Leading Image Processing Technology
We've been there when you needed

SB-1100

Currency Discrimination Counter

Service Manual

SBM Co., Ltd.
Ver. 1.03

Important Safety Information

Always be careful when using the machine. To reduce the risk of fire electrical shock, and other injuries, keep these safety considerations in mind when installing, using, and maintaining your machine:

Stability. Place the machine on a secure, stable surface. The machine can be seriously damaged if it falls.

Power Supply. Provide correct power to the machine, as listed on the back of the machine. If you are not sure of the type of power that is supplied to your office, call your electric company.

Grounding. If the plug has three prongs, it must be plugged into a grounded (three hole) outlet. Grounded plugs and outlets are designed for your safety - do not try to make a three-prong plug fit into a two-prong outlet by modifying the plug or outlet in any way. If you cannot insert the plug into your wall outlet easily, then the outlet should be inspected by a qualified electrician.

Overload. Do not plug too many electrical devices into a wall outlet or an extension cord. An overloaded outlet could be a reason of a fire and electrical shock hazard.

Cleaning. Before cleaning the machine, unplug it from the power outlet. Clean exposed parts with a soft cloth slightly dampened with water. Do not use aerosol cleaners.

Gas Leaks. Never use any machine close to a gas leak. If you think gas is leaking, call the gas company immediately. A small electrical spark in the machine could cause a fire or explosion.

Precaution

When using the machine, these precautions should always be followed.

1. Never push objects of any kind into your machine through the case or cabinet openings.
2. Do not use your machine near water, in wet locations, or outdoors.
3. Do not allow anything to rest on the power cord, line cord, or PC interface cable.
   Do not locate your machine where the cords can be damaged by persons walking on them.
4. Do not allow pets to chew on the power cord or PC interface cable.
5. Use supplies or cleaning materials only as directed. Keep all supplies and materials out of the way of children.
6. The power supply turns this machine on and off. Make sure that your machine is installed near an outlet and is easily accessible.
7. Never remove covers or guards that require a tool for removal. There are no operator serviceable areas inside your machine. Refer servicing to authorized service personnel.
8. Never defeat interlock switches. This machine is designed to restrict operator access to unsafe areas. Covers, guards and interlock switches are provided to ensure that the machine will not operate with covers opened.

9. Avoid direct viewing of the image sensor lights. The lamps are bright and, while not harmful, they may cause an annoying afterimage. Always keep the rear cover closed during operation and storage.

Safety Notes

Your machine and the supplies are designed and tested to meet strict safety requirements. Included are safety agency examination and approval and compliance to established environmental standards. Please read the following instructions carefully before operating your machine, and refer to them as needed to ensure the continued safe operation of your machine.

FCC Warning

This device complies with part 15 of FCC rules. Operation is subject to the following conditions; this device must accept any interference received, including interference that may cause undesired operation.

Battery Warning

Risk of explosion, If battery is replaced by an incorrect type dispose of used batteries according to the instructions.

Table of Contents

1 Installation

Unpacking List

1. SB-1100 1 Unit
2. AC Power Code 1 pc.
3. SB-1100 User's Guide 1 pc.
4. Cleaning Brush 1pc.
5. Glass Cleaning Cloth 1 pc.
6. Serial Cable (Connection between SB-1100 & PC) (option) 1 pc.
7. Printer Cable (used in connecting a printer) (option) 1 pc.

Choosing a Location

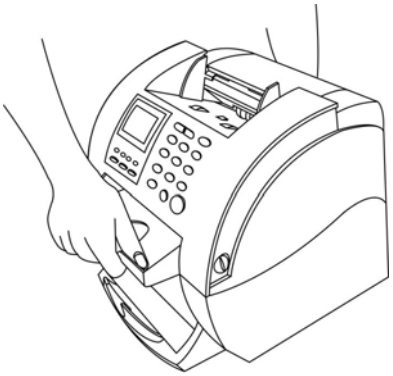
To help guarantee the trouble-free operation of your machine, place it on a flat, stable surface near your workstation.

Do not place your machine:

- In direct sunlight.
- Near heat sources or air conditioners.
- In dusty or dirty environments.

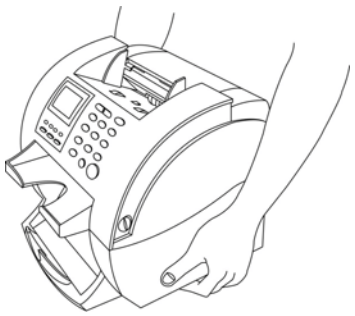
Handling the Machine

When handling or moving the machine, do not lift with grasping the Reject Pocket. The picture shows how to lift the machine correctly.



(X)

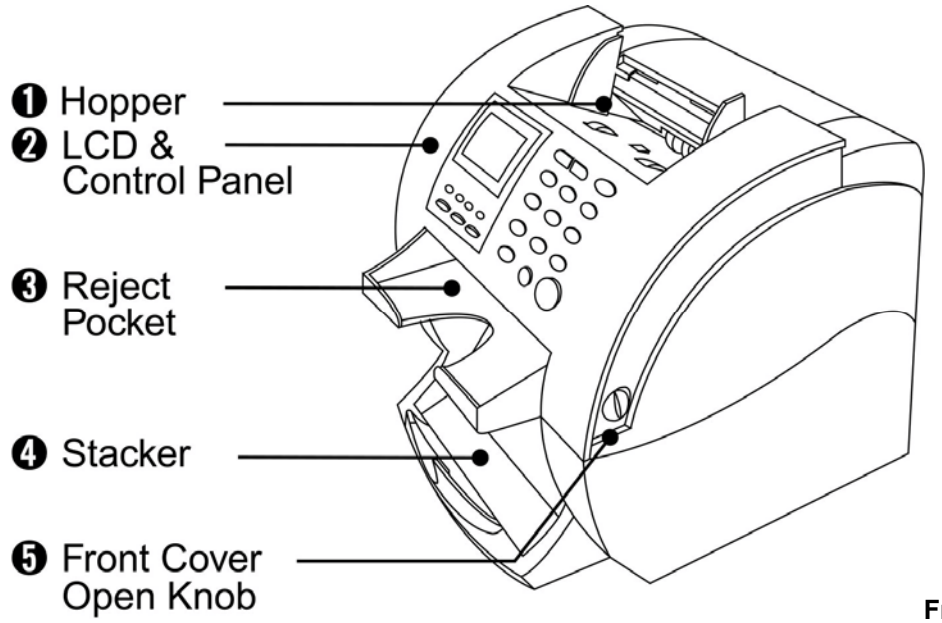
(X)



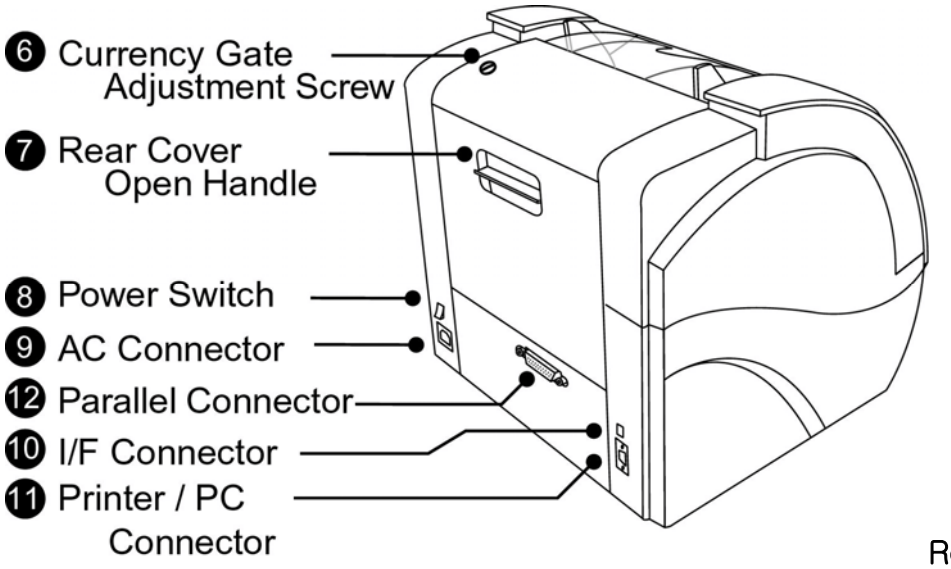
(O)

2 Description of the Parts

Outside

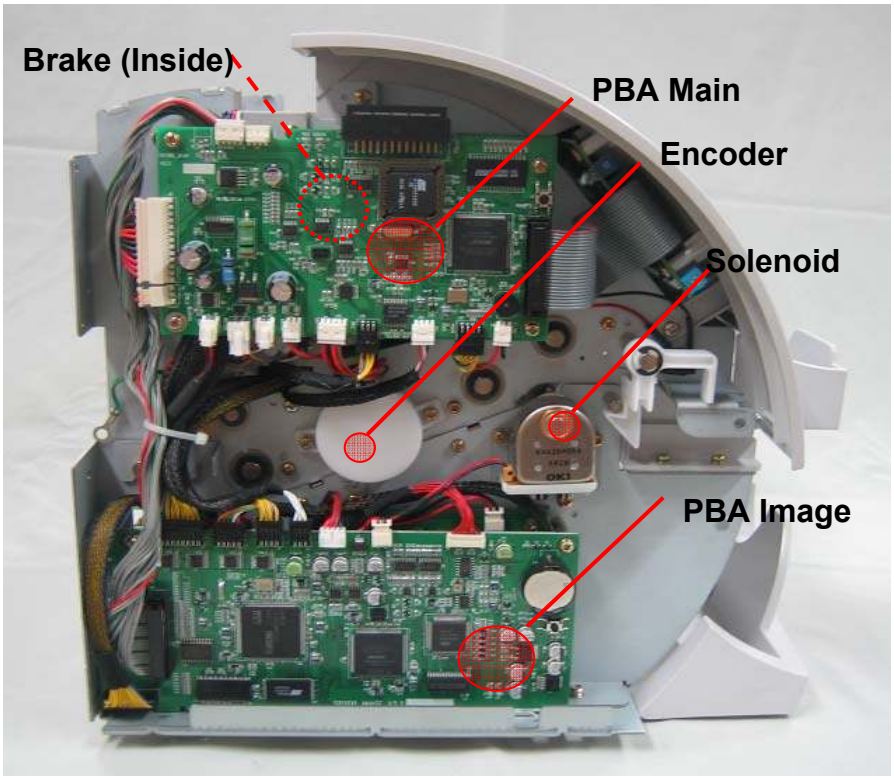


Front View

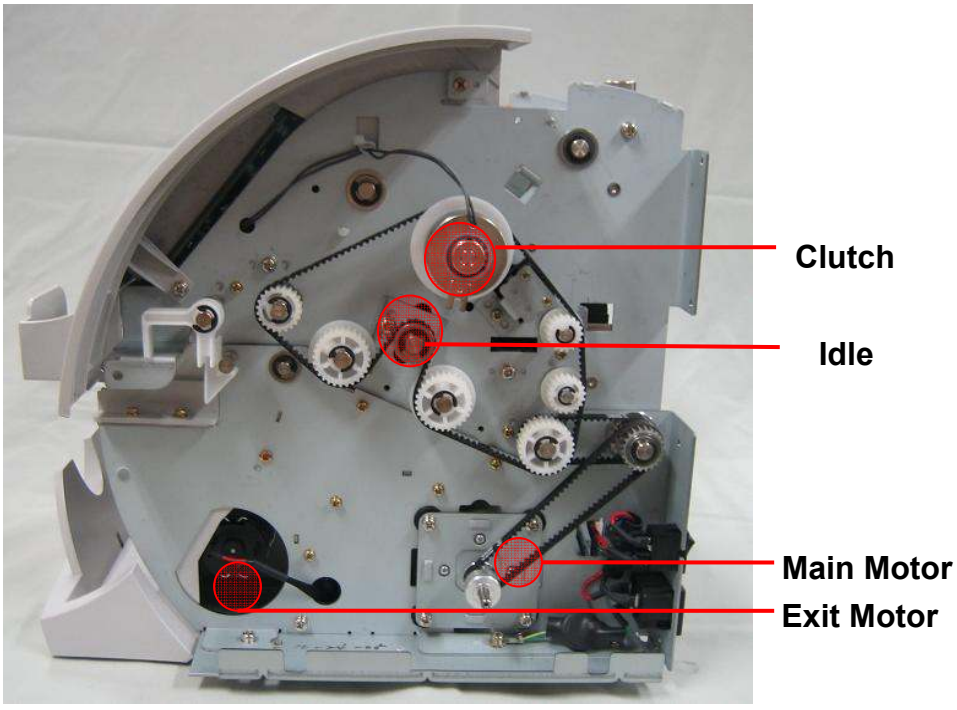


Rear View

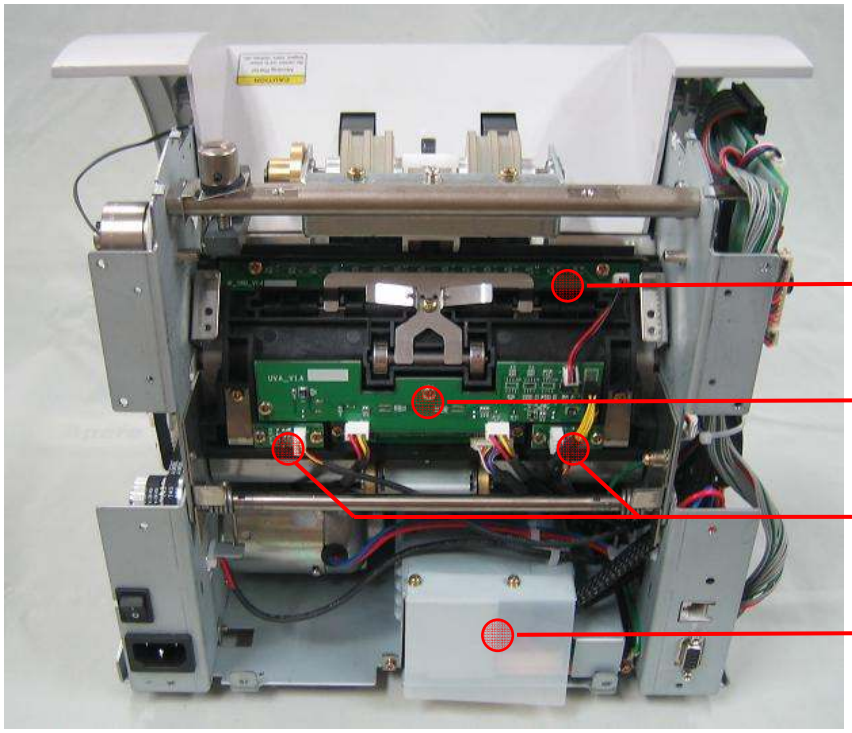
Inside (Left)



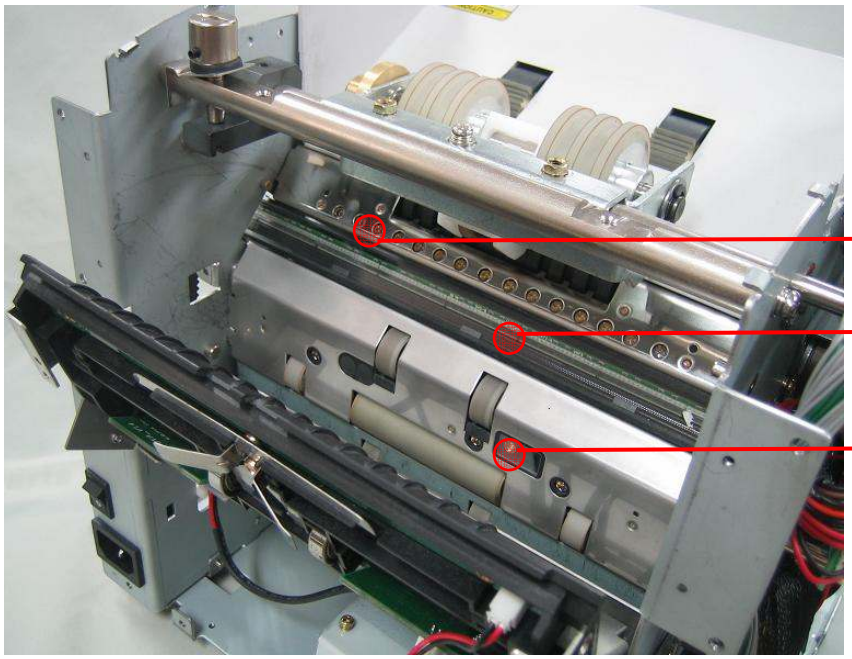
Inside (Right)



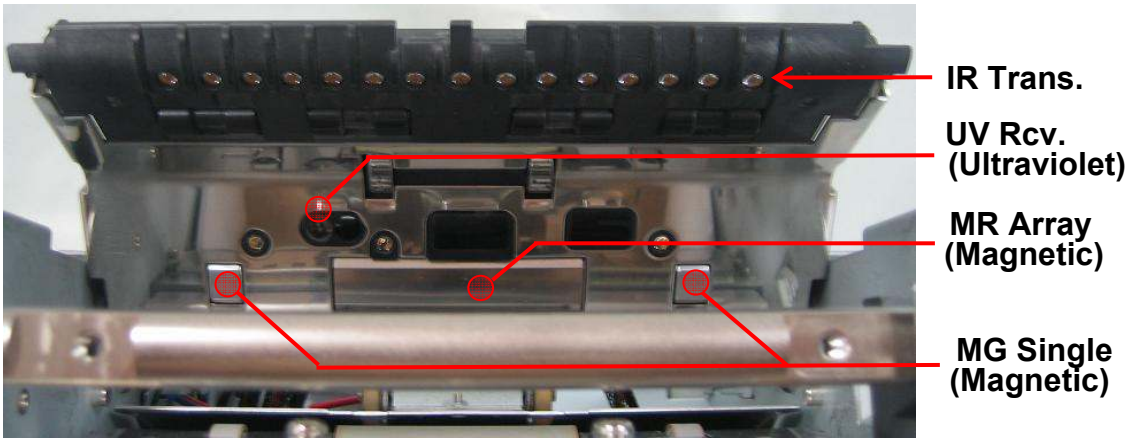
Inside (Rear-1)



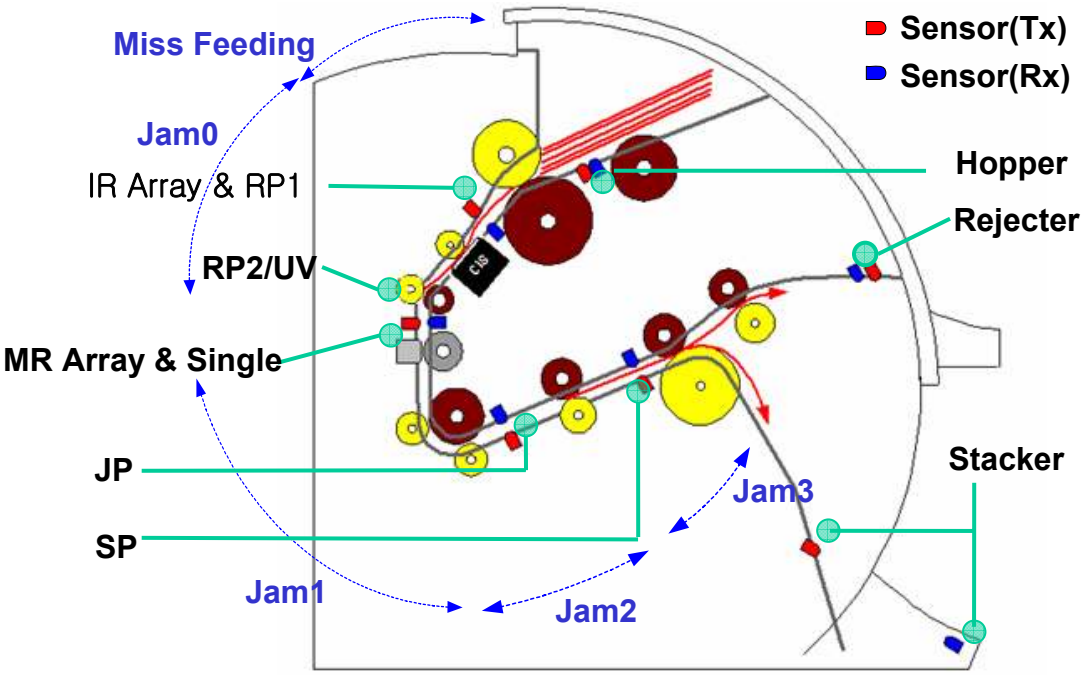
Inside (Rear-2)



Inside (Rear-3)



Transfer Path & Sensors



3 Function of each Board

Main Board

- The part controlling on MAIN board is same as the following.
- Control & Processing
  - ❖ Operation Panel : LCD Displaying, Key In
  - ❖ Sensors : Hopper, RP1, RP2, JP, SP, Reject, Stacker, Front Cover, Encoder
  - ❖ Mechanism Control : Main Motor, Exit Motor, Brake, Clutch, Solenoid

Important parts on Main Board

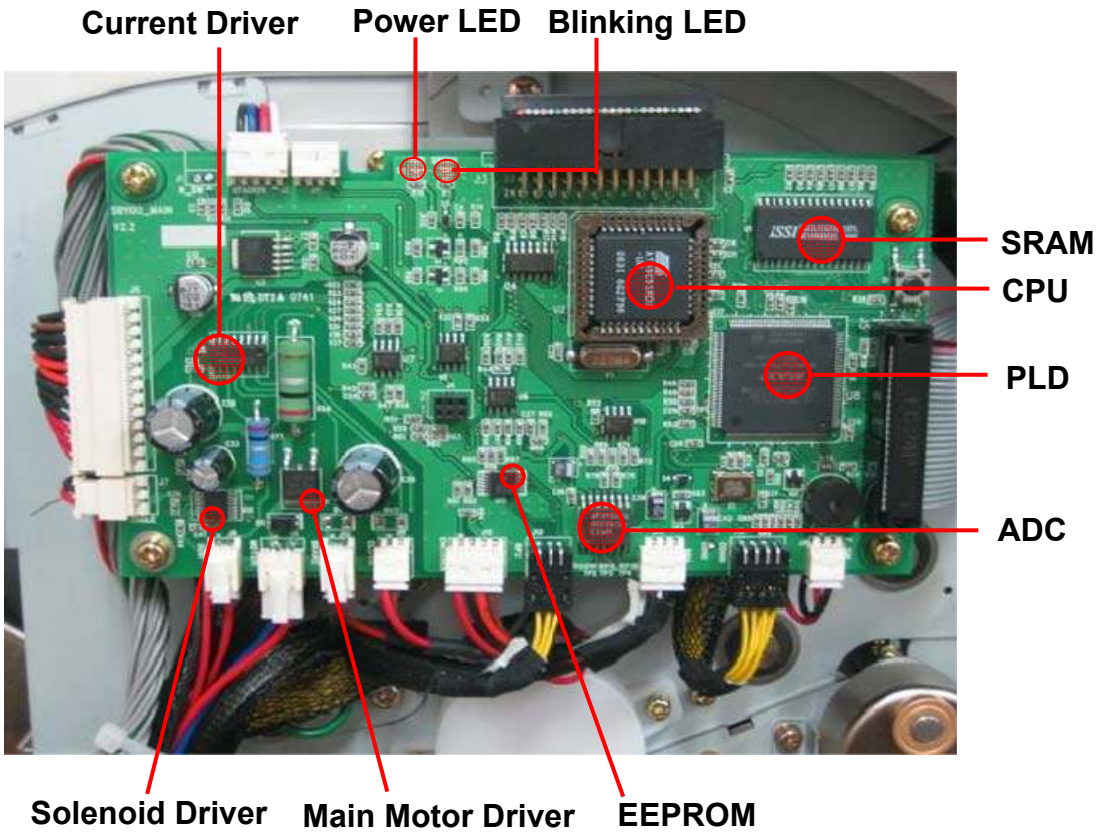
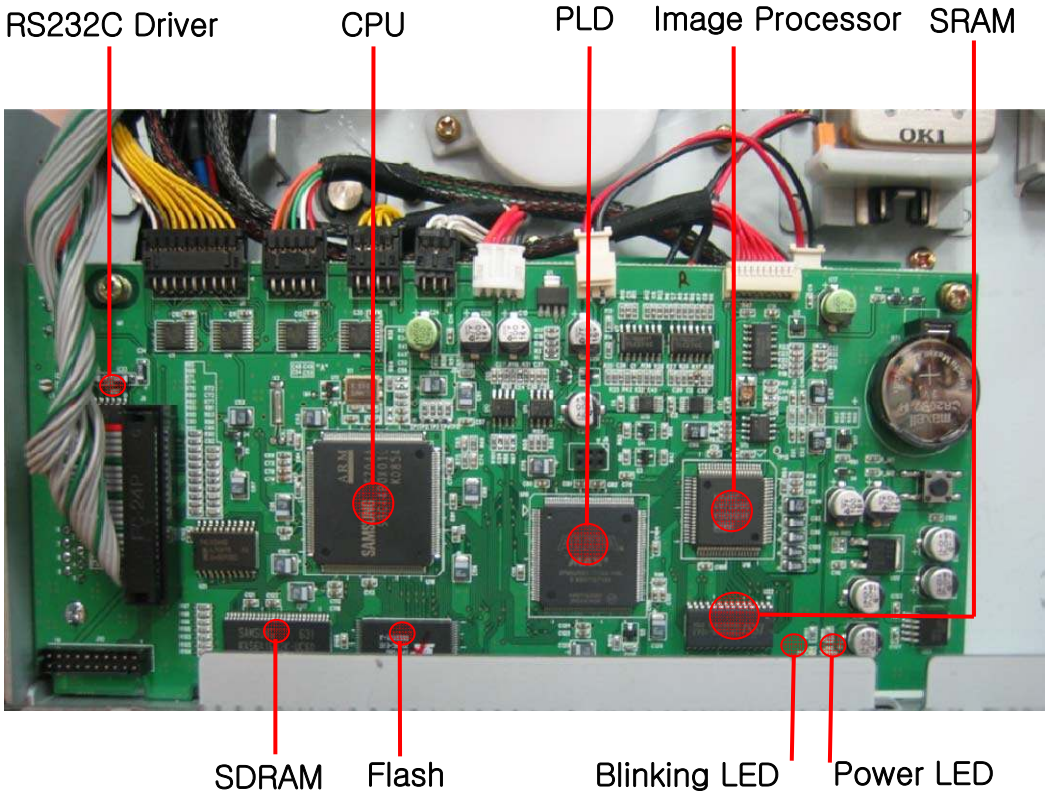


Image Board

- The part controlling on Image board is same as the following.

- Control & Processing
  - ❖ CIS : Image Processing
  - ❖ UV, MR Array, MR_L/R, IR : Counterfeit Detection
  - ❖ Printer : Serial Printer, Parallel Printer

Important parts on Image Board



Amp. Board

- ❖ Input : MR Array(6 Channel), MG Single L/R
- ❖ Function : Amplification
- ❖ Output : to Image B'd

OPE Board

It operates all of the working process and display the operating condition.

Conn. Board

It connects 'CLUTCH', 'JP/SP Rx Sensors', 'REJECT Rx/Tx Sensors' with MAIN B'd.

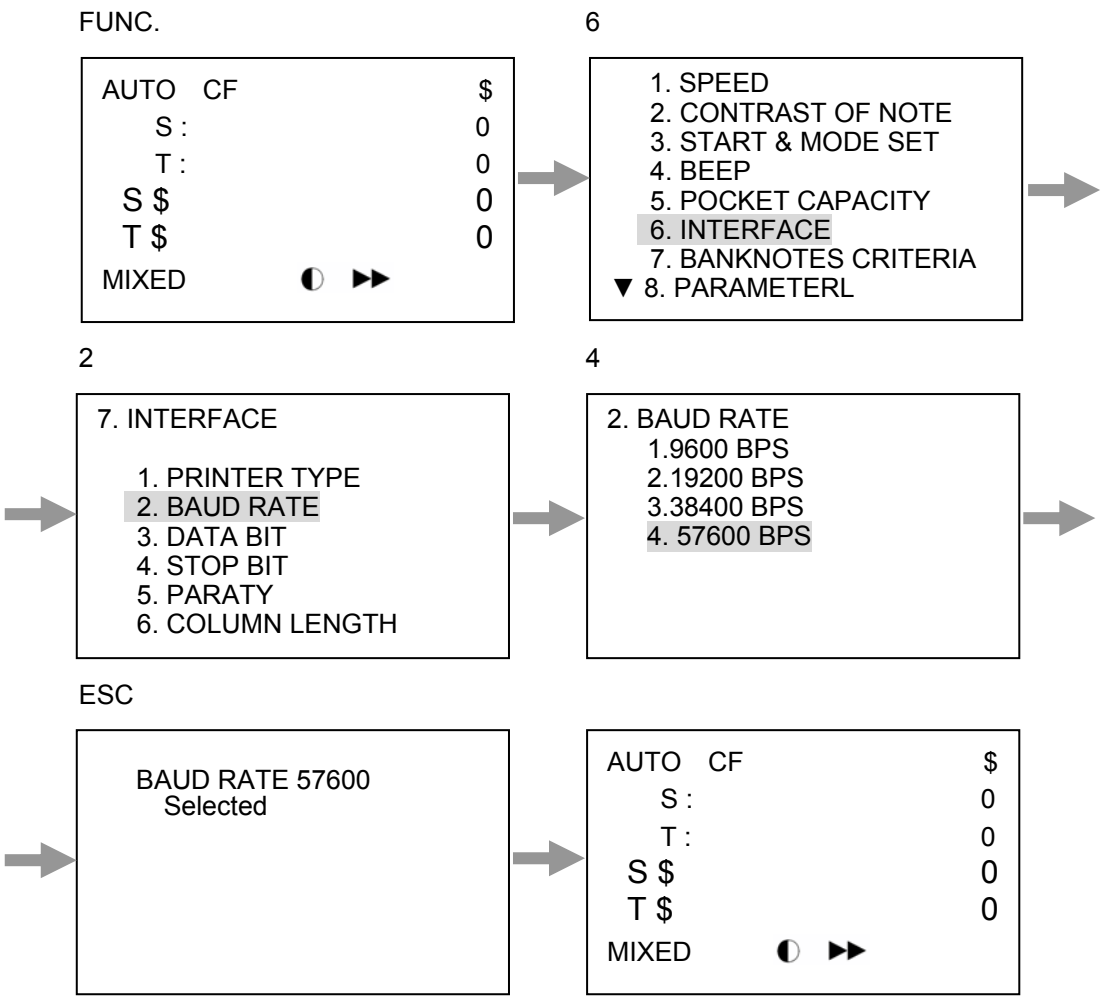
4 Interface between SB1000 and other units

Connect with PC

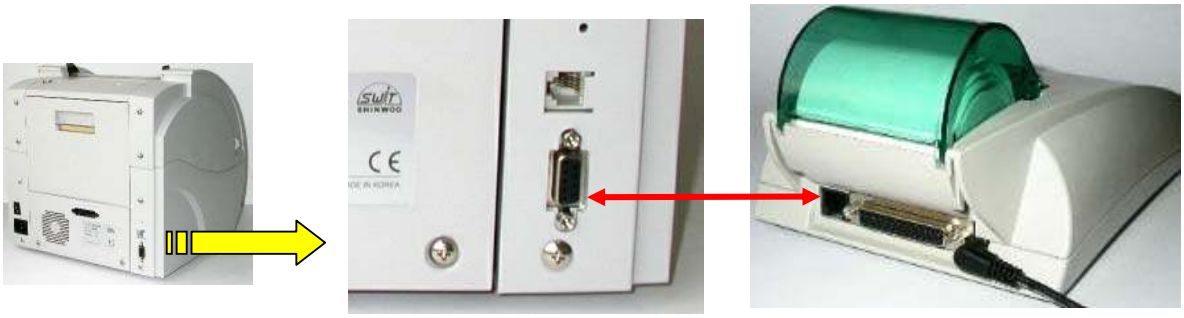
It should be connected with Com.1 port of PC.

