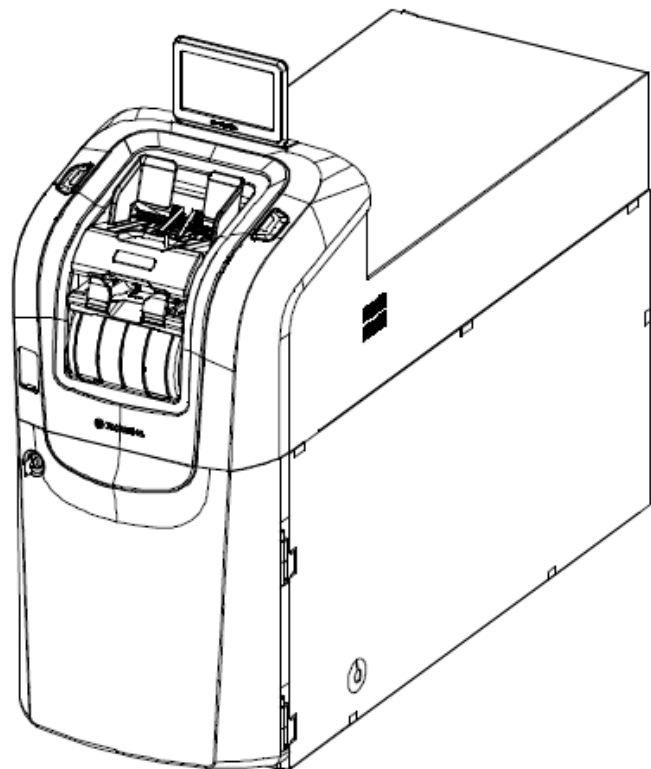


HYOSUNG TNS

MS500EL

Operator Manual

V01.00.00



In this document, a licensed product of HYOSUNG TNS. INC (“HYOSUNG”) is described. MONiSAFE is a trademark of HYOSUNG.

Under the terms and conditions of an agreement you have with HYOSUNG, where creation of derivative works, modifications or copies of this HYOSUNG copyrighted documentation is permitted, HYOSUNG’s copyright notice must be included.

As new technology, components, software and firmware become available, HYOSUNG reserves the right to change specifications without prior notice.

All features, functions and operations described in this document may not be marketed by HYOSUNG in all parts of the world. In some instances, photographs are of equipment prototypes. sold by HYOSUNG in all regions worldwide. Therefore, before using this document, contact with your HYOSUNG representative or HYOSUNG office for information that is applicable and current.

HYOSUNG Proprietary Information – not to be disclosed or reproduced without written consent.

© 2022 HYOSUNG TNS. INC., Seoul, Korea. <https://hyosung-tns.com>.

All Rights Reserved

Table of contents

Introduction

Audience.....	5
About This Document.....	5
Safety precautions	6
Abbreviations	9
Document revisions.....	11

Description of Product

MS500EL Specifications	12
Name of Each Portion	15
Control Electronics (CE, PC)	16
Customer Operation	17
Bill Recycle Module (BRM36N)	18
Control Board (TCR PNC)	20
Power Supply	21

Operation

Locking Device – KABA 252/552 Vertical	22
Switching Power On	23
Bill Recycle Module (BRM36N)	24
Overview.....	24
BRM36N Configuration Diagram.....	24
Specification of External Appearance	25
Bill Conditions	26
How to open and close the Lower Unit	31
Open the Lower Unit	31
Close the Lower Unit.....	32
Open and Close the Drawer in the Lower Unit.....	33
How to Replenish the Cassette with bills	34
RJC Cassette	34
Small-Capacity Cassette.....	37

How to open and close the Upper Unit	38
How to Remove the Jam	42
Case 1: Remove Jam from the CSM (Customer Service Module)	42
Case 2: Remove Jam from Front Transport Path.....	44
Case 3: Remove Jam from Extra	45
Case 4: Remove Jam from BC	46
Case 5: Remove Jam from the Option.....	48
Case 6: Remove Jam from Middle Transport Path	50
Case 7: Remove Jam from Center Transport Path (Lower) of Lower Unit	52
Case 8: Remove Jam from Center Transport Path (Upper) of Lower Unit	52
Case 9: Remove Jam from Center Transport Path (Upper) of Lower Unit	53
Case 10: Remove Jam from cassette (RC11~ RC14, RC21~ RC22, RJC)	54
Notes	56

Introduction

Audience

Customers and staffs of Hyosung TNS who use and operator the MS500EL in each branches of bank.

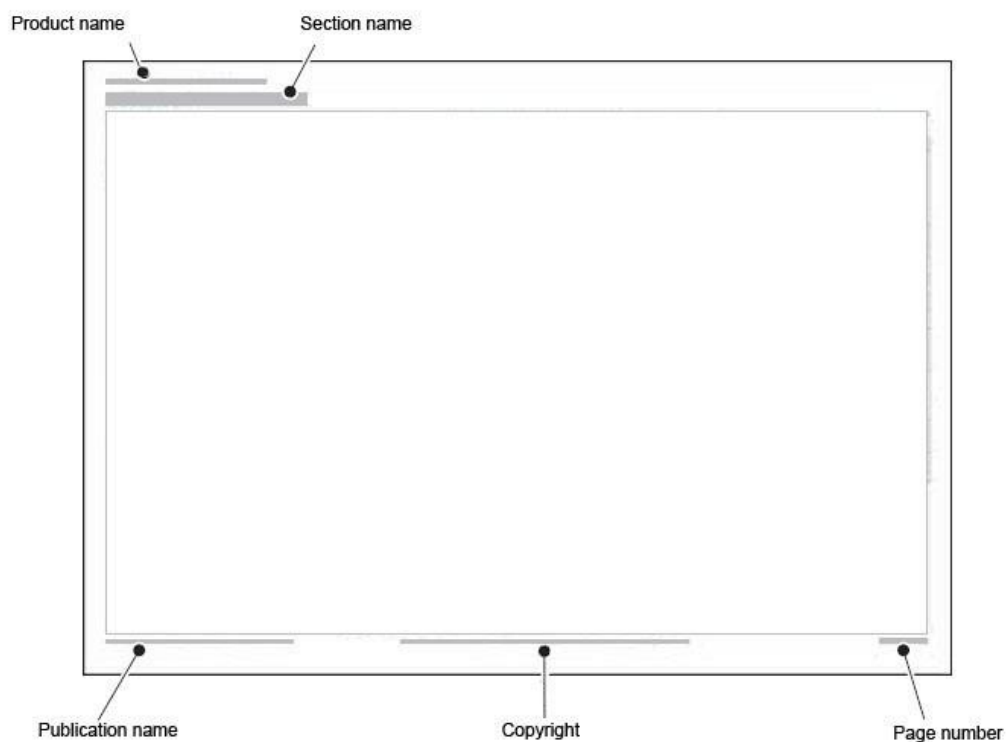
About This Document

The document is organized into sections covering the following topics:

- Introduction - this section
- Product Specifications
- Operation

Each page has been laid out as follows:

<Note> In case of printing, A4 size paper is recommended.



Introduction

Safety precautions

Common safety precaution



- Safety Precautions in outlined this manual provide information on safe and proper handling of the product. Non-compliance of the safety precautions may result in injury or damage to the product.
- This precaution symbol with sample term tells you safety warnings during equipment handlings.

Please read the following instructions before operating equipment.

- Operate equipment in the order outlined in this manual.
- Follow precautions indicated in this manual, as well as the equipment itself. Failure to properly address these precautions may lead to injury or damage to the product.
- Avoid operations not addressed in this manual.
- If you cannot remedy system problems using the methods outlined in this manual, please refer to contact information listed in the manual.
- Any change or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

<Note!>

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

► CAUTION

1. To reduce the risk of fire, use only No. 26 AWG OR LARGER Telecommunication cord
2. Risk of explosion if battery is replaced by an incorrect type.
Dispose used batteries according to the instructions.
3. For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.
4. The equipment is to be secured to the building structure before operation

Introduction

5. A security container shall be permitted to optionally be provided with a secondary lock, but improper use of the secondary lock feature will reduce the security level of the ATM.

Description of precaution symbols



Electrical Shock Warning

- Do not remove cover. Only a maintenance engineer is allowed to open the cover.
- Do not touch. You may receive electric shock.
- Make sure to turn off the power when servicing the equipment.



High Temperature Warning

- Do not touch the equipment when it is running.
- The equipment can get extremely hot and may cause a burn.
- Make sure to close the cover before running the equipment.



Use Precaution when Moving

- The equipment is heavy. Make sure at least 2 people lift or move the equipment.
- Do not attempt to move the equipment alone. You may be injured from dropping the heavy equipment.



Fire Hazard

- Place the equipment in an area away from any combustible materials.
- The equipment may catch on fire from overheating or short circuit of the power supply unit.



