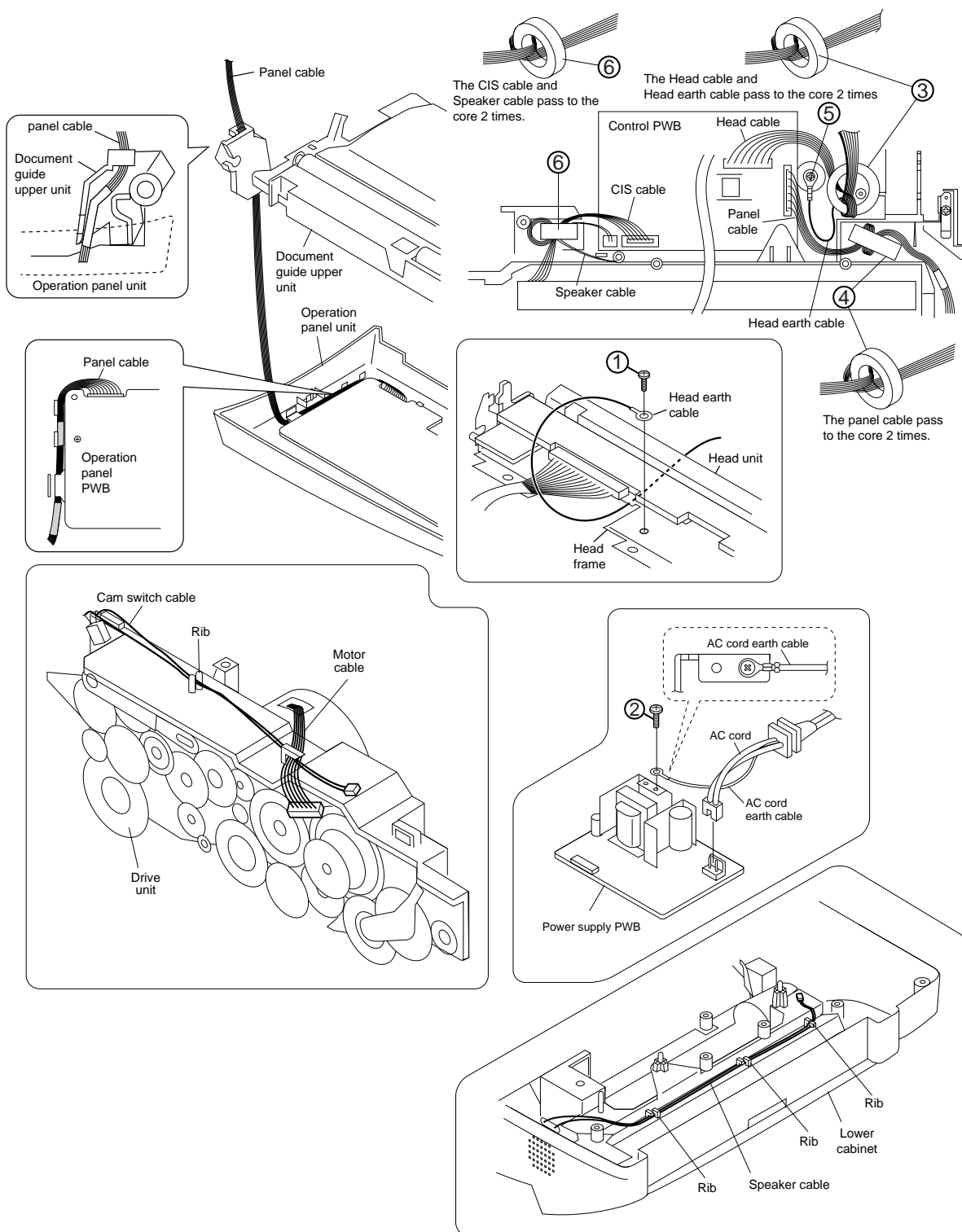


Fig. 11