

WMH-188A INDEX

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WMH-188 Instruction of the system

1. Functions:

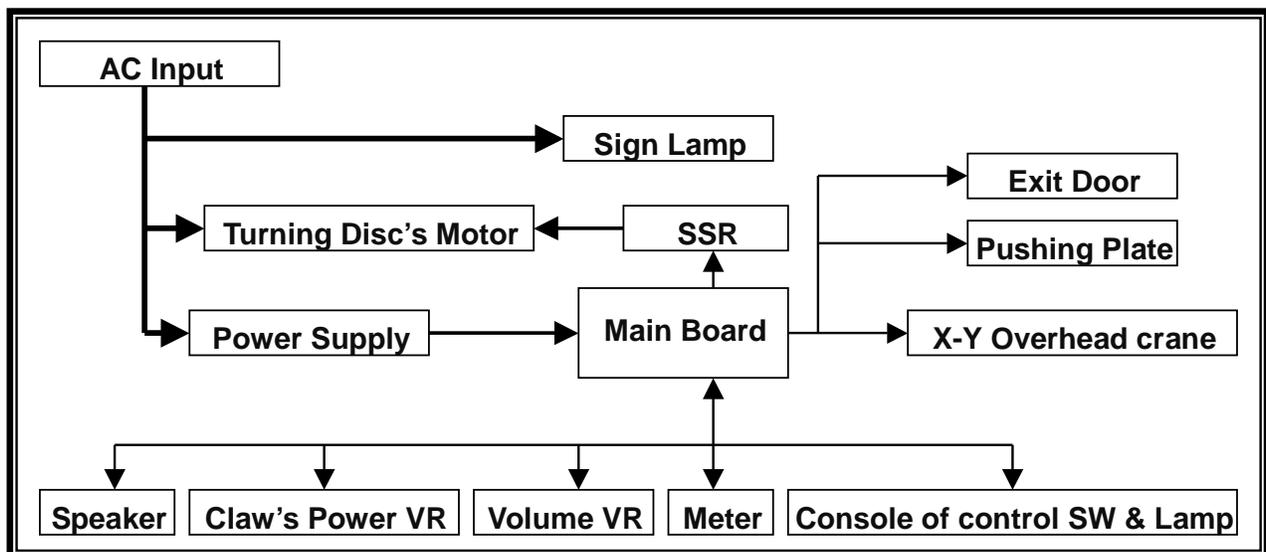
Basically, this model consists of software and hardware in two sections:

Software: It's edited in INTEL MCS-51 ASSEMBLY Language and its main CPU is 8052.

Hardware: It consists of 8 sections. (please refer to the Hardware Provision drawing)

1. **Display:** to display the inserted coin's credits and the machine's states.
2. **X-Y Overhead Crane:** includes 3 drive motors, claw's spring coil and testing SW. Operated to seize the object by a joystick or controlling switch.
3. **Operation:** by a joystick or by controlling the switch to commend the X-Y overhead crane.
4. **Turning Disc:** by pressing a button to drive SSR to turn round the disc and roll the merchandises. This way will facilitate objects to be caught.
5. **Exit Door:** its opening and closing are controlled by a motor, in coordination with the controlling SW.
6. **Pushing Plate:** its movement is controlled by a motor, in coordination with the controlling SW.
7. **Music:** the 8052 operates high quality music, IC UM3567 and 8910 arouses wonderful music.
8. **Voice:** the 8052 operates in coordination with the API8001 to produce nice sound to report this machine's actual states.

~ Hardware Provision Drawing ~



2. How to play?

1. After inserting coins, the display board will show the number of coins inserted, and the coin counter will accumulate number of coins inserted.
2. You can press **【Running】 SW** to drive turning disc to roll over the merchandise inside of the cabinet. This will facilitate object's catching by turning over the goal object to topside. (If the machine's mode is adjusted to **CANDY MACHINE**, then this function is not provided.)
3. When the Bonus Card is included in the unit (Adjust pin3 of DIP SW1 to "ON") → **Joystick:** drive gantry to the top of the chosen object, then release joystick (from this moment the Display will count backwards game's limit time). Then you can play Super Card's game. Choose to stop the running light's, then press **【Descend】 button**.

Button: make use of the **【 】** , **【 】** buttons to move the X-Y Overhead Crane to the top of your favorite objects, and then release the button. Then you can play Super Card's game. Choose to stop the running light's, then press any button again.

If getting 『 **BONUS** 』 a stronger power will be given to the claw once.

If getting 『 **ONE MORE FREE GAME** 』 player will have one free credit.

