

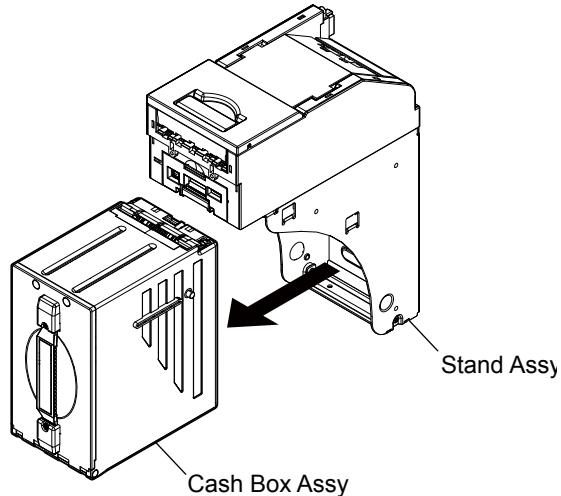
## 3-6. Cash Box

**Note** Figures in this section are those of the 500-bill Cash Box. Disassemble the 1000-bill Cash Box in the same manner as the 500-bill Cash Box.

### 3-6-1. Cash Box Assy

#### Removal

- 1) Pull the Handle to take out the Cash Box Assy from the Stand Assy.



#### Installation

- 2) Push in the Cash Box Assy to the Stand Assy it mechanically locks.

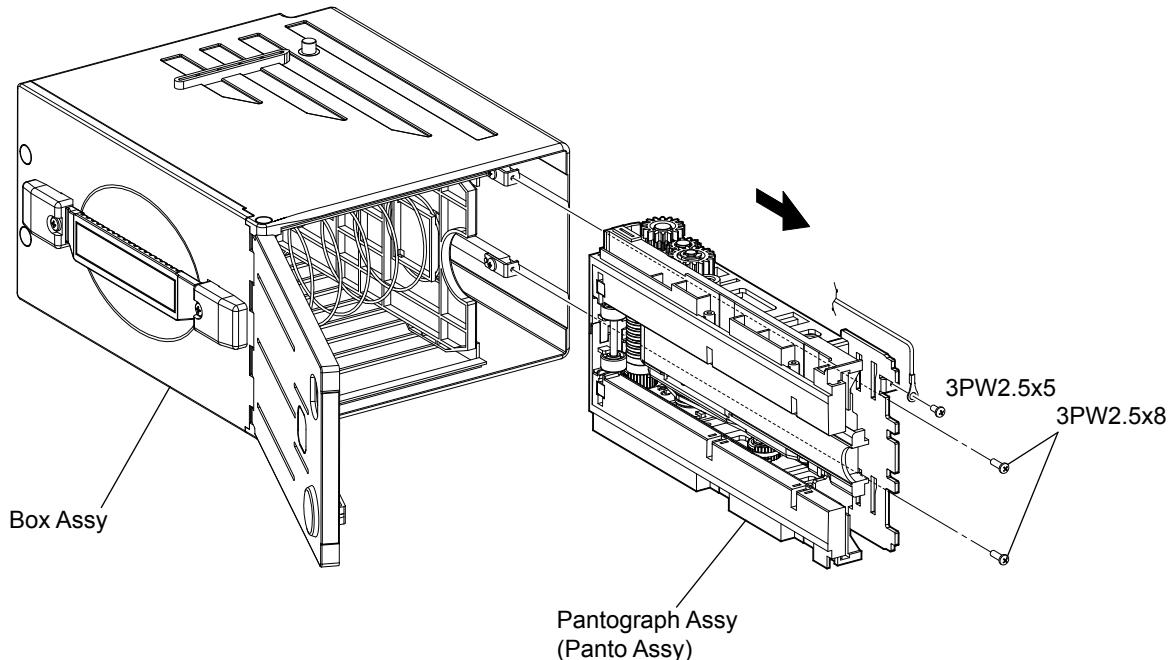
### 3-6-2. Panto Assy

#### Preparation

- 1) Draw out the Cash Box Assy. Refer to "3-6-1. Cash Box Assy".

#### Removal

- 2) Turn the Cash Box side face down.
- 3) Open the lid of the box.
- 4) Unscrew three screws.
- 5) Pull out (or push out from the back) the Panto Assy.



#### Installation

- 6) Blow out paper fiber and other debris in the box using compressed air.
- 7) Apply oil to the cogs of gears (each three for left and right) when replacing the Panto Assy with a new one.
- 8) Install the removed parts in the reverse order of removal.

### 3-6-3. Push Plate

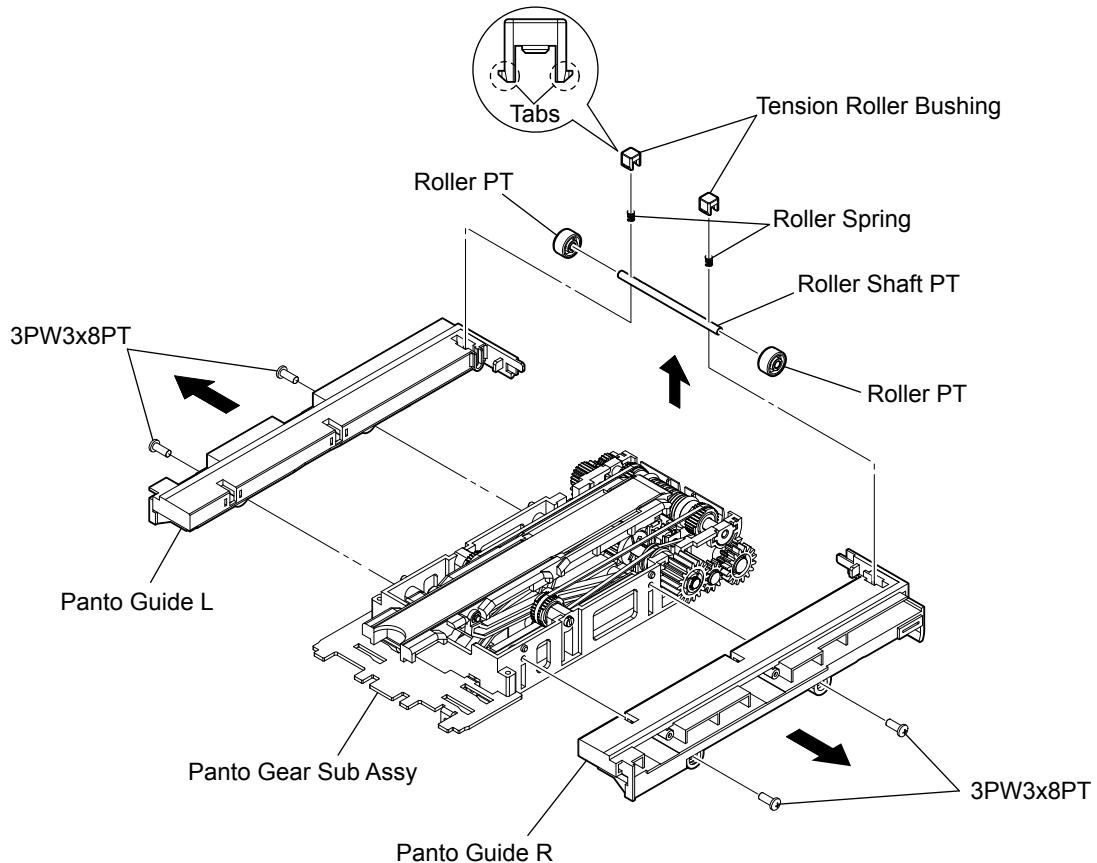
#### Preparation

- 1) Remove the following parts.

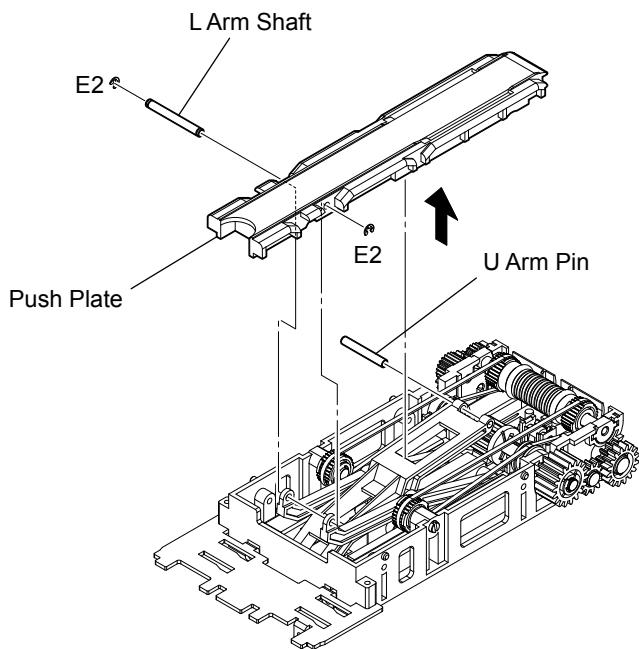
Cash Box Assy: Refer to “3-6-1. Cash Box Assy”.  
 Panto Assy: Refer to “3-6-2. Panto Assy”.

#### Removal

- 2) Pry the two Tension Roller Bushings together with the Roller Spring, and then take out the Roller Shaft PT with two Roller PTs.
- 3) Unscrew four screws, and then remove the Panto Guides L and R.  
 Tightening torque for installation: 0.29 N·m (3.0 kgf·cm)



- 4) Remove the E Ring, and then pull out the L Arm Shaft.  
Take out the Push Plate.
- 5) Pull out the U Arm Pin from the Panto Assy.

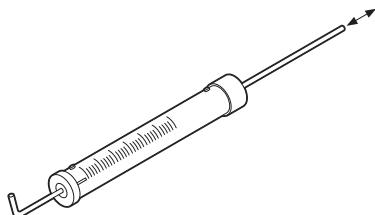


### 3-6-4. Timing Belts

#### Preparation

- When replacing the Timing Belt with a new one, prepare the two tension gauges specified below in advance.

30 g full scale



- Remove the following parts.

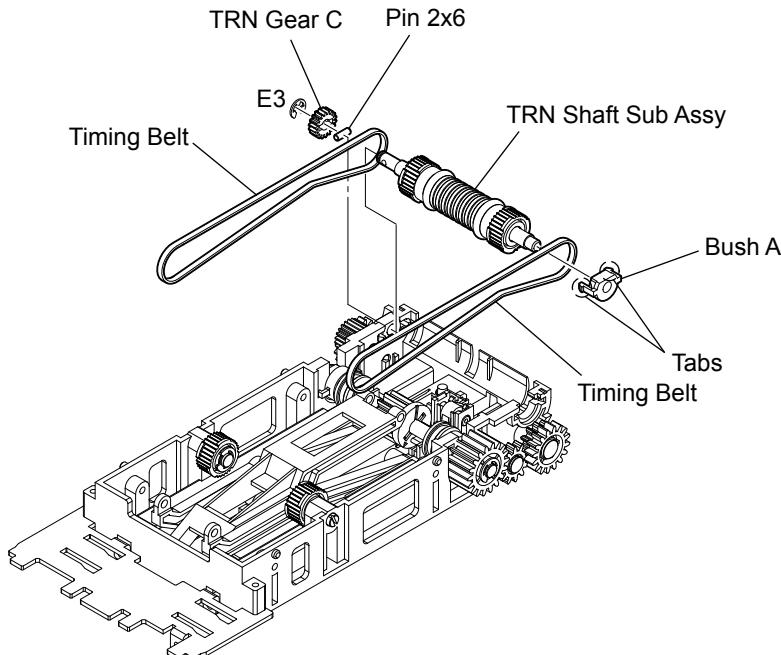
Cash Box Assy: Refer to "3-6-1. Cash Box Assy".

Panto Assy: Refer to "3-6-2. Panto Assy".

Push Plate: Refer to "3-6-3. Push Plate".

#### Removal

- Remove the E Ring, and then remove the TRN Gear C and the Pin 2x6.
- Release the tabs of the Bush A, and then push the Bush A towards outside.
- Remove the end of the TRN Shaft Sub Assy from the Bush A, and then remove the TRN Shaft Sub Assy from the bush of the other end.
- Remove the two Timing Belts.

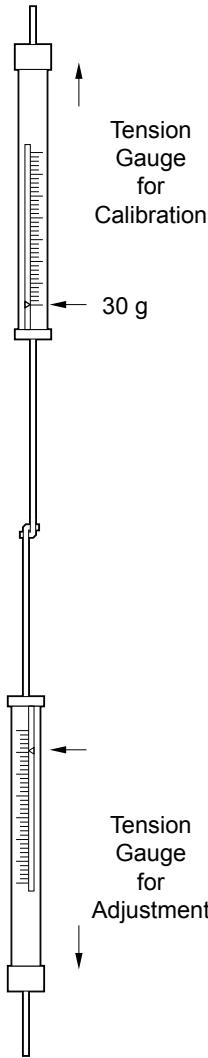


## Installation

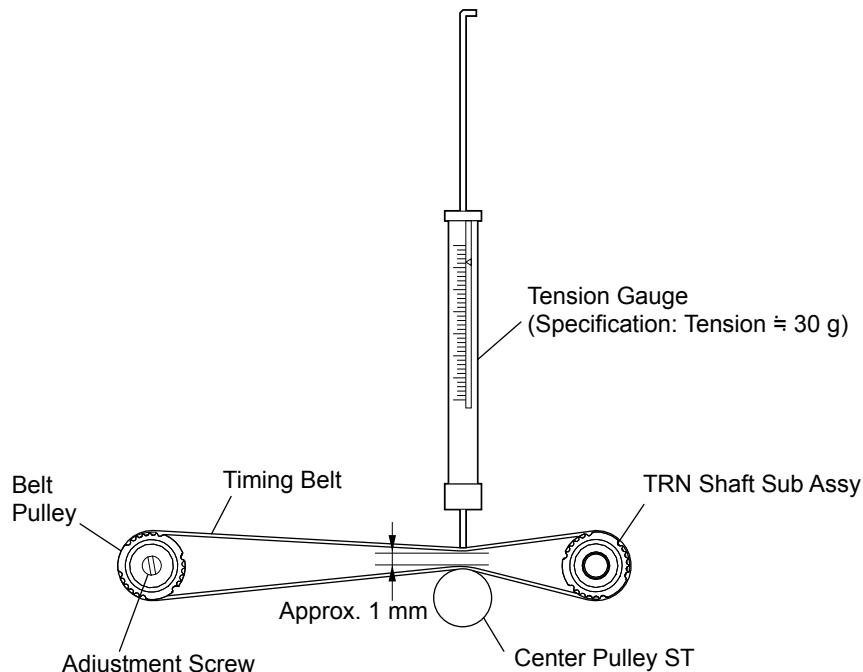
- 7) Apply oil to the outer surface of the Timing Belt, and then wipe gently with a dry cloth when replacing the Timing Belt with a new one.
- 8) Wrap the TRN Shaft Sub Assy in the Timing Belts, and then attach them in the reverse order of removal.

## Adjustment: Belt Tension

**Note** When having replaced the belt with a new one, perform the adjustment.



- 9) Calibrate the tension gauge to apply 30 g to the belt as follows. Join the two tension gauges vertically as shown left. Pull away them vertically so that the reading of the upper tension gauge is 30 g. The reading, 26 g for example, of the lower tension gauge at this time is 30 g force including the mass of the tension gauge rod. Consider the reading as 30 g at the tension adjustment in the next step.
- 10) Press vertically the Timing Belt with the rod of the tension gauge, which is the lower one at the calibration described above, so that the clearance between inner surfaces of the belt is approx. 1 mm. Check that the tension satisfies the specification shown in the figure.



- 11) Turn the adjustment screw with a flathead screwdriver to adjust the tension.
  - To strengthen: Turn the adjustment screw clockwise.
  - To weaken: Turn the adjustment screw counterclockwise.
- 12) Adjust another Timing Belt in the same manner.

### 3-6-5. Center Pulley ST and Rack Gear

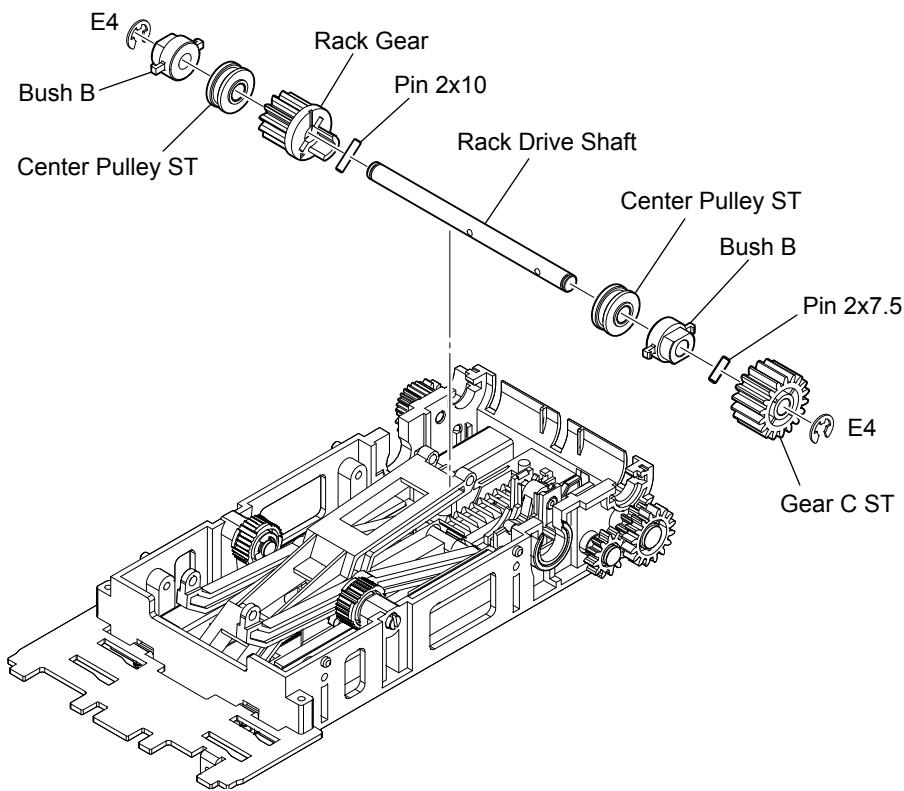
#### Preparation

- 1) Remove the following parts.

Cash Box Assy:	Refer to "3-6-1. Cash Box Assy".
Panto Assy:	Refer to "3-6-2. Panto Assy".
Push Plate:	Refer to "3-6-3. Push Plate".
Timing Belts:	Refer to "3-6-4. Timing Belts".

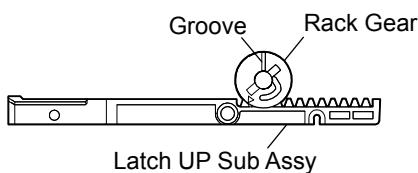
#### Removal

- 2) Remove the E Ring from the Rack Drive Shaft, and then remove the Gear C ST and the Pin 2x7.5.
- 3) Remove the E Ring from the other end of the Rack Drive Shaft, and then remove the Pin 2x10.
- 4) Draw out the Rack Drive Shaft, and then take out two ST Center Pulley STs, the Rack Gear, and two Bush Bs.



#### Installation

- 5) Install the removed parts in the reverse order of removal, while taking care of the direction of the Rack Gear as below. The groove of the Rack Gear is in the vertical position to the Latch UP Sub Assy when the pantograph is put down.



- 6) Apply grease to the cogs of the Rack Gear and the Gear C ST when replacing them with a new one.

