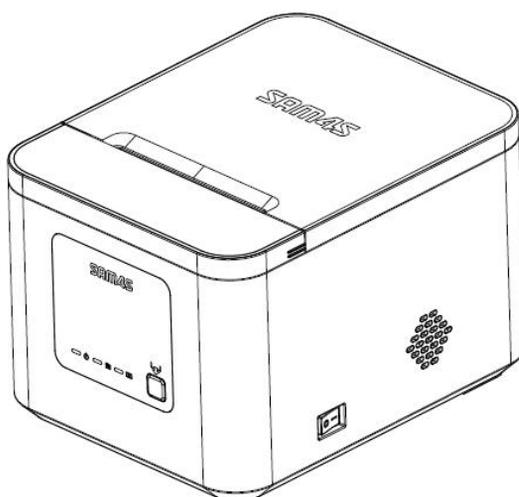


SAM4S

Desktop POS Printer

HCUBE-102D

Service Manual



Rev.1.0

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Caution

Read the following carefully before handling the printer:

1.Safety Warnings



Warning: The print head will become very hot during printing; do not touch the print head and other components during or after printing.



Warning: Do not touch the print head and connector in case static electricity causes damage to the print head.

2.Cautions

- 1) The steps described in the manual should be strictly followed in the process of troubleshooting;
- 2) Do not unplug the communication cable, replace the print head and maintain the printer without power off the printer.
- 3) Handle the printing head or other electronic components in the process, pay attention to prevent static electricity.
- 4) The time interval between the power off and on of the printer must not be less than 20 seconds;
- 5) The printer must not print in a paperless state, otherwise it will seriously damage the platen and print head;
- 6) In cases where the printing effect meets the requirements of using, it is recommended that the user set a low level of printing concentration as far as possible to improve the service life of the print head;

1 Product Features

1.1 Introduction

HCUBE-102D is a thermal receipt printer with auto-cutter, featured by high printing quality, high printing speed, high stability, etc. It can be used in commercial POS system, catering industry and some occasions which need real-time field receipts printing.

HCUBE-102D can connect to other equipment through serial, USB, Serial Interface, cash drawer and Ethernet interfaces. And the printer drivers are available for the WINDOWS Vista/7/8/10/11 operating system.

1.2 Main Features

- 1) Low noise
- 2) High printing speed
- 3) Easy paper loading
- 4) Cash drawer interface
- 5) User convenient maintenance

2 Main Components Disassembling and Assembling

Cautions during operation:

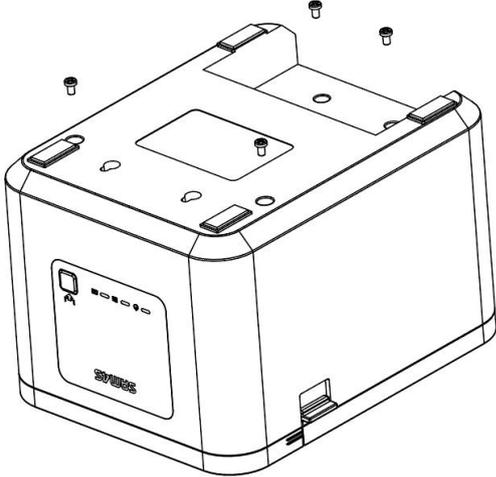
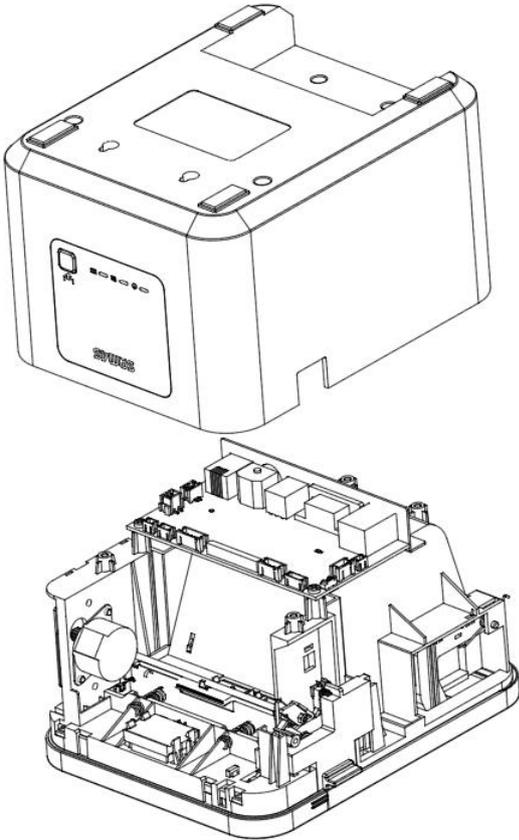
- 1) When printer is working, do not disassemble any component of it and do not loosen any screws.
- 2) When disassembling components, carefully check whether the connectors are damaged or not.
- 3) Handle the printing head or other electronic components in the process, pay attention to prevent static electricity.
- 4) Do not let screws or other components into inner of printer during disassembling.
- 5) Avoid printer mechanism being damaged when assembling and disassembling.

