

MODEL DC200 DC300 & DC400  
CURRENCY COUNTER



USER'S GUIDE

# CONTENTS







# CONTENTS






Contents (This page)	1
Vital Safety Information.....	2
General Information.....	3
Open The box And Check The Contents.....	4
Machine Overview.....	5
Technical Specifications.....	7
Control Panel & Key Functions.....	8
Operation Steps.....	11
Function Setting    Speed & Accumulation Counting Setting.....	14
Automatic Start & Counting Mode Setting.....	15
UV Counterfeit Detection Setting.....	16
Magnetic Counterfeit Detection Setting.....	18
Infrared Detection Setting.....	19
Size Detection Setting.....	20
Double Detection Setting.....	21
Adjustment of the Feed Gap.....	22
Daily Cleaning And Maintenance.....	23
Troubleshooting.....	26

# VITAL SAFETY INFORMATION

# VITAL SAFETY INFORMATION

When using this unit, basic safety precautions should always be followed to reduce the risk of fires, electric shock or injury to persons, including the followings:

 <b>Warning</b>	
	Do not use this product in areas where it may be exposed to water or other liquids.
	Unplug this product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
	To reduce the risk of electric shock, do not disassemble this product. Take it to qualified service personnel when service or repair work is required. Opening or removing covers -like the rear cover plate- may expose you to dangerous voltages or other risks. Incorrect re-assembly can cause electric shock when the appliance is subsequently used.
	Only use the cable provided with the unit. The use of other cables may result in electric shock, fire or cause serious damage to the unit.
	Do not operate the unit in areas with high temperature or high humidity since it may prevent it from working correctly.

 <b>Caution</b>	
	When unplugging the power plug, do not pull it by the cord but rather grip the plug to pull it out. Not following these instructions may result in electric shock, fire or damage to the unit.
	Do not use the unit if the power cord is damaged or if the plug socket contact is loose. Not following these instructions may result in electric shock, fire or other hazards.
	Do not place heavy objects over the cord and do not bend it excessively since it could get damaged. Not following these instructions may result in electric shock, fire or other hazards.
	When not using the unit for a long period of time, remove the power plug from the wall outlet.

# GENERAL INFORMATION

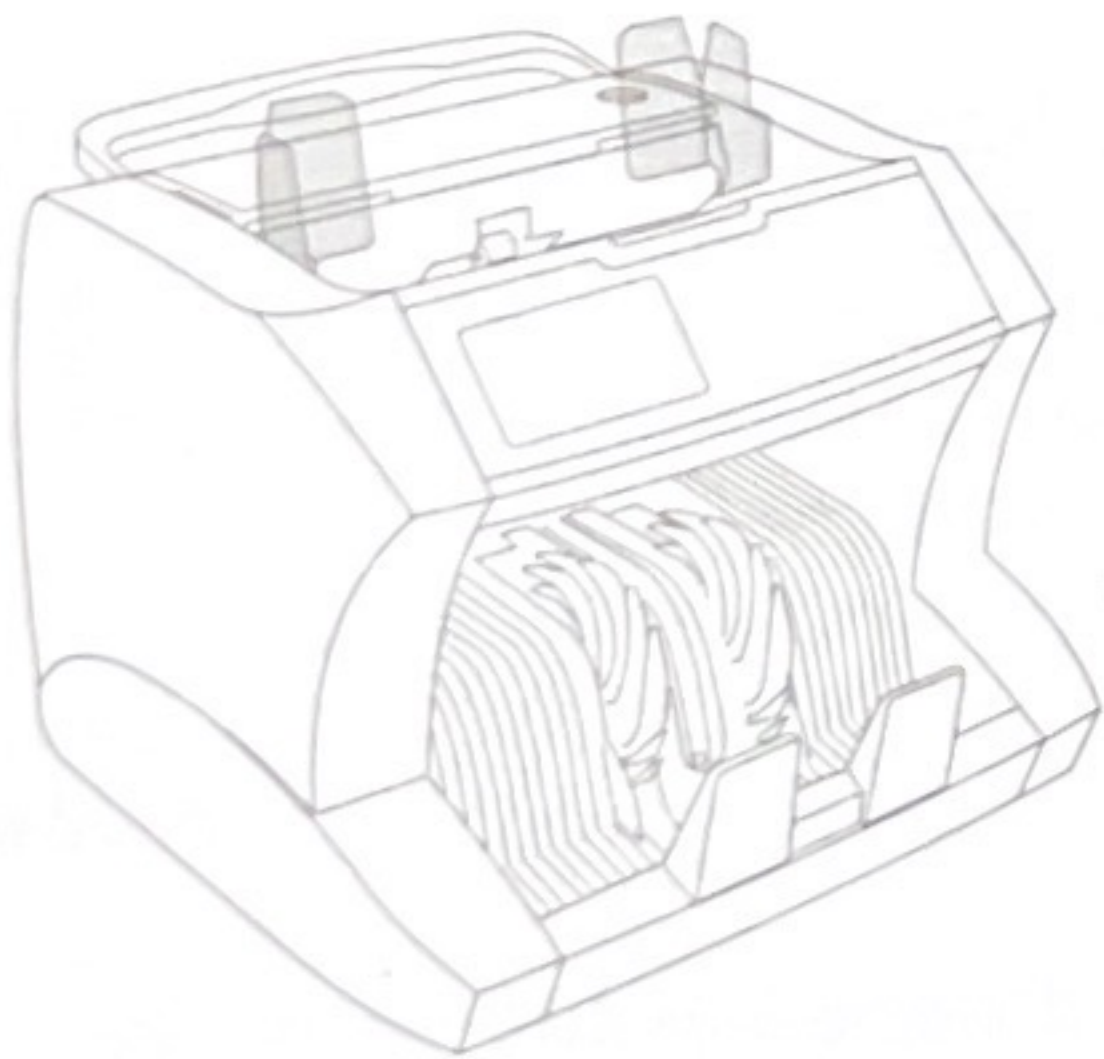
## GENERAL INFORMATION

- Read and understand all of the instructions.
- Follow all warnings and instructions marked on the unit.
- The slots and openings in the back or bottom of the case, are provided for ventilation purposes, to protect the unit from overheating. These openings should never be blocked or covered by placing the product on the bed, sofa, rug, or similar surfaces. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
- This product should be operated only from the type of power source indicated in the user's guide. If you are not sure of the type of power supply in your location, consult your dealer or local power company.
- This product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace the outlet. Do not try to defeat the safety purpose of the grounding type plug.
- Never push objects of any kind into the unit through case slots, since they may touch dangerous voltage points or shortcut parts, resulting in a risk of fire or electric shock. Never spill liquids of any kind on the product.
- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - When the power supply cord or plug is damaged or frayed.
  - If liquid has been spilled into the unit.
  - If the unit has been exposed to rain or water.
  - If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
  - If the product has been dropped or the case has been damaged.
  - If the product shows a noticeable change in performance.

## OPEN THE BOX AND CHECK THE CONTENTS

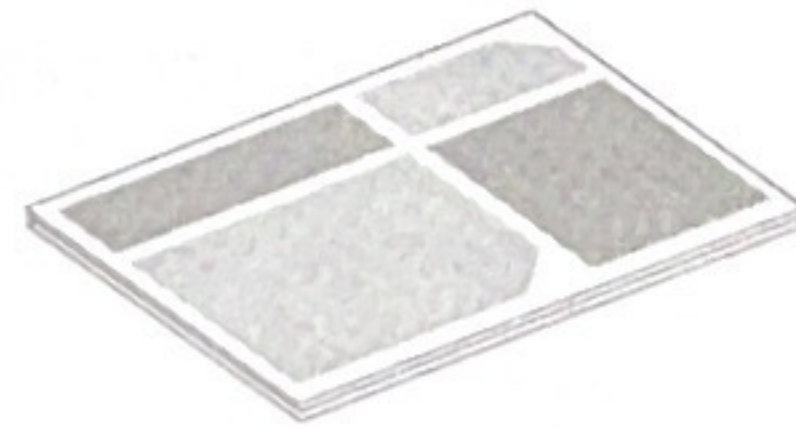
When opening the box, verify that all of the items described below (except optional parts) are included. If any item is damaged or missing, contact the place where the unit was purchased.

### Bill Counter Unit



### Other Items

User's Guide



### Power and Computer Cables

Use the cable provided with the product only. The use of other cables may result in electric shock, fire or cause serious damage to the unit.



