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AD-02 Retrievable Bill Validator

Installation/Operation Manual (Rev. 5)

JCM Part No. 960-000053

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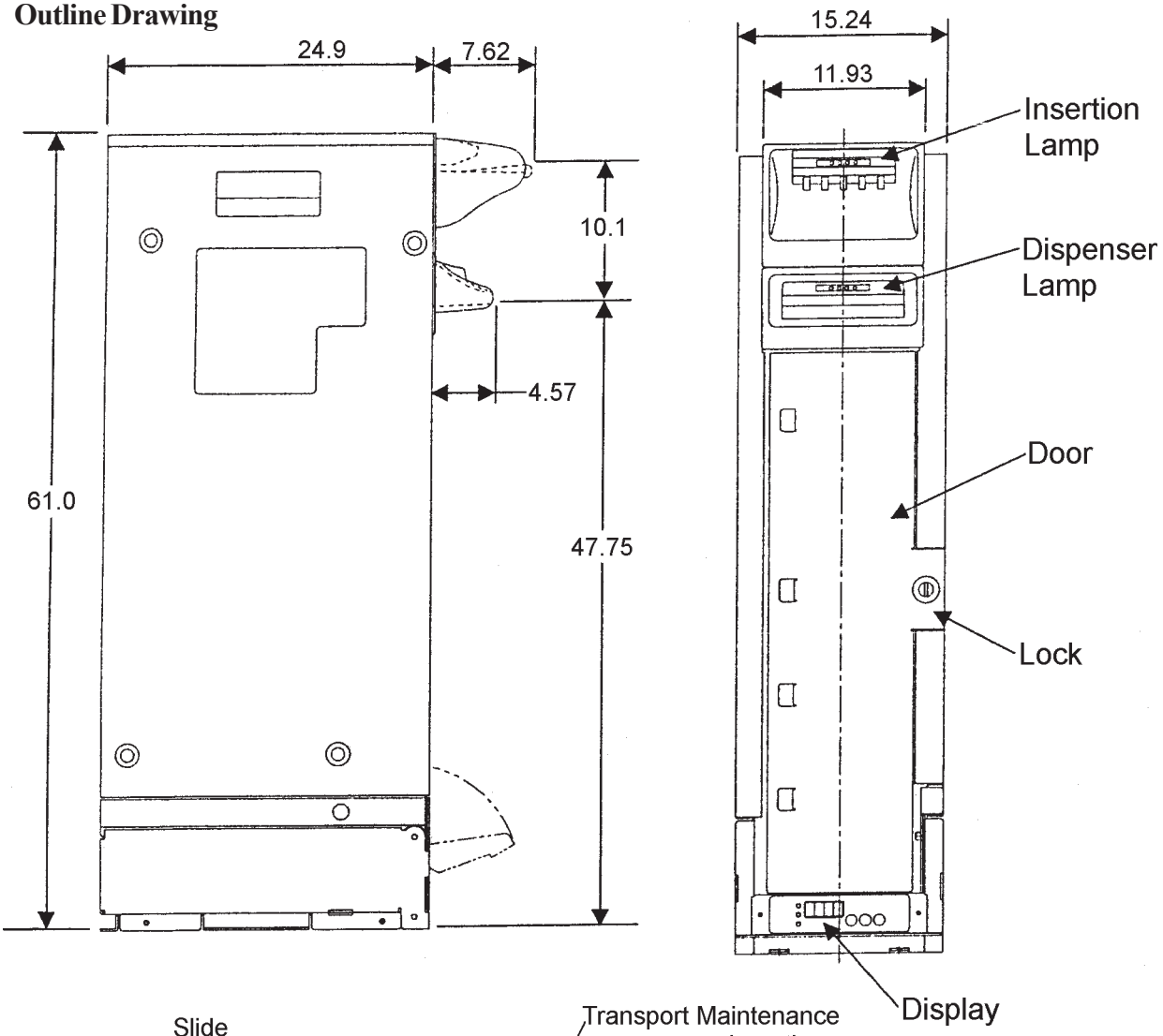
Operating Specifications

a) Input Power Supply	DC24V ± 10%	
b) Power Consumption	Stand by	Approx. 0.5A
	Active	Approx. 3A (Insertion/ Dispense)
	Active (MAX)	Approx. 10A less than 0.1 sec
c) Environment Requirement	Temperature Active	5°C ~ 40°C Inactive-5°C ~ 50°C
	Humidity	30% ~ 80% (no condensation)
	Usage Requirement	Inside the Pay Master
d) Insulation resistance	SG - FG more than 10 MÙ (DC 100V)	
e) Pressure-resistant Insulation	SG - FG AC100V No abnormality after 1 min. pressure	
f) Static Electricity	Noise Pressure-resistant (Single measurement)	
	Condenser Charging method. More than 10KV R=250Ù, C=250pf	
g) Standard	Based on PL Method	
h) Reliability		
1) Life Span	5 years or 2,250,000 bills	
2) Conditions of reliability		
Number of transactions	300/day	
Number of bills per transaction	5 (Avg.)	
Number of operating days	300/year	
Total bill transactions	2,250,000 (5 years)	
Replacement items	Belts, rubber parts	