Disassembly Warnings

- Do not disassemble or modify the equipment unless you are a certified engineer.
- Contact the service center for maintenance, adjustments and repairs.
- Improper disassembly may cause fire or electrical shock.



Collapse Precautions

- Do not place the equipment where the floor cannot sustain the weight of the equipment, or on slanted or unstable surface.
- Equipment may fall and cause injury or damage.



Unplug the Equipment

- Stop using the equipment immediately if it smokes, emits an unusual smell, makes abnormal sounds, or if liquids or other foreign materials enter the equipment.
- If the above-mentioned abnormalities occur, immediately turn off the power,

Introduction

unplug the equipment and contact the service center.

- If you ignore these symptoms, the equipment may catch on fire or cause electric shock.

Introduction

Abbreviations

#	Abbreviations	Description
1	AD board	Analog to Digital conversion Board
2	ADA	The American Disabilities Act
3	AP	Application Program
4	Assy	Assembly
5	BATT S/W	Battery Switch
6	CAM	Camera Unit
7	CDU	Cash Dispenser Unit
8	CE	Control Electronics
9	Earphone Jack	Voice Converter for Visually Disabled Persons (ADA)
10	EMV	Europay, Mastercard, Visa
11	EP	Elementary Program
12	EPP	Encryption PIN Pad
13	H/W	Hardware
14	I/F	Interface
15	ISO	International Standard Organization
16	JPR	Journal Printer
17	LCD	Liquid Crystal Display
18	MCU	Magnetic Card Unit
19	OPL	Operation Panel for Customers to Operate
20	OSD board	On Screen Display Board
21	P/S	Power Supply

Introduction

#	Abbreviations	Description
22	PIN	Personal Identification Number
23	PNC	Panel Control Board
24	PTR	Printer (mainly Receipt Printer)
25	S/W	Switch
26	SIU	Sensor and Indications Unit
27	SP	Service Provider
28	SPR	Slip Printer (Receipt Printer)
29	TTU	Text Terminal Unit (OPL or SPL)
30	VFD	Vacuum Fluorescent Display

Introduction

Document revisions

Revision	Date	Change summary
V01.00.00	2022-7-1	New Publication

Description of Product

MS500EL Specifications

Item		Specification	Remarks (Option)
Main Controller (ASROCK SBC210 N2930)	CPU	Intel ATOM Baytrail QuadCore N2930 1.83GHz	
	Memory	DDR3L 8GB	
	Storage	2.5", SSD 128GB	SATA Type
	Operating System	Windows 10 2016 ENTRY	
	Graphic	Intel Gen7 Intel Graphics DX 11, OGL3.2	
	PCI Slot	Mini PCI-E 1EA	
	Serial Ports	4 Ports	
	SATA	2 Ports	SATA2 (3.0Gb/s)
	USB Ports	2 + 6 Ports	
	LAN	Gigabit LAN	Realtek RTL8111G-CG
	POWER	24V	
	TPM	TPM 2.0 chip included	
Customer Operation	LCD Type	7" Wide TFT LCD	800 X 480
	Input Method	Resistive type Touch Screen	USB Type
Bill Recycler (BRM36N)	Interface Type	USB 2.0(BC)	
	Shutter type	Automatic Shutter	1 Shutter / 3 Slot
	Functional Architecture	6 Recycle CST, 1 Deposit CST	

Description of Product

Item			Specification					Remarks (Option)
	Dispense	Denomination	6 Denomination (USD)					6 Recycle CST
			RC	Den	Setting	Label1	Label2	
			OVF	ALL	DPC	RJC/OVF	A	
			RC11	20	RC	RC	B	
			RC12	100	RC	RC	C	
			RC13	1	RC	RC	D	
			RC14	5	RC	RC	E	
			RC21	10	RC	RC	F	
		RC22	50	RC	RC	G		
		Dispense MAX	200 bills per Transaction					
	Method	Bundle						
	Deposit	Denomination	USD 1, 5, 10, 20, 50, 100					
		Input MAX	100 note					Option: 200 note
		Method	Bundle					
	Cassette *	Recycling CST	Stack space : 100mm					800 bills (when auto stack) *
Reject CST		Stack space : 314mm					2,500 bills (when auto stack) *	
Dispensing Speed		8 notes/sec						
Control B/D (TCR PNC)	Control units		Stand-by Switch, Safety door sensor					
Power Supply (HPS650-BTCR)	Input Voltage /Current		100~240Vac±10% 9A					
	Frequency		47~63Hz					NORMAL:50/60Hz

Description of Product

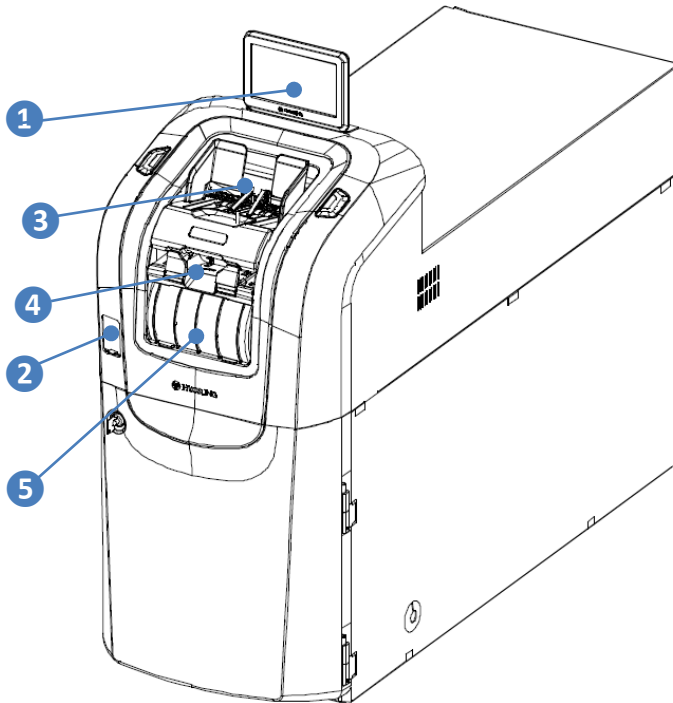
Item		Specification	Remarks (Option)
Safety	Specification	UL291 Level-1	
	Locking device	KABAMAS lock	
Additional function	Door Sensor	Safety 1EA	
	Interface	2 USB, 1 TCP/IP, 2 RS232C, 1 DVI	
	Temp, Vibration Sensor	1EA	
Dimension & Environment	Dimension (H X W X D)		39.4" x 16.9" x 46.3"
	Access Type		Front Access
	Installation		Anchor
	Weight		About 970 lbs (440kg)
	Operational Temperature	Operating	5°C ~ 40°C / 41°F ~ 104°F
		Storage	-10°C ~ 60°C / 14°F ~ 140°F
	Operational Humidity	Operating	25% ~ 85%
		Storage	10% ~ 90%

* New notes

* Dependent on currency, note quality and cassette status used.

Description of Product

Name of Each Portion



1	Display
2	Power Button
3	Deposit Slot
4	Reject Slot
5	Withdrawal Slot

Description of Product

Control Electronics (CE, PC)

The Control Electronics mainly consist of a motherboard, SSD, and so on.

Basic functions of the control electronics used in this ATM is similar to that of a personal computer you may have in your office or home with exception of a multiple USB HUB used to communicate with several devices such as a Bill Recycle Machine.

1. Specification

Item		Specification	Remarks (Option)
Main Controller (ASROCK SBC210 N2930)	CPU	Intel ATOM Baytrail QuadCore N2930 1.83GHz	
	Memory	DDR3L 8GB	
	Storage	2.5", SSD 128GB	SATA Type
	Operating System	Windows 10 2016 ENTRY	
	Graphic	Intel Gen7 Intel Graphics DX 11, OGL3.2	
	PCI Slot	Mini PCI-E 1EA	
	Serial Ports	4 Ports	
	SATA	2 Ports	SATA2 (3.0Gb/s)
	USB Ports	2 + 6 Ports	
	LAN	Gigabit LAN	Realtek RTL8111G-CG
	POWER	24V	
	TPM	TPM 2.0 chip included	

2. Reference Photo



Description of Product

Customer Operation

1. Specification

Item		Specification	Remarks (Option)
Customer	LCD Type	7" Wide TFT LCD	800 X 480
Operation	Input Method	Resistive type Touch Screen	USB Type

2. Reference Photo



Description of Product

Bill Recycle Module (BRM36N)

The idea of recycling is to make the cash that is paid in during deposit transactions available again for dispensing. This considerably lengthens the replenishment or emptying cycles on cash-in/cash-out systems and, at the same time, the cash holding per system can be reduced.

