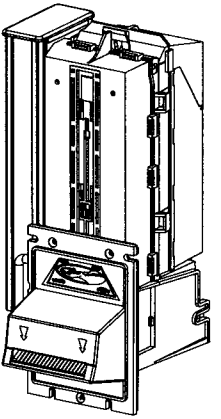
coinco®

BA-30 Pocket Maintenance Guide



Notes

Cleaning

The BA-30 should be cleaned every 20,000 bills or every two years (or as needed, depending on the environmental conditions of the location). Dust can be removed with a soft brush or cloth or it can be blown out using compressed air.

CAUTION: Petroleum-based cleaners and freon-based propellants can damage plastic and some electronic components. Scouring pads and stiff brushes may harm the protective conformal coating on the circuit boards and can mar the plastic. These items should never be used when cleaning a BA-30.

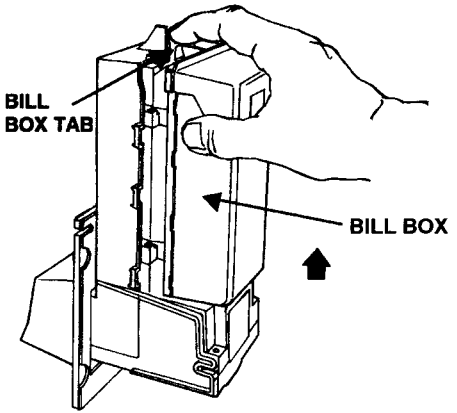
Cleaning Procedure

1. Disconnect power from the bill acceptor.
2. Remove the bill box and use a soft cloth to wipe the dust from around the intermediate frame and stacker plate.
3. Remove the lower track.
4. Using compressed air or a soft brush, blow or brush the dust off of the optic sensors and out of the recessed sensor openings.
5. Remove dust from around the belts and wheels on the lower housing and the sensors on the upper sensor board. The upper sensors are located directly above the lower housings sensor when the lower housing is installed.

6. The bill path can be cleaned to remove further dirt and oil using a soft cloth moistened with a mild soap and water solution.
7. Clean the magnetic head using a swab and isopropyl alcohol.
8. Once the lower housing is dry, place it back into the mainframe so that the tab on the bottom locks into place.
9. Blow the dust out of the encoder wheel and its sensors. (It may be necessary to extend the stacker plate to access the encoder wheel. This can be done by supplying power to the unit momentarily, so that the stacker plate extends.)
10. Remove dust from the transport belt areas and from any other places of build up.
11. Remount the bill box.
12. Apply power and insert bills to verify that the unit is functioning properly.

Removing the BA30 Bill Box

The bill box can be removed by pushing the bill box tab forward while sliding the bill box up.

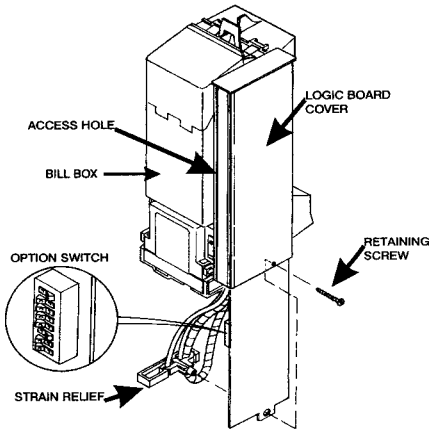


Installing the Bill Acceptor

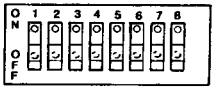
1. Remove power from the vending machine.
2. Set the bill acceptor option switches as desired. (See following pages.)
3. Mount the bill acceptor.
4. Connect the bill acceptor harness to the mating harness in the vending machine.
5. Load the vending machine with product and fill the coin changer with change.
6. Apply power to the vending machine.
7. Test for proper operation.

Option Switch Settings

BA30 bill acceptors contain an option switch bank on the main logic board which allows the unit to be customized to the requirements of the individual account. This switch bank is factory set with switches 3 and 8 in the ON position and 1, 2, 4, 5, 6 and 7 in the OFF position.