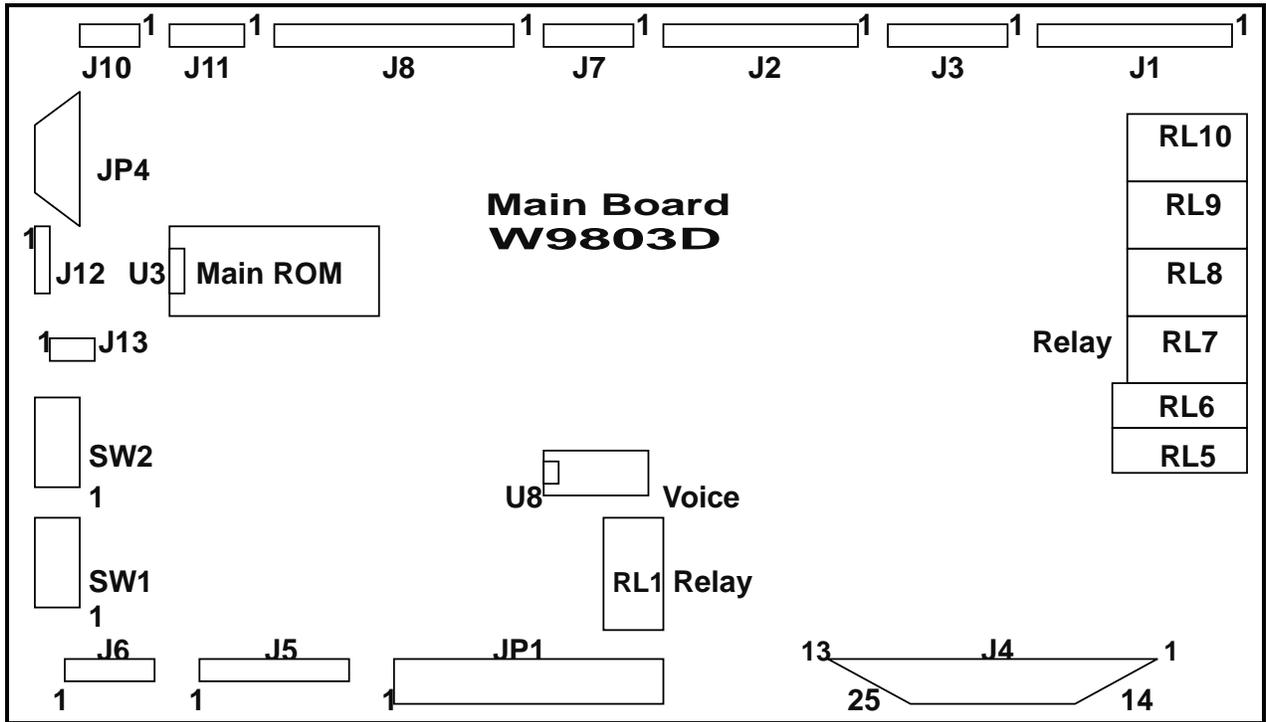
If getting 『 **TWO MORE FREE GAME** 』 player will have two free credits.

4. **Joystick:** Pressing **【Descend】 button** or game time is over (game limit time can be adjusted), the X-Y overhead will drive motor to descend the claws down and catch objects.

Button: After releasing from both buttons, by pressing any of the buttons again or game time is over (game limit time can be adjusted), the X-Y overhead will drive motor to descend the claws down and catch objects.

5. The closed claws will move up until touching **STOP-UP** switch. Then claws will stop raising and move to the exit and wide open.
6. Machine set-up at "**CANDY MACHINE**" mode, exit door will open while claws open wide. Then the pushing plate will push twice (pushing times of the plate is adjustable by the Machine's Base-Value setting). The exit door will close automatically when the plate stops pushing. However, if player is shaking the machine while the exit door is open, this will close immediately.

WMH-188/A/C Main PCB wiring diagram



J1	Color	Connect pin
1	Black	GND
2	Brown	Joystick -- Front SW(N.O.)
3	Red	Joystick -- Back SW (N.O.)
4	Orange	Joystick -- Right SW (N.O.)
5	Yellow	Joystick -- Left SW (N.O.)
6	Green	Descend SW (N.O.)
7	Blue	Running SW (N.O.)
8	Black	GND
9	Gray	Descend (➔) button lamp
10	White	Running (⬆) button lamp

J3	color	Connect pin
1	Black	Connect with "Super Card".
2	Green	
3	Yellow	
4	Orange	
5	Red	
6	Brown	
7		
8	Blue	

J2	Connect with Display Board.
-----------	-----------------------------

J7	Color	Connect pin
1	RD / WE	+12V output
2	OE / WE	Coin 1 Meter
3	YW / GN	Coin 2 Meter
4	GN / WE	Gift Meter
5	BE / WE	Ticket Meter

J8	Color	Connect pin
1	Brown	Shaking SW (N.O.)
2	Purple	Push Plate SW (N.O.)
3	Black	GND
4	Black	Coin Selector 1-- GND
5	WE / GN	Coin Selector 1 -- Coin
6	Red	Coin Selector 1 -- +12V
7	Red	Coin Selector 2 -- +12V
8	WE / BE	Coin Selector 2 -- Coin
9	Black	Coin Selector 2 -- GND
10	Black	Ticket dispenser -- GND
11	GN / WE	Ticket dispenser-- OUT
12	White	Ticket dispenser -- IN
13	Red	Ticket dispenser -- +12V
14	Red	+12V / Pust Plate Motor -
15	Grey	Turn Disk SSR / Pust Plate Motor +
16	Black	GND
17		
18	Green	Coin Inhibit input -

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J11	Color	Connect pin
1	Black	Connect with Exit Door's control Board (W9833)
2	Brown	
3	Red	
4		
5	Orange	

J10	Color	Connect pin
1	Blue	Pay out Sensor -- GND
2	Gray	Pay out Sensor -- signal
3	Brown	Pay out Sensor -- +12V

JP4	Reserve.
------------	----------

J12	Color	Connect color
1		In reserve.
2		
3		
4		
5		

JP1	Color	Connect pin
1	Black	GND
2	Black	GND
3	Black	GND
4	Yellow	+5V Input
5	Yellow	+5V Input
6	Red	+12V Input
7	Red	+12V Input
8	Orange	+24V Input
9	Orange	+24V Input
10	Purple	+48V Input

J4	Color	Connect pin
1	BN / WE	Front / Back Motor +
2	RD / WE	Left / Right Motor -
3	OE / WE	Up / Down motor -
4	White	Claws' spring coil
5	GN / WE	
6	BE / WE	Front-Stop SW & Black-Stop SW (N.O.)

