PHU-500 Installation Manual

PHU-500 is an optional paper holder for the PMU-3300 series that can hold paper rolls with large diameters up to 200mm and uses a paper near-end (PNE) sensor to detect low paper levels. This manual explains how to assemble and install the PHU-500 itself and fix to the PMU-3300

Please refer to the "PMU3300 Instruction Manual" for the details on the PPMU3300.

The contents of this assembly manual are subject to change without notice.

1. What's in the package

The following parts are included with this product.   Quantity included
1) Assembly manual (this document)...   1
2) Frame..   1
3) Paper holder arm   1
4) Paper holder core...   1
5) Flange for core..   1
6) Mounting screws (W-SEMS M3 × 8)   4
7) Paper core flange mounting screws (P-tight M3x8)   2
8) Printer and chain attachment screws (Binding M3x6)   4
9) Cable ties (tie-wrap)..   5
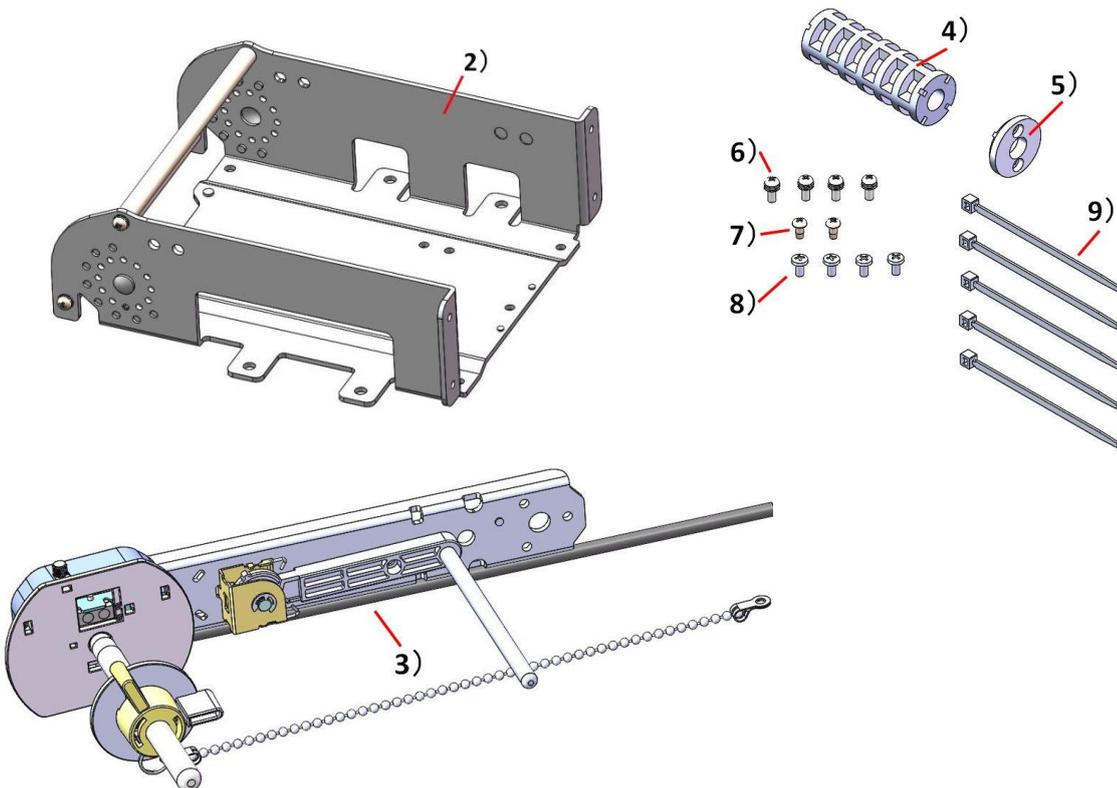
2. Assembly

> ## ⚠ Caution
>
> -Please be careful not to injure yourself on the edges of the sheet metal during the assembly.
>
> -Please do not move the printer while holding the part such as the cable harness as it can cause damage.