### Auxiliary Counting Screen

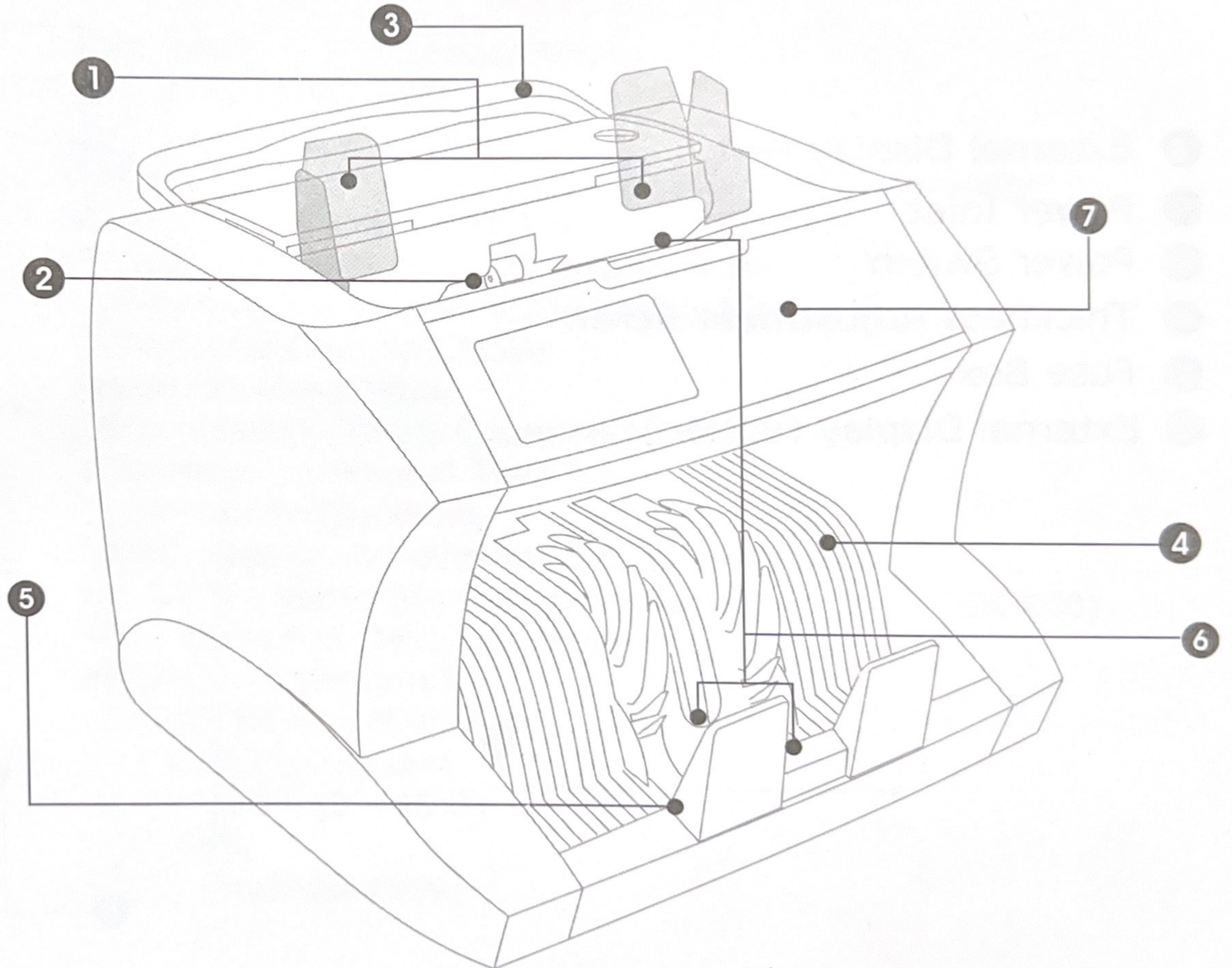


OPTIONAL

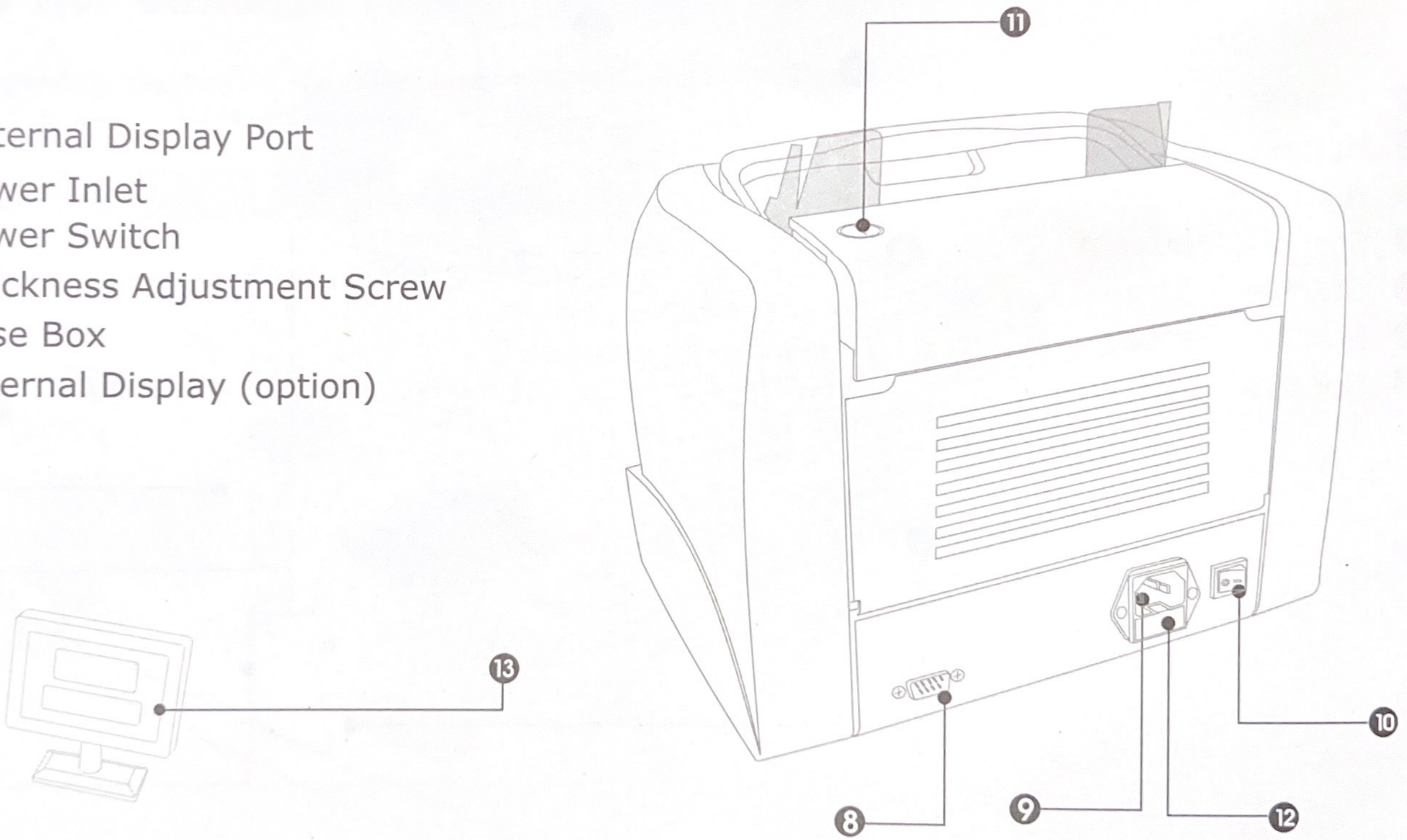
# MACHINE OVERVIEW

# MACHINE OVERVIEW

- ① Hopper Guides
- ② Hopper
- ③ Handle
- ④ Stacker Platform
- ⑤ Stacker
- ⑥ Stacker Sensor
- ⑦ Control Panel



- 8 External Display Port
- 9 Power Inlet
- 10 Power Switch
- 11 Thickness Adjustment Screw
- 12 Fuse Box
- 13 External Display (option)



# TECHNICAL SPECIFICATIONS

# TECHNICAL SPECIFICATIONS

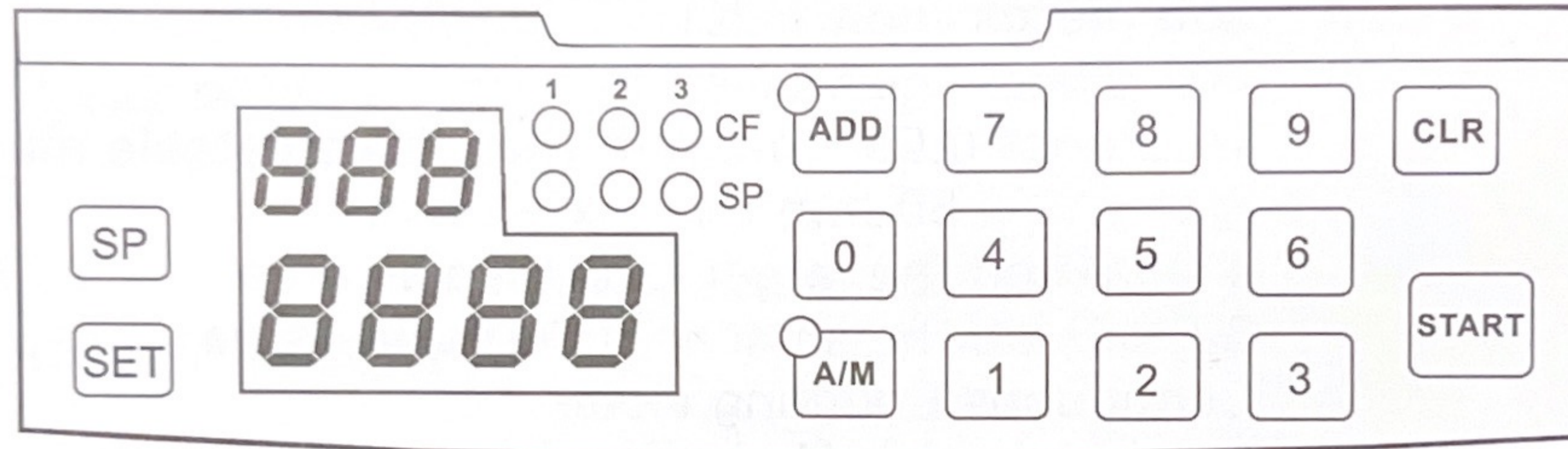
Counting Speed	600, 1000, 1,500 pieces/minute
Hopper Capacity	350 pieces (new bills)
Stacker Capacity	200 pieces (new bills)
Countable Note	Thickness 0.05 - 0.2 mm (Range adjustable manually) Size 110 x 50 mm - 185 x 90 mm
Counting Display	4 Digits on the larger LCD Display area
Batch Display	3 Digits on the smaller LCD Display area
Counting Modes	Continuous Counting Mode Batch Counting Mode Accumulation (Total) Counting Mode Automatic, or Manual Start Mode
Detection Modes	Double Detection Mode Width (Narrow Dimension) Detection Mode UV & MG Counterfeit Detection Mode (for Dc300&DC400) MG Counterfeit Detection Mode
Power Consumption	45 Watts (Operating)
Power Requirements	110V/60Hz or 220V/50Hz
Dimensions	272 x 240 x 230 mm
Ambient Temperature	32 F - 104 F (0 - 40 C)
Relative Humidity	30 - 75%
Weights	6.2kg (Machine Only)



# CONTROL PANEL

CONTROL PANEL

Dc200



SP key ---For selecting the counting speed

SET key ---For setting the detection parameters of the machine

ADD key ---For selecting the Accumulation Mode

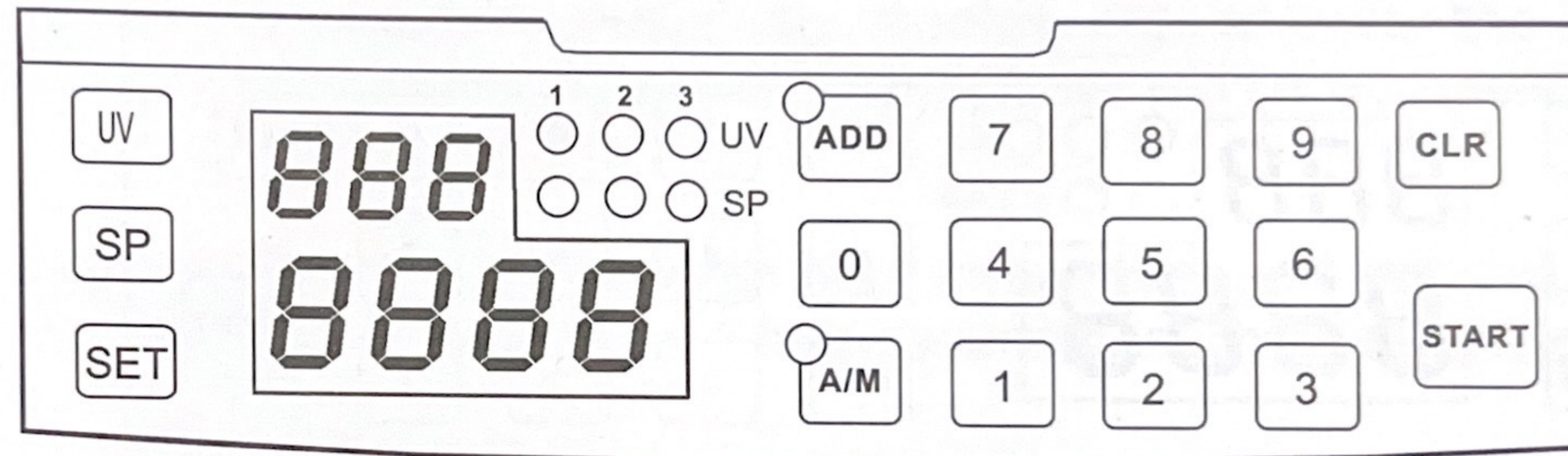
A/M key ---For selecting the AutoStart Mode on or off