### 3-6-6. Latch UP Sub Assy

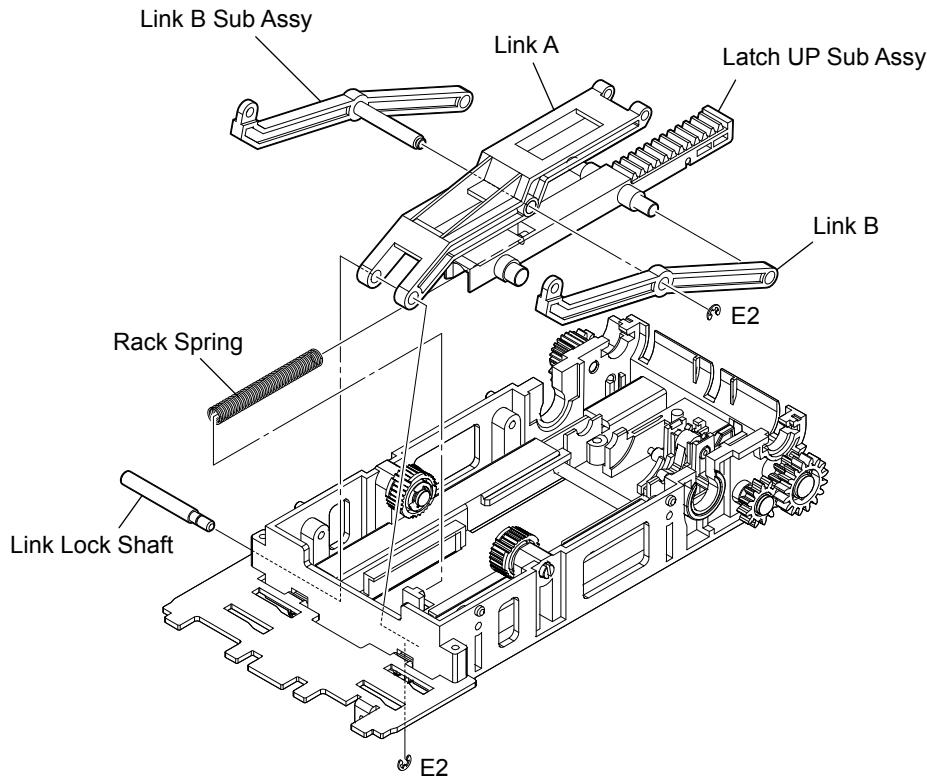
#### Preparation

1) Remove the following parts.

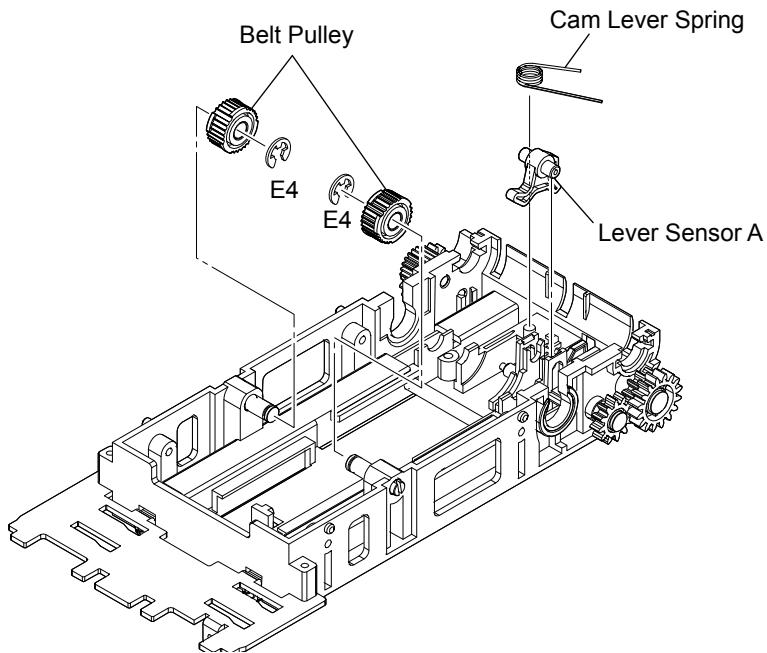
Cash Box Assy: Refer to "3-6-1. Cash Box Assy".  
 Panto Assy: Refer to "3-6-2. Panto Assy".  
 Push Plate: Refer to "3-6-3. Push Plate".  
 Timing Belts: Refer to "3-6-4. Timing Belts".  
 Center Pulley ST and Rack Gear:  
 Refer to "3-6-5. Center Pulley ST and Rack Gear".

#### Removal

- 2) Remove the E Ring from the Link Lock Shaft, and then draw out the Link Lock Shaft.
- 3) Take out the Rack Spring.
- 4) Take out the Link Sub Assy that consists of Link A, Link B, and Link B Sub Assy, and Latch UP Sub Assy.
- 5) Remove the E Ring from the Link B Sub Assy. The Link Sub Assy is disassembled to Link A, Link B, Link B Sub Assy, and Latch UP Sub Assy.



- 6) Remove two E Rings to remove two Belt Pulleys.
- 7) Remove the Cam Lever Spring.
- 8) Take out the Lever Sensor A while pushing the both supports to outside.



### 3-6-7. Stack Plate

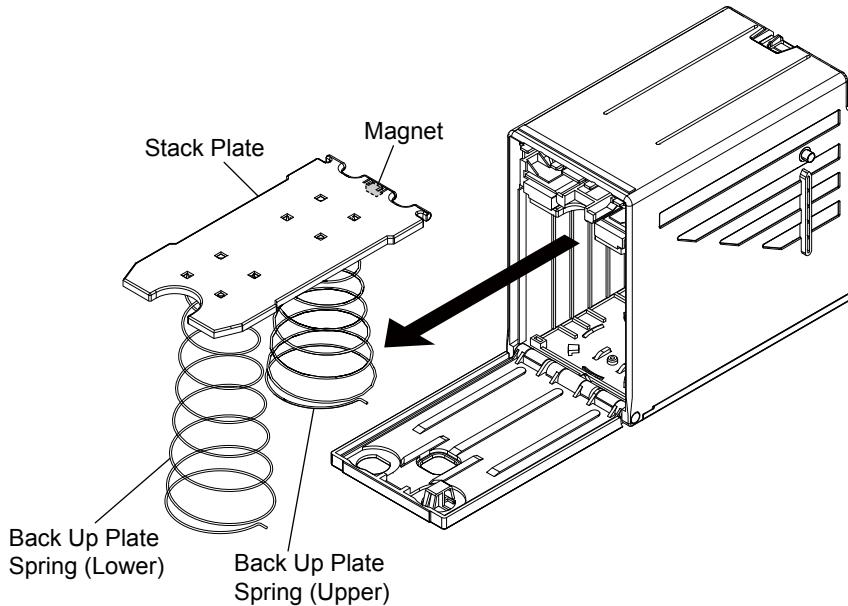
#### Preparation

- 1) Remove the following parts.

Cash Box Assy: Refer to "3-6-1. Cash Box Assy".  
Panto Assy: Refer to "3-6-2. Panto Assy".

#### Removal

- 2) Turn the Handle side of the box down and open the lid.
- 3) Remove the Back Up Plate Spring (Lower), and then the Back Up Plate Spring (Upper) from the Box Assy.  
The end of the spring to be removed is hooked to four claws of the Box Assy.
- 4) Take out the Stack Plate together with springs.
- 5) If necessary, remove the Magnet for the Stacker-full Sensor pushing the two tabs outside.



### 3-6-8. RF Tag

**Note** The RF Tag is attached to the Cash Box only for the models with RF-tag function.

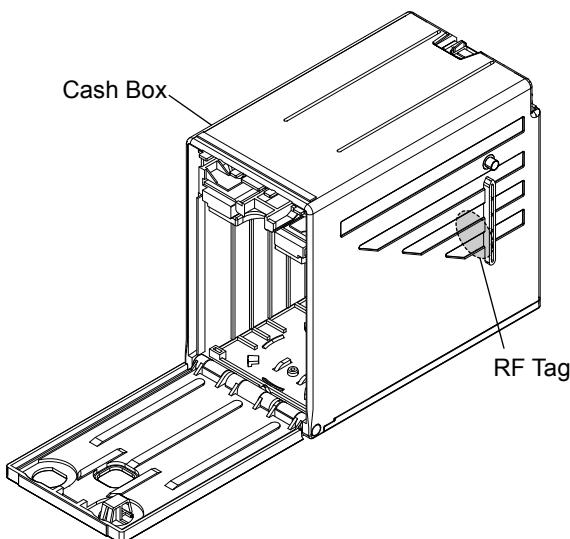
#### Preparation

- 1) Prepare a new RF Tag. The removed RF Tag cannot be used again because the RF Tag is destroyed by removal.
- 2) Remove the following parts.

Cash Box Assy:	Refer to "3-6-1. Cash Box Assy".
Panto Assy:	Refer to "3-6-2. Panto Assy".
Stack Plate:	Refer to "3-6-7. Stack Plate".

#### Removal

- 3) Tear off the RF Tag from the Cash Box.  
The RF Tag is bonded with double-face adhesive tape.



#### Installation

- 4) Bond a new RF Tag with double-face adhesive tape.

### 3-6-9. Handle

#### Preparation

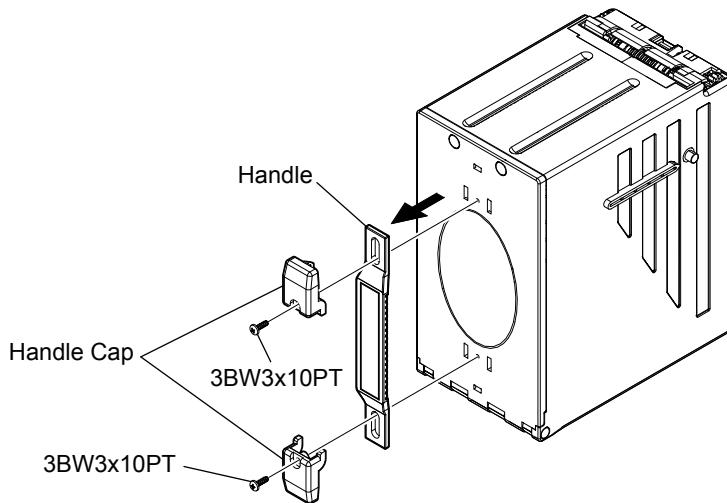
- 1) Prepare new two Handle Caps because the Handle Caps have to be destroyed to remove the Handle.
- 2) Remove the following parts.  
Cash Box Assy: Refer to "3-6-1. Cash Box Assy".

#### Removal

- 3) Unscrew the two screws from the two Handle Caps respectively.
- 4) Destroy and remove the two Handle Caps.
- 5) The Handle is removed.

#### Installation

- 6) Attach the Handle and the new two Handle Caps to the Cash Box as shown below.
- 7) Tighten the two screws.  
Tightening torque: 0.39 N·m (4.0 kgf·cm)



# Chapter 4

## ***Trouble Shooting and Performance Test***

## 4-1. Trouble Shooting

### Substance Problems

**Note** When the problem may be caused with motors or sensors, check not only them but also the followings.

Connections of their harnesses and connectors

Connectors for any bent, missing or damaged pins

If any problem is not found in motors, sensors, connections or connectors, doubt the failure of the MAIN PCB Assy.

Symptom	Possible Cause	Corrective Action
Unit is not working (does not take any bill).	No external power is supplied to the unit. (+12 V DC, GND)	Check that the +12 V DC and GND are connected to pin 1 and 2 of the Interface Connector respectively.
	Wrong/inappropriate connections	Check connections of all harnesses and connectors. Check for any bent, missing or damaged pins in the connectors.
	Corrupted software	Download the correct software. Refer to Chapter 5 for downloading.
	MAIN PCB Assy failure	Perform the initialization. Refer to "4-2-2. Normal Operation". If the test result is NG, replace the MAIN PCB Assy with a new one.
Bill jams often.	Foreign objects in the feeding path and in the Cash Box.	Remove the foreign objects.
	The parts in the feeding drive system or feeding path are dirty or damaged.	Clean the Timing Belts, Feeding Rollers, Pressure rollers, three Prism Sensors and three Prism Lenses. Replace them with a new one as necessary.
	Bearings for Feeding Roller are deteriorated.	Check the Feeding Rollers with your finger and replace their bearings as necessary.
	The springs on the Pressure rollers are inelastic.	Replace the spring on the Pressure roller with a new one.
	The Feeding Motor is in step-out.	Adjust the tension of the Timing Belts on the Lower Chassis Assy. Refer to "3-5-7. Timing Belts". Replace the Feeding Motor with a new one.
	The Timing Belts on the Lower Chassis slip.	Adjust the tension of the Timing Belts on the Lower Chassis Assy. Refer to "3-5-7. Timing Belts". Replace the Timing Belt with a new one.
	The Roller CL does not well operate.	Replace the Clamp Roller Assy with a new one.

<b>Symptom</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
Low acceptance rate	Dirt and stain on the CIS and/or CIS light source.	Clean the face glass of the CIS and CIS light source. Replace the CIS and/or CIS light source with a new one.
	The CIS and/or CIS light source has been replaced but not adjusted after it is replaced.	Perform the Blank paper correction. Refer to "(19) Blank Paper Correction" of "4-2-4. Test Mode".
	Wrong software or old version software is used.	Make sure if the programmed software is the latest version and it supports the bills you wish to be accepted.
	Bills are not accepted in this software.	Check the specifications, and make sure the bills are to be accepted in the software. (Check denomination/issuing year.)
	Refer to "Bill jams often." listed above.	
All bills are rejected	Wrong DIP switch settings	Set the DIP switch to the normal validation mode. Refer to "(23) Normal Validation (Stand-alone)" or "(24) Normal Validation (Host Communication)" of "4-2-4. Test Mode", and then turn on the power.
	Bill acceptance is inhibited by the command from the host machine.	Enable the bill acceptance by the command.
	Prism Sensors failure	Perform "(7) Bill and Upper Chassis Sensor Test" of "4-2-4. Test Mode" to identify the faulty sensor. Replace the sensor board or the Prism Lens corresponding to the test result.
	Wrong software (Different currency)	Download the correct software. Refer to Chapter 5.
	The bills are not to be accepted in the software.	Make sure the bills are included in the specifications of software.
Motor does not correctly operate.	Wrong DIP switch settings	Set the DIP switch to the normal validation mode. Refer to "(23) Normal Validation (Stand-alone)" or "(24) Normal Validation (Host Communication)" of "4-2-4. Test Mode", and then turn on the power.
	Perform "(18) Motor Test" of "4-2-4. Test Mode", and then carry out the test to check if the motor is correctly controlled with the MAIN PCB Assy.	
	Motor failure	Replace the motor with a new one.
Cannot read Bar-code.	Bar-code sensor is dirty or the window for the sensor is covered with foreign objects.	Clean the face of the Bar-code sensor and reject foreign objects from the window.
	Wrong adjustment (Bar-code sensor gain adjustment)	Perform the Bar-code sensor gain adjustment. Refer to "3-4-4. Others on Upper Chassis Assy".
	Wrong adjustment (Wrong Blank paper was used.)	Perform the above adjustment with the clean Blank paper.
	Bar-code sensor failure	Replace the Bar PCB Assy. Refer to "3-4-4. Others on Upper Chassis Assy".
	Refer to "Bill jams often." listed above.	

<b>Symptom</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
Cannot correctly detect that the Cash Box is full up.	RSW PCB Assy failure	Replace the RSW PCB Assy. Refer to "3-5-3. Reader-writer Module and RSW PCB Assys".
	RSW PCB Assy is installed in wrong position.	Reinstall the RSW PCB Assy. This board has two home positions according to the capacity of the Cash Box. Refer to "3-5-3. Reader-writer Module and RSW PCB Assys".
	Magnet failure or dropped	Replace or attach the Magnet to the Cash Box inside.
Vending and validation records are not stored to the RF Tag.	Wrong DIP switch settings	Set the DIP switch to the normal validation mode. Refer to "(23) Normal Validation (Stand-alone)" or "(24) Normal Validation (Host Communication)" of "4-2-4. Test Mode", and then turn on the power.
	An electromagnetic shield object adheres on the Cash Box.	Reject the electromagnetic shield object.
	Reader-writer Module failure	Replace the Reader-writer Module.
	No RF Tag	Attach the RF Tag to the Cash Box inside.
	RF Tag failure	Replace the RF Tag with a new one.
Cannot enter the test mode.	Wrong DIP switch settings	Check the DIP switch settings. Refer to "4-2-4. Test Mode". Set the DIP switch to the desired mode, and then turn on the power.
	MAIN PCB Assy failure	Replace the MAIN PCB Assy.

### Communication Problems

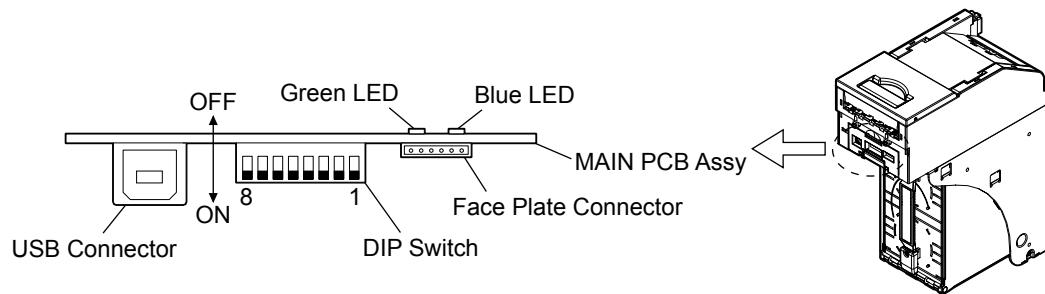
<b>Symptom</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
Cannot communicate with the host machine.	Wrong DIP switch setting	Set the DIP switch to the normal validation mode. Refer to "(24) Normal Validation (Host Communication)" of "4-2-4. Test Mode", and then turn on the power.
	Wrong or inappropriate connections	Check the connections between the unit and the Host machine. Check for any bent, missing or damaged pins in the connectors.
	MAIN PCB Assy failure	Replace the MAIN PCB Assy with a new one.

## 4-2. Diagnostic

This unit is equipped with diagnostic function to aid in repair and maintenance. This section describes the test procedure using the DIP switch and the error indication using LEDs to identify the cause of failure condition.

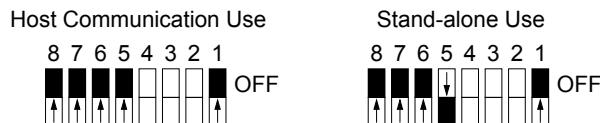
### 4-2-1. DIP Switch and LEDs

The location of the DIP switch and the LEDs are shown below.



The DIP switch is OFF when it is set to upper position.

Set the DIP switch as below according to the Stand-alone use or the Host Communication use for normal validation.



Select the Normal Validation Mode or the Test Mode by setting the DIP switch before turning on the power.

Some functions can be changed by changing the DIP switch setting after turning on the power.

The LEDs indicate the state of the unit, such as Initialization, normal validation mode, and errors. If an error occurs, the green LED flashes. Flashing times indicate the contents of the error.

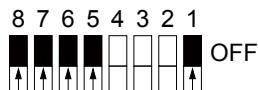
## 4-2-2. Normal Operation

### (1) Power-ON and Initialization

#### Host Communication Use

In the Host Communication use, the unit operates according to the communication commands from its upper host. For details, refer to "Universal Bill Validator Communication Specification".

Insert the Cash Box fully, close the Upper Chassis Assy, and never place any paper on the feeding path. Set the DIP switch as shown below (any of OFF/ON for the blank bits). Then turn on the power.

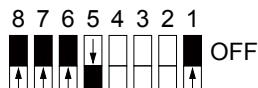


Just after the power is turned on, both green and blue LEDs light for a moment and go out. Then, the unit starts an initialization operation when receiving the RESET command from the host.

The unit remains in the RESET waiting state and the blue LED flashes until the unit receives the RESET command from the host.

#### Stand-alone Use

Insert the Cash Box fully, close the Upper Chassis Assy, and ensure that no paper is on the feeding path. Set the DIP switch as shown below (any of OFF/ON for the blank bits). Then turn on the power.