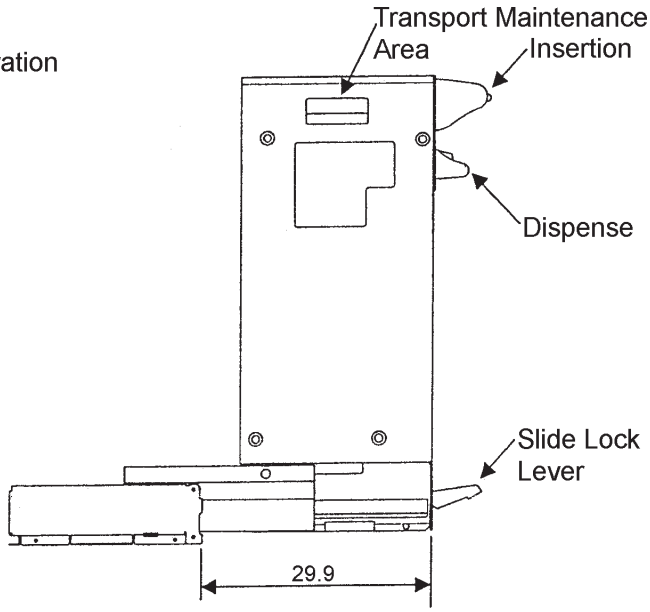
Specifications

Insertion Specification	
1. Denominations	$1, $5, $10, $20, $50, $100 US$
2. Method	Bulk insertion, 4 way acceptance
3. Maximum # of bills	20
4. Speed	Approx. 1.2 sec/bill
5. Validation Method	Optical and Magnetic
6. Insertion Cancellation	Inserted bill return (as a general rule)
7. Reject Method	Bulk return
8. Storage Method	$1, $5, $10 individual bins, $20, $50, $100 mixed bin
9. Number of bills stored	$1, $5, $10 150 bills max., $20, $50, $100 500 bills max.
10. Storage full detection	Optical
Dispenser Specification	
1. Denominations	$1, $5, $10
2. Method	Bulk dispensing
3. Speed	Approx. 2 bills/sec
4. Maximum # of bills	20 bills
5. Reject Method	Bulk reject
6. 2 bills detection	Optical
7. Bin low detection	Optical, approx. 20 bills
8. Reject bin full detection	Optical/Software 40 bills max.
Indicator Specification	
1. Insertion Lamp	
2. Dispenser Lamp	
3. Indicator area	LED indicator (3) from the top, indicate bill jam, bill full, bill shortage
Switches (3)	From the left, SW 1, SW 2, SW 3 SW (1) Clear operation (use SW2, SW3 at test mode) 7 Seg. LED (4 digit) Condition indicator
Other Specifications	
1. Communication Interface	RS - 422 A (RS – 232C Factory Option)
2. Application	Front load
3. Lock	C-89-1 (#410) Takigen
4. Door close/open Detection	Optical
5. Unit Set Switch	Micro-switch
6. Leaving dispensed bill	Leaving the bills at the dispenser, lamp flashing
7. Insertion condition indicator	At the insertion able condition, lamps light
8. Bill set	Set from deposit slit
9. Storage (from the top)	$20, $50, $100 mixed, $1, $5, $10 individual bins
10. Weight	About 16 Kg (35.2 lb.)

