



ACORN DROP

# ACORN DROP





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## **1 Introduction**

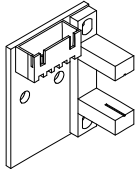

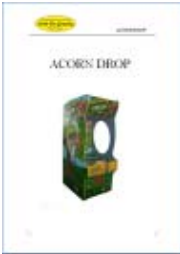
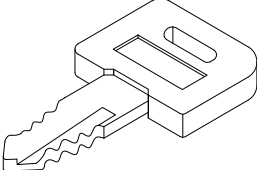
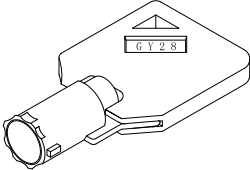
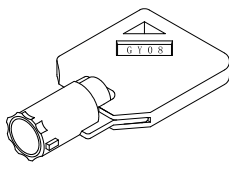
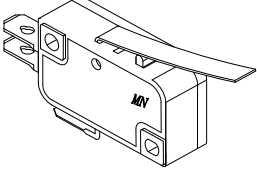
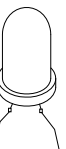

《ACORN DROP》 is a kind of indoor ticket machine. Its play is easy. The game begins when the player has inserted enough money to create 1 “credit”, Player controls the joystick and moves the lighting tube, release the ball, falls into the rotation plate to get different scores according to different light colors. Player just masters the simple skills.

## **2 Important Note**

- 2.1** Before plugging the game in, or turning it on, Be sure the game has been set to the proper voltage. Your game should come pre-set from the factory to the correct voltage; however it is a good idea to check the AC wall receptacle voltage before plugging the game in.
- 2.2** Always remove power to the game before attempting any service, unless needed for specific testing. Failure to observe this precaution could result in serious injury to yourself or others.
- 2.3** Regular cleaning of the game will keep it looking new, and greatly enhance its appeal.

### 3 Accessories

Please check the following accessories complete and nothing missing.

Item	Description	Specification	Quantity	Remark
1	Power Cable	10A/250v	1	
2	User Manual		1	
3	Key		2	Side Door
4	Key	GY28	2	Front/Back Door
5	Key	GY08	1	Cash Box
6	Micro Switch		2	
7	Infrared Transistor (Transmitter)	$\phi 5$	3	
8	Infrared Transistor (Receiver)	$\phi 5$	3	
9	Sensor		1	
				
Sensor		Power Cable		User Manual
				
Key		Key GY28		Key GY08
				
Micro Switch		Infrared Transistor (Transmitter)		Infrared Transistor (Receiver)