Check the 'Baud rate'

(Press 'FUNC.'→ '6. INTERFACE' → '2. BAUD RATE' → '4. 57600 BPS' → 'ESC')

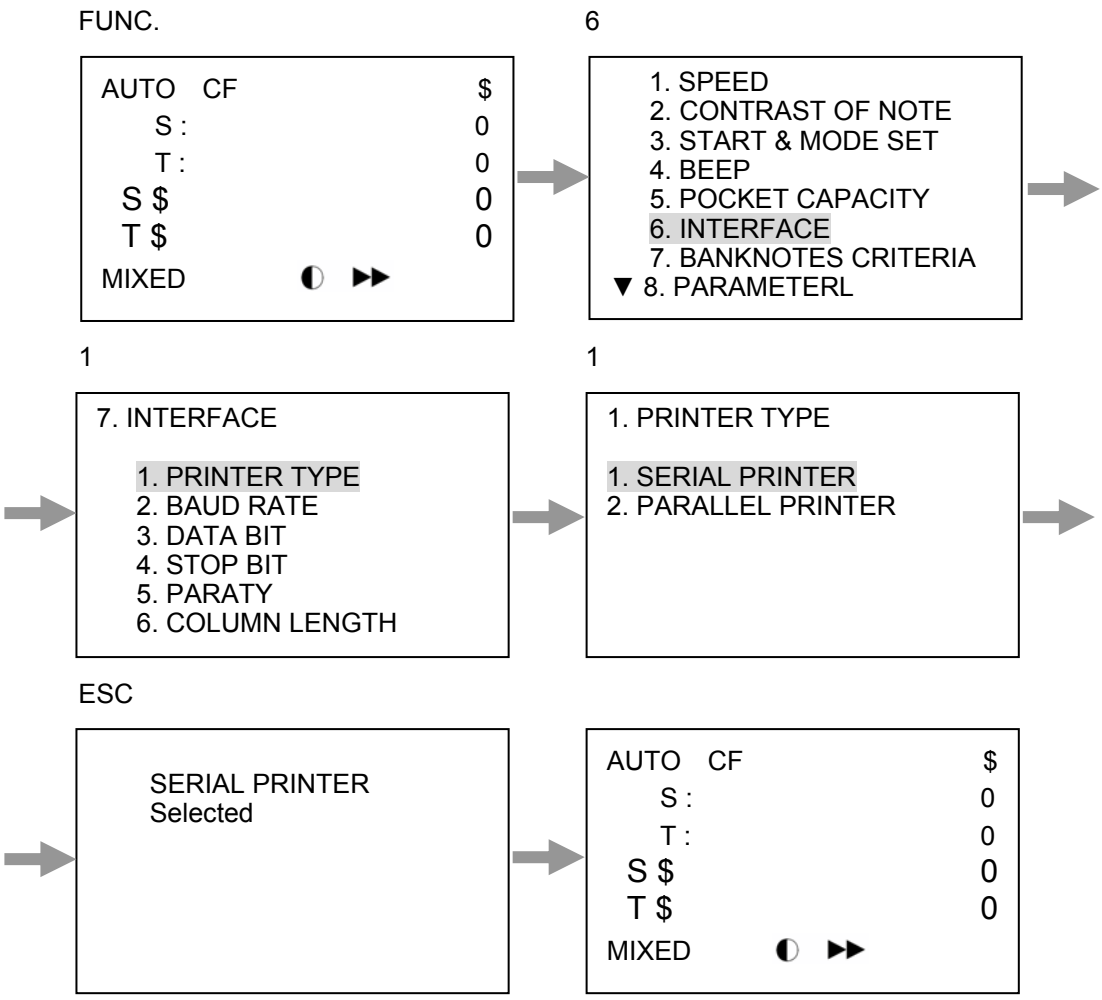


Connect with Serial Printer



Check that the Printer type was set as 'Serial Printer'

(**Press** : 'FUNC.'→ '6.INTERFACE' → '1.PRINTER TYPE' → '1.SERIAL PRINTER' → 'ESC')



Before connecting a printer to SB1100, please check the settings of the printer as below:

1. CR mode

   Set to CR/LF

2. Communication Mode

   Xon/Xoff

SB1000 Printer Interface Setting

SB1100 supports only the below interface specification if the printer is set to Serial in Interface Menu. Please refer to Set Function and Its Parameters (Ch. 7 Setup Interface and Print results') in User's Guide.

1. BAUD : 9600
2. DATA : 8
3. STOP : 1
4. PARITY : NONE
5. PROTOCOL : XON/XOFF

The column size can be set to one of 30, 40, 60, and 80.

CITIZEN iDP3550/3551 Printer setting

1. Set the CR mode to CR+LF following the instruction of the User's Manual of the printer. In case of iDP3550 Model, #5 of DIP Switch 1 must be set to OFF or waste print paper.
2. Set the communication mode to Xon/Xoff by setting #4 of DIP Switch 2 to OFF.
3. Check whether the other parameters are set to the same value as SB1000's.
4. Below figures show one example of the DIP Switch settings of iDP3550 (If you try to print "test print", you can check all settings)

DS1 (DIP Switch 1)

	1	2	3	4	5	6	7	8	9	0
On		**O**	**O**	**O**				**O**		
Off	**O**				**O**	**O**	**O**		**O**	**O**

DS2 (DIP Switch 2)

	1	2	3	4	5	6	7	8
On	**O**	**O**	**O**		**O**	**O**		
Off				**O**			**O**	**O**

5. Other parameters (recommended)

   Baud Rate : 9600 bps

   Data Bit : 8 bits

   Parity : None

   Handshake : XON/XOFF

STAR SP200F Series Printer

Please check the settings are as like below:

Command mode : STAR

Control Code CR : Invalid

International Character Set: USA

Data Transmission Rate: 9600bps

Data Bit Length : 8 bits

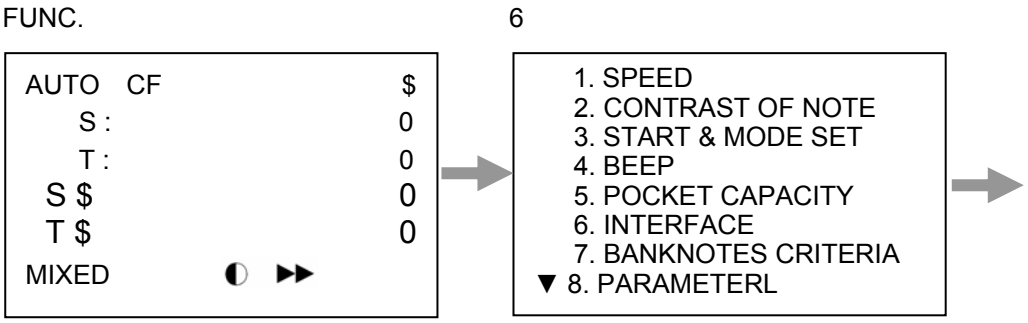
Parity Check : None

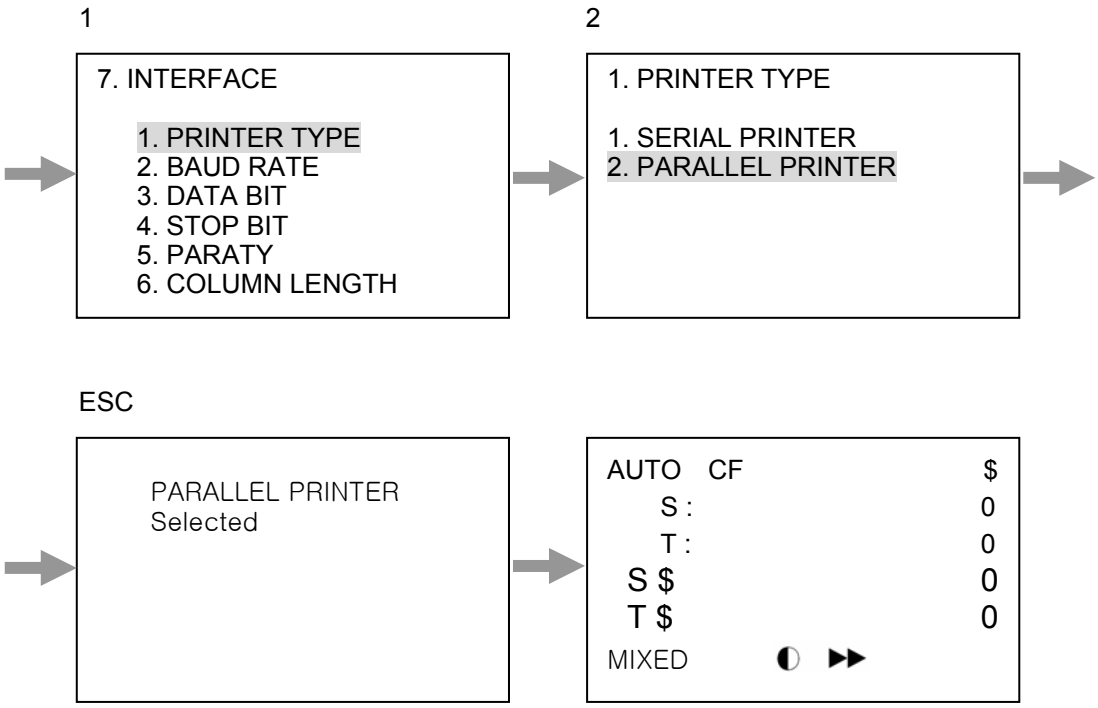
Connect with Parallel Printer

Printer Protocol to print 'Banknote serial number' require SBM designed thermal printer and must be purchased from SBM.

Check that the Printer type was set as ''Parallel Printer'

(Press 'FUNC.'→ '6.INTERFACE' → '1.PRINTER TYPE' → '2.PARALLEL PRINTER' → 'ESC')



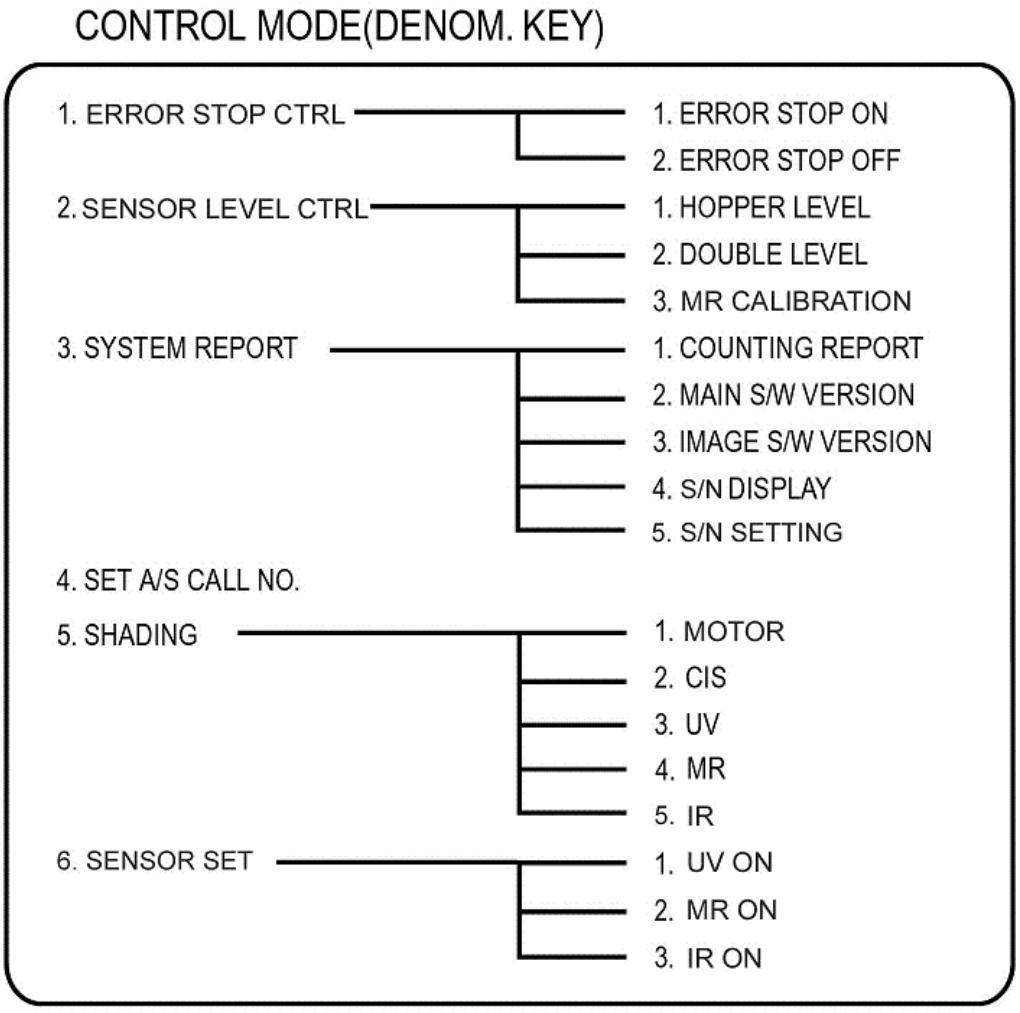


Connect with Customer Display (Model : SV-110)

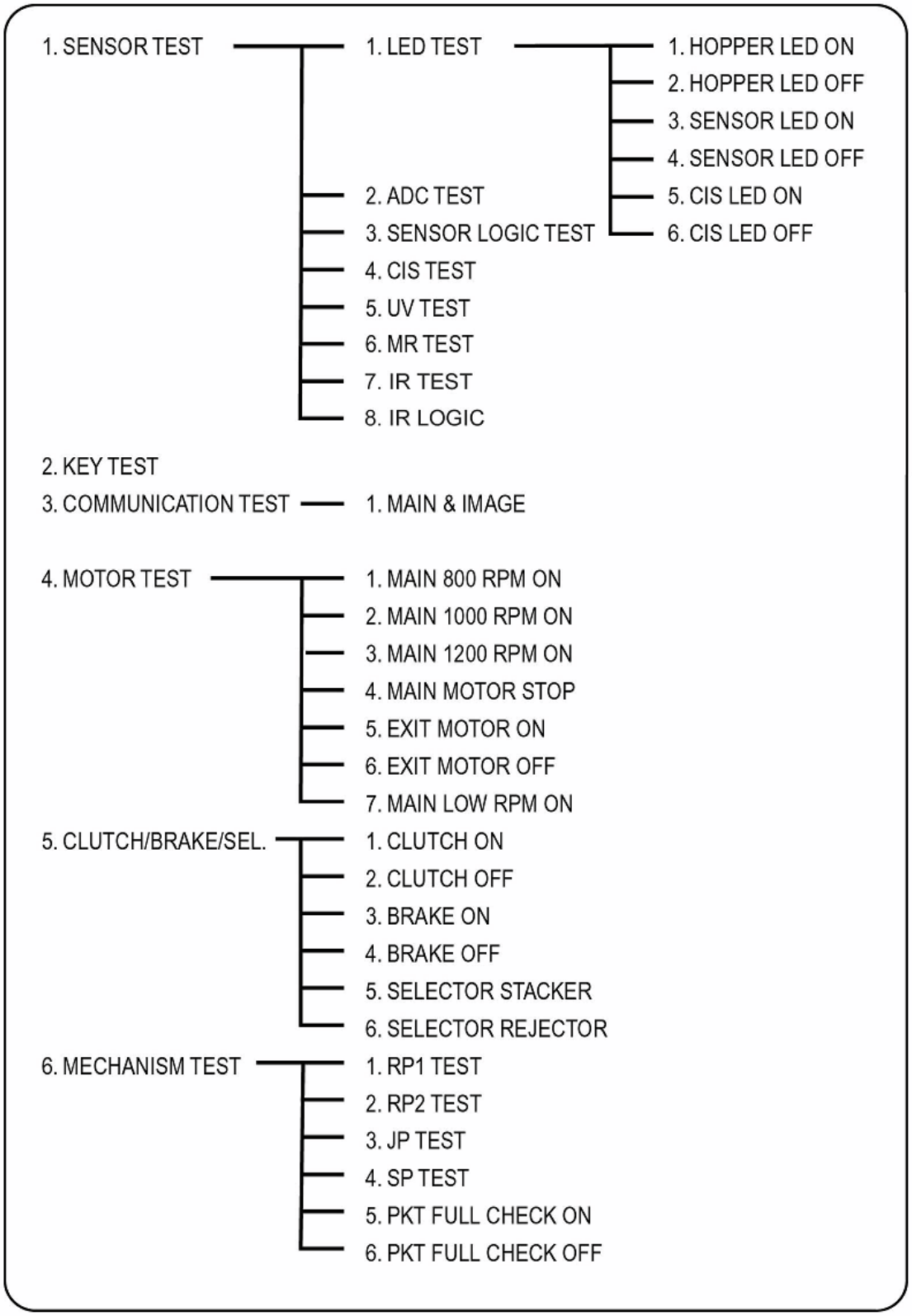
5 Technical Function to Setup and Test

To enter the Test Mode, press FUNCTION -> BATCH key then input the password “55757” and now you enter into the Control Mode. You can move to any technical mode by pressing CF key (Test Mode) or DENOM. key (Control Mode).

Press ‘UP/DOWN’ key or press directly a corresponding numeric key to select a function of the technical mode. To exit from the current function, press FUNCTION key, and to exit completely from the Technical Mode, press CLEAR key.



TEST MODE(CF KEY)



Control Mode Function

1. **Error Stop Control**

   Sometimes there is need to prevent from stopping the machine even though some error is occurred when you test the machine. If you want to do this, select “ERROR STOP OFF”. But after the test, it must be restored to “ERROR STOP ON”

2. **Sensor Level Control**

   In this mode, you can adjust the reference levels of the Hopper sensor, Double detection level, and MR sensitivity level. To change the level, press UP/DOWN key and START key to save the change then exit from the menu by pressing FUNCTION key.

3. **System Report**

   Counting Report

   In this mode, you can see the total number of the notes to be counted and the total error occurrence. The hexadecimal code is used to express the number.

   S/W version

   You can check the version of Main and Image S/W.

   S/N Display

   You can check the serial no. of the unit with this function

   S/N Setting

   You can input the serial no. on the unit with this function

4. **A/S Call No**

   While initializing process after the power is turned on, A/S call no. is displayed on LCD. In this mode, you can set the telephone no of your local service provider. The number is available up to 20 characters including ‘-‘ character. Input the number using numeric keys and then press START/ENTER key to store it.

   In input mode, MODE key is used as LEFT key, GT key as RIGHT, and DISPLAY key as “-“.

5. **Shading**

   In order that a system may analyze a signal with a reference level, the system should know the full swing of a waveform of a signal. Shading means that making a full swing reference waveform to read the full level of a signal. If the machine rejects too many notes when it works in Mixed mode or CF detection mode, then there is a possibility that the system cannot analyze the input waveform. With this function, you can make a standard waveform for a system.

   For more detailed information, please see chapter 8.

6. Sensor set

When you want to turn on only one kind of counterfeit sensor, you can select in this menu. (THE PASS WORD: 35719)

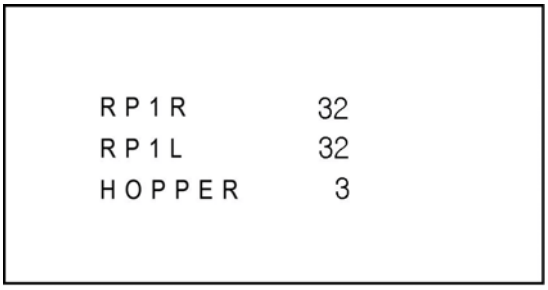
Test Mode Functions

1. **Sensor Test**

There's no need to have a LED Test.

2. ADC Test

In this test mode, the machine will display the level of the sensors, RP1 (Left and Right) and Hopper. This function is useful to check the sensitivity of the Hopper sensor when the machine cannot start well even if the notes are placed correctly. If the Hopper level is changed from 4 to 12 when a note is placed on the Hopper sensor and removed, you had better set the reference level to 8. Please refer to the Control Mode Functions -> Sensor Level Ctrl to see how to set the reference level. The sensor level is ranging from 1 to 14. In case of RP1 sensor, if rear panel is open then the level must go down to 0. If the level is 0 although the rear panel is closed, then there must be something wrong. If RP1 sensors are not working correctly, the errors like Jam0, Double are occurred continuously.

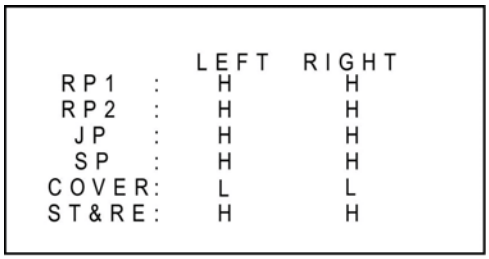


3. Sensor Logic Test

In this test mode, you can check the detected logic status of each sensor and thus you can examine the failure of the sensors. The table below shows the logic status when the sensor is open or covered by a note.

Sensors	Open	Covered
RP1	H	L
RP2	H	L
JP	H	L
SP	H	L
Front COVER Open	L (Cover is closed)	H(Open)

Stacker	H	L
Rejecter	H	L



There's no need to have a CIS Test, UV Test, MR/MR Array Test, IR Test and IR Logic Test.

4. Key Test

In this test mode, you can examine whether the machine detects the key input correctly. Every time you press a key, the display will show the name of the key but CLEAR and FUNCTION key are not displayed and just work.

5. Communication Test

Main & Image

If communication between Main and Image PBA do not work, it is not possible to detect denomination or counterfeit money. In this test mode, these two PBA will try to communicate each other and the result will be displayed.

6. Motor Test

In this test mode, you can run the main motor in various speeds. And also you can check the condition of the exit motor that turns the wheel.

7. CLUTCH/BRAKE/SEL.

In this test mode, you can examine the work of the clutch, brake and selector. After making the main motor run, try to turn the clutch on, then the pickup roller and the ADF roller will turn. But when you test the brake, please do not forget to turn off the clutch before turning on the brake. The selector changes the note path to the Rejecter pocket or Stacker pocket. The selector is located above the wheels.

8. There's no need to have a Mechanism Test.

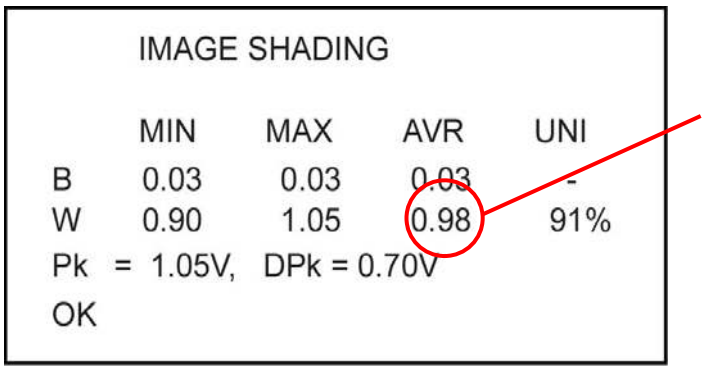
6 Adjustment

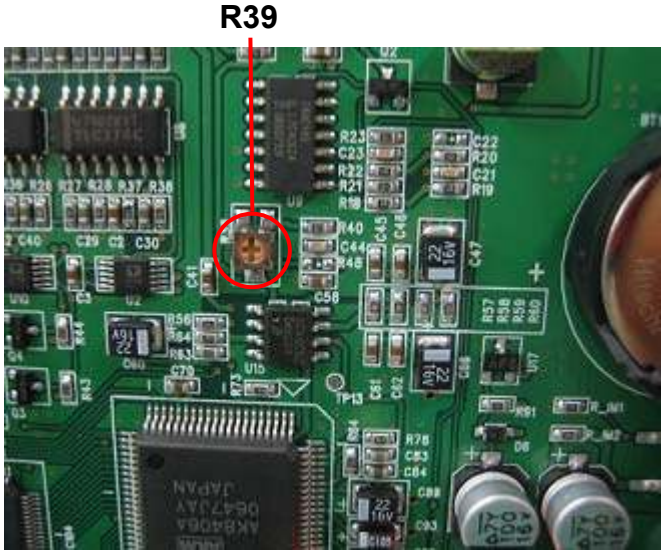
CIS SENSOR

When you exchange the CIS Sensor or PBA Image, you have to adjust CIS level with 'R39(Variable Resistor)' on the PBA Image

Please perform the 'CIS Shading'.(Please refer to chapter '8. Shading-CIS'.)

Please adjust 'the R39 (variable resistor)' and perform the 'CIS shading' till above number in red reaches to 0.98~1.09.





LCD Contrast

You can adjust the contrast of LCD display with 'VR2'(Variable Resistor).

Hopper Sensor

'FUNC.'→'BATCH'→ '55757' → 'CF' → '1 . SENSOR TEST' → '2.ADC TEST' → 'ESC'

FUNC.

```
AUTO   CF          $
    S :            0
    T :            0
  S $              0
  T $              0
MIXED      ◐  ▶▶
```

BATCH

```
1. SPEED
2. CONTRAST OF NOTE
3. START & MODE SET
4. BEEF
5. POCKET CAPACITY
6. INTERFACE
7. BANKNOTES CRITERIA
▼ 8. PARAMTERL
```

55757

ENTER CODE [ ]

CF

1. ERROR STOP CONTROL.
2. SENSOR LEVEL CONTROL.
3. SYSTEM REPORT
4. SET A/S CALL NO.
5. SHADING
6. SENSOR SET

1

1. SENSOR TEST
2. KEY TEST
3. COMMUNICATIONTEST
4. MOTOR TEST
5. CLUTCH/BRAKE/SEL.
6. MECHANISM TES

2

1. SENSOR TEST

1. LED TEST
2. ADC TEST
3. SENSOR LOGIC TEST
4. CIS TEST
5. UV TEST

▼ 6. MR TEST

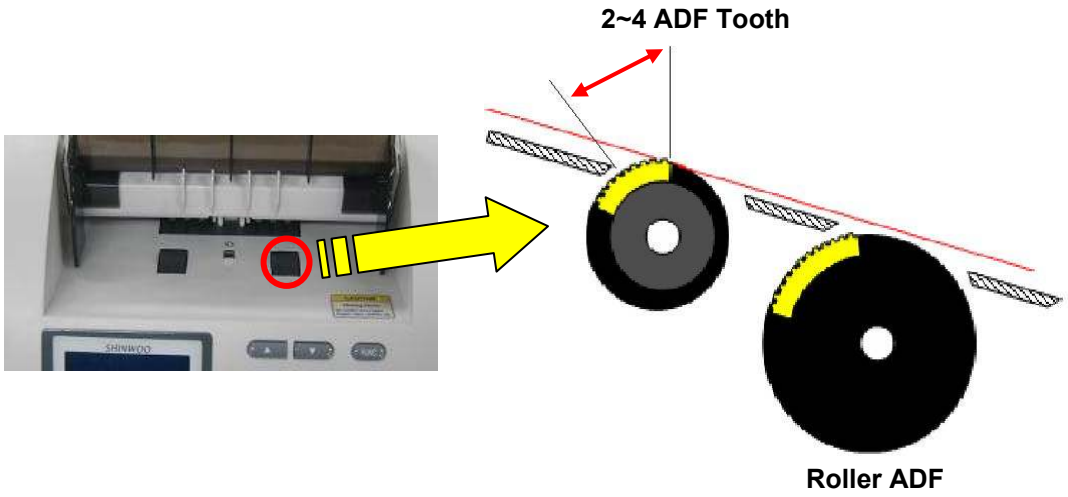
ADJUST THE HOPPER LEVEL

RP1R 35
RP1L 33
HOPPER 1

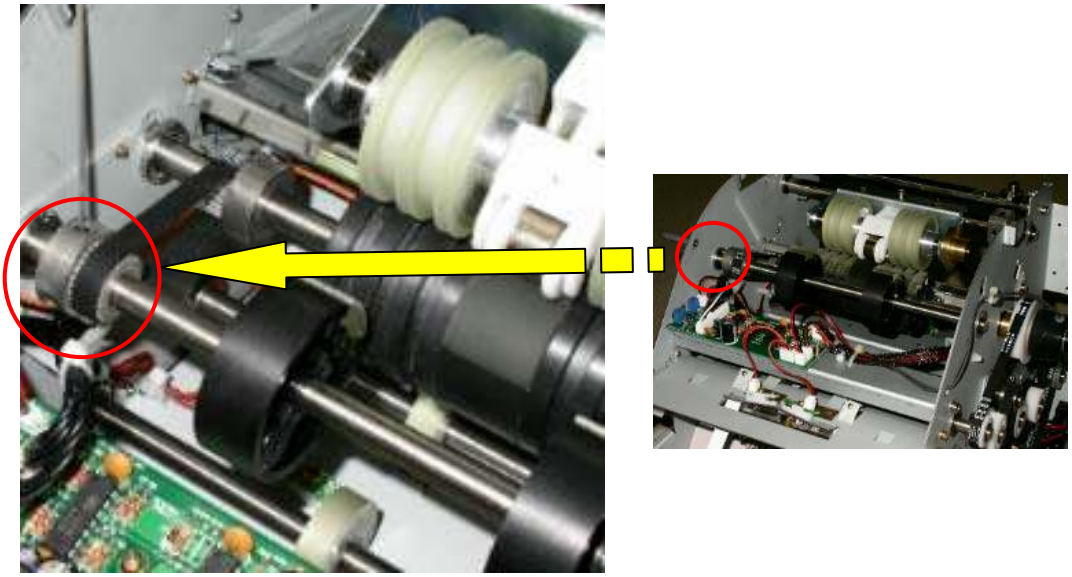
ESC

AUTO CF $
S : 0
T : 0
S $ 0
T $ 0
MIXED ◐ ▶▶

Timing between ADF and Pickup Roller

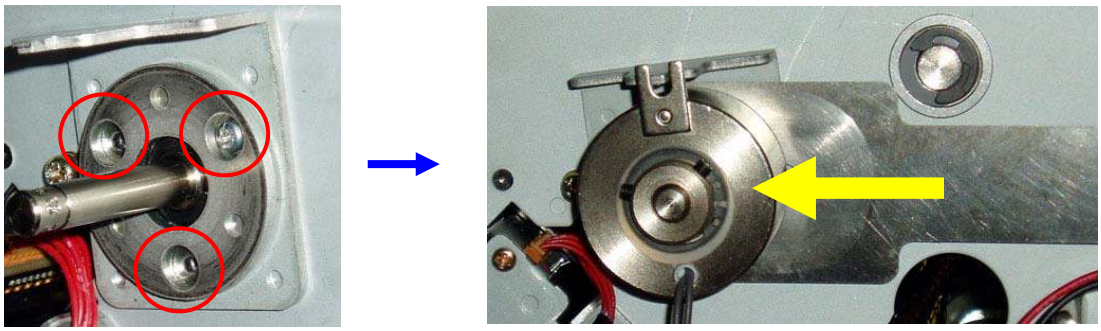


Adjusting method



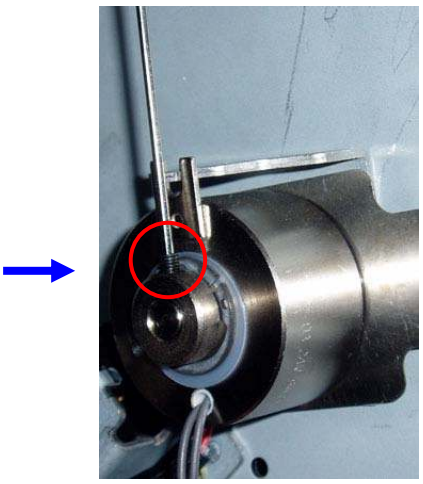
Drive a ‘Set screw’ with ‘L-Wrench’ after Alignment

