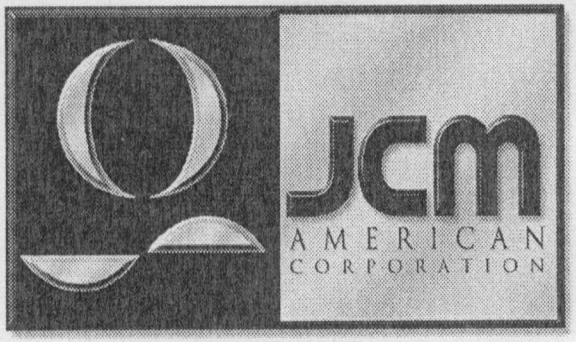


JCM TRAINING OVERVIEW
WBA-XX

Phone # (800) 683-7248
(702) 651 0000
Technical Support # (702) 651-3444

Fax # (702) 651-0214

E-mail techsupport@jcm-american.com

Web Address http://www.jcm-american.com

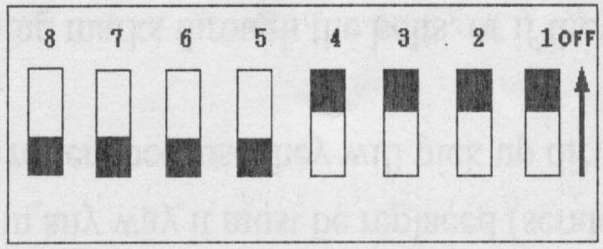
CLEANING THE HEAD

- Absolutely NO solvents should be used !!!
- Only soap and water or citrus cleaning cards.
- Do not soak the unit
- If service can determine that a solvent was used it will void the warranty, if applicable
- Wipe the lenses, belts, rollers and bill path until clean.
- If a lens is altered in any way it must be replaced (scratched, clouded etc)
- Do not scratch the rollers because they will pick up dirt faster, increasing PM scheduling.
- If you can see timing marks through the belts, or if they have frayed edges they must be replaced.

4

WBA 2 holes

CALIBRATION MODE



- Auto calibration mode is entered by turning dip switches 5,6,7,8, to the on position and powering up the unit, the unit will cycle then stop, waiting to receive the black and white reference paper, part number 501-000032. Insert the calibration paper black paper first.
- The unit will sample the white paper then the black. It will do this 5 or more times and then return the calibration paper.
- The test LED on power supply or bezel lamps will blink rapidly if the calibration was successful.
- If the calibration failed the test LED/ bezel lamps, will blink a code then pause and repeat. The number of blinks corresponds to the calibration error table.

CALIBRATION ERRORS

Number of LED Blinks	CONTENTS	
1	Entrance lever error	Check the PLEV / FLEV sensor
2	Solenoid error	Check the solenoid in the transport cover
3	Feed in sensor error	Check the feed in sensor in the transport
4	Conveyor jamming	Check the feed in sensor in the transport
5	Gain error (White level adjustment error)	If reference paper was fed in correctly change upper sensor board
6	D/A error	If reference paper was fed in correctly change upper sensor board
7	Bar sensor error	Change upper sensor board
8	Acceptor head removed	Check 20 pin connector that connects head to CPU board
9	Magnetic setting error	Change upper sensor board
10	Write in error	Change upper sensor board
11	Black level error	Change upper or lower sensor board

TEST MODE

Set dipswitch 8 on and 1-7 off, then apply power.
The test LED/ bezel light will blink at a steady rate. This is telling you the unit is in
standby. If the led is constantly on or off, there is a problem with the CPU.
Before replacing the CPU, try changing the EPROM or re-download the unit.
To start the test, select the appropriate switch. .
Use switch 8 to enable and disable the test (E/D). ON = disable , OFF = enable