#### **4 Technical Parameter**

Environment Requests: Indoor/Ventilated dry/Electric voltage stable

Dimension: D110cm x W72cm x H197cm

Weight: 180Kg

Power: AC 110V/220V  $\pm 5\%$

Maximum Power: 135W

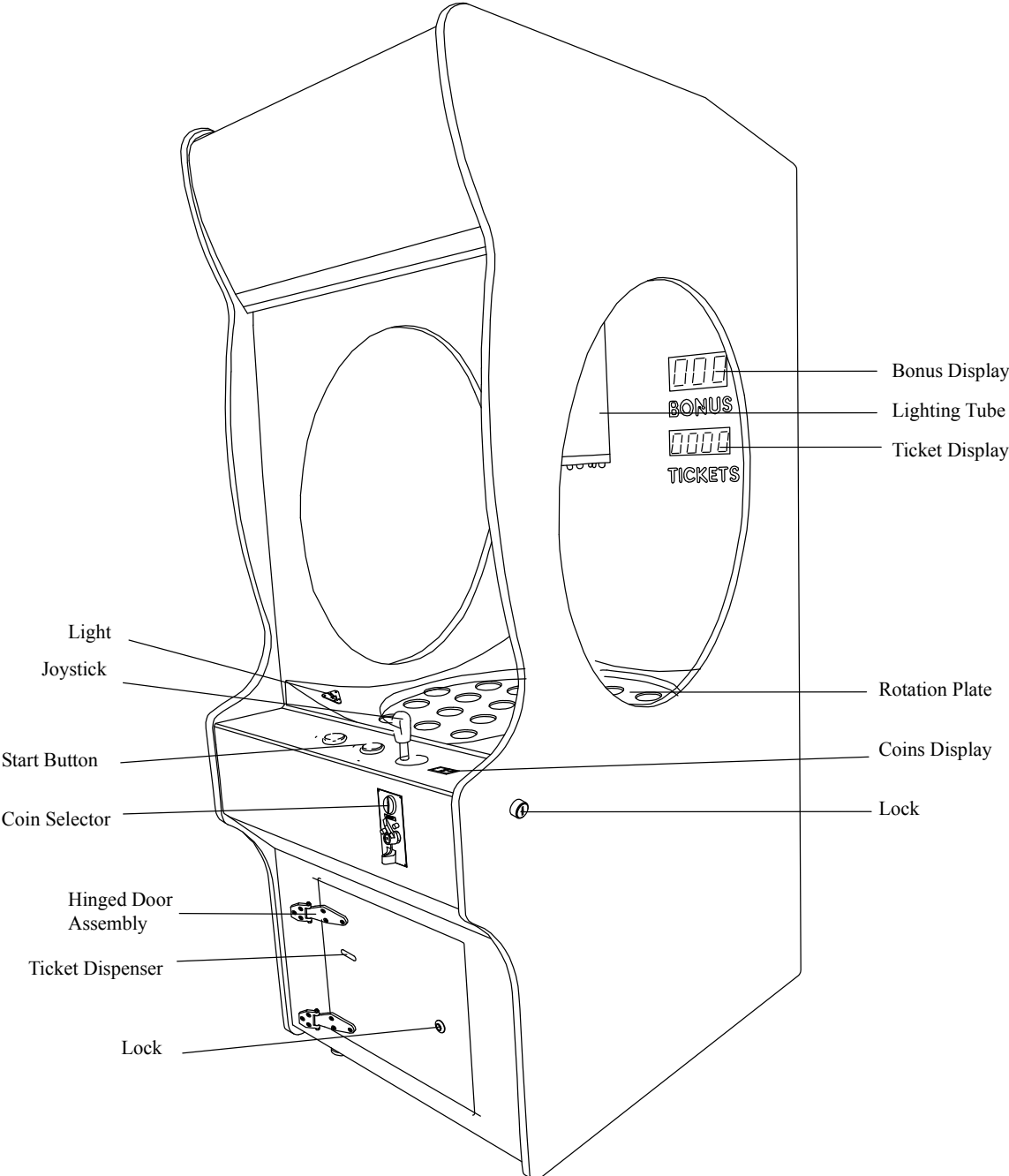
Player(s): 1

#### **5 Game Play**

1. Insert Coin Game Start
2. Use joystick to control "Nut" Moving to Left, Right and Front, Back.  
Which hole you want to get it.  
Push the Start button.  
Ball will drop down to the hole.
3. The ball can not direct drop to hole.  
It will roll at the playfield and drop to the hole.  
Display will show number of tickets.
4. Get your tickets.



# 6 Machine Structure





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7 Structure Illustration



crane



Rotation Plate

Pointer



Joystick



Meter display Panel



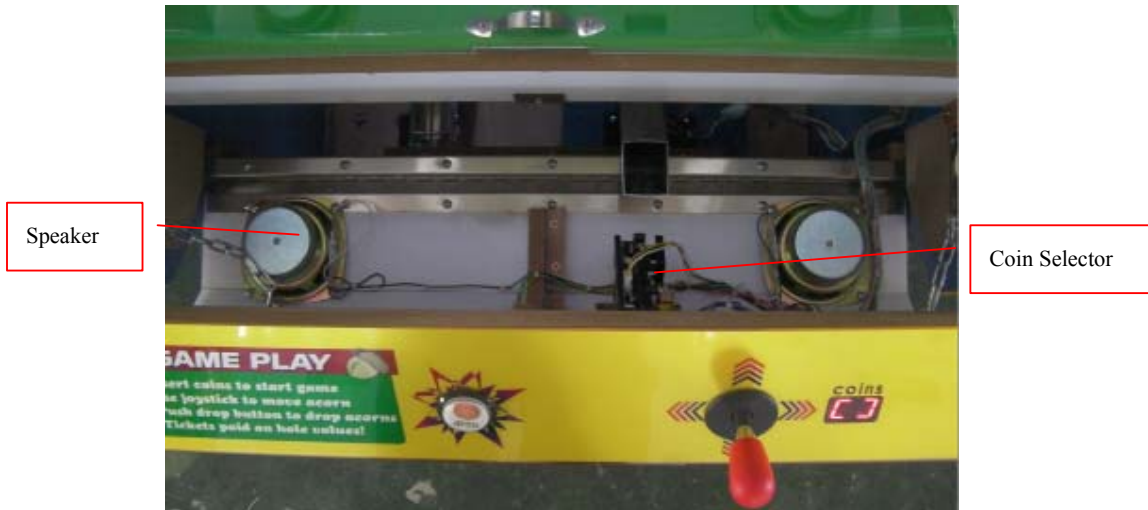
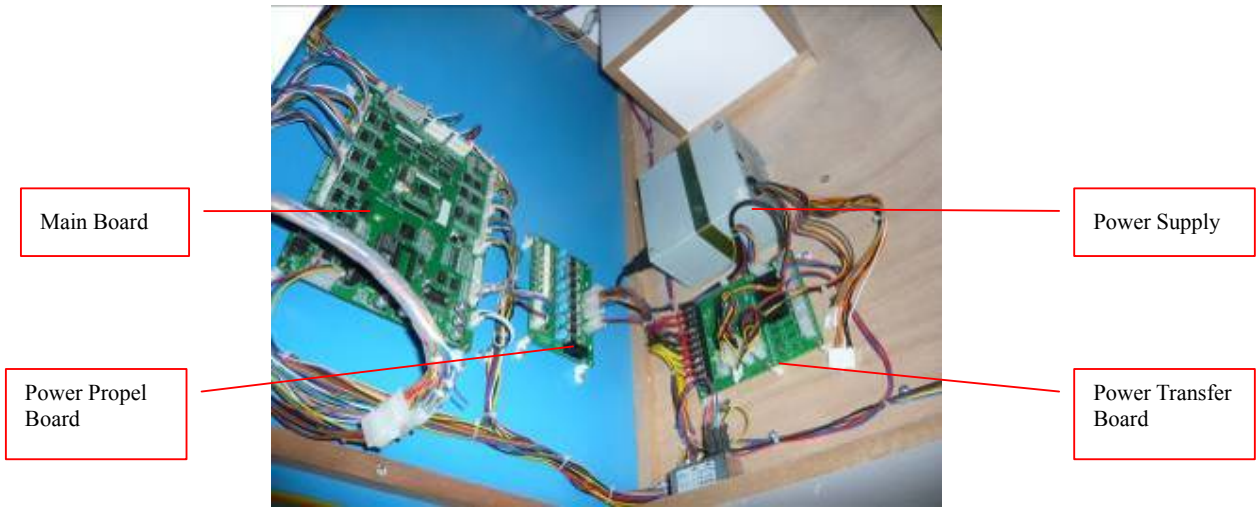
Ball way Assembly