Gap Adjustment: Brake



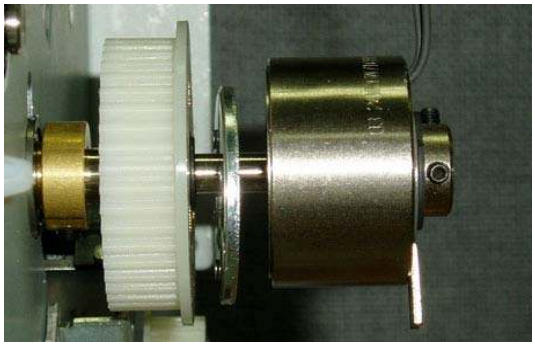
1. Screw as same as on the picture

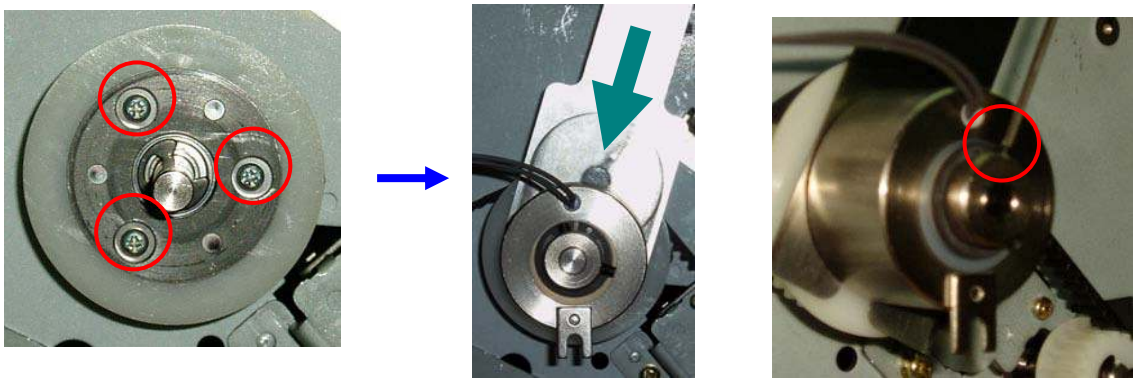
2. Insert Gap Gauge (0.3~0.4mm)



3. Tighten Set Screw (2 Point)

Gap Adjustment: Clutch





1. Screw as same as on the picture

2. Insert Gap Gauge (0.3~0.4mm)

3. Tighten Set Screw

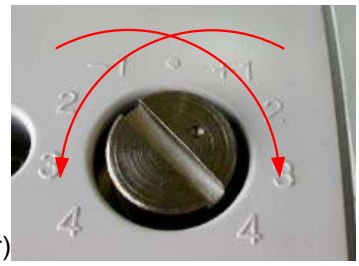
Gap of ADF

If too Wide ➔ 'Double Feeding' or 'Over Run'
If too Narrow ➔ 'Miss Feeding' or 'Jam0'


-. The gap should not be too wide to get overlapped 2 number of banknote input into it.

-. Adjust gap for tightly go in and easily out.

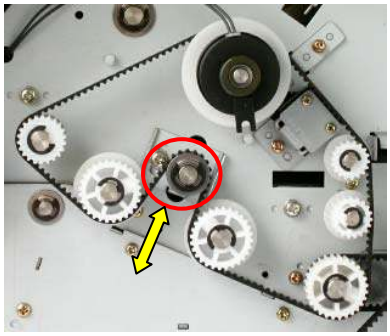
Tighten
(Narrower)



Loosed
(Wider)

Timing Belt

If too loose tension ➔ Leap of pulley tooth
If too tight tension ➔ Over load


7 Shading

CAUTION: Before you make shading, please load default parameter
(Press 'FUNC' → '8. PARAMETER '→ '1. LOADING DEFAULT' → 'ESC')

✓ **What is Shading?**

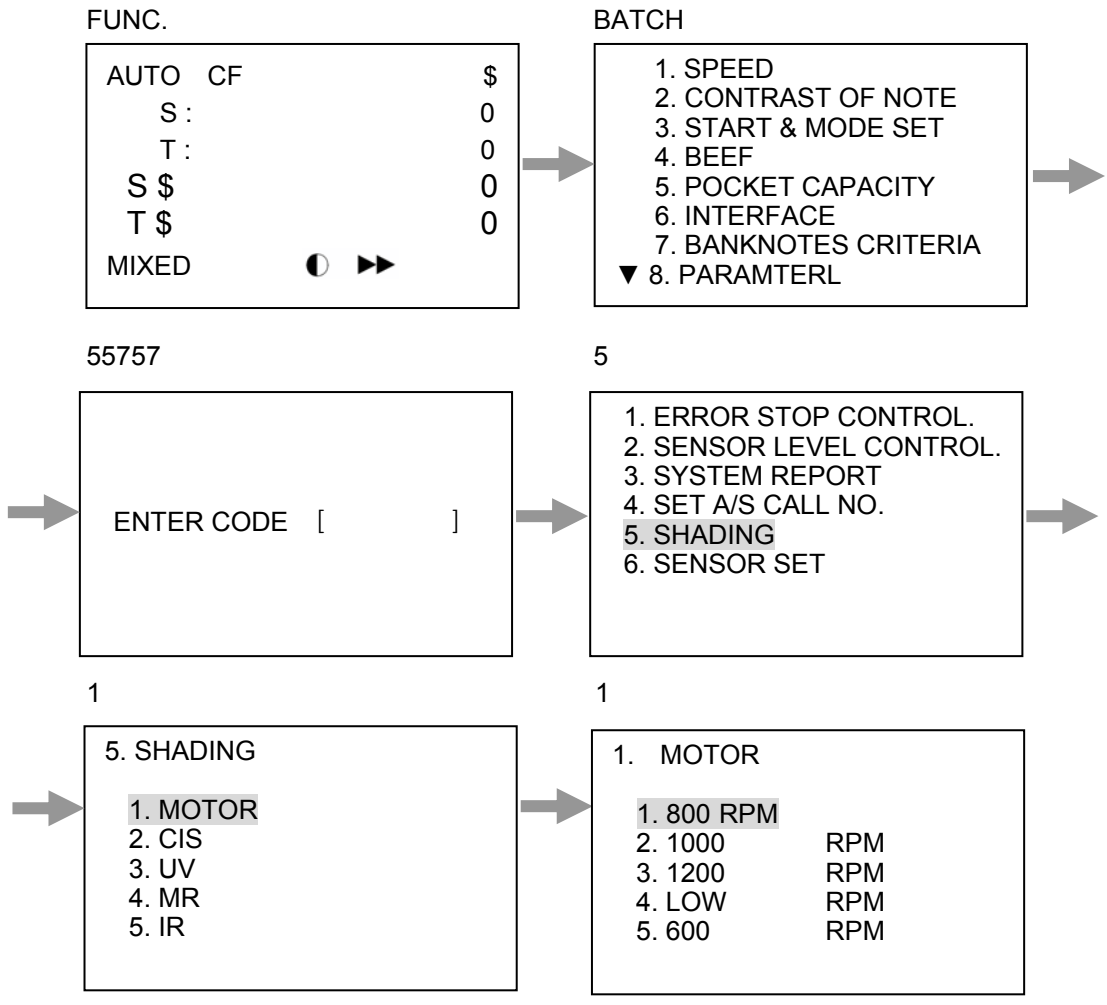
Distortion caused by artifacts and difference of characteristic.

✓ **Why need Shading data.**

Compensate the distortion for accurate processing.

Motor Shading

'FUNC.'→'BATCH'→ '55757' → '5' → '1' →'1' → Insert test Sheet → 'ESC'



Insert more than 20 number of 'Usual Paper' or 'MONEY' like picture

```
MOTOR SHADING
        98      89      254



PLACE TEST SAMPLE
ON HOPPER
```

If displayed 'NG', please put on again until displayed 'OK'. Machine will automatically decrease or increase the motor speed.

```
MOTOR SHADING   NG
        90      89      83
Min = 817.6         NPM
Max = 843.3         NPM

Avg = 831.7         NPM
Uni =    99.1%
```

If displayed 'OK', please press 'ESC' key.

ESC

```
MOTOR SHADING   OK
        92      89      80
Min =    790.7    NPM
Max =    809.9    NPM

Avg =    804.6    NPM
Uni =    99.8 %
```

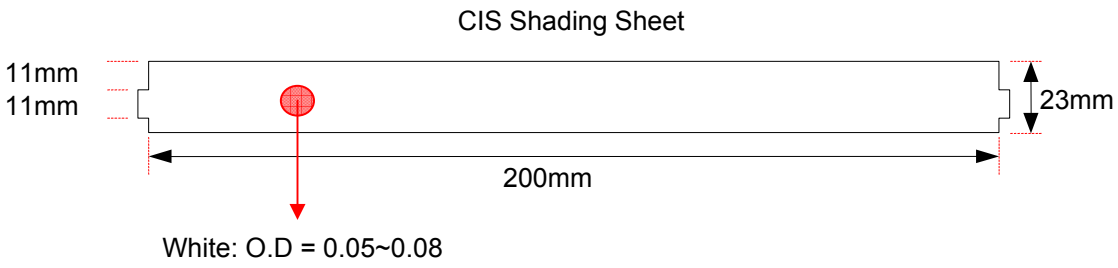
```
AUTO   CF                    $
     S :                     0
     T :                     0
   S $                       0
   T $                       0
MIXED          ◐   ▶▶
```

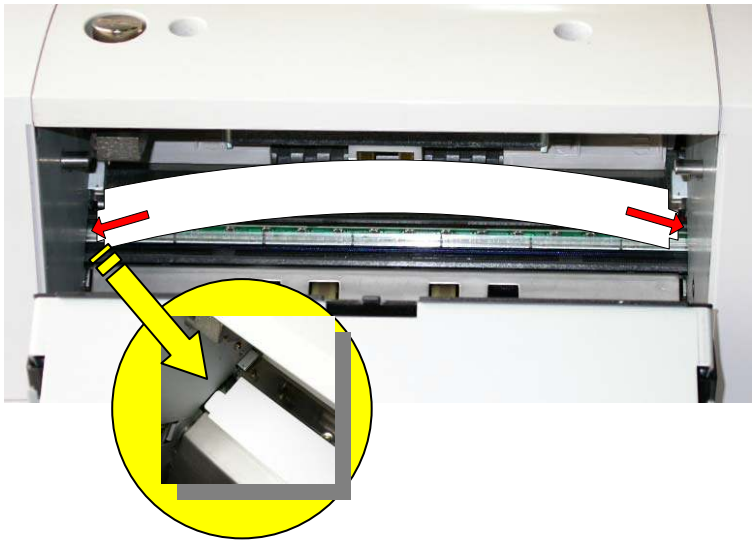
If the machine has 'Serial Number Printing Function', please make a '4. Low RPM Motor Shading' also.

CIS Shading

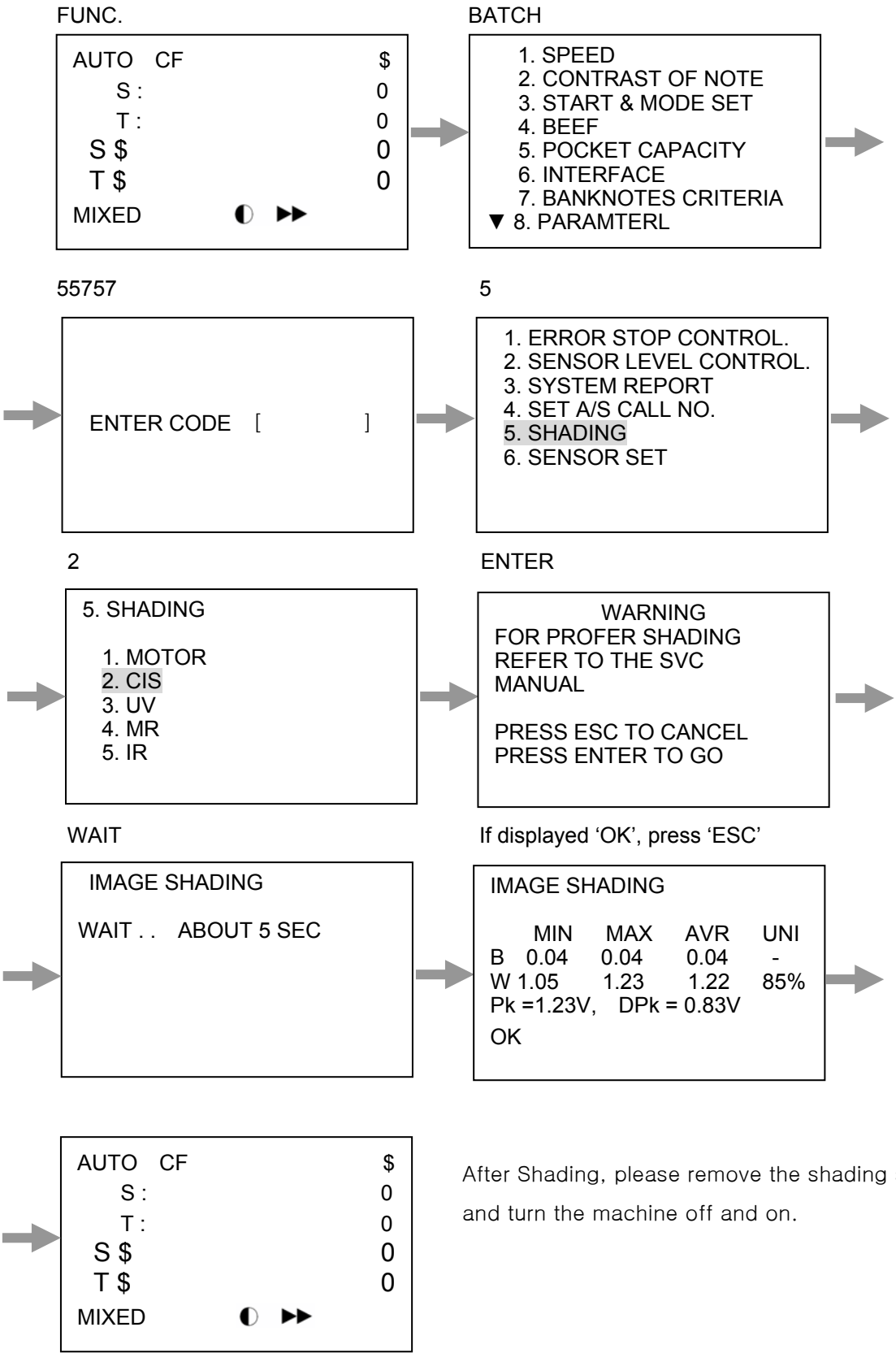
If Image PCB is replaced with a new one or there are lots of rejected notes from failure of recognition (NO I.D), it is recommended to make a new CIS Shading.

1. Open rear cover
2. Place the shading sheet on the surface of the scanner referring to the picture
3. Close the rear cover. Start CIS shading process.





'FUNC.'→'BATCH'→ '55757' → '5' → '2' →'ENTER' → 'ESC'



After Shading, please remove the shading sheet and turn the machine off and on.

[NG code]

NG(1): if Black Average > 0.15V

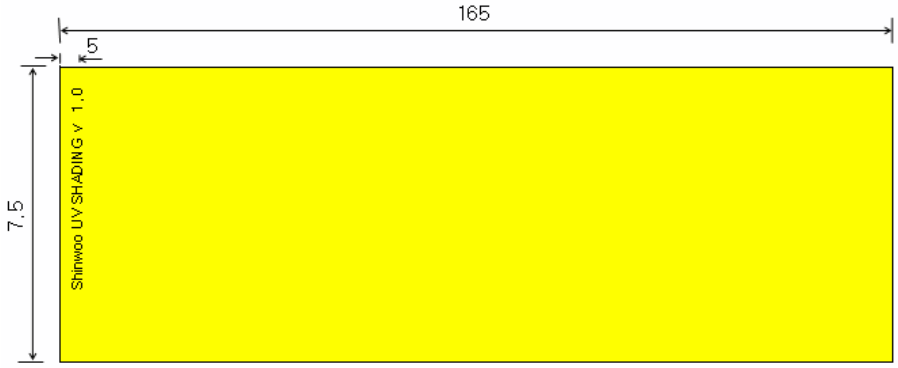
NG(2): if (Black Max – Black Min) > 0.10

NG(12): if White Avg > 1.22V or White Avg<0.85V

NG(13): if White Uniformity < 70%

UV Shading

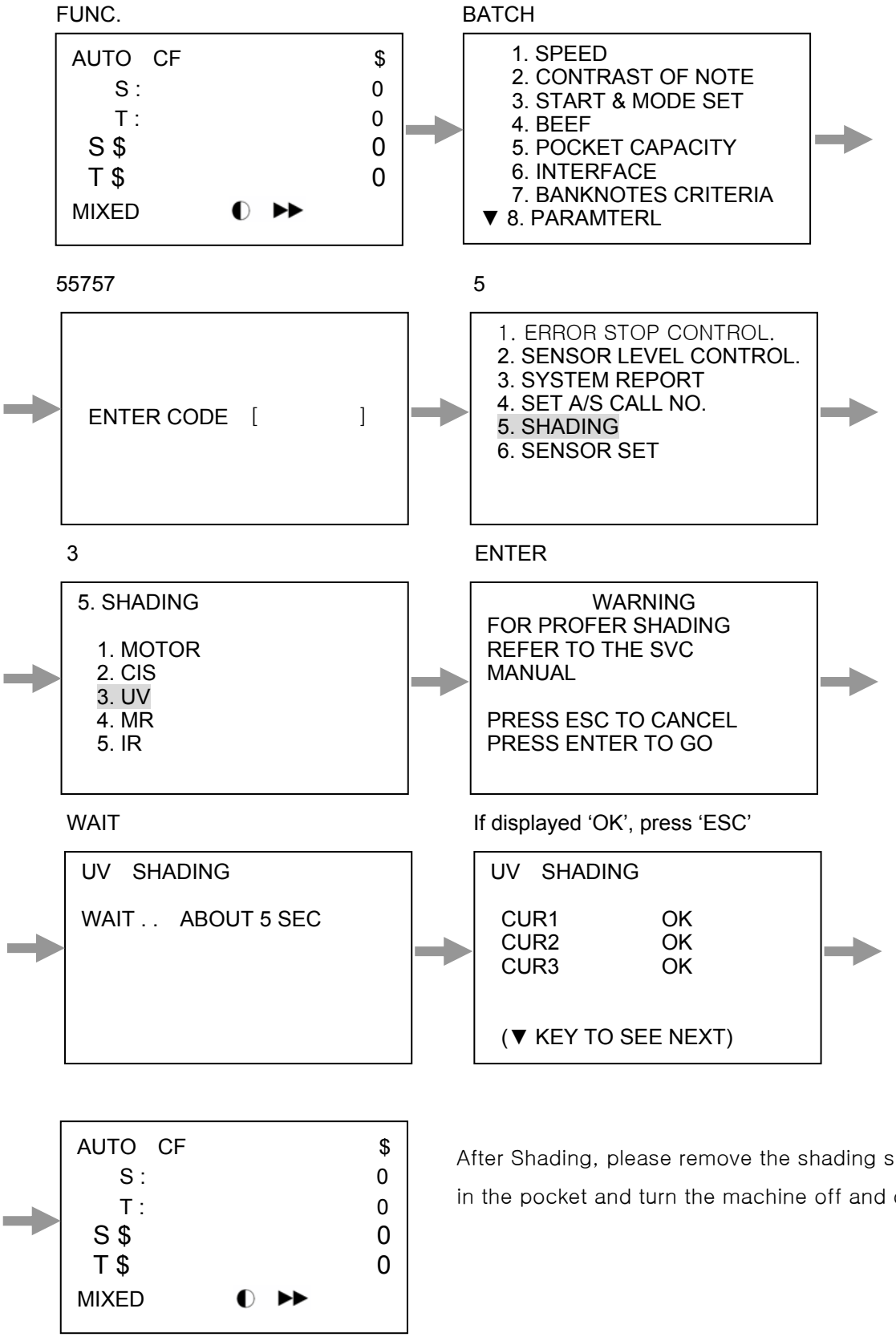
UV SHADING Sheet V1.0



1. Open the rear cover

2. Insert 'UV SHADING SHEET' and close.

'FUNC.'→'BATCH'→ '55757' → '5' → '3' →'ENTER' → 'ESC'

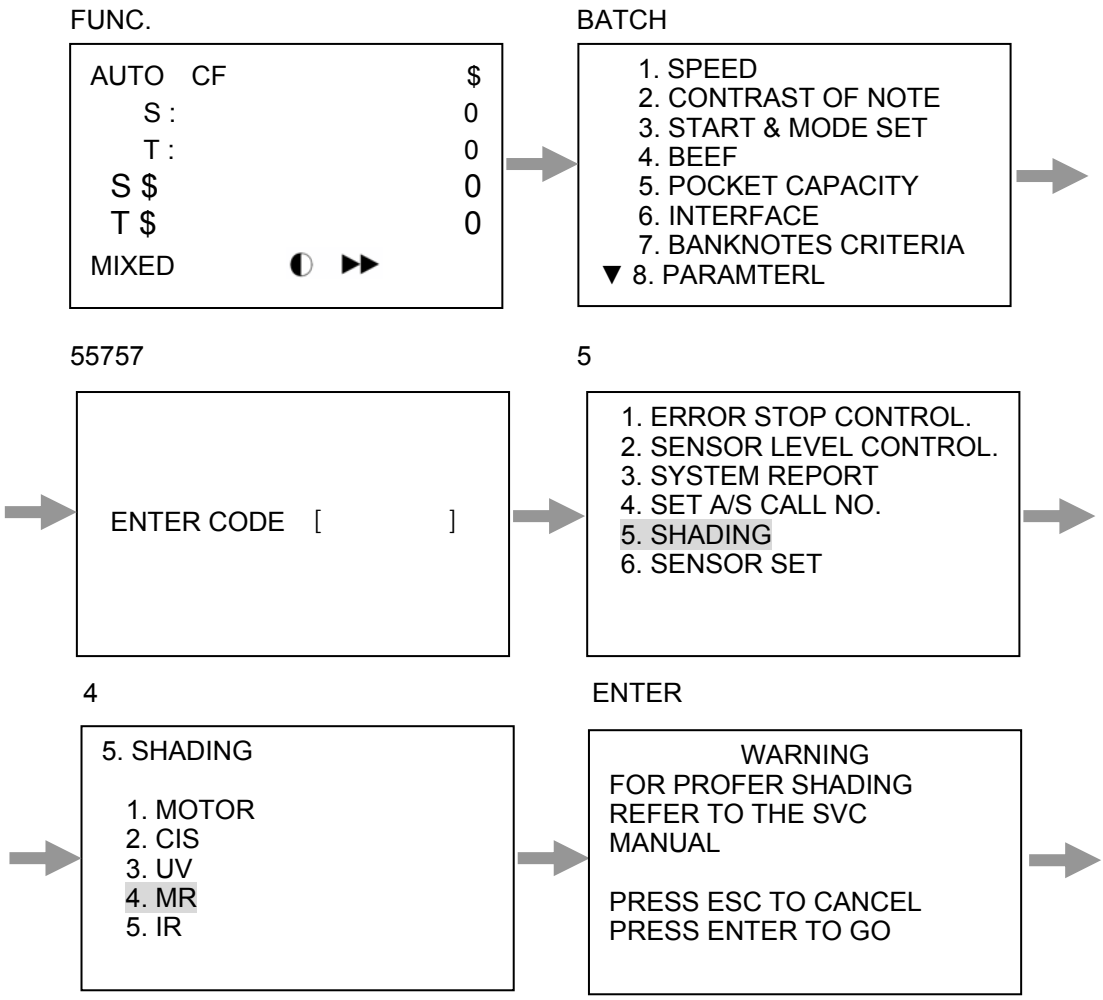


After Shading, please remove the shading sheet in the pocket and turn the machine off and on.

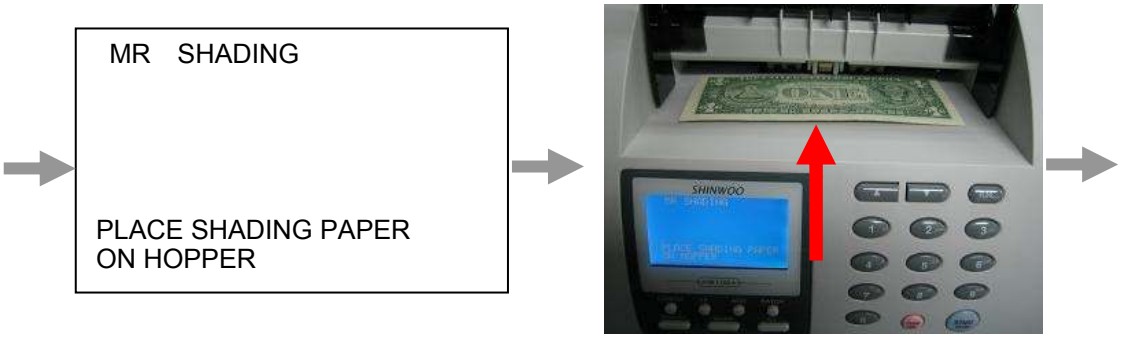
MR Shading

MR SHADING SHEET : USE US $1 (Rear Banknote)

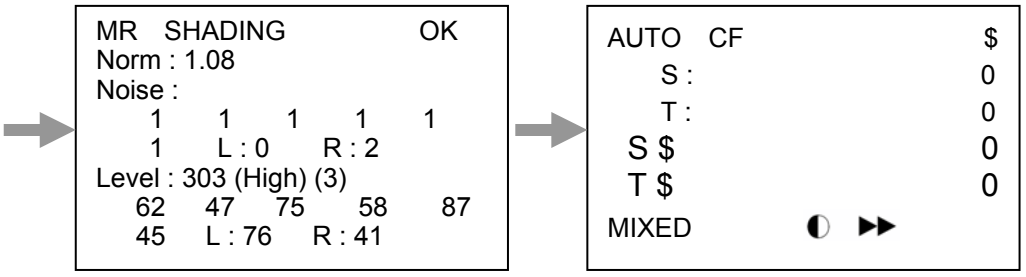
'FUNC.'→'BATCH'→ '55757' → '5' → '4' →'ENTER' → 'ESC'



Place 1~3 number of 'US$1' on hopper

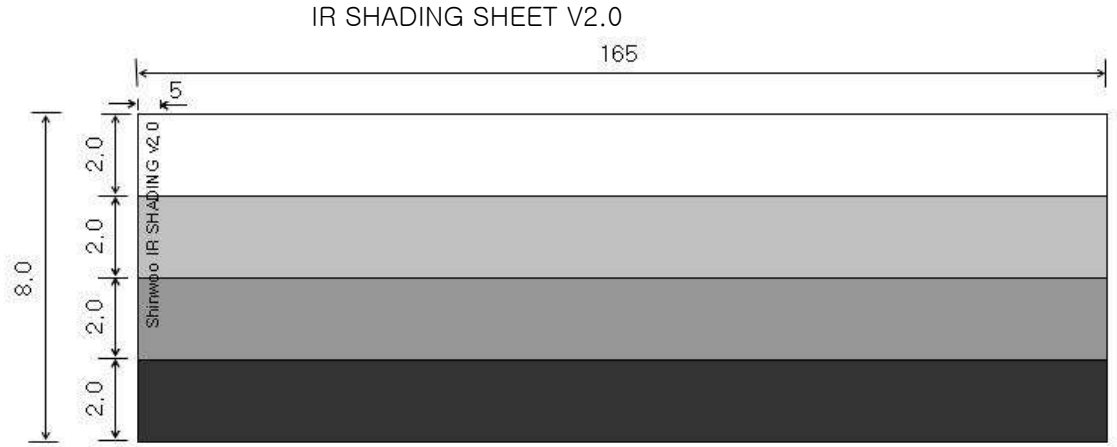


If displayed 'OK', please press 'ESC'



After Shading, please remove the shading sheet in the pocket and turn the machine off and on.

IR Shading.