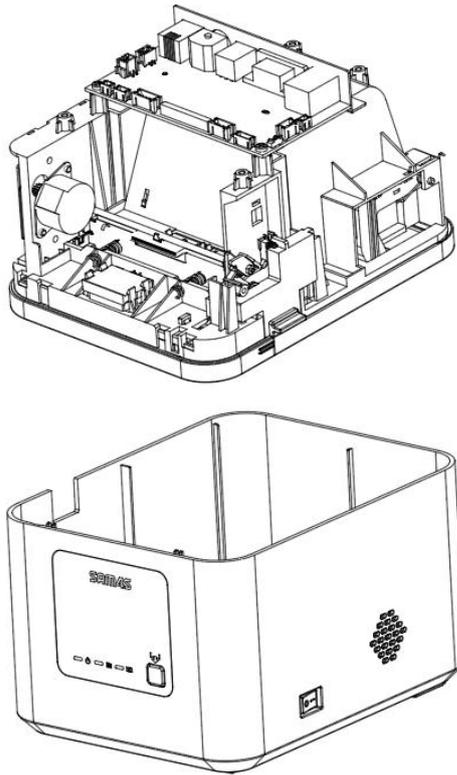
Maintenance tool: Cross screw driver, normal screwdriver, cutting pliers.

Auxiliary materials: Lubricating grease, alcohol, rayon balls.

2.1 Printer Disassembling

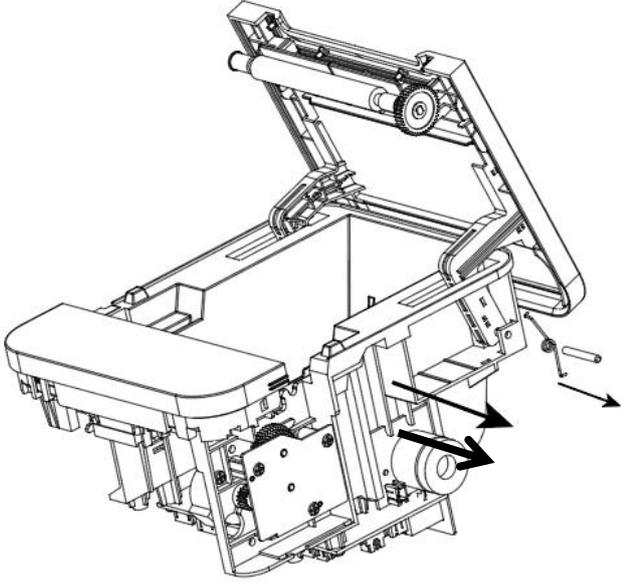
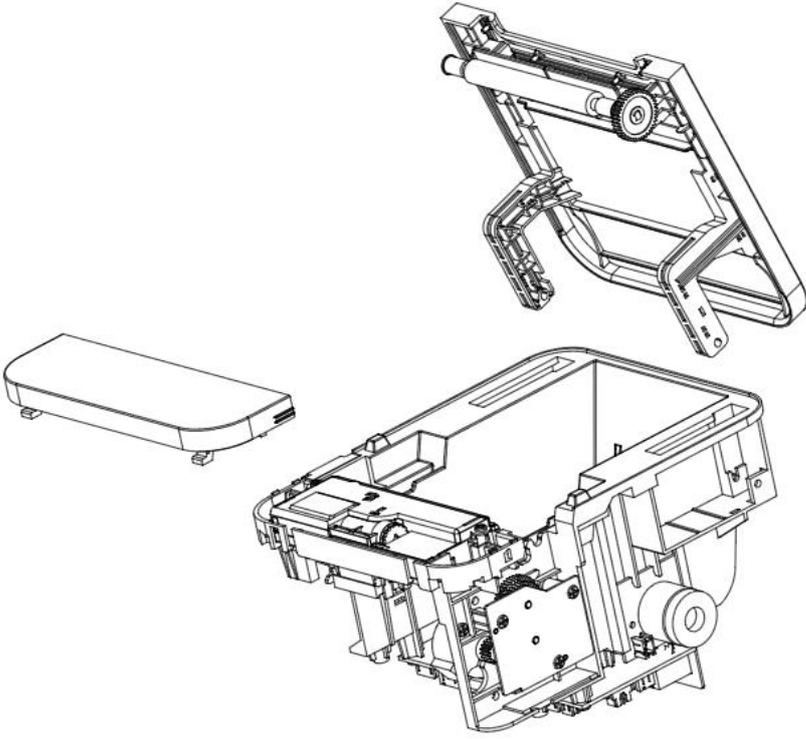
2.1.1 Disassemble the Lower Shell Unit of Printer