Ten numeric key ---For inputting the batch

START key ---For starting the counting in Manual Mode

CLR key ---For clearing the displayed number or error code when an error occurs

Dc300



UV key ---For selecting the Counterfeit Detection level or off

SP key ---For selecting the counting speed

SET key ---For setting the detection parameters of the machine

ADD key ---For selecting the Accumulation Mode

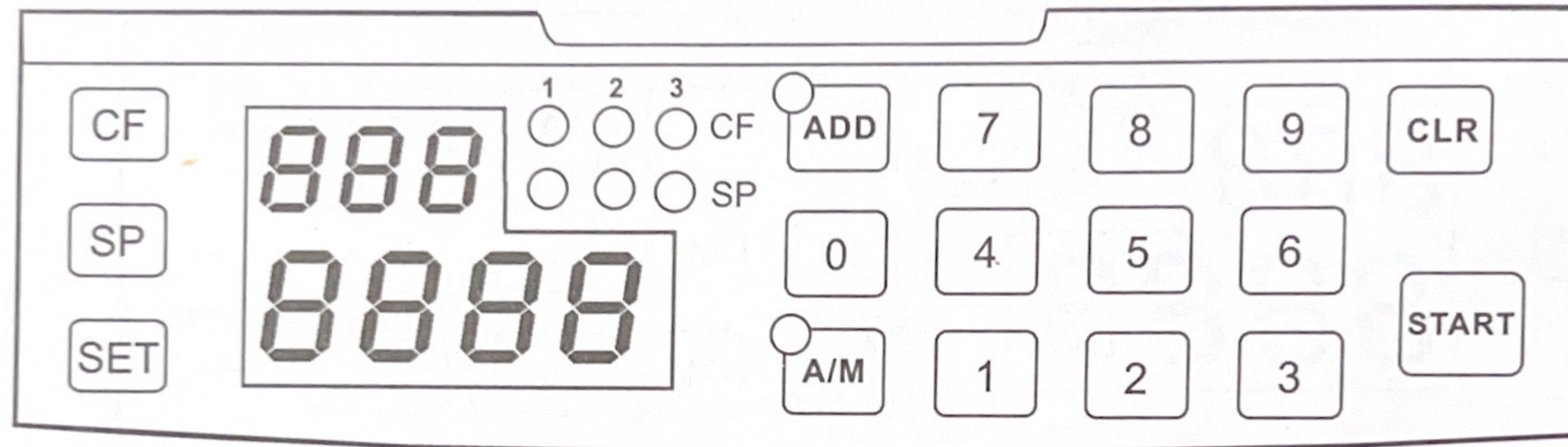
A/M key ---For selecting the AutoStart Mode on or off

Ten numeric key ---For inputting the batch number or setting the sensitivity.

START key ---For starting the counting in Manual Mode

CLR key ---For clearing the displayed number or error code when an error occurs

Dc400



CF key ---For selecting the Counterfeit Detection level or off

SP key ---For selecting the counting speed

SET key ---For setting the detection parameters of the machine

ADD key ---For selecting the Accumulation Mode

A/M key ---For selecting the AutoStart Mode on or off

Ten numeric key ---For inputting the batch number or setting the sensitivity.

START key ---For starting the counting in Manual Mode

CLR key ---For clearing the displayed number or error code when an error occurs

## **CAUTION:**

DO NOT allow clothing, fingers, hair, paper clip, staples, etc., to enter the Hopper area, as if the Optical Sensor is obscured, the note feed system will be activated without warning.

Do not operate the machine directly beneath high-intensity (spot) lighting, in direct sunlight, under cooling fans or near high-voltage sources, such as television receiving apparatus.

Similarly, do not operate the machine on slopes, or places with steps, in an excessively dusty environment, near water, or where the machine could be subject to vibrations.

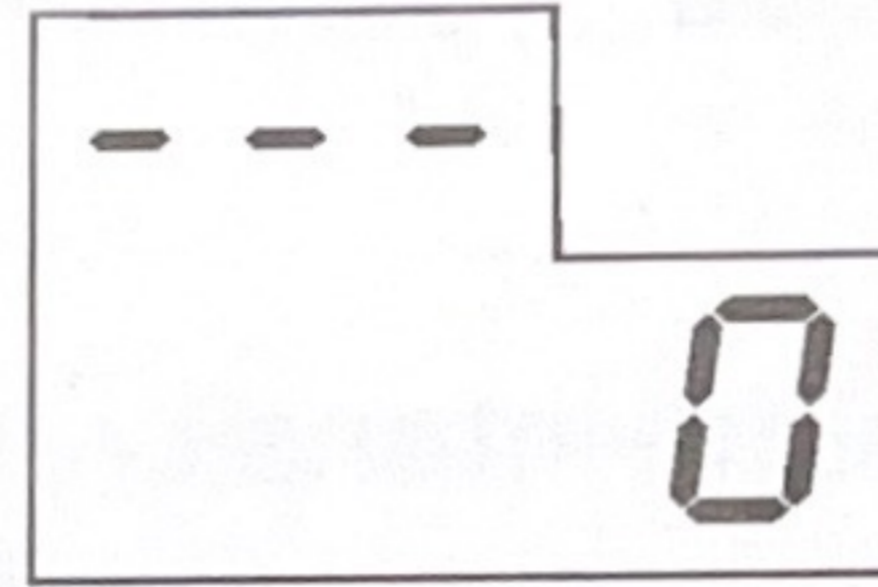
Should you have any doubts, please contact your local distributor, or agent for clarification.

Pre-select the bill you are going to count, do not attempt to count the bills:

- 1) With staples or clips
- 2) Torn or washed
- 3) Profusely stained
- 4) Covered with adhesive media

Before you turn on the machine, please ensure you remove ALL Notes from the Hopper and Stacker areas.

Turn on the Power Switch on the rear of the machine. The machine will enter a 'Self-Test' mode whereby all the LED display will show '8'. The machine Motor will run for approximately 1 second and then, if correct, the Motors will stop and the display will change to show:



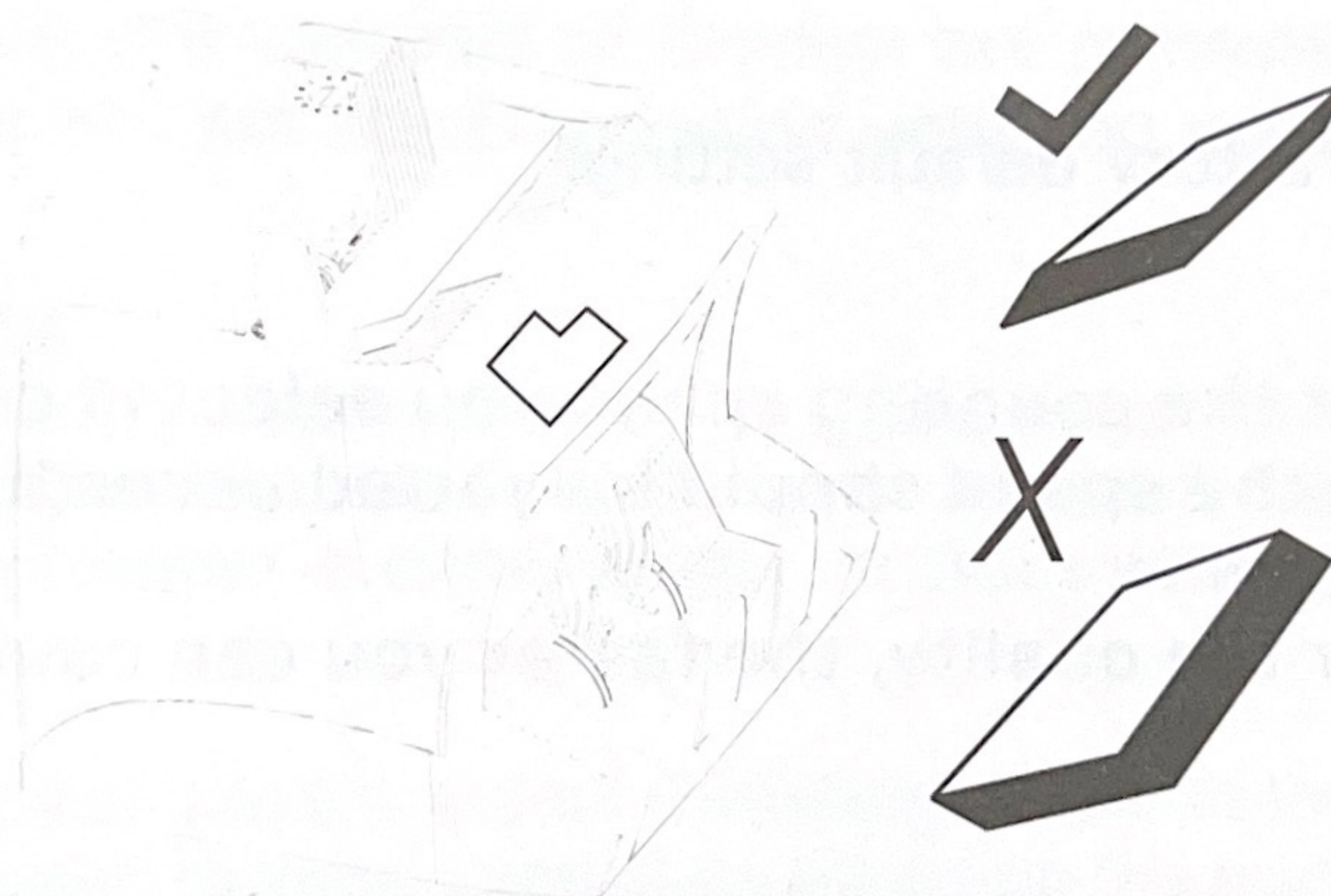
If the machine found problem in 'Self-Test' mode, the display will show the error code, Please refer to the Troubleshooting 'Error Message table' at the end of this Users Guide.