J13	Color	Connect pin
1		In reserve.
2		

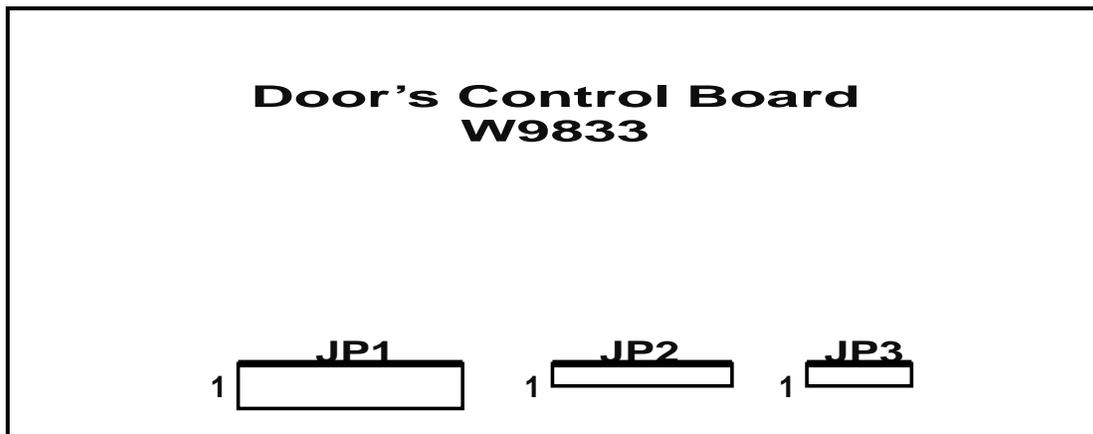
J6	Color	Connect pin
1	White	Volume VR -- PIN1
2	Red	Volume VR -- PIN2
3	Black	Volume VR -- PIN3
4	Black	Speaker -
5	Purple	Speaker +

J5	Color	Connect pin
1	Red	VR1 Signal
2	Orange	VR1 COM.
3	Yellow	VR2 Signal
4	Green	VR2 COM.
5	Pink	Voltmeter +
6	Black	Voltmeter -

7	WE / BN	
8	PE / WE	Left-Stop SW & Right-Stop SW (N.O.)
9	Pink	UP-Stop SW (N.C.)
10	Black	Down-Stop SW (N.O.)
11	WE / BE	
12	GY / BK	
13	WE/GN	+12V Output
14	Brown	Back / Front Motor -
15	Red	Left / Right Motor +
16	Orange	Up / Down Motor +
17	Yellow	Claw's spring coil
18	Green	
19	Blue	Front-Stop SW COM. & Black-Stop SW COM.
20	Purple	Left-Stop SW COM. & Right-Stop SW COM.
21	Gray	Up-Stop SW COM. & Down-Stop SW COM.
22	WE / PE	GND
23	PK / BE	
24	RD / YW	
25	YW / GN	

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The Wiring Diagram of Door's Control Board (W9833)



JP1	Color	Connecting Pin
1	Black	GND
2	Black	GND
3	Red	+12V Input

4	Red	+12V Input
5	Orange	+24V Input
6	Orange	+24V Input

JP2	Color	Connecting Pin
1	Black	Close door SW – COM.
2	Brown	Close door SW – N.O.
3	Orange	Open door SW – N.O.
4	Black	Push Plate SW – COM.
5	Red	Exit door's Motor —
6	Green	Exit door's Motor +

JP3	Color	Connecting Pin
1	Black	Connecting with J11 of Main Board (W9803D)
2	Brown	
3	Red	
4	Orange	

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WMH-188/A/C DIP SW Adjustments

Program no.: **I188-4A, I188-4A-2**

DIP SW1		1	2	3	4	5	6	7	8
Machine's model	Candy Machine	ON							
	Crane Machine	OFF							
Position where claws open at the exit	Claws lower down then release object		ON						
	Claws release object at the top position		OFF						
Super Card Function	With			ON					
	Without			OFF					
Fixed adjustment					OFF				
Exit door Direction	Opposite to the Original Direction, front & back					ON			
	Same the Original position					OFF			
Original Direction	Right / Back Side						ON		
	Left / Back Side						OFF		

Demo Game when nobody is playing	With		ON
	Without		OFF
Exit Door Function	With		ON
	without		OFF

DIP SW2		1	2	3	4	5	6	7	8
Ticket dispenser	With	ON							
	Without	OFF							
Demo music	With		ON						
	Without		OFF						
Number of times to turn round the Turning Disc	Unlimited			ON					
	One turn only			OFF					
Play till you win function	With				ON				
	Without				OFF				
Operation mode	Button					ON			
	Joystick					OFF			
Save Credit Point	With						ON		
	Without						OFF		
Ability to change the Base-Values	Yes							ON	
	No							OFF	
Machine conditions	Auto demo								ON
	Normal play								OFF

※ *Demo Game Function:*

Claws play automatically every 5 minutes. (But claws do not close.)