1. Specification

Item		Specification					Remarks (Option)	
Bill Recycler (BRM36N)	Interface Type		USB 2.0(BC)					
	Shutter type		Automatic Shutter					1 Shutter / 3 Slot
	Functional Architecture		6 Recycle CST, 1 Deposit CST					
	Dispense	Denomination	6 Denomination (USD)					6 Recycle CST
			RC	Den	Setting	Label1	Label2	
			OVF	ALL	DPC	RJC/OVF	A	
			RC11	20	RC	RC	B	
			RC12	100	RC	RC	C	
			RC13	1	RC	RC	D	
			RC14	5	RC	RC	E	
			RC21	10	RC	RC	F	
			RC22	50	RC	RC	G	
			Dispense MAX	200 bills per Transaction				
		Method	Bundle					
	Deposit	Denomination	USD 1, 5, 10, 20, 50, 100					
Input MAX		100 note					Option: 200 note	
Method		Bundle						

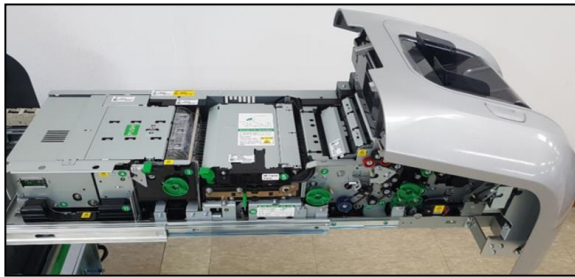
Description of Product

Item			Specification	Remarks (Option)
	Cassette *	Recycling CST	Stack space : 100mm	800 bills (when auto stack) *
		Reject CST	Stack space : 314mm	2,500 bills (when auto stack) *
	Dispensing Speed		8 notes/sec	

* New notes

* Dependent on currency, note quality and cassette status used.

2. Reference Photo



Description of Product

Control Board (TCR PNC)

1. Specification

Item		Specification	Remarks (Option)
Control B/D (TCR PNC)	Control units	Stand-by Switch, Safety door sensor	

2. Reference



Description of Product

Power Supply

The power supply unit converts AC power to DC power and provides the voltage to various modules within the system. The power supply unit allows the user to turn on/off the system, enter power-failure mode, and perform other sequences.

1. Specification

Item		Specification	Remarks (Option)
Power Supply (HPS650-BTCR)	Input Voltage /Current	100~240Vac±10% 9A	
	Frequency	47~63Hz	NORMAL:50/60Hz


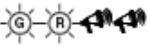





2. Reference Photo










Operation

Locking Device – KABA 252/552 Vertical

To Unlock/Lock

1. Power  the lock. 
2. For Dead Bolt (DB), place dial in the HOME position (i.e., red bar covered) and enter combination.
 - Single User access mode - For DB - One slow  displays.
 - For Slide Bolt (SB) - Green flashes  display for 5 sec.
 - Dual User access mode - 
 - Enter second combination. For DB - One slow  displays.
 - For Slide Bolt (SB) - Green flashes  display for 5 sec.
3. For DB, dial right (CW) until lock bolt is retracted.
4. For SB, rotate container handle.
5. To lock DB, dial left (CCW) to extend bolt.
To lock SB, close container and rotate container handle to closed.

Change PIN

1. Power  the lock. 
2. Press # and then 1. 
3. Enter combination (User ID + PIN) of user for which PIN is to be changed. 
4. Enter new combination (User ID + PIN) for user. 
5. Enter new combination (User ID + PIN) again for verification.  

Operation

Switching Power On

The system turning-on process is as follows

1. Open the plastic cover and press the switch to “ON”.
2. The system will turn on automatically.



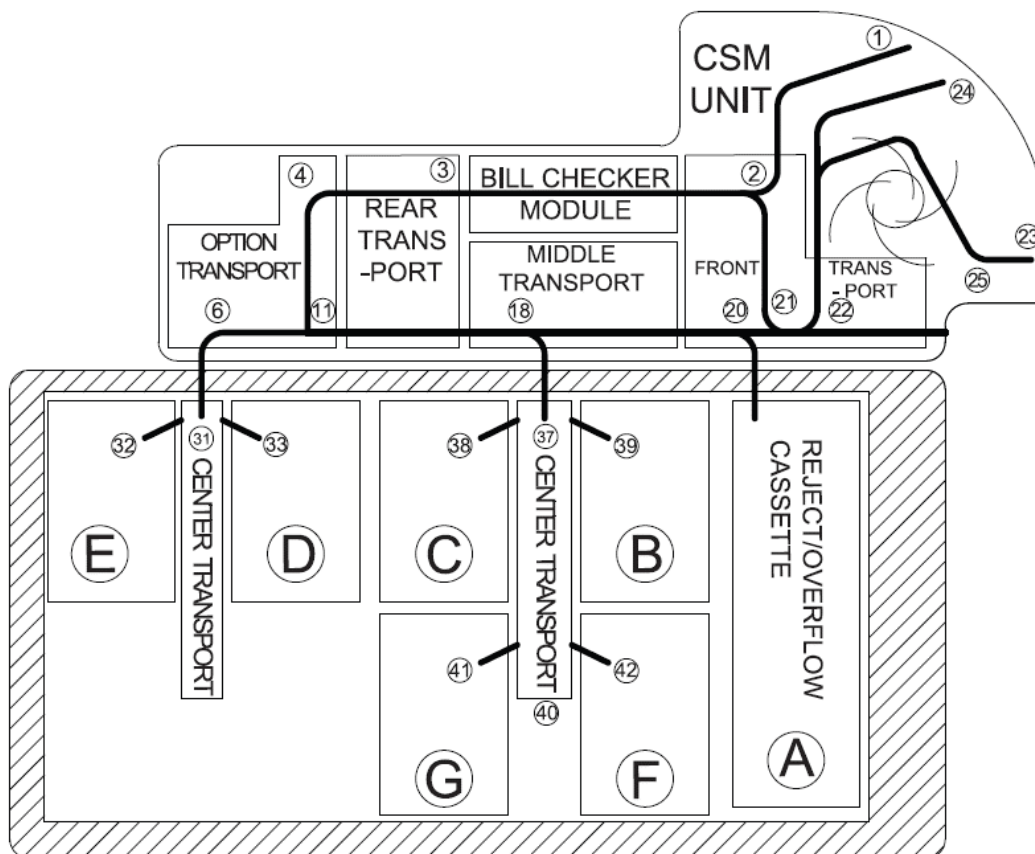
Operation

Bill Recycle Module (BRM36N)

This chapter contains the operation procedure such as replenishing cassette with bills, removing bills from reject cassette and Remove Jam. To perform these procedures, the safe use of equipment is required.

Overview

BRM36N Configuration Diagram



Operation

Specification of External Appearance

Item		Specification
BRM36N	Dimensions	Width: 300 ± 3 (mm) (11.81 ± 0.12 inch) Length: 1140 ± 3 (mm) (44.88 ± 0.12 inch) Height: 940 ± 3 (mm) (37.01 ± 0.12 inch)
Upper Body (BMU)	Dimensions	Width: 300 ± 3 (mm) (11.81 ± 0.12 inch) Length: 1140 ± 3 (mm) (44.88 ± 0.12 inch) Height: 378 ± 3 (mm) (14.88 ± 0.12 inch)
Lower Body (BMD)	Dimensions	Width: 356.5 ± 3 (mm) (14.04 ± 0.12 inch) Length: 915 ± 3 (mm) (36.02 ± 0.12 inch) Height: 465 ± 3 (mm) (18.31 ± 0.12 inch)
Recycle/Deposit High-capacity Cassette (RC60)	Dimensions	Width: 231 ± 3 mm (9.09 ± 0.12 inch) Length: 135 ± 3 mm (5.31 ± 0.12 inch) Height: 431 ± 3 mm (16.97 ± 0.12 inch)
	Weight	4.3 Kg (9.48lb, except bill weight)
Recycle/Deposit Small-capacity Cassette (RC31)	Dimensions	Width: 231 ± 3 mm (9.09 ± 0.12 inch) Length: 135 ± 3 mm (5.31 ± 0.12 inch) Height: 215 ± 3 mm (8.46 ± 0.12 inch)
	Weight	3.5 Kg (7.72lb, except bill weight)

Operation

Bill Conditions

Acceptable condition

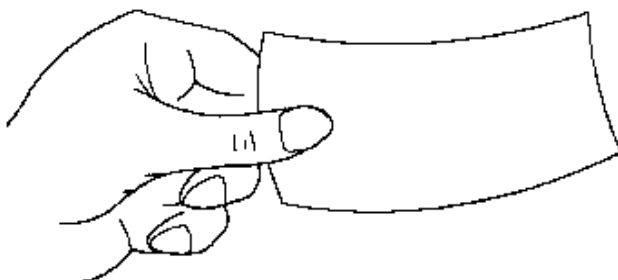
1. Bill which is very clean and can readily be recognized as a true bill