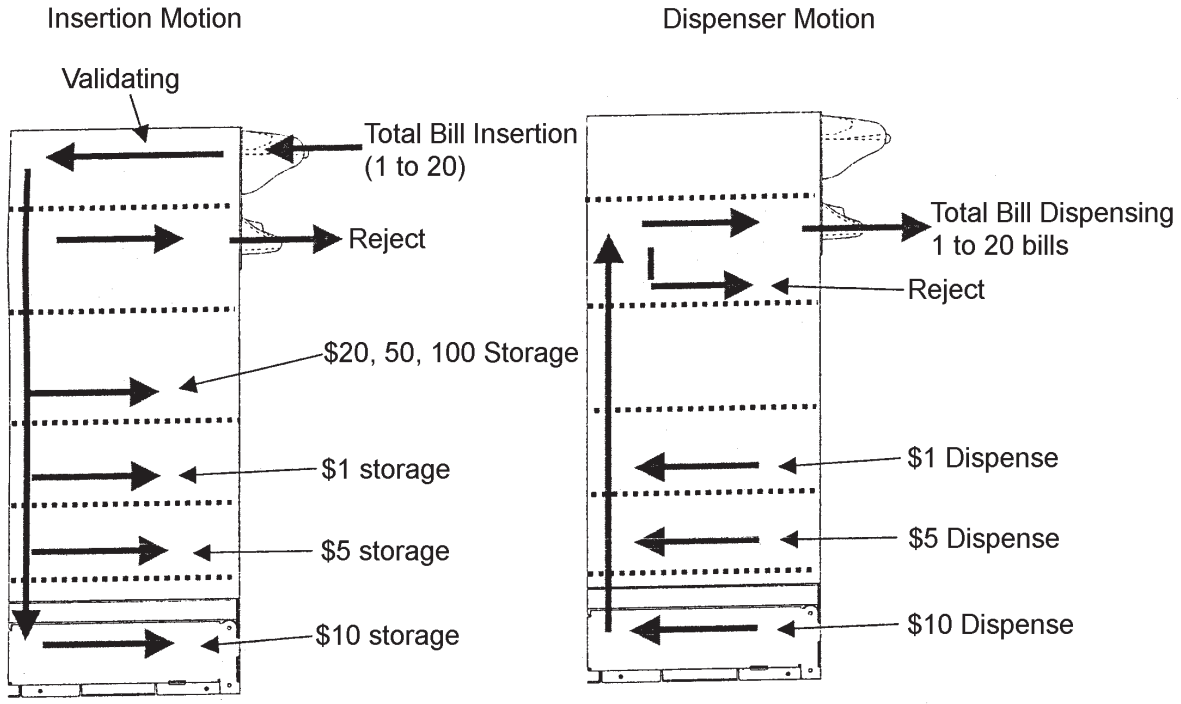
Outline Drawing



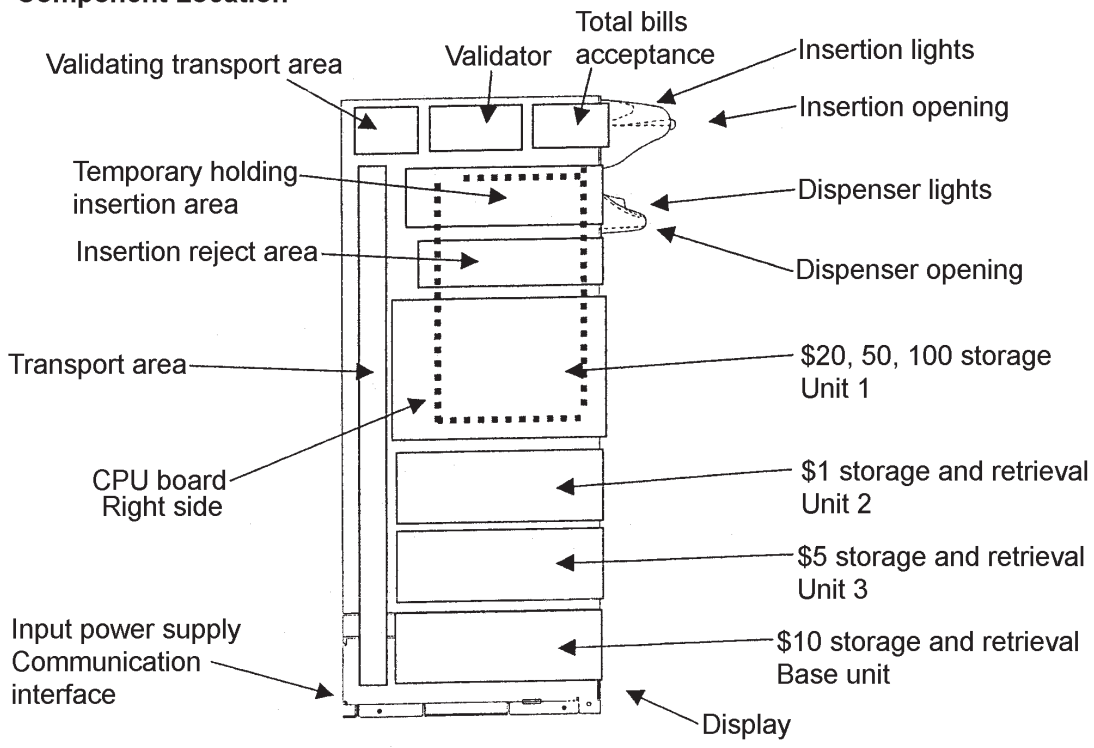
Slide Illustration



Description and Operation



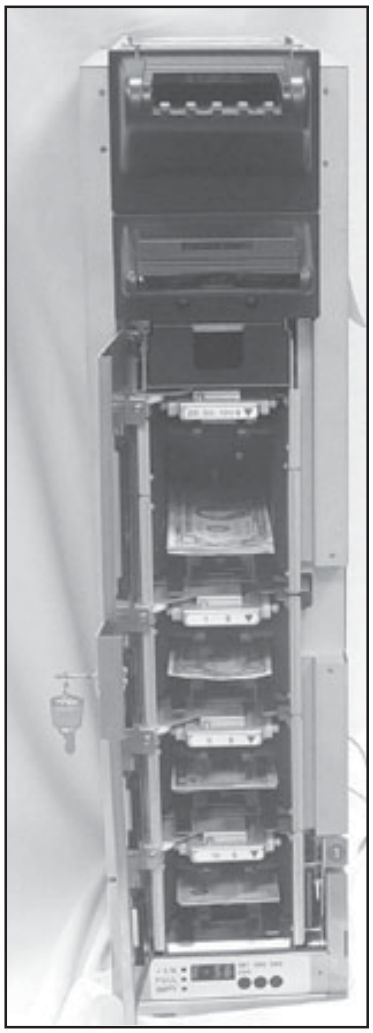
Component Location



Bill Handling

Insertion slot

A maximum number of 20 bills of mixed denominations can be inserted at one time. Wait until all bills have been accepted before adding more bills.