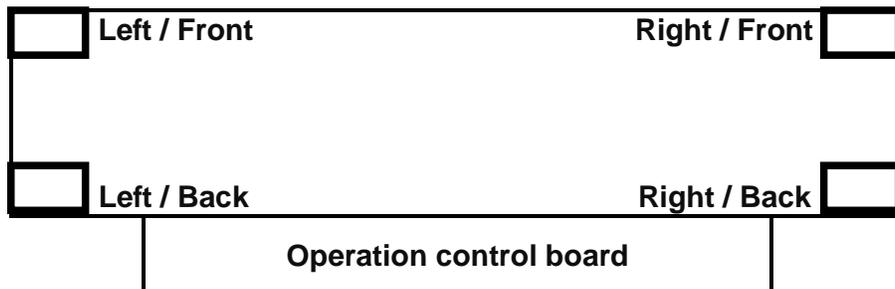
※ *Play Till Win Function:*

With: will deduct 1 credit when win.

Without: will deduct 1 credit for each game.

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Remark 1: Explanation about the original position and exit direction



Remark 2:

Differences between Crane Machine and Candy Machine:

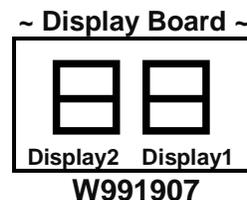
Differences	Crane Machine	Candy Machine
Turning disc	With	Without
Movement of exit door's motor	Motor can turn clockwise and anti-clockwise.	Motor turns only one direction

Claws' power mode	Drive strong claws first, then drive weak claws.	Drive weak claws first, then drive strong claws.
	PS. 0000 0000 000000 00000000 0000 000000 0000000000 0000 00 0000000000 00 00000000 00000000 0000 00 0000000000 00 00000 000000.	

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WMH-188 Base-Value Adjustments

Firstly, open the door to adjust the 7th pin of DIP-SW2 to ON. Then turn the power on. Wait for Display to test automatically. "Good Luck" voice is heard. Display will show and [00] is twinkling (means setup-item [00], all twinkling Display means you are in setup-item)



§Button operation steps:

1. Pull the joystick to[Front]or[Left] → add 1 to the value in Display1.
2. Pull the joystick to[Back]or[Right] → add 1 to the value in Display2
3. Press [Descend] Button → to confirm.

Setup-Item	Setting data content	Inner Value	Remark explanation
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00	Exit the Machine Base-Value adjustment mode	-	7 th pin of DIP-SW2 has to be adjusted back to OFF.
01	COIN1 – quantity of pay-out tickets after inserting coins (coin selector 1)	0	
02	COIN2 – quantity of pay-out tickets after inserting coins (coin selector 2)	0	
03	COIN1 – quantity of Inserted coins (coin selector 1)	1	Coins quantity to get Credit. If adjusted to 0, automatically will modify to 1.
04	COIN1 – quantity of game’s credits (coin selector 1)	1	Game’s credits. If adjusted to 0, automatically will modify to 1.
05	COIN2 – quantity of Inserted coins (coin selector 2)	1	Coins quantity to get Credit. If adjusted to 0, automatically will modify to 1.
06	COIN2 – quantity of game’s credits (coin selector 2)	1	Game’s credits. If adjusted to 0, automatically will modify to 1.
07	Quantity of pay-out tickets won	0	
08	Quantity of pay-out tickets without winning	0	
09	Number of times for claws’ strong power given as bonus	10	If adjusted to 0, automatically will modify to 256 times
10	Game limit time (unit: Second)	50	If adjusted to < 5 , will automatically modify to 5.

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Setup-Item	Setting data content	Inner Value	Remark Explanation
11	Quantity of continuous Inserting coins for one free game (credit)	3	If adjusted-Value is 0 or 1, it will automatically modify to 2.
12	Number of times for “□ □ □ □ □ □ □ □ □ □” in Super Card Game.	8	
13	Number of times for “□ □ □ □ □ □ □ □ □ □ S’ in Super Card Game.	3	

14	Number of times for “□ □ □ □ S” in the Super Card.	1	
15	Set-up of average value from item 12 to item 14.	100	Average chance to get the bonus from item 12-14 within the set up play times.
16	HOT KEY Setup	1111	Can quickly enter to each function
17	Pushing plate’s movement times	2	Range: 1 ~ 99. But if it adjusted to 0, will automatically modify to 1.
18	Adjusted to “Play till you win” function. If the player does not get any prize in “N” times, claws will go to the exit and drop the candies directly into the chute.	3	

ITEM 15 SET-UP INSTRUCTION

1. If the set up value <11, the system will automatically modify the set up values as below:

When set up value is equal to	Set up value is automatically changed to	When set up value is equal to	Set up value is automatically changed to
0	100	6	160
1	110	7	170
2	120	8	180
3	130	9	190
4	140	10	200
5	150	11	11

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2. **For example:** If item 12 is set up to 8, item 13 set up to 3, item 14 set up to 1 and item 15 set up to 100, then the Super Card will give 8 times “play one more time for free”, 3 times “play two more times for free”, once “Strong Power for free” approximately within 100 plays. After playing 100 times, even if the above bonus chances are not fully given out, the system will calculate playing times from the beginning once again. The system takes record of every bonus won. This record is kept in the system even if power is turned off and re-started.