Just after the power is turned on, both green and blue LEDs light for a moment and go out. After operation of motors, the green LED lights to indicate the completion of initialization.

During the initialization operation, the followings are checked/tested.

Motor performance test

Check whether the Cash Box is filled with bills or not

Check of the RF Tag

When the power is turned on under the condition that the Cash Box is not properly set or the Upper Chassis Assy is opened, it is considered as an error and the green LED flashes. Reinstall the Cash Box fully and close the Upper Chassis Assy, the unit restarts itself automatically.

After the power is turned on, if the green and blue LEDs do not light on, check the following. After both LEDs go out, if the green LED does not light on, check the following.

Power connection

Error status

Then, turn on the power again.

## (2) Bill Validation

When the unit is ready to receive bills after completing initialization, the green LED lights. If bills are inserted into the unit at this time, the unit starts validating them.

In the Stand-alone use, bills validated as genuine ones are stored in the Cash Box. If some problems occur, such as validation errors, inserted bills are returned from the unit.

In the Host Communication use, the unit remains in the INHIBIT status after it completes initialization operations. Issue an INHIBIT CANCELLATION command to release the INHIBIT status. Also, use the ENABLE/DISABLE command to specify bills that the unit can accept.

When the unit validates inserted bills as genuine ones, it sends a message containing information about the denomination of the bills to the host with ESCROW status and waits for the STACK command. The unit finishes storing bills with the ACK command corresponding to the VEND VALID status.

If validation errors occur, inserted bills are automatically returned from the unit.

## (3) Causes of Bill Return

Major causes for the return of inserted bills are as follows:

- Validation errors  
As a result of bill validation, inserted bills are validated as counterfeit ones.
- Continuous insertion  
Other bills are inserted while the unit is validating bills.

If the unit detects the following cases while feeding bills, it promptly stops feeding bills and returns them.

- The timing when bills are fed to sensors is not normal.
- You do not let them go when you insert bills into the unit.
- Paper jam
- Abnormal length of inserted bills
- Overlapped bills
- Bills are crossly inserted to the unit due to the failure of skew corrections.
- Bills with folded corner or edge are inserted.

## (4) Result of Bill Validation

In the Stand-alone use, Bills validated as genuine ones are stored in the Cash Box.

In the Host Communication use, bills information (currency and denomination) is added at the ESCROW status.

### 4-2-3. Errors

If an error occurs, the green LED flashes to indicate an error status.

The flashing times indicate what error occurs. Verify the error status and remove the cause of the error.

In the Stand-alone use, the errors after the CHEATED ERROR in the description listed below can be reset with turning on the power again but cannot be reset with other method.

In the Host Communication use, the errors including those after the CHEATED ERROR can be reset with the RESET command. After the error (including automatic restoration errors) is reset, the unit remains in the INHIBIT status. Issue an INHIBIT CANCELLATION command to release the INHIBIT status and to reset the unit to be ready for receiving bills.

#### (1) Flashing once: STACKER FULL ERROR

The error occurs when the Cash Box is filled with bills.

- Unload the Cash Box, and retrieve bills from the Cash Box.
- When the Cash Box is unloaded, the unit goes to (2) STACKER REMOVED ERROR status.
- When the Cash Box from which no bills are retrieved is set, the unit goes to (1) STACKER FULL ERROR status again.
- When the empty Cash Box is set, the unit recovers from the error automatically.

#### (2) Flashing twice: STACKER REMOVED ERROR

The error occurs when the Cash Box is not set in the unit.

- When the Cash Box is set, the unit recovers from the error automatically.

#### (3) Flashing three times: ACCEPTOR JAM ERROR

The error occurred when a bill jam occurred inside the unit.

- Open the Upper Chassis Assy and remove the bill jammed on the feeding path.
- When the Upper Chassis Assy is opened, the unit goes to (6) COVER OPEN ERROR status.
- When the Upper Chassis Assy is closed without removing the jammed bill, the unit goes to (3) ACCEPTOR JAM ERROR status again.
- When the Upper Chassis Assy is closed after the jammed bill is removed, the unit recovers from the error automatically.

#### (4) Flashing four times: STACKER JAM ERROR

The error occurs when a bill jam occurs inside the stacker.

- Open the Upper Chassis Assy and remove the bill jammed near the outlet of the feeding path or the inlet of the Cash Box.
- When the Upper Chassis Assy is opened, the unit goes to (6) COVER OPEN ERROR status.
- When the Cash Box is removed, the unit goes to (2) STACKER REMOVED ERROR status.
- When the Upper Chassis Assy is closed after the jammed bill is removed, the unit recovers from the error automatically.

**(5) Flashing five times:** Reserved

**(6) Flashing six times: COVER OPEN ERROR**

The error occurs when the Upper Chassis Assy is opened.

- Close the Upper Chassis Assy properly.
- When the Upper Chassis Assy is closed, the unit recovers from the error automatically.

**(7) Flashing seven times: CHEATED ERROR**

The error occurs when unauthorized sensor transition is detected.

- This error may be caused by bill retrieval or tricks.

**(8) Flashing eight times: COMMUNICATION ERROR**

A communication error with the host

- Check the serial cable connection.

**(9) Flashing nine times: HARDWARE ERROR**

An error of hardware

**(10) Flashing 10 times:** Reserved

**(11) Flashing 11 times: SKEW MOTOR ERROR**

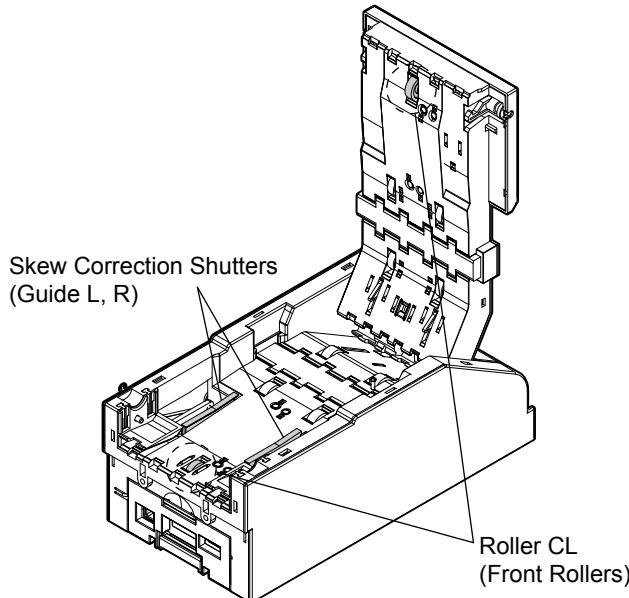
An error of the Skew Correction Motor (PM Motor-PM20S)

- Ensure that no paper is jammed between the Skew Correction Shutters.

**(12) Flashing 12 times: CLAMP MOTOR ERROR**

An error of the Clamp Motor (PM Motor-PM20S)

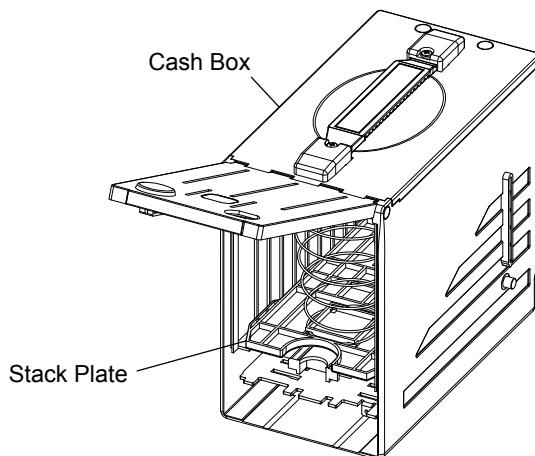
- Ensure that no object is jammed in the Roller CL on the insertion slot.



**(13) Flashing 13 times: STACK MOTOR ERROR**

An error of the Stack Motor (DC Motor-CN26)

- Ensure that the Stack Plate is not locked. Paper jam may occur in the Cash Box.



**(14) Flashing 14 times: CIS FPGA ERROR**

An error of the CIS or FPGA on the MAIN PCB Assy

**(15) Flashing 15 times: FLASH ROM ERROR**

An error of the Flash ROM on the MAIN PCB Assy

**(16) Flashing 16 times: RAM ERROR**

An error of the RAM on the MAIN PCB Assy

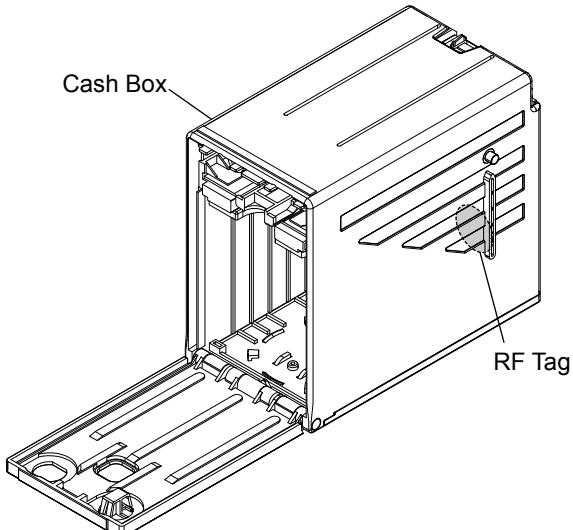
**(17) Flashing 17 times: CIS INIT ERROR**

An error of CIS initialization

**(18) Flashing 18 times: RF TAG ERROR**

An error of the RF Tag

- Ensure that the Cash Box with the RF Tag is set.



## 4-2-4. Test Mode

Mode	DIP Switch Setting (0: OFF), (1: ON), (-: any of OFF/ON)							
	Bit 8	7	6	5	4	3	2	1
	(1) DIP Switch Test 1	1	0	1	0	1	0	1
(2) DIP Switch Test 2	0	1	0	1	0	1	0	1
(3) LED Lighting Test	1	1	0	-	1	1	1	0
(4) LED Flashing Test	1	1	0	-	1	1	1	1
(5) CIS Light Source Test	1	1	0	-	1	1	0	1
(6) CIS Test	1	1	0	-	1	0	1	1
(7) Bill and Upper Chassis Sensor Test	1	1	0	-	0	1	1	1
(8) Bar-Code Sensor Test	1	1	0	-	1	1	0	0
(9) Stack Motor Encoder Test	1	1	0	-	1	0	1	0
(10) Stacker-full Sensor Test	1	1	0	-	0	1	1	0
(11) Stacker HP Sensor Test	1	1	0	-	1	0	0	1
(12) Clamp Roller HP Sensor Test	1	1	0	-	0	1	0	1
(13) Shutter HP/EP Sensor Test	1	1	0	-	0	0	1	1
(14) Stack Motor Continuous Operation Test	1	1	0	-	1	0	0	0
(15) Clamp Roller Continuous Up/Down Test	1	1	0	-	0	1	0	0
(16) Shutter Continuous Opening/Closing Test	1	1	0	-	0	0	1	0
(17) Feeding Motor Continuous Operation Test	1	1	0	-	0	0	0	1
(18) Motor Test	1	1	0	0	0	0	0	0
(19) Blank Paper Correction	1	1	0	1	0	0	0	0
(20) Bill-less Continuous Operation Test	1	1	1	0	0	0	0	0
(21) Cash-Box-less Test	1	0	---- Other than (1) DIP Switch Test 1 ----					
(22) RF-tag-less Cash Box	0	1	---- Other than (2) DIP Switch Test 2 ----					
(23) Normal Validation (Host Communication)	0	0	0	0	-	-	-	0
(24) Normal Validation (Stand-alone)	0	0	0	1	-	-	-	0
(25) Return Test (Host Communication)	0	0	1	0	-	-	-	0
(26) Return Test (Stand-alone)	0	0	1	1	-	-	-	0
(27) Storage Test (Host Communication)	0	0	0	0	-	-	-	1
(28) Storage Test (Stand-alone)	0	0	0	1	-	-	-	1
Default Setting at Factory Shipping	0	0	0	0	0	0	0	0
Software Download	1	1	1	1	0	0	0	0

When assembling the unit initially or if a problem occurs, perform the following tests to ensure that the DIP switch and LEDs are working properly.

- (1) DIP Switch Test 1
- (2) DIP Switch Test 2
- (3) LED Lighting Test
- (4) LED Flashing Test

Then perform the tests to check for abnormalities in the order listed above.

If an abnormality is detected, ensure again that relevant motors or sensors are installed properly and harnesses are connected correctly.

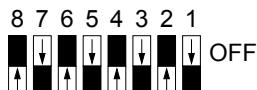
If an abnormality is detected on “(6) CIS Test”, perform “(19) Blank Paper Correction”, and then the CIS test again.

### (1) DIP Switch Test 1



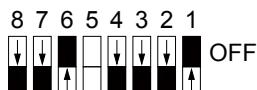
Set the DIP switch as shown above, and then turn on the power. The unit operates in the DIP Switch Test 1 Mode. The Green LED goes out and the blue LED flashes.

### (2) DIP Switch Test 2



Set the DIP switch as shown above, and then turn on the power. The unit operates in the DIP Switch Test 2 Mode. The green LED flashes and the blue LED goes out.

### (3) LED Lighting Test



Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the LED Lighting Test Mode.

Ensure that both the green and blue LEDs light.

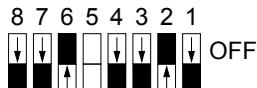
### (4) LED Flashing Test



Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the LED Flashing Test Mode.

Ensure that both the green and blue LEDs flash.

## (5) CIS Light Source Test



Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the CIS Light Source Test Mode.

Open the Upper Chassis Assy and ensure that the CIS and the CIS Light Source repeat lighting in the following order.

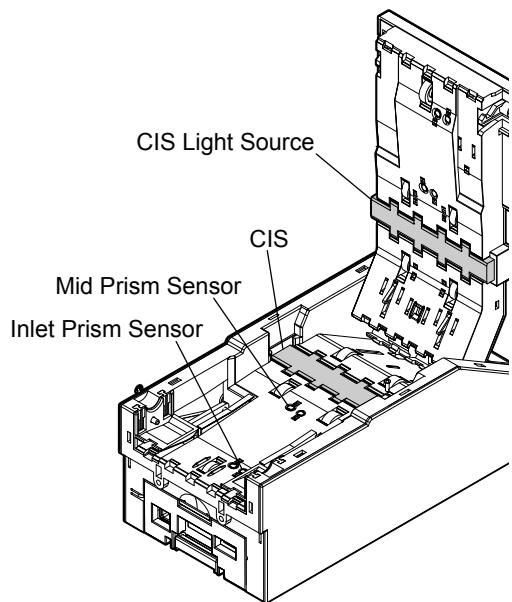
Reflected infrared (from CIS itself)

Reflected green (from CIS itself)

Transparent green (from the CIS Light Source on the Upper Chassis Assy)

Transparent infrared (from the CIS Light Source on the Upper Chassis Assy)

Infrared light can be visualized by using some digital camera or camera attached to a cell phone. Infrared light may look light purple or pink depending on the digital camera used.



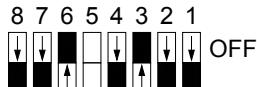
If the infrared light cannot be seen through the camera, check whether it is caused by the CIS/CIS Light Source or by the camera as follows.

Confirm that the Inlet Prism Sensor and the Mid Prism Sensor normally operate referring to "(7) Bill and Upper Chassis Sensor Test". After that, return to "(5) CIS Light Source Test", and watch the Inlet Prism Sensor or Mid Prism Sensor through the camera.

When no light is seen, the problem is caused by the camera. Perform the check with other type of camera.

When purple or pink light is seen, the problem is caused by the CIS/CIS light source.

## (6) CIS Test



Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Contact Image Sensor (CIS) Test Mode.

Open the Upper Chassis Assy and ensure that there are no objects on the CIS on the Lower Chassis Assy and on the CIS Light Source on the Upper Chassis Assy, and then close the Upper Chassis Assy. If there are no errors, the green LED lights.

If some error occurs, the green LED flashes. Count the number of LED flashing. The number of LED flashing indicates the causes of the error.

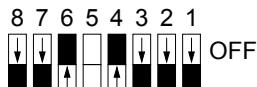
Flashing five times: CIS Bill Detection (or Abnormality of CIS, Abnormality of Transparent LED Optical Source, or Abnormality of Blank Paper Correction)

Flashing 17 times: CIS Initialization Error (CIS malfunction or FPGA malfunction)

Flashing six times: (The Upper Chassis Assy is opened.)

Place a slip of paper on the CIS, and then close the Upper Chassis Assy. Ensure that the CIS Bill Detection operates (the green LED flashes five times).

### (7) Bill and Upper Chassis Sensor Test



Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Bill and Upper Chassis Sensor Test Mode.

Open the Upper Chassis Assy and ensure that there are no objects on the feeding path from the inlet to the outlet, and then close the Upper Chassis Assy. If there are no errors, the green LED lights.

If some error occurs, the green LED repeats flashing. Count the number of LED flashing. The number of LED flashing indicates which sensor detects the error.

Flashing twice: Inlet Prism Sensor

Flashing three times: Mid Prism Sensor (Skew Correction Stop Position Prism Sensor)

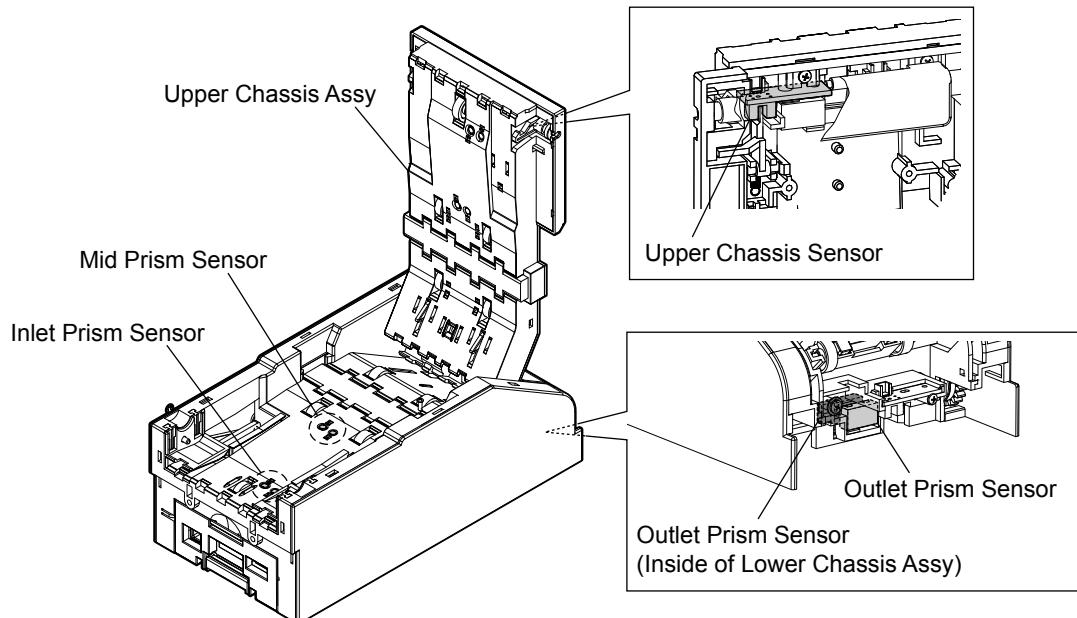
Flashing four times: Outlet Prism Sensor

Flashing six times: Upper Chassis Sensor (The Upper Chassis Assy is opened.)

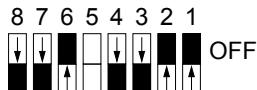
Place a slip of paper on the Inlet or Mid Prism Sensor, and then close the Upper Chassis Assy. Ensure that the green LED flashes twice or three times respectively.

Insert a slip of paper between the Outlet Prism Sensor and its Prism Lens. Ensure that the green LED flashes four times.

Open the Upper Chassis Assy. Ensure that the green LED flashes six times.