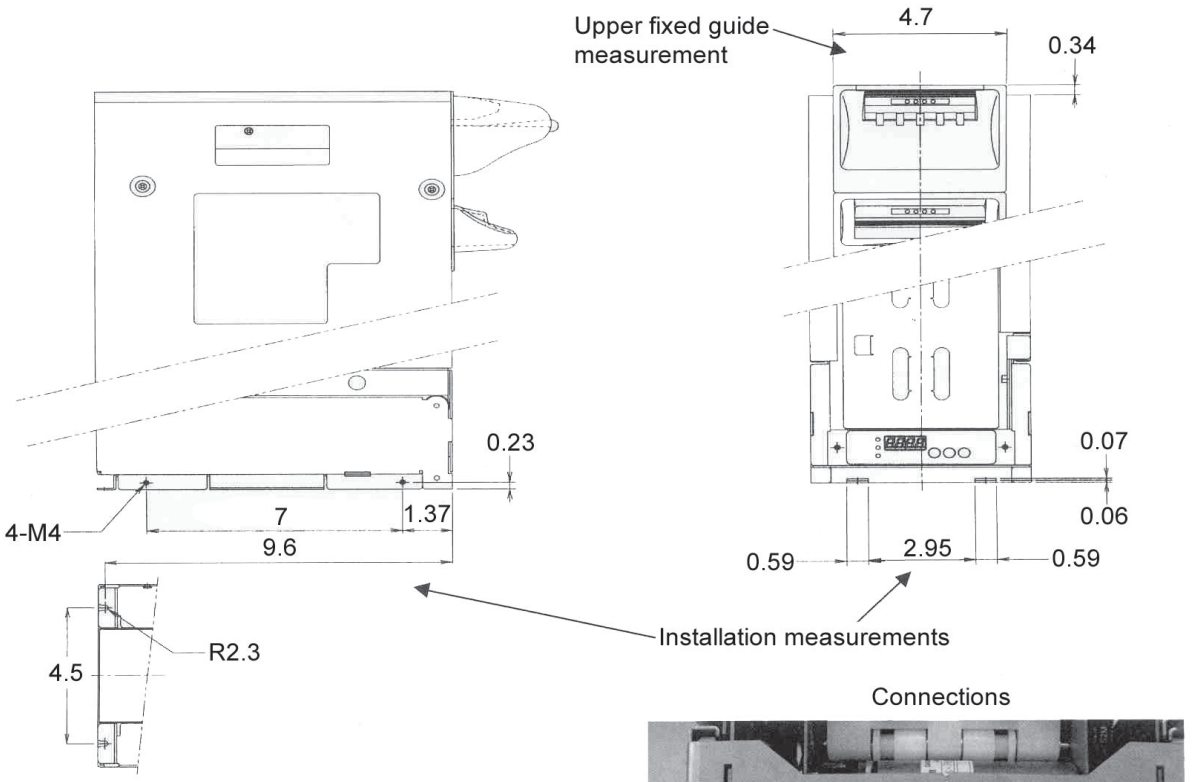
Bills can be retrieved at the request of the host operator. The AD-02 will dispense up to 20 bills at one time. If for any reason bills are sent to the holding box, instead of the retrieval slot, the host operator will receive a message to that effect.

Retrieval Slot

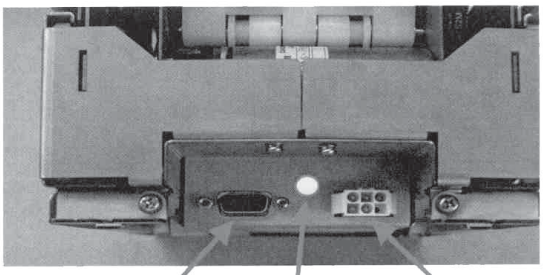
Holding Box

Bills can also be retrieved by unlocking the door and opening it, then manually removing the bills from the holding bins.