ITEM 16 "HOT KEY" SET-UP INSTRUCTION

1. [**00**] appears on the display ("4" will be twinkling) → enter the first value of HOT

KEY. The numbers of value in correspondence with the buttons are as following:

[Fro00] → 00 [00000] → 00 [0a00] → 00 [0e00] → 00 [0e00e00] → 0o000rm0

2. **For example:** If you wish to setup the first **000 000** number in **1**, pull joystick to **[Fro00]**, the display will show **[00]**, then press **[0e00e00]** button to confirm. After confirmation, the display will show **[00]**, ("3" will be twinkling) → then, enter second number of **000 000** .
3. **For example:** If you wish to setup the second **000 000** number in **2**, pull joystick to **[00000]**, the display will show **[00]**, then press **[0e00e00]** button to confirm. After confirmation, the display will show **[00]**, ("2" will be twinkling) → then, enter third number of **000 000** .
4. **For example:** If you wish to setup the third **000 000** number in **3**, pull joystick to **[0a00]**, the display will show **[00]**, then press **[0e00e00]** button to confirm. After confirmation, the display will show **[00]**, ("1" will be twinkling) → then enter fourth number of **000 000** .
5. **For example:** If you wish to setup the fourth **000 000** number in **4**, pull joystick to **[0e00]**, display will show **[00]**, then press **[0e00e00]** button to confirm. Then **000 000** program is done.
6. The above instructions are directed to **[0o000000]** operation type. If the machine is in **[0000o0]** operation type, the numbers of value in correspondence with the buttons are: **[Fro00] → 00 [00000] → 00 [0e00e00] → 0o000rm0**

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WMH-188 TESTING INSTRUCTION

1. Systems testing:

Adjust Coin Selector 1 & Coin Selector 2 to **[N.C.]** and turn power on. The Display will

show **[CC]** , waiting for you to adjust the DIP-SW2 for each item's testing. To change the testing item, press **[Descend]** button again, after adjusting SW.

DIP SW2	Explication	Remark
1	Display	
2	DIP SW	1. 1 ST → a row, 2 ND → b row, ... 7 TH → g row, 8 TH → twinkling. 2. ON → Light, OFF → Dark. 3. DIP SW1 shows at Display 1. 4. DIP SW2 shows at Display 2.
3	-	
4	3567	Press any button to change song.
5	API8001	Press any button to change speech sounds.
6	8910	Press any button to change sound effects.
7	Erased memory	1. Display shows up [CL] . 2. Erase all data in memory to 0 (zero). 3. Enter Base-Value to memory program.
8	Enter Base-Value	Display shows twinkling [Ld] . When Display doesn't twinkle anymore, it means that Base-Values entered to memory program are already saved.

2. Adjustments of claws' power:

Adjust Coin Selector 1 to N.C. and turn power ON. The Display will show up **[C0]** .

Joystick / Button Operation	Testing items	Display Showing
Pull [Front] or [Back]	VR1	C1
Pull [Left] or [Right]	VR2	C2

3. X-y overhead crane testing:

Adjust Coin Selector 2 to N.C. and power ON. The Display will show up **[a0]** .

Joystick or Button type of operation	Testing items	Display Showing
[Back]	Claw throws cord	a3
[Front]	Claw pull cord back	a4
[Descend] + [Right]	Drive motor to right side	b1
[Descend] + [Left]	Drive motor to left side	b2

[Descend] + [Back]	Drive motor to back side	b3
[Descend] + [Front]	Drive motor to front side	b4

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4. Breakdown Codes Explanation:

Breakdown code	CAUSE	Breakdown code	CAUSE
E0	Main Board breakdown	E6	Exit door's motor or control board breakdown
E1	Up-Stop SW breakdown		
E4	Hot-Key input error	E9	Counter's cord disconnected

5. Hot-Key Operation Instructions:

Press down the switch **[Front]** , **[Right]** , **[Descend]** at same time, then power on. **[00]** will appear on the DISPLAY, waiting HOT KEY numbers entering. The operation and setup methods are the same. Please refer to page 10 for setup instructions.

Item	Working Content	Instructions
H0	Exit	-
H1	Systems testing	Coin Selector 1 & Coin Selector 2 adjusted to [N.C.] at same time and turn power on. Set-up instructions are the same as "1. Systems testing"
H2	Enter the Base-Values	Set-up instructions are the same as "1. Systems testing", item 8.
H3	Reserved	-
H4	Modify the Base-Values	Refer to page 8 "Base-Value Adjustments".

Electromagnetic Claws Power Adjustments

VR1: Power for the claws to seize objects. It's the First-Stage power when the claws go downward to the stack of the objects to seize them. More chances to seize the objects if VR1 is adjusted to "STRONG". Contrary, you'll have fewer chances to achieve the goal.

VR2: Power for the claws to carry the object to the exit. It's the Second-Stage power when object is caught by the claws and is being carried upward to the exit. The object caught has fewer chances to slip out from the claws if VR2 is adjusted to "STRONG". Contrary, the object has more chances to fall out from the claws.