OPTION SWITCH



BA30SA/BA32SA Option Switch Settings

Switch	ON	OFF
1	High Security	Standard Acceptance
2	Accepts bills in one direction only (face up, green seal first)	Accepts bill in both directions (face up)
3	Serial or Parallel Interface	Pulse Interface
4	$20 Accept	$20 Reject
5	$10 Accept	$10 Reject
6	$5 Accept	$5 Reject
7	$2 Accept	$2 Reject
8	$1 Accept	$1 Reject

BA30B/BA32B Option Switch Settings

Switch	ON	OFF
1	High Security	Standard Acceptance
2	Accepts bills in one direction only (face up, green seal first)	Accepts bill in both directions (face up)
3	Standard credit pulse 150ms on 150ms off	Short credit pulse 50ms on 50ms off
4	$20 Accept	$20 Reject
5	$10 Accept	$10 Reject
6	$5 Accept	$5 Reject
7	$2 Accept	$2 Reject
8	$1 Accept	$1 Reject

Troubleshooting

The Troubleshooting Guide on the following pages is intended to help locate problems within the BA-30. If an acceptor cannot be repaired by following the guide, return the acceptor to the nearest Coinco Service Center for repair. If it is necessary to return the acceptor to Coinco, please accompany the acceptor with a complete description of the malfunction to help expedite the repair and return of the bill acceptor.

Logic troubleshooting minimizes time spent in removing and replacing modules that are not defective. Some failures are caused by minor problems such as loose or faulty connections. Please check the following before replacing any parts:

- Connectors are inserted correctly.
- Connector pins are not bent or broken.
- All wires are properly secured.
- Coin changer inventory tubes are filled to their correct levels.

BA-30 Diagnostic Codes

Troubleshooting can be achieved by reading flashes or blinks of light from the LED located on the side of the logic board cover. These flashes can be seen through the grey smoked cover.

Diagnostic codes 1-6 may appear during normal servicing. To access diagnostic codes 7-18, open the bill box lid and remove power from the BA-30 for 10 seconds. Reapply power to BA-30 with the bill box lid open. Diagnostic codes 7-18 will now appear for the respective error conditions detected in the BA-30.

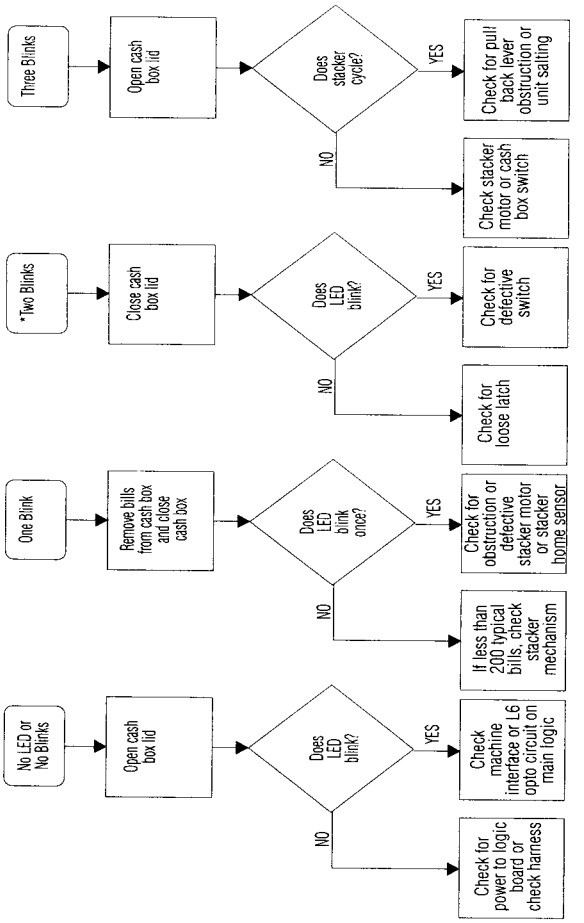
If more than one error or condition exists, the lower number diagnostic code will appear until its respective error or condition is corrected. The left and right sensors referenced in the following chart are given viewing the BA-30 from the front.