◆Fixing to the frame

Fix the PMU3300 to the frame with the bind screw (large head screw) provided with the PHU-500 kit.　There are three locations.

—Fig.2—

Binding screw
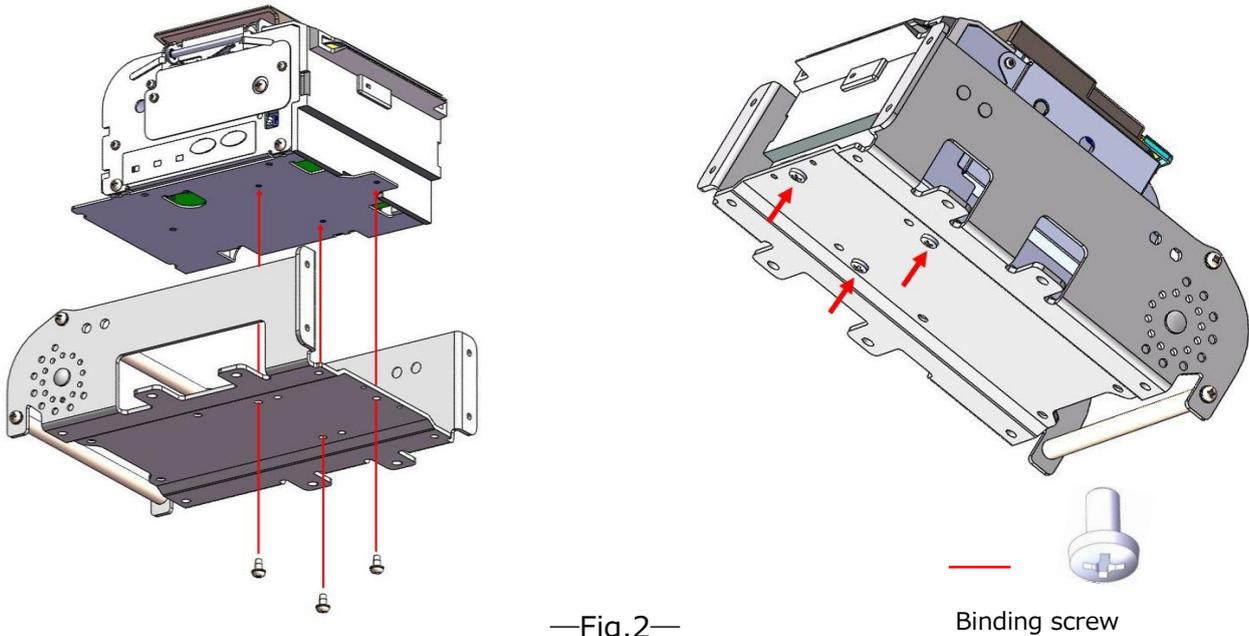
◆Installing the paper holder