Ball lift motor

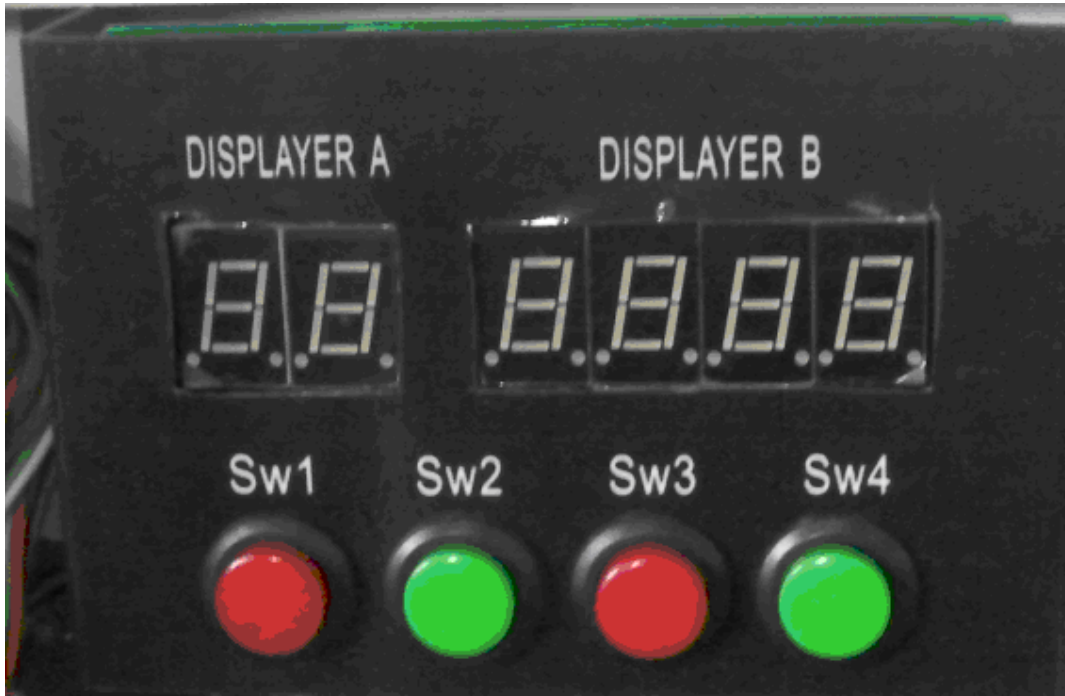


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## 8 Other Parts Structure Illustration

### 8.1 Meter Control Panel



LED Display A/B: Display the data information

#### SW1: Check the Data

##### Coins in Data

Press SW1 Button

1HL: xxxxxxxxxx display coins in data

2HL: xxxxxxxxxx display tickets out data

Display A (1H = coins in data – 4 digital first)

Display B (xxxx = the number of coins – 4 digital first)

Push the volume button up, continue to check the data.

Display A (1L = coins in data – 4 digital last)

Display B (xxxx = show the coins in number – 4 digital last)

Press SW4 button to withdraw the function.

##### Tickets out Data

Press the SW1 button, push the volume button up

Display A (2H = tickets out data – 4 digital first)



Display B (xxxx = show the tickets out number – 4 digital first)

Push the volume button up, continue to check the data

Display A (2L = tickets out data – 4 digital last)

Display B (xxxx = the number of tickets – 4 digital last)

Press SW4 button to withdraw the function

### **Machine information Data**

Press SW1 button, push the volume button up

Display A (-- = software edition)

Display B (xxxx = version of software)

Press SW4 button to withdraw the function

Press SW1 button, push the volume button up

Display A (== = machine type)

Display B (xxxx = type of machine)

Press SW4 button to withdraw the function

### **SW2: Service Button**

Press SW2 to start the Game.