Installation, Connections, and Transportation

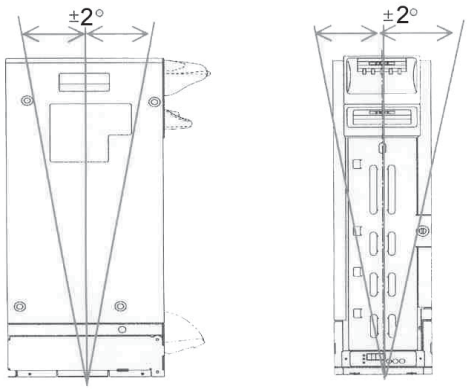


Connections



1. For communication and DC 24V specifications, see interface specification.

2. Make sure to connect ground.

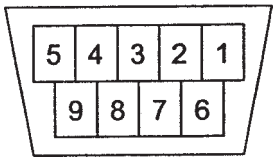


Installation degree tolerance

Transportation

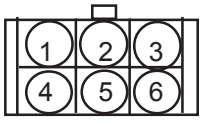
When transporting the host equipment, pack the Pay Master separately, and install it after setting up the host equipment.

Connector Specifications



Communications Port

Machine side: JEC-9S (JST)
Connection side: JEC-9P (JST) or equiv.



Power Supply Port

Machine side: ELR-06V (JST)
Connection side: ELP-06V (JST)

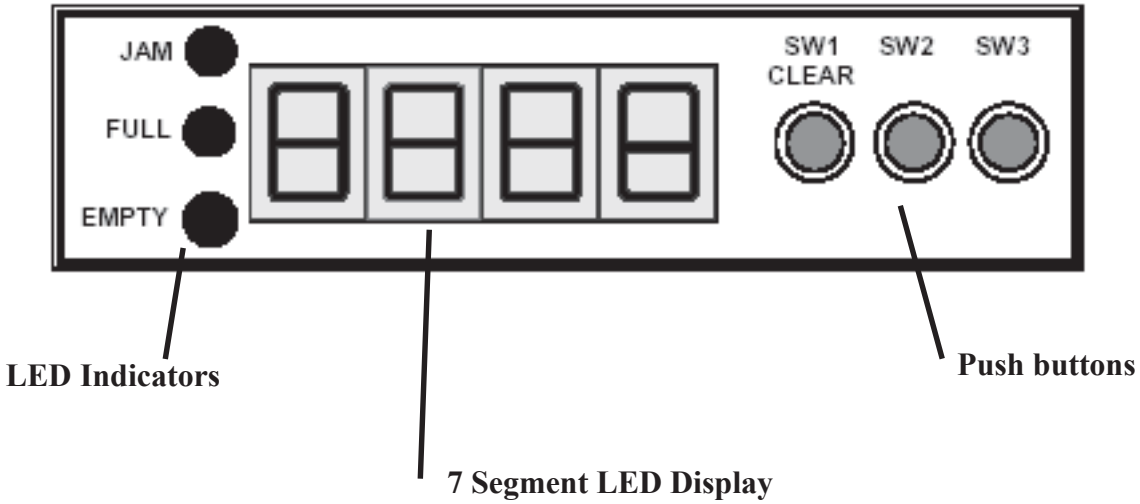
Power Supply

Pin No.	Signal	Remarks
1	DC24V	Power Supply
2	DC24V	
3	GND	
4	GND	
5	FG	Frame Ground
6	NC	Unused

Communications Port

Pin No.	Signal	Direction		Remarks
		Host	Machine	
1	NC			Unused
2	RD	→		Received Data
3	SD		←	Transmitted Data
4	NC			Unused
5	SG			Signal Ground
6	NC			Unused
7	NC			Unused
8	NC			Unused
9	NC			Unused

Display Panel



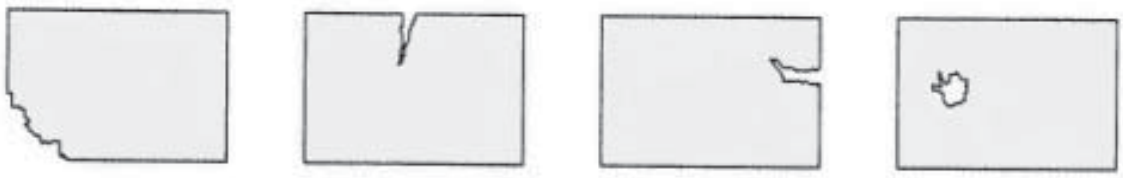
The operator need only be concerned with the three LED indicators on the control panel. These indicate a JAM, which will require the assistance of a service technician, or one of the stackers is FULL or EMPTY. In those two situations, the AD-02 must be opened and bills either removed or added.

The 7-segment LED display and the push buttons are diagnostic tools to be used by qualified service technicians.

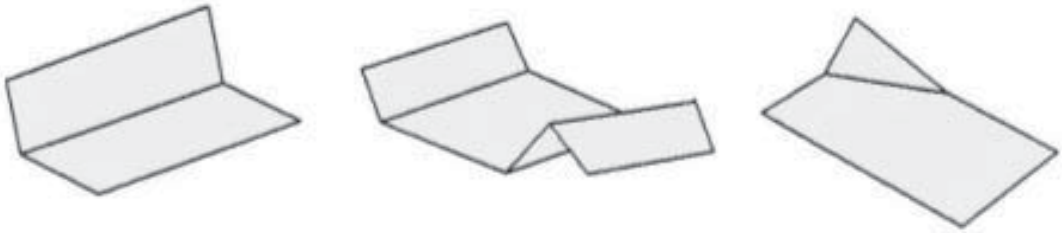
Bill Condition

When loading bills:
Officially sealed bills, lossen them.