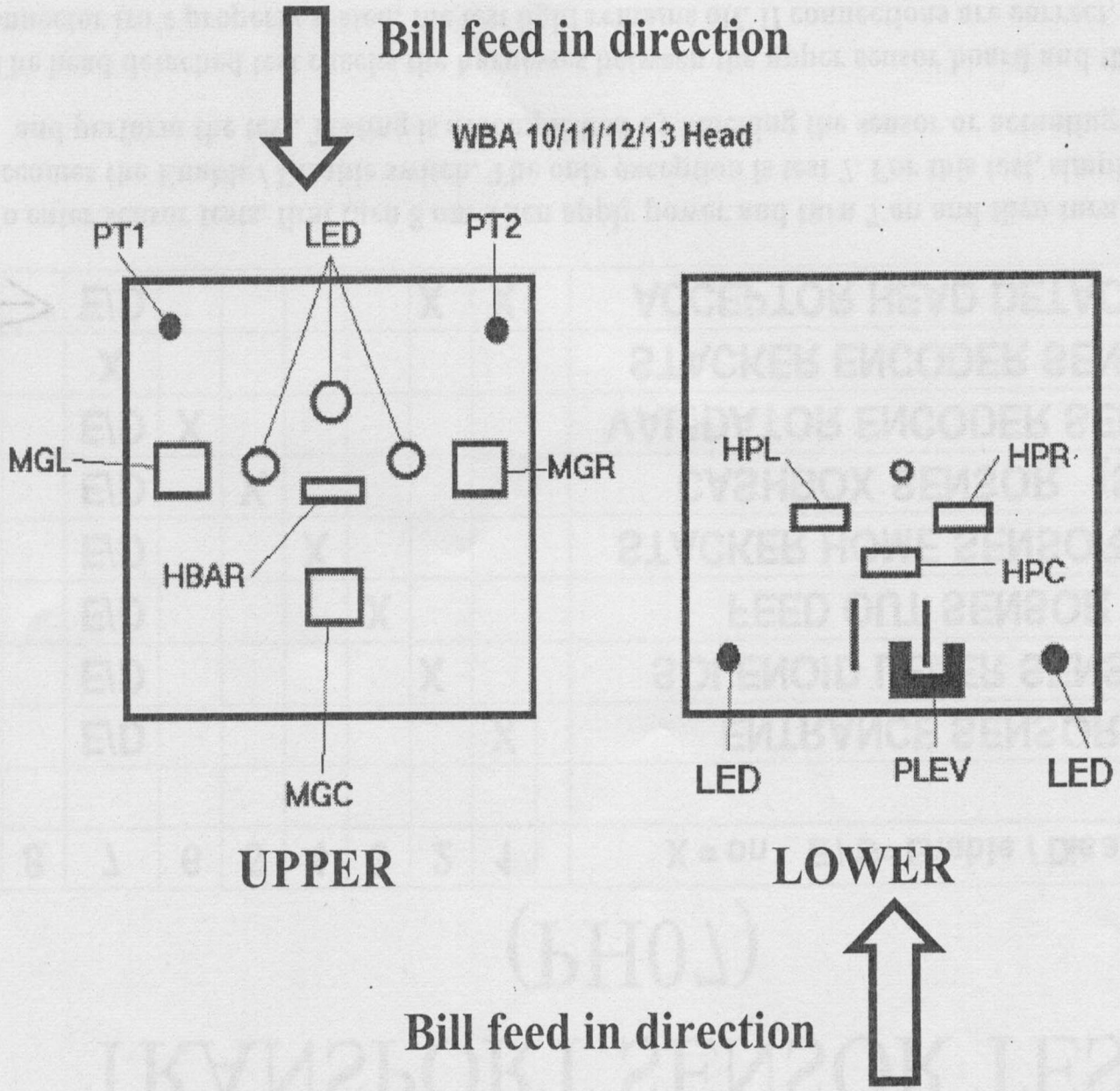
8	7	6	5	4	3	2	1	X = on E/D = Enable/ Disable
E / D							X	Transfer motor forward rotation test *(Test light off = motor speed OK)*
E / D						X		Transfer motor reverse rotation test *(Test light off = motor speed OK)*
E / D					X			Stacker motor and pusher mechanism test
E / D				X				Acceptor head / stacker test, *(Use error table # 2 only)*
E / D				X			X	Acceptor stacker test with out head, *(Use error table # 2 only)*
E / D			X					Solenoid test
E / D		X						Acceptor head sensor test (PH 06)
E / D	X							Stacker sensor test (PH 07)
E / D					X	X	X	Bill acceptance test with out cash box and frame *(Error table 1 or 3)*
E / D				X	X	X	X	Bill acceptance test with cash box and frame *(Error table 1 or 3)*

HEAD SENSOR TEST (PH06)

X = on E/D= Enable / Disable

8	7	6	5	4	3	2	1		WBA-10/11/12/13
		E/D					X		PLEV
		E/D				X			Not Used
		E/D			X				PT 1 (IR)
		E/D		X					PT 2 (IR)
		E/D	X						HPL (Red, IR)
		X							HPR (Red, IR)
	X	E/D							HPC (Red, IR)
	X	E/D					X		Not Used

To enter sensor tests, first turn 8 on. Then apply power and turn 6 on. Then turn 8 off. 6 now becomes the Enable/ Disable switch for these tests. The only exception is test 6. For this test, simply leave 6 on and perform the test. Once a sensor has been selected, test by interrupting the light path from LED to sensor with a card or by opening the validator head. The test light or bezel light should illuminate when the light path is interrupted.