The paper holder arm can be fixed to the frame in 7 positions (A to G) and on either the right or left side of the printer. Please choose the position that best suits your use.
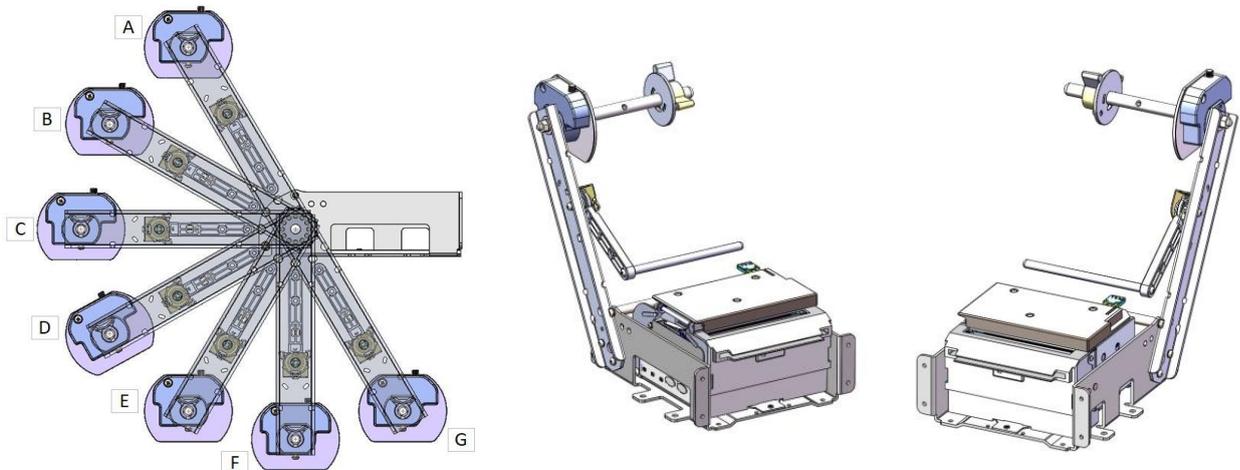
—Fig.3

—Fig.4—

・ Secure the paper holder arm in three places with the included "W-sems" screws (those with two washers).

W-sems screw
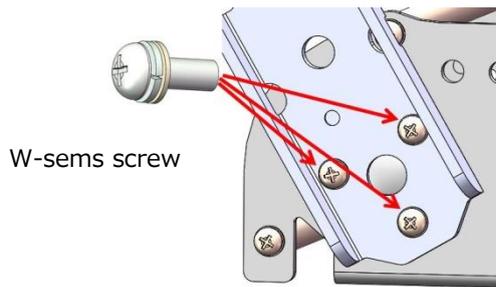
—Fig.5—

◆Installation of power supply and PNE sensor
Put the cable of the PNE sensor along the arm of the paper holder and fix it in two or three locations with the cable ties included in the PHU-500 kit.

Ensure the cables of the power supply and PNE sensor are routed correctly so that they do not come into contact with the paper.

—Fig.6—

Power connector

PNE sensor connector

Plastic cable tie

PNE sensor cable
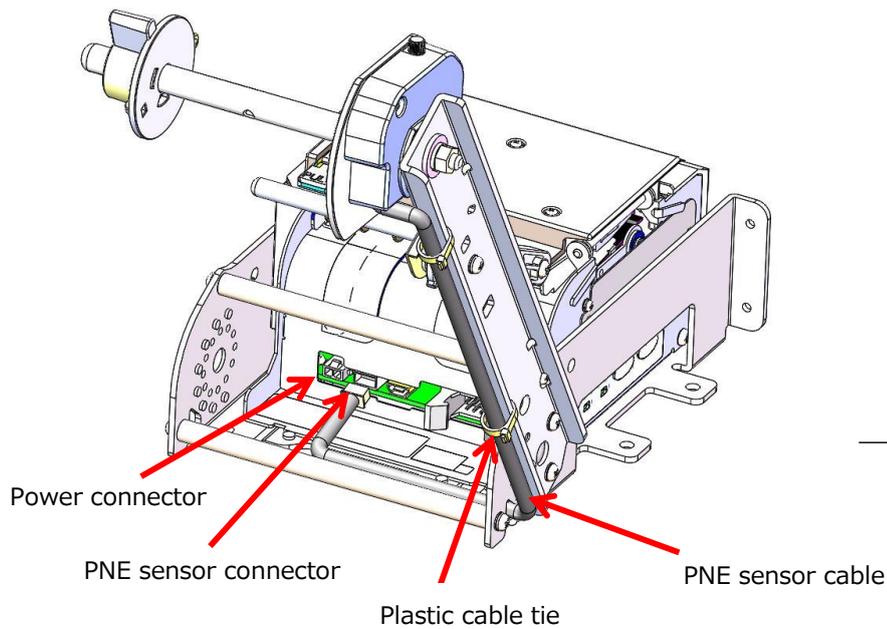
3. Paper Guide

◆Securing the paper guide (which includes the PNE – paper near end – sensor)

・ Select the paper guide position according to the paper width and tighten the screws to fix it.