Circulated bills, Don't use dirty, wet, or wrinkled bills. Don't use bills in the conditions shown below:

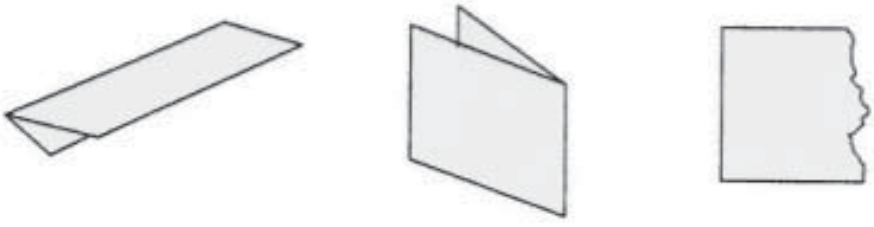


Damaged Bill



Bent Bill

Curled bill



Folded or Half bill

Loading the stackers

The stackers can be manually loaded by following this procedure:

1. Open the door on the AD-02 (Fig. 1).

2. Insert the note-stacking tool in one of the stackers (Fig. 2). Make sure the tool is inserted as far as it will go (Fig. 3).

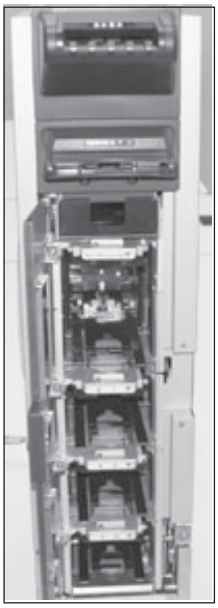


Figure 1

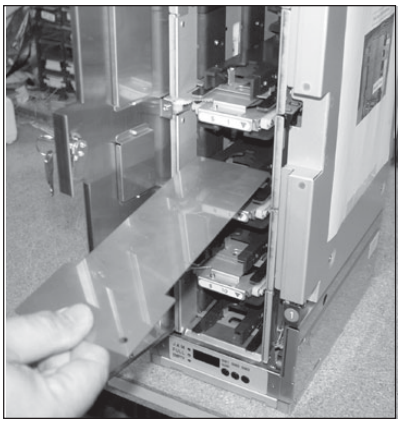


Figure 2

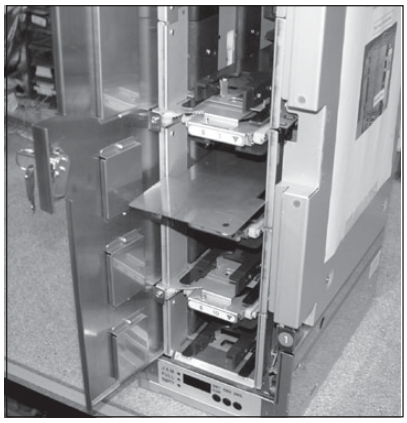


Figure 3

3. Hold the stack of notes to be inserted, and squeeze the sides of the stack to form a valley. Then place the bills on the note-stacking tool and push them all the way in (Fig. 4).

4. Keeping a finger on the stack of notes, gently slide the note-stacking tool out of the AD-02 (Fig. 5)

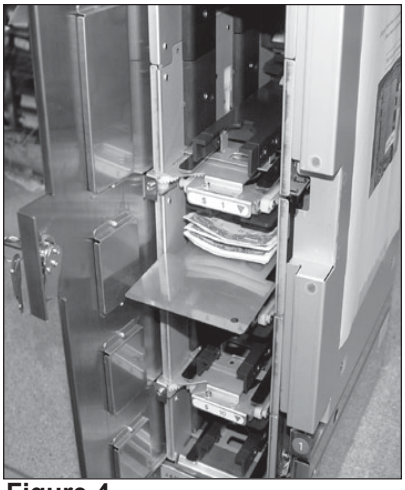


Figure 4

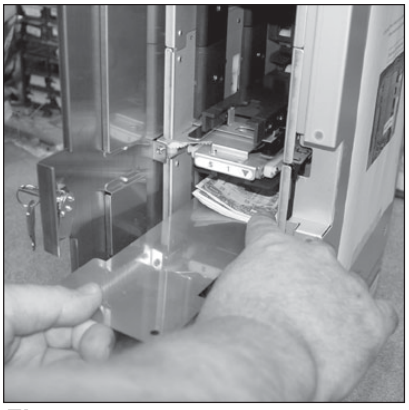
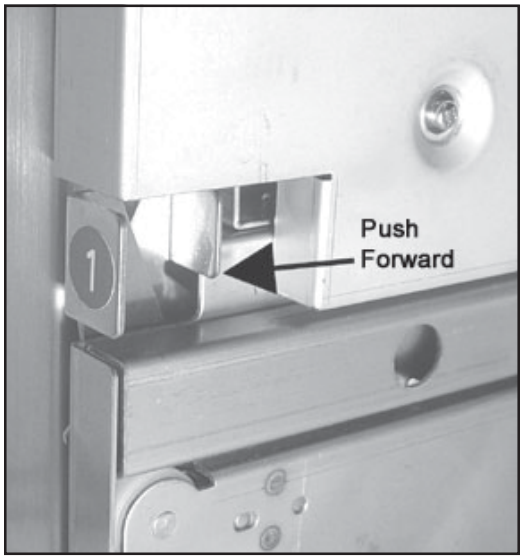