2. Bill has sufficient life or sizing to be handled easily



3. Bill which can be manually held straightly when one end is held by a hand and the bill is slightly curved vertically

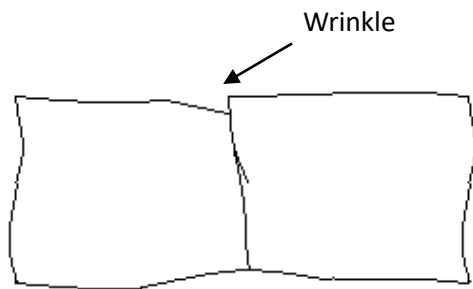


Operation

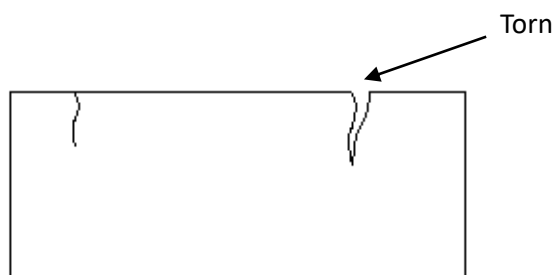
Unacceptable condition

1. Bill having serious wrinkles, torn or broken section wherein paper fiber is broken and separation begins.

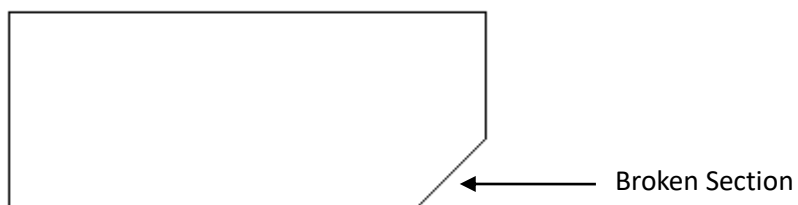
✓ Wrinkle



✓ Torn

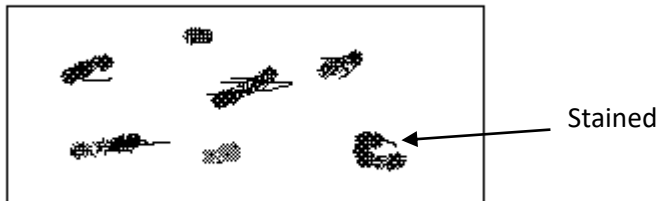


✓ Broken section

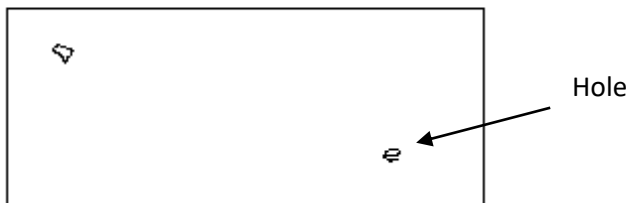


Operation

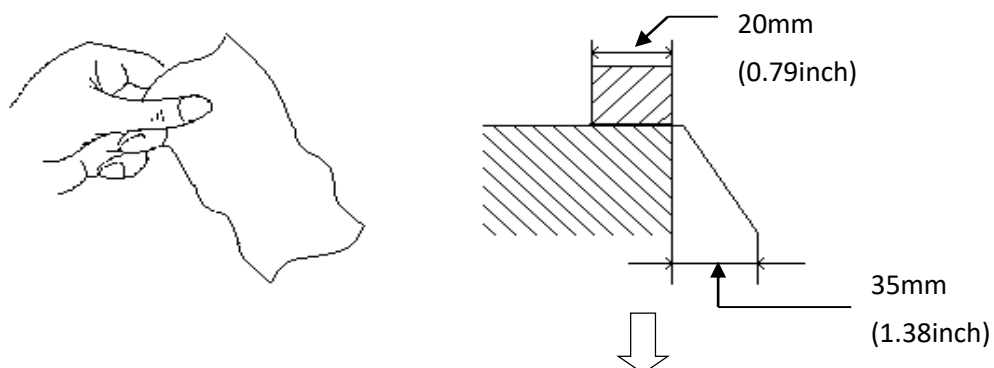
2. Bill having adequate life or sizing, but stained seriously



3. Bill with holes (Perforated bill)



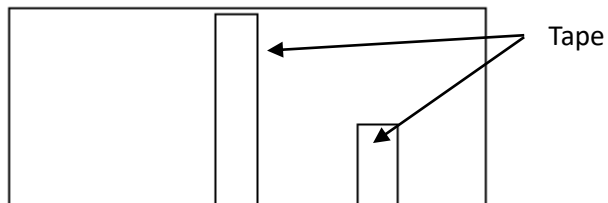
4. Bill ragged and cannot be held straightly when one end is supported by a hand



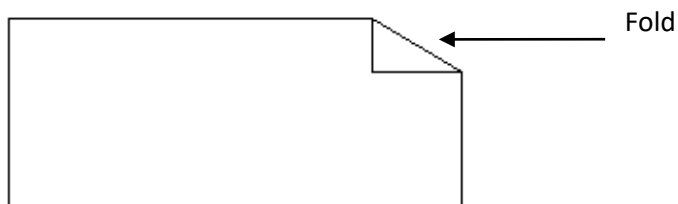
When the bill is held by 20mm (0.79inch) and the straightness of the bill is 35mm (1.38inch) or less, it cannot be used

Operation

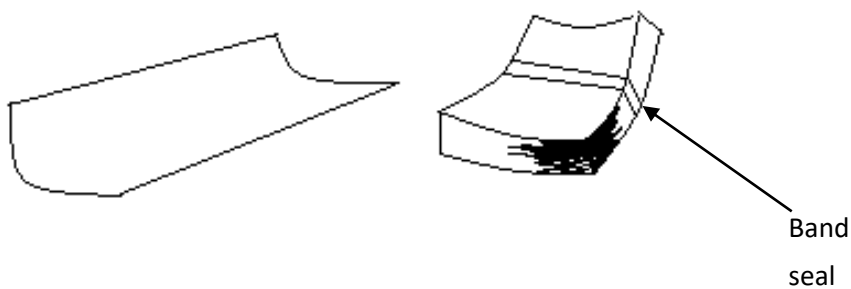
5. Bill with cellophane tape, scotch tape, etc.



6. Bill with folds



7. Gradually curved bill (bills tied by hand seal, etc.)



8. Bill with folded lines

✓ Case 1

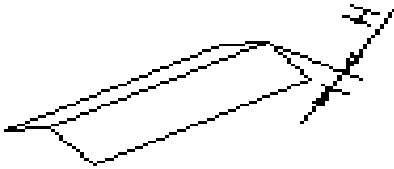


Operation

✓ Case 2



✓ Case 3



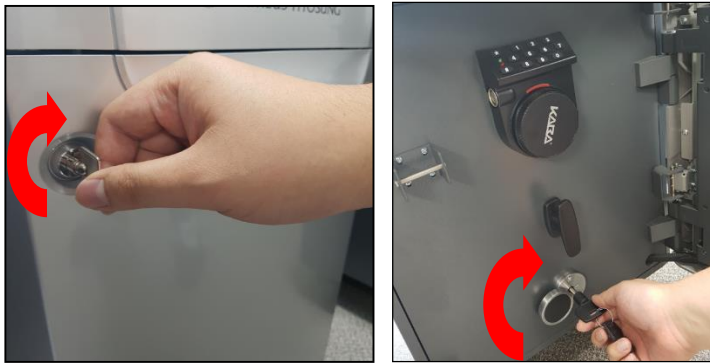
☞ Bill distortion should not exceed 10 mm

Operation

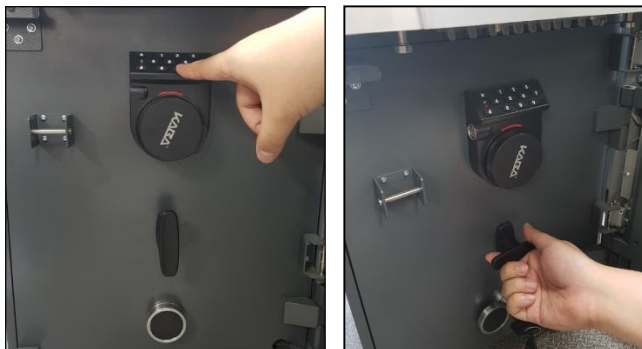
How to open and close the Lower Unit

Open the Lower Unit

1. Open the Lower Front Door with key. And, turn the key clockwise.



2. Unlock the Key / Electronic Lock. Then, by turning and pulling the Handle forward, open the Security Door.



3. Push down the lever and pull the lower unit holding the end of Lever until it is taken out completely.



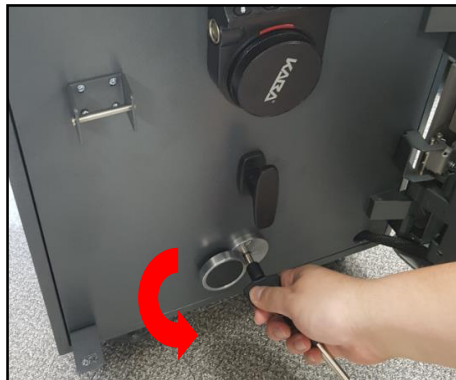
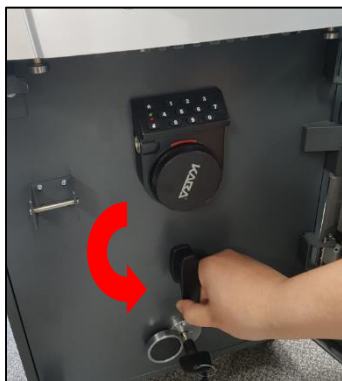
Operation