DIAGNOSTIC CODES

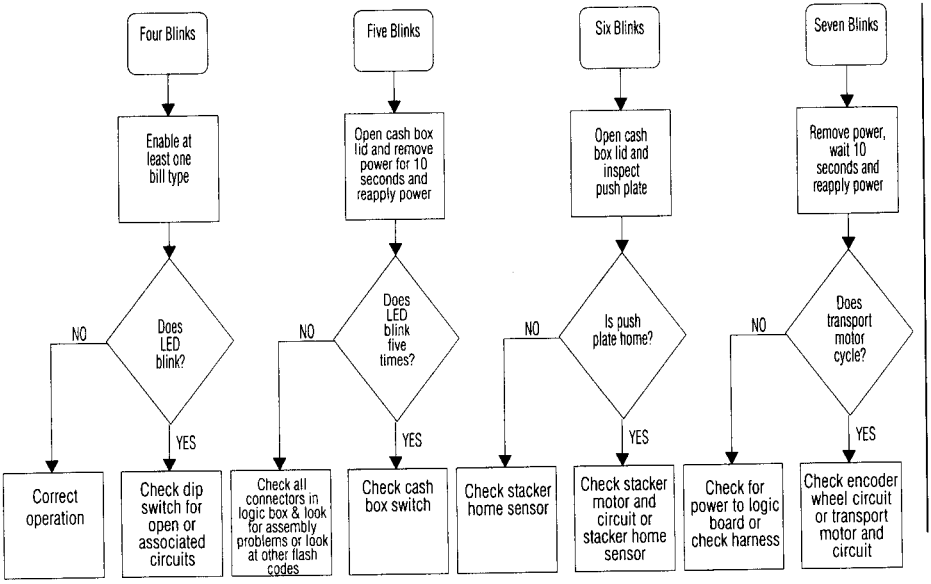
# of Flashes	Description of Code
1	Bill Box Full
2**	Bill Box Lid Is Open or Bill Box Is Off
3	Check Bill Path
4	All Bill Accept Switches Are Off
5	Bill Jam or Sensor Error
6	Stacker Motor/Home Sensor
7	Transport Motor/Encoder Sensor
8	(Reserved for Future Use)
9	EEPROM Check Sum Error
10	RAM or ROM Check Sum Error
11	Center Optic Sensor
12	Right Optic Sensor
13	Left Optic Sensor
14*	Bill Position Sensor Error
15	Right position Sensor
16	Left Position Sensor
17	Lower Board Anti-Pullback Lever Sensor
18*	Upper Board Anti-Pullback Lever Sensor

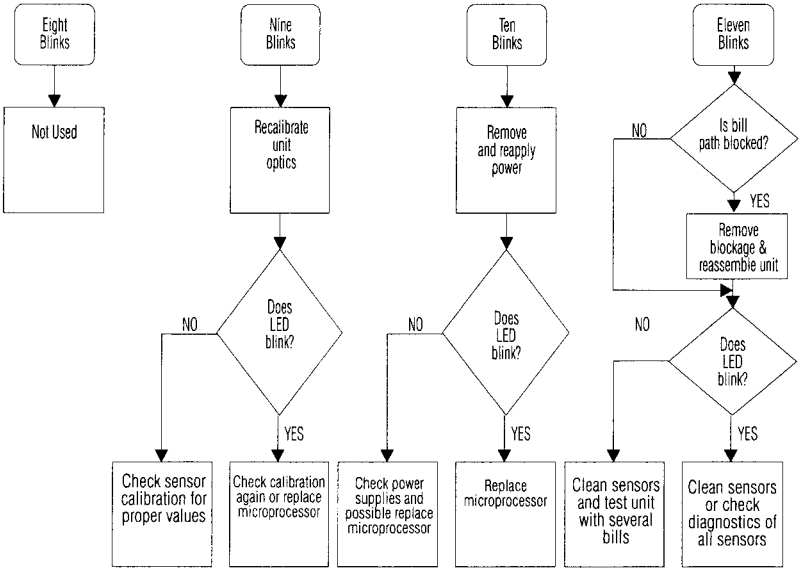
* Units beginning with Serial #109300187 do not have a bill position sensor. Units beginning with Serial #359300001 do not have upper board anti-pullback lever sensors.