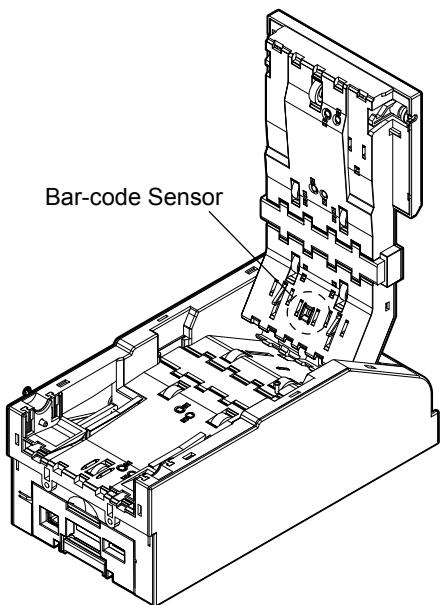


**(8) Bar-code Sensor Test**

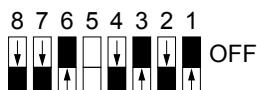


Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Bar-code Sensor Test Mode.

Open the Upper Chassis Assy, and then ensure that the LED of the Bar-code Sensor lights red.

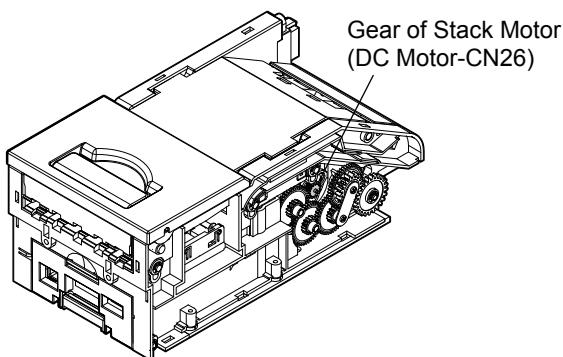


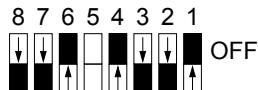
**(9) Stack Motor Encoder Test**



Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Stack Motor Encoder Test Mode.

Turn the gear of the Stack Motor (DC Motor-CN26) with your finger. Ensure that the green LED turns ON/OFF at that time. 1.5 pulses are output per turning from the motor.



**(10) Stacker-full Sensor Test**

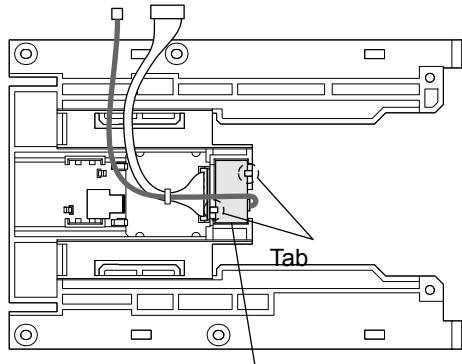
Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Stacker-full Sensor Test Mode.

- When the Cash Box filled with bills is set, the green LED lights.

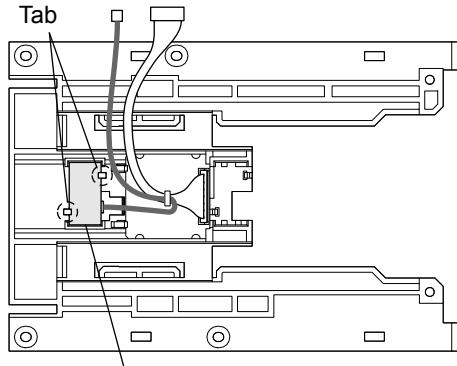
**Note** *There is a position in which the Stacker-full Sensor turns ON while an empty Cash Box is being removed or installed.*

*The Stacker-full Sensor, which is composed of a reed relay, responds to the Magnet on the Stack Plate in the Cash Box.*

- In other cases, the green LED goes off.

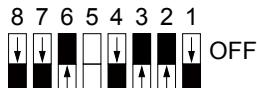
**Inside of the Lower Chassis Assy**

RSW PCB Assy (For 500-bill Cash Box)



RSW PCB Assy (For 1000-bill Cash Box)

### (11) Stacker HP Sensor Test

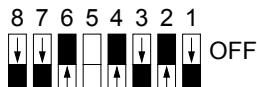


Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Stacker Home Position Sensor Test Mode. This sensor also serves as a sensor checking for the Cash Box.

Ensure the followings. Pull out a little the Transport Assy or the Cash Box to move the Stacker away from its home position.

- When the Stacker is in the home position (Stacker HP Sensor is interrupted), the green LED lights.
- When the Stacker is not in the home position (Stacker HP Sensor is not interrupted), the green LED goes off.

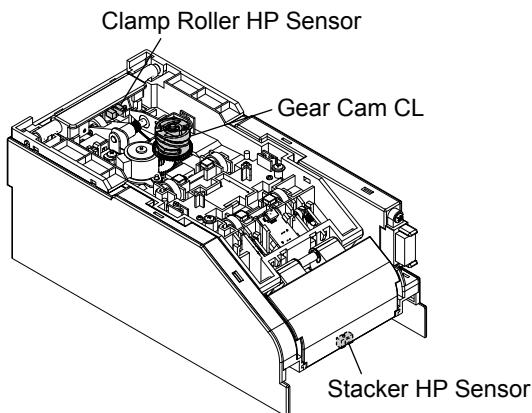
### (12) Clamp Roller HP Sensor Test



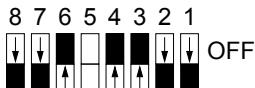
Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Clamp Roller Home Position (HP) Sensor Test Mode.

Ensure the followings. Turn the Gear Cam CL with your finger to move the Roller CL up and down.

- When the Roller CL is lowered all the way down (Clamp Roller HP Sensor is interrupted), the green LED lights.
- When the Roller CL is raised (Clamp Roller HP Sensor is opened), the green LED goes off.



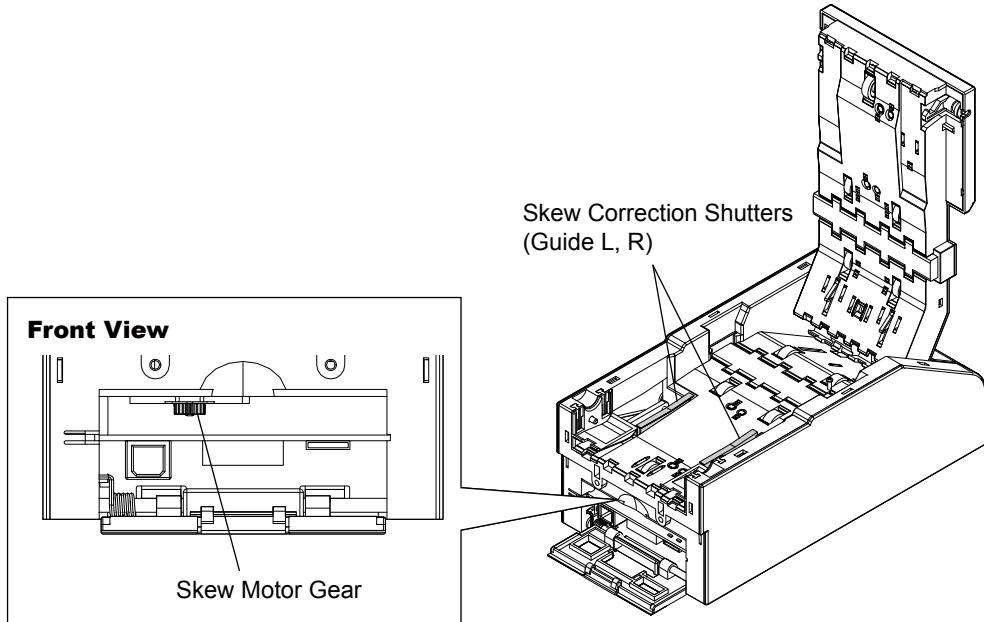
**(13) Shutter HP/EP Sensor Test (Guides of the Skew Assy)**



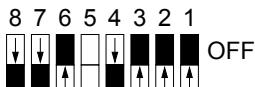
Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Shutter Home Position (HP)/End Position (EP) Sensor Test Mode.

Open the Front Door, and then ensure the followings turning the Skew Motor Gear with your finger.

- When the Skew Correction Shutters are completely opened (the Shutter HP Sensor is interrupted), the green LED lights.
- When the shutters are completely closed (the Shutter EP Sensor is interrupted), the blue LED lights.
- When the shutters are in the middle position, both the green and blue LEDs go off.



**(14) Stack Motor Continuous OperationTest**

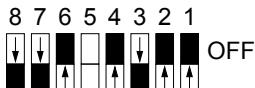


Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Stack Motor Continuous Operation Test Mode.

The Stack Motor (DC Motor-CN26) repeats rotation in “short-pull”, “push”, and “pull” direction in the order until the power is turned off or an error occurs.

 As this mode is designed for operation confirmation, avoid continuous operation over a long time.

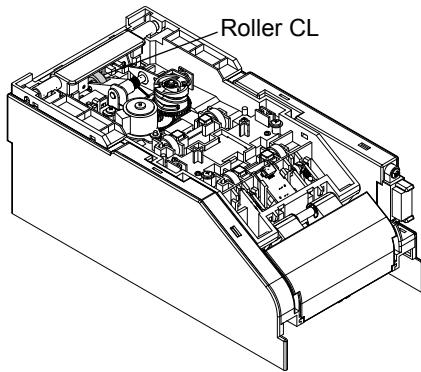
**(15) Clamp Roller Continuous Up/Down Test (Clamp Motor (PM Motor-PM20S))**



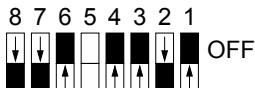
Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Clamp Roller Continuous UP/Down Test Mode.

The Clamp Motor (PM Motor-PM20S) repeats moving up and down until the power is turned off or an error occurs.

 As this mode is designed for operation confirmation, avoid continuous operation over a long time.



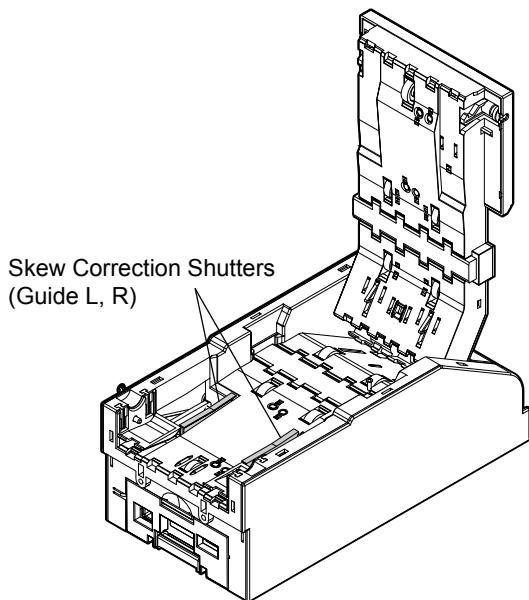
**(16) Shutter Continuous Opening/Closing Test (Skew Correction Motor (PM Motor-PM20S))**



Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Shutter Continuous Opening/Closing Test Mode.

The Skew Correction Shutters repeat opening and closing until the power is turned off or an error occurs.

 As this mode is designed for operation confirmation, avoid continuous operation over a long time.



**(17) Feeding Motor Continuous Operation Test**

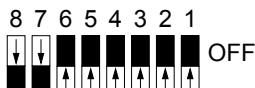


Set the DIP switch as shown above (any of OFF/ON for the bit 5), and then turn on the power. The unit operates in the Feeding Motor Continuous Operation Test Mode.

The Feeding Motor repeats operation continuously in eight patterns with different directions and speeds in order until the power is turned off or an error occurs.

 *As this mode is designed for operation confirmation, avoid continuous operation over a long time.*

(18) Motor Test



Set the DIP switch as shown above, and then turn on the power. The unit goes to the Motor Test Mode.

Set one of the bits 4 to 1 from OFF to ON, and the corresponding motor starts driving. When the motor keeps driving during a given time or when the bit is returned from ON to OFF, the motor stops driving.

**Note** *Perform the following DIP switch settings without turning the power OFF/ON. When having turned the power OFF/ON, restart from above setting.*

Power up

Bit 1 Driving the Feeding Motor

When the bit 6 is set OFF, set the bit 1 ON, and the Feeding Motor rotates forward, and then stops.



When the bit 6 is set ON, set the bit 1 ON, and the Feeding Motor rotates back, and then stops.

Bit 2 Driving the Skew Correction Motor (PM Motor-PM20S)

When the shutters are opened, set the bit 2 ON, and the shutters are closed.

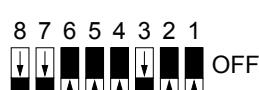
When the shutters are closed, set the bit 2 ON, and the shutters are opened.



Bit 3 Driving the Clamp Motor (PM Motor-PM20S)

When the Roller CL is in "UP" position, set the bit 3 ON, and the Roller CL is moved down.

When the Roller CL is in "DOWN" position, set the bit 3 ON, and the Roller CL is moved up.



Bit 4 Driving the Stack Motor (DC Motor-CN26)

When the bit 6 is set OFF, set the bit 4 ON, and the Stack Motor (DC Motor-CN26) rotates in "push" direction, and then stops.



When the bit 6 is set ON, set the bit 4 ON, and the Stack Motor (DC Motor-CN26) rotates in "pull" direction, and then stops.

Bit 5 (Unused)

**(19) Blank Paper Correction**

Set the DIP switch as shown above, and then turn on the power. The unit operates in the Blank Paper Correction Mode.

This mode is used for two purposes:

- Blank paper correction (CIS sensitivity) adjustment
- Bar-code sensor gain adjustment

When the green LED lights, insert designated blank paper. The blank paper stops at the skew correction position in an instant, and then is fed to the escrow position without the skew correction shutter operation and stops at the escrow position.

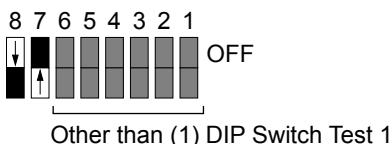
- Blank paper correction (CIS sensitivity) adjustment is automatically performed in the process described above.
- Adjust the Bar-code sensor gain in this status if necessary. Refer to “Adjustment” of “3-4-4. Others on Upper Chassis Assy”.

Set the bit 5 of the DIP switch OFF to return the blank paper.

**(20) Bill-less Continuous Operation Test**

Set the DIP switch as shown above, and then turn on the power. The unit operates in the Bill-less Continuous Operation Test Mode.

Ensure that the Feeding Motor (PM Motor-PM35L), Clamp Motor (PM Motor-PM20S), Skew Correction Motor (PM Motor-PM20S), and Stack Motor (DC Motor-CN26) repeat sequentially their operation from feeding to storing without bills.

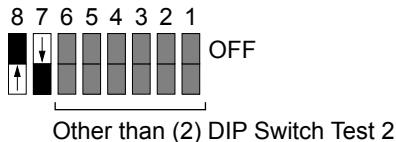
**(21) Cash-Box-less Test**

Set the DIP switch as shown above, and then turn on the power. The unit operates in the Cash-Box-less Test Mode.

The unit operates without the Cash Box. It does not perform the stack operation after bills are fed into the Cash Box even if the Cash Box is mounted. Errors related to STACKER FULL, STACKER REMOVED, and RF TAG are not detected.

Inserted bills are validated whether they are genuine or counterfeit. Genuine bills are stored in the Cash Box and counterfeit bills are returned from the unit, as in the Normal Validation Mode (Stand-alone use).

**(22) RF-Tag-less Cash Box**

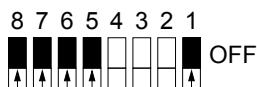


Set the DIP switch as shown above, and then turn on the power. The unit operates in the RF-tag-less Cash Box Test Mode.

Reading/writing from the RF Tag and error detection for the RF Tag do not operate. The unit operates in the Stand-alone Normal Validation mode other than above.

This mode is available for the unit without the RF Tag also.

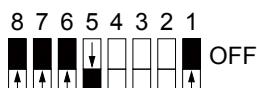
**(23) Normal Validation Mode (Host Communication Use)**



Set the DIP switch as shown above (any of OFF/ON for the blank bits), and then turn on the power. The unit operates in the Normal Validation Mode (Host Communication use).

In the Host Communication use, the unit operates according to the communication commands from upper host. For details, refer to the "Universal Bill Validator Communication Specification".

**(24) Normal Validation Mode (Stand-alone Use)**



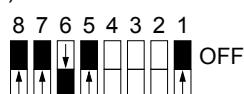
Set the DIP switch as shown above (any of OFF/ON for the blank bits), and then turn on the power. The unit operates in the Normal Validation Mode (Stand-alone use).

In the Stand-alone use, inserted bills are validated whether they are genuine or counterfeit. Genuine bills are stored in the Cash Box and counterfeit bills are returned from the unit.

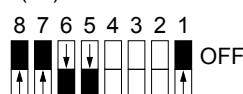
**(25) Return Test (Host Communication Use)**

**(26) Return Test (Stand-alone Use)**

**(25) Host Communication**



**(26) Stand-alone**



Set the DIP switch as shown above (any of OFF/ON for the blank bits), and then turn on the power. Or, when the unit is activated in the Normal Validation Mode, set the DIP switch as shown above.

The unit operates in the Return Test Mode.

Regardless of the consequence of bill validation, all inserted bills are returned from the unit.

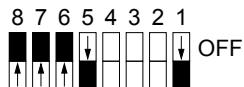
**(27) Storage Test (Host Communication Use)**

**(28) Storage Test (Stand-alone Use)**

(27) Host Communication



(28) Stand-alone



Set the DIP switch as shown above (any of OFF/ON for the blank bits), and then turn on the power. Or, when the unit is activated in the Normal Validation Mode, set the DIPswitch as shown above.

The unit operates in the Storage Test Mode.

Regardless of the consequence of bill validation, all inserted bills are stored in the Cash Box.

However, bills are returned from the unit when feeding errors occur, such as a paper jam, overlapped bills are inserted and you do not let bills go.



# Chapter 5

## **Software Download**

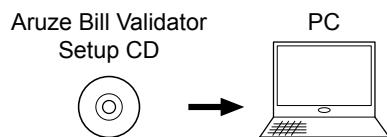
## 5-1. Required Items

- DC 12 V Power (Refer to “1-3-1. General Specifications”.)
- PC (with USB port, OS: Windows 2000 or XP)
- USB Cable (A Type Male ↔ B Type Male)
- The latest Aruze Bill Validator Setup CD (Supplied from Aruze Corporation)

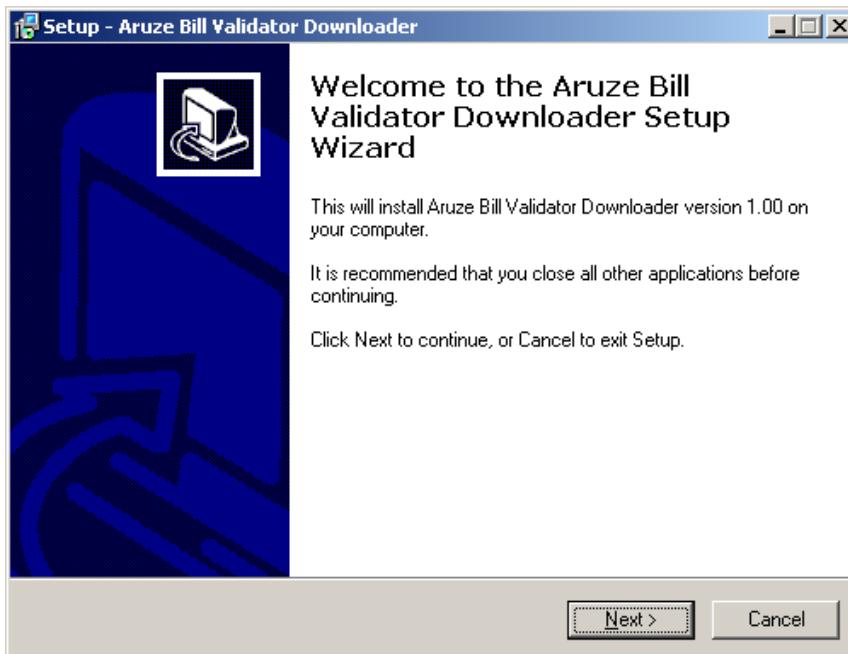
## 5-2. Downloader and Device Driver Download

When the PC is first connected to this unit, be sure to download the downloader and device driver to the PC as described below.