When the machine leaves the factory, the Default Functions are set as follows:

Infrared Counterfeit Detection	4
CF Counterfeit Detection	2 ( for DC300&DC400)
Counting Speed	2 (1,000 pieces/minute)
Double Detection	4
Width Detection	4
Counting Mode	Continuous Counting
Accumulation Counting Mode	Off
Automatic Start mode	On

If the various function settings of the machine were pre-set by the previous operator, the machine will automatically default back to these previous selections when you turn the machine back ON.

If you wish to change the default function setting, please see the section headed 'Function Setting'. After function setting is complete, adjust the distance between the two Hopper Guides according to the length of the notes you will be counting. Place the notes in the Hopper, ensuring that the lower notes within the bundle are inserted firmly into the rear of the feed area. (As the diagram)



The machine will start counting automatically.

The machine will stop automatically under the following Conditions:

All the notes in the Hopper have been counted.

The machine has achieved the default stop of 150 notes in Continuous Counting mode.

The machine count has achieved the pre-set batch quantity.

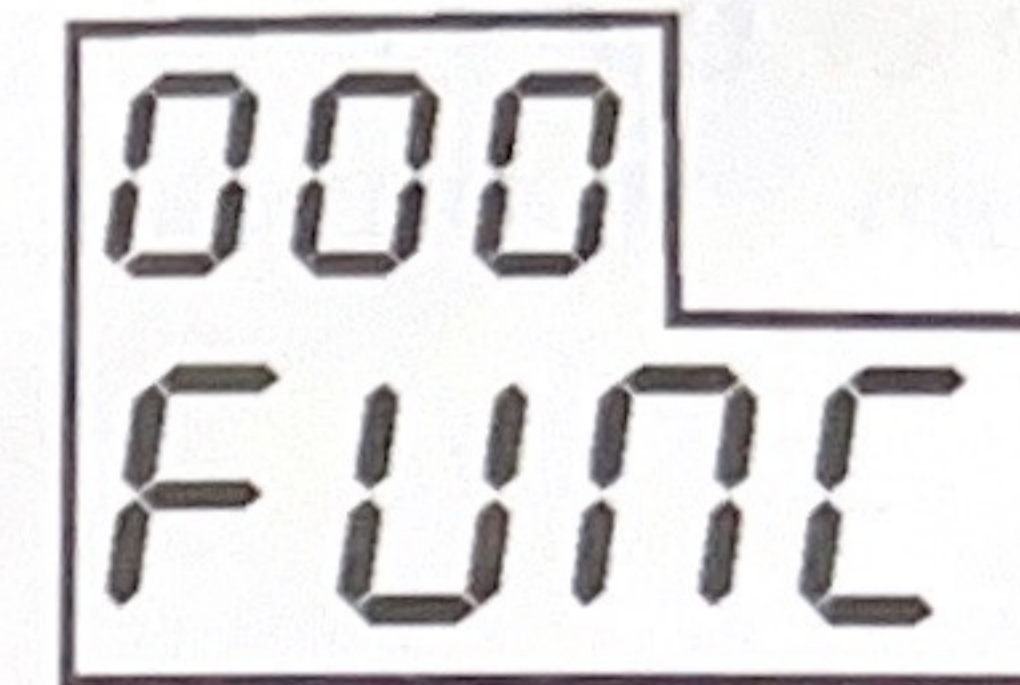
When an error occurs

- An Error Code message will be shown on the display. Please refer to the Troubleshooting 'Error Message table' at the end of this Users Guide.

## FUNCTION SETTING

## SPEED & ACCUMULATION COUNTING SETTING

If at any time you feel that you need to revert to the original factory settings, simply press the 'SET' key continuously for 5 seconds, the display will flash to show:



The all setting will be reset to the factory default setting.

### SPEED SETTING

It is important to appreciate that the counting speed you select is crucial when processing bank notes, and that the speed should be varied according to condition.

The simple rule is that the better the quality, the faster you can count currency, without nuisance stops.

There are three speed you can select, speed 1 is 600 notes/min, speed 2 is 1000 notes/min, speed 3 is 1500 notes/min.

You can select your desired speed by pressing 'SP' key, the indicator beside 'SP' on the right corner of the display will indicate the speed selected.:

### ACCUMULATION COUNTING SETTING

By pressing the 'ADD' key, you can select the Accumulation Mode ON, or OFF. When the machine is in the Accumulation Mode, the indicator LED on the 'ADD' key will glow and the counting number will be accumulated on the last counted number.

### **AUTOMATIC START SETTING**

In Automatic Start mode, when the contents of the Stack are removed, providing notes are still available in the Hopper, the machine will start counting automatically again.

In Manual Start mode, when the contents of Stacker are removed, providing notes are still available in the Hopper, the machine will not start operating until you press the 'START' key.

### **COUNTING MODE SETTING**

When the 3 digits of smaller LED display shows ' - - - ', the machine is in the Continuous Counting mode. If you place some notes in the Hopper and start the count, The machine will count the notes until the Hopper is either empty, or stops whenever an Error occurs during the process.

Press any numeric key, to enter into the Batch Counting mode. In the Batch Counting Mode, you can select any Batch Number simply by pressing the numeric keys. By pressing 'CLR' key, the displayed batch can be cleared and the machine exit from the Batch Counting Mode back into the Continuous Counting Mode.

### **PARAMETER SETTING MODE**

The sensitivity of detection can be set by pressing 'SET' key to enter into the parameter setting mode.

Exit the Parameter Setting mode by pressing 'START' key.



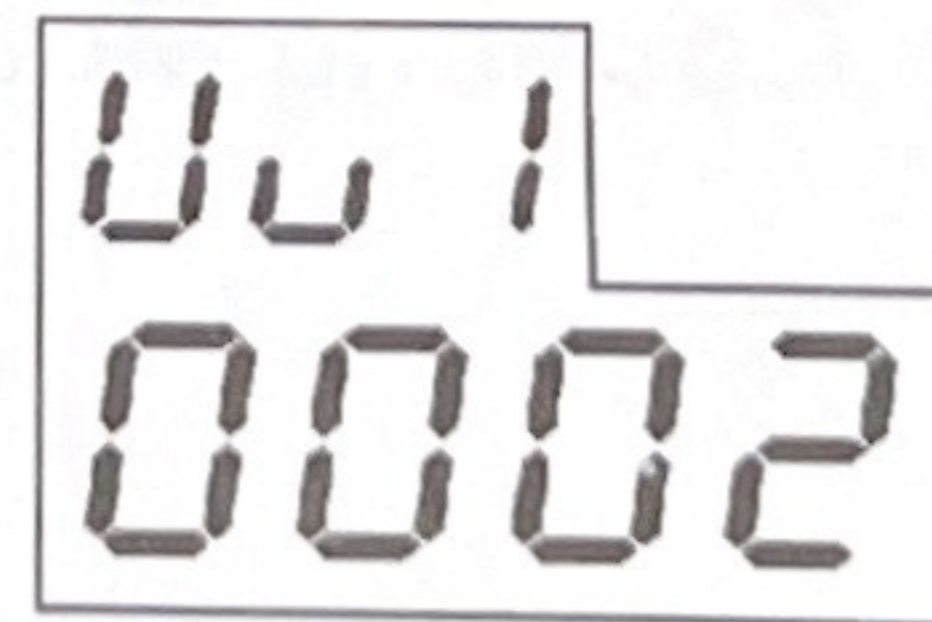
## UV DETECTION SETTING

The vast majority of the world's bank notes are printed a high quality, linen-based paper, which has low fluorescence characteristics. Because the majority of counterfeit bank notes are printed on normal quality papers, which have been bleached and therefore fluoresce, UV detection is normally the most useful method of helping to find forged bills at the speed at which a currency counter operates.

It should be noted that the UV Counterfeit Detection is not foolproof and is provided as a supplement. When a bank note being counted shows a high level of fluorescence, the machine will stop show the error code: **CFU**

you should then remove the last (top) note arrived in the Stacker area in order to make a decision on the validity of the bill by closer visual examination. You can press 'CLR' key to clear the error code and the count will be continued, the final count will not include the suspect note within the total under these conditions.

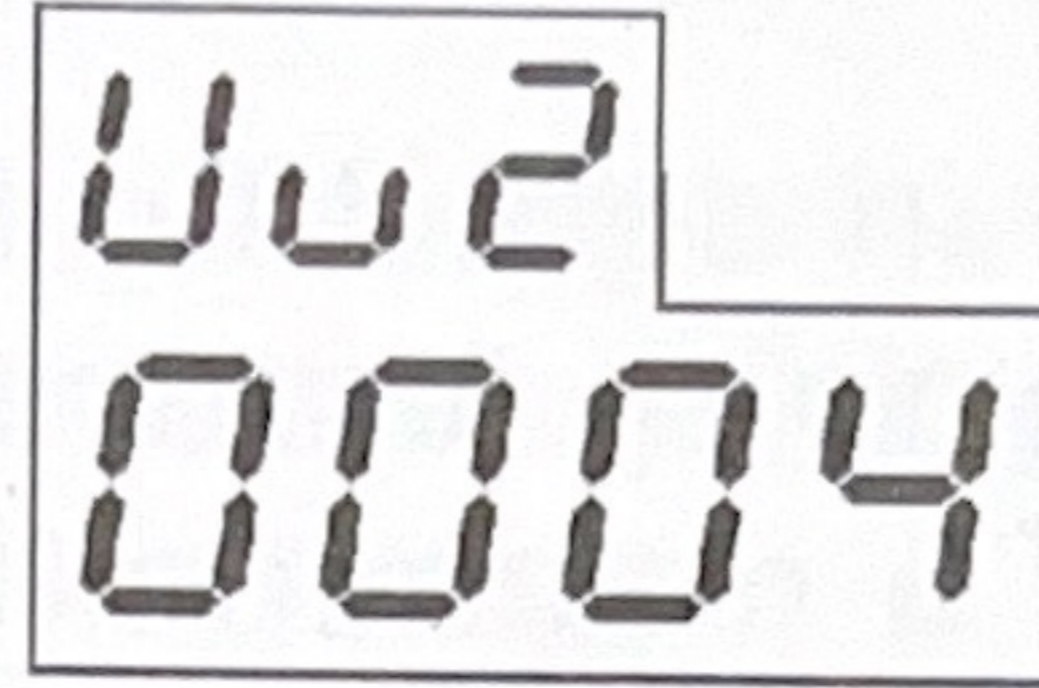
press 'SET' key, the display will show:



Uu 1  
0002

It indicates the UV sensitivity level of the Counterfeit (CF) detection level 1 is on '2',, you can select the proper sensitivity by pressing the numeric key from '0' to '8', '0' indicates the UV detection is off, '1' is the lowest sensitivity, '8' is the highest sensitivity.