Close the Lower Unit

1. Push the Lower Unit into the BRM36N Frame until it is locked.



2. Close the Security Door, then turn the Handle counterclockwise, and turn the key counterclockwise.



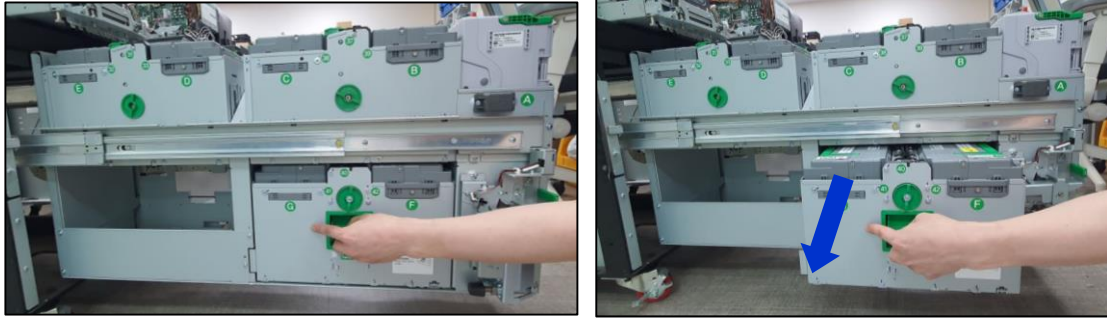
3. Close the Lower Front Door, and turn the key counterclockwise.



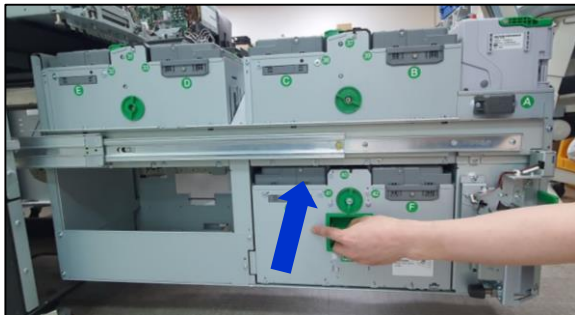
Operation

Open and Close the Drawer in the Lower Unit

1. After pulling the Lever forward, then pull the Drawer forward in the arrow direction.



2. Push the Drawer into the Lower Unit until it is locked.

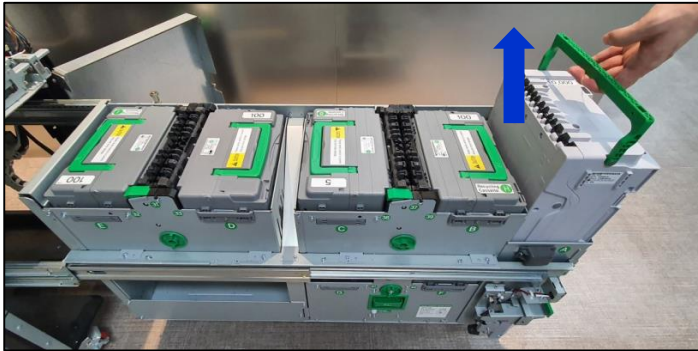


Operation

How to Replenish the Cassette with bills

RJC Cassette

1. Pull the Lower Unit forward from the BRM36N Frame. (Refer to the “Open the Lower Unit”.)
2. Hold the Cassette Handle and take out the Cassette from the Set Guide completely.

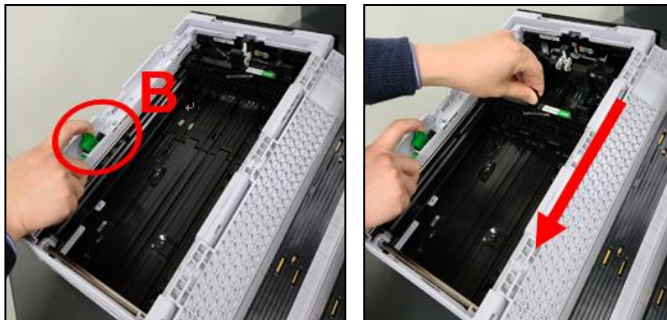


3. Turn the key clockwise and open the cassette door.



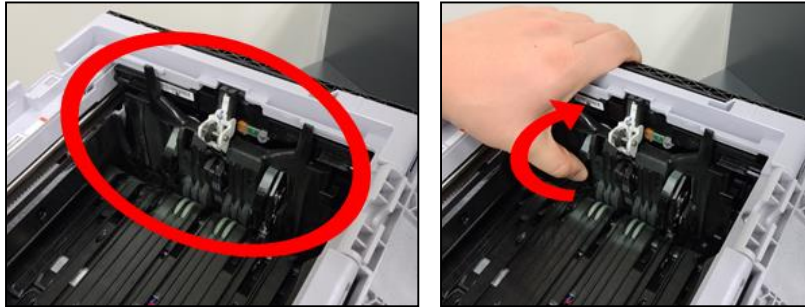
4. Push down the green lever(B), then pull the Push-Plate to the end in the arrow direction.

<Note!> If pressing the lever using one finger, entire cassette can move. So please use both the thumb and forefinger.

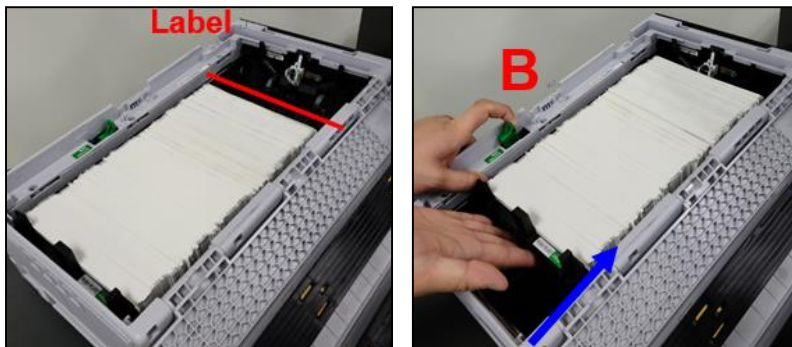


Operation

5. Check if the Stack Sheet is extruded out of the guide. If it is extruded out of the guide as shown in picture below, turn the knob and insert it inside the guide.



6. Replenish the cassette with the bill to the position of the red label and push the Push-Plate to the end in the arrow direction pressing the green lever(B). (Lever B: Cassette Push-Plate Lever)



<Note!> Be careful for the bills not to be laid when replenishing the bills.



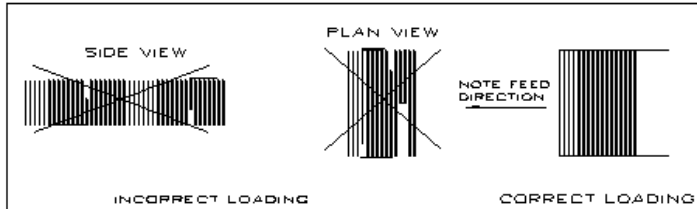
<CAUTION!> **Prior to replenishing the cash cassette with the notes,**

- a. Fan the notes so that the notes are not sticking together.
- b. Remove all notes with holes or notes that are torn.

Operation

c. Unfold the folded notes.

d. Place the notes correctly.



7. Close the door with the key. After closing the door, remove the key from the Cassette.

(Make sure to check that the Top & Bottom part of the door are completely locked.)