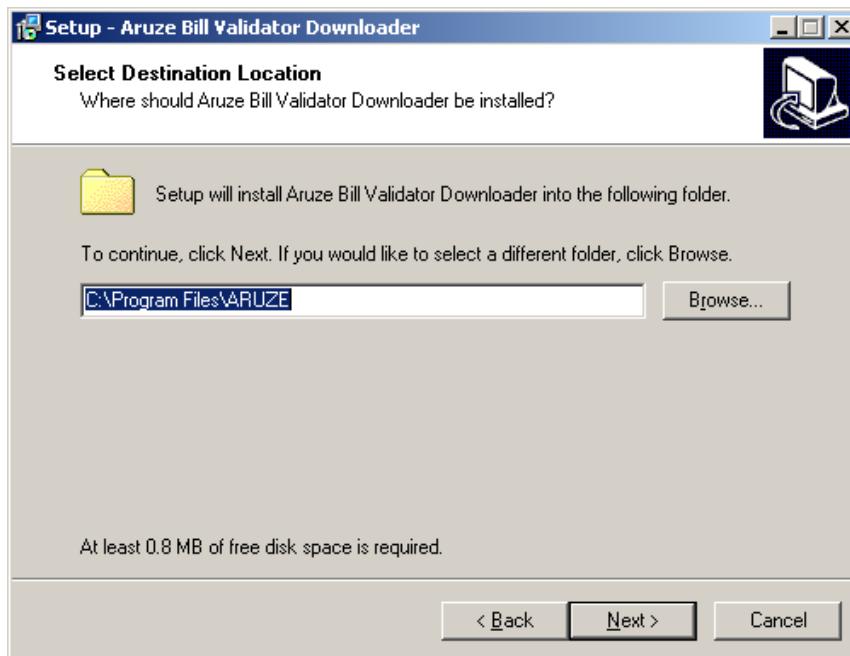
### 5-2-1. Downloader Installation



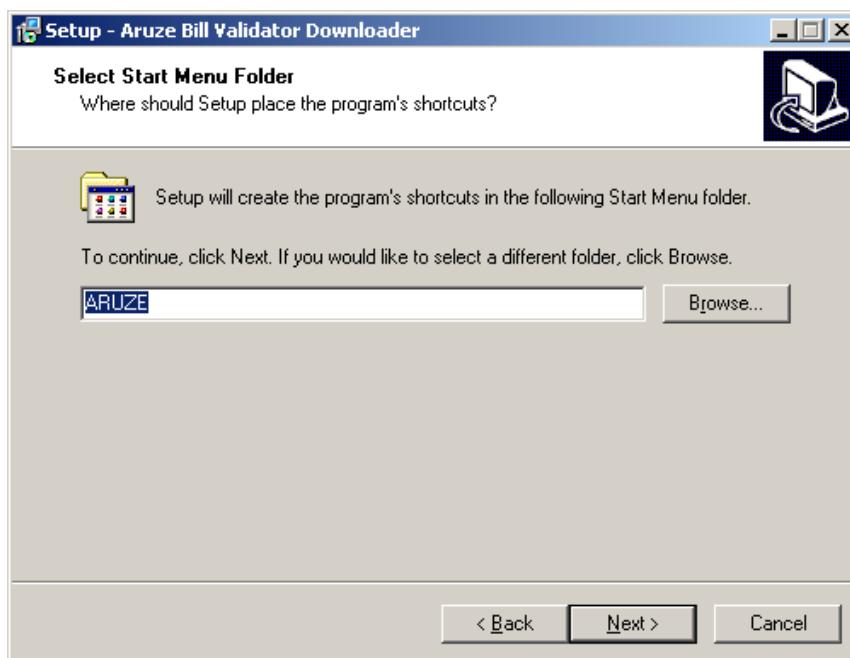
- 1) Insert the Aruze Bill Validator Setup CD into the PC.  
The installer is automatically activated and the Downloader Setup Wizard screen appears.  
If it is not automatically activated, open the CD drive with Windows Explorer, and then execute “Setup.exe”.  
Click [ Next >] to continue installation.



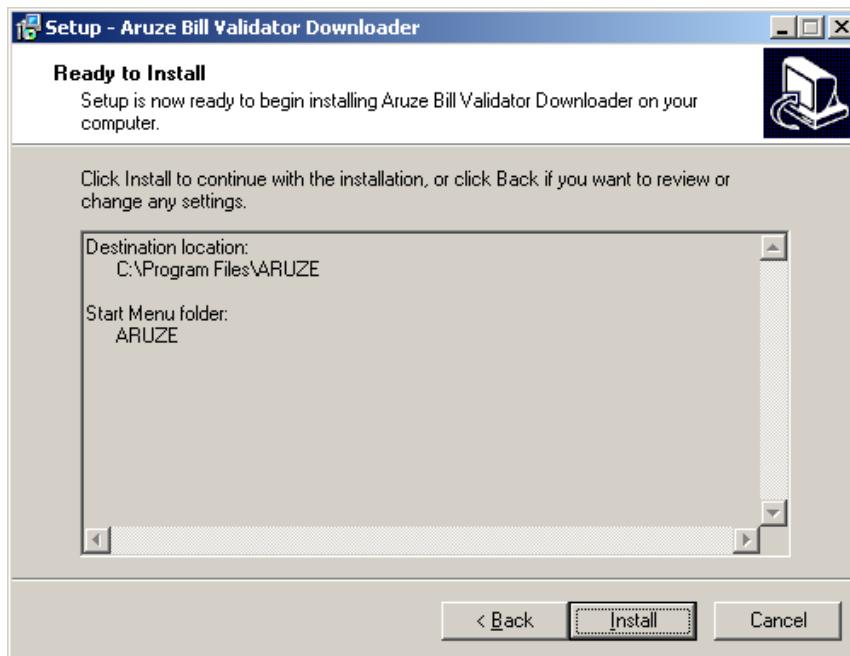
2) The screen to assign the destination folder to install the downloader appears. Confirm the destination folder, and then click [ Next >].



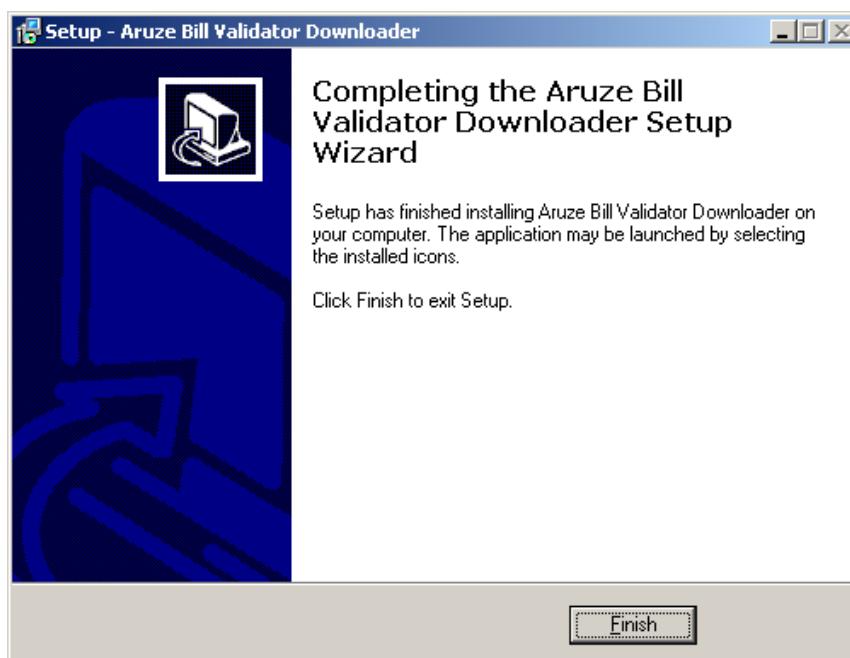
3) The screen to assign the Start Menu folder appears. Confirm the destination folder, and then click [ Next >].



4) The wizard is ready to start installing the program. The following screen appears. Click [ Install ] to start installation.



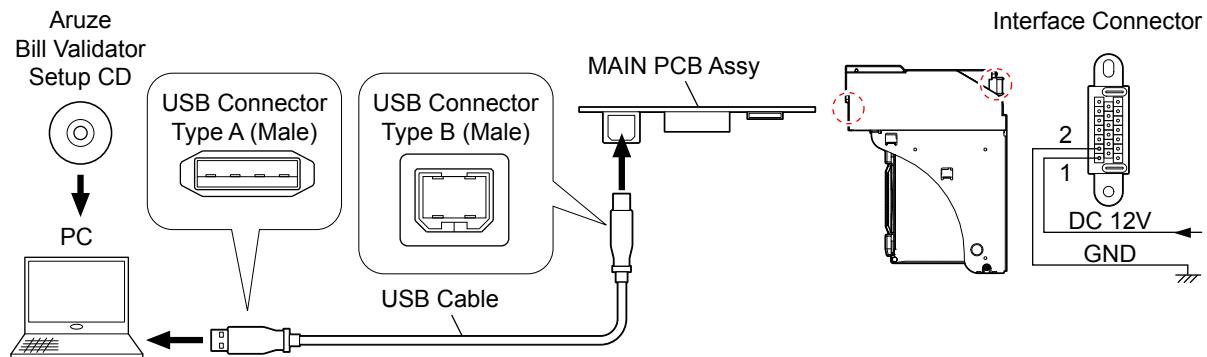
5) When installation is finished, the following screen appears. Click [ Finish ] to close the downloader setup wizard. The downloader has been installed to the PC.



## 5-2-2. Device Driver Installation

- 1) Connect the PC to the unit with the USB cable.
- 2) Feed DC 12 V power to the Interface Connector of the unit.
- 3) Insert the Aruze Bill Validator Setup CD into the PC.

When the Downloader Setup Wizard screen appears, cancel it.



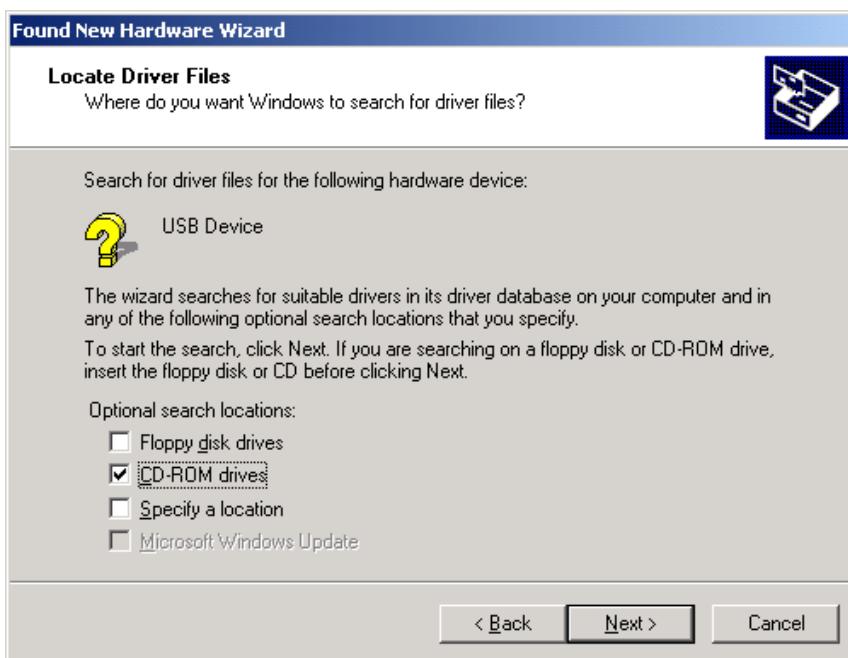
- 4) The following screen appears.  
Click [ Next >].



5) The following screen appears.  
Click “Search for a suitable driver for my device (recommended)”, and then [ Next >].



6) The following screen appears.  
Confirm that “CD-ROM Drive” is checked, and then click [ Next >].



7) Device driver "aruze\_uusb.inf" is found, and the following screen appears.  
Click [ Next >] to start installing the device driver.



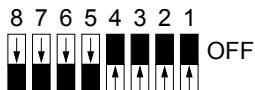
8) When installation of the device driver is completed, the following screen appears.  
Click [ Finish ] to close the installation of the device driver.  
The device driver has been installed to the PC.



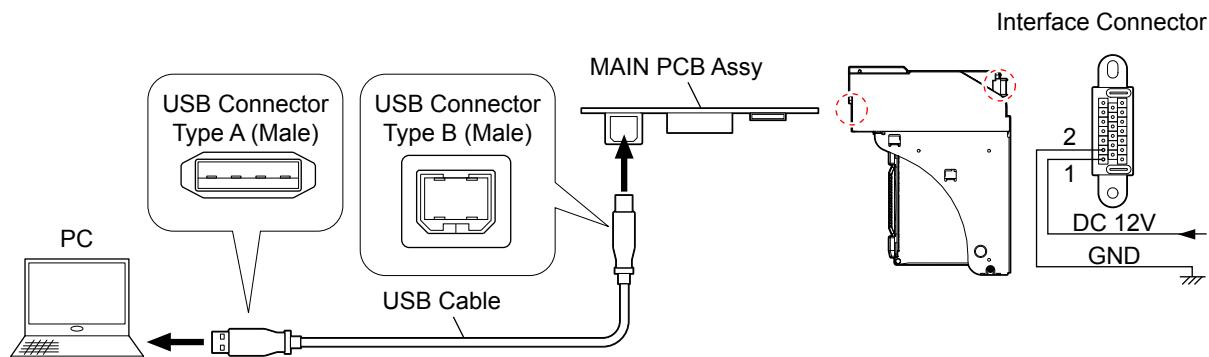
## 5-3. Software Download

The following instructions describe the procedure to download the program stored on the PC to the unit.

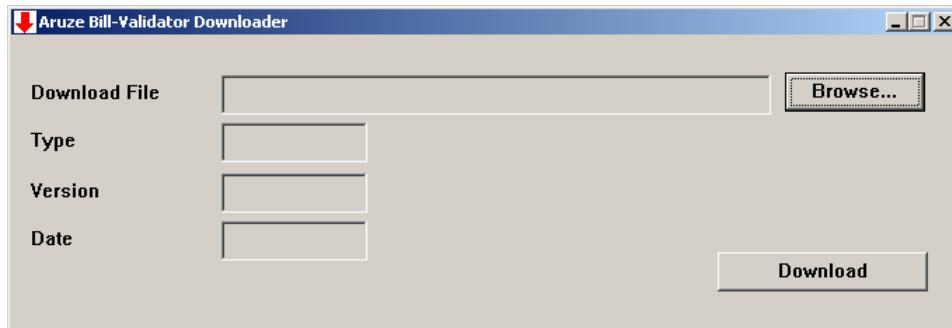
- 1) Set the DIP switch on the Front Cover of the unit as shown below.



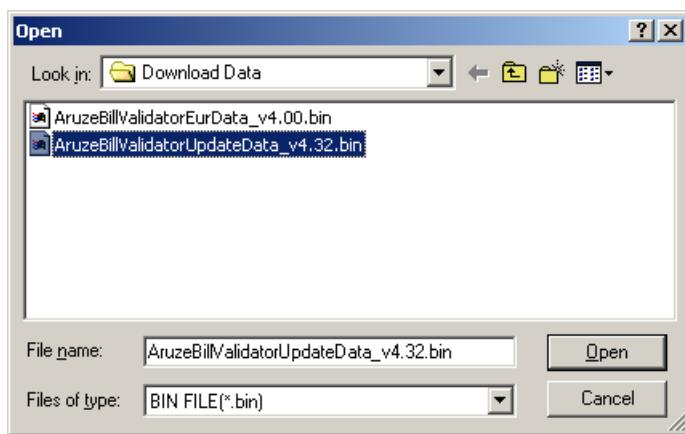
- 2) Connect the PC to the unit with the USB cable.  
Feed DC 12 V power to the Interface Connector of the unit.



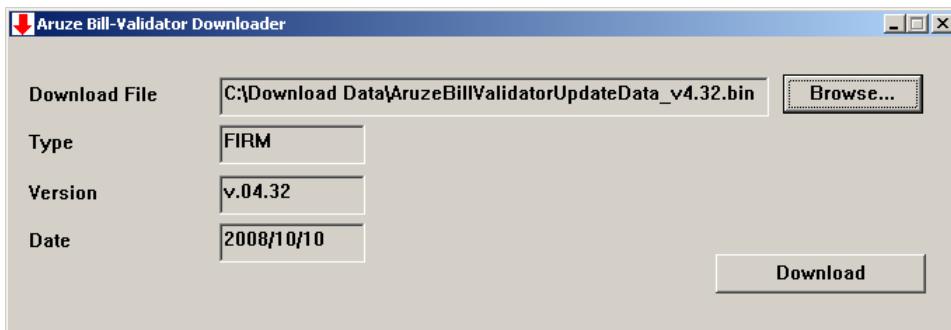
- 3) Click [Start] → [Program] → [ARUZE] on the PC to activate the Aruze Bill-Validator Downloader.
- 4) The Downloader starts and the following screen appears.  
Click [Browse...].



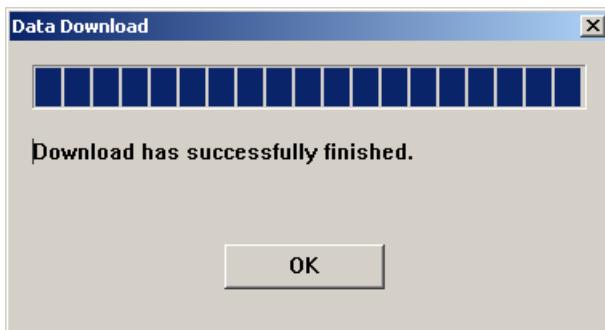
- 5) Select the file to be downloaded to the unit, and then click [Open].



6) The downloader is ready to start downloading.  
Click [ Download ] to start downloading the file.



7) After download is finished, click [ OK ] on the progress window.



8) When other files should be downloaded, repeat steps 4) to 7).

9) After having downloaded all files to be downloaded, close the downloader.

10) Set the DIP switch on the Front Cover of the unit as shown below (any of ON/OFF for the blank bits), and then turn on the power.