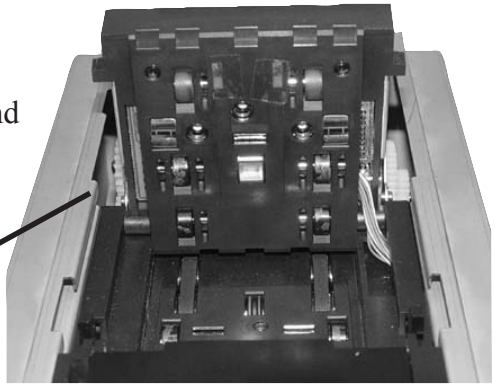
Figure 5

Releasing the slide assembly and clearing the bill path

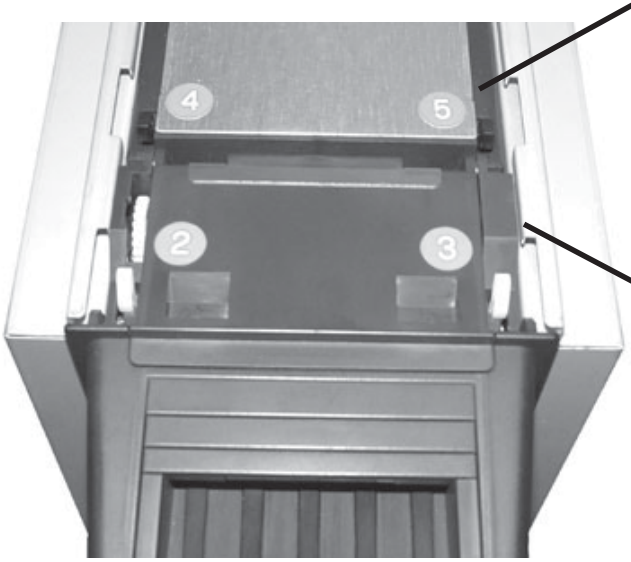


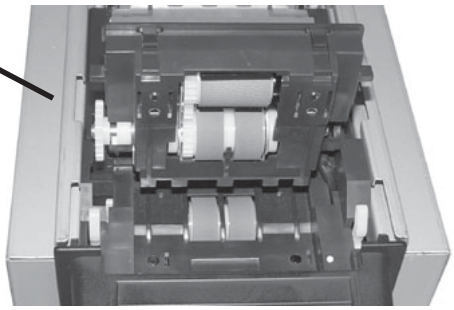
Push the release lever foward. The front lever releases automatically and the machine can be pulled out of the slide assembly for maintenance or to clear bill jams. Pushing the machine firmly back into the slide assembly will lock it in place.

If there is a bill jam, the jam display light will go on, and the location of the jam will be indicated by an error message (see Error Codes, page 16).