Bill feed in direction
WBA 10/11/12/13 Head
PT1
LED
PT2
MGL
MGR
HBAR
MGC
UPPER
HPL
HPR
HPC
LED
PLEV
LED
LOWER
Bill feed in direction

TRANSPORT SENSOR TEST

(PH07)

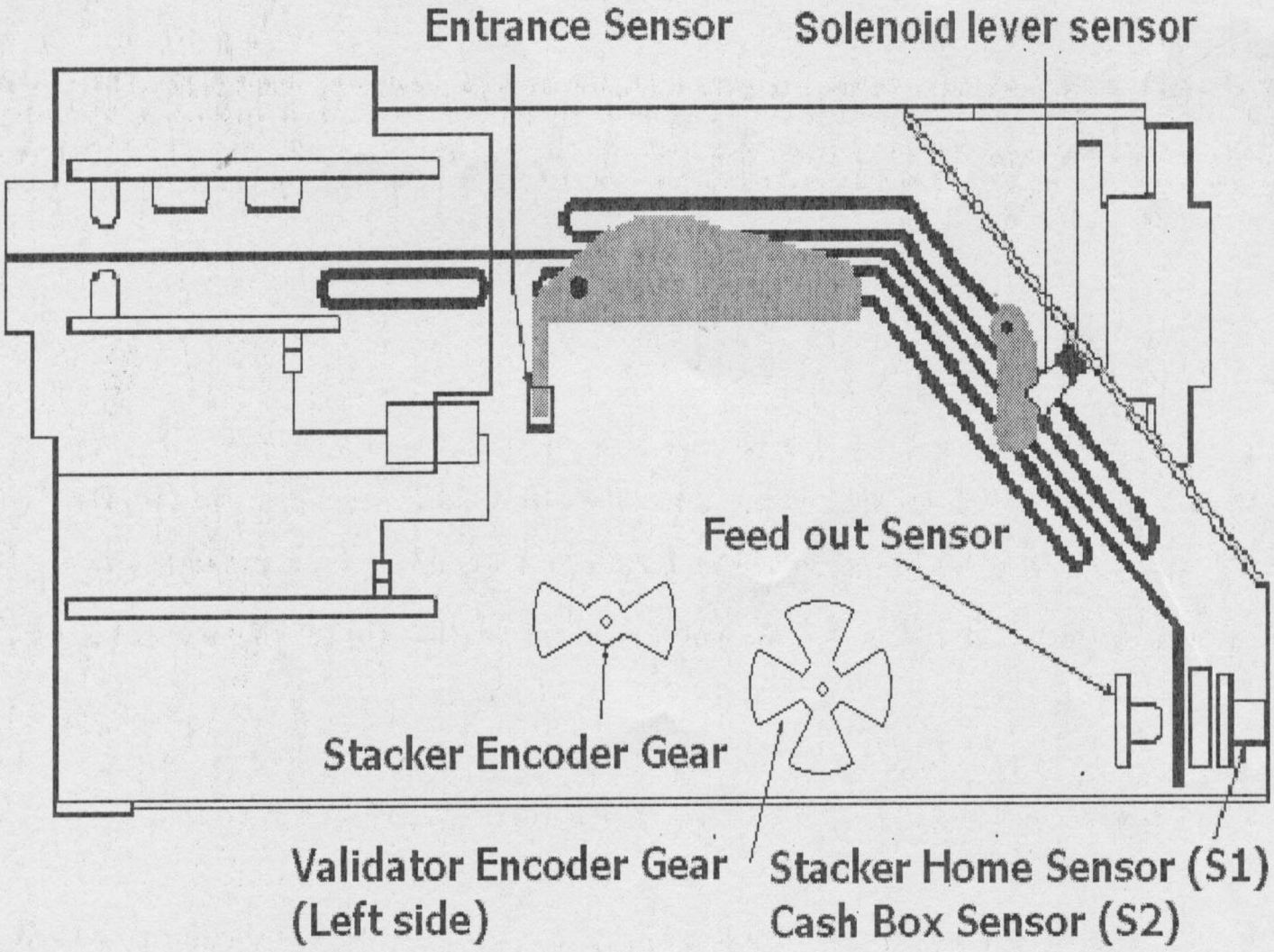
8	7	6	5	4	3	2	1		X = on E/ D= Enable / Disable
	E/D						X		ENTRANCE SENSOR
	E/D					X			SOLENOID LEVER SENSOR
	E/D				X				FEED OUT SENSOR
	E/D			X					STACKER HOME SENSOR (S1)
	E/D		X						CASHBOX SENSOR (S2)
	E/D	X							VALIDATOR ENCODER SENSOR
	X								STACKER ENCODER SENSOR
→	E/D					X	X		ACCEPTOR HEAD DETACHED