8. Put the Cassette back into the Set Guide.

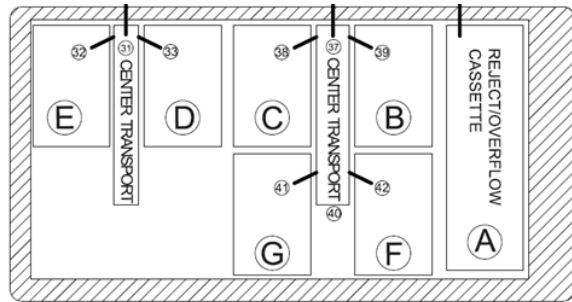


9. Push the Lower Unit back into the BRM36N Frame. (Refer to the “Close the Lower Unit”)

Operation

Small-Capacity Cassette

1. Pull out the Lower Unit from BRM36N Frame. (Refer to the “Open the Lower Unit”.)
2. Take out the Cassette from the Set Guide by holding the Handle.



3. Place the Cassette on the flat surface as the picture below.



4. For the how to replenish the small-capacity cassette (RC11~RC14) with bills, please refer to 4) ~ 8) of the procedures described in “RJC Cassette”
5. Put the cassette back into the Set Guide. (Make sure to check the direction of cassette entrance.)



6. Put the Lower Unit back into the BRM36N Frame. (Refer to the “Close the Lower Unit”)

Operation

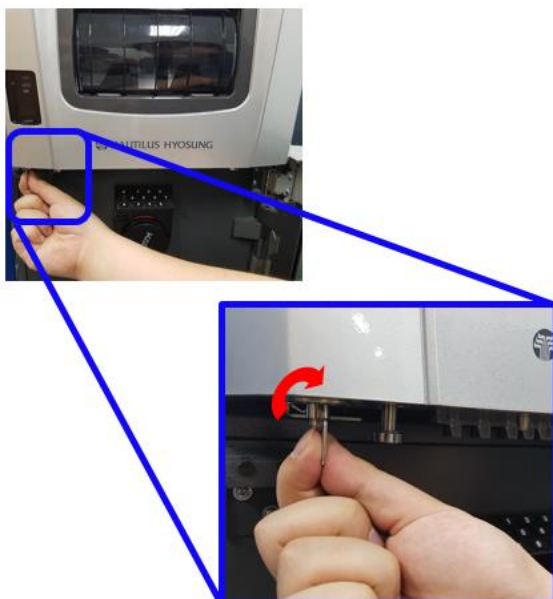
How to open and close the Upper Unit

Open & Close the Upper Unit



Opening the Upper Unit

1. Turn the key clockwise until hearing the sound that the lock is released.



Operation

2. Hold the both sides of the bezel and pull it in the direction of arrow.



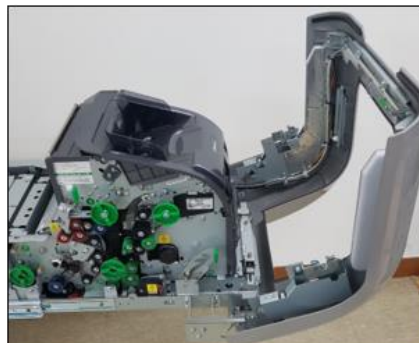
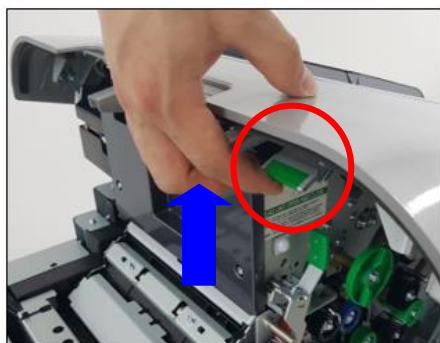
Closing the Upper Unit

1. Hold the both sides of bezel and push it in the direction of arrow.



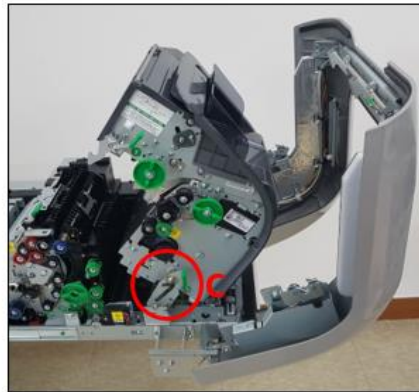
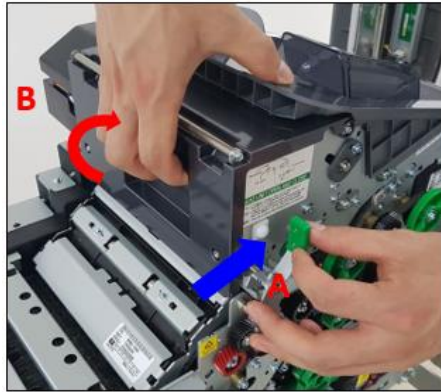
Opening the Customer Service Module

1. Press the hook in the direction of arrow and open the bezel.



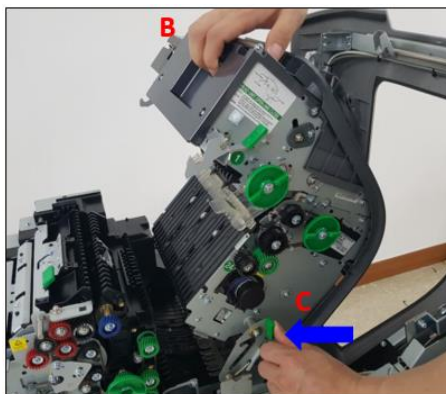
Operation

2. Push the lever A to release the lock. Then lift up the CSM (Customer Service Module) holding the handle B and fix it in the safety lock C.



Closing the CSM (Customer Service Module)

1. Hold the handle B with one hand and push the safety lock C with other hand to release the lock.



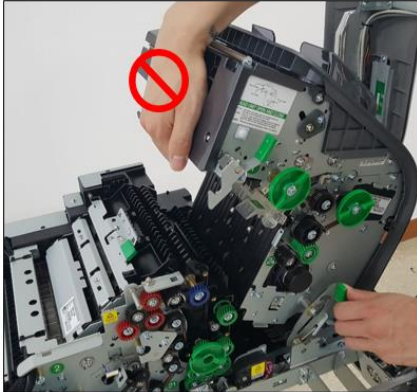
2. Slowly push the CSM to completely close it. Then press the Lever A for fixing and close the bezel.



Operation

Caution

Do NOT take your hands off the handle until the upper unit is completely closed because the safety lock is released! And also, do NOT hold the other places except the handle!

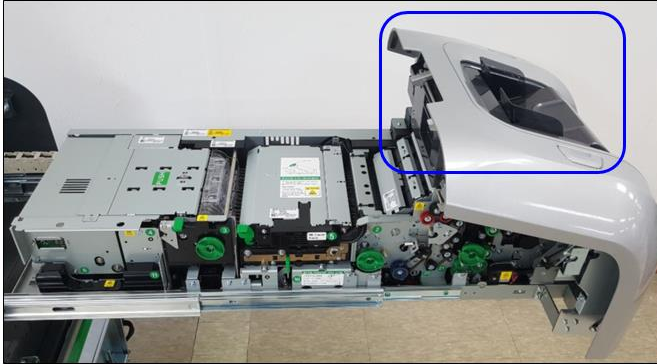


Operation

How to Remove the Jam

If the jam occurs, please take the following steps for each case to remove jams.

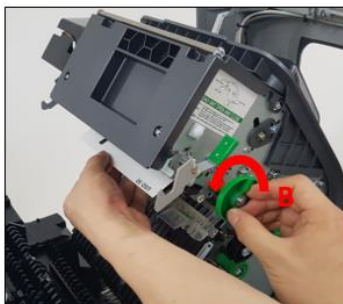
Case 1: Remove Jam from the CSM (Customer Service Module)



1. Open the upper unit. (Refer to the “Opening the Upper Unit”)
2. Turn the Knob A clockwise until the bill can be removable. Then remove the bill with other hand completely.

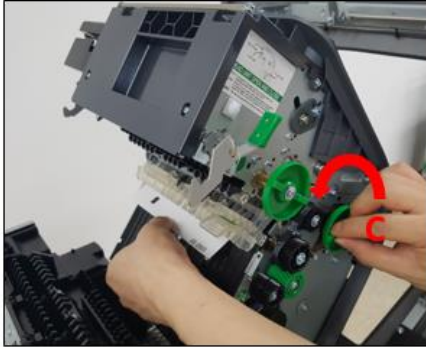


3. Open the CSM. (Refer to the “Opening the Customer Service Module”)
4. Turn the Knob B counterclockwise until the jammed bill shows. Completely remove the jammed bill with other hand turning the Knob B until the jammed bill is taken out to be removed.

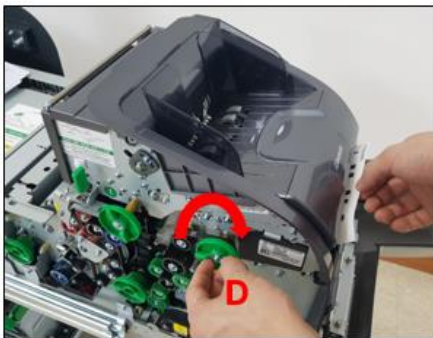


Operation

5. Turn the Knob C counterclockwise until the jammed bill is taken out to be removed. Completely remove the jammed bill with other hand.