§The adjustment of "STRONG" or "WEAK" power is in connection with the weight and size of the objects. Please test before starting business operation. Objects heavy-weighted and large-sized, will have more chances to slip out from the claws. Contrary, smaller and lighter objects will have fewer chances to fall down.

§Test on the Claws' Power adjustments:

1. Descend the claws halfway in the air in order to test them.
2. Turn off the power and adjust the Coin Selector to N.C. (for normal game mode it's adjusted to N.O.). Then turn on the power. (The CREDIT Display Board will show 『 C0 』.)

Note: In case of using a Mechanical Coin Selector, please depress the COIN SW while turning on the power and then release from it.

3. Hold the Joystick to the RIGHT (or depress Button 『 1 』 , the claws will close. (The CREDIT Display Board will show up 『 C1 』 .) At this moment, while adjusting VR1, the pointer of the Voltmeter will be swinging accordingly. This is the adjustment for settlement of the Strong Power. After this settlement, by releasing the Button (or the Joystick), claws will open wide.
4. Hold the Joystick to the FRONT (or depress Button 『 2 』 , the claws will close. (The CREDIT Display Board will show up 『 C2 』 .) At this moment, while adjusting VR2, the pointer of the Voltmeter will be swinging accordingly. This is the adjustment for settlement of the Weak Power. After this settlement, by releasing the Button (or the Joystick), claws will open wide.

5. Hold an object. Hold the joystick to the right or front (or depress Button [1] or [2] to examine the power if it's strong or weak. The claws will close or open accordingly while depressing the button or releasing it. (Holding the joystick or releasing it.) You may also make adjustments while testing.

6. Depress [DESCEND]Button (Or depress Button[1]and[2]) the claws will close. (The CREDIT Display Board will show up 『P』.) At this moment, you can check for the voltage of the Strongest Power.

7. After VR adjustment is done, please adjust the Coin Selector to N.O. Then turn off and turn on again the power. The machine will be ready for normal game operation.

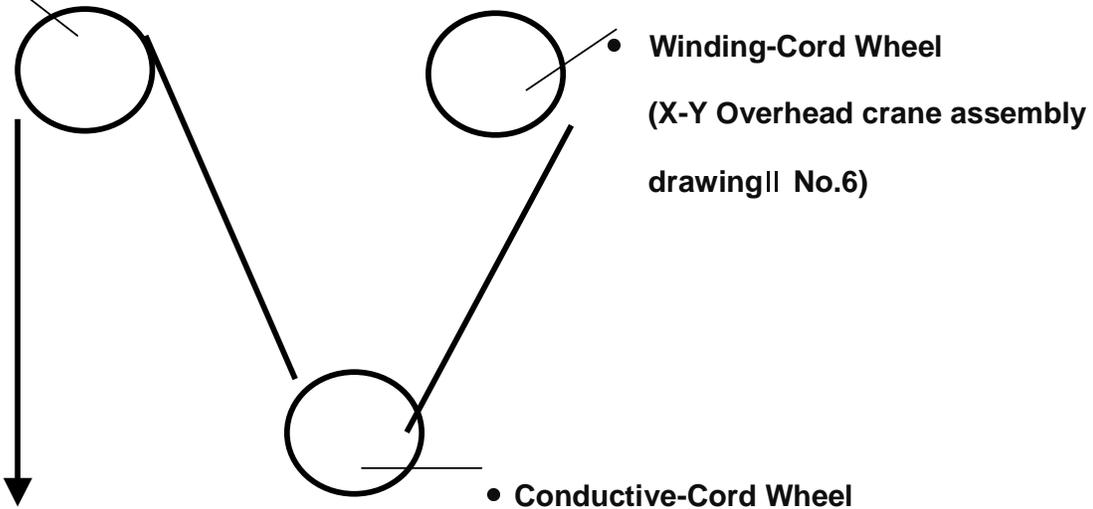
§In case of using a Mechanical Coin Selector, please set it back to N.O. position. Also, turn off the power first and then turn it on for normal operation.

8. If the Coin Selector is adjusted to N.C., the machine can't be operated normally. Please adjust the Coin Selector to N.O. and turn power on for normal game operation.

Claw's winding-cord instructions

~ Regular claw's winding cord direction for Up-DOWNWARD MOTOR ~

- Conductive-Cord Wheel (X-Y Overhead crane assembly drawing|| No.9)