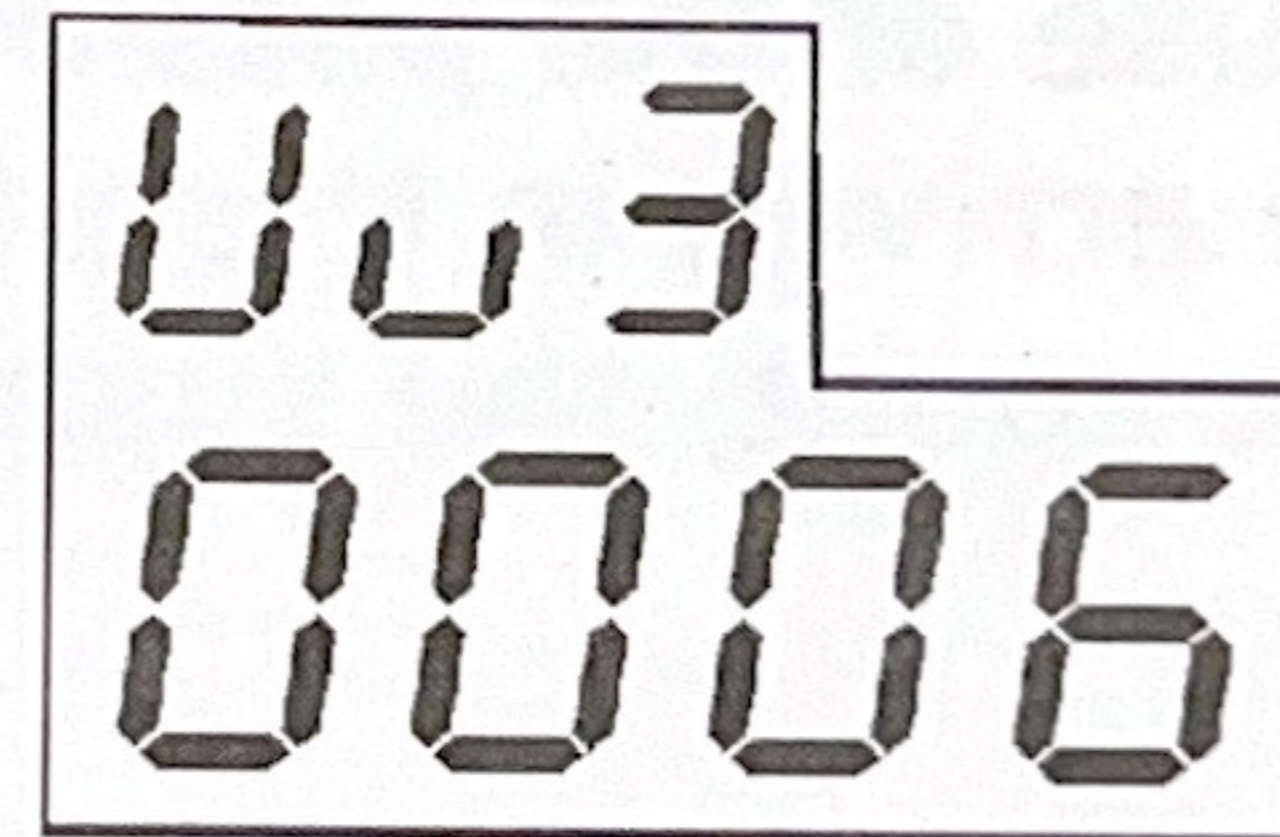
press 'SET' again, the display will show:



Uv2  
0004

You can select the UV sensitivity level of the CF detection level 2 by pressing numeric key, the sensitivity of this level must be higher than the sensitivity of CF detection level 1.

press 'SET' again, the display will show:



Uv3  
0006

You can select the UV sensitivity level of the CF detection level 3, the sensitivity of this level must be higher than the sensitivity of CF detection level 2.

The default UV sensitivity level setting when the machine left factory are as follows:

CF 1	'2'
CF 2	'4'
CF 3	'6'

**MAGNETIC DETECTION SETTING**

Magnetic Detection is a device that is useful in detecting forgeries only when the currency being counted is printed with magnetic ink as a security feature. This feature will examine specific areas of the bank note surface for the presence of a magnetic field, and where this is low, or absent, the machine will stop and show:

CFG

It indicates that a possible forgery is present, with low, or non-existent magnetic ink.

As the machine has stopped only because of the possibility of a counterfeit being present, you should then remove the last (top) note arrived in the Stacker for detailed examination. And then, you can press 'CLR' key to continue the count, the suspect note will not be included in the final counting number.

After complete the sensitivity setting of UV detection, press 'SET' key again, the display will show:

0-1  
00 10

Then you can select the magnetic detection sensitivity of each CF levels as UV sensitivity setting.

## INFRARED DETECTION SETTING

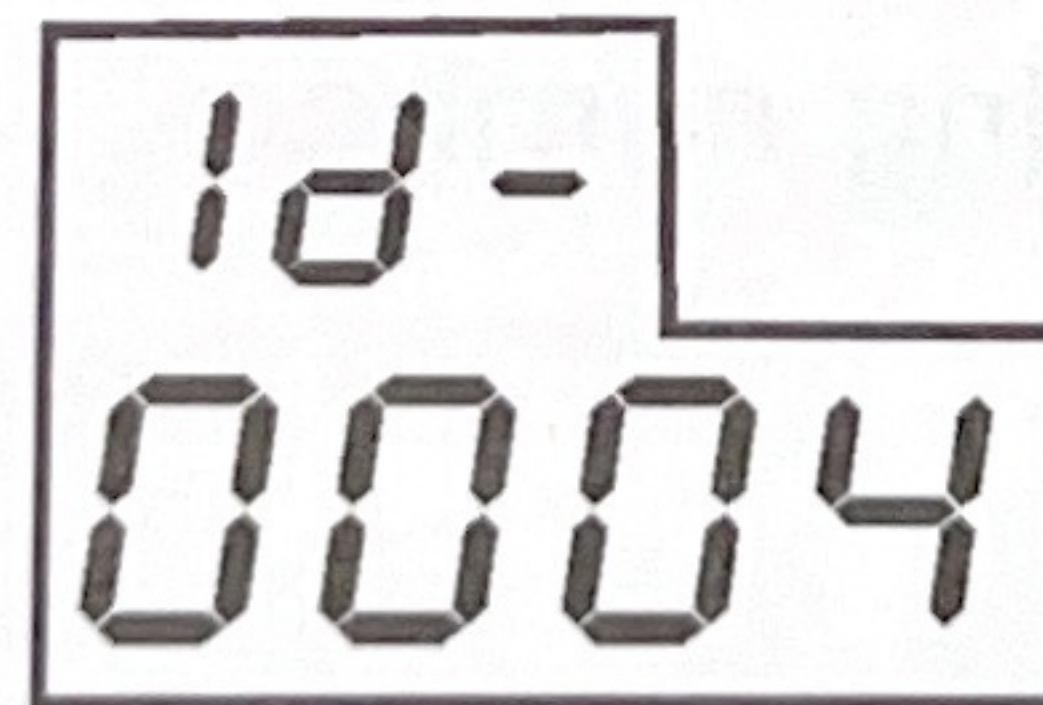
The magnetic detection sensitivity was indicated by the number from '0' to '30', you input the number by pressing the numeric keys. When the sensitivity is lower than '3', the magnetic detection will not work, '3' indicates the lowest sensitivity, '30' indicates the highest sensitivity.

The default setting when the machine left factory are as follows:

CF 1	'10'
CF 2	'15'
CF 3	'20'

## INFRARED DETECTION SETTING

The Infrared detection is a supplement detection for check the paper quality and ink density. After complete the sensitivity setting of MG detection, press 'SET' key again, the display will show:



Id-  
0004

Then you can select the sensitivity level of the Infrared detection by pressing the numeric keys from '0' to '8', to set the proper detection sensitivity level.

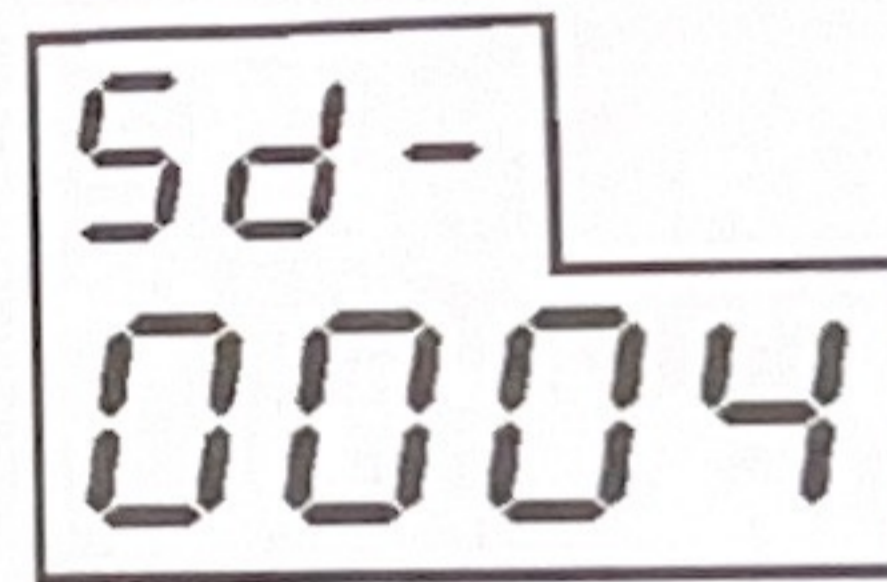
When you input the number '0', the Infrared detection will not work, '1' indicates the lowest sensitivity level, '8' indicates the highest sensitivity level.

The default setting of Infrared detection when the machine left factory is on level '4'.

**SIZE DETECTION SETTING**

The Size Detection is measuring the smaller dimension of the bank note. It then compares this information with preceding bills in the present count run, in order to largely eliminate the possibility of smaller size bill being included in the count, in error. This usually happens when smaller size notes are 'hidden' within a bundle of larger ones.