'FUNC.'→'BATCH'→ '55757' → '5' → '5' →'ENTER' → 'ESC'

FUNC.

```
AUTO   CF                $
    S :                  0
    T :                  0
  S $                    0
  T $                    0
MIXED          ◐  ▶▶
```

BATCH

```
   1. SPEED
   2. CONTRAST OF NOTE
   3. START & MODE SET
   4. BEEF
   5. POCKET CAPACITY
   6. INTERFACE
   7. BANKNOTES CRITERIA
▼ 8. PARAMTERL
```

55757

```
ENTER CODE   [          ]
```

5

```
1. ERROR STOP CONTROL.
2. SENSOR LEVEL CONTROL.
3. SYSTEM REPORT
4. SET A/S CALL NO.
5. SHADING
6. SENSOR SET
```

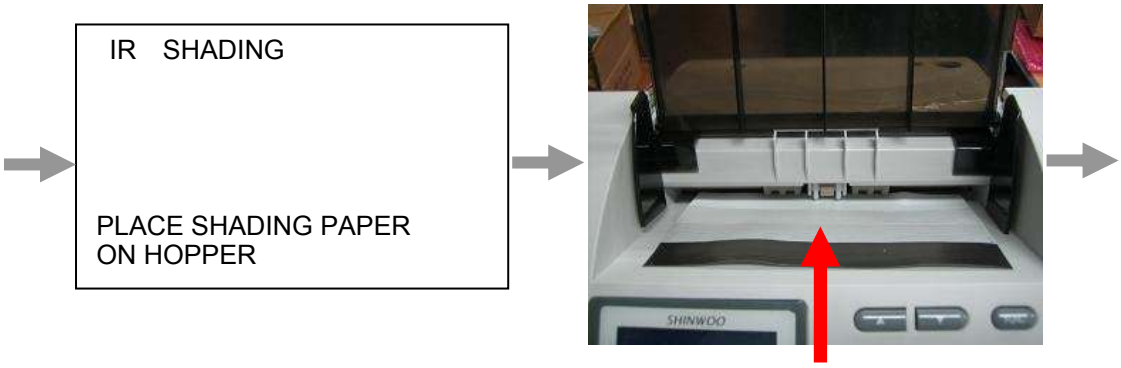
5

```
5. SHADING

  1. MOTOR
  2. CIS
  3. UV
  4. MR
  5. IR
```

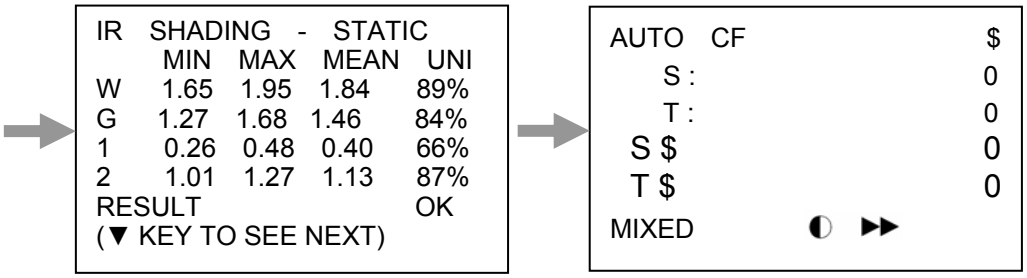
ENTER

```
            WARNING
FOR PROFER SHADING
REFER TO THE SVC
MANUAL

PRESS ESC TO CANCEL
PRESS ENTER TO GO
```

Place 'IR SHADING SHEET' on hopper



If displayed 'OK', please press 'ESC'



After Shading, please remove the shading sheet in the pocket and turn the machine off and on.

8 Upgrading

Main S/W Upgrading

▪ Getting start

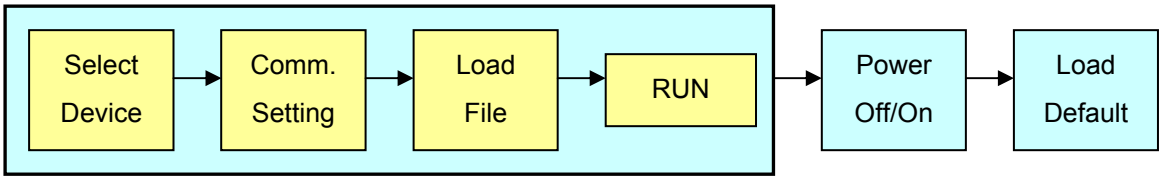
1. Press deep switch before turn on the power switch using needle as picture.
2. Turn on the power switch and wait 2~3 Sec.
3. Take out the needle.
4. The LCD will display nothing except back Light.

▪ Programming

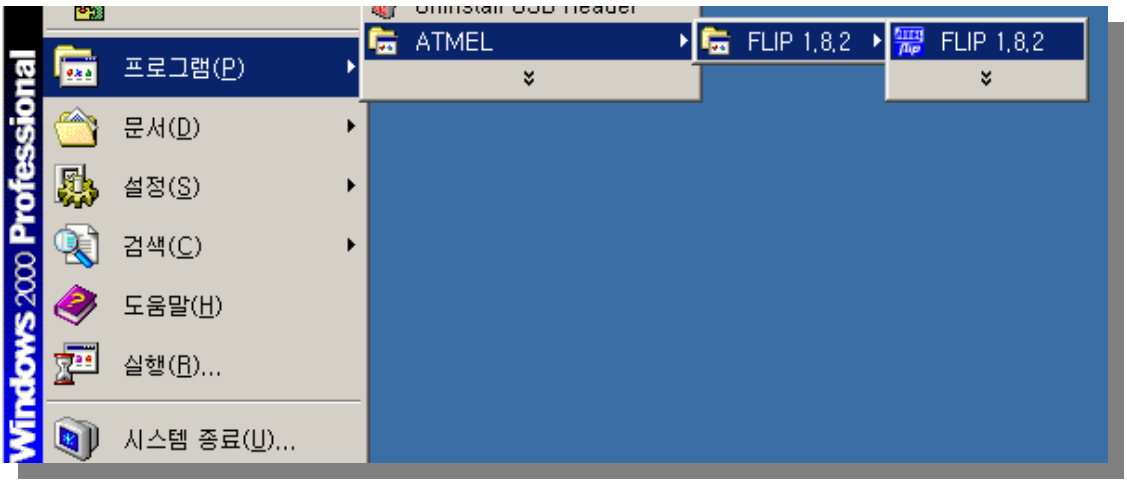
※ Please visit below web-site to down load "flip 2.4.6" to upgrade main software.

http://www.atmel.com/dyn/products/tools_card.asp?tool_id=3886

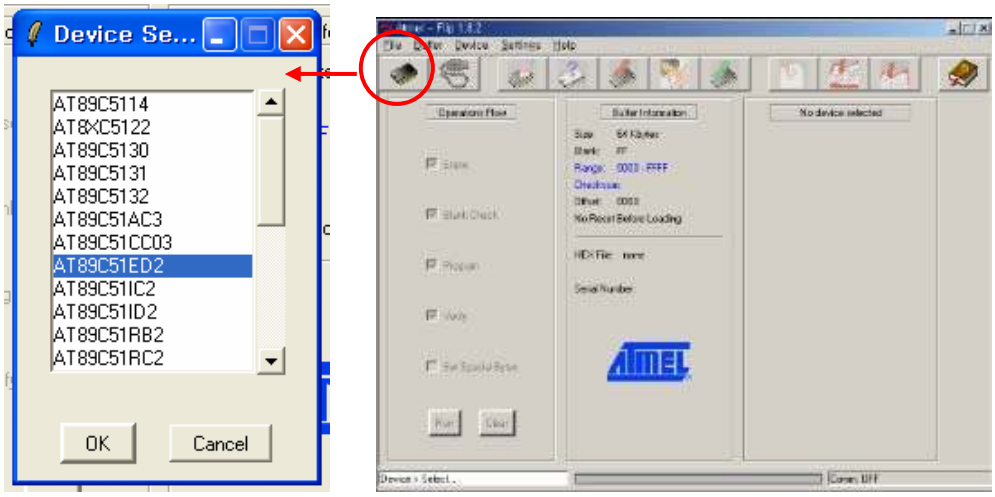
With 'Flip'



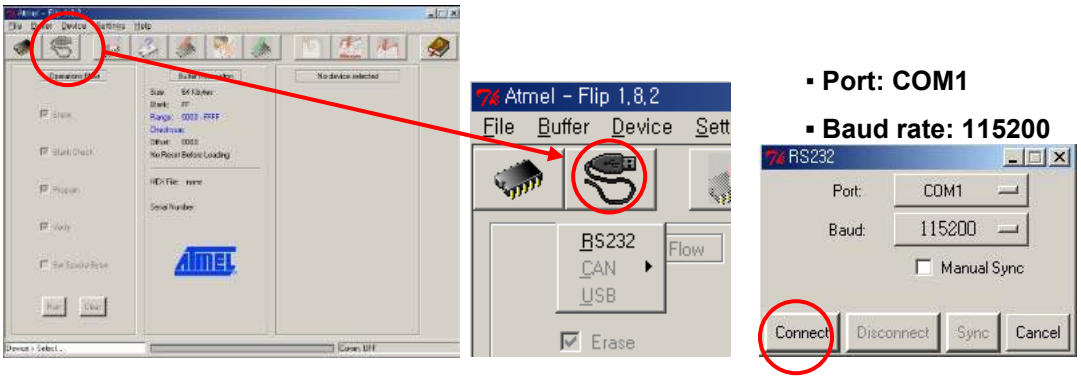
1. Execute the Programmer ('Flip')



2. Select Device: AT89C51RD2 or AT89C51ED2

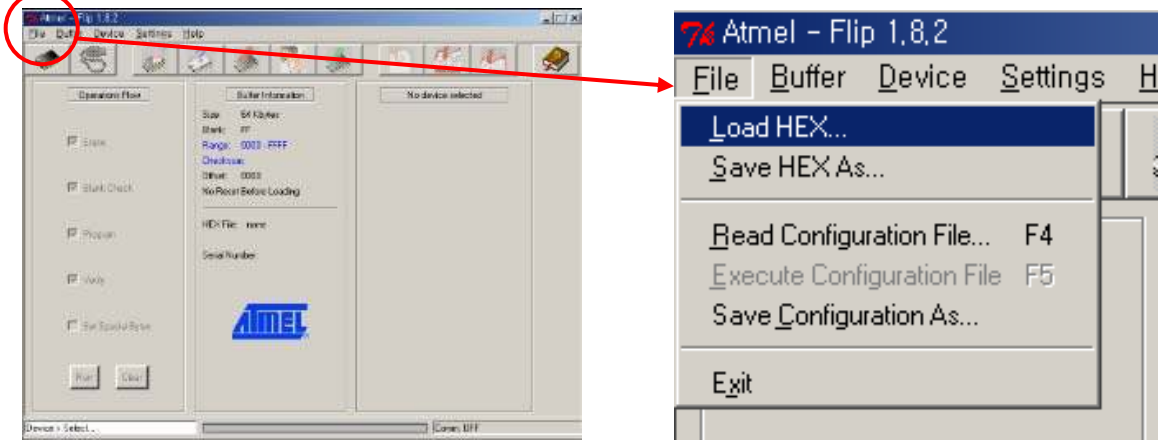


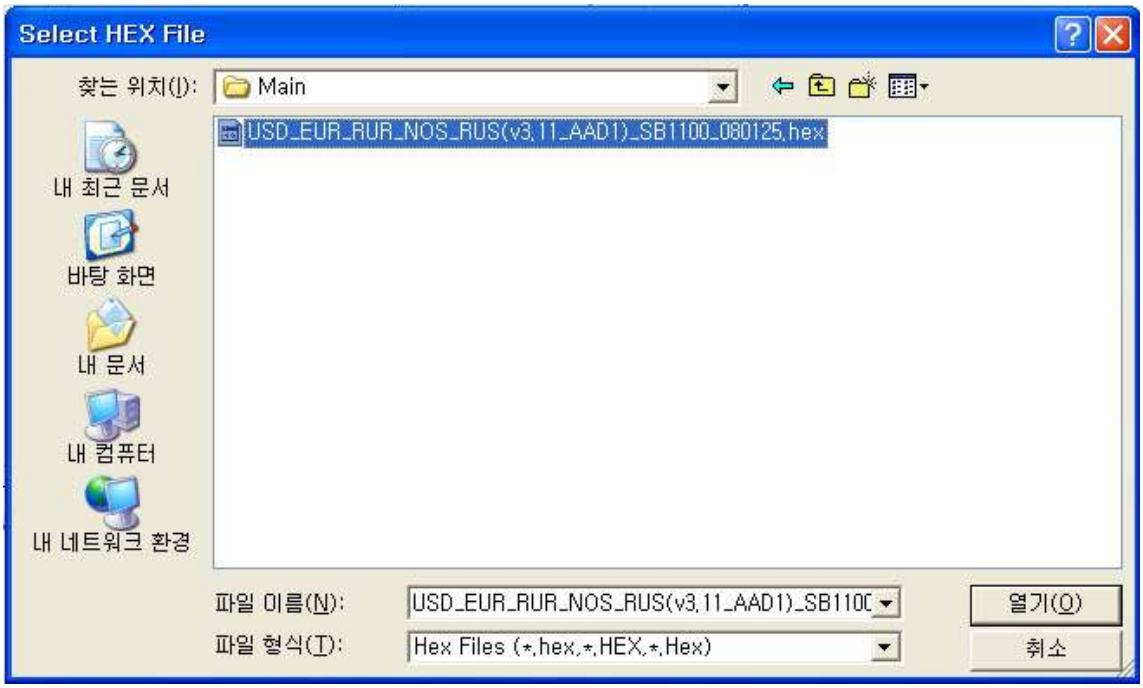
3. Set Communication Port and Baud rate



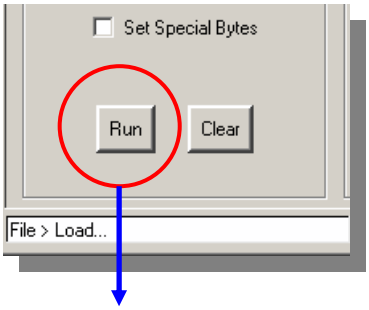
- **Port: COM1**
- **Baud rate: 115200**

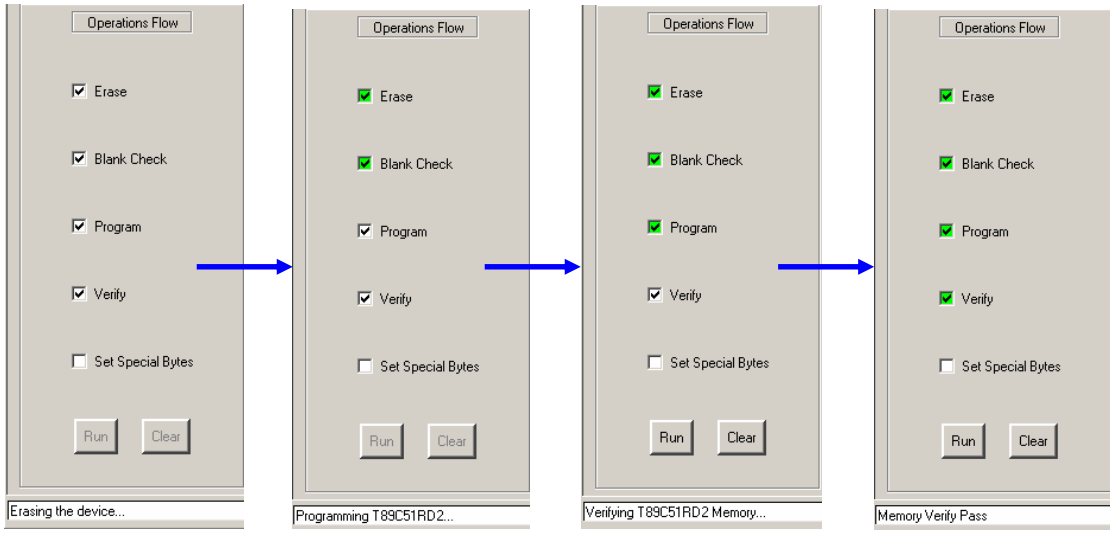
4. Load HEX File to install





5. Run programming by Clicking 'Run' button

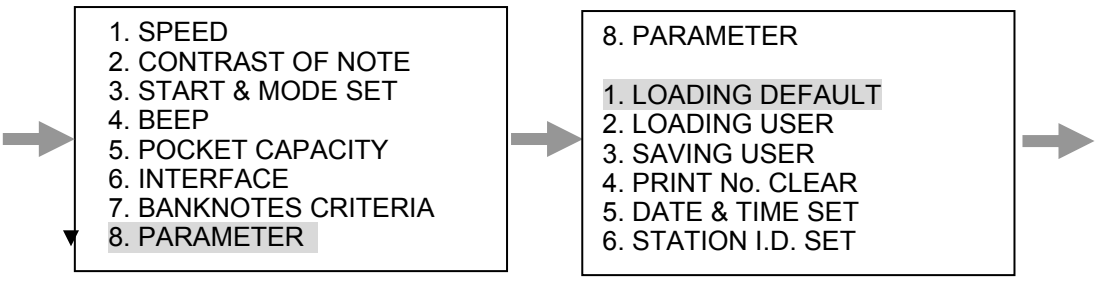




6. Power off & on

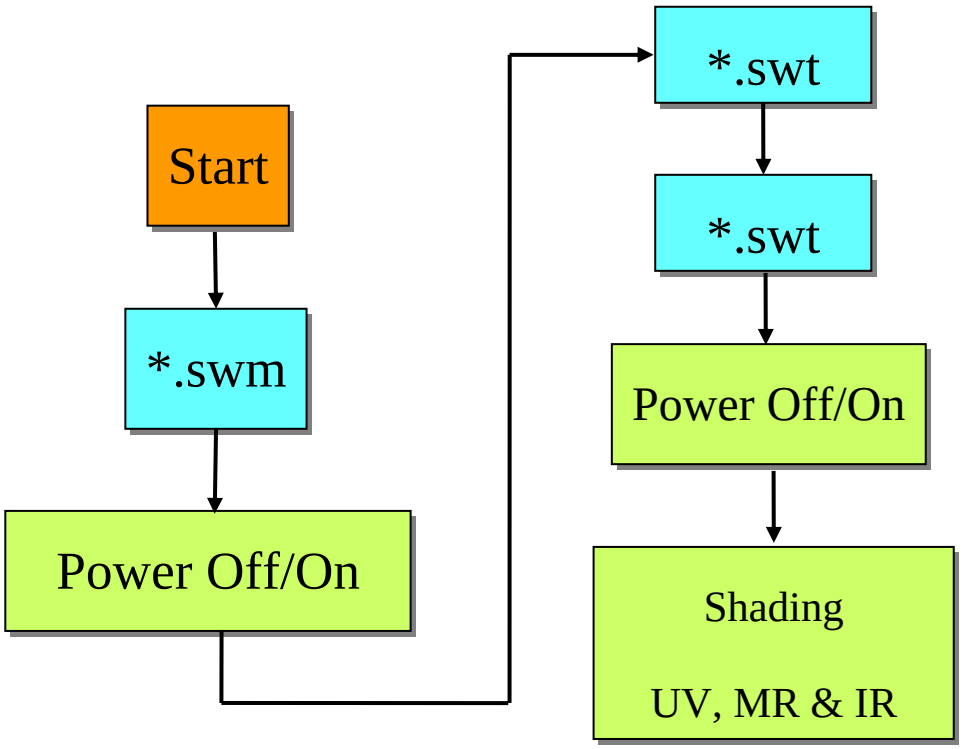
7. Load default parameter

‘ FUNC.’ → ‘8’ → ‘1’ → ‘ESC’

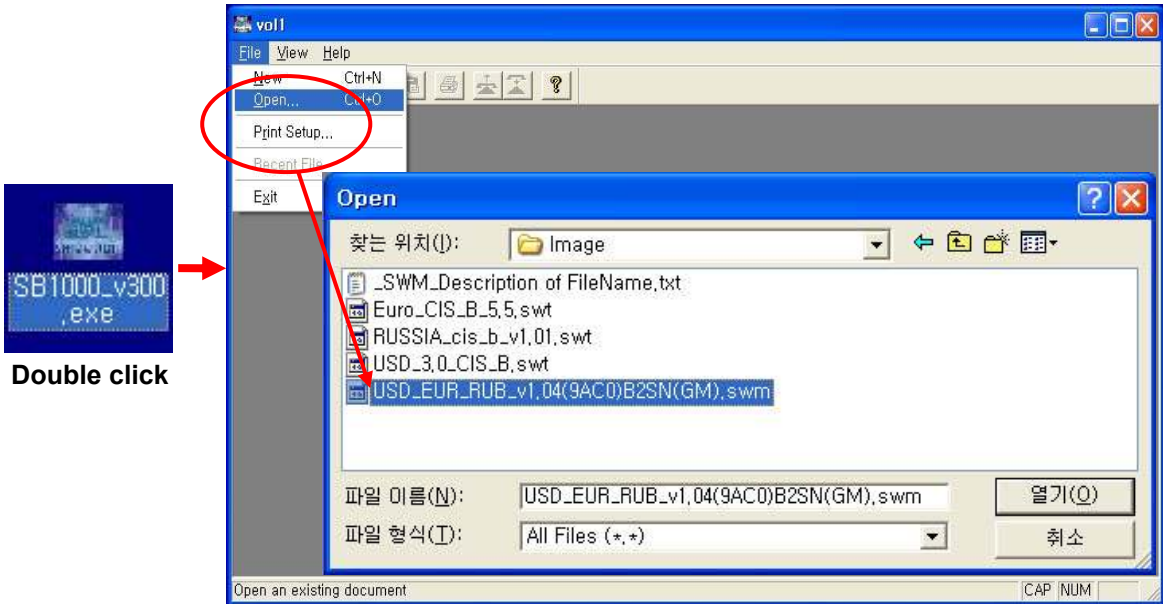


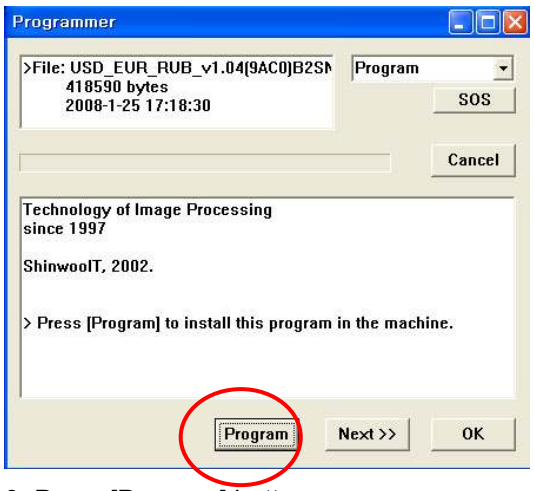
9. Power off & on

Image S/W Upgrading

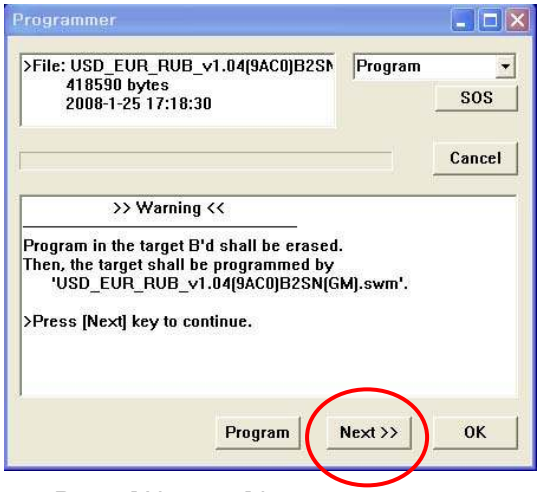


1. Execute '**sb1000_v300**.exe'(or '**V310**') by double clicking.
2. Open the [~. swm] File

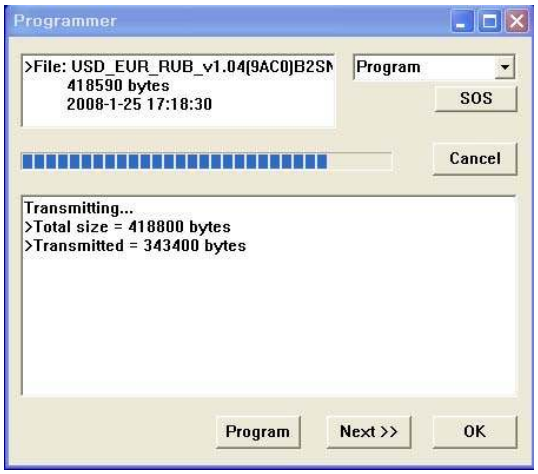




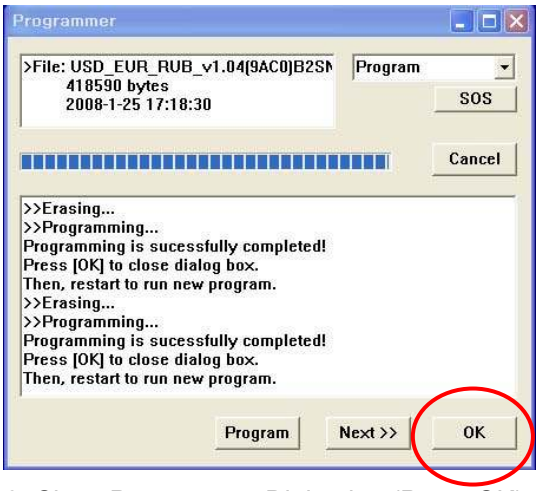
3. Press [Program] button



4. Press [Next >>] button



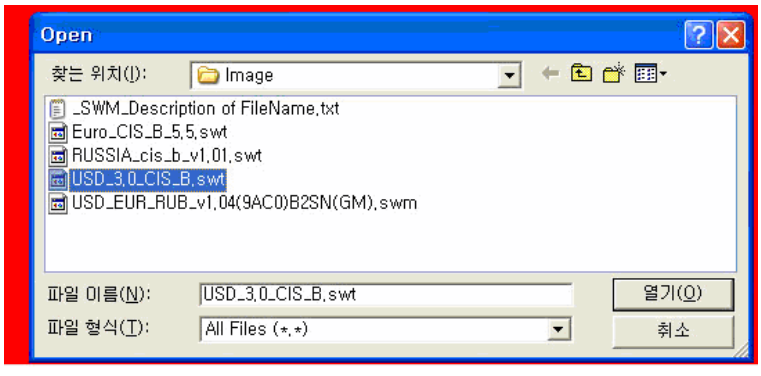
5. Wait until automatically finished.



6. Close Programmer Dialog box(Press OK)

7.Power off & on

8. Open the [~. swt] File



Repeat step3~step6 (Install the remained *.SWT files with same method)

How to download image of banknote

SB1000_v300.exe

↓

Click ‘New’ in File Menu

↓

Put on the sample note on Hopper

↓

Click Image Download (1) in Tools Menu

↓

Wait until end of receiving

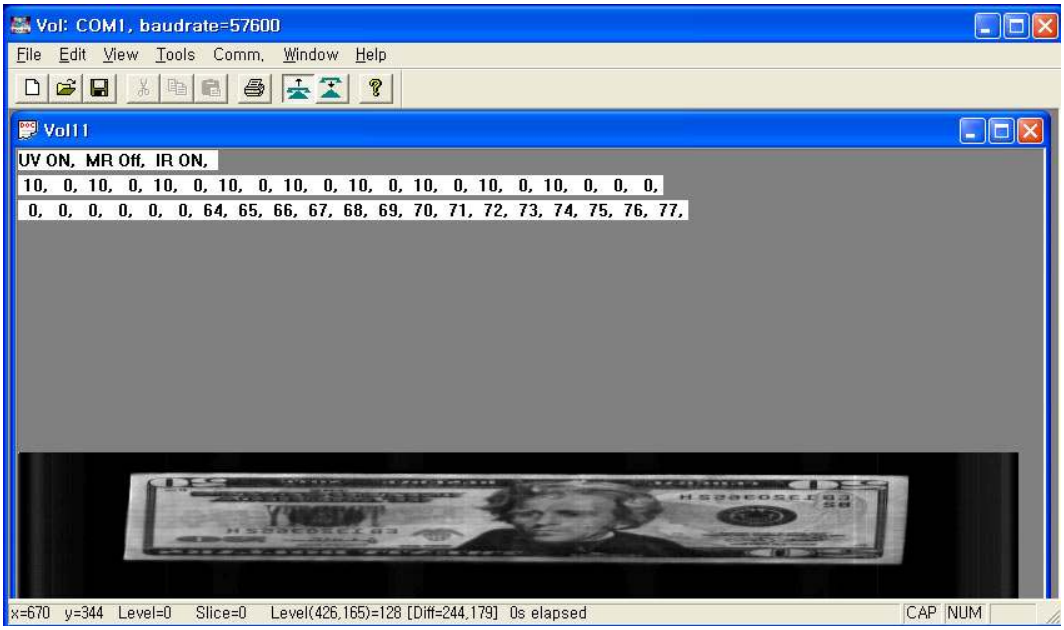
↓

Click ‘Save as’ in File Menu

↓

Save Image as ‘bmp format’

☞ **Extension must be “.bmp”**



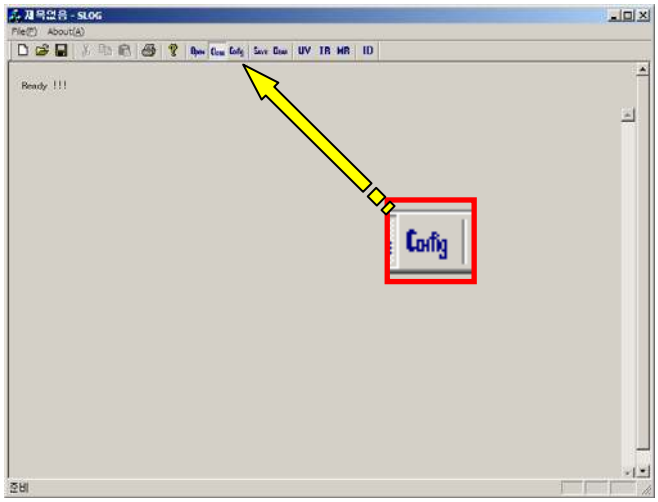
The steps for getting LOG data

You can get the LOG data of real banknote or counterfeit using the **'SLOG.exe'** program
Please get and collect the sensor data as many as possible of the counterfeit can't detected and the real banknotes detected as counterfeit by SB-1100 and send to us, SBM. These data is important and big help to revise the program.

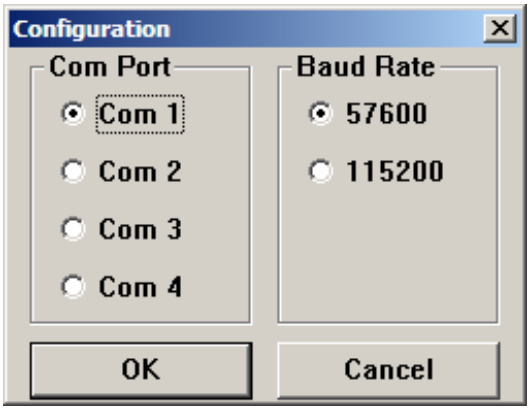
1. After you connect the serial cable between SB-1100 and PC, turn on the SB-1100
(The below picture shows the connected situation with serial and USB cable between the notebook and SB-1100)
Turn on the SB-1100 and CF function.