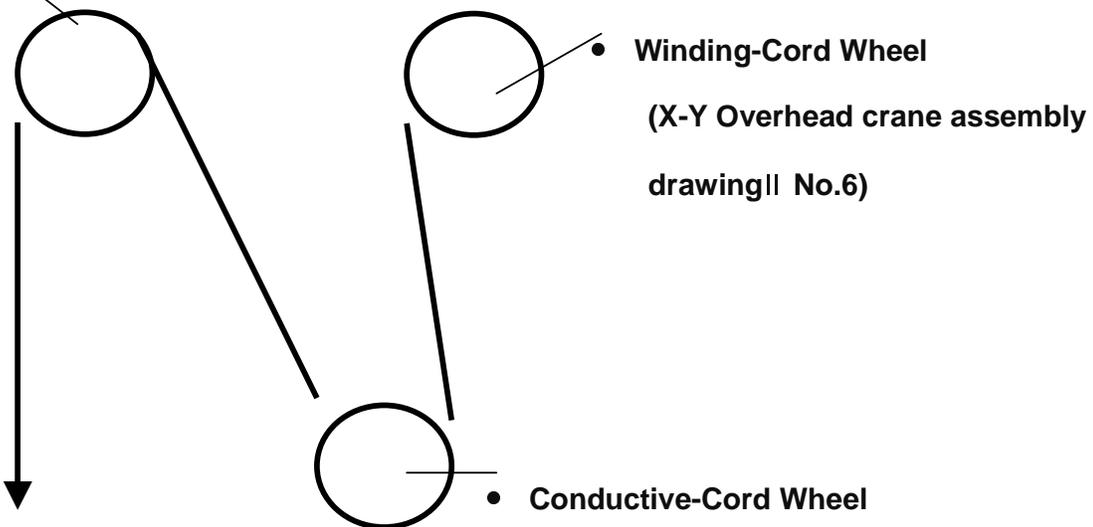


(X-Y Overhead crane assembly drawing|| No.7)

Connected to claws

~ Reverse direction of claw's winding-cord for UP-DOWNWARD MOTOR ~

- Conductive-Cord Wheel (X-Y Overhead crane assembly drawing|| No.9)



(X/Y Overhead crane assembly drawing|| No.7)

Connected to claws

After turning power on and immediately after coin selector's display finishes testing, if a

『d』 appears twinkling, it is because the Up/Down motors is turning on reverse direction (please refer to the above drawing). However the machine can still be playing regularly. If you wish to operate with regular claw's winding cord direction, please turn off the power. Adjust Coin Selector 2 to N.C., then turn on the power (display board will show 『a0』). Keep pulling joystick to [Front], it will drive Up/Down motor to lower claws down (display board will show 『a4』). Wait for regular position and then adjust Coin Selector 2 back to N.O. for normal game operation.

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Easy Repairing Instructions

1. The electrical current of this machine is DC, there are positive and negative electrodes, whether it is +5V, +12V, +24V, +36V. Please pay attention to the electric polarity for repairing. Do not miss-connect opposite electrodes in order to avoid any burn on P.C.B. or abnormal machine's operation or reverse movement.
2. *Coins unable to be inserted:* (1). Check if anything has stuck in the Coin Selector.
(2). Check if the Coin Selector is out of shape or has been destroyed.
(3). Check if the coins are out of shape or not qualified for inserting in this machine.
3. *Coins return immediately after insertion:*
(1). Coins not qualified for this machine, or the coin's value is wrong.
(2). Coin Selector's pin is disconnected. (In case of Electric Coin Selector)
(3). Coin Selector's intervals are not adjusted correctly. (In case of Mechanical Coin Selector)
4. *Coins inserted but no credits show up:*
(1). Check if the Coin Selector's exit aim at the Y-TYPE seat.
(2). Check if the coins touch the COIN-SW after dropping in the Y-TYPE seat.
5. *The claws can't move downward:*
Turning off the power while depressing the Up-Stop switch (X-Y Overhead crane assembly drawing II No.29) and then turn on the power and back to normal operation.
6. *If the CREDIT Display Board shows up 『C』 twinkling, it means that the COIN-SW is adjusted to N.C. (for regular game operation is must be adjusted to N.O.):*

- (1). If by pressing the COIN-SW spring needle while turning off/on the power once, this twinkling 『 C 』 still appears, it is in Claw's power testing mode. Please refer to "Claw's power testing instruction".
- (2). During game operation if the COIN-SW spring's needle has stuck, the CREDIT Display Board will also show up a twinkling 『 C 』 . In this case, you must adjust the Coin-SW's spring needle back to the right position, in order to sensor inserted coins correctly.
- (3). During game operation if the COIN-SW suffered damages from the outside or the spring needle was illegally being touched, the CREDIT Display Board will show up a twinkling 『 C 』 too. Please turn off and turn on the power again, it will restore to the normal condition.

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7. The X-Y OVERHEAD CRANE unable to go back to the original position:

- (1). Turn off/on the power. If the X-Y OVERHEAD CRANE can not go back to the original position, please check if the STOP-BACK SW (*X-Y OVERHEAD CRANE ASSEMBLY DRAWING I No.23*) and the STOP-LEFT SW (*X-Y OVERHEAD CRANE ASSEMBLY DRAWING I No.21*) are normal.
- (2). The P.C.B. is out of order.

8. The Joystick or the Button [2] can't be operated to move the claws to front or back:

- (1). Check if the Joysticks' FRONT-SW or BACK-SW (Or Button [2]) is out of order or the respective wires are disconnected.
- (2). Check if the J3 connecting pin of P.C.B. is not well connected.
- (3). Check if the OVERHEAD CRANE'S STOP-FRONT SW or STOP-BACK SW (*X-Y OVERHEAD CRANE ASSEMBLY DRAWING I No.22 or No.23*) is out of order or being stuck.
- (4). Check if the FRONT/BACK Motor is out of order or the wires are disconnected. Or the gears are unable to match.
- (5). Check if the J4 connecting pin of P.C.B. is not well connected.
- (6). The OVERHEAD CRANE wiring connector and the machine's wiring connector are connected normally?