### **SW3: Test Button**

Press SW3

Display A (P2 = hardware test)

Display B (1: test of LED display port 1)

Press SW3

Display A (P2 = hardware test)

Display B (2 = test of LED display port 2)

Press SW3

Display A (P2 = hardware test)

Display B (3 = test of ticket dispenser)

Press SW3

Display A (P2 = hardware test)

Display B (4 = test of track light)

Press SW3

Display A (P2 = hardware test)

Display B (5 = test of ball way mechanism (Front))

Press SW3

Display A (P2 = hardware test)

Display B (6 = test of ball way mechanism (Rear))



Press SW3  
Display A (P2 = hardware test)  
Display B (7 = test of rotation plate mechanism)  
Press SW3  
Display A (P2 = hardware test)  
Display B (8 = test of LED)  
Press SW3  
Display A (P2 = hardware test)  
Display B (9 = test of LED)  
Press SW3  
Display A (P2 = hardware test)  
Display B (10 = test of LED (Arrowhead))  
Press SW3  
Display A (P2 = hardware test)  
Display B (11 = test of LED (Control panel))  
Press SW3  
Display A (P2 = hardware test)  
Display B (12 = test of light bulb (Start Button))  
Press SW3  
Display A (P2 = hardware test)  
Display B (13 = test of motor)  
Press SW3  
Display A (P2 = hardware test)  
Display B (14 = test of light tube (Sign Box))  
Press SW3  
Display A (P3 = Sound test)  
Display B (xx = Indicate which segment voice)  
The test automatically withdraw after finishing.

**SW4: Press SW4 button to withdraw the function.**

#### **Volume Control**

**Standby mode:** Use the volume modulator to regulate volume.

Display A (P1 = Sound control)

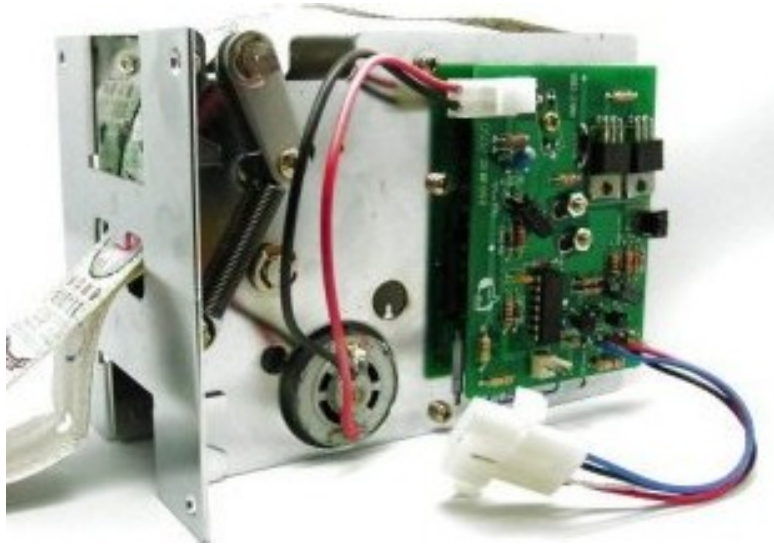
Display B (xx = the number of volume)

0 = Maximum 15 = Minimum

**Motion mode:** Use the volume modulator to regulate volume, but the display will not show the volume value.



## 8.2 Ticket Dispenser Assembly



**LED:** Ticket indicator

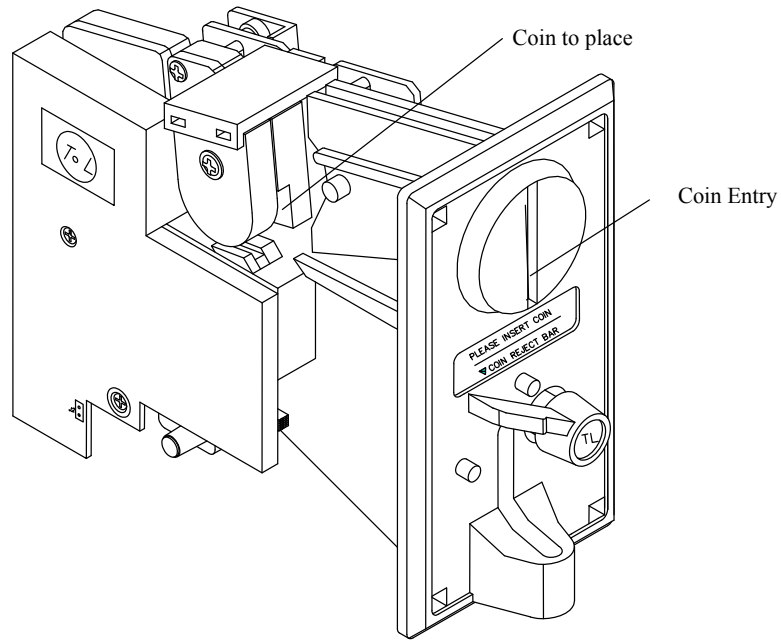
**Ticket Sensor:** Detect the tickets

**Tickets install method:** Tickets are entered into the rear of ticket Shut and pushed forward. The power driven roller will be spring loaded against the idler roller and tickets will not pass until rollers are clear of each other. This is accomplished by use of thumb and index finger, one placed on the block to which spring is attached, the other on the pivot bracket assembly, then squeeze. Push tickets through until you see edge of ticket. Machine is now ready to operate.