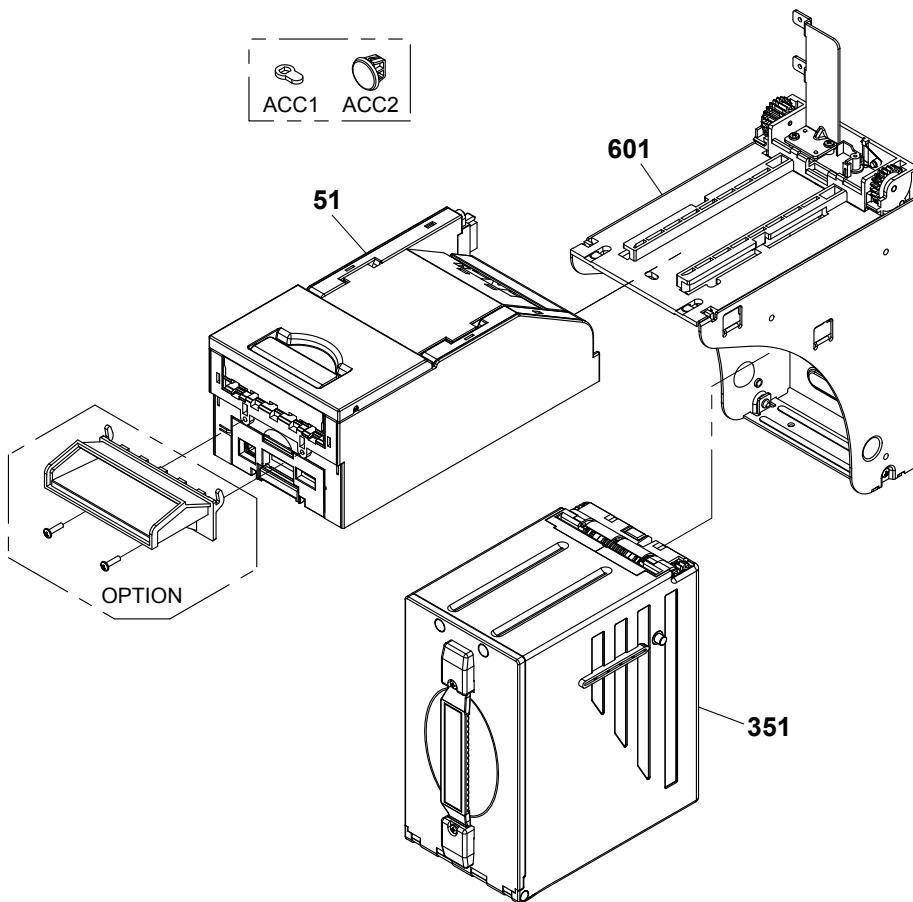
**Note** After software is downloaded to the unit, it is recommended to test the bill validation operation to confirm the software is successfully downloaded. Refer to "4-2-2. Normal Operation".



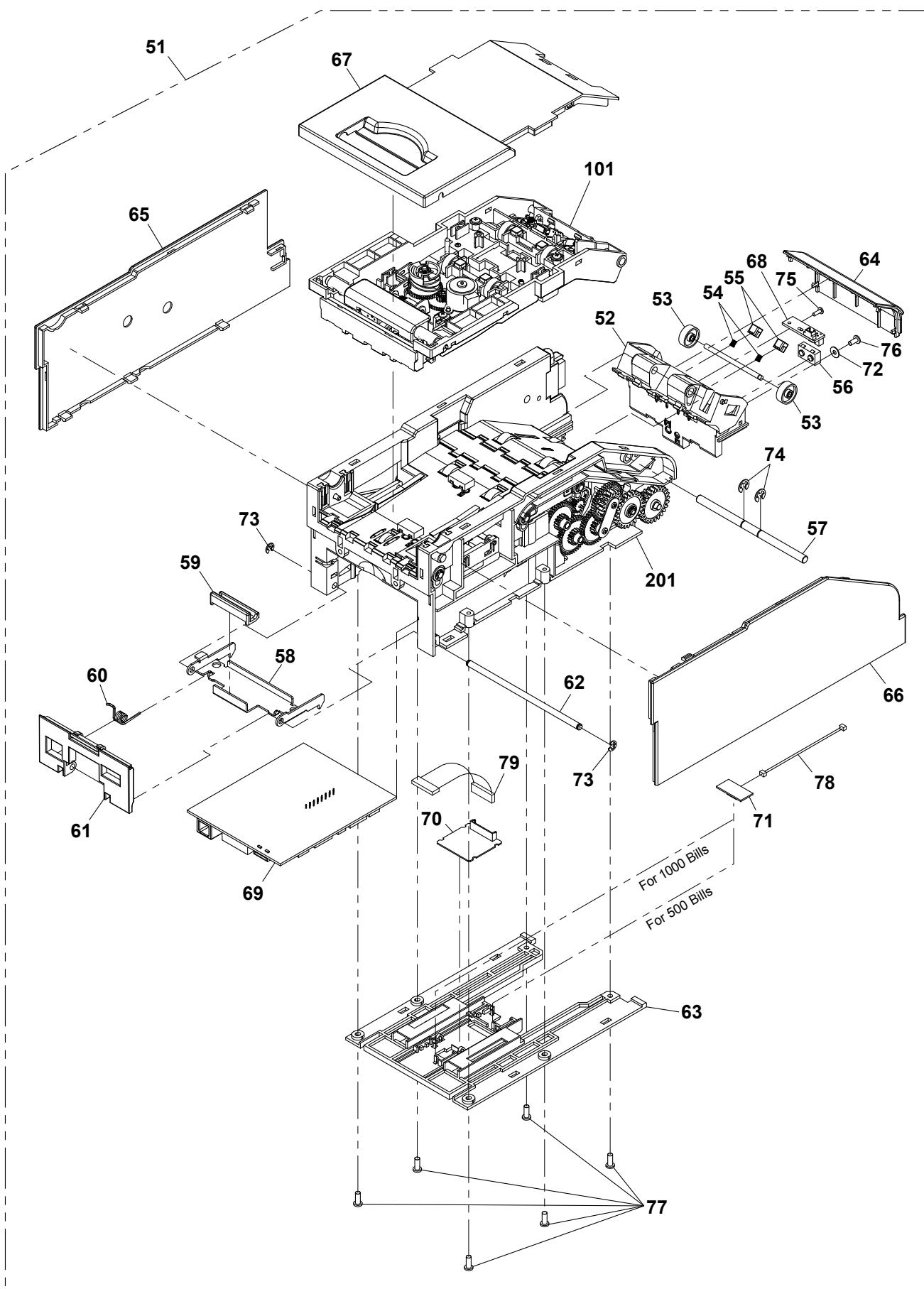
# Chapter 6

## ***Exploded Views and Parts List***

## 6-1. FULL ASSY



No.	DWG No.	Title	Remarks
ACC1	S411755	KEY LOCK PLATE	1 pc
ACC2	S311425	KEY HOLE CAP	1 pc
	S411921	NAME PLATE (500)	
	S411922	NAME PLATE (1000)	
	S411795	CURRENCY CHECK LABEL	
	S311430	BEZEL	option
		SCREW 3BW 3X12	option

**6-2. TRANSPORT ASSY**

**TRANSPORT ASSY**

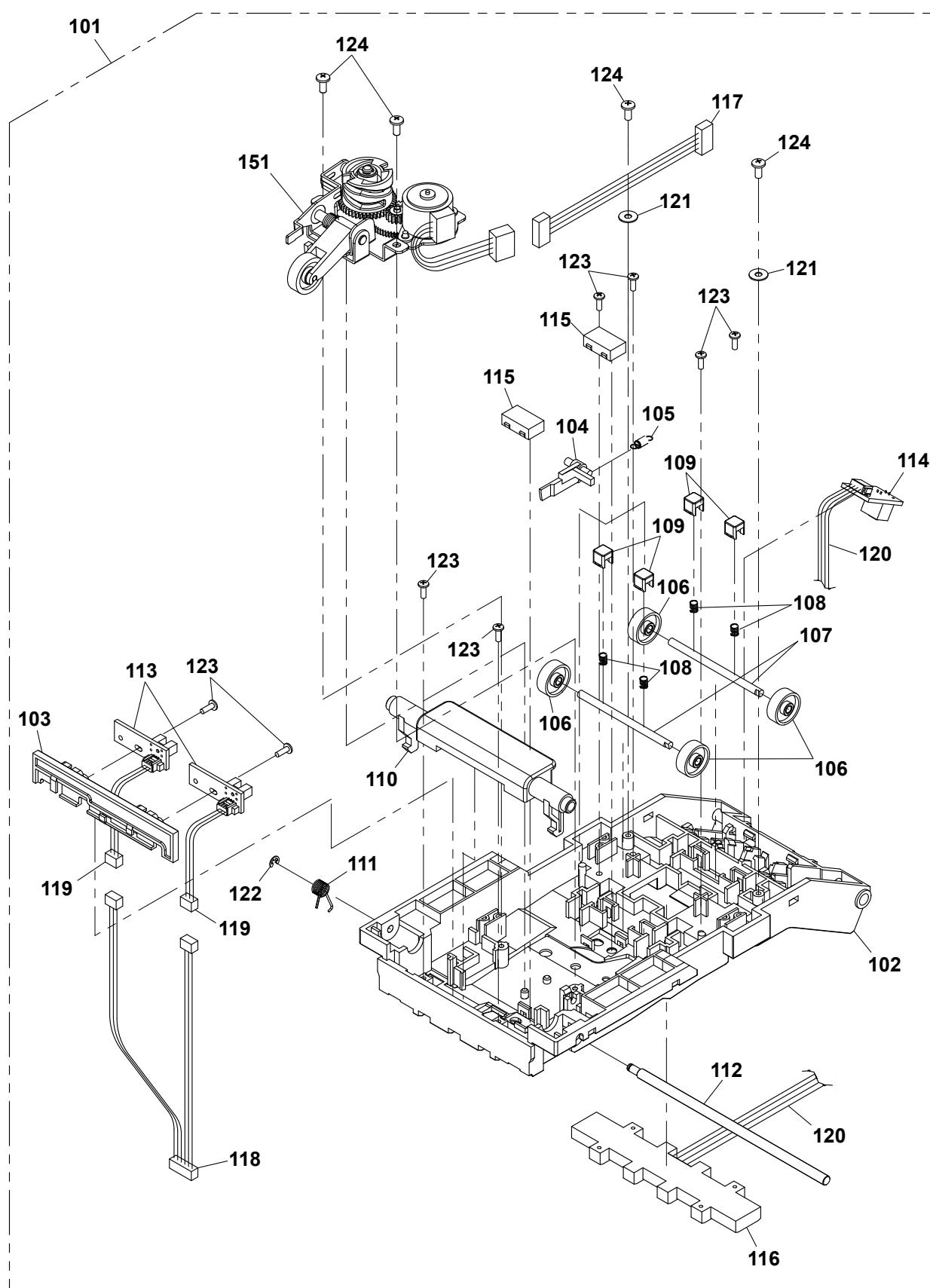
No.	DWG No.	Title	Remarks
51	S210630	TRANSPORT ASSY	*1
	S210658	TRANSPORT ASSY IC TAG	*2
	S210661	TRANSPORT ASSY	*3
	S210666	TRANSPORT ASSY IC TAG	*4
52	S210646	UPPER GUIDE	
53	S411805	UP ROLLER	
54	S411807	ROLLER SPRING	
55	S411808	TENSION ROLLER BUSHING	
56	D	PRISM LENS	
57	S411758	HINGE SHAFT	
58	S210637	TR LATCH	
59	S411773	TR LATCH COVER	
60	S411774	TR LATCH SPRING	
61	S210638	FRONT COVER	
62	S411775	DOOR SHAFT	
63	S110388	BOTTOM	
64	S210634	UP GUIDE COVER	
65	S110383	LOWER COVER L	
66	S110384	LOWER COVER R	
67	S110385	UPPER COVER	
68	MA1559	INTERRUPTER PCB	
69	SA1794	MAIN PCB ASSY	
70		READER-WRITER MODULE	*1, 3
71	SA1793	RSW PCB ASSY	
72		WASHER 2.6X7.5X0.5t	
73		E RING-3.0	
74		E RING-4.0	
75		SCREW 3BW 2X6 PT	
76		SCREW 3BW 2.5X6 PT	
77		SCREW 3PW 3X8 PT	
78	W412406	HARNESS (CN8)	
79	W412408	HARNESS (CN14)	*1, 3

\*1: For 500-bill Cash Box without RF Tag

\*2: For 500-bill Cash Box with RF Tag

\*3: For 1000-bill Cash Box without RF Tag

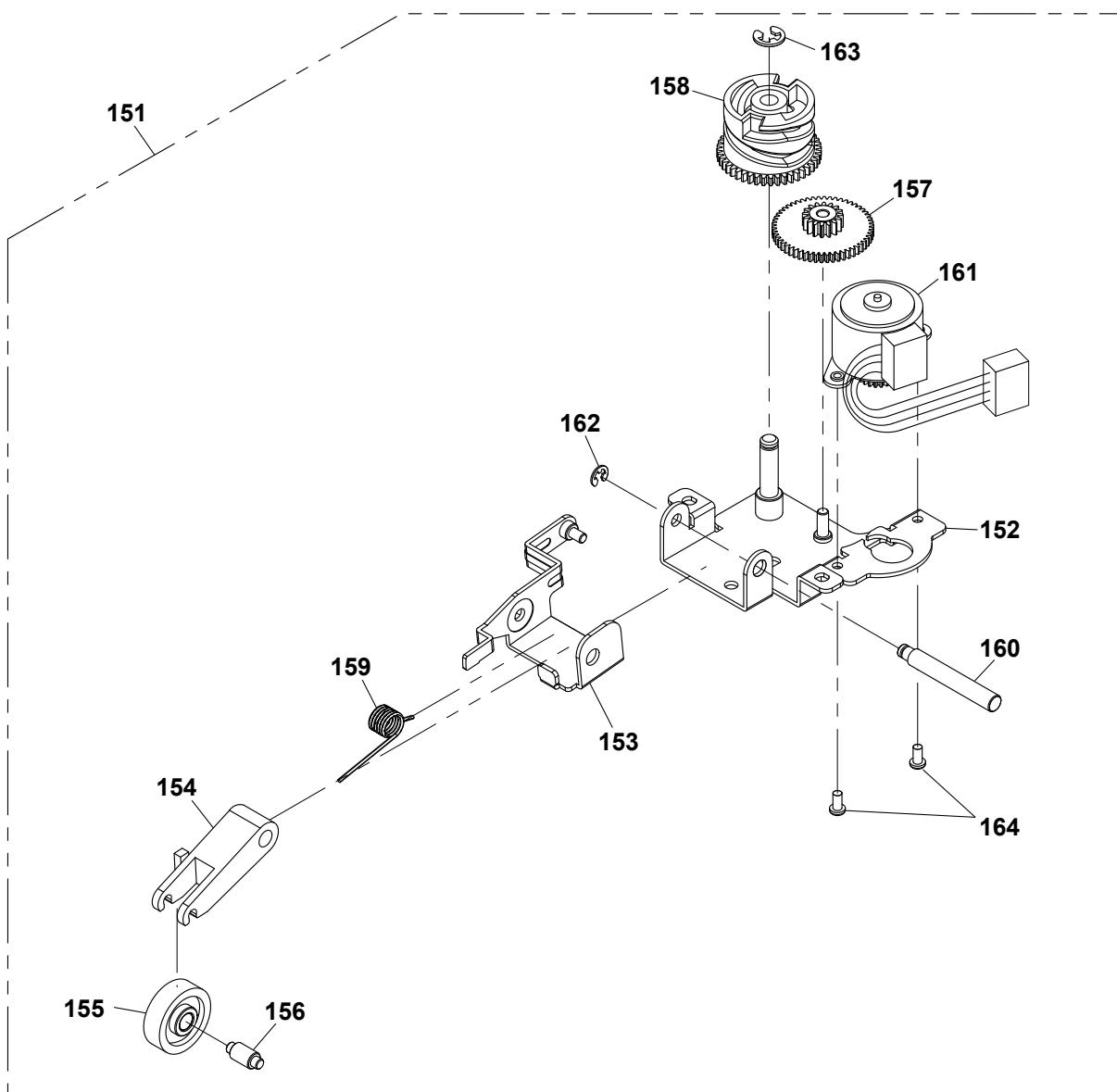
\*4: For 1000-bill Cash Box with RF Tag

**6-3. UPPER CHASSIS ASSY**

## UPPER CHASSIS ASSY

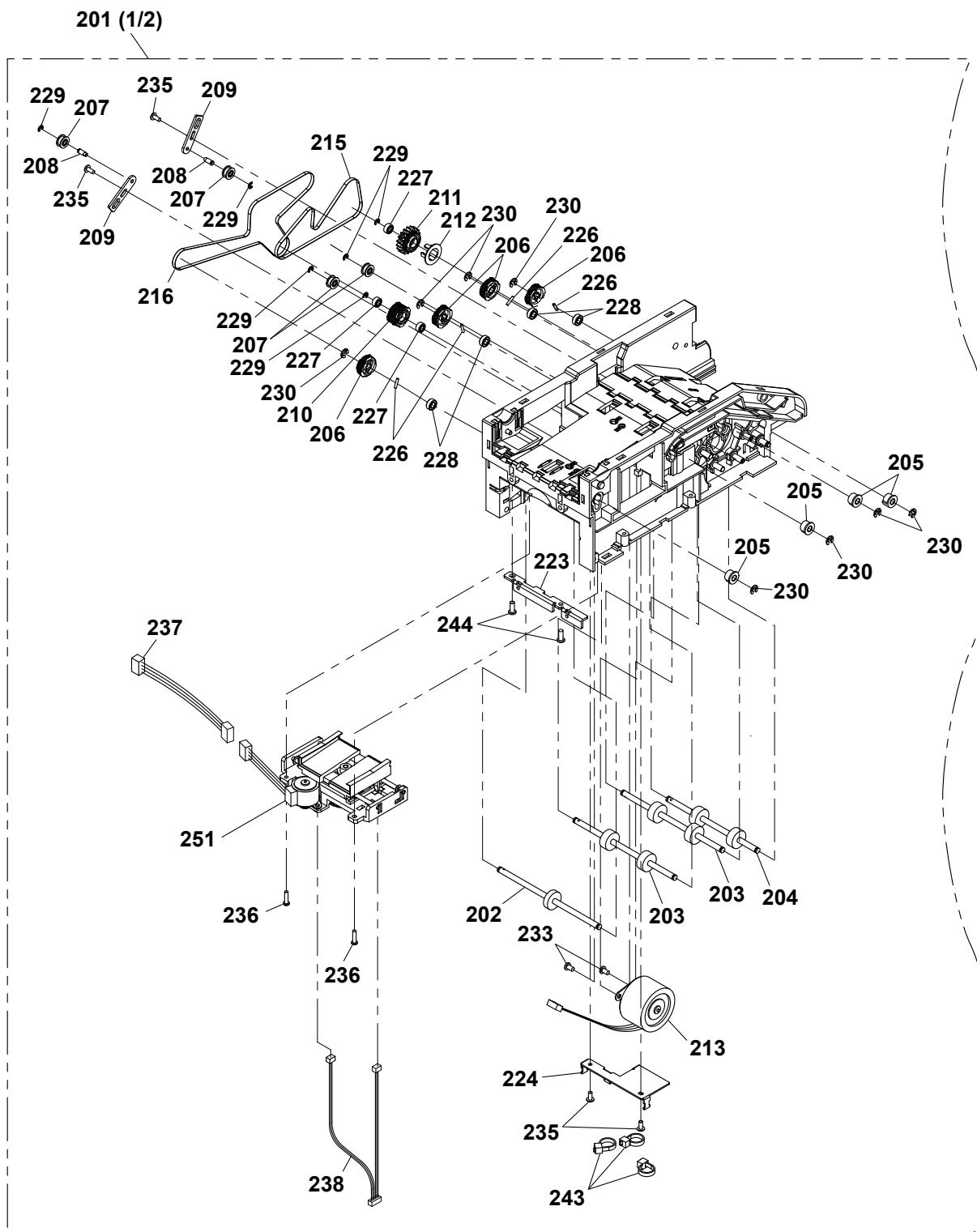
No.	DWG No.	Title
101	S210633	UPPER CHASSIS ASSY
102	S110387 / S110391	UPPER CHASSIS
103	S211645	SENSOR HOLDER
104	S311436	SENSOR LEVER
105	S411804	SENSOR LEVER SPRING
106	S411805	UP ROLLER
107	S411806	UP ROLLER SHAFT
108	S411807	ROLLER SPRING
109	S411808	TENSION ROLLER BUSHING
110	S210644	OPEN LEVER
111	S411811	KNOB SPRING
112	S411812	OPEN LATCH SHAFT
113	MA1559	INTERRUPTER PCB
114	B413100	BAR PCB ASSY
115	D	PRISM LENS
116	D	CIS
117	W412397	HARNESS (CN4)
118	W412398	HARNESS (CN5)
119	W412405	HARNESS (RELAY)
120	W412399	HARNESS (CN7)
121		WASHER 2.6X7.5X0.5t
122		E RING-2.0
123		SCREW 3BW 2X6 PT
124		SCREW 3BW 2.5X6 PT