4 blade flag
2 blade flag

test 0-4 you change any boards

To enter sensor tests, first turn 8 on. Then apply power and turn 7 on and then turn 8 off. 7 now becomes the Enable / Disable switch. The only exception is test 7. For this test, simply leave 7 on and perform the test. Testing is accomplished by blocking the sensor or actuating the lever.

The head detached test checks the harnesses between the upper sensor board and the CPU. If a connector isn't properly seated, the test light remains off. If connections are correct, the test light or bezel light illuminates.


Entrance Sensor
Solenoid lever sensor
Feed out Sensor
Stacker Encoder Gear
Validator Encoder Gear
(Left side)
Stacker Home Sensor (S1)
Cash Box Sensor (S2)

Bill Acceptance test

1	2	3	4	5	6	7	8	1 = on E/D = Enable/ Disable
1	1	1					E/ D	Bill acceptance test with out cash box and frame
1	1	1	1				E/ D	Bill acceptance test with cash box and frame

The unit can be tested with just the Head and Stacker, or in the frame with the cashbox.

The difference being that the test for just the head and stacker doesn't check the cashbox flag sensors at the rear of the transport (S1 Stacker home position sensor, S2 Cashbox present sensor)

Start with Dip switch 8 on, apply power, and set dips according to the chart. Then turn Dip 8 off to start the test. The unit will cycle and is now ready to accept and Identify bills via the test LED on the harness.

The identification is done as follows.

1 flash= $1 2 flash-$2 (not used anymore) 3 flash= $5

4 flash= $10 5 flash= $20 6 flash= $50 7 flash= $100

FORCED DOWN LOAD MODE

8	7	6	5	4	3	2	1			X = on
X	X									FORCED DOWN LOAD MODE WBA 10 / 12 AT 9600 BAUD
X	X	X								FORCED DOWN LOAD MODE WBA 10 / 12 AT 19.200 BAUD
X	X	X					X			FORCED DOWN LOAD MODE WBA 12 AT 38.400 BAUD

Select the appropriate download speed and set the dipswitches accordingly.

Then hook up to either laptop computer using the PS15-006,

DT-004, or DT-004 with multi-download tool and begin download.

(Note: multi-download tools require 9600 baud download speed only)

Download Method

- Download is accomplished with either a DT-004 Download tool and appropriate harnessing, or an IBM compatible computer and a PS-15-006 power supply/ interface and download software.

To download the WBA using a DT-004. First connect the PS-007 power supply to the download tool. Or at the game use the adapter harness (p/n 400-100068)for WBA-10 or (400-100070) for WBA-12. Then attach the download tool to the validator with the data harness (p/n 400-100069) for WBA-10 or (400-100071) for WBA-12. Install the appropriate 4 MEG program chip. With the WBA set for 19,200 Baud, turn on the power switch. The ***power*** and ***ready*** light will illuminate. The validator LED's on the CPU will flash alternately. Press ***start,*** and the ***ready*** light will start to flash indicating download in progress.When complete the **OK LED** will illuminate. To verify programming, press ***reset*** and then ***version***. In 3-5 seconds the **OK LED** should illuminate.