NOTE: Before fixing the paper guide, pay attention to the angle described on next page.

	2-inch paper	3-inch paper
Paper		
Guide Position	Slide to a stop. ➡️ ⭐	⭐ ⬅️ Slide to a stop.
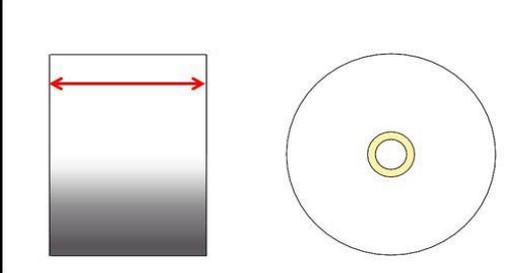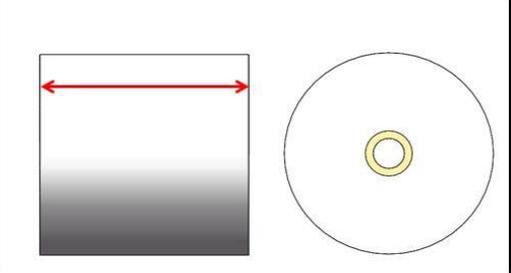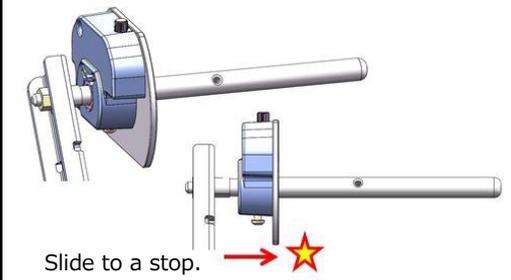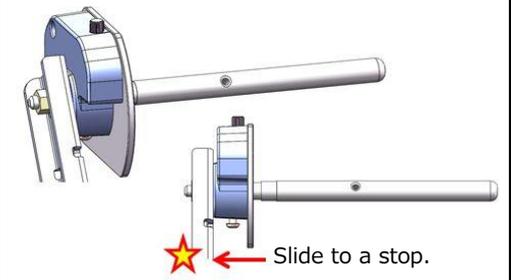
－Fig.7－
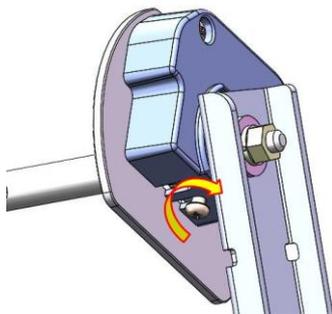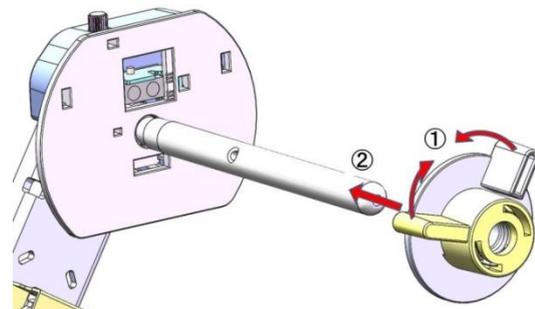
Fixing the paper guide 1   Fixing the paper guide 2