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### 8.3 Coin Selector Assembly

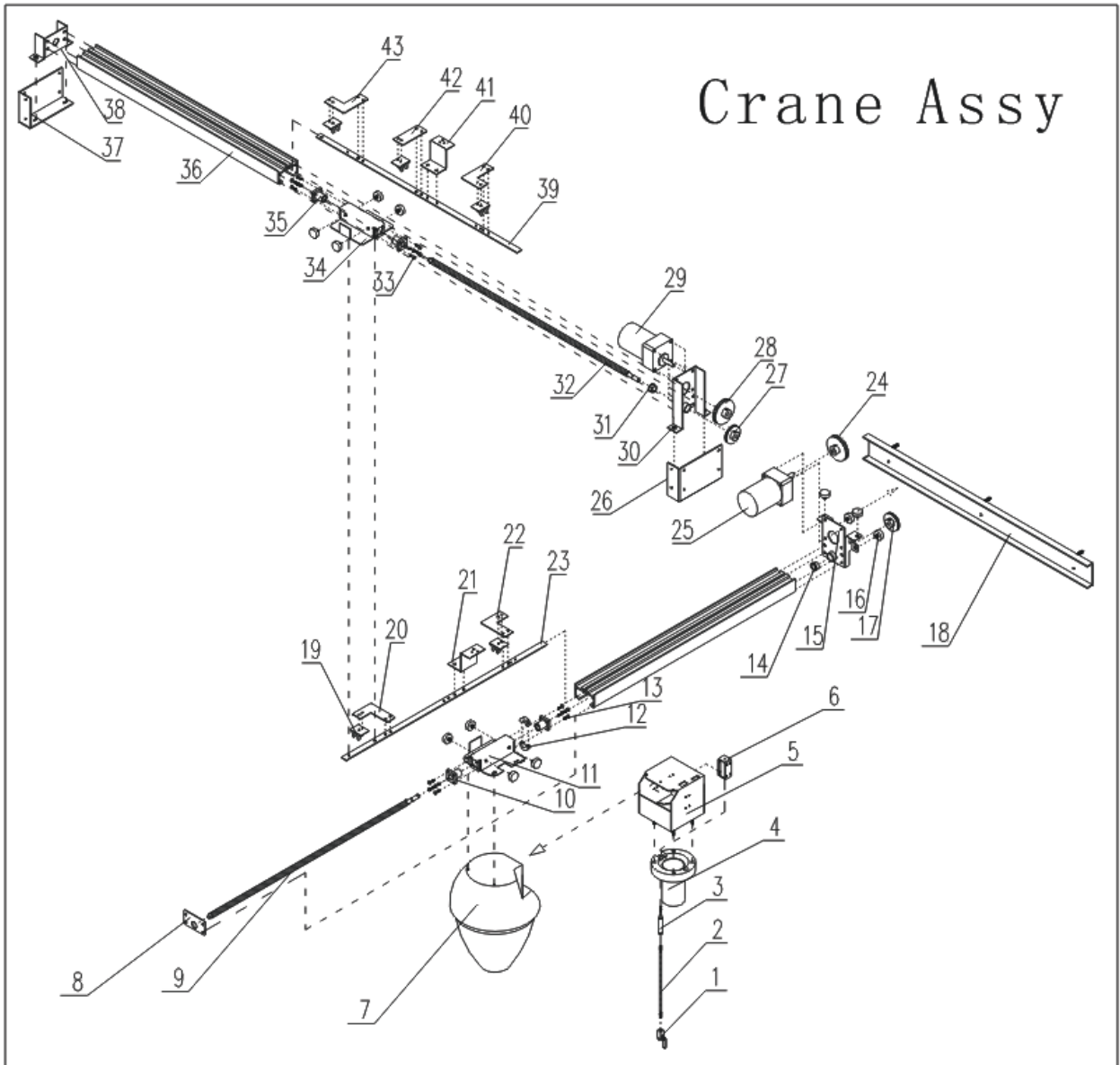


Voltage: DC +12V

Loading Ampere: 30mA

Coins size: Diameter  $\psi$ 22mm~ $\psi$ 26mm, Thickness 1.6mm~2.0mm

### 8.4 Crane Assy



43	Sensor Seat	1	AD-040	
42	Sensor Seat	1	AD-041	
41	Support Plate	1	AD-042	
40	Sensor Seat	1	AD-043	
39	Fix plate	1	AD-001	
38	Screw house	1	AD-002	
37	Screw house back	1	AD-003	
36	Crane Slider	2	AD-004	
35	T-Screw	2	AD-005	
34	Fix Slider	1	AD-006	
33	Locate Screw	8	AD-007	
32	T-Screw	1	AD-008	
31	Bearing	3	AD-009	
30	Fix Motor Seat	1	AD-010	
29	Crane Motor	1	AD-011	
28	Main Gear	1	AD-012	
27	Drive Gear	1	AD-013	
26	Crane fix plate	1	AD-014	
25	Crane Motor	1	AD-015	
24	Main Gear	1	AD-016	
23	Crane fix plate	1	AD-017	
22	Sensor fix seat	1	AD-018	
21	Wire fix Plate	1	AD-019	
20	Sensor Seat	1	AD-020	
19	Sensor Board	5	AD-021	
18	crane Slider(side)	1	AD-022	
17	Main Gear	1	AD-023	
16	Pulley	16	AD-024	
15	Move motor seat	1	AD-025	
14	Bearing	3	AD-026	
13	Locate Screw	8	AD-027	
12	Limited switch	2	AD-028	
11	Active Slider	1	AD-029	
10	T-Screw nut	2	AD-030	
9	T-Screw	1	AD-031	
8	activities screw shield	1	AD-032	
7	Acorn	1	AD-033	
6	Solenoid	1	AD-034	
5	Crane house	1	AD-035	
4	Ball drop tube	1	AD-036	
3	Solenoid Bar	1	AD-037	
2	Trolley bar	1	AD-038	
1	Hook	1	AD-039	
No.	Description			