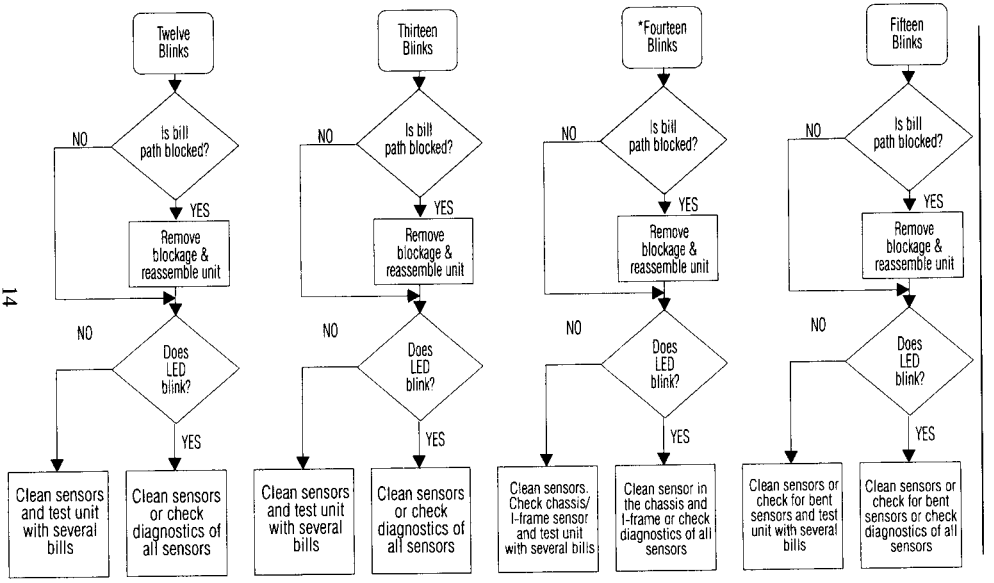
** Bill box diagnostic code used on BA30B models only.



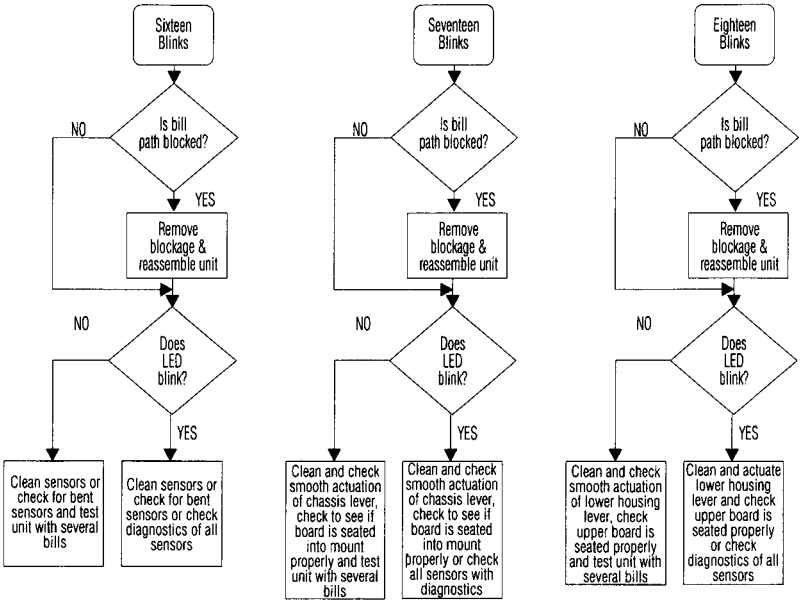
*Bill box diagnostic code used on BA-30B model with chip 921068-5 only.


Four Blinks
Enable at least one bill type
Does LED blink?
NO
YES
Correct operation
Check dip switch for open or associated circuits
Five Blinks
Open cash box lid and remove power for 10 seconds and reapply power
Does LED blink five times?
NO
YES
Check all connectors in logic box & look for assembly problems or look at other flash codes
Check cash box switch
Six Blinks
Open cash box lid and inspect push plate
Is push plate home?
NO
YES
Check stacker home sensor
Check stacker motor and circuit or stacker home sensor
Seven Blinks
Remove power, wait 10 seconds and reapply power
Does transport motor cycle?
NO
YES
Check for power to logic board or check harness
Check encoder wheel circuit or transport motor and circuit


Eight Blinks
Not Used
Nine Blinks
Recalibrate unit optics
Does LED blink?
NO
YES
Check sensor calibration for proper values
Check calibration again or replace microprocessor
Ten Blinks
Remove and reapply power
Does LED blink?
NO
YES
Check power supplies and possible replace microprocessor
Replace microprocessor
Eleven Blinks
Is bill path blocked?
NO
YES
Remove blockage & reassemble unit
Does LED blink?
NO
YES
Clean sensors and test unit with several bills
Clean sensors or check diagnostics of all sensors



*Units with serial number 109300187 or later do not have a bill position sensor.



*Units with serial number 359300001 or later do not have a chassis anti-cheat sensor.

For technical support on this or any other Coinco product, contact your nearest Coinco Branch Office/Service Center.

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