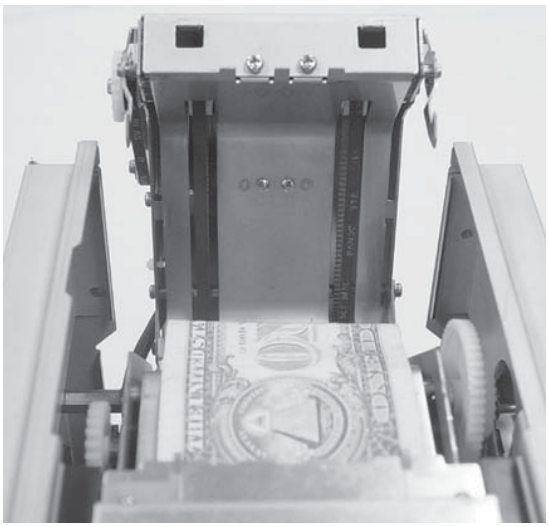
Validator



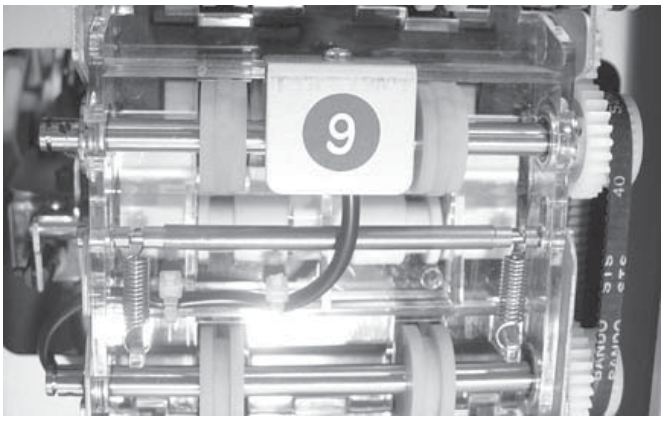


Bulk Loader

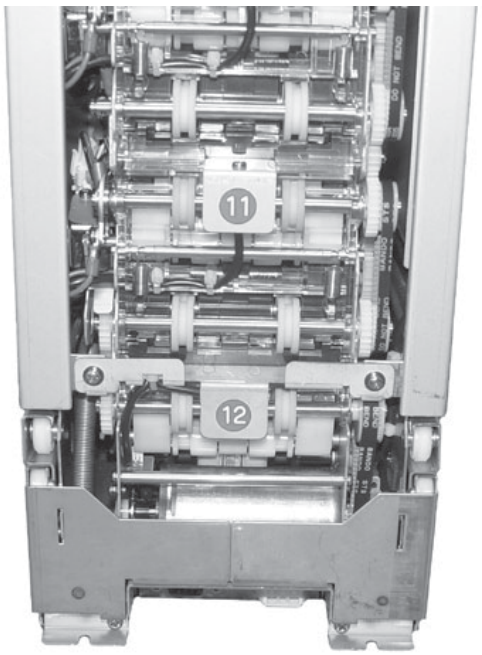
Transport section



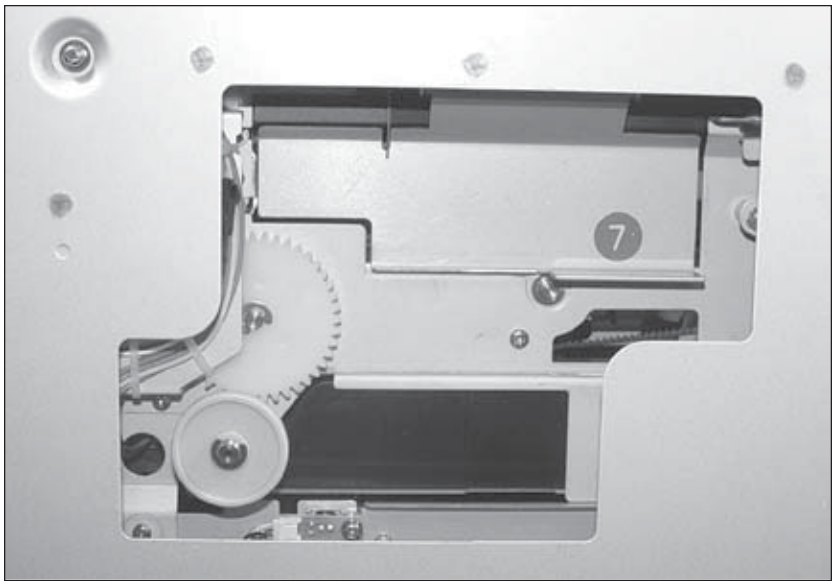
Transport with jammed bill

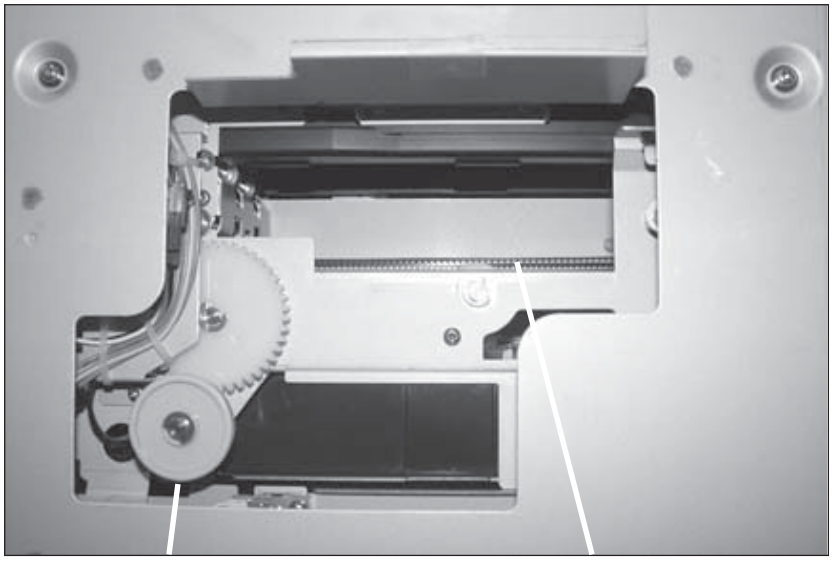


Bill Jam



It is possible that a bill can get jammed in the rear transport section of the machine during the insertion or dispersal process. A jammed bill in this section is easily detected through the clear plastic doors.





If there is a bill jam error during dispersal, it could be in the temporary stacker area. Open the door on the left side of the machine (7) to see if there is a jammed bill. Turning the wheel will move the bill forward or backward on the belt for easier removal.

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