Diagram	Description
	<p>1. Remove the 4 screws from the bottom of the printer with a cross screwdriver.</p>
	<p>2. Remove the lower shell unit and pull out the cables from the two interfaces.</p>

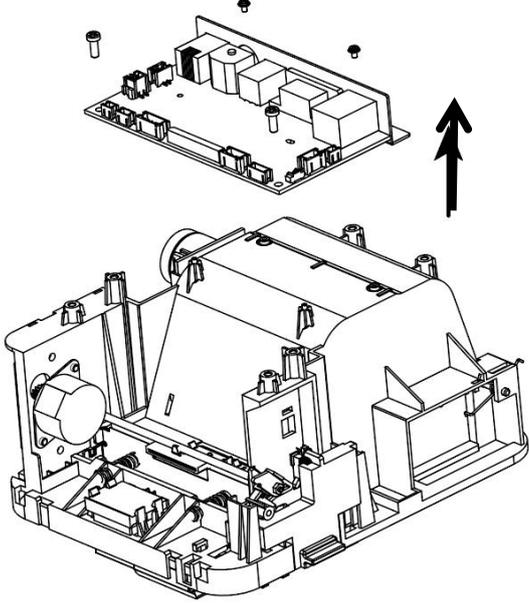


3. The two major units are separated.

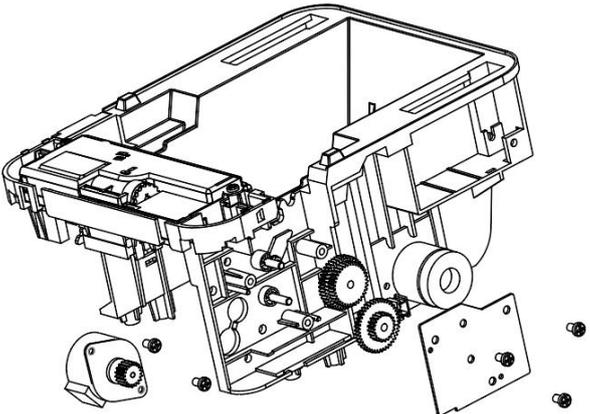
2.1.2 Disassemble the Cutter Cover, Top Cover & Main Holder.

Diagram	Description
	<p>1. In the open cover state, remove the cover shafts and torsion springs on both sides.</p>
	<p>2. Cutter cover, top cover unit and the main holder are separated.</p>

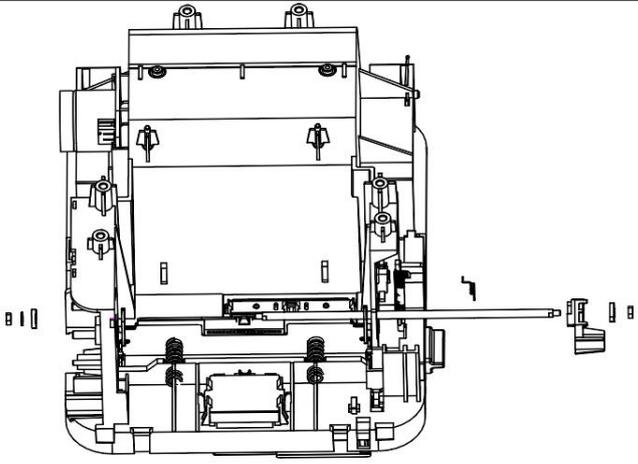
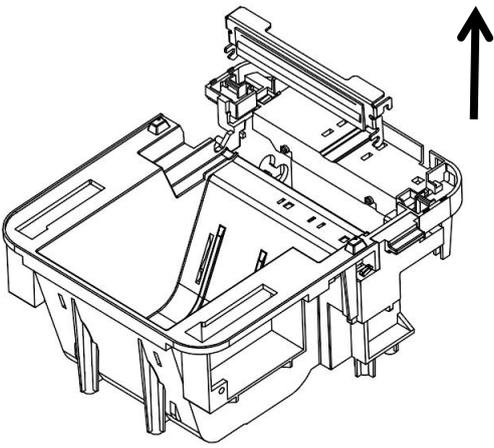
2.1.3 Disassemble the Main Board