1. Connect with 'Com.1' port of PC

2. Make the 'SLOG.exe' activate on computer



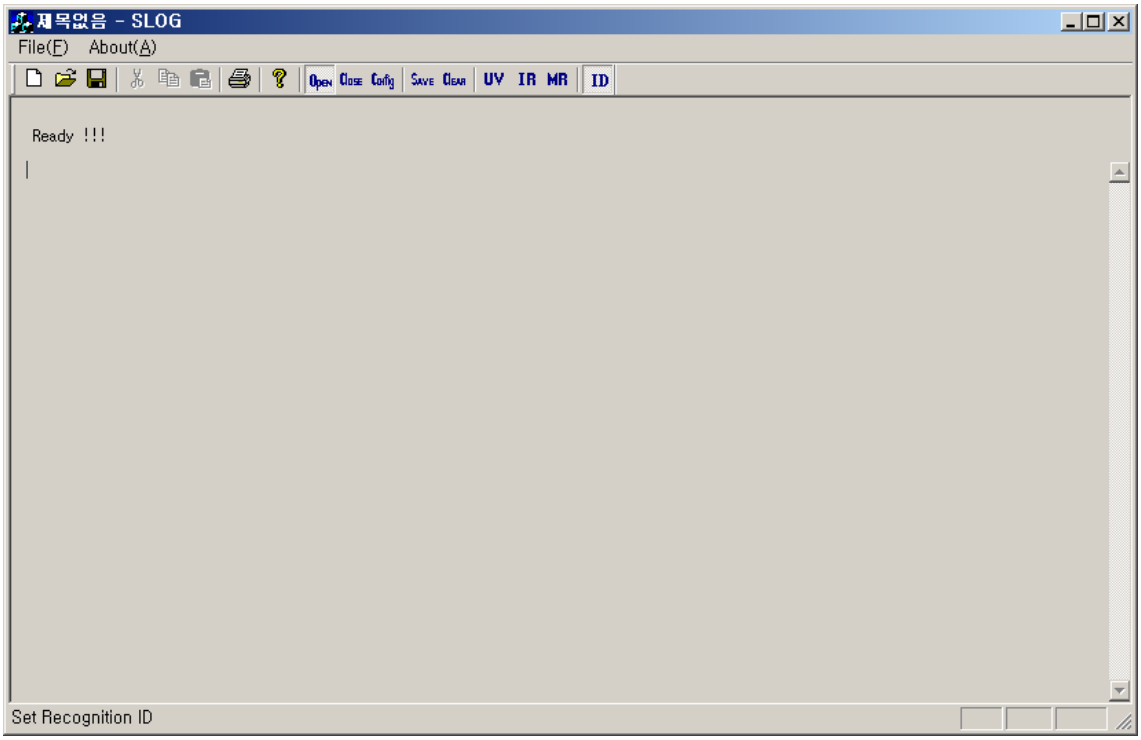
3. After you press the **'Config'** icon, select the Comport connected SB-1000 The Baud Rate should be 57600.



4. Press **'open'** icon, and open the comport

If it fails to open, make activate till become OK changing the comport no. of No.3.

5. It succeeds to open, press **'ID'** icon, and make getting LOG data Mode

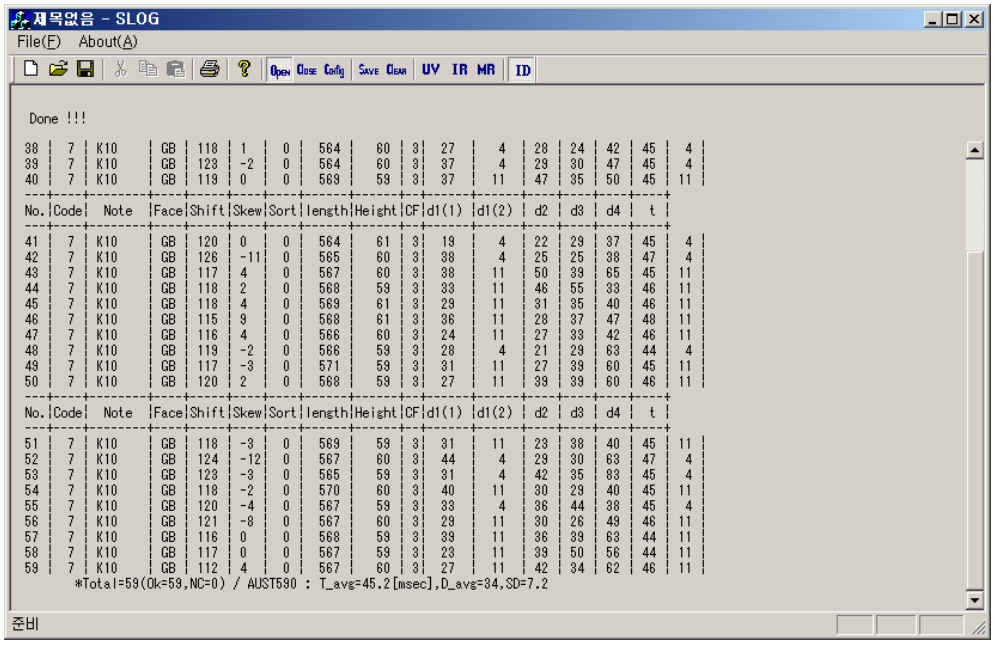


6. Put the banknotes (or Counterfeits) on the Hopper.

After get the LOG data of real banknotes,

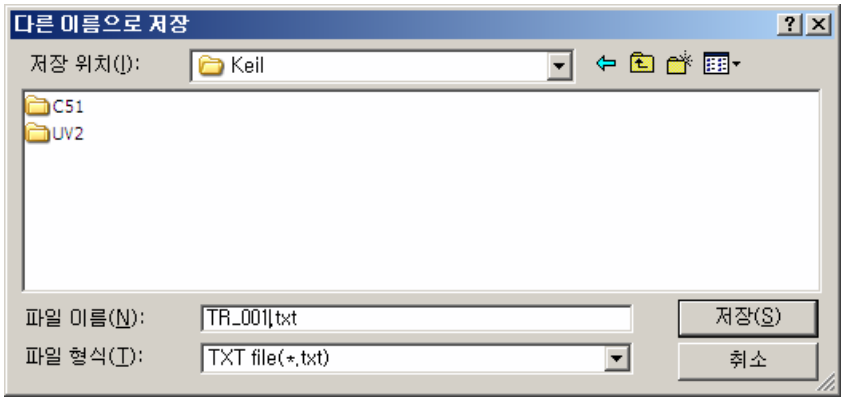
Surely press **"SAVE "**and save the downloaded data with appropriate file name and then test.

7. You can find the below screen when the SB-1000 counts the banknotes



8. After test as much as you want to test Press **'Save'** button.

When the below screen shows and save as the file name that you want.



9. Repeat the above No.6-No.8.

10. Send the saved **'*.txt'** file to us, SBM by email.

9 Parts List

Parts List Ver. 1.0

No.	CODE	PART NAME	Q'TY
1	**1A00X1003A**	PBA_ENCODER	1
2	**1A00X1004A**	PBA_HOPPER	1
3	**1A00X1011A**	PBA_JP/SP_R	4
4	**1A00X1012A**	PBA_JP/SP_T	4
5	**1A00X1026A**	PBA_REJECT_R	1
6	**1A00X1027A**	PBA_REJECT_T	1
7	**1A00X1035A**	PBA_STACKER_R	1
8	**1A00X1036A**	PBA_STACKER_T	1
9	**1A00X2003A**	ASS'Y_CIS	1
10	**1A00X2005A**	ASS'Y_COVER_TOP	1
11	**1A00X2025A**	ASS'Y_POCKET_UPPER	1
12	**1A00X2026A**	ASS'Y_PRESS_ROLLER	1
13	**1A00X2038A**	ASS'Y_SEPARATOR_A	1
14	**1A00X2041A**	ASS'Y_TRANSFER_ROLLER	1
15	**1A00X2052A**	ASS'Y_PINCH_ROLLER_EXIT	1
16	**1A00X2053A**	ASS'Y_PINCH_ROLLER	2
17	**1A00X2054A**	ASS'Y_POCKET_LOWER	1
18	**1A00X2055A**	ASS'Y_PINCH_ROLLER_FDR2	1
19	**1A00X2064A**	ASS'Y_WING_STACKER	1
20	**1A00X2066A**	ASS'Y_SHAFT_ADF_ADJUST	1
21	**1A00X2067A**	ASS'Y_REAR_PINCH_ROLLER	1
22	**1A00X2070A**	ASS'Y_PLATE_BASE	1
23	**1A00X2072A**	ASS'Y_BKT_IDLE	1
24	**1A00X2078A**	ASS'Y_COVER_SIDE_UPPER_L	1
25	**1A00X2079A**	ASS'Y_COVER_SIDE_UPPER_R	1
26	**1A00X2080A**	ASS'Y_ROLLER_PICK_UP	1
27	**1A00X2081A**	ASS'Y_REJECT_BAR	2
28	**1A00X2082A**	ASS'Y_PLATE_GUIDE_LOWER_2	1
29	**1A00X2083A**	ASS'Y_BKT_MOTOR_STACKER	1
30	**1A00X3044A**	ASS'Y_MOTOR_MAIN	1
31	**1A00X3045A**	ASS'Y_MOTOR_STACKER	1

32	**1A00X3046A**	ASS'Y_SELECTOR	1
33	**1A00X3047A**	ASS'Y_SOLENOID	1
34	**1A00X3048A**	ASS'Y_FRONT_COVER_SWITCH	1
35	**1A00X3050A**	ASS'Y_CLUTCH	1
36	**1A00X3065A**	ASS'Y_STACKER_SENSOR	1
37	**1A01X1037A**	PBA_CF_AMP_V1.2	1
38	**1A01X1038A**	PBA_IMAGE_V3.3	1
39	**1A01X1039A**	PBA_IR_TRN_V1.4	1
40	**1A01X1040A**	PBA_IR_RCV_V1.3	1
41	**1A01X1041A**	PBA_MAIN_V2.2	1
42	**1A01X1042A**	PBA_MRS6_V1.5	2
43	**1A01X1043A**	PBA_MRA60MU_V1.3	1
44	**1A01X1044A**	PBA_OPE_V1.1	1
45	**1A01X1045A**	PBA_PARALLEL_V1.2	1
46	**1A01X1046A**	PBA_UVA_V1.4	1
47	**1A01X1047A**	PBA_UVB_V1.4	1
48	**1A01X1048A**	PBA_SMPS_Rev.001	1
49	**1A01X1049A**	PBA_CONN_V1.1	1
50	**1A01X2056A**	ASS'Y_COVER_PANEL_B	1
51	**1A01X2057A**	ASS'Y_GUIDE_IN_LOWER_2	1
52	**1A01X2058A**	ASS'Y_GUIDE_IN_UPPER_2	1
53	**1A01X2059A**	ASS'Y_REAR_HINGE_B	1
54	**1A01X2060A**	ASS'Y_ROLLER_ADF_2	1
55	**1A01X2062A**	ASS'Y_REAR_CASE	1
56	**1A01X2063A**	ASS'Y_REAR_OPEN_HINGE_1_B	1
57	**1A01X2068A**	ASS'Y_SHAFT_PRESS_IDLE_ROLLER_2	1
58	**1A01X2071A**	ASS'Y_GUIDE_UPPER_2	1
59	**1A01X2084A**	ASS'Y_GUIDE_SENSOR_UV	1
60	**1A01X3061A**	ASS`Y_BRAKE_2	1
61	**1A01X3069A**	ASS'Y_SMPS_UNIT	1
62	**6200A001XA**	RUBBER_KEY_PAD	1
63	**6200B002XA**	RUBBER_TENSION_RING	1
64	**6400B001XA**	KSG255	1
65	**6600G002XA**	SUV_FILTER	1
66	**6600G005XA**	UV_FILTER(N)	1
67	**6600H003XA**	CIS	1

68	**6800A001XA**	CR_2032H	1
69	**7000A008XA**	HARNESS_PH_01	1
70	**7000A009XA**	HARNESS_PH_02	1
71	**7000A011XA**	HARNESS_PH_05	1
72	**7000A021XA**	HARNESS_PH_13	1
73	**7000A025XA**	HARNESS_PH_19	1
74	**7000A026XA**	HARNESS_PH_20	1
75	**7000A028XA**	HARNESS_PH_23	1
76	**7000A029XA**	HARNESS_PH_24	1
77	**7000A031XA**	HARNESS_PH_27	1
78	**7000A036XA**	HARNESS_PH_32	1
79	**7000A038XA**	HARNESS_PH_36	1
80	**7000A039XA**	HARNESS_PH_38(F)	1
81	**7000A040XA**	HARNESS_PH_38(M)	2
83	**7000C037XA**	HARNESS_PH_35	1
84	**7000C046XA**	SERIAL_CABLE	1
85	**7001A048XA**	PH_17(2p Front Cover SW, Clutch)	2
87	**7001A049XA**	PH_18(2p main-conn clutch)	1
88	**7001A050XA**	PH_22(4P 1100 JP_SP TRN)	2
89	**7001A051XA**	PH_42(11p MR_Array)	1
90	**7001A052XA**	PH_43(4+5p MRS_Left)	1
91	**7001A053XA**	PH_44(5+4p MRS_Right)	1
92	**7001A054XA**	PH_33(2p IR TRN Power)	1
93	**7001A055XA**	PH_25(4p 1100 Image-SMPS)	1
94	**7001A056XA**	PH_51(8p 1100 UVA b'd)	1
95	**7001A057XA**	PH_52(8p 1100/1800 CONN b'd)	1
96	**7001A058XA**	PH_53(10p 1100 CFAMP b'd)	1
97	**7001A059XA**	PH_59(2p CFAMP Power)	1
98	**7001A060XA**	PH_54(10p 1100 CIS)	1
99	**7001A061XA**	PH_60(20p Parallel)	1
100	**7001A062XA**	PH_66(4P 1100 STACKER)	1
101	**7001A063XA**	PH_67(18+3P 1100 IR RCV)	1
102	**7001A064XA**	PH_68(4P 1100 ENCODER)	1
103	**7001A065XA**	PH_69(12+6+6P 1100 UVB B'D)	1
104	**7001A066XA**	PH_74(2p 1100 Brake)	1
105	**720000100A**	BUSH_STACKER_MOTOR	2

107	**720000300A**	COVER_ENCODER_WHEEL	1
108	**720000400A**	COVER_PANEL	1
109	**720000500A**	COVER_REAR_LOWER	1
110	**720000600A**	COVER_REAR_UPPER	1
111	**720000700A**	COVER_SIDE_LOWER_L	1
112	**720000800A**	COVER_SIDE_LOWER_R	1
113	**720000900A**	COVER_SIDE_UPPER_L	1
114	**720001000A**	COVER_SIDE_UPPER_R	1
115	**720001100A**	COVER_TOP	1
116	**720001200A**	COVER_TOP_ENTRANCE	1
117	**720001300A**	GEAR_BILL_GUIDE	1
118	**720001400A**	GUIDE_BILL_L	1
119	**720001500A**	GUIDE_BILL_R	1
120	**720001900A**	GUIDE_PRESS_ROLLER	1
121	**720002100A**	GUIDE_RPS	10
124	**720002300A**	GUIDE_SELECTOR	1
125	**720002400A**	GUIDE_TRANSFER_ROLLER	1
126	**720002500A**	HOOK_OPEN_L	1
127	**720002600A**	HOOK_OPEN_R	1
128	**720002700A**	KEY_CLEAR	1
129	**720002800A**	KEY_FUNCTION	1
130	**720002900A**	KEY_MAIN	1
131	**720003000A**	KEY_START	1
132	**720003100A**	KNOB_OPEN_HOOK	2
134	**720003200A**	POCKET_LOWER	1
135	**720003300A**	POCKET_UPPER_B	1
136	**720003400A**	PULLEY_ADF	1
137	**720003500A**	PULLEY_FEED_1	1
138	**720003600A**	PULLEY_FEED_1_2	1
139	**720003700A**	PULLEY_FEED_2	1
140	**720003800A**	PULLEY_FEED_3	2
141	**720003900A**	PULLEY_REJECT	1
142	**720004200A**	PULLEY_PICK_UP	2
144	**720004300A**	TRAY_BILL_IN_GUIDE	1
145	**720004301A**	WINDOW_HOPPER	1
146	**720004302A**	WING_STACKER	2

147	**720104303A**	REAR_CASE	1
148	**720104304A**	GUIDE_SENSOR_IR	1
149	**720104305A**	GUIDE_SENSOR_UV	1
150	**740000200A**	BKT_CIS_L	1
151	**740000300A**	BKT_CIS_R	1
152	**740000400A**	BKT_ENCODER	1
153	**740000500A**	BKT_HINGE_STOPPER	1
154	**740000600A**	BKT_IDLE	1
155	**740000800A**	BKT_PCB_MOUNT	1
156	**740000900A**	BKT_PINCH_EXIT	1
157	**740001100A**	BKT_PINCH_FDR_2	1
158	**740001200A**	BKT_PINCH_ROLLER	1
159	**740001300A**	BKT_POWER	1
160	**740001500A**	BKT_REAR_COVER	1
161	**740001600A**	BKT_REJECT_BAR	2
162	**740001700A**	BKT_SELECTOR	1
163	**740001800A**	BKT_SEPARATOR	1
164	**740001900A**	BKT_STACKER	2
166	**740002000A**	BKT_STACKER_SENSOR	1
167	**740002200A**	PLATE_BASE	1
168	**740002900A**	PLATE_REAR_OPEN_HANDLE	1
169	**740003300B**	PLATE_REAR_OPEN_HINGE_2	1
170	**740003400A**	PLATE_SIDE_LOWER_L	1
171	**740003500A**	PLATE_SIDE_LOWER_R	1
172	**740003800A**	PLATE_SPRING	1
173	**740003900A**	PLATE_SPRING_ADF	1
174	**740004100A**	SUPPORT_LOWER_PLATE	1
175	**740004200A**	UPPER_SUPPORT_1	1
176	**740004300A**	UPPER_SUPPORT_2	1
177	**740104400A**	BKT_BRAKE_2	1
178	**740104500A**	BKT_PULLEY_COVER_2	1
179	**740104800A**	PLATE_GUIDE_IN_LOWER_2_B	1
180	**740105000A**	PLATE_GUIDE_IN_UPPER_2	1
181	**740105100A**	PLATE_GUIDE_LOWER_2	1
182	**740105200A**	PLATE_GUIDE_UPPER_2	1
183	**740105400A**	PLATE_REAR_HINGE_B	1

184	**740105600A**	PLATE_REAR_OPEN_HINGE_1_B	1
185	**740105700A**	PLATE_SIDE_UPPER_L_2	1
186	**740105800A**	PLATE_SIDE_UPPER_R_2	1
187	**740105900A**	PLATE_SPRING_CIS	1
188	**740106000A**	PLATE_SPRING_MR	2
189	**7600A001XA**	COIL_SPRING_REAR_OPEN_HANDLE	2
190	**7600A002XA**	COIL_SPRING_PINCH	3
193	**7600A003XA**	COIL_SPRING_PINCH_1	1
194	**7600B004XA**	TORSION_SPRING_PINCH_L	1
195	**7600B005XA**	TORSION_SPRING_PINCH_R	1
196	**7600B006XA**	TORSION_SPRING_ADF	1
197	**7600B007XA**	TORSION_SPRING_MAIN_HINGE_L	1
198	**7600B008XA**	TORSION_SPRING_MAIN_HINGE_R	1
199	**7600B009XA**	TORSION_SPRING_OPEN_HOOK_L	1
200	**7600B010XA**	TORSION_SPRING_OPEN_HOOK_R	1
201	**7800A010XA**	SHAFT_ADF_ADJUST	1
202	**7800A011XA**	SHAFT_HINGE_MAIN	1
203	**7800A012XA**	SHAFT_HINGE_TOP	1
204	**7800A014XA**	SHAFT_PINCH_ROLLER	3
207	**7800A015XA**	SHAFT_PINCH_R_U_POCKET	1
208	**7800A017XA**	SHAFT_PRESS_ROLLER	1
209	**7800A018XA**	SHAFT_SELECTOR_CONN	1
210	**7800A019XA**	SHAFT_STACKER	1
211	**7800A020XA**	SHAFT_TRANSPER_ROLLER	1
212	**7800B002XA**	BUSH_GROUND	1
213	**7800B003XA**	BUSH_ONEWAY_BEARING	1
214	**7800B004XA**	BUSH_STOPPER	1
215	**7800C001XA**	ARM_ADF_ADJUST	1
216	**7800D005XA**	PULLEY_HINGE	1
217	**7800D006XA**	PULLEY_MOTOR	1
218	**7800E008XA**	ROLLER_PRESS	2
219	**7800E009XA**	ROLLER_PRESS_IDLE	4
220	**7800F021XA**	SPECIAL_SCREW_LOWER	1
221	**7800F022XA**	SPECIAL_SCREW_UPPER	1
222	**7800G023XA**	UV_DUMMY	1
223	**7800G024XA**	COLOR_SENSOR_DUMMY	1

224	**7800G025XA**	UV_FILTER_DUMMY	2
225	**7801A026XA**	SHAFT_PRESS_IDLE_ROLLER_2	2
226	**7801A027XA**	SHAFT_REAR_PINCH_ROLLER	1
227	**7801A029XA**	GLASS_UV_REFLECT	1
228	**800000500A**	ROLLER_FEED_2	1
229	**800000600A**	ROLLER_FEED_3	1
230	**800000700A**	ROLLER_FEED_4	1
231	**800000800A**	ROLLER_PICK_UP	1
232	**800000900A**	ROLLER_PINCH	8
236	**800001000A**	ROLLER_PINCH_EXIT	2
237	**800001100A**	ROLLER_REJECT	1
238	**800001200A**	ROLLER_SEPARATOR_A	1
239	**800101400A**	ROLLER_ADF_2	1
240	**800101500A**	ROLLER_FEED_MR_A	1
241	**800101700A**	ROLLER_FEED_1_C	1
242	**8200A001XA**	BEARING_L_1360ZZ	2
243	**8200A004XA**	BEARING_LF_1360ZZ	6
247	**8200A005XA**	BEARING_LF_1680ZZ	18
256	**8200B006XA**	BELT_PICK_UP	1
257	**8200B007XA**	BELT_IDLE	1
258	**8200B008XA**	BELT_MOTOR	1
259	**8200B009XA**	BELT_MAIN	1
260	**8201A010XA**	BEARING_L_1950ZZ	2
261	**8400A001XA**	E_RING_Ø2(2x6x0.4)_Fe_ZB	
262	**8400A002XA**	E_RING_Ø4(4x11x0.6)_Fe_ZB	
265	**8400A003XA**	E_RING_Ø5(5x11x0.6)_Fe_ZB	
274	**8400A004XA**	E_RING_Ø6(6x12x0.8)_Fe_ZB	
289	**8400A005XA**	E_RING_Ø7(7x14x0.8)_Fe_ZB	
290	**8400B006XA**	HEX_SUPPORT_M3X6_Fe_Ni	
291	**8400C007XA**	HEX_NUT_M3X0.5_Fe_Zy	
292	**8400C008XA**	HEX_NUT_M4X0.7_Fe_Zy	
293	**8400C037XA**	HEX_NUT_M2.6X0.5_Fe_Zy	
295	**8400D009XA**	PAPER_WASHER	
300	**8400D010XA**	PLASTIC_WASHER_Ø6(6.2x10x_0.5T)	
301	**8400D011XA**	PLASTIC_WASHER_Ø8(8.2x13x0.5T)	
305	**8400D012XA**	RUBBER_WASHER_Ø4(4.5x12x3)	

311	**8400D036XA**	TOOTH_LOCK_WASHER_TD_B_Ø4_Fe_Zy	
312	**8400D038XA**	PLASTIC_WASHER_Ø8(8.2x13x_0.25T)	
317	**8400D039XA**	PLASTIC_WASHER_Ø6(6.2x10x_0.25T)	
319	**8400E014XA**	SCREW_M/C_FH_M2.6X5_Fe_Ni	
323	**8400E016XA**	SCREW_M/C_FH_M3X10_Fe_Ni	
324	**8400E017XA**	SCREW_M/C_FH_M3X6_Fe_Ni	
325	**8400E019XA**	SCREW_M/C_PH_M2x8_Fe_Zy	
326	**8400E020XA**	SCREW_M/C_PH/SW_M3X8_Fe_Zy	
330	**8400E021XA**	SCREW_M/C_PH/SWW_M3X6_Fe_Zy	
366	**8400E023XA**	SCREW_M/C_PH/SWW_M4X10_Fe_Ni	
368	**8400E025XA**	SCREW_M/C_PH/SWW_M4X8_Fe_Ni	
378	**8400E026XA**	SCREW_M/C_RH_M4x6_Fe_Ni	
385	**8400E027XA**	SCREW_M/C_RH_M4x8_Fe_Ni	
386	**8400E028XA**	SCREW_SET_SIH_FP_M3x6_Fe_ZB	
390	**8400E029XA**	SCREW_SET_SIH_FP_M4x6_Fe_ZB	
391	**8400E030XA**	SCREW_SET_SIH_FP_M5x6_Fe_ZB	
393	**8400E031XA**	SCREW_T/P_FH_M4x10_Fe_Ni	
396	**8400E032XA**	SCREW_T/P_PH_T2_Ø2.6x6_Fe_Zy	
397	**8400E033XA**	SCREW_T/P_PH_T2_Ø3X6_Fe_Zy	
409	**8400E042XA**	SCREW_M/C_PH_M2.5X4	
412	**8600A001XA**	MAIN_MOTOR	1
413	**8600A003XA**	STACKER_MOTOR	1
414	**8600B002XA**	SOLENOID	1
415	**8600C007XB**	CLUTCH_CYT_N	2
417	**8800A003XA**	BAR_REJECT_B	2
418	**8800A007XA**	FILM_GUARD_SMPS	1
419	**8800A008XA**	FILM_IMAGE	1
420	**8800A009XA**	FILM_MAIN	1
421	**8800B021XI**	WINDOW_LCD_SB1100	1
422	**8800B024XA**	WIRE_SADDLE_SMALL	
425	**8800B025XB**	WIRE_SADDLE_LARGE	1
427	**8800C005XA**	ELECTRO_BRUSH_1	3
428	**8800C006XA**	ELECTRO_BRUSH_2	2
429	**8800D012XA**	RUBBER_FOOT	4
433	**8800E011XA**	REFLECT_MIRROR	1
434	**8801A026XA**	FILM_POWER_3	1

435	**8801B028XA**	CIS_SHADING_TAPE	1
436	**9000C013XA**	LABEL_WARNING_L(ENG)	1
437	**9000C015X**	LABEL_WARNING_S(ENG)	2
438	**9000F020XA**	SNOW_BOX	1
439	**9001A021XA**	CARTON_BOX_SB1100(ENG)	1
440	**9001C022XA**	LABEL_SERIAL_SB1100(ENG)	1

10 Trouble Shooting

LCD Error Messages

Display	Meaning
FRONT COPEN	Front Cover is opened.
REAR COPEN	Rear Cover is opened
MAIN MOTOR	Main Motor stopped.
HOPPER EXIST	Notes exist in the Hopper.
DOUBLE	Double Feeding Error
CHAIN	Chain Error
HALF	Half Error
FEEDING	Miss-feeding Error
JAM0	Jam Error near RP1 sensor
JAM1	Jam Error near RP2 sensor
JAM2	Jam Error near JP sensor
JAM3	Jam Error near SP sensor

Notes : Please refer to the figures on “Chapter 3” to see the position of the sensors.

Fixing Problems

‘FRONT COPEN’

1. Press Front Cover until it clicks in place.
2. Press CLEAR.

‘HOPPER EXIST’

1. Remove the banknotes on the Hopper.
2. Press CLEAR.

‘MAIN MOTOR’, ‘DOUBLE’, ‘FEEDING’, ‘JAM0’, ‘JAM1’, ‘JAM2’, and ‘JAM3’*

1. Remove banknotes on the Hopper.
2. Press CLEAR.

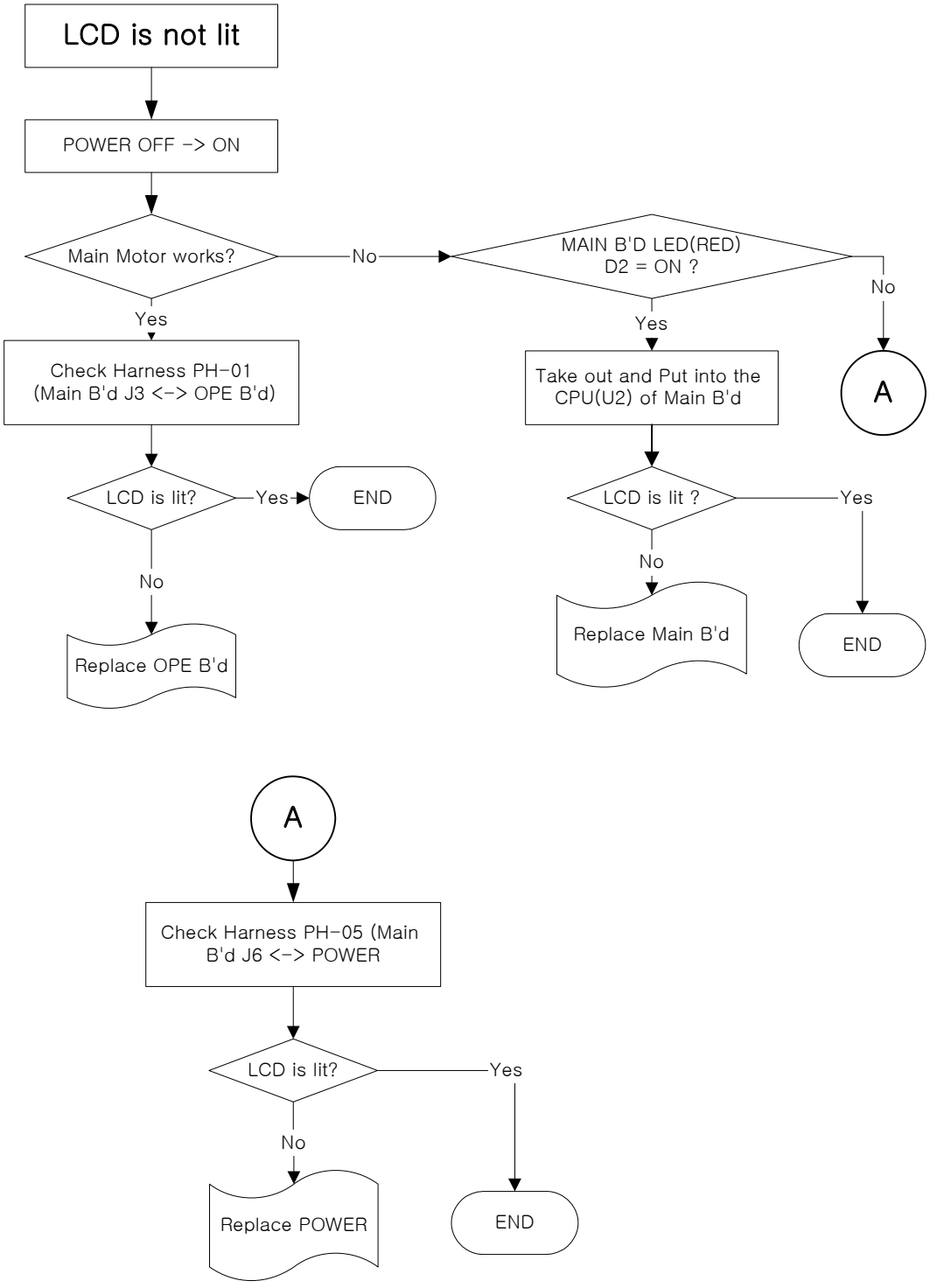
*) **Caution** :

In occurrence of JAM3, it is recommended that a user open the front cover and check the inside of the machine then remove notes before pressing CLEAR key.