9. The Joystick or the Button [1] can't be operated to move the claws to left or right:

- (1). Check if the Joysticks' FRONT-SW or BACK-SW (Or Button [1]) is out of order or the respective wires are disconnected.
- (2). Check if the J3 connecting pin of P.C.B. is not well connected.
- (3). Check if the OVERHEAD CRANE'S STOP-LEFT SW (*X-Y OVERHEAD CRANE ASSEMBLY DRAWING I No.21*) is out of order or being stuck.
- (4). Check if the LEFT/RIGHT Motor is out of order or the wires are disconnected. Or the GEAR WHEELS are unable to match.

- (5). Check if the J4 connecting pin of P.C.B. is not well connected.
 - (6). The OVERHEAD CRANE wiring connector and the machine's wiring connector are connected normally?
10. *The claws can't move downward after depressing the [Descend] Button, until game limit time is over:*
- (1). Check if the [DESCEND] button is working fine.
 - (2). Check if the [DESCEND] button's wiring is disconnected.
 - (3). Check if the connecting pin-J3 of P.C.B. is bad connected.

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11. *The [DESCEND] button is working, but claws can't move downward:*
- (1). Check if the UP/DOWN Motor wiring is disconnected.
 - (2). Check if the UP/DOWN Motor is out of order or the gears are unable to match.
 - (3). Check if the claws' cord winding direction is all right.
 - (4). Check if the J4 connecting pin of P.C.B. is well connected.
12. *Claws can't move downward by depressing the [Descend] button; or claws just lower a little and close immediately:*
- (1). Check if the winding cord wheel is tied up.
 - (2). Check if the STOP-DOWN SW is too easy to be touched or breakdown.
13. *After depressing the [Descend] button, claws close to catch before touching the merchandise, move upward and go back to the exit:*
Check if the claws' cord is too short. (Instructions idem No.12)
14. *Claws do not open after catching objects and moved back to the exit:*
- (1). Check if the STOP-LEFT SW (X-Y OVERHEAD CRANE ASSEMBLY DRAWING I No.21) or the STOP-BACK SW (X-Y OVERHEAD CRANE ASSEMBLY DRAWING I No.23) is out of order or disconnected.
 - (2). Check if the J4 connecting pin of P.C.B. is disconnected.
15. *Claws do not go upward after catching objects and the X-Y OVERHEAD CRANE returns to the original position:*
Check if the STOP-UP SW (X-Y OVERHEAD CRANE ASSEMBLY DRAWING II No.29) was touched by mistake.
16. *Claws do not go upward after caught objects and the X-Y OVERHEAD CRANE do not move either:*

Check if the UP/DOWN MOTOR, is out of order or the wiring is disconnected.

17. After claw lowers, it goes back to the original position without pulling the cord up:

- (1). Check if the fuse of the claw's power is out of order. If not, probably the P.C.B. is breakdown.
- (2). Change the fuse if it is out of order. If after changing it, it burns out again, please change the claw coil.
- (3). If the claw coil is changed and claws still can't close to seize objects, probably the P.C.B. is breakdown.
- (4). After changing the fuse and it is OK, but claws still can't close to seize objects, then the P.C.B. is breakdown.
- (5). Please check if VR1 and VR2 are working properly.

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天車組合圖 | X-Y Overhead Crane Assembly Drawing |

No.	品名 Description	料號 Code No.
1, 3, 18, 20	前後輪 Front/Back Wheel	S002
2, 19	天車固定片 X-Y Overhead Crane Fixing plate	P008
4	右板 Right Plate	P015
5	固定軸承 Fixed Bearing	S004
6	傳動軸 Propeller Shaft	S014
7, 8	固定軸 Fixed Shaft	S013
9	軸齒輪 Shaft Gear	S007
10	軸承座 Bearing Stand	P007
11	軸承 Bearing	S001
12	馬達固定座 Motor Fixing Stand	P006
13	馬達軸齒 Motor Shaft pinion	S016
14	前後馬達 Front/Back Motor	SE5475M-21145-30Y
15	左停 SW 座 Stop-Left SW stand	P004
16	左蓋 Left Cover plate	P014
21	左停 SW Stop-Left Switch	
22	前停 SW Stop-Front Switch	
23	後停 SW Stop-Back Switch	

天車組合圖II X-Y Overhead Crane Assembly DrawingII

No.	品 名 Description	料 號 Code No.
1	中外蓋 Middle outer cover plate	P013
2	傳動軸 Propeller Shaft	S008
3	傳動軸 Propeller Shaft	S009
4, 5, 21, 22	左右輪 Left/Right Wheel	S006
14, 15	軸齒輪 Shaft Gear	S007
6	繞線輪 Winding-Cord Wheel	S003
7, 9	道線輪 Conductive-Cord Wheel	S005
8	爪控制片 Control plate for claw	P009
10	中馬達鐵片 Middle-Motor iron plate	P001
11, 12	軸承 Bearing	S001
13	中軸承座 Middle Bearing Stand	P003
16, 23	馬達固定座 Motor Fixing Stand	P006
17	線管 Conduit	S015
18	上下彈簧 Up/Down Spring	L002
19, 24	馬達軸齒 Motor Shaft Pinion	S016
20	上下馬達 Up/Down Motor	SE5075M-27095-30Y
25	左右馬達 Left/Right Motor	SE5475M-21145-30Y
26	中內蓋 Middle inner cover plate	P012
27	三爪組(含線圈) 3-Claws Kit (Coils included)	Small / Large Claw

28	下停 SW Stop-Down Switch	
29	上停 SW Stop-Up Switch	