Diagram	Description
	<p>Unplug all cables on the main board, remove 4 screws from the main board with a cross screwdriver, and remove the main board.</p>

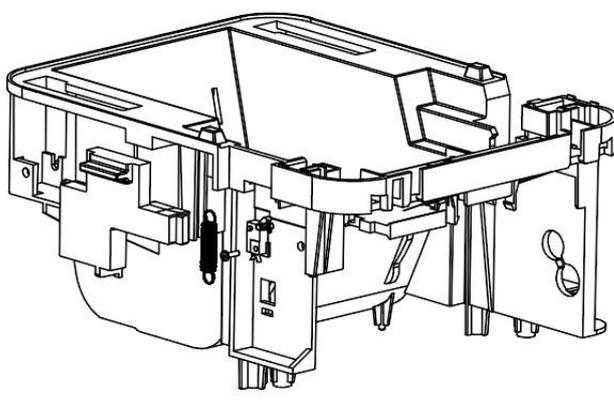
2.1.4 Disassemble the Gear & Motor

Diagram	Description
	<p>Remove the screws from gear cover plate with a cross screwdriver, so the gear cover plate and the gear are separated. Remove the two screws from the motor, so the motor is separated.</p>

2.1.5 Disassemble TPH

Diagram	Description
	<p>1. Remove the two nuts from the TPH shaft, so the shaft, button bar and the pick are separated.</p>
	<p>2. Remove the TPH upward.</p>

2.1.6 Disassemble the Cover Opening Button, Springs & Head-up Sensor Switch

Diagram	Description
	<p>Press the cover opening button, so the button and the spring are separated from the main holder; Remove the screw of the head-up sensor switch, so the switch is separated.</p>

2.2 Assemble the printer

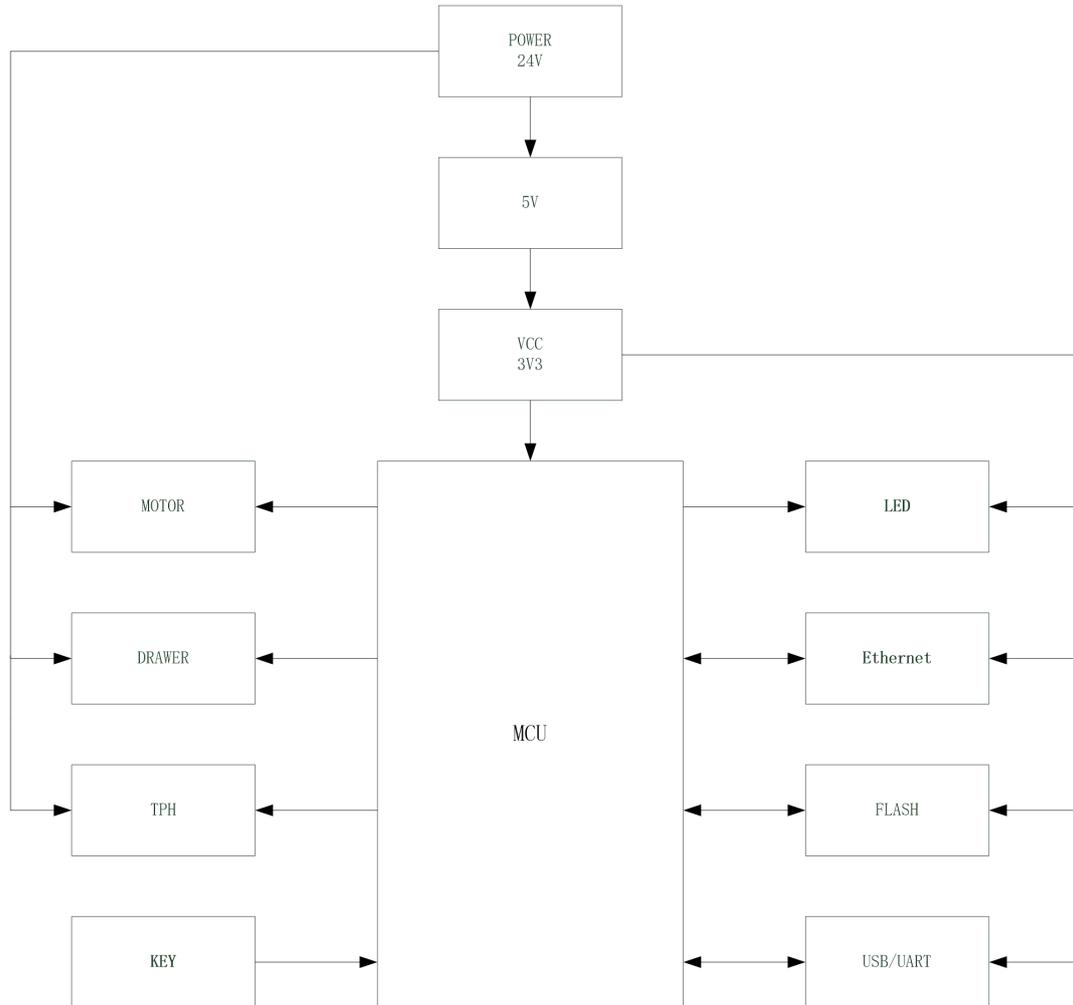
It's only necessary to assemble in the opposite order of disassembling.