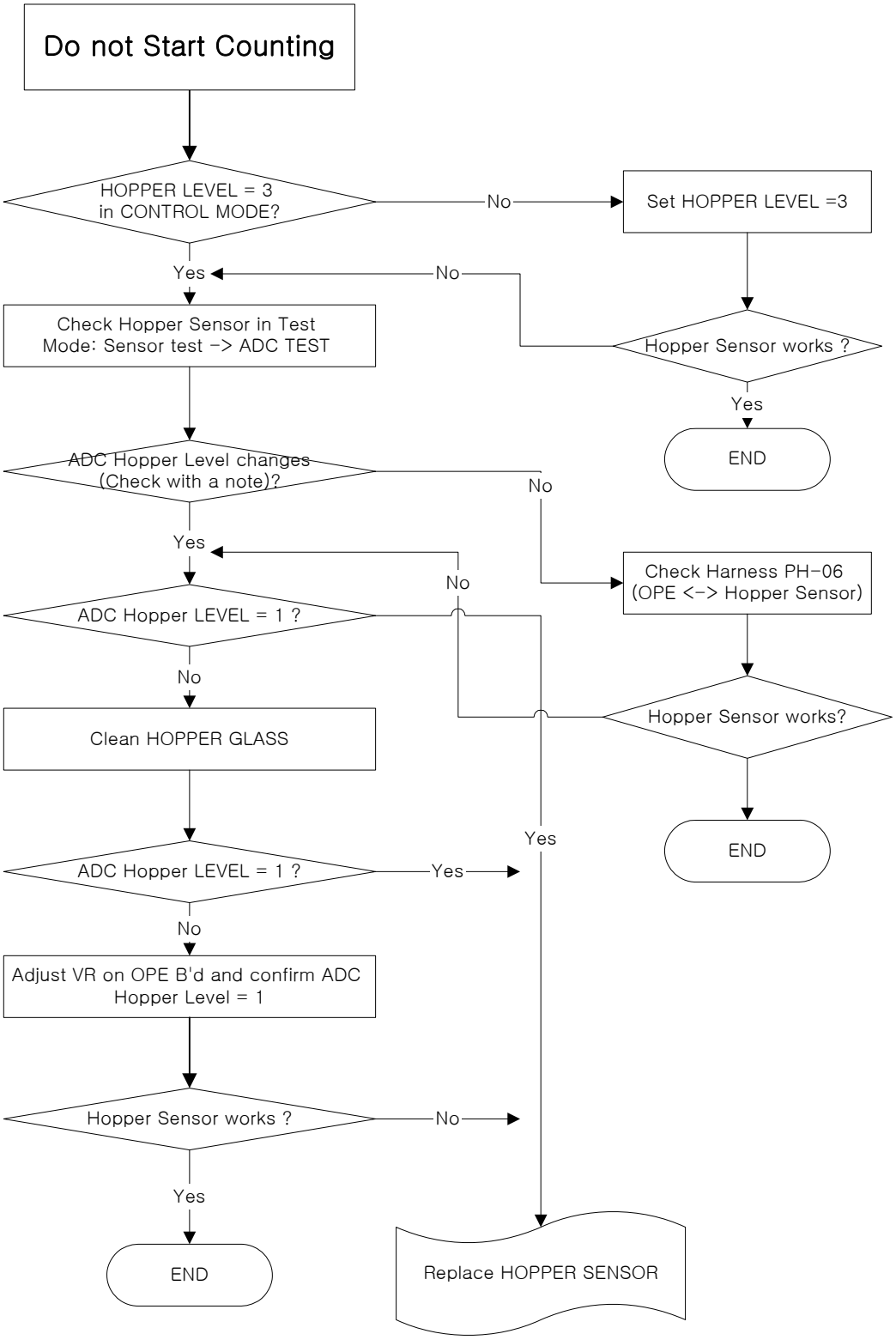
Trouble Shooting Flow Chart List

1. LCD is not lit
2. Do not start counting
3. Error: “Image M Not Working”
4. Error: Jam0 without actual jamming
5. Error: Jam1 without actual jamming
6. Error: Jam2/Jam3 without actual jamming
7. Cannot check Reject Pocket Full
8. Cannot check Stacker Empty

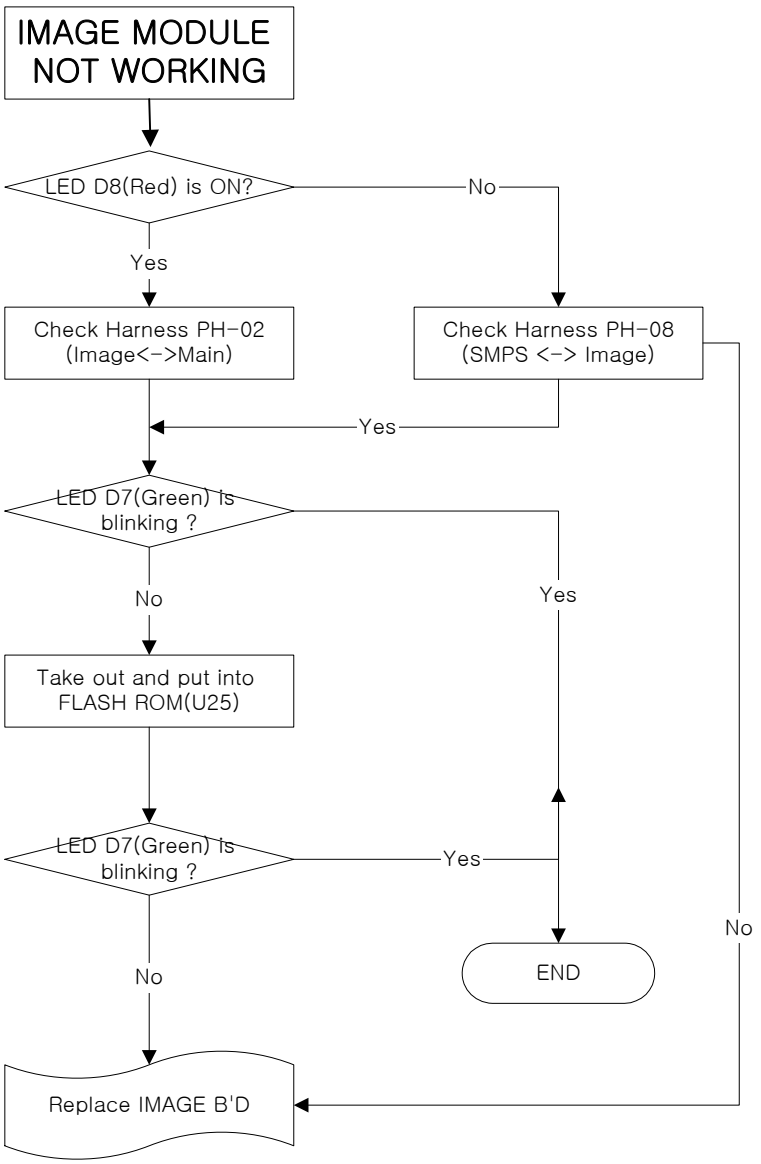
11-1 LCD is not lit



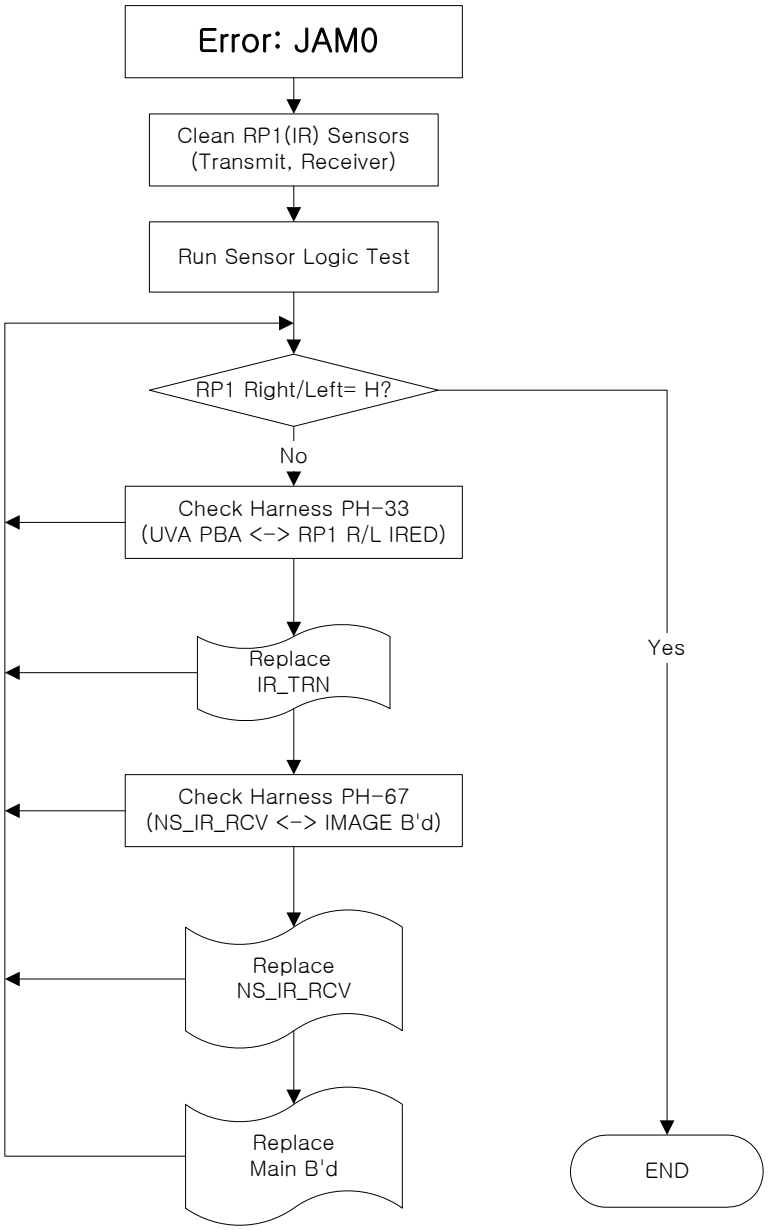
11-2 Do not start counting



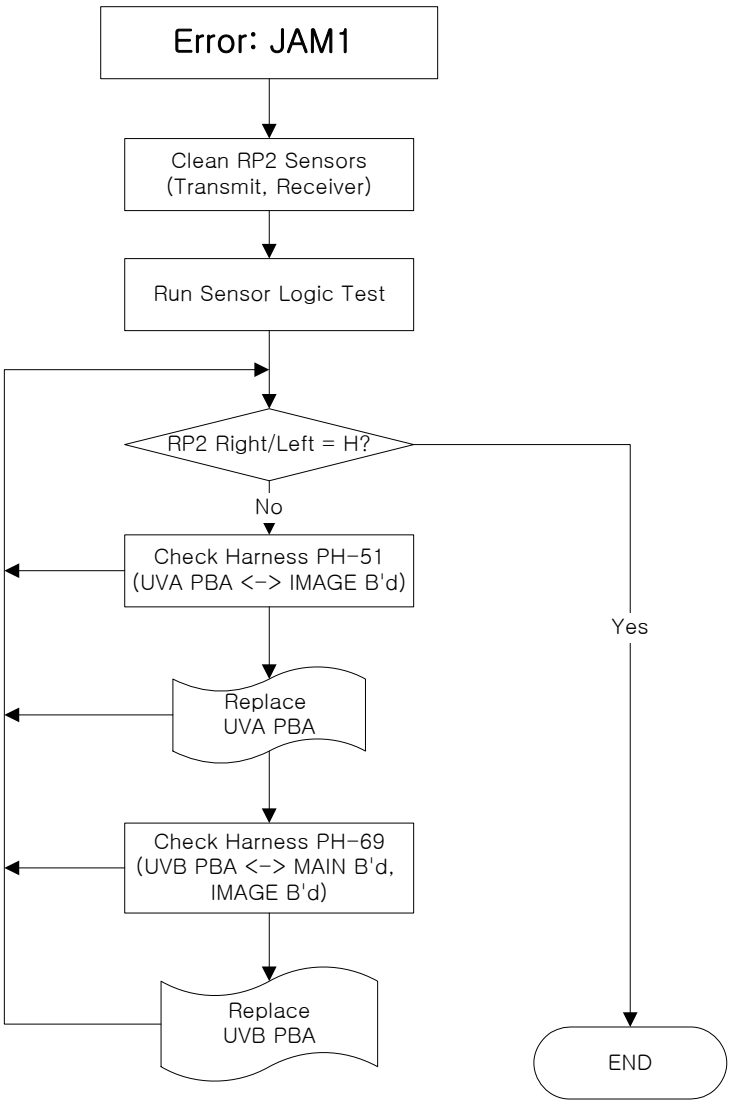
11-3 Error: Image M not Working



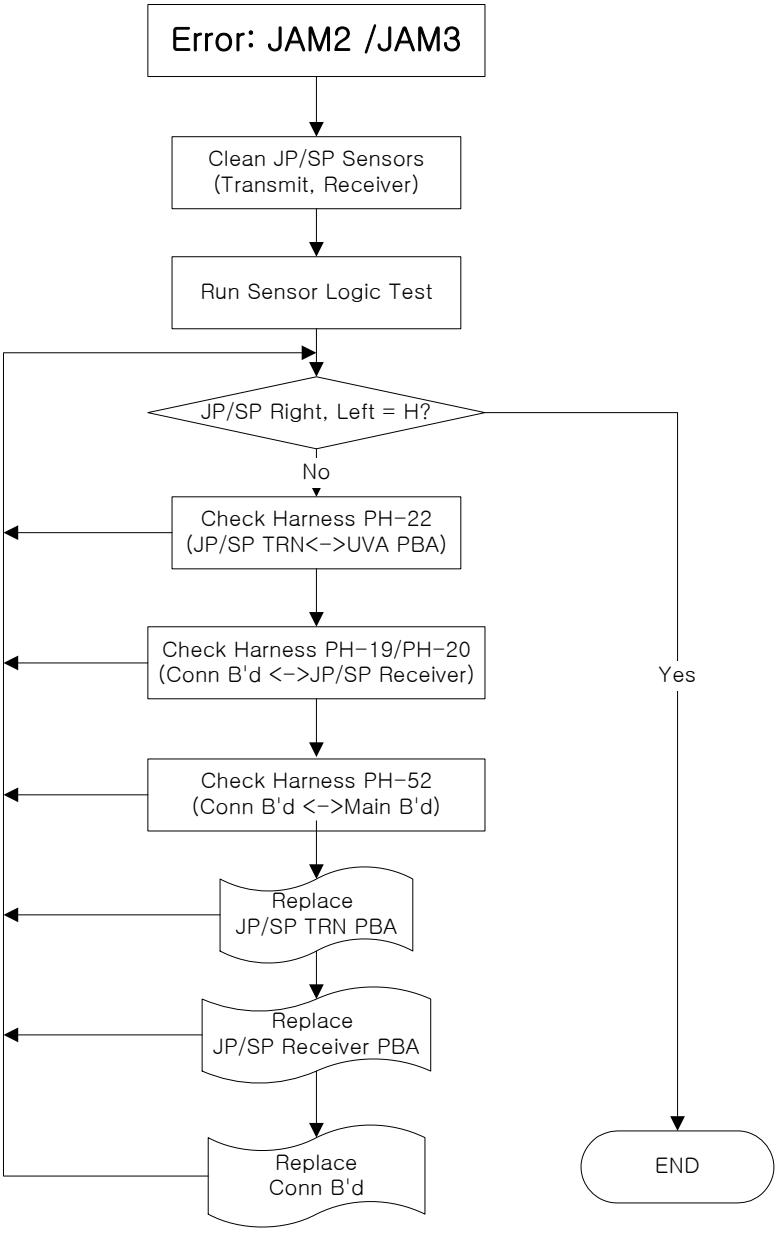
11-4 Error: Jam0 without actual jamming



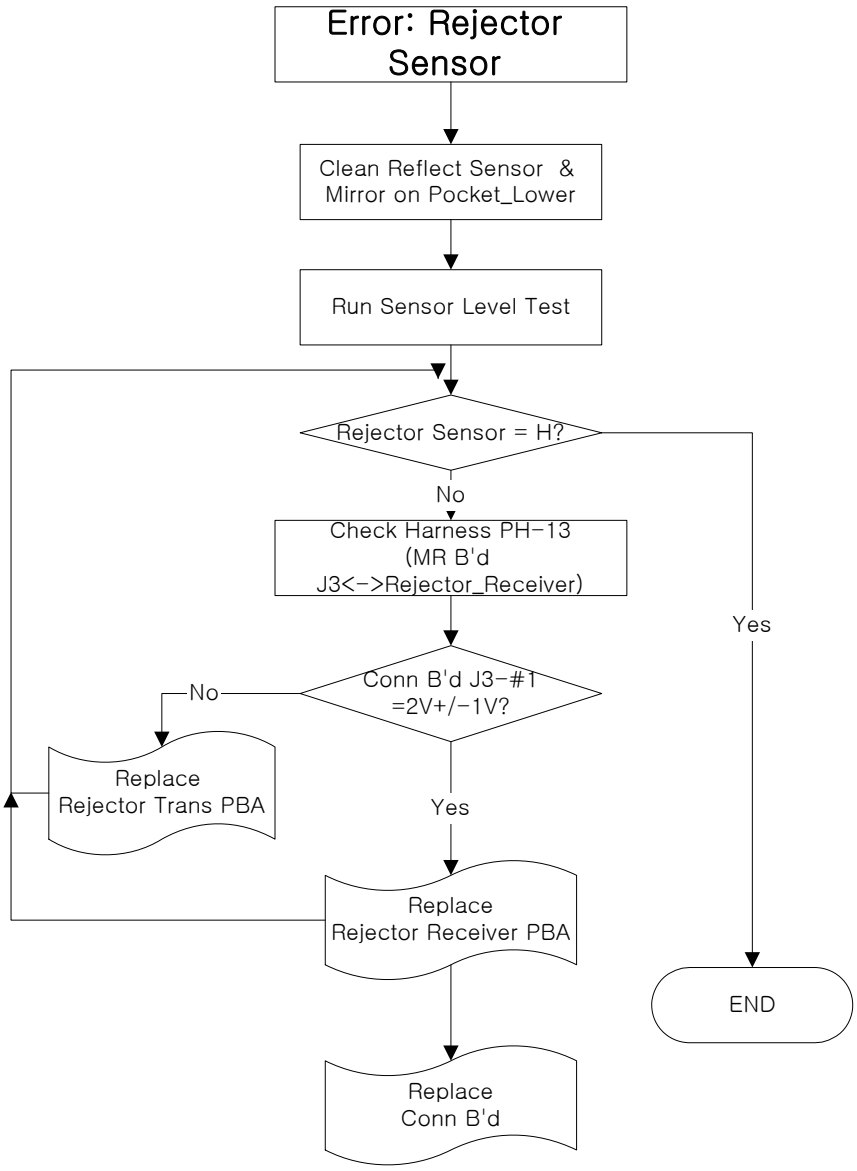
11-5 Error: Jam1 without actual jamming



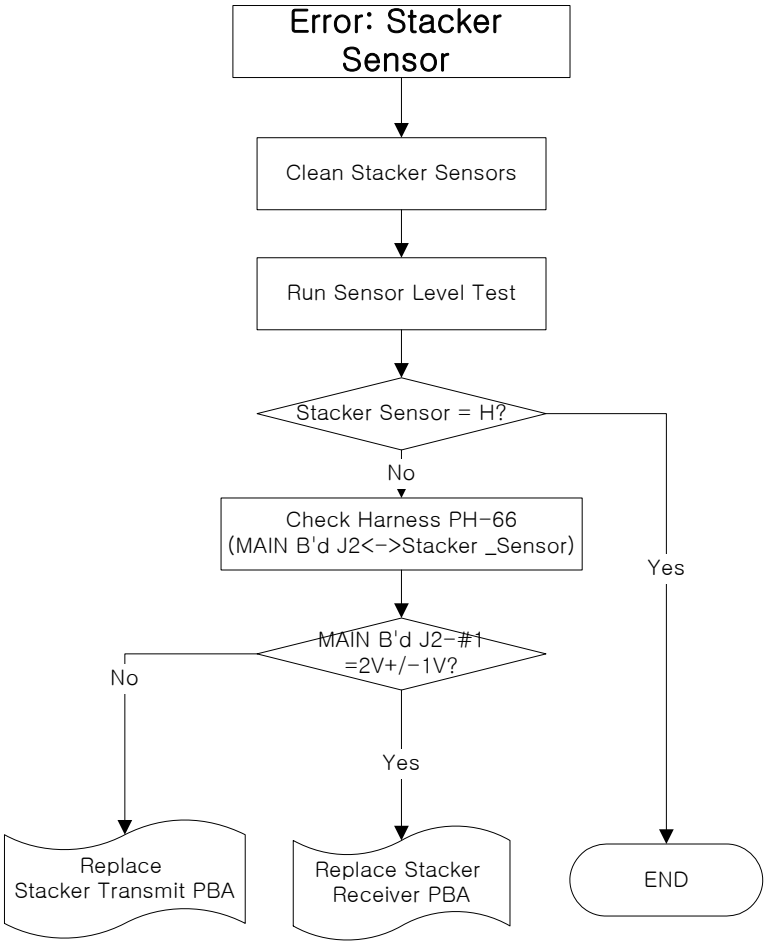
11-6 Error: Jam2/Jam3 without actual jamming



11-7 Can not check Reject Pocket Full



11-8 Can not Check Stacker Empty

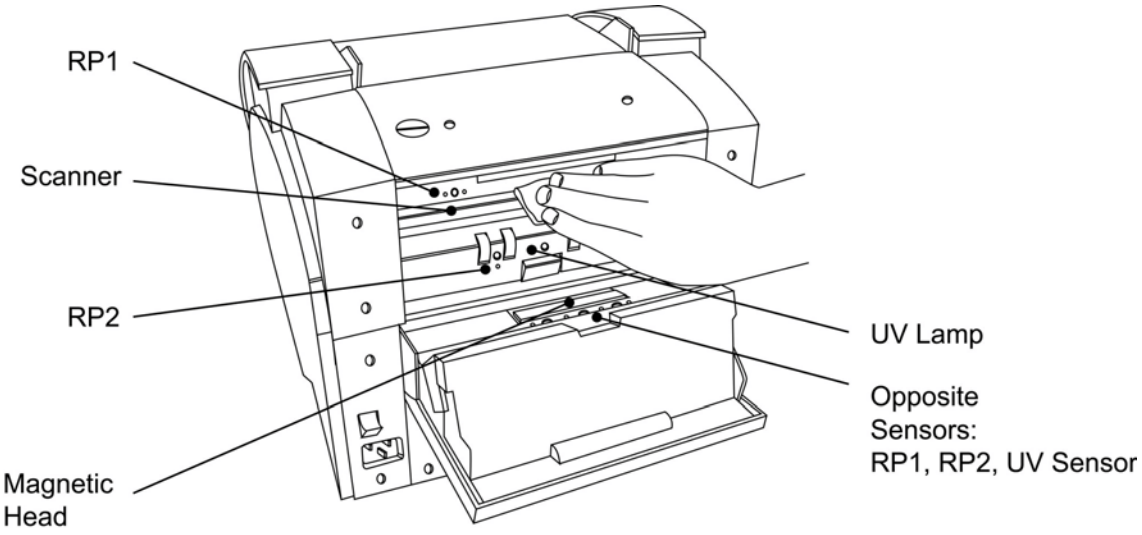


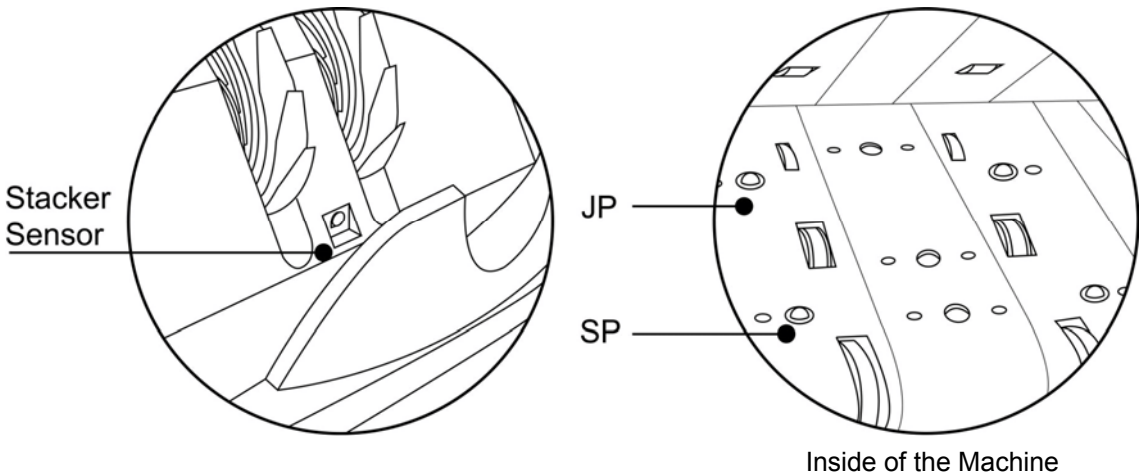
11 Maintenance

Daily Maintenance

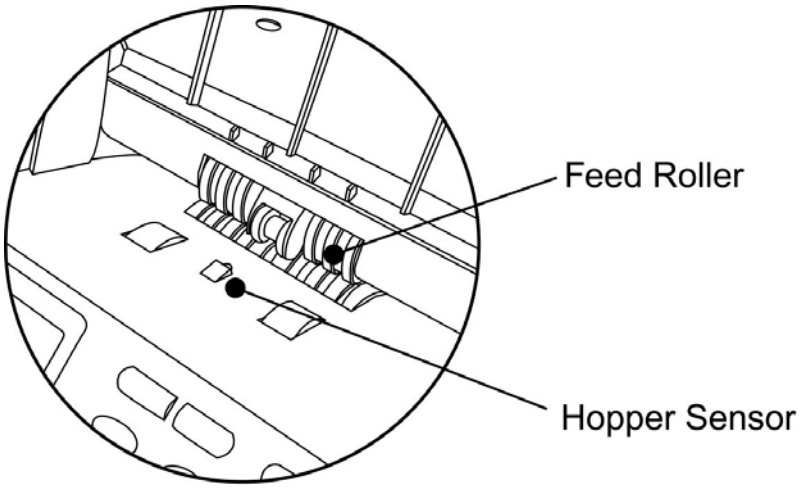
This machine uses various sensors to detect the malfunction of the machine and the status of the notes in the machine and to recognize the denominations of the notes. The sensors are very sensitive and if they are not cleaned correctly everyday, they may affect a bad effect on the performance of the machine.

Clean the sensors described below everyday after operating. The power must be turned off before cleaning and please do not use a volatile solvent for cleaning.





Inside of the Machine



Note:

In case of feed roller, clean with slightly dampened cloth with alcohol. While rotating one side of the roller manually, stick the cloth to the other side of the roller.

If there is dust on the rollers pressing the head of magnetic sensors, they should be cleaned.

Caution: Cleaning the Banknote Scanner

To keep your machine working properly, please clean the photo sensors, the rollers and the scanning glass once a day. If dust exists much, the recognition rate can be lower than expected.

1. Open the rear cover.
2. Clean inside of the rear cover.
3. Carefully wipe the scanning glass with a soft, dry cloth.
   If the glass is very dirty, first wipe it with a slightly dampened cloth with alcohol, then with a dry cloth. Be very careful not to scratch the glass surface.
4. Close the rear cover firmly until it clicks into place.

Maintenance intervals

Life circle of each parts could be changed depend on operation environment.