To download with a computer, connect the PS-15-006 to the computer serial port with the 9 pin connector. Then connect to the validator. Use adapter harness (p/n 400-100109) for WBA-12. The download program, DWN211, and the software must be in the same file folder. To start the program in DOS use the following command line:

<Drive> \ *<Folder>* \ DWN211.exe *<filename.extension> b* 252 246 *n,* then hit ENTER. *filename.extension = name of file to be downloaded, b = Baud Rate - (0 = 9600; 1=19,200, 2= 38,400) 252 = Address, (always use 252), 246 = packet size –(this is the largest possible packet size), n = the COM Port used – (1 or 2).* Now press <shift> F to begin download. When complete press <shift>V to verify.

ERROR TABLE 1 ABNORMAL CODES

Error #	Description	POSSIBLE CAUSES
1	CASHBOX FULL	STACKER ENCODER
2	STACKER JAM OR PUSHER UNIT TROUBLE	STACKER ENCODER OR PUSHER HOME SENSOR (S1)
3	TRANSPORT COVER OPEN OR SOLENOID LEVER TROUBLE	TRANSPORT ENTRANCE SENSOR OR SOLENOID LEVER SENSOR
4	BLOCKED BILL PATH SENSOR	ALL HEAD AND TRANSPORT SENSORS
5	THE ACCEPTOR HEAD IS DETACHED, NOT CALIBRATED OR INCORRECT TYPE	CLEAN AND CALIBRATE. CHECK ALL HEAD SENSORS AND HEAD DETACHED TEST
6	TRANSPORT MOTOR TROUBLE OR THE SIGNAL IS NOT SENT FROM THE ENCODER	TRANSPORT MOTOR. TRANSPORT ENCODER
8	SOLENOID LEVER TROUBLE	LEVER ASSY. OR LEVER SENSOR
10	CASHBOX NOT FULLY SEATED	CASHBOX SENSOR (S2)

ERROR TABLE 2 TEST MODE 4 ONLY

Error #	Description	POSSIBLE CAUSES
2	SOLENOID LEVER TROUBLE	SOLENOID SENSOR OR LEVER JAM
3	BLOCKED HEAD SENSOR	CLEAN AND CAL HEAD SENSORS
4	BLOCKED TRANSPORT SENSOR	TRANSPORT SENSORS
5	CASHBOX FULL	STACKER ENCODER
6	PUSHER UNIT TROUBLE IN THE CASHBOX	STACKER ENCODER OR PUSHER HOME SENSOR (S1)
7	ACCEPTOR HEAD DETACHED, NOT CALIBRATED OR WRONG TYPE	CLEAN AND CALIBRATE. CHECK ALL HEAD SENSORS AND HEAD DETACHED TEST

Testmode4 only ERROR TABLE 3 RETURN CODES

Error #	Description	Possible causes
1	CROOKED INSERTION	ENTRANCE SENSORS
2	MAGNETIC PATTERN ERROR CENTER	CENTER MAG SENSOR
3	DETECTED A BILL IN THE PATHWAY AT IDLE	HPL,HPR,HPC OR TRANSPORT ENTRANCE
4	DATA AMPLITUDE ERROR	ALL IR SENSORS Possible power supply
5	TIMING ERROR, THE BILL DID NOT REACH THE SENSORS WITHIN THE SPECIFIED PERIOD OF TIME AFTER IT WAS INITIALLY TAKEN IN	HPL,HPR,HPC OR TRANSPORT ENTRANCE OR ENCODER
7	ERROR IN PHOTOSENSOR	CLEAN AND CALIBRATE
8	LEVEL ERROR, THE BILL WAS UNUSUALLY DIRTY OR TWO OVERLAPPING BILLS WERE DETECTED	ENTRANCE SENSORS
9	RETURN COMMANDED BY DIPSWITCH SETTING	CHECK DIPSWITCHES
10	RETURN COMMANDED BY THE HOST	CHECK MACHINE SETTINGS
11	SOLENOID LEVER TROUBLE	SOLENOID LEVER OR SOLENOID SENSOR
12	THE SENSORS DETECT MOVEMENT IN THE WRONG DIRECTION DURING TRANSFER TO CASH BOX	HPL,HPR,HPC OR TRANSPORT ENTRANCE
13	THE BILL IS OF A LENGTH OTHER THAN SPECIFIED	HPL,HPR
14	COLOR PATTERN ERROR	HPL,HPR,HPC Red component
15	MAGNETIC PATTERN ERROR LEFT OR RIGHT	LEFT OR RIGHT MAG SENSOR