Notes:

- 1) When assembling the paper container unit, it should correspond to the corresponding slot of the lower cover. It is recommended to take photos as a reference before disassembling the printer.
- 2) When assembling the paper container, the top cover open angle should be less than the maximum.
- 3) After assembling, it means that the assembly is correct when the top cover can be opened and closed normally.

3 Control Board Connection diagram

Sensors, buttons, and motors are connected to the main control panel via a connector or adapter board. Refer to the Dashboard Component Connection diagram below:



4 Troubleshooting

If there are troubles, you can refer to this chapter for appropriate processing. If you still can't troubleshoot, contact your agent or manufacturer.

4.1 The printer doesn't work

Problem Description	Probable Reason	Solution
LED is not on, printer is not working	Printer has no power	Connect to the power supply
	AC/DC power adapter is broken	Replace power adapter
	Printer is not on	Turn on the printer
	Circuit board is damaged	Contact with the dealer

4.2 LED Indicator and Beeper Alarm

Problem Description	Probable Reason	Solution
Error LED and paper LED are always on and beeper alarms	Printer cover is open	Close the printer cover
	Paper end	Reload the roll paper
Error LED blinks and beeper alarms	Thermal print head is overheated	Turn the printer off and resume when it cools
	Over-voltage	Print with specified voltage
	Low-voltage	Print with specified voltage
	Cutter jam	Restart the printer. (Or refer to 6.5)

4.3 Troubles Occur During Printing

Problem Description	Probable Reason	Solution
Blurred printing or spot	Incorrect roll paper loading	Check if the roll paper is loaded
	Unqualified roll paper	Use recommended thermal roll paper
	Dirty thermal head or print roller	Clean the thermal head or print roller
	Low print density	Increase the print density level
Paper is not feeding normally	Paper is jammed	Open the printer cover, check the paper path and remove jammed paper
Vertical print words are missing	Dirty thermal head or print roller	Clean the thermal head or print roller
	Thermal head is damaged	Contact with your dealer for assistance

4.4 Problems Emerge During the Paper Cutting

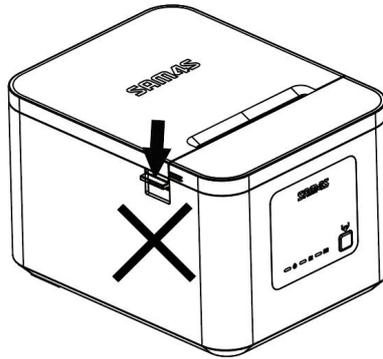
Problem Description	Probable Reason	Solution
Cutter jam, the movable cutter cannot go back	Cutter abrasion, insufficient cutting	Replace the cutter
	Worm gear and worm wheel abrasion	Replace the worm gear and worm wheel
	Motor is burnt	Replace the motor
	Paper scraps	Clean the paper scraps on the transmission system
Insufficient cutting	Cutter edge abrasion, paper is too thick	Replace the cutter
Paper jam	Thermal printer head is over heated	Reduce the density of printing
	Driving too fast	Reduce the printer speed to the limit of thermal printer head
	Wrong paper feeding position	Put the paper parallel with the paper mount and insert into the space between platen roller and the thermal printer head.