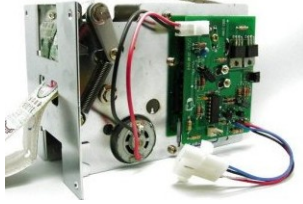








### 8.5 Acorn Drop Parts





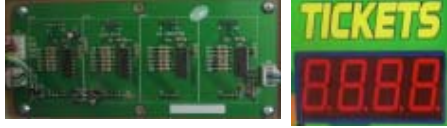

Acorn Drop Parts			
Item no	Code No.	Description	Photo
1	AD-033	Acorn Drop	
2	AD-101	Speaker	
3	AD-102	Coin Tunnel	
4	AD-103	Pointer	
5	AD-104	Power Supply	
6	AD-105	Ticket Holder	
7	AD-106	Control Panel (Wood)	
8	AD-107	Spring	
9	AD-108	Towline	



10	AD-109	Power switch house	
11	AD-110	Ball drop Switch	
12	AD-111	Ball	
13	AD-112	Hinge	
14	AD-113	Filter	
15	AD-021	Sensor Board	
16	AD-024	Pulley	
17	AD-114	Meter	
18	AD-115	Power Switch	
19	AD-116	Switch Green	

20	AD-117	Switch Red	
21	AD-118	Bearing 608	
22	AD-119	Meter house	
23	AD-120	Bearing F688	
24	AD-121	Anti Link	
25	AD-004	Crane Slider	
26	AD-011	Crane Motor	
27	AD-154	Coin Slot	
28	AD-122	Face Acrylic	
29	AD-123	Fluorescent lamp T4-8W	

30	AD-124	Entropy Ticket Dispenser	
31	AD-125	Belt	
32	AD-008	T-Screw	
33	AD-012, AD-013	Gear	
34	AD-155	Cash Box	
35	AD-126	Light Box Filter	
36	AD-127	Regulating wheel	

37	AD-128	Ball lift Motor	
38	AD-129	Pointer Led Board GA080625A	
39	AD-130	Solenoid Ball Gate	
40	AD-034	Solenoid Ball Drop	
41	AD-131	Locker (GA282)	
42	AD-132	Locker (GA08)	
43	AD-133	Support foot	
44	AD-134	Joy stick	
45	AD-135	Main Board	

46	AD-136	Driver Board	
47	AD-137	Power Board	
48	AD-138	Playfield Board GA-080604A	
49	AD-139	Digital (GA-0709258)	
50	AD-140	Digital (GA-080318A)	
51	AD-141	Playfield Motor	

52	AD-142	Conductive ring	
53	AD-143	Control Panel Acrylic	
54	AD-144	Right Side Decal	
55	AD-145	Left side Decal	
56	AD-146	Playfield Decal	
57	AD-147	Face Decal	

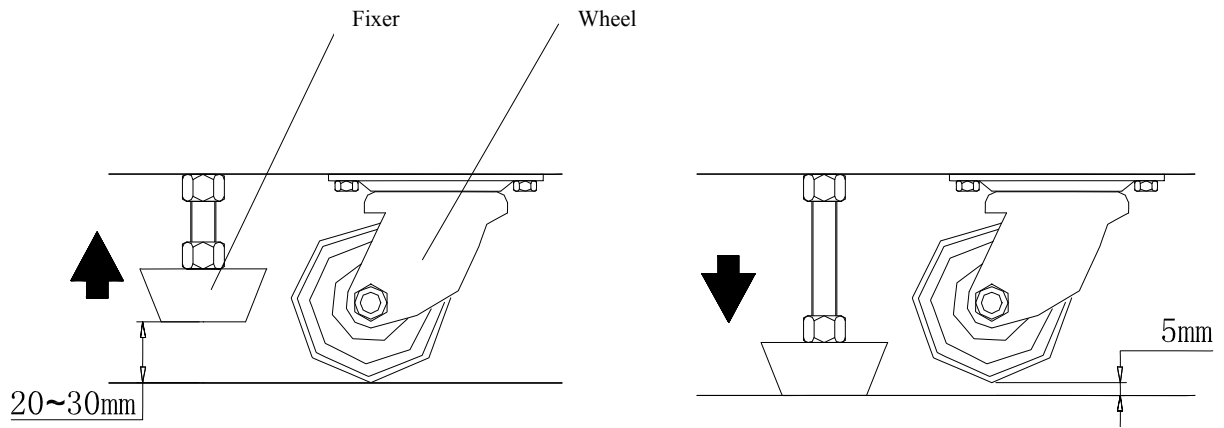


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58	AD-148	Ticket Door	
59	AD-149	Control Panel Decal	
60	AD-150	Light Box Decal	
61	AD-151	Handle	
62	AD-152	Light Box Acrylic	
63	AD-153	Power cable	