After complete the sensitivity setting of Infrared detection, press 'SET' key again, the display will show:



Then you can select the sensitivity level of the Size detection by pressing the numeric keys from '0' to '8', to set the proper detection sensitivity level.

The sensitivity levels are indicated by following number:

- '1' 15 mm accuracy
- '2' 10 mm accuracy
- '3' 8 mm accuracy
- '4' 6 mm accuracy
- '5' 5 mm accuracy
- '6' 4 mm accuracy
- '7' 3 mm accuracy
- '8' 2 mm accuracy

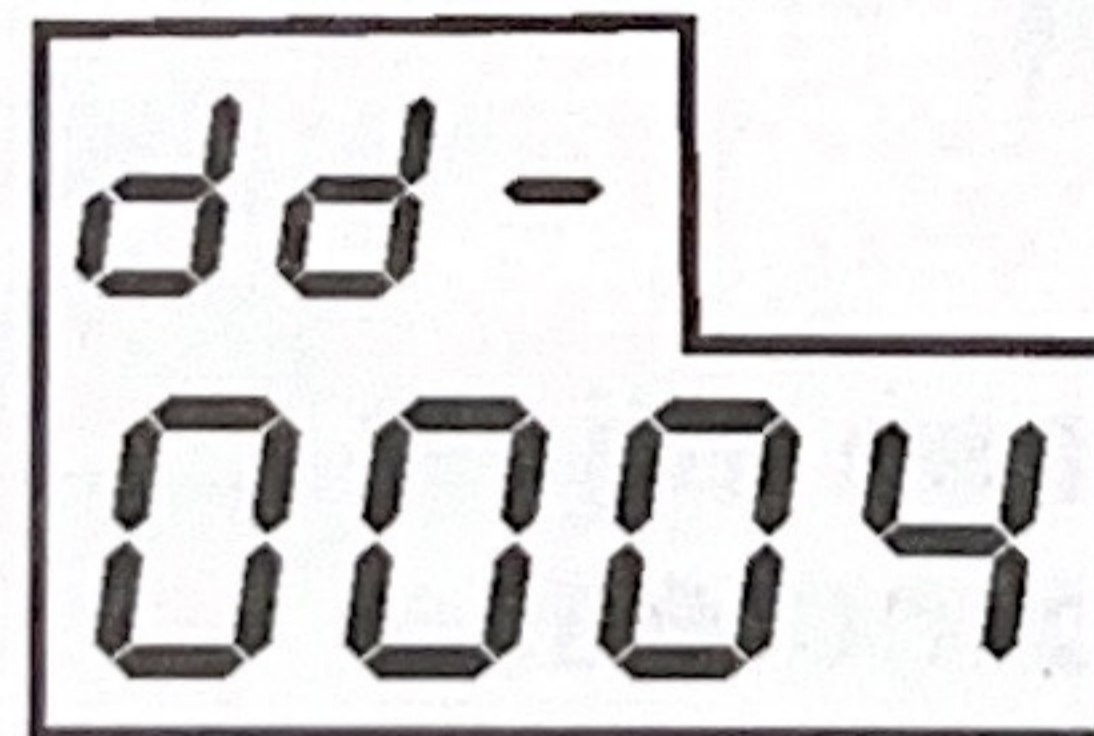
The default setting of Infrared detection when the machine left factory is on level '4'.

## DOUBLE DETECTION SETTING

Double Detection is detecting that two bank notes have passed through the machine, one on top of the other, and therefore suggesting a possible miscount. This feature operates by measuring the amount of light that penetrates each bill, as it is being counted, When machine detect the double notes. it will stop, the display will show: **Edd**

All bills in Stacker must be removed and recounted. The machine will force a recount because, by definition, the count displayed cannot be assumed as accurate. This also applies in the case of a suspected 'Chained' note - (Chaining is where only part of a following bank note overlaps the one being counted).

After complete the sensitivity setting of size detection, press 'SET' key again, the display will show:



dd-  
0004

Then you can select the sensitivity level of the double detection by inputting the number from '0' to '8', to set the proper detection sensitivity level,

when you input the number '0', the double detection will not work, '1' indicates the lowest sensitivity level, '8' indicates the highest sensitivity level. The default setting of double detection when the machine left factory is on level '4'.

Please be aware that selecting the Double Detection to be off, whilst counting bank notes, is not recommended. This facility is only provided to assist you to count extremely inconsistent mixed density documents, such as cheques.

## ADJUSTMENT OF THE FEED GAP

The correct Feed Gap setting is vitally important to the smooth functioning of the machine. After extremely long-term usage, the urethane components of both the Feed Roller and the Friction Roller may be subject to natural wear.

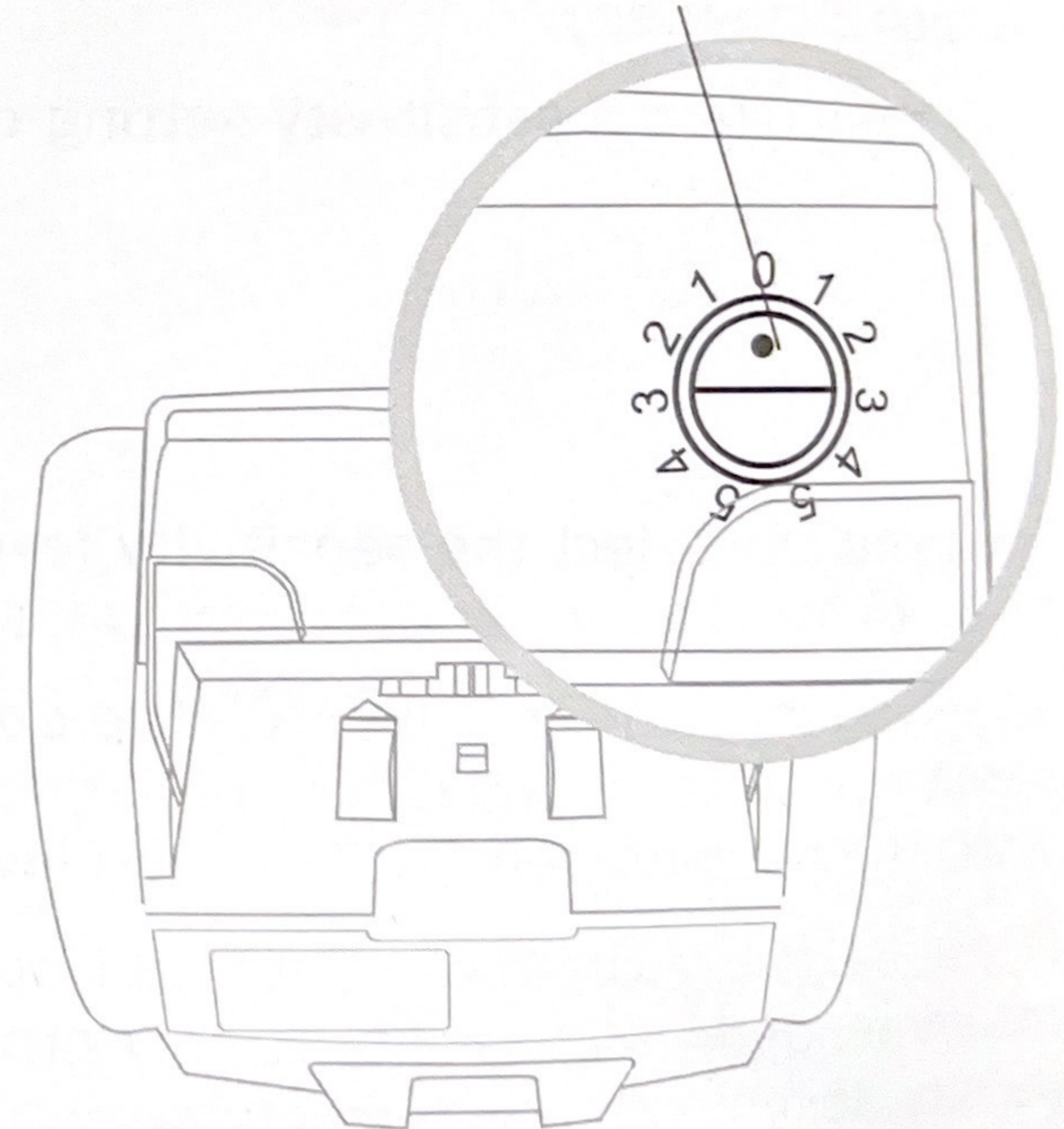
Under this condition, the Feed Gap may become too wide and, as a result, Error Codes will be generated and note feeding will become erratic.

If the Feed Gap is found to be too wide, please adjust the Thickness Adjustment Screw counter-clockwise to slowly reduce the Feed Gap until the proper smooth counting is achieved with your bank note.

If the Feed Gap is found to be too narrow, please adjust the Thickness Adjustment Screw clockwise to increase the feed gap until the proper smooth counting is achieved with your bank note.

The default position of the Thickness Adjustment Screw when the machine left factory is on '0'.