－Fig.8－

◆Attaching a chain to prevent the loss of paper guides

Secure the chain built into the paper guide with a binding screw.
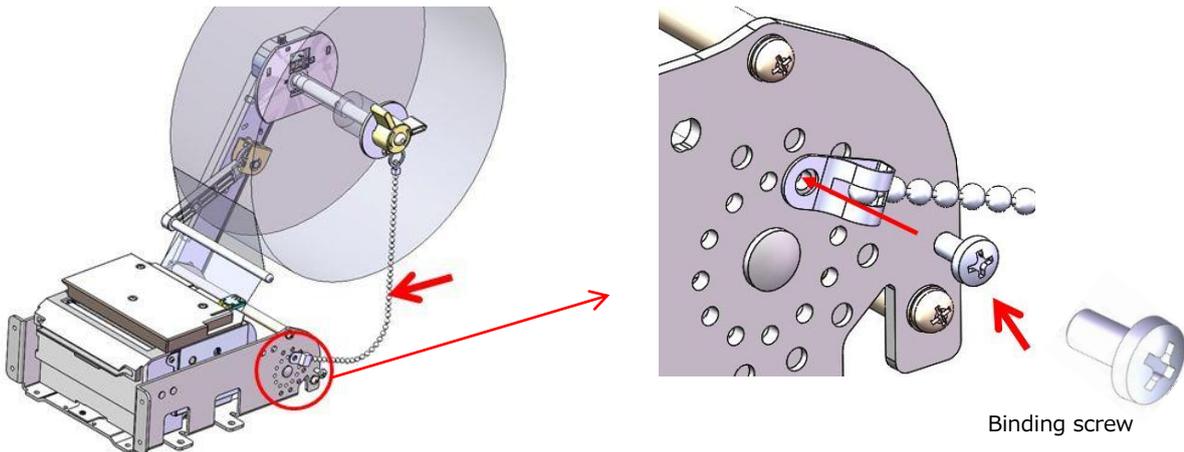
Binding screw

－Fig.9－

◆Paper guide angle

The paper holder arm has seven possible positions A to G as shown in Fig.3A, below. The paper guide, which contains the PNE sensor, can be positioned in two ways,

A, B, C, E, F, G position	The paper guide is aligned with the top and bottom directions as shown in Fig.10.
D position	Secure the paper guide parallel to the arm as shown in Fig.11. The reason why the angle of the D position is different is to prevent the PNE sensor from false detections.

—Fig.3A—

Upward

Downward

Upward

Downward

—Fig.10—

Upward

Downward
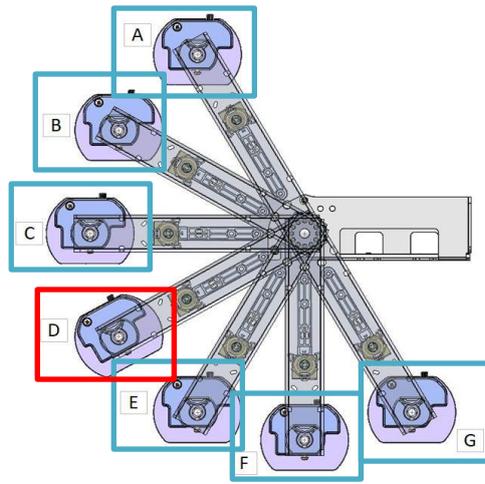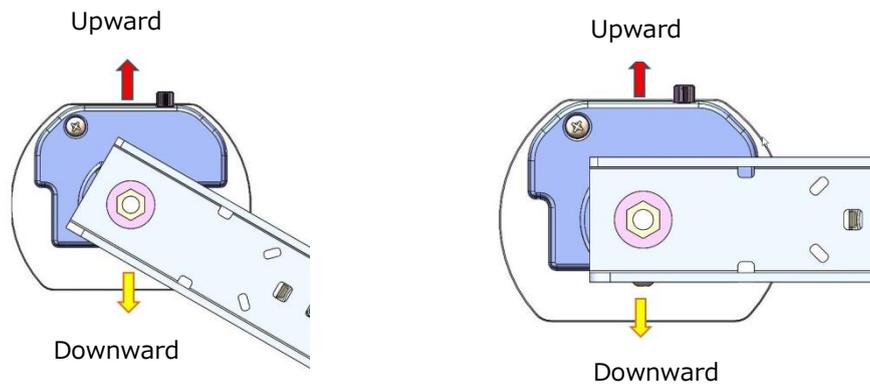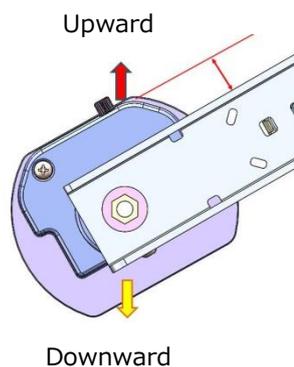
—Fig.11—