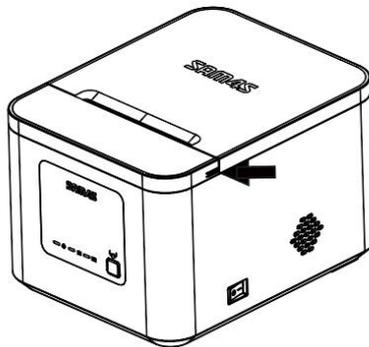
Note: about the density setting, please refer to chapter 8 of User Manual.

4.5 Troubleshooting For Cutter Jam

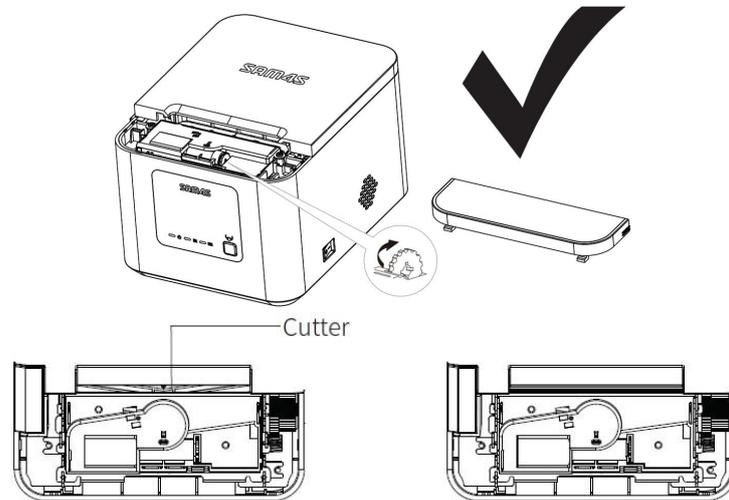
1) When cutter jam occurs, do not press the cover open button to avoid damaging the blade.



2) Fix the printer by one hand and press either side of the convex bars by the other hand. Push up and open the front cover.



3) Please rotate the gear until the blade returns to its normal position, as shown in Figure 2.



When cutter jam occurs, the auto-cutter blade cannot return to the correct position and it locks in place. In this situation, the roll paper cover does not open even if you pull cover open lever.