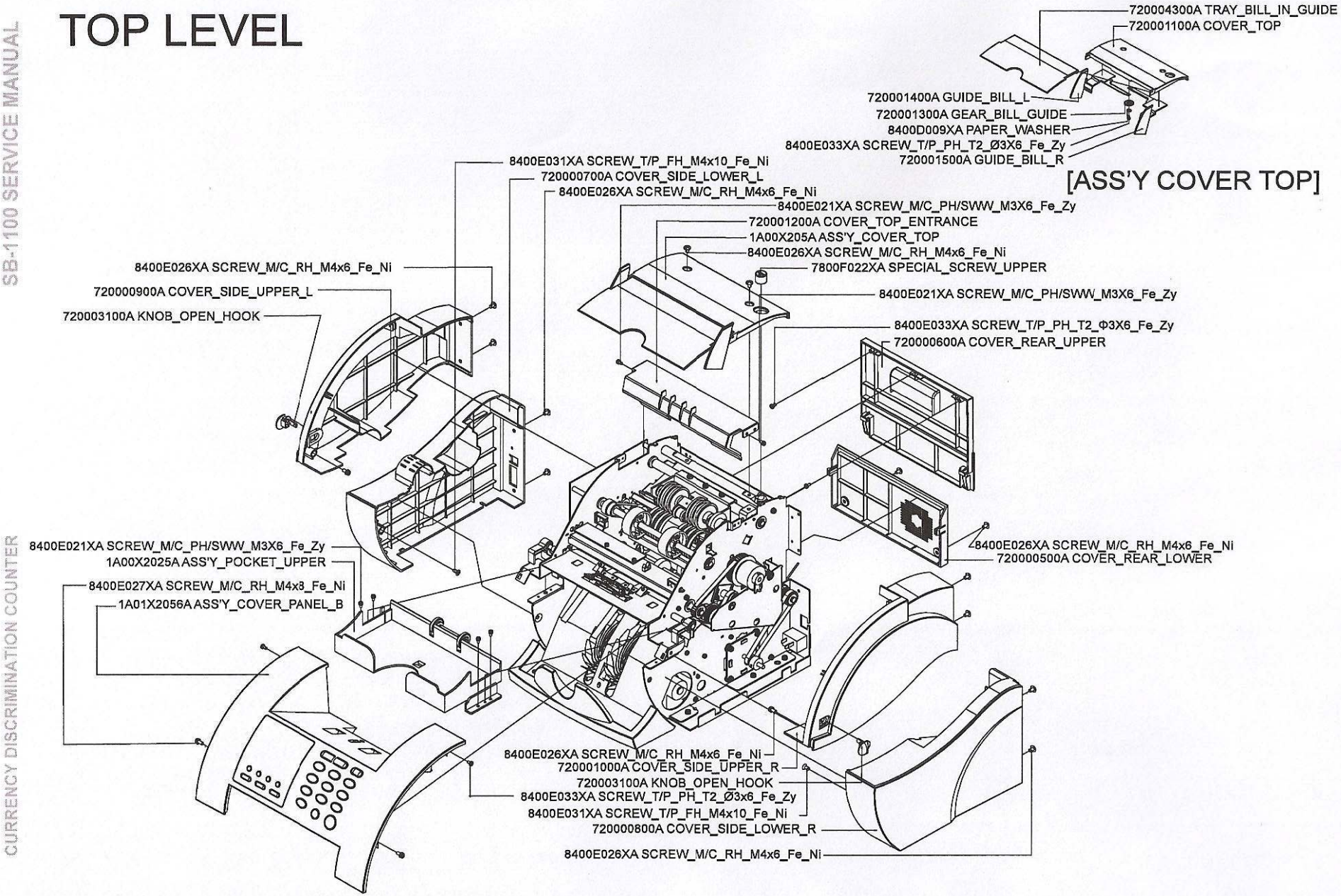
Maintenance intervals	Part name		CODE	Q'ty
30million Note Service (Once a year)	ROLLER	ROLLER_PINCH	800000900A	8
		ROLLER_PINCH_EXIT	800001000A	2
		ASS'Y_PINCH_ROLLER_FDR_2	1A00X2074A	?
		ASS'Y_PRESS_ROLLER	1A00X2026A	1
		ASS'Y_REAR_PINCH_ROLLER	1A00X2067A	1
		ASS'Y_ROLLER_ADF_2	1A01X2060A	1
		ASS'Y_SHAFT_PRESS_IDLE_ROLLER_2	1A01X2068A	1
		ROLLER_PICK_UP	800000800A	1
	BELT	BELT_IDLE	8200B007XA	1
		BELT_MAIN	8200B009XA	1
		BELT_MOTOR	8200B008XA	1
		BELT_PICK_UP	8200B006XA	1
150million note Service (Once every five years)	ROLLER	ROLLER_FEED_1_C	800101700A	1
		ROLLER_FEED_2	800000500A	1
		ROLLER_FEED_3	800000600A	1
		ROLLER_FEED_4	800000700A	1
		ROLLER_FEED_MR_A	800101500A	1
		ROLLER_REJECT	800001100A	1
		ASS'Y_SEPARATOR_A	1A00X2038A	1
		ASS'Y_SEPARATOR_B	1A00X2039B	
		ASS'Y_TRANSFER_ROLLER	1A00X2041A	1
	BEARING	BEARING_L_1360ZZ	8200A001XA	2
		BEARING_L_1950ZZ	8201A010XA	2
		BEARING_LF_1360ZZ	8200A004XA	6
		BEARING_LF_1680ZZ	8200A005XA	18
		BUSH_ONEWAY_BEARING	7800B003XA	1
	PULLEY	PULLEY_ADF	720003400A	1
		PULLEY_FEED_1	720003500A	1
		PULLEY_FEED_1_2	720003600A	1
		PULLEY_FEED_2	720003700A	1
		PULLEY_FEED_3	720003800A	2
		PULLEY_REJECT	720003900A	1

	SPRING	TORSION_SPRING_PINCH_L	7600B004XA	1
		TORSION_SPRING_PINCH_R	7600B005XA	1
		PLATE_SPRING_CIS	740105900A	1
		PLATE_SPRING_MR	740106000A	2
	MOTOR	ASS'Y_MOTOR_MAIN	1A00X3044A	1
		ASS'Y_MOTOR_STACKER	1A00X3045A	1
	OTHERS	ASS`Y_BRAKE_2	1A01X3061A	1
		ASS'Y_CLUTCH	1A00X3050A	1
		ASS'Y_FRONT_COVER_SWITCH	1A00X3048A	1
		ASS'Y_SELECTOR	1A00X3046A	1
		ELECTRO_BRUSH_1	8800C005XA	3
		ASS'Y_WING_STACKER	1A00X2064A	1
		BAR_REJECT_B	8800A003XA	2
		RUBBER_KEY_PAD	6200A001XA	1

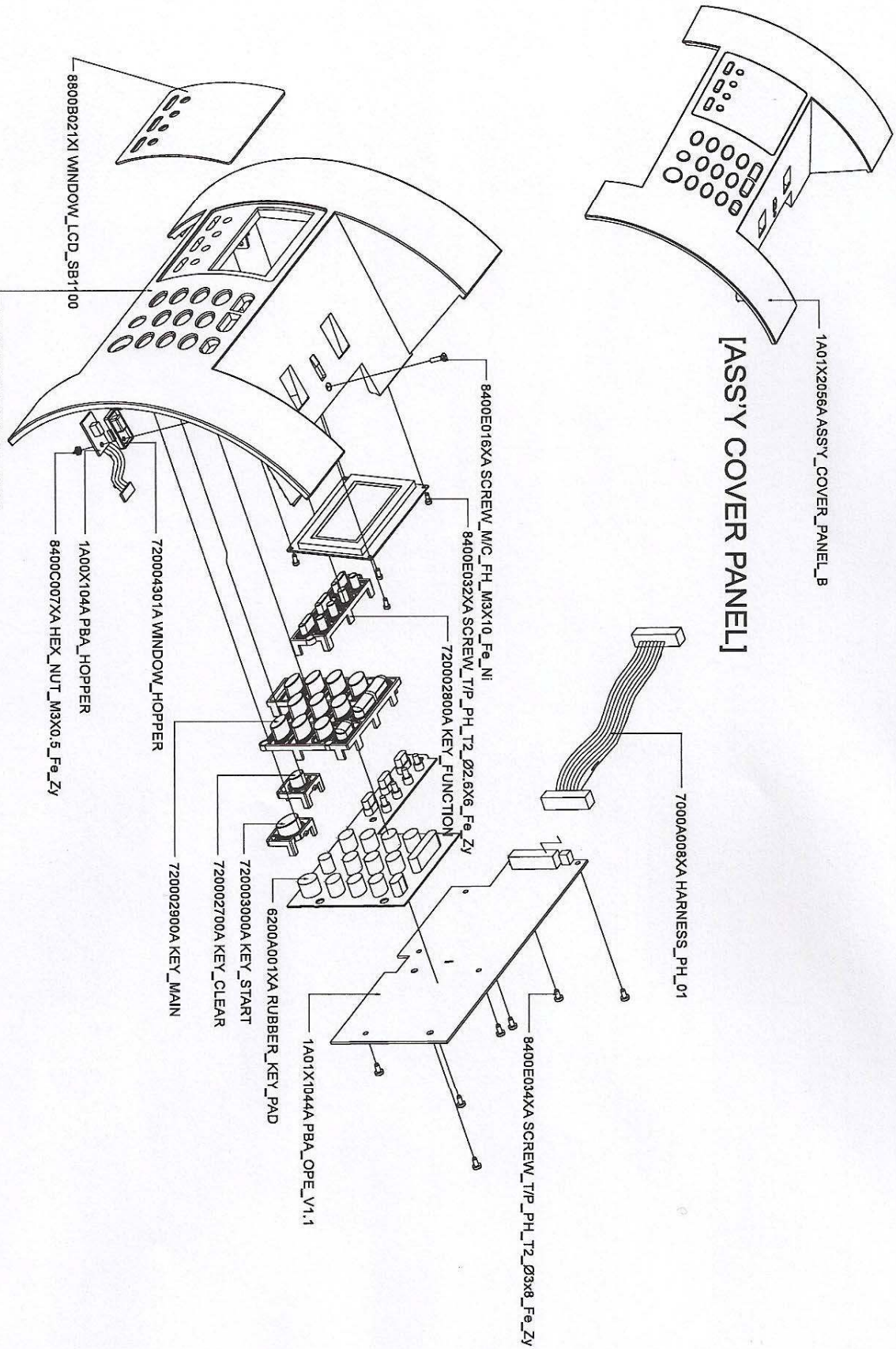
12 Assembly Drawings

1. Top Level
2. Ass'y Cover Panel
3. Ass'y Upper and Lower Body
4. Ass'y Rear Plate
5. Ass'y Lower Body
6. Ass'y Lower Body Sub1
7. Ass'y Lower Body Sub2
8. Ass'y Lower Body Sub3
9. Ass'y Upper Body 1
10. Ass'y Upper Body 2
11. Ass'y Upper Body 3
12. Ass'y Lower Body Sub 1
13. Ass'y Lower Body Sub 2

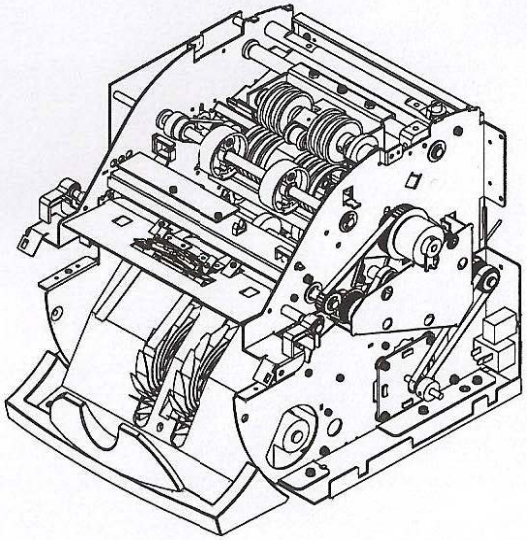
TOP LEVEL

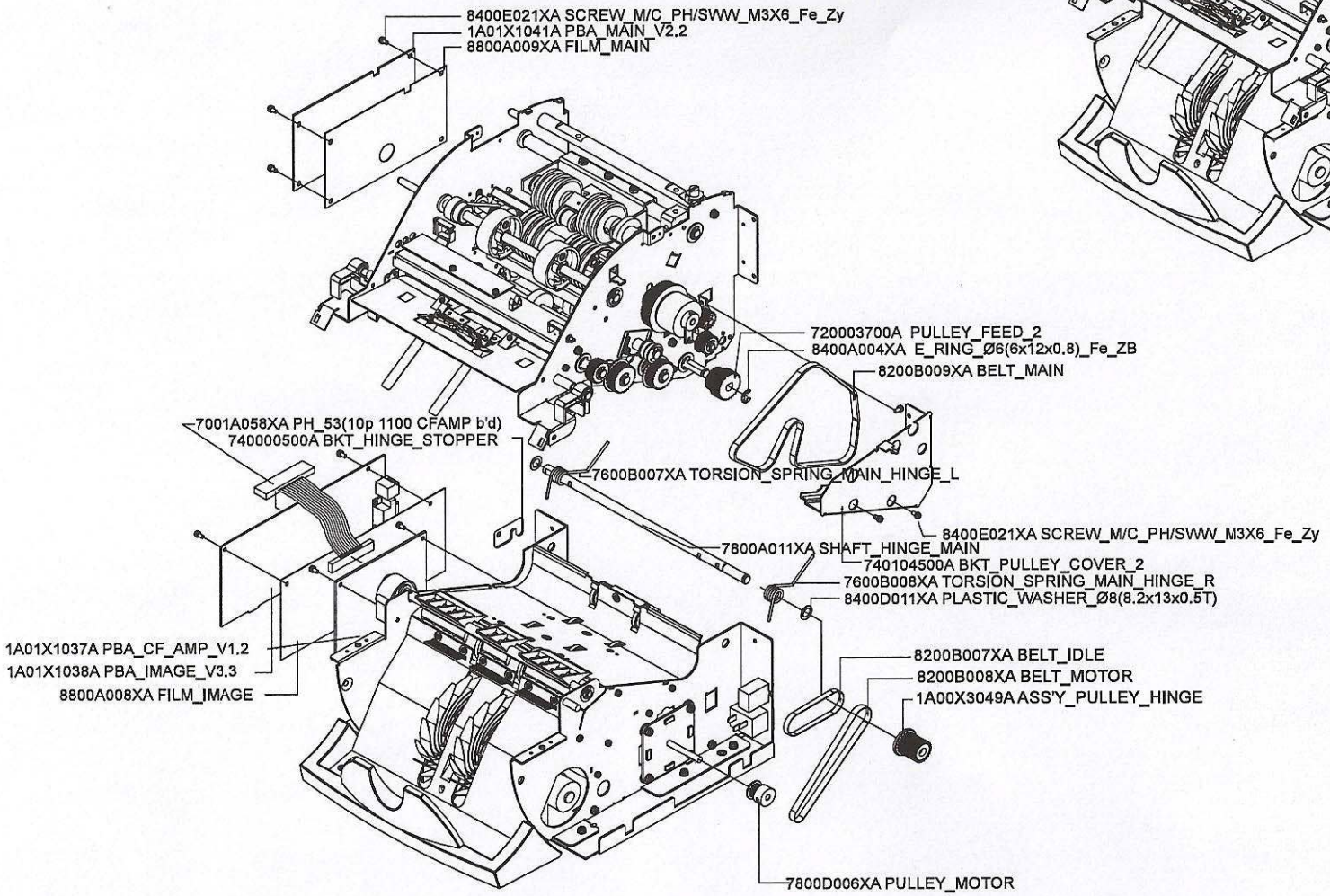

720004300A TRAY_BILL_IN_GUIDE
720001100A COVER_TOP
720001400A GUIDE_BILL_L
720001300A GEAR_BILL_GUIDE
8400D009XA PAPER_WASHER
8400E033XA SCREW_T/P_PH_T2_Ø3X6_Fe_Zy
720001500A GUIDE_BILL_R
[ASS'Y COVER TOP]
8400E031XA SCREW_T/P_FH_M4x10_Fe_Ni
720000700A COVER_SIDE_LOWER_L
8400E026XA SCREW_M/C_RH_M4x6_Fe_Ni
8400E021XA SCREW_M/C_PH/SWW_M3X6_Fe_Zy
720001200A COVER_TOP_ENTRANCE
1A00X205A ASS'Y_COVER_TOP
8400E026XA SCREW_M/C_RH_M4x6_Fe_Ni
7800F022XA SPECIAL_SCREW_UPPER
8400E021XA SCREW_M/C_PH/SWW_M3X6_Fe_Zy
8400E033XA SCREW_T/P_PH_T2_Φ3X6_Fe_Zy
720000600A COVER_REAR_UPPER
8400E026XA SCREW_M/C_RH_M4x6_Fe_Ni
720000900A COVER_SIDE_UPPER_L
720003100A KNOB_OPEN_HOOK
8400E021XA SCREW_M/C_PH/SWW_M3X6_Fe_Zy
1A00X2025A ASS'Y_POCKET_UPPER
8400E027XA SCREW_M/C_RH_M4x8_Fe_Ni
1A01X2056A ASS'Y_COVER_PANEL_B
8400E026XA SCREW_M/C_RH_M4x6_Fe_Ni
720000500A COVER_REAR_LOWER
8400E026XA SCREW_M/C_RH_M4x6_Fe_Ni
720001000A COVER_SIDE_UPPER_R
720003100A KNOB_OPEN_HOOK
8400E033XA SCREW_T/P_PH_T2_Ø3x6_Fe_Zy
8400E031XA SCREW_T/P_FH_M4x10_Fe_Ni
720000800A COVER_SIDE_LOWER_R
8400E026XA SCREW_M/C_RH_M4x6_Fe_Ni

Ass'y Cover Panel

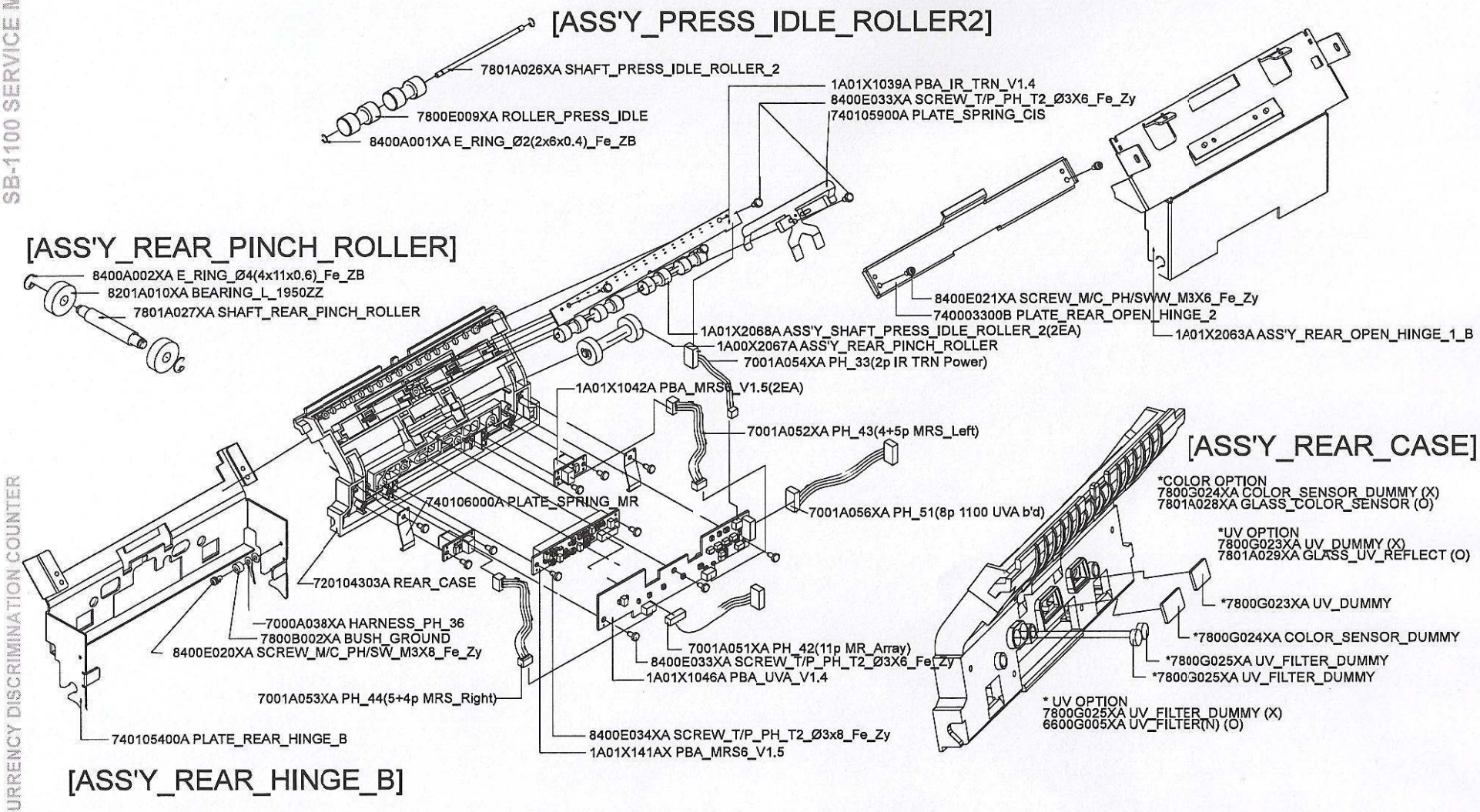


Ass'y Upper and Lower Body



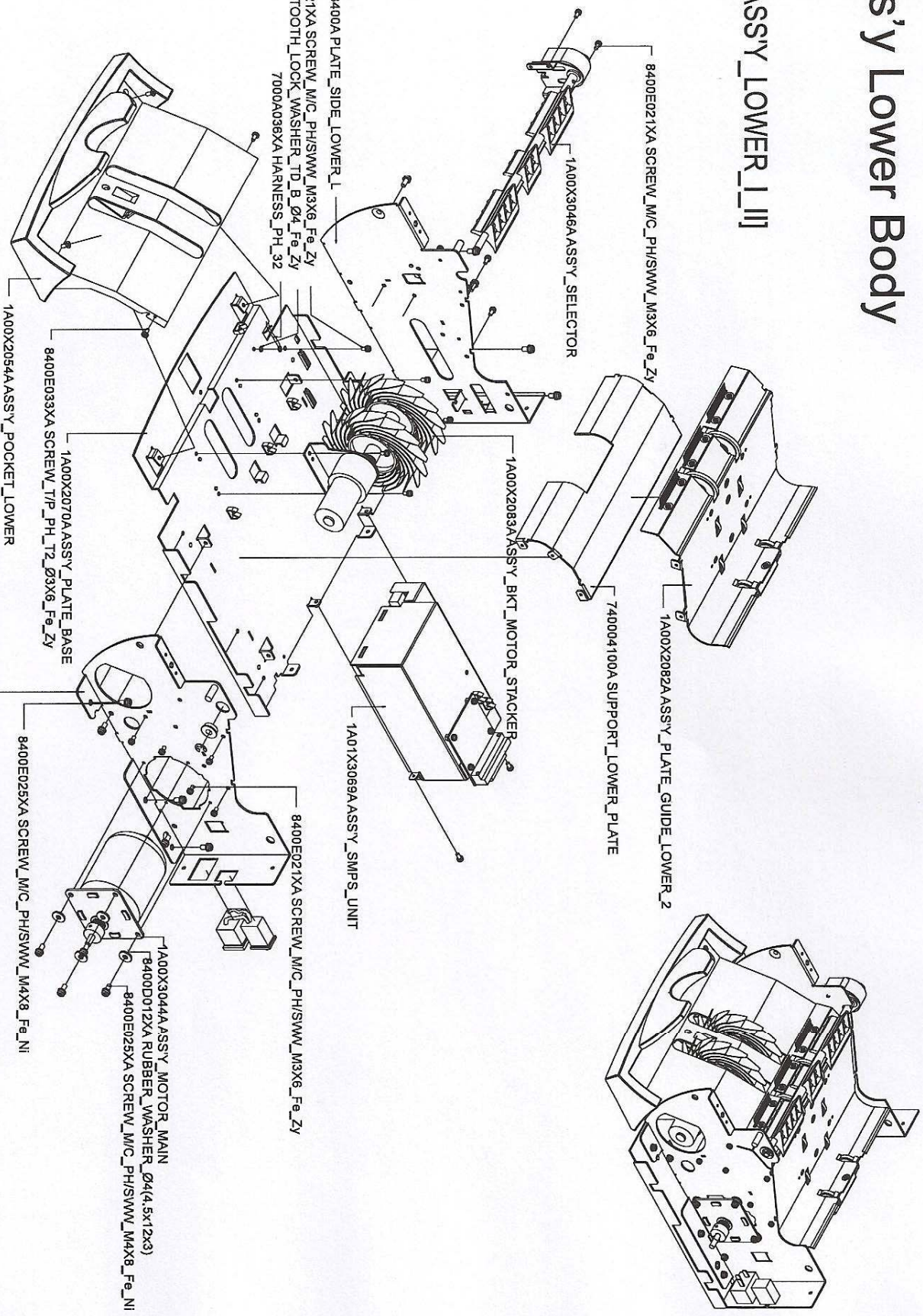


Ass'y Rear Plate

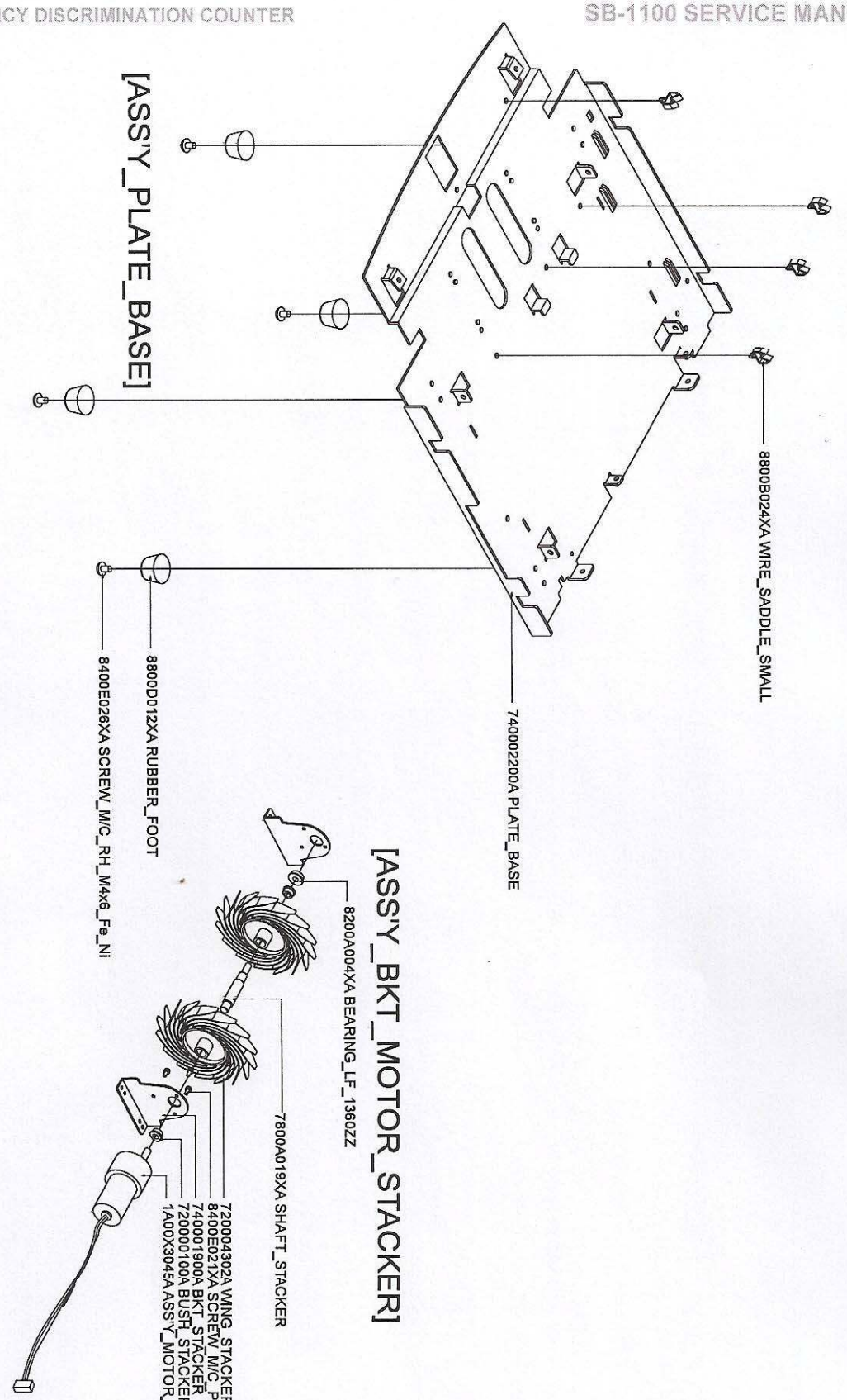


Ass'y Lower Body

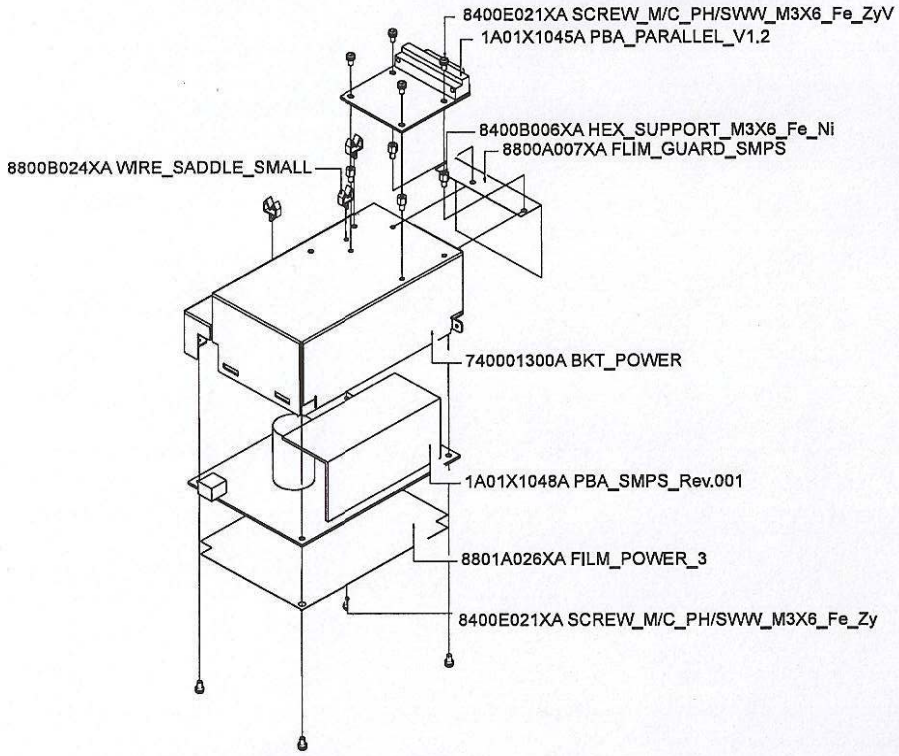
[ASS'Y_LOWER_I_II]