## 6-4. CLAMP ROLLER ASSY

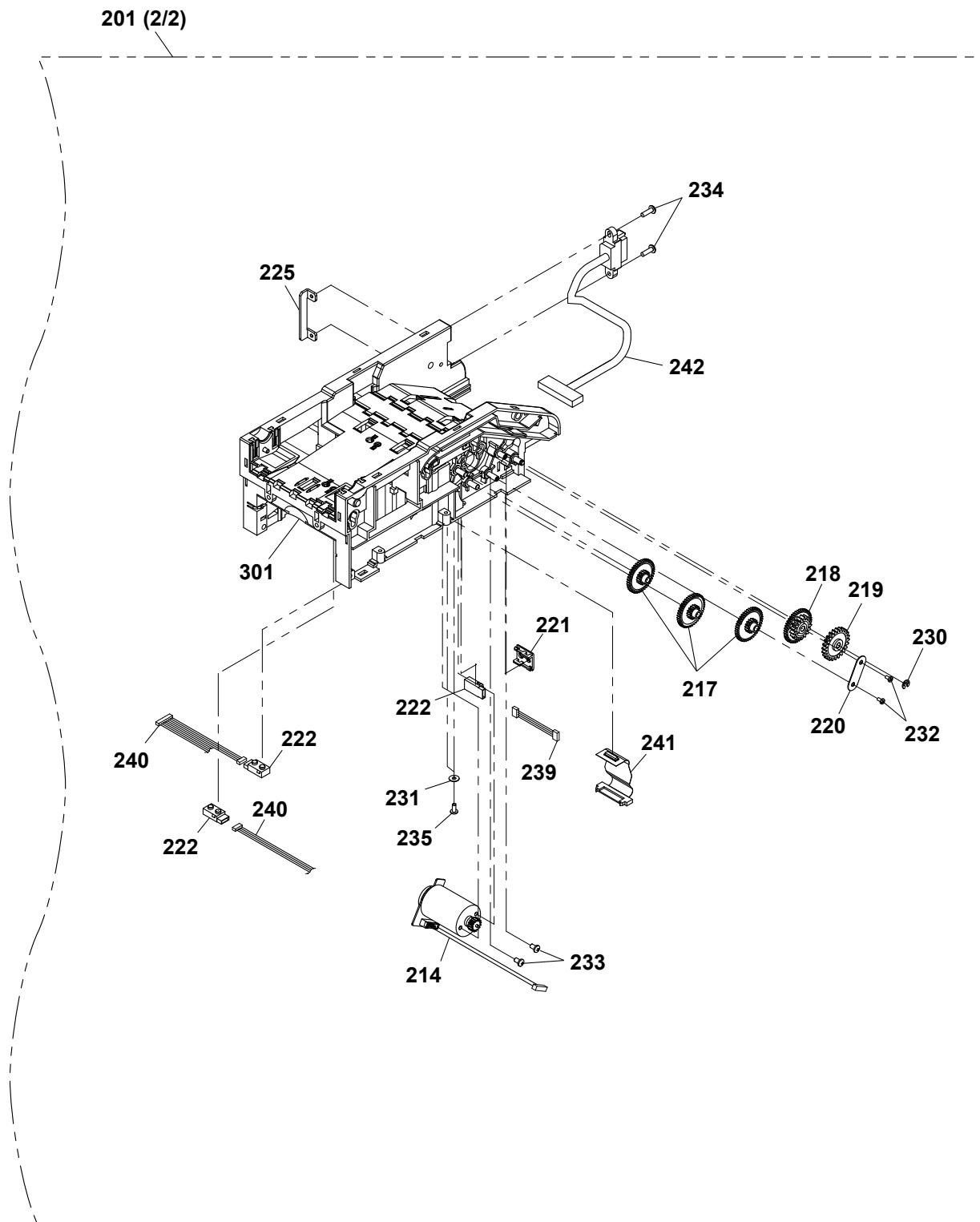


No.	DWG No.	Title	No.	DWG No.	Title
151	S411802	CLAMP ROLLER ASSY	156	S411827	ROLLER SHAFT A
152	S411814	CLAMP BASE SUB ASSY	157	S411789	GEAR MI
	S311438	CLAMP BASE	158	S311437	CAM GEAR CL
	S411820	GEAR SHAFT A	159	S411817	ARM SPRING
	S411821	GEAR SHAFT B	160	S411818	ARM SHAFT
153	S411815	ARM A SUB ASSY	161	D	PM MOTOR-PM20S
	S311439	ARM A	162		E RING-2.0
	S411823	CAM SHAFT A	163		E RING-3.0
154	S411825	ARM B	164		SCREW 3PW 2X4
155	S411826	ROLLER CL			

## 6-5. LOWER CHASSIS ASSY



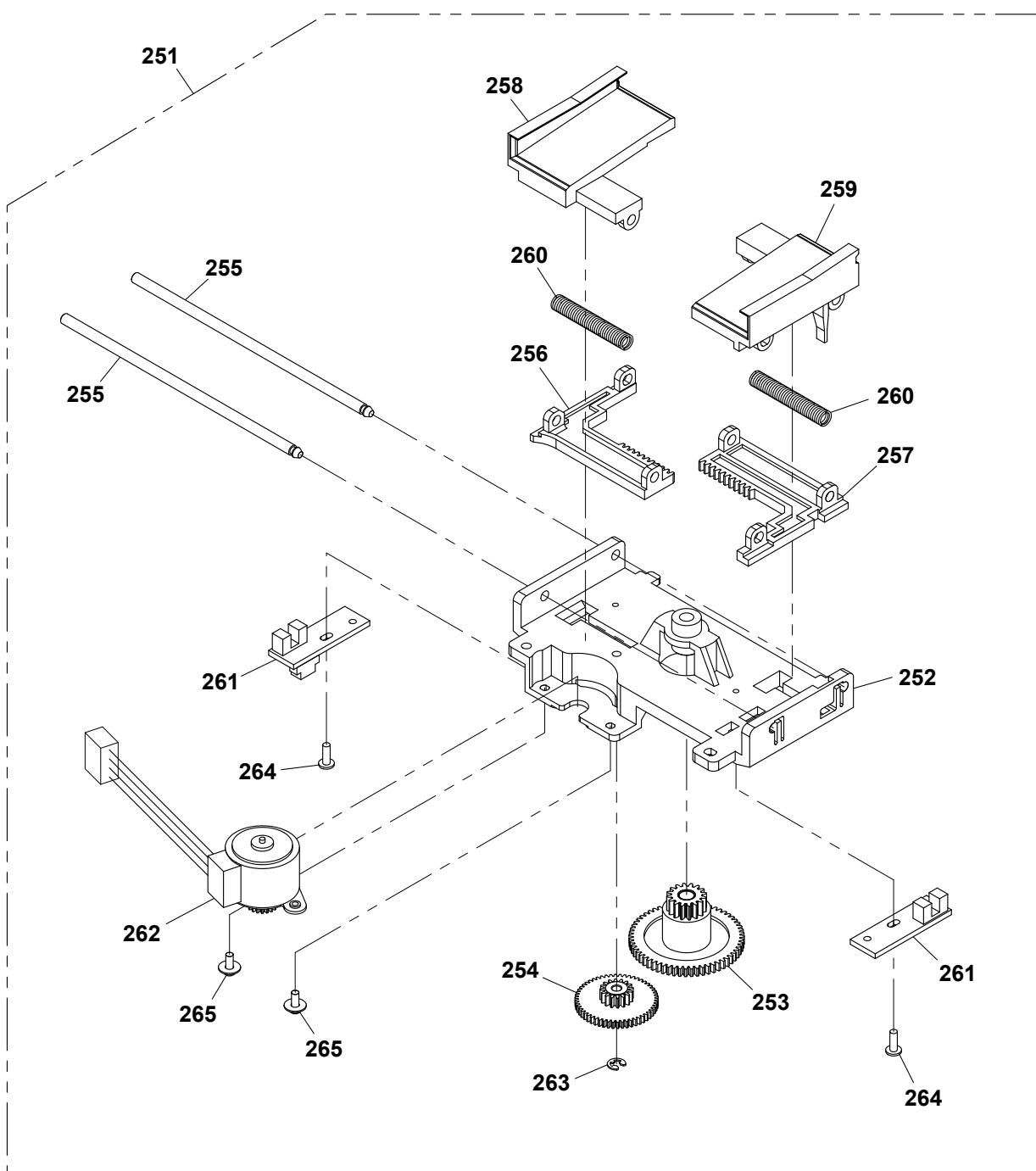
(LOWER CHASSIS ASSY)



**LOWER CHASSIS ASSY**

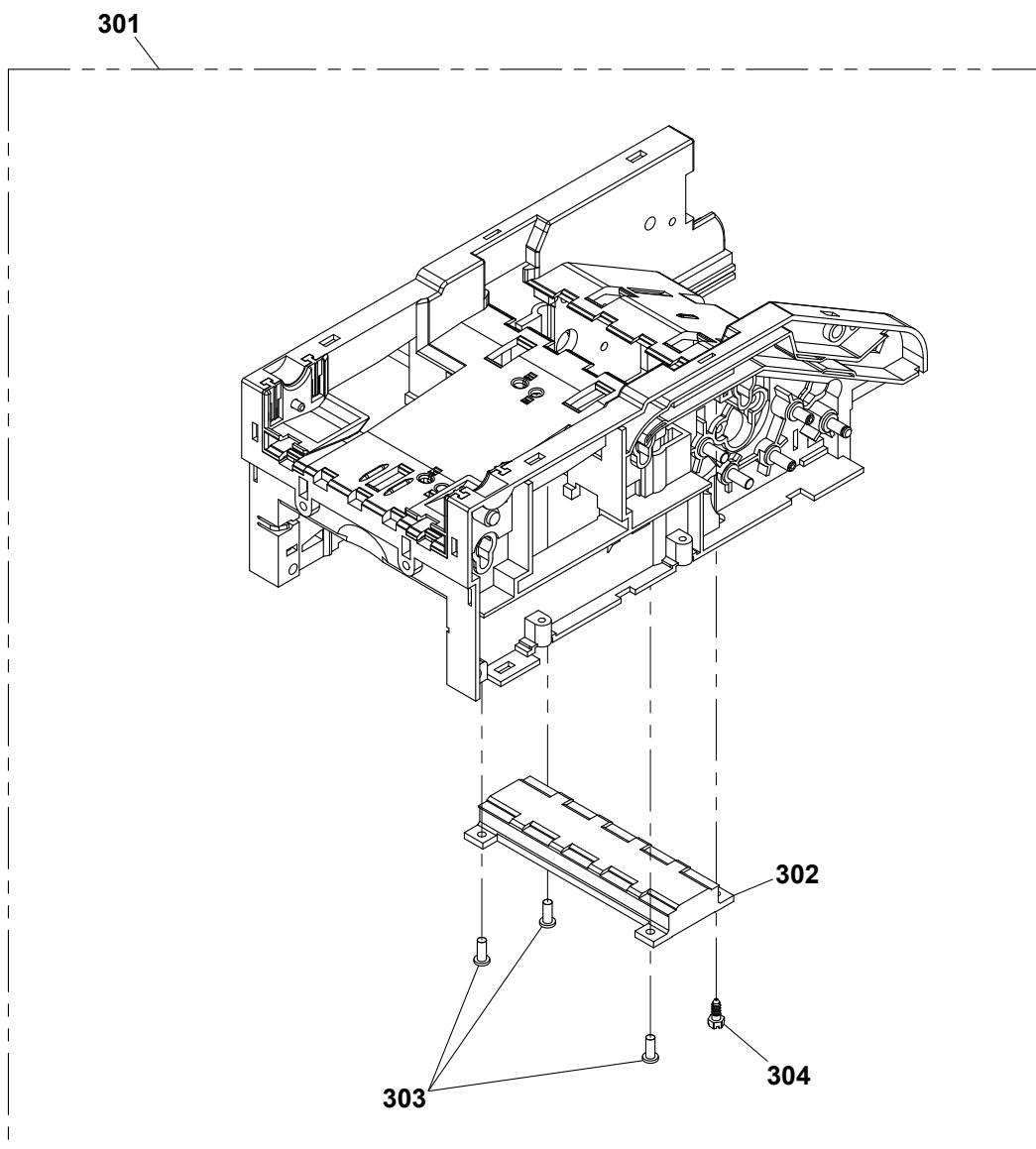
No.	DWG No.	Title
201	S210632	LOWER CHASSIS ASSY
202	S411761	FRONT ROLLER
203	S411762	ROLLER
204	S411763	REAR ROLLER
205	S411764	ROLLER BUSH
206	S311427	TIM GEAR 1.5GT-33
207	S411765	IDLE PULLEY
208	S411801	IDLE SHAFT B
209	S411800	IDLE ARM
210	S311428	W TM PULLEY
211	S311435	PULLEY GEAR
212	S411796	FLANGE
213	D	PM MOTOR-PM35L
214	D	DC MOTOR-CN26
215	D	TIMING BELT-240
216	D	TIMING BELT-384
217	S411766	STACK GEAR A
218	S411767	STACK GEAR B
219	S411768	STACK GEAR C
220	S411769	GEAR PLATE
221	S411770	PRISM SENSOR HOLDER
222	D	PRISM SENSOR
223	S411771	BEZEL PLATE
224	S311429	WIRE PLATE
225	S411772	CN BKT
226	S411776	PIN 1.6X7.5
227	D	BEARING DDL-730ZZ
228	D	BEARING DDL-840ZZ
229		E RING-2.0
230		E RING-3.0
231		WASHER 2.6X7.5X0.5t
232		SCREW 3BW 2X4
233		SELF LOCKING SCREW 3X5
234		SCREW 3BW 3X10
235		SCREW 3BW 2.5X6 PT
236		SCREW 3PW 2.5X10 PT
237	W412400	HARNESS (CN3)
238	W412401	HARNESS (CN6)
239	W412402	HARNESS (CN9)
240	W412403	HARNESS (CN10)
241	D	FPC
242	W412404	I/F HARNESS
243		TIE BAND
244		SCREW 3PW 3X8 PT

## 6-6. SKEW ASSY



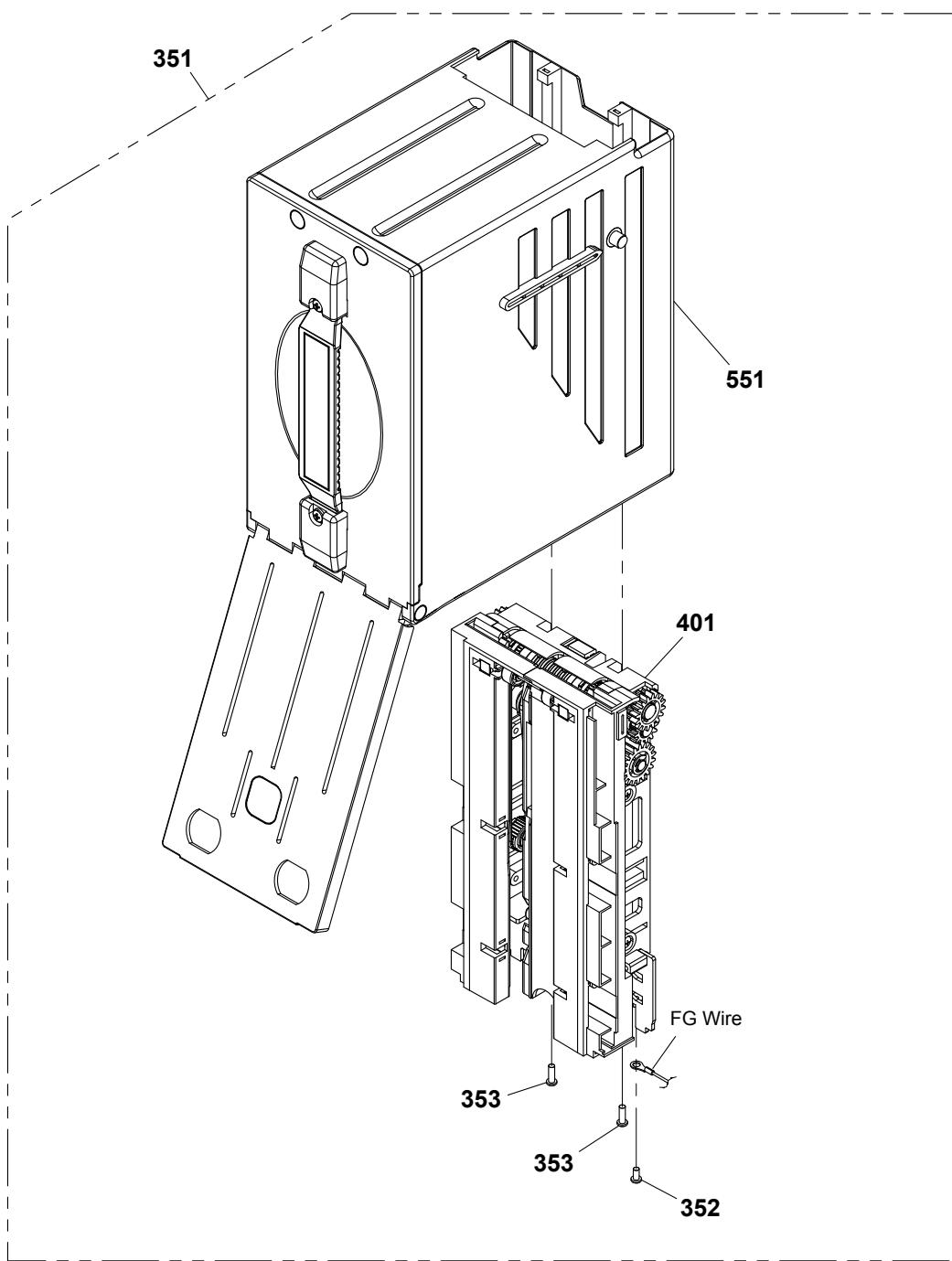
No.	DWG No.	Title	No.	DWG No.	Title
251	S311426	SKEW ASSY	258	S311433	GUIDE L
252	S411787	BASE SUB ASSY	259	S311434	GUIDE R
	S210642	BASE	260	S411791	SKEW SPRING
	S411793	CAM SHAFT SK	261	MA1559	INTERRUPTER PCB
	S411794	GEAR SHAFT SK	262	D	PM MOTOR-PM20S
253	S411788	CAM GEAR SK	263		E RING-2.0
254	S411789	GEAR MI	264		SCREW 3BW 2X6 PT
255	S411790	GUIDE SHAFT	265		SCREW 3PW 2X6 W
256	S311431	RACK L			
257	S311432	RACK R			

## 6-7. LOWER CHASSIS SUB ASSY and CIS



No.	DWG No.	Title
301	S210636 S110386 / S110390 S411778 S411779	LOWER CHASSIS SUB ASSY LOWER CHASSIS GEAR SHAFT ST GEAR SHAFT ST B
	S411780 S411781 S411782 S411783 S411784	GEAR SHAFT ST C GEAR SHAFT ST D TR SHAFT A W PULLEY SHAFT IDLE SHAFT A
	S210640 S210641 S411785 S411786	ENTRANCE L ENTRANCE R LOCK SHAFT FPC SHAFT
302	D	CIS
303		SCREW 3PW 3X8 PT
304		SCREW W 3X8 PT HEXAGON

## 6-8. CASH BOX ASSY



No.	DWG No.	Title	Remarks
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351	S311458 S311424 S311470 S311464	CASH BOX ASSY IC TAG CASH BOX ASSY CASH BOX ASSY IC TAG CASH BOX ASSY	*1 *2 *3 *4
352		SCREW 3PW 2.5X5	
353		SCREW 3PW 2.5X8	