### Thickness Adjustment Screw



# DAILY CLEANING AND MAINTENANCE



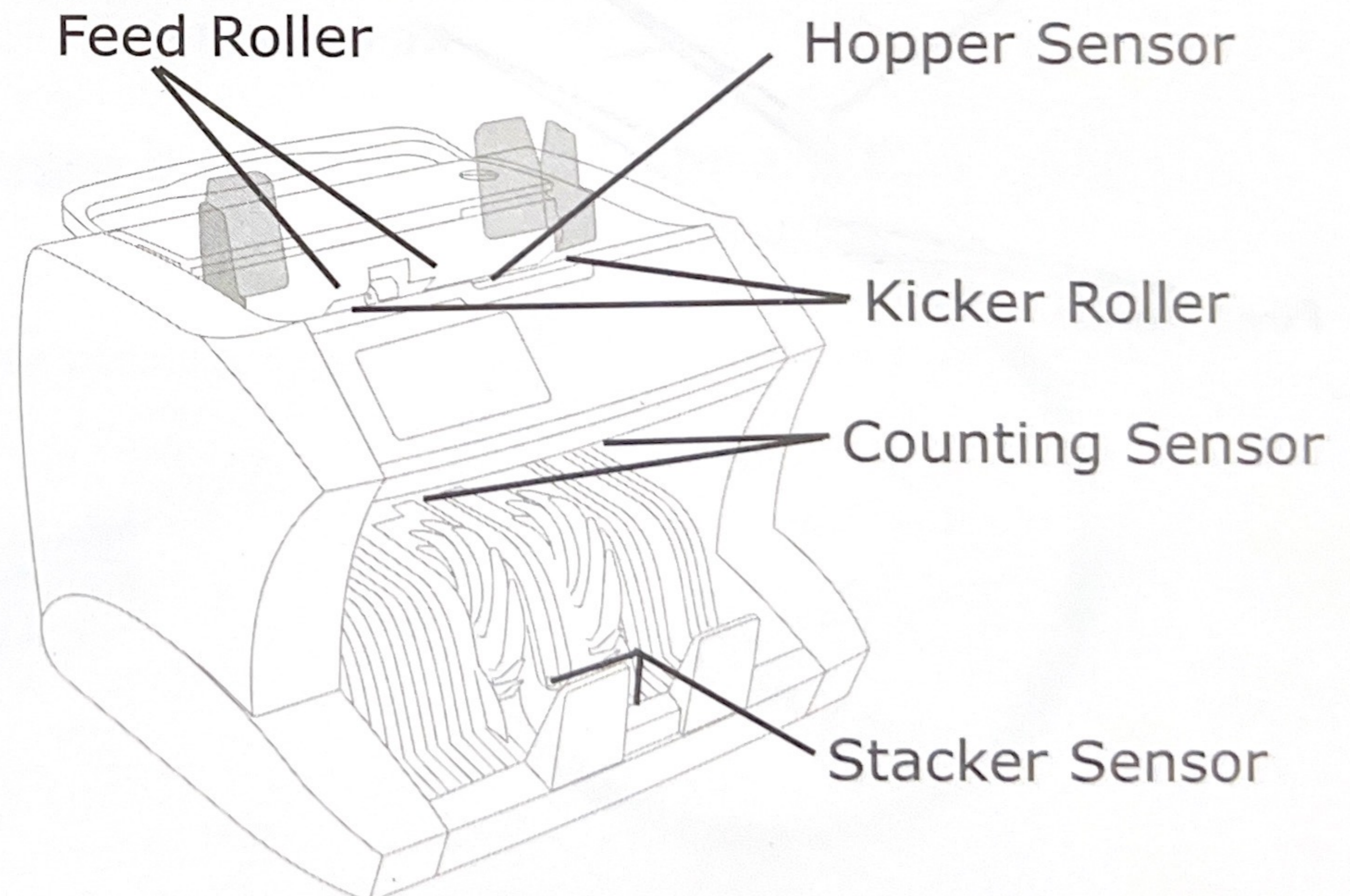
**WARNING: BEFORE DOING ANY CLEANING, TURN THE POWER SWITCH OFF AND DISCONNECT THE POWER CORD FROM THE MACHINE. KEEP IN MIND THAT PROBLEMS OR DEFECTS THAT**

Please maintain the machine via this simple daily procedure:

Turn the Main Power Switch OFF and disconnect the Mains Power Cord from the rear of the machine. Using the brush provided and cloth, clean the central Hopper Sensor, the two Stack Sensors, Hopper area and the Stacker area.

Using a piece of clean, lint-free cloth and an approved non-toxic solvent fluid, carefully clean the surfaces of the Kicker Roller and Feed Roller.

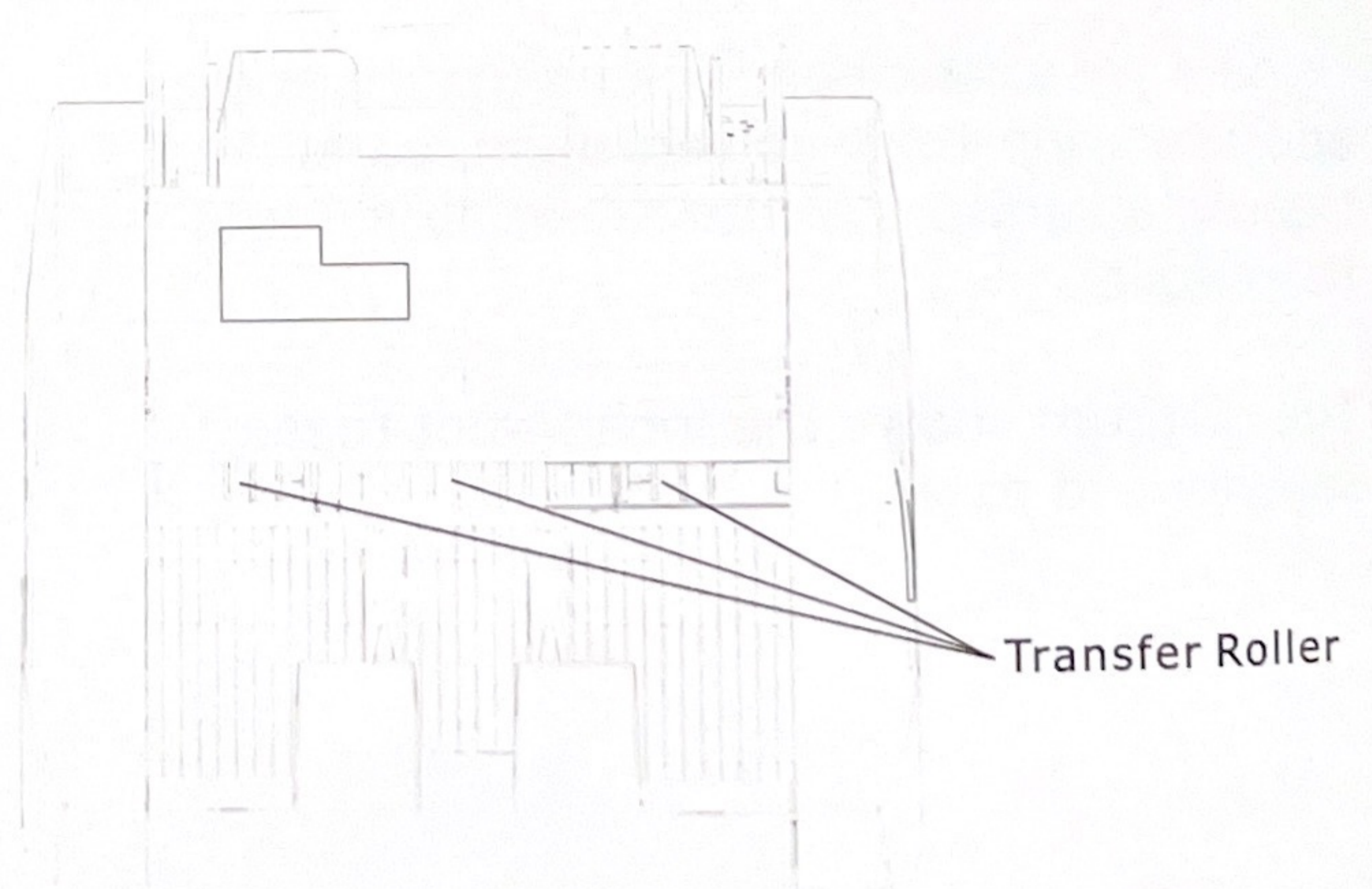
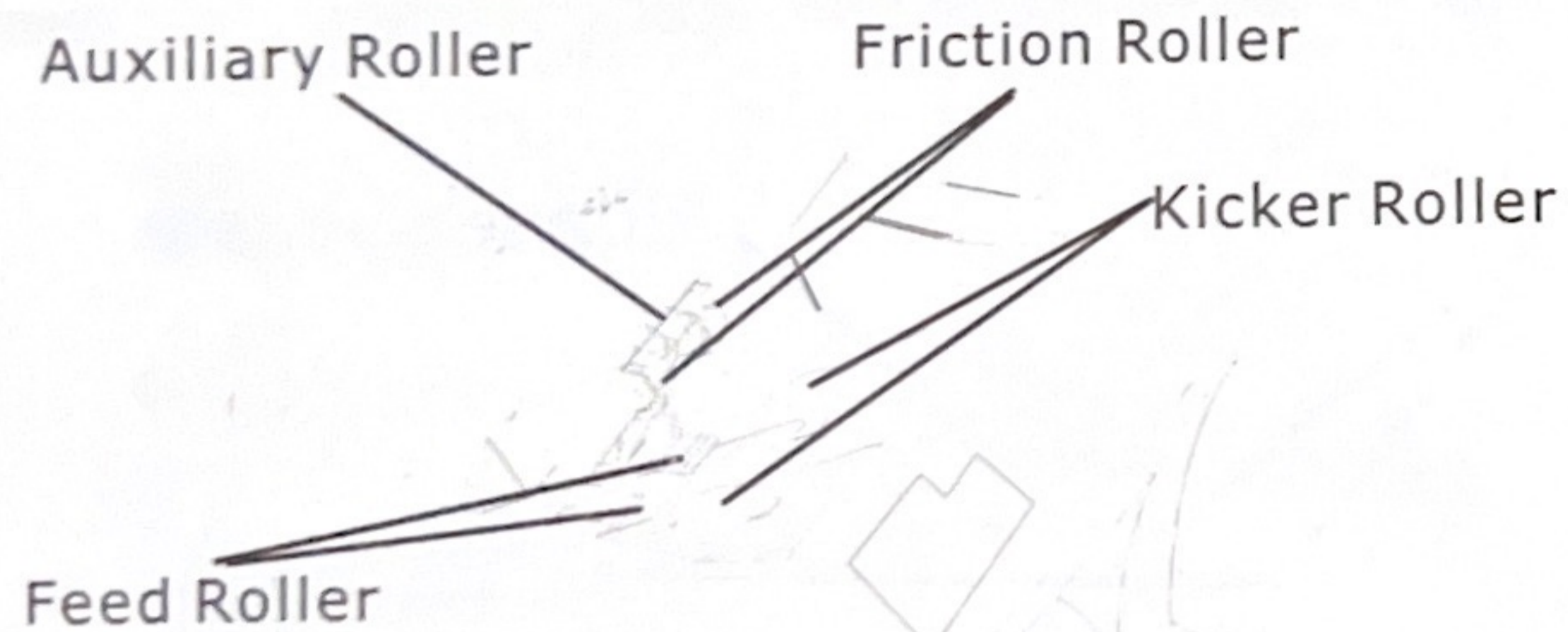
The diagram shows the location of these sensors and roller:





Additionally, please maintain the machine using this relatively simple monthly routine:  
Turn the Main Power Switch OFF and disconnect the Power Cord from the rear of the machine.

Using a piece of clean, lint-free cloth and an approved non-toxic solvent fluid, carefully clean the surfaces of the Friction Roller, Auxiliary roller, Feed Roller, Kicker Roller, Transfer roller shown as following diagram. Do not allow any fluid to come in contact with ANY electrical parts.



## CHECK AND REPLACING THE FUSE

If there is not any sign of acting on machine when turn on, it may be caused by the burnt fuse

Caution: unplug the Power Code from the machine before you do following maintenance!.