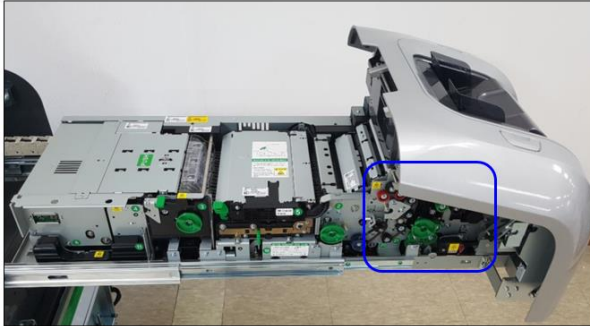
6. Turn the Knob D clockwise until the jammed bill is taken out to be removed. Completely remove the jammed bill with other hand.



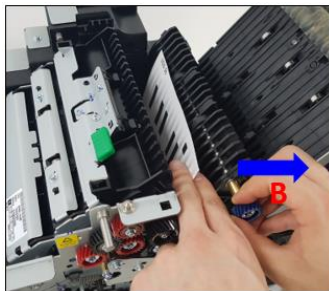
7. After removing the jammed bill, close the Customer Service Module and Upper Unit in the reverse order of above. (Refer to “Closing the Customer Service Module” & “Closing the Upper Unit”)

Operation

Case 2: Remove Jam from Front Transport Path



1. Open the Upper Unit. (Refer to the “Open the Upper Unit”)
2. Open the Customer Service Module” (Refer to “Opening Customer Service Module”)
3. Pull the Handle B in the arrow direction and remove the jammed bill with the other hand holding the transport guide.



4. Pull the Handle C in the arrow direction and remove the jammed bill with the other hand holding the transport guide with one hand.



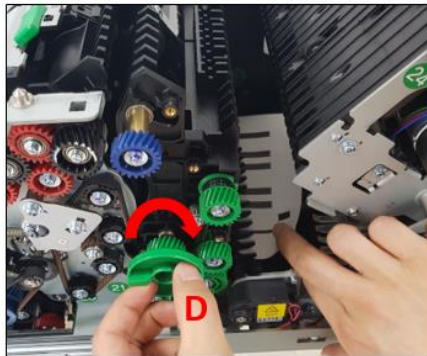
5. After removing the jammed bill, close the Customer Service Module and Upper Unit in the reverse order of above. (Refer to “Closing the Customer Service Module” & “Closing the Upper Unit”)

Operation

Case 3: Remove Jam from Extra



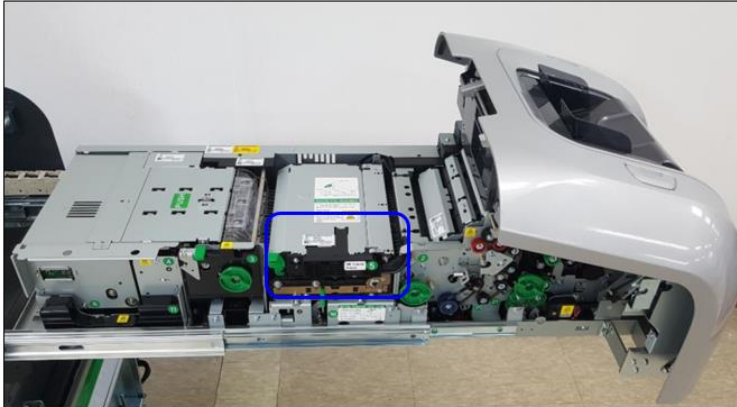
1. Open the Upper Unit. (Refer to the “Open the Upper Unit”)
2. Open the Customer Service Module. (Refer to the “Opening Customer Service Module”)
3. Turn the Knob D clockwise until the jammed bill is taken out to be removed. Completely remove the jammed bill with other hand.



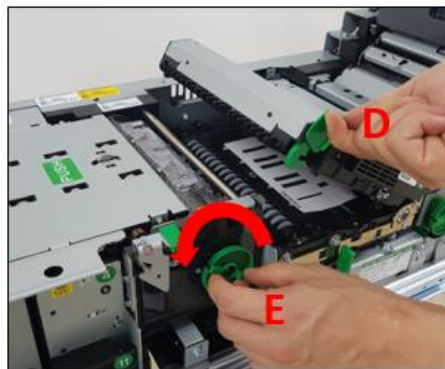
4. After removing the jammed bill, close the Customer Service Module and Upper Unit in the reverse order of above. (Refer to “Closing the Customer Service Module” & “Closing the Upper Unit”)

Operation

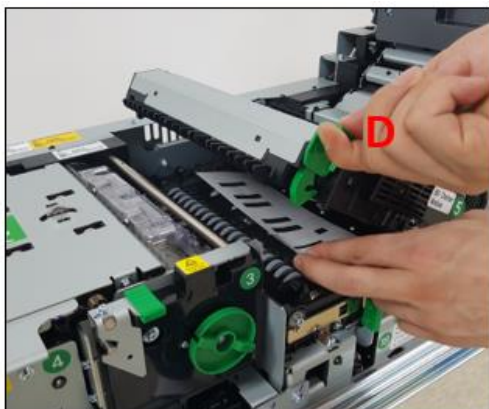
Case 4: Remove Jam from BC



1. Open the Upper Unit. (Refer to the “Open the Upper Unit”)
2. Lift up the Lever D in the diagonal direction and open the BC. Turn the Knob E counterclockwise holding the Lever D until the jammed bill can be removable.

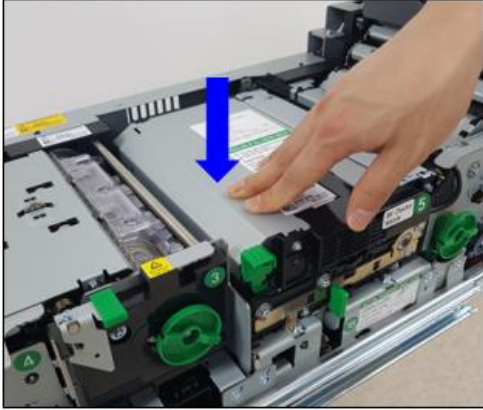


3. Remove the jammed bill holding the Lever D.



Operation

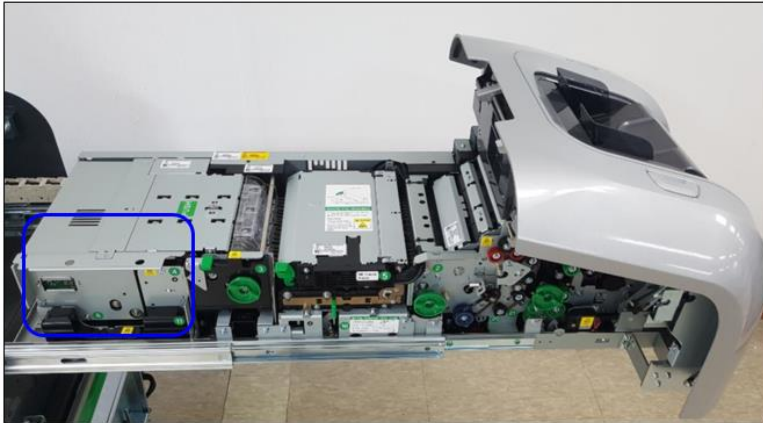
4. After removing the jammed bill, press the BC completely to lock it.



5. After removing the jammed bill, close the Customer Service Module and Upper Unit in the reverse order of above. (Refer to “Closing the Customer Service Module” & “Closing the Upper Unit”)

Operation

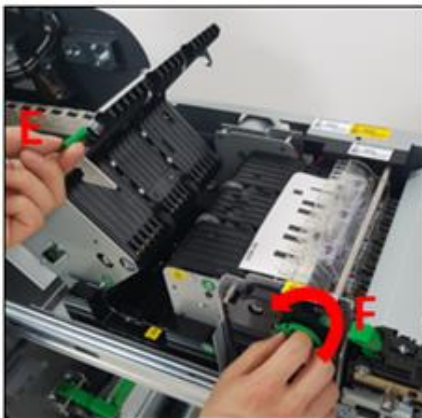
Case 5: Remove Jam from the Option



1. Open the Upper Unit. (Refer to the “Open the Upper Unit”)
2. Lift up the Lever E in the diagonal direction and open the Option Transport Path.