## 9 Other Parts Assembly

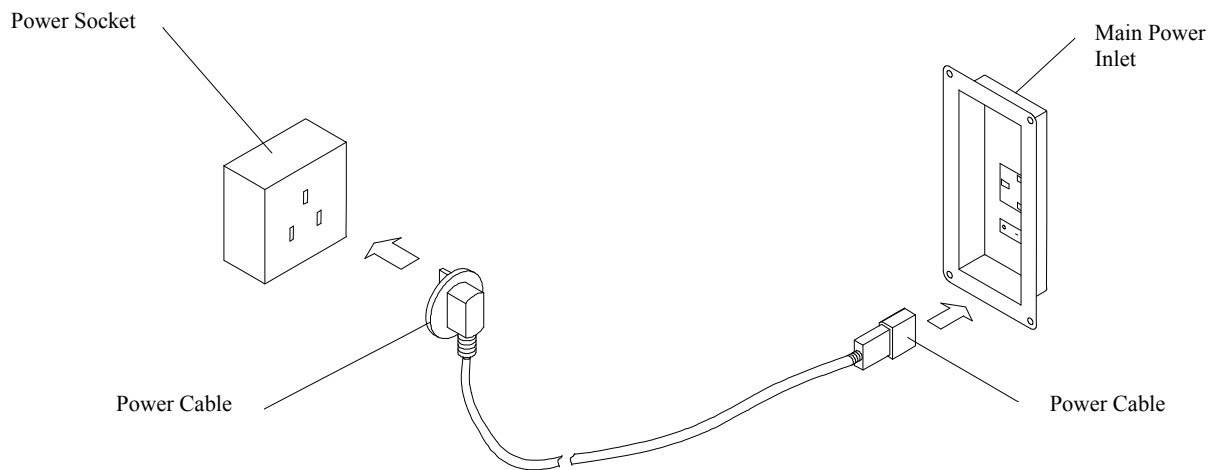
### 9.1 Fix Module Assembly



### Warning

- To avoid electrical shock, turn off the game power before removing.
- If appearing the wheel can't turn to move, please change the wheel.
- For a safety, please carefully move the machine.

### 9.2 Main Power Connects





## Warning

- Do not put the heavy object on the power cable.
- If the hand is wet, do not touch power cable.
- The power cable can not near the heat object.
- Use the proper fuses – To avoid electrical shock, use replacement fuses which are specified within this manual for this game. Replacement fuses must match those replaced in fuse type, voltage rating and current rating. In addition, the fuse cover must be in place during game operation (where applicable).

## 10 Appendix

### 10.1 《Acorn Drop V3.1》 Dip SW table <Acorn Drop >

Dip	Position								Description	
	8	7	6	5	4	3	2	1		
SW1	ON								No ticket	
	OFF								Ticket model	
		ON							No memory	
		OFF							Have memory	
			ON						Power on no test	
			OFF						Power on will doing test	
				ON					Free Play	
				OFF					Coin Operate	
					ON	ON			3, 2, 2, 1, 4, 3, 15, 5, 3, 6, 3, JP, JP, 8, 3, 5, 4, 30, 8, 3, 2, 5, 2, 1	
					ON	OFF			6, 2, 2, 2, 8, 3, 25, 5, 6, 10, 3, JP, JP, 15, 3, 10, 4, 45, 8, 6, 2, 10, 2, 2	
					OFF	ON			8, 2, 2, 4, 10, 3, 30, 5, 8, 15, 3, JP, JP, 25, 3, 15, 4, 55, 8, 8, 2, 15, 2, 4	
					OFF	OFF			10, 2, 2, 8, 15, 3, 35, 5, 10, 25, 3, JP, JP, 15, 3, 15, 4, 70, 8, 10, 2, 15, 2, 8	
								ON	ON	Insert one coin Jackpot Increase 4
								ON	OFF	Insert one coin Jackpot Increase 3
								OFF	ON	Insert one coin Jackpot Increase 2
								OFF	OFF	Insert one coin Jackpot Increase 1
	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	SW1 Factory Setting	
	8	7	6	5	4	3	2	1		
	ON	ON	ON						Jackpot start =50	
	ON	ON	OFF						Jackpot start =100	
	ON	OFF	ON						Jackpot start =150	
	ON	OFF	OFF						Jackpot start =200	
	OFF	ON	ON						Jackpot start =250	



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SW2	OFF	ON	OFF						Jackpot start =300	
	OFF	OFF	ON						Jackpot start =350	
	OFF	OFF	OFF						Jackpot start =400	
							ON	ON	4 coins per credit	
							ON	OFF	3 coins per credit	
							OFF	ON	2 coins per credit	
							OFF	OFF	1 coins per credit	
				ON	ON				Maximum Jackpot =200	
				ON	OFF				Maximum Jackpot =300	
				OFF	ON				Maximum Jackpot =500	
				OFF	OFF				Maximum Jackpot =999	
	OFF	ON	ON	OFF	OFF	OFF	OFF	ON	SW2 Factory Setting	
SW3	8	7	6	5	4	3	2	1		
									ON	Fix Jackpot
									OFF	Jackpot increase by coins insert
								ON		Setting jackpot to Start Number
								OFF		No use
							ON			Demo without music
							OFF			Demo with music
						ON				Have control coin slot
						OFF				Have not control coin slot
				ON						Error Without alarm
				OFF						Error With alarm
			ON							Clear coin in data
			OFF							No use
		ON								Actual ticket
		OFF								1/2Ticket
		ON	OFF	OFF	OFF	ON	OFF	ON	ON	SW3 Factory Setting