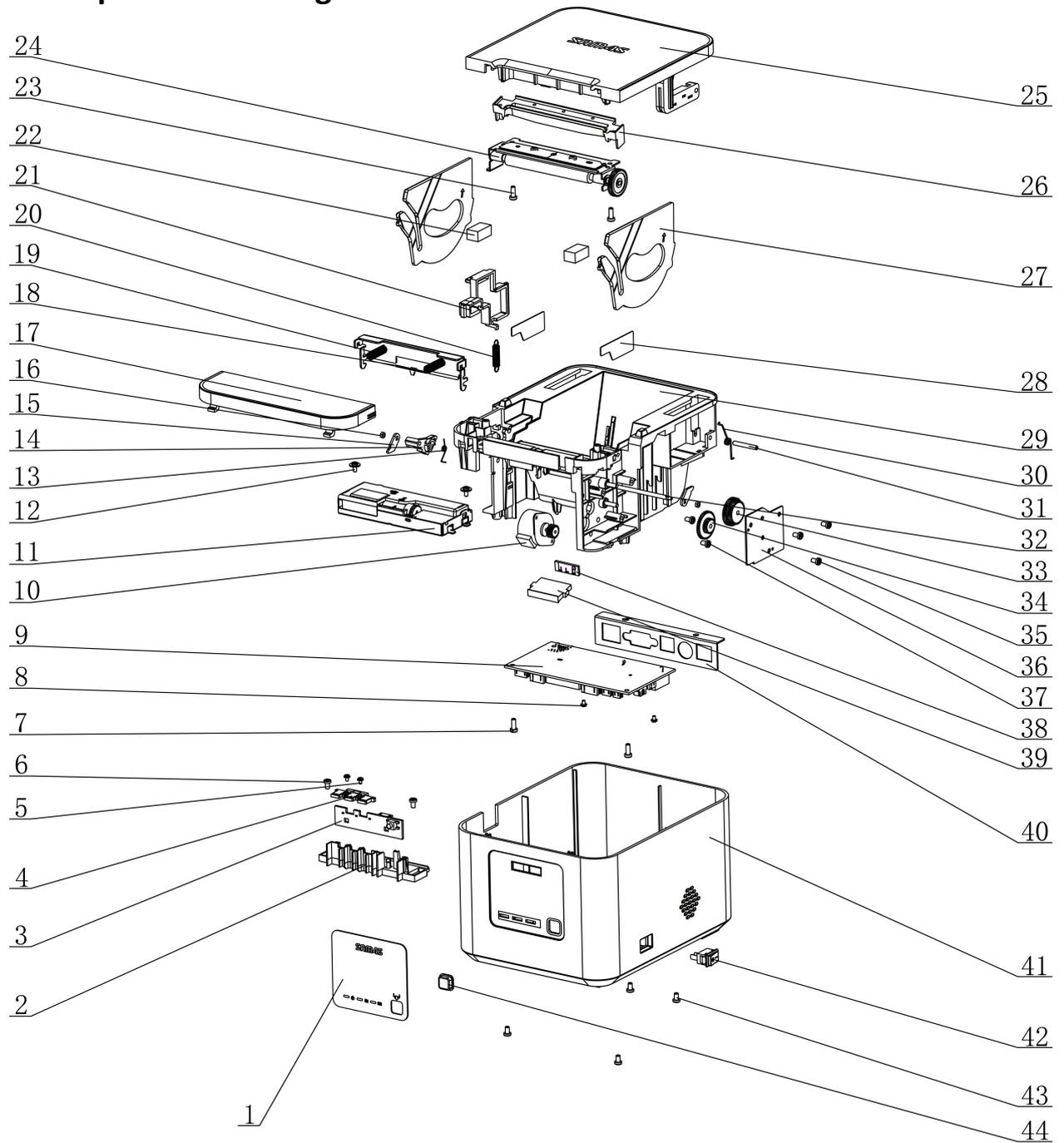
Figure 1

The cutter blade fully retreats back and it is not visible at this point.

Figure 2

5 Printer Exploded Drawing

5.1 Exploded Drawing



5.2 Printer Components List

NO.	Description	Quantity	Remarks
1	Front Panel	1	
2	Indicator Panel Holder	1	
3	Indicator Panel	1	
4	Light Guide	1	
5	2.0*3.0 PWBHZn	2	Lock guide
6	3.0*8.0 PBHZn	2	Lock indicator panel holder
7	3.0*8.0 PBHZn	2	Lock main board
8	2.0*3.0 PWBHZn	2	Lock communications veneer
9	Control Mainboard	1	
10	Motor	1	
11	Cutter Unit	1	
12	2.5*5.0*8.0 PWBHZn	2	Lock cutter unit
13	Torsion Spring	1	
14	Key Press Rod	1	
15	Cover Opening Lever	2	
16	Nut	2	
17	Cutter Cover	1	
18	TPH Unit	1	
19	TPH Spring	2	
20	Button Spring	1	
21	Cover Opening Button	1	
22	Buffer Foam	2	
23	3.0*8.0 PBHZn	2	Lock platen unit
24	Platen Unit	1	
25	Top Cover	1	
26	Guide Paper Decoration	1	
27	Paper Guide	2	
28	Guide Gasket (left+right)	1+1	
29	Main Holder	1	
30	Torsion Spring (R+L)	1+1	
31	Top Cover Shaft	2	
32	TPH Shaft	1	
33	Drive Gear 2	1	
34	Drive Gear 1	1	
35	3.0*8.0 PBHZn	3	Lock gear cover plate
36	Gear Cover Plate	1	
37	3.0*5.0 PMHNI	2	Lock paper motor

NO.	Description	Quantity	Remarks
38	Logo Light Board	1	
39	Light Guide for Logo	1	
40	Communications Veneer	1	
41	Lower Shell	1	
42	Rocker Switch	1	
43	3.0*8.0 PBHZn	4	Lock lower shell
44	Feed Button	1	