4. Paper holder core and PNE sensor adjustment

◆Paper holder core

・Depending on the paper core size, "paper holder core" should be used. (See Fig. 12, 15.)

・The paper holder core is compatible with 80mm paper width and cannot be used for 58/60mm.

・The paper holder core is secured with the W-sems screws (those with two washers).

When "Paper guide" is used

Paper guide

W-sems screw
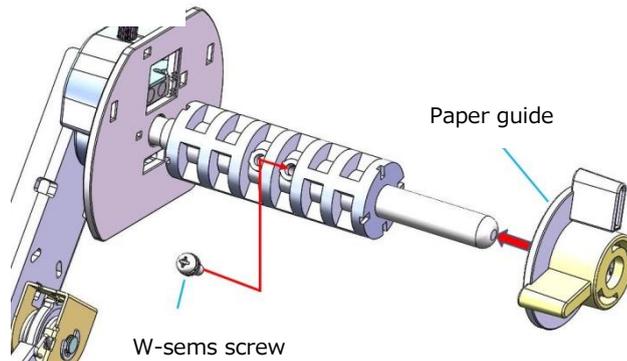
－Fig.12－

Note: Depending on how the paper guide or the flange for the core is used, the fixing location of the paper core is different.

When "Pager guide" is not used

Flange for core

W-sems screw   P-tight screw
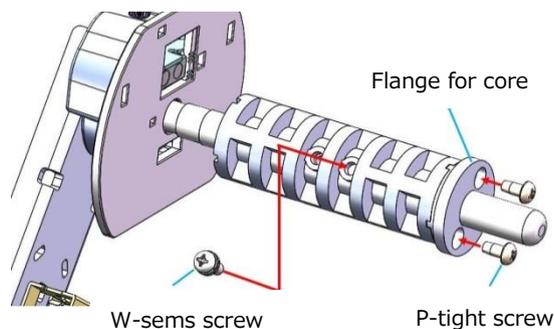
－Fig.13－

Assemble the flange for the core with two P-tight screws before mounting.

Please check whether the core flange can be used with the paper before using it.

◆Adjusting the PNE sensor position

・**Precautions for the PNE sensor during housing design and installation**

The PNE sensor may detect false positives due to ambient light, so please consider the housing design and installation so that the PNE sensor is not affected by ambient light.

· The remaining amount of paper at the time of detecting PNE is different by the setting position of PNE sensor, so please set it to an appropriate position by referring to Fig. 14/15.