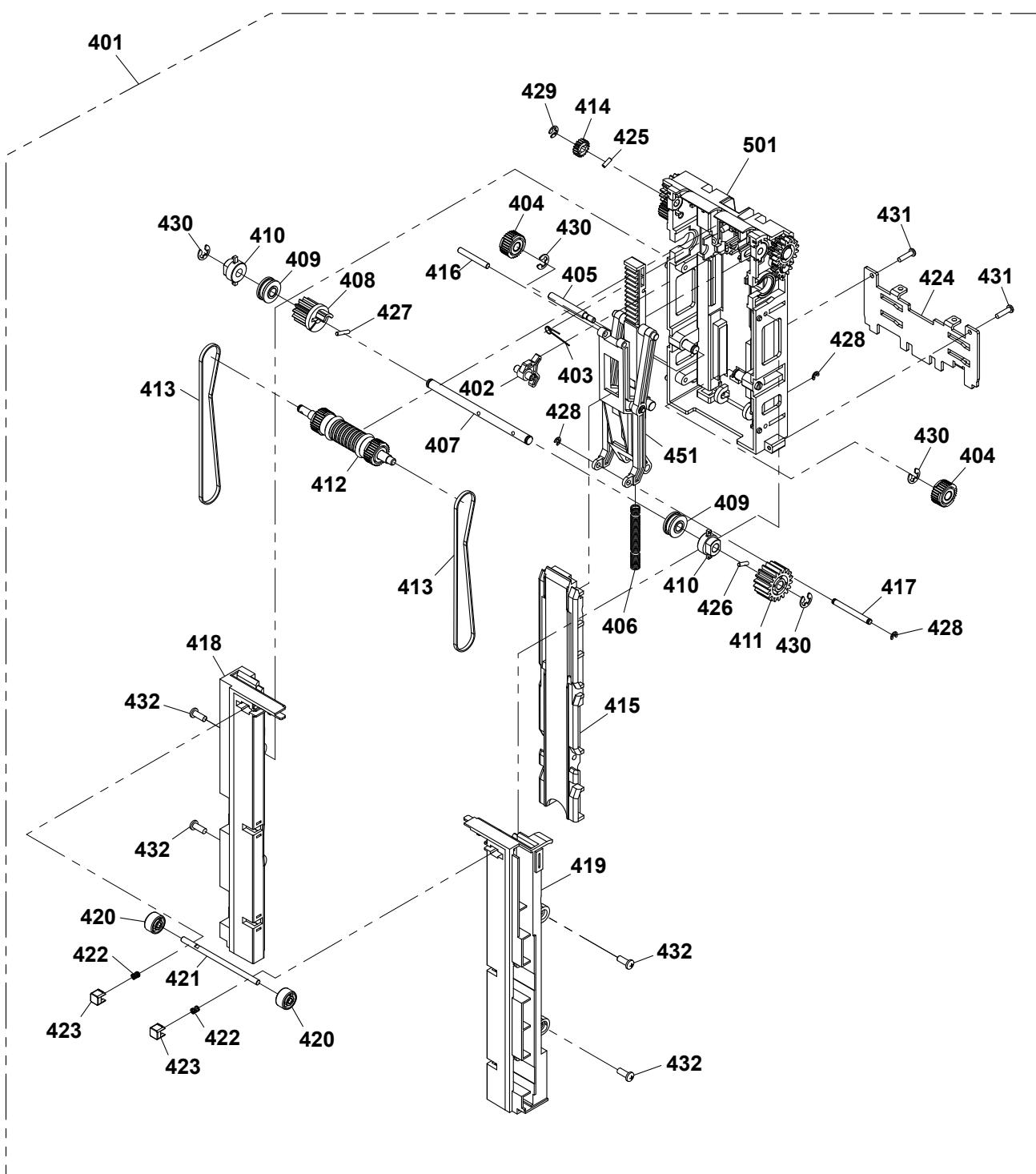
\*1: For 500-bill Cash Box with RF Tag

\*2: For 500-bill Cash Box without RF Tag

\*3: For 1000-bill Cash Box with RF Tag

\*4: For 1000-bill Cash Box without RF Tag

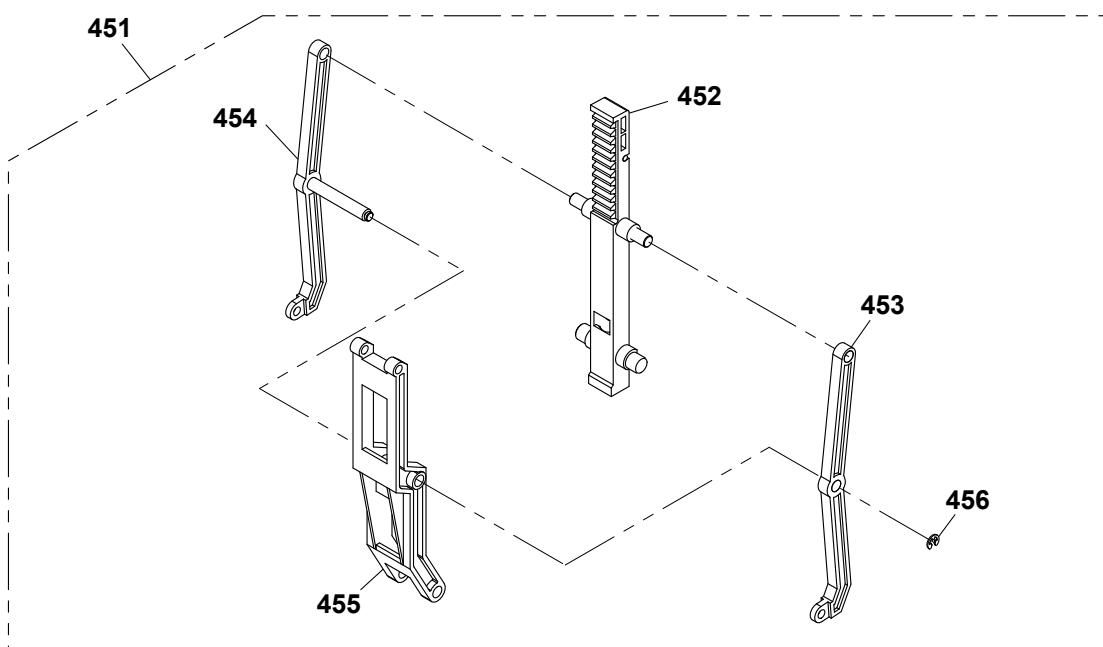
## 6-9. PANTO ASSY



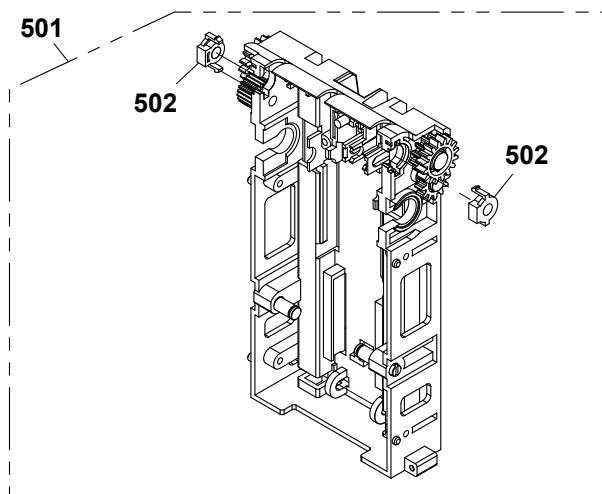
**PANTO ASSY**

No.	DWG No.	Title
401	S311442	PANTO ASSY
402	S411852	LEVER SENSOR A
403	S411860	CAM LEVER SPRING
404	S411851	BELT PULLEY
405	S411853	LINK LOCK SHAFT
406	S411854	RACK SPRING
407	S411855	RACK DRIVE SHAFT
408	S411856	RACK GEAR
409	S411857	CENTER PULLEY ST
410	S411858	BUSH B
411	S411859	GEAR C ST
412	S411850	TRN SHAFT SUB ASSY
	S411888	OL PULLEY SUB ASSY
	S311453	OL PULLEY
	D	O RING 3X8.1
	S411889	TRANSPORT DRIVE SHAFT
	S411851	BELT PULLEY
413	D	TIMING BELT-232.5
414	S411861	TRN GEAR C
415	S311449	PUSH PLATE
416	S411862	U ARM PIN
417	S411863	L ARM SHAFT
418	S210652	PANTO GUIDE L
419	S210653	PANTO GUIDE R
420	S411848	ROLLER PT
421	S411847	ROLLER SHAFT PT
422	S411807	ROLLER SPRING
423	S411808	TENSION ROLLER BUSHING
424	S311447	LOCK PLATE
425	S411864	PIN 2X6
426	S411865	PIN 2X7.5
427	S411866	PIN 2X10
428		E RING-2.0
429		E RING-3.0
430		E RING-4.0
431		SCREW 3PW 2.5X10 PT
432		SCREW 3PW 3X8 PT

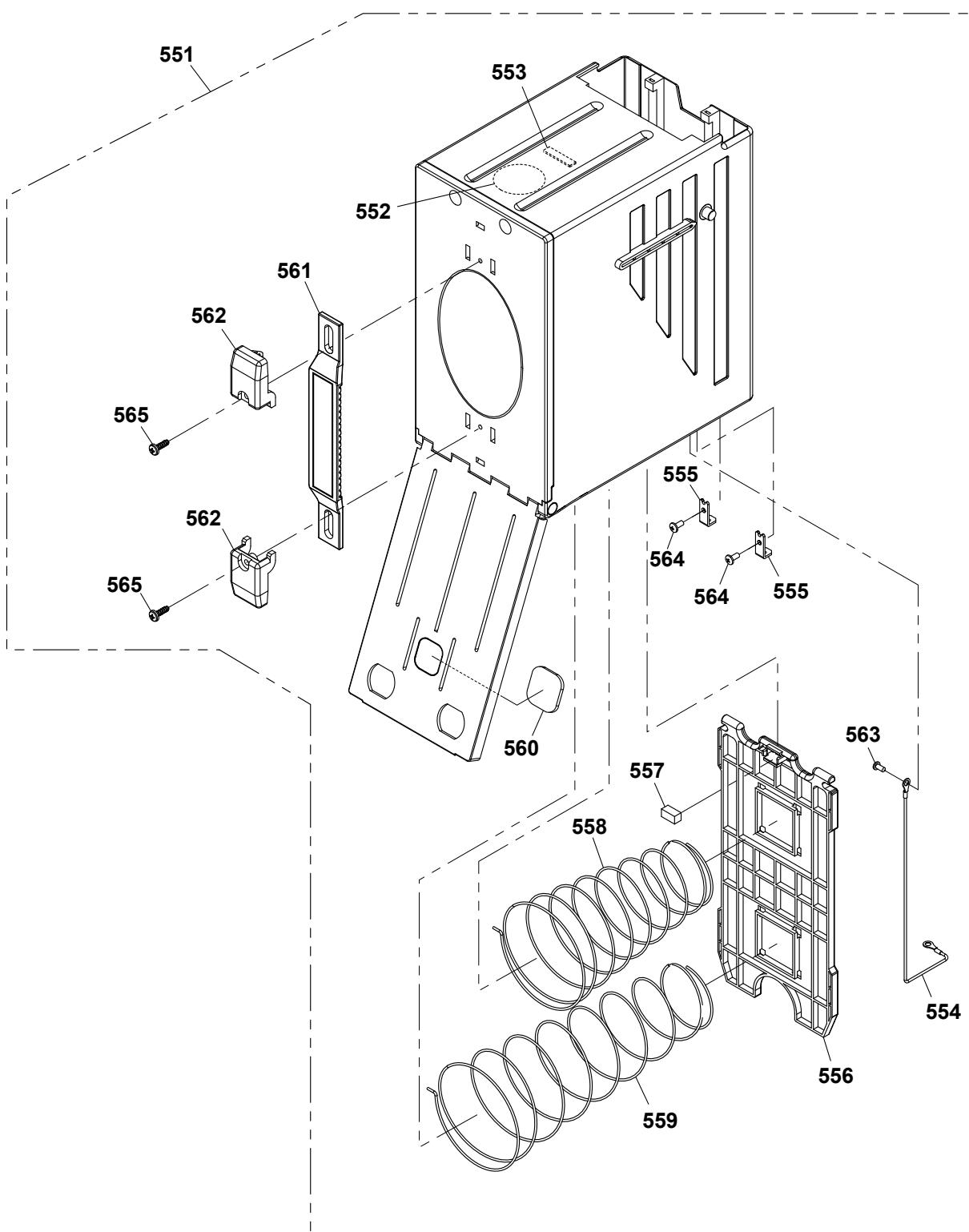
## 6-10. LINK SUB ASSY



No.	DWG No.	Title
451	S411849	LINK SUB ASSY
452	S411878	LATCH UP SUB ASSY
	S311452	LATCH UP
	S411882	RACK SHAFT
	S411883	RACK ROLLER
	S411884	LINK SLIDE SHAFT
453	S411880	LINK B
454	S411879	LINK B SUB ASSY
	S411886	LINK SHAFT
455	S311451	LINK A
456		E RING-2.0

**6-11. PANTO GEAR SUB ASSY**

No.	DWG No.	Title
501	S311448	PANTO GEAR SUB ASSY
	S210655	PANTO BASE
	S411867	TRN GEAR B
	S411868	TRN GEAR B SHAFT
	S411869	GEAR B ST
	S411870	GEAR B ST SHAFT
	S411871	PULLEY SHAFT
	S411873	GEAR A ST
	S411874	GEAR A ST SHAFT
	S411875	TRN GEAR A
502	S411876	TRN GEAR A SHAFT
	S411872	BUSH A

6-12. **BOX ASSY**

**BOX ASSY**

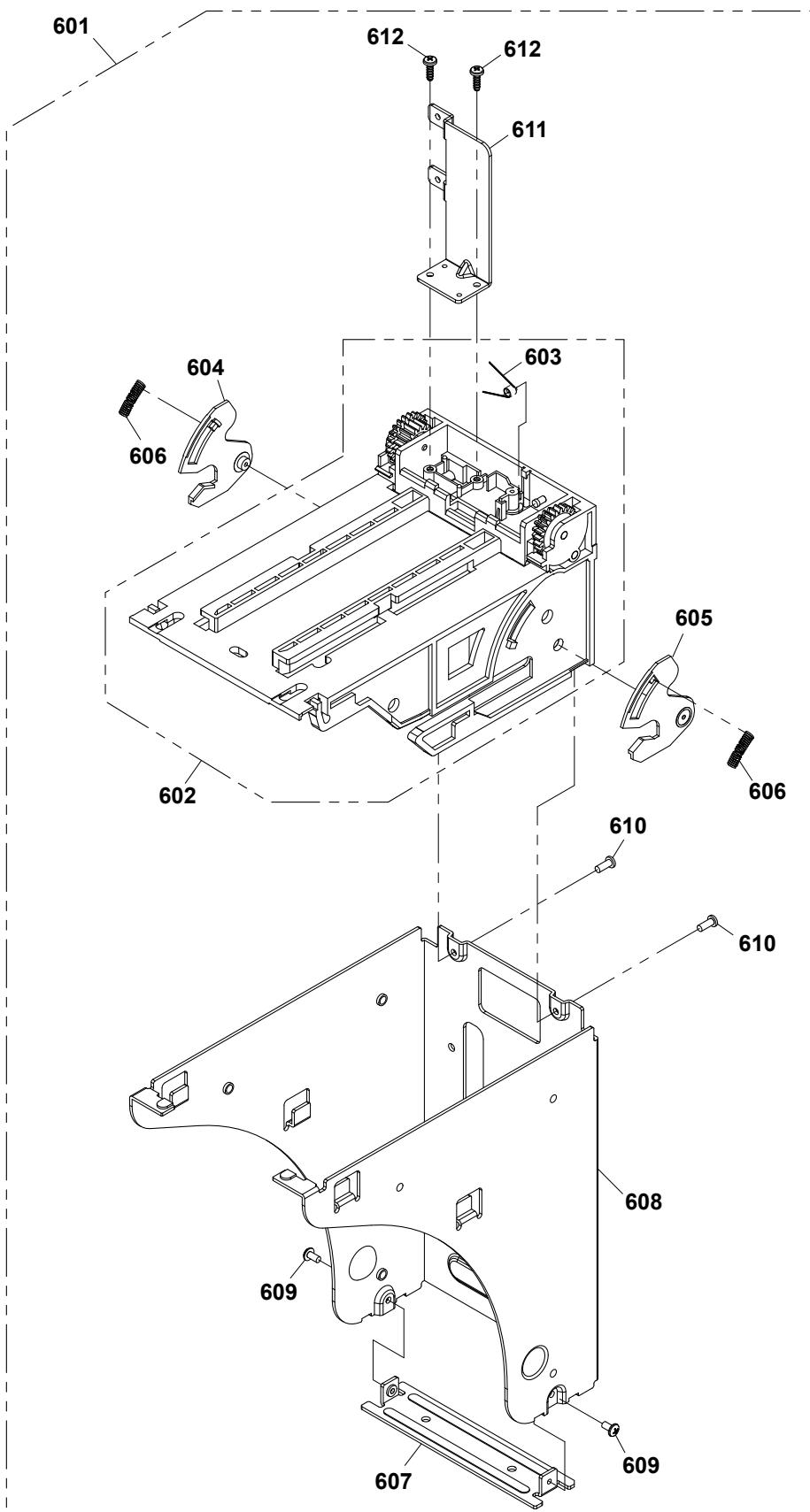
No.	DWG No.	Title	Remarks
551	S311460	BOX ASSY IC TAG	*1
	S311441	BOX ASSY	*2
	S311472	BOX ASSY IC TAG	*3
	S311466	BOX ASSY	*4
	S210647	BOX	*1, 2
	S210663	BOX	*3, 4
	S210650	BOX DOOR	*1, 2
	S210664	BOX DOOR	*3, 4
	S411833	FULCRUM SHAFT	
	S411836	BLINDER	
	S210648	BOX2	
552	D	RF TAG	*1, 3
553	S411838	SHIELD PLATE	
554	W412407	FG WIRE	
555	S411837	FIXED PLATE	
556	S210649	STACK PLATE	
557	S411844	MAGNET 5X5X10	
558	S411841	BACK UP PLATE SPRING 500 U	*1, 2
	S411842	BACK UP PLATE SPRING	*3, 4
559	S411842	BACK UP PLATE SPRING	*1, 2
	S411917	BACK UP PLATE SPRING 1000 L	*3, 4
560	S411846	BOX WINDOW	
561	S411834	HANDLE	
562	S411835	HANDLE CAP	
563		SCREW 3PW 2.5X5	*1, 2
564		SCREW 3BW 2.5X6 PT	*1, 2
565		SCREW 3BW 3X10 PT	*1, 2

\*1: For 500-bill Cash Box with RF Tag

\*2: For 500-bill Cash Box without RF Tag

\*3: For 1000-bill Cash Box with RF Tag

\*4: For 1000-bill Cash Box without RF Tag

**6-13. STAND ASSY**

**STAND ASSY**

No.	DWG No.	Title
601	S411754	STAND ASSY
602	S411893	STAND SUB ASSY
	S110389 /	STAND
	S110392	
	S411903	STACK GEAR ST
	S411904	STAND GEAR TR
	S411905	STAND GEAR
	S411906	STAND GEAR SHAFT
	S411908	HP LEVER A
	S411909	HP LEVER SHAFT
	S411902	HP LEVER B
603	S411899	HP LEVER SPRING
604	S311454	CASH BOX HOLDER L
605	S311455	CASH BOX HOLDER R
606	S411894	HOLDER SPRING
607	S411896	FRAME ANGLE
608	S210656	FRAME
609		SCREW 3BW 3X6
610		SCREW 3PW 3X8 PT
611	S411792	CONNECTOR HOLDER
612		SCREW 3BW 3X10 PT





**ARUZE CORP.**

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