Remark: All setting must turn off the power

《Acorn Drop》 Error code table

16	E	xx	Error code
17	E	1	Ticket out error
18	E	3	Crane X (Horizontal) Error
19	E	4	Crane Y (vertical) Error
20	E	5	Ball liter and drop Error
21	E	6	Ball to playfield Error
22	E	7	Playfield detect over one more ball to the hole



## 10.2 《ACORN DROP》 Code and Information

Item	Code	Message	Remark
1	P1	XX	0 = Maximum 15 = Minimum
2	P2	XXXX	XXXX = Message Code
3	P2	1	Test of LED display port 1
4	P2	2	Test of LED display port 1
5	P2	3	Test of ticket dispenser
6	P2	4	Test of Lighting Tube
7	P2	8	Test of Pointer
8	P2	9	Test of LED (Ball Hole)
9	P2	10	Test of LED (Arrowhead)
10	P2	12	Test of light bulb (Start button)
11	P2	13	Test of electromagnet
12	P2	14	Test of motor
13	P2	15	Test of electromagnet
15	P3	XX	Test of sound xx~can be adjusted
16	E	XX	Error code
17	E	1	Ticket out error
18	E	3	Lighting tube assembly error (left and right)
19	E	4	Lighting tube assembly error (front and rear)
20	E	5	Ball way assembly error
21	E	6	Ball into hole overtime
22	E	7	Ball into hole reading error
23	SW1		Check coins data
24	SW2		Service button
25	SW3		Hardware testing
26	SW4		Withdraw function



### 10.3 《ACORN DROP》 Resource Assniation

PIN Number	Port			Description	
IN0	JP1		I	D7	GA-080110A Main Board Score data connect port JP3
IN1			I	D6	
IN2			I	D5	
IN3			I	D4	
IN4			I	D3	
IN5			I	D2	
IN6			I	D1	
IN7			I	D0	
IN8	JP2		I	Joystick switch (front)	Joystick
IN9			I	Joystick switch (rear)	
IN10			I	Joystick switch (left)	
IN11			I	Joystick switch (right)	
IN12			I	Start button switch	
IN13			I	Bet button switch	
IN14			I		
IN15			I		
IN16	JP3		I	Lighting tube sensor (front)	Lighting tube sensor
IN17			I	Lighting tube sensor (rear)	
IN18			I	Lighting tube sensor (left)	
IN19			I	Lighting tube sensor (right)	
IN20			I	Lighting tube sensor (central)	
IN21			I		
IN22			I	Ball position sensor	
IN23			I		
IN24	JP4		I	Coins selector output	
IN25			I		
IN26			I	Volume control K1 (High)	After setting, press SW4
IN27			I	Volume control K2 (Low)	Quit
IN28			I	SW1 Check coins data	K3 (press SW4 Quit)
IN29			I	SW1 Service button	K4
IN30			I	SW3 Hardware testing switch	K5
IN31			I	SW4 Quit	K6



ACORN DROP

PIN Number	Port			Description
DI	JP18		O	LED Display signal output: DI
CK			O	LED synchronous time signal: CLK
ST			O	LED output saves: ST
DI	JP19		O	LED Display signal output 2: DI LED4131 x 6
CK			O	LED synchronous time signal 2: CLK LED4131 x 6
ST			O	LED output saves: ST LED4131 x 6
+5V	JP13		P	+5V
GND			P	GND
GND			P	GND
+12V			P	+12V
SP-L	JP11		O	Speaker left
GND			O	GND
SP-R			O	Speaker Right

PIN Number	Port			Description	
O0	JP5 ULN2803 OC Output		O	Coins meter	
O1			O	Tickets meter	
O2			O	GA-080110A Board JP4-INA	
O3			O	GA-080110A Board JP4-INB	
O4			O	GA-080110A Board JP4-INC	
O5			O	Start button light bulb	
O6			O	LED	
O7			O	Bet button light bulb	
O8	JP6 ULN2803 OC Output		O	Lighting tube (front)	Lighting tube control
O9			O	Lighting tube (rear)	
O10			O	Lighting tube (left)	
O11			O	Lighting tube (right)	
O12			O	Motor	
O13			O	Motor	
O14			O		
O15			O		



ACORN DROP

PIN Number	Port			Description
O16	JP7 ULN2803 OC Output		O	LED damage
O17			O	LED damage
O18			O	LED damage
O19			O	LED damage
O20			O	LED damage
O21			O	LED damage
O22			O	LED damage
O23			O	LED damage
O24	JP8 ULN2803 OC Output		O	
O25			O	
O26			O	
O27			O	
O28			O	
O29			O	
O30			O	
O31			O	
OH24	JP9 SI4953 12V Output		O	
OH25			O	
OH26			O	
OH27			O	
OH28			O	
OH29			O	
OH30			O	
OH31			O	
1	JP17		P32I	Tickets dispenser signal In
2			+12V	+12V (<500mA)
3			GND	GND
4			P33O	Tickets dispenser signal Out
1	JP20		GND	
2			Reset	