Ass'y Lower Body Sub 1

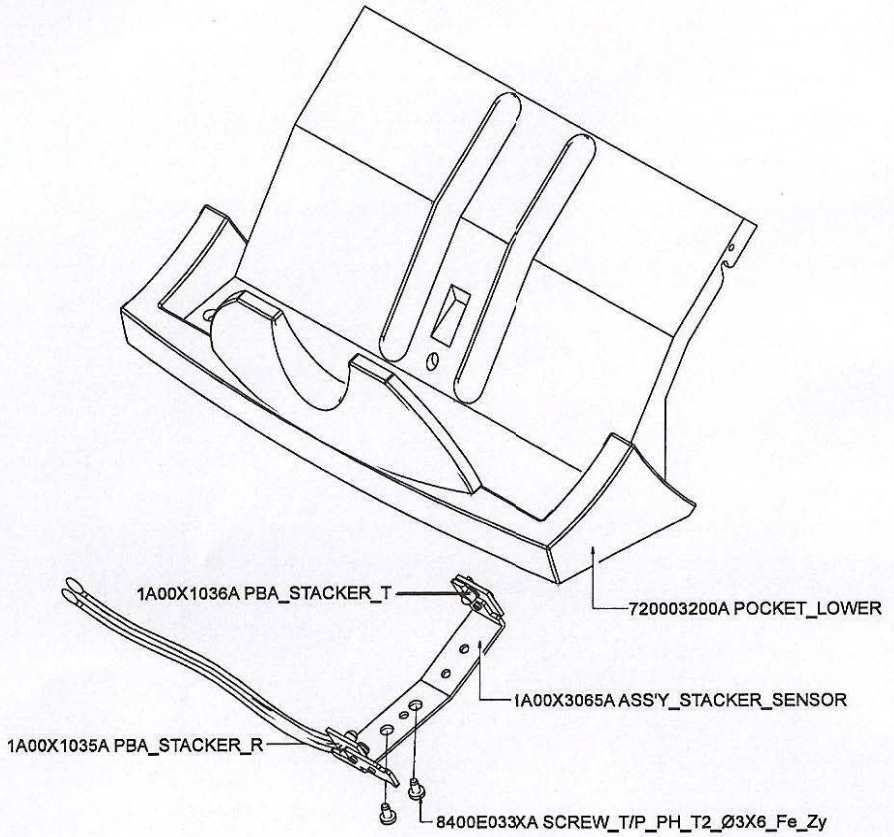


Ass'y Lower Body Sub 2



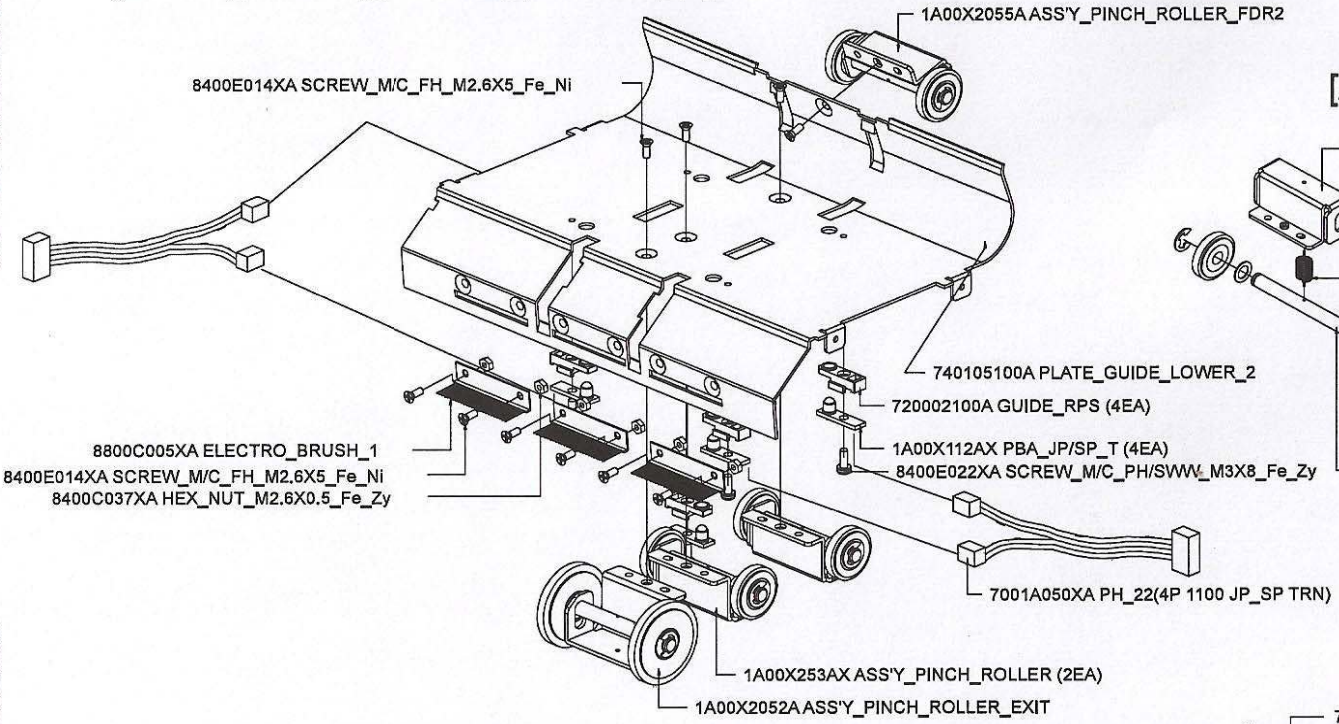
[ASS'Y_SMPS_UNIT]

[ASS'Y_POCKET_LOWER]

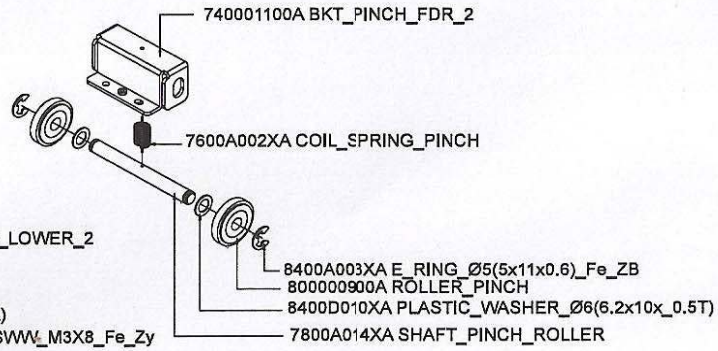


Ass'y Lower Body Sub 3

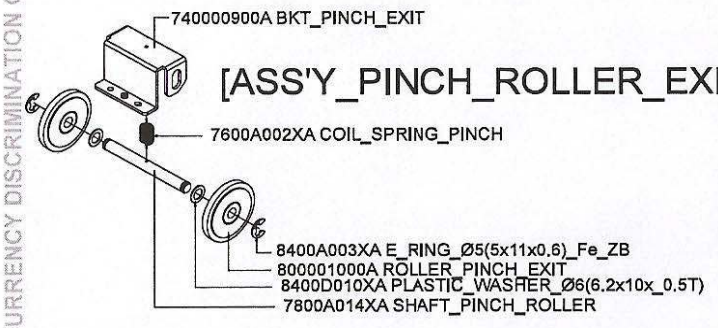
[ASS'Y_PLATE_GUIDE_LOWER_2]



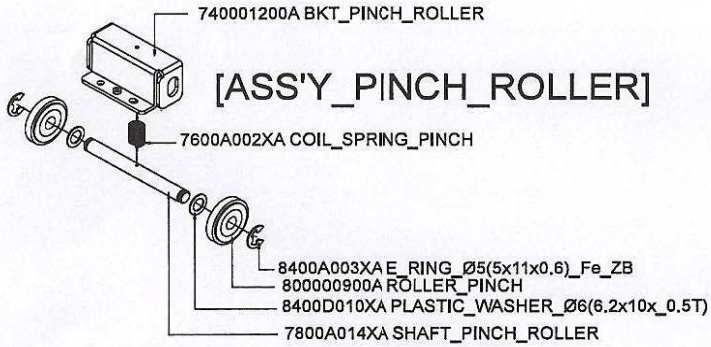
[ASS'Y_PINCH_ROLLER_FDR2]



[ASS'Y_PINCH_ROLLER_EXIT]

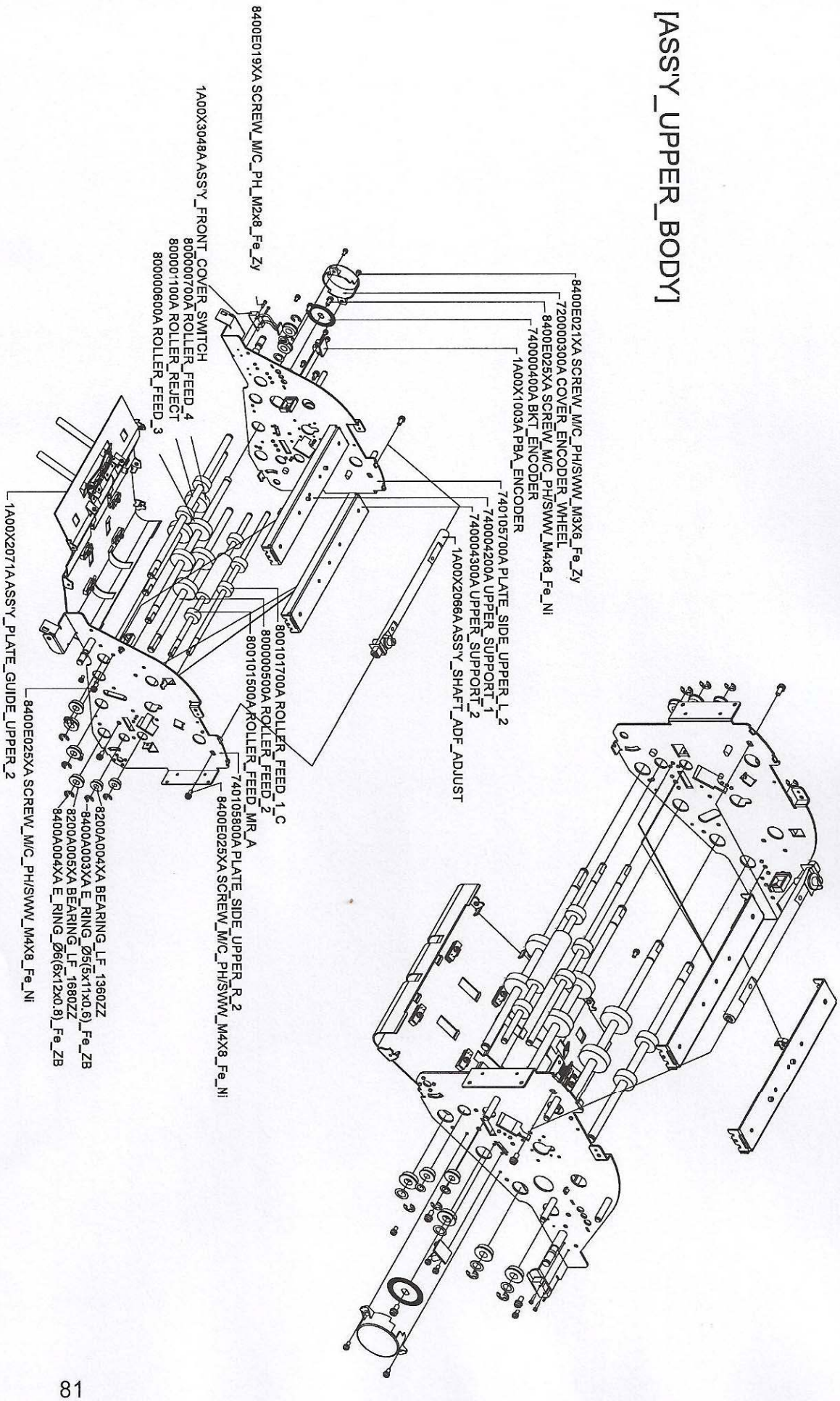


[ASS'Y_PINCH_ROLLER]

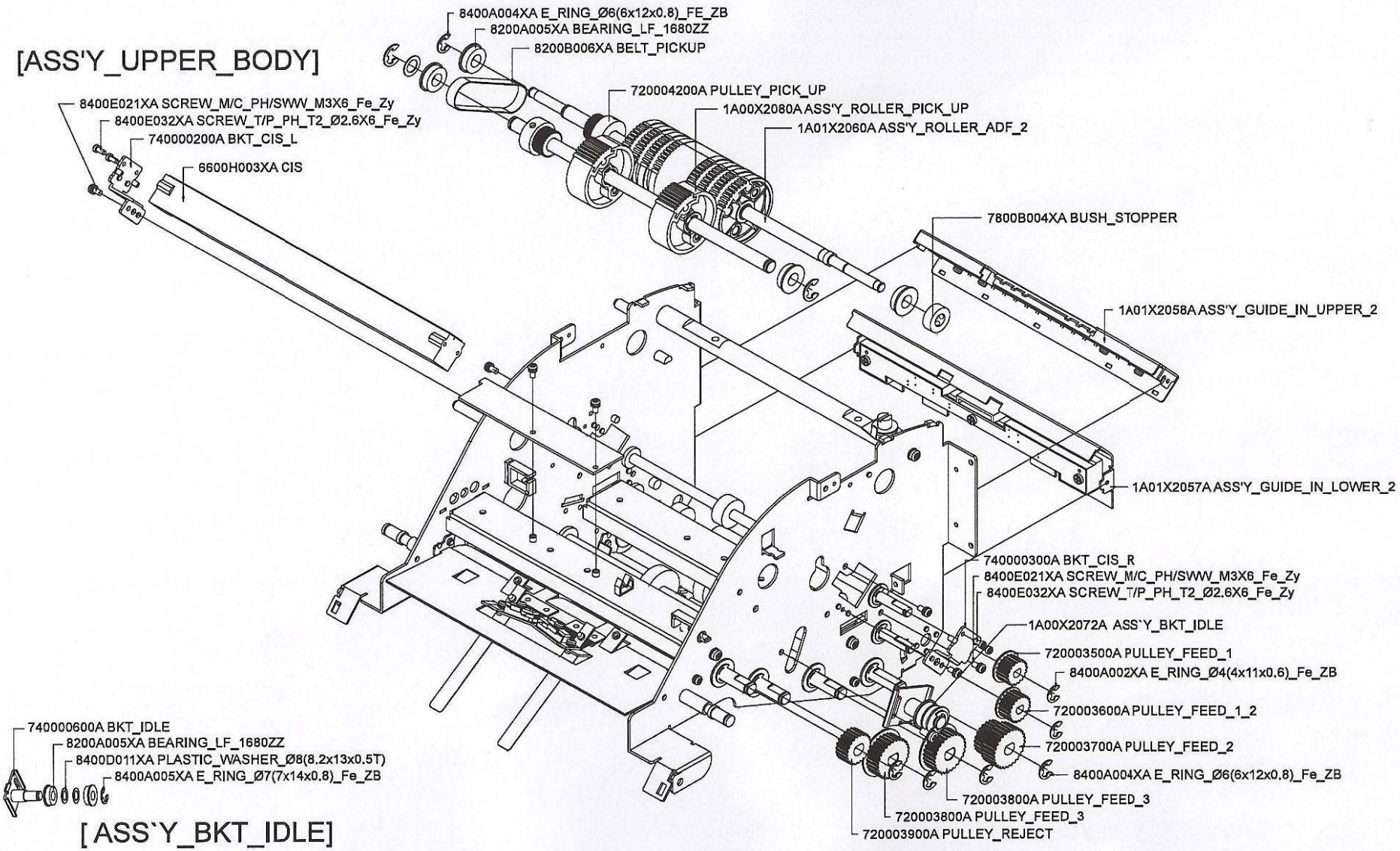


Ass'y Upper Body 1

[ASS'Y_UPPER_BODY]

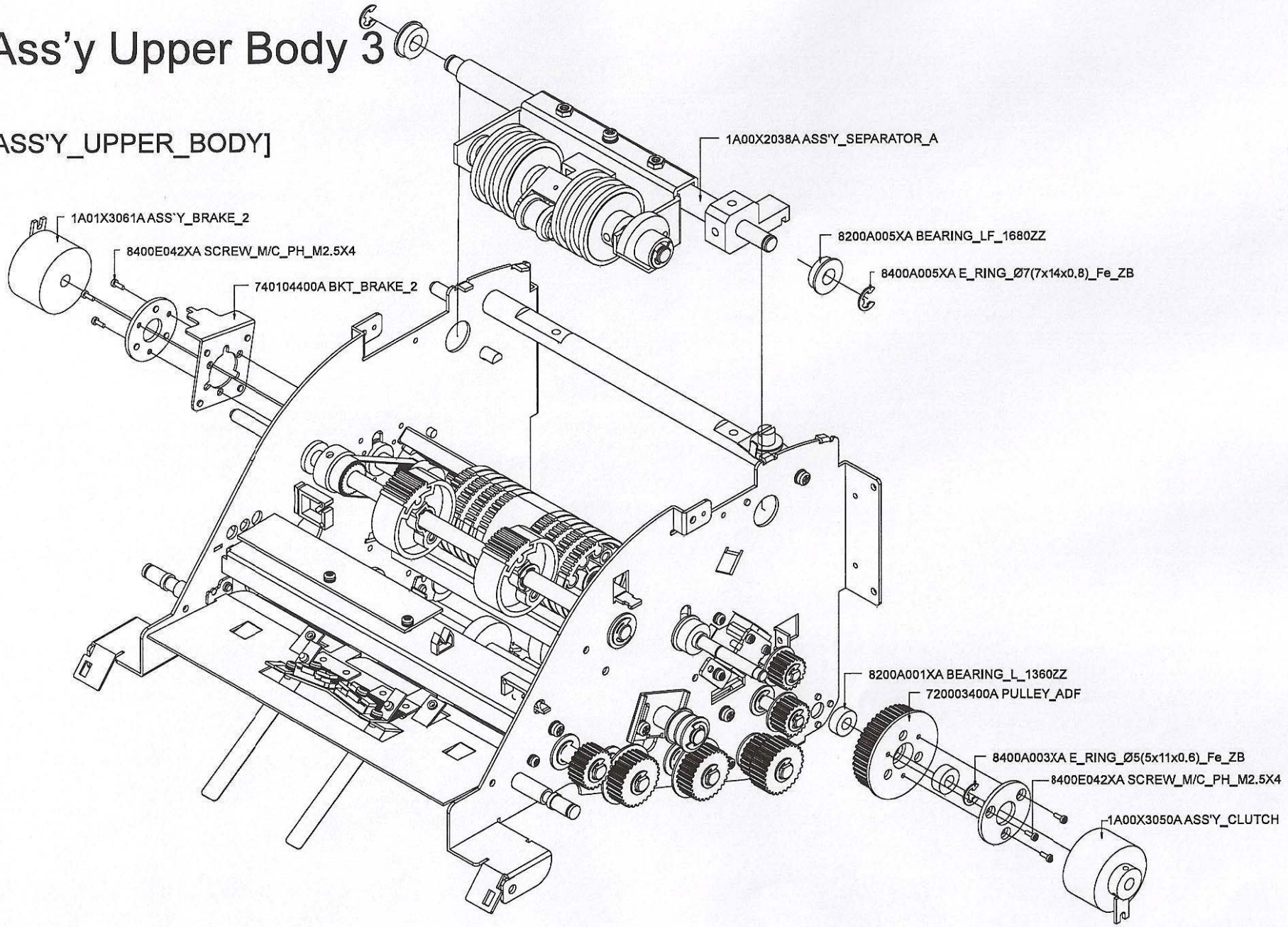


Ass'y Upper Body 2



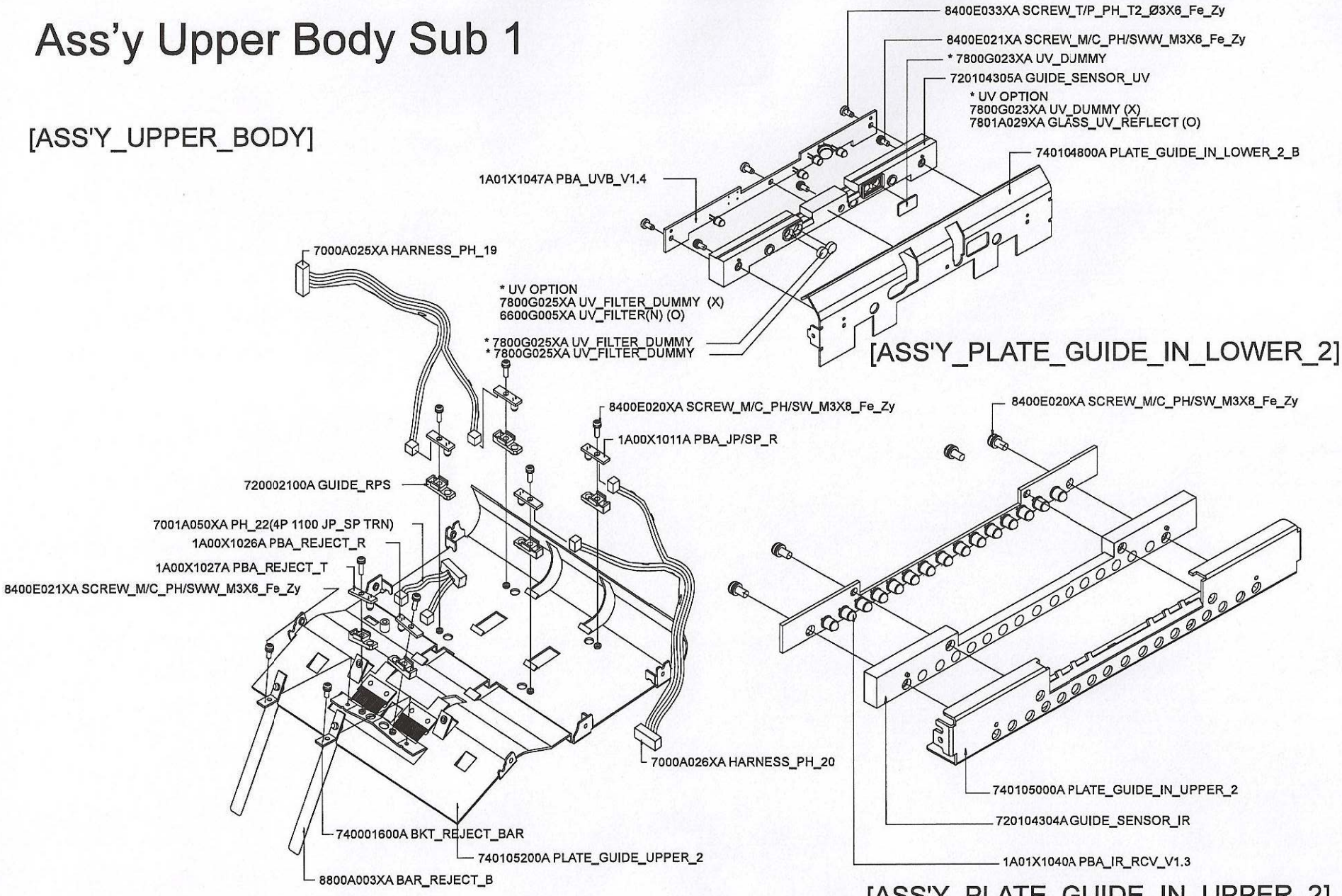
Ass'y Upper Body 3

[ASS'Y_UPPER_BODY]

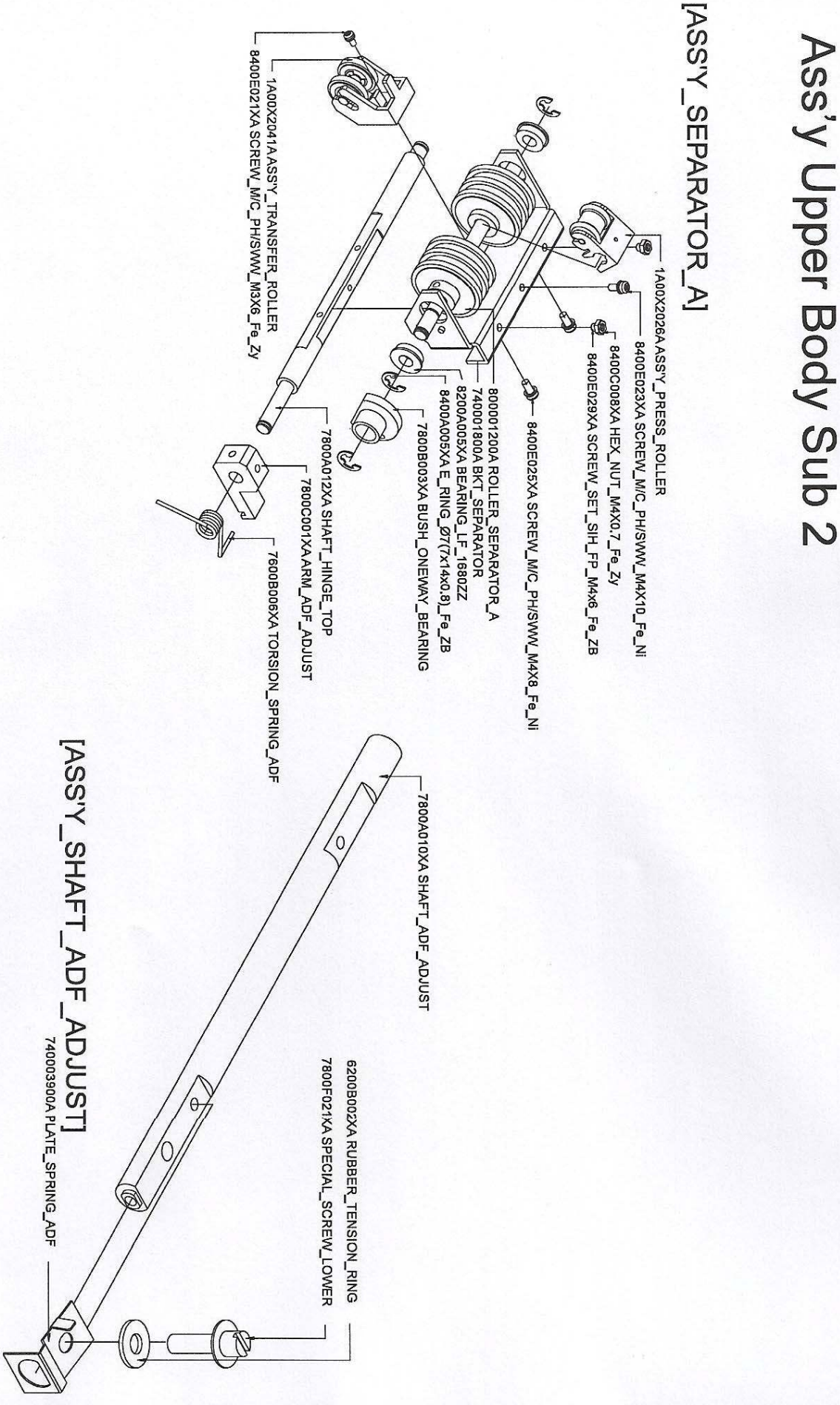


Ass'y Upper Body Sub 1

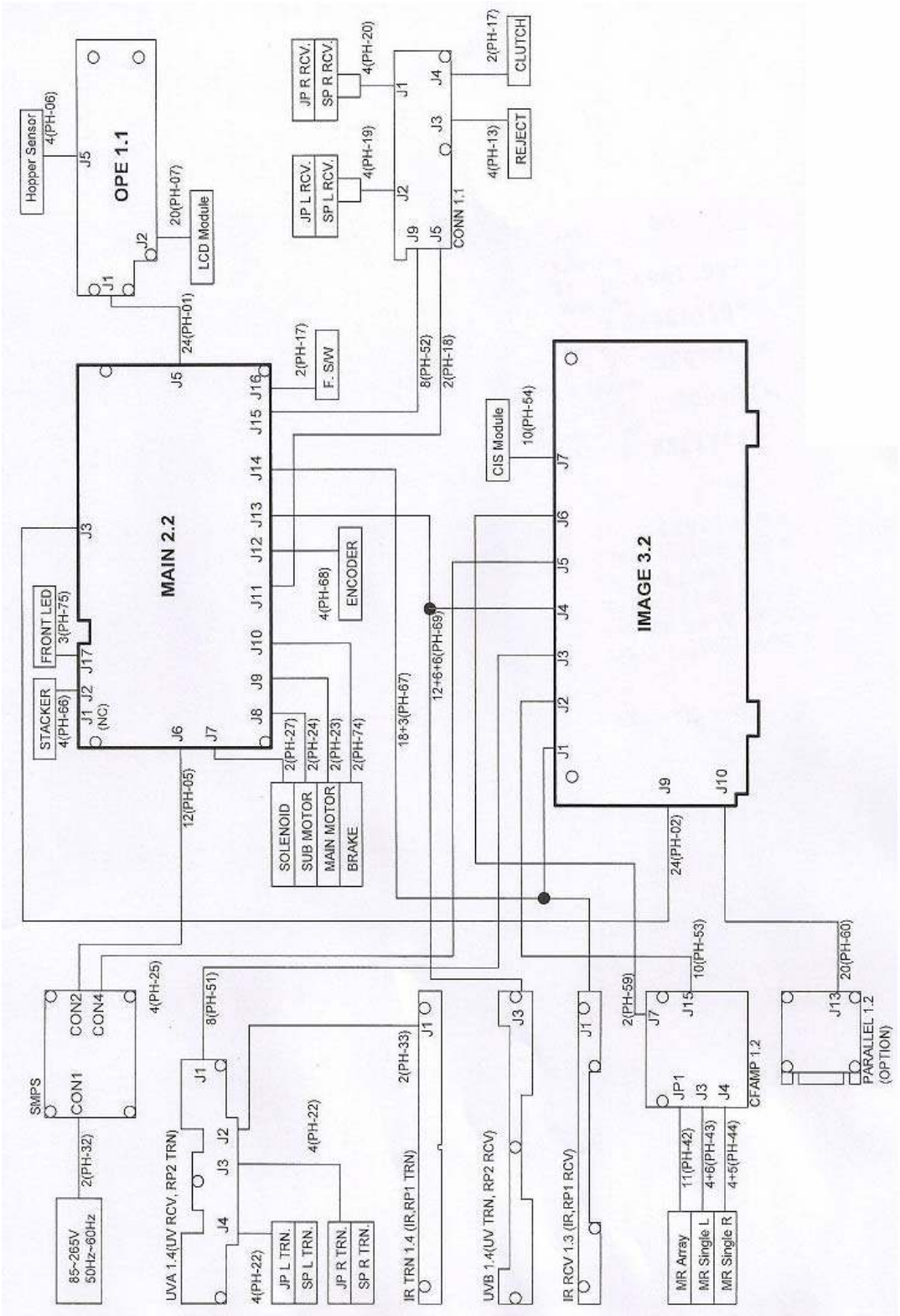
[ASS'Y_UPPER_BODY]



Ass'y Upper Body Sub 2



13 Connection Diagram



14 Specification

Item	Unit	Specification
Size (W x D x H)	mm	312[W] x 321[D] x 289[H]
Weight	Kg	Approx. 12
Hopper capacity	Notes	300
Stacker capacity	Notes	200
Reject pocket capacity	Notes	Max. 100
Display Type	Dot	128 x 64 Graphic LCD
Connectivity interfaces		2 RS232C Port (9 Pin D-SUB and Modular Jack) (OPTION : 25pin ECP/EPP Parallel Port)
Currencies available		1 (Available up to 5 currencies)
Banknote size range	mm	W: 100 ~ 185, H: 60 ~ 90
Banknote thickness range	mm	0.08 ~ 0.12
Counting Speed	Notes/min	800/1000/1200 (SRL OPTION : 400)
Discrimination Mode		Single/Face/Orient/Mixed Mode (OPTION : Issue/Dispense)
Preset Batch Number		1 – 200
Counterfeit Detection		UV/MG/IR (Option)
Power Requirements		100-240VAC, 50~60Hz
Power Consumption	W	Standby: 13, Operation: 70
Operational requirements		5~40deg/30~70%RH (No Condense)

Notes:

-This machine can be changed without further notice to improve its reliability, function or design.

-The contents of this manual can also be changed without notice.