Please use a screw driver to pull out the Fuse Case as diagram A, there are two fuses in the Fuse Case, one is working fuse located in the back, another is the spare fuse in the front.

Remove the working fuse, Pull out the spare fuse as diagram B, put it into fuse working position, then insert the Fuse Case into its previousl position as diagram C. Connect the machine to Power and turn on the machine, if the problem was not solved, please contact you local distributor, or agent for maintenance service..

Diagram A



Diagram B

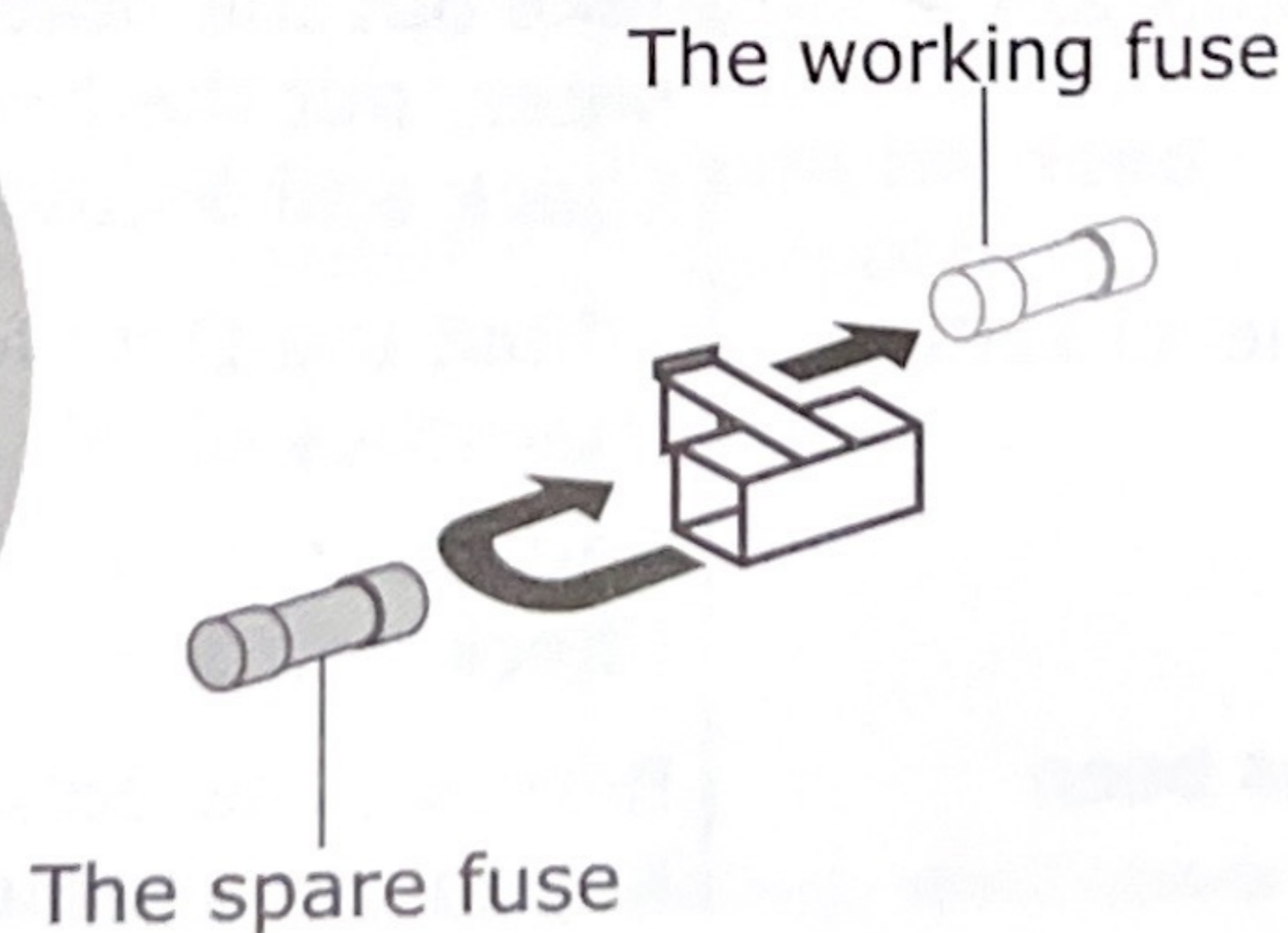
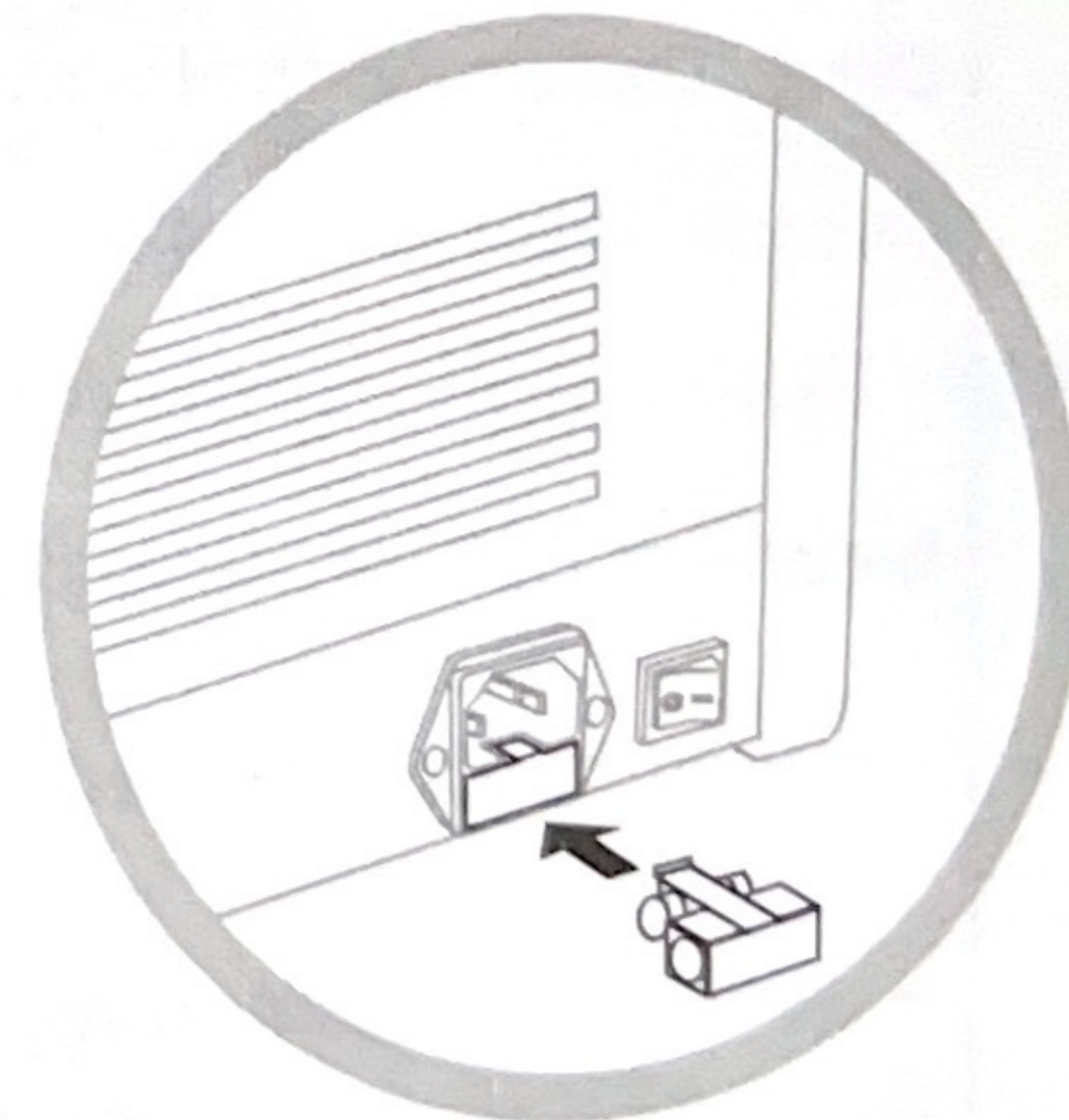


Diagram C



# Troubleshooting

## ERROR MESSAGE TABLE

Error code	Reason	Remedy
HEFF	Hopper Sensor Problem	Clean the Hopper Sensor; Contact local agent for service.
SEFF	Stacker Sensor Problem	Clean the Stacker Sensor; Contact local agent for service.
EEFF	Encode Sensor Problem	Contact local agent for service.
UEFF	UV Sensor Problem	Contact local agent for service.
LEFF	Left Counting Sensor Problem	Clean the Left Counting Sensor; Contact local agent for service.
REFF	Right Counting Sensor Problem	Clean the Right Counting Sensor; Contact local agent for service.
DEFF	Other Electronic Problem	Contact local agent for service.
Edd	Double notes detected	Take out the notes from the Stacker, remove the double notes, put the bundle back into the Hopper to recount; Check and adjust the Feed Gap for correct setting.
	Incorrect Double Detection level setting	Adjust the Double Detection level according to the note characteristics of ink and thickness properties.
ECh	Chained notes detected	Sort out the chained note(s) and count again, Check and adjust the Feed Gap for correct setting.
EHF	A partial, or folded note, has been detected	Remove the partial, or folded note and press the 'CLR' key to continue the count.

## ERROR MESSAGE TABLE

Error code	Reason	Remedy
CFG	Suspect counterfeit note has been detected by the magnetic sensor	Remove the suspected counterfeit note in Stacker, and press the 'CLR' key to continue the count.
	Incorrect magnetic sensitivity setting	Adjust the magnetic sensitivity according to the notes.
CFU	Suspect counterfeit note has been detected by the UV detection sensor	Remove the suspected counterfeit note in Stacker, and press the 'CLR' key to continue the count.
	Incorrect UV detection sensitivity setting	Adjust the UV detection sensitivity according to the notes.
EId	Suspect counterfeit note has been detected by Infrared sensor	Remove the suspected counterfeit note in Stacker, and press the 'CLR' key to continue the count.
	Incorrect Infrared detection sensitivity setting	Adjust the Infrared detection sensitivity according to the characteristics of the notes.
ESd	Abnormal width note has been detected	Remove the abnormal note and press the 'CLR' key to continue the count.
EJA	There are notes or foreign objects jammed in the feed passage and covered counting sensor	Clean the feed passage and press 'START' key to run the machine.

In the interests of our ongoing policy of continual product improvement, specifications are subject to change without prior notice.