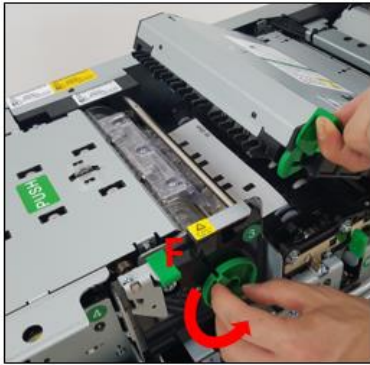


3. Turn the Knob F counterclockwise holding the Lever E until the jammed bill show. Then remove the jammed bill.

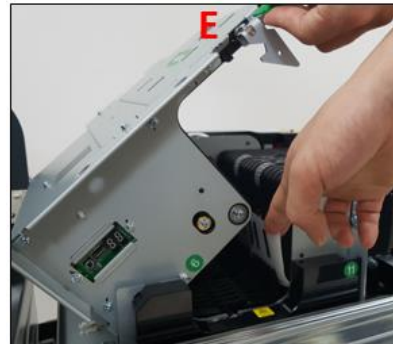


Operation

4. Turn the Knob F counterclockwise until the jammed bill show. Then remove the jammed bill.



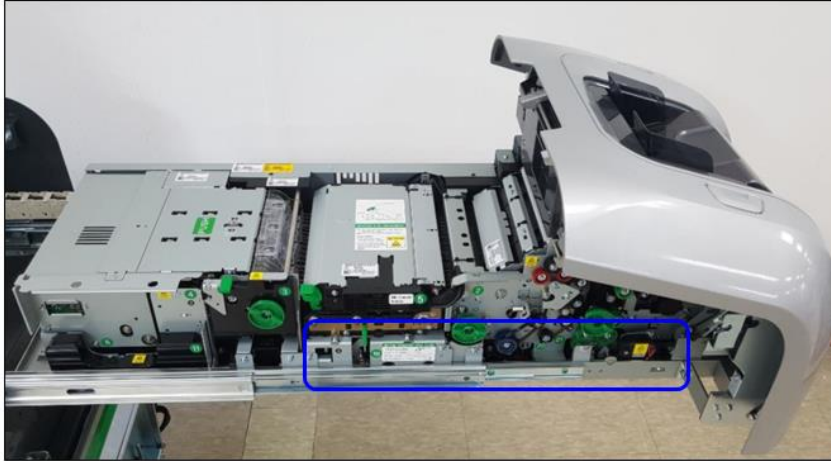
5. Turn the Knob G clockwise holding the Lever E until the jammed bill shows. Remove the jammed bill with other hand.



6. After removing the jammed bill, close the Customer Service Module and Upper Unit in the reverse order of above. (Refer to “Closing the Customer Service Module” & “Closing the Upper Unit”)

Operation

Case 6: Remove Jam from Middle Transport Path



1. Open the Upper Unit. (Refer to the “Open the Upper Unit”)
2. Push the Lever L in the arrow direction.



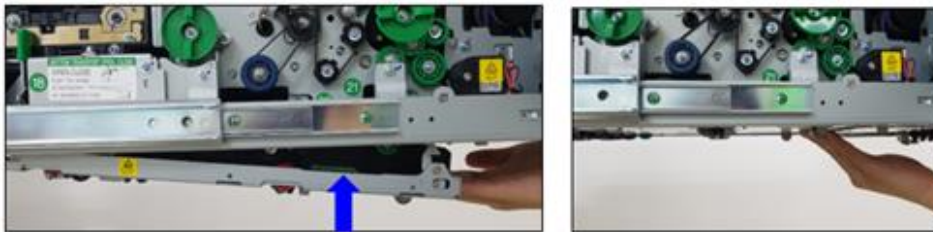
3. Hold the Middle Transport Path with one hand and remove the jammed bill.



Operation



4. Push the center of Middle Transport Path with the hand to lock it.



5. After removing the jammed bill, close the Customer Service Module and Upper Unit in the reverse order of above. (Refer to “Closing the Customer Service Module” & “Closing the Upper Unit”)

Operation

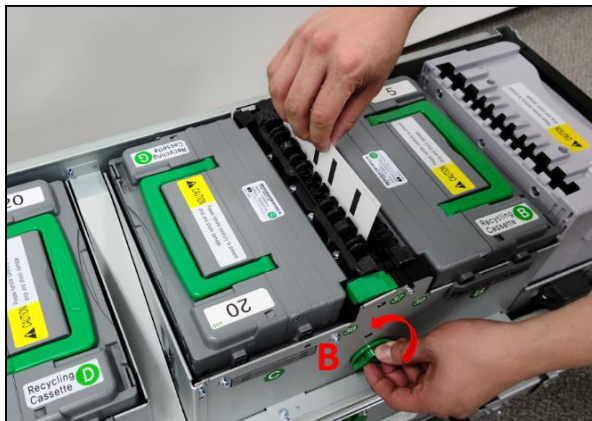
Case 7: Remove Jam from Center Transport Path (Lower) of Lower Unit

1. In case of the Draw Section, turn the Knob A counterclockwise and remove the jammed bill.



Case 8: Remove Jam from Center Transport Path (Upper) of Lower Unit

1. In case of the Center Transport Path (Upper), turn the Knob B counterclockwise and remove the jammed bill.



Operation

Case 9: Remove Jam from Center Transport Path (Upper) of Lower Unit

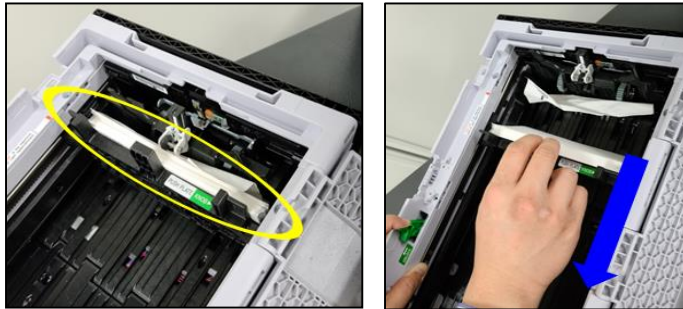
1. Separate the High-Capacity Cassette from BMD Frame. (Refer to “RJC Cassette” of “How to replenish the cassette with bills”)
2. Press the Lever C to release lock and remove the jammed bill.



Operation

Case 10: Remove Jam from cassette (RC11~ RC14, RC21~ RC22, RJC)

1. Separate the Lower Unit from BRM36N Frame. (Refer to the “Opening Lower Unit”)
2. Separate the cassette. (Refer to “How to replenish the cassette with bills”)
3. Pull the Push-Plate in the arrow direction of the picture below to remove the jammed bill.

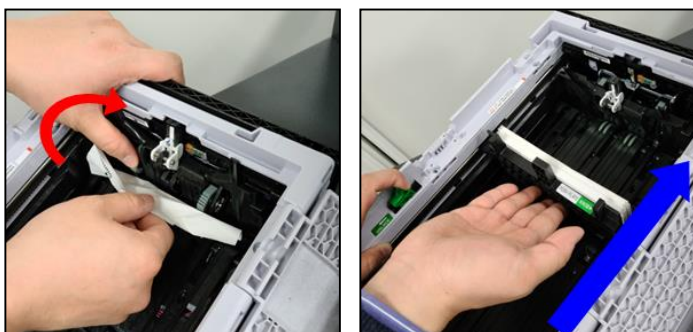


4. Find the green knob A in the upper part of the internal of the cassette.



5. Turn the knob from bottom to top until the jammed bill appears. Then remove the jammed bill.

After removing the jammed bill, return the Push-Plate to the original position as shown in picture below.



Operation

6. Close the cassette door and mount the cassette into the Set Guide. (Refer to “How to replenish the cassette with bills”)
7. Mount the lower unit into BRM36N Frame. (Refer to “Closing Lower Unit”)

Operation

Notes

1. Deposit

- (1) Rejected note will be returned to the middle slot.
- (2) If the cassette for that denomination is full, notes of that denomination will be stored in overflow/reject cassette.
- (3) If both the cassette for that denomination and overflow/reject cassette, notes of that denomination will be returned to the middle slot.

2. Withdrawal

- (1) Rejected note will be stored in overflow/reject cassette.

3. Add cash (Transit -> RC): option

- (1) Rejected note will be returned to the exit slot.
- (2) If the cassette for that denomination is full, notes of that denomination will be returned to the exit slot.

4. Retract cash (RC -> Transit): option

- (1) Reject does not occur because the purpose of this transaction is to empty the cassette.
- (2) If the transit cassette is full, the operation will be stopped and notes remains on the path will be stored in overflow/reject cassette.

5. Audit(Optional)

- (1) Rejected note will be stored in overflow/reject cassette.
- (2) If transit cassette is full during the first step(RC->Transit), the operation will be stopped and notes remains on the path will be stored in overflow/reject cassette.
- (3) If the cassette is full during the second step(Transit->RC), notes will be stored in overflow/reject cassette.