

FIVE STAR REDEMPTION

BLACKLIGHT *BOWLING* OPERATION MANUAL

November 8, 2000

FEATURES

- Bright Attention Grabbing Graphics & Cabinet
- Hot looking