PNE sensor

Anti-clockwise rotation　　Clockwise rotation

●Clockwise rotation
Remaining paper length is longer.
●Anti-clockwise rotation
Remaining paper length is shorter.
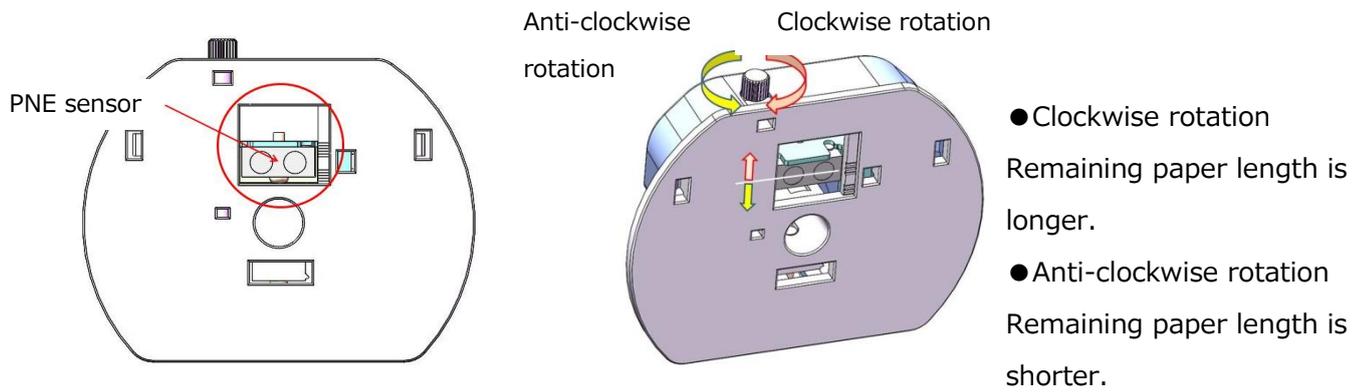
－Fig.14－

· The position of the PNE sensor also depends on the size of the paper core to be used.
· As shown in Figure 15, the inner core diameter of the core is divided into 12 mm and 1 inch.
· When using roll paper with 1-inch paper cores, use the included paper holder core.
· Please set the setting of PNE with the center of the scale ② and ⑤ as a guide, and make a fine adjustment from the actual remaining amount.
　(Please note that depending on the dimensions of the core, it may not be possible to detect the core at the recommended position.)
· The remaining paper length is about 2.5 m for a small core and about 2 m for 1-inch core.

	Small core (about 12mm)	1 inch core
Paper	Inner diameter Inner diameter: About 12mm	Inner diameter Inner diameter: About 25.4mm
Position	Standard : ② ③ ② ①	Standard : ⑤ ⑥ ⑤ ④
Holder core	Not required	Required

－Fig.15－

5. Paper and damper settings

・Use paper with the outside printing surface (outside wound media). Paper with inside print surface (inside wound) cannot be used.

・The course of the paper is as shown below. When the roll is horizontal or below the printer, the paper goes outside of the frame shafts.

・The damper shaft should come at the position so as to lengthen the distance from roll to printer, as shown in Fig 18,

・The damper is used to reduce the load when printer starts to pull a large diameter roll.

Frame shaft top

Damper shaft

Frame shaft bottom
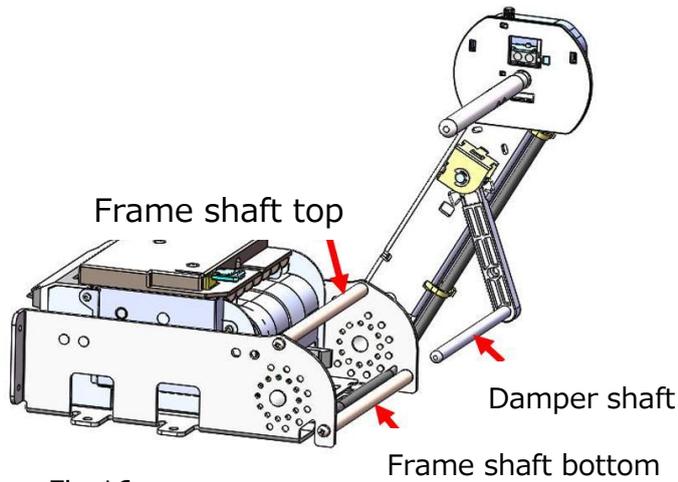
－Fig.16－
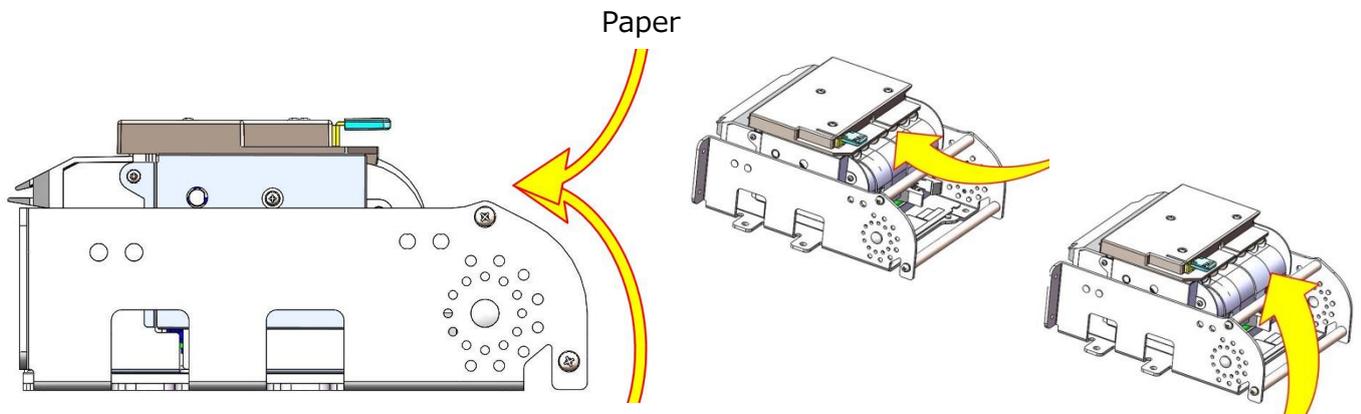
Paper

－Fig.17－
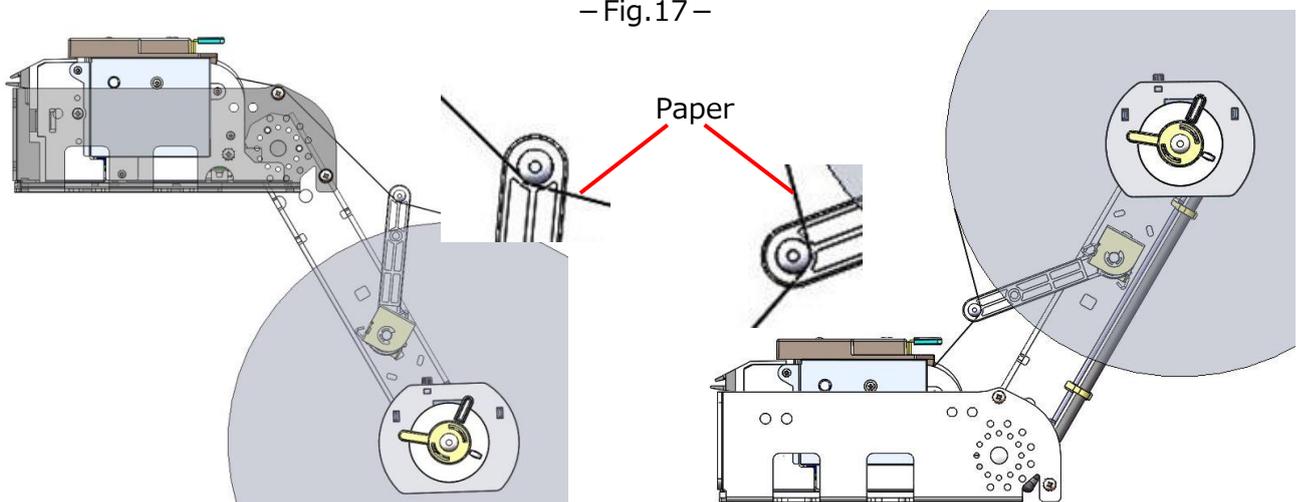
Paper

－Fig.18－

When using large diameter rolls of paper with a diameter of 130 mm or more, the paper may get caught inside the printer if the paper is left under tension by the damper.

In this case, enable "MSW6-3 Auto Tension Adj".

To avoid this problem, turn the paper roll to loosen the tension or feed the paper about 200 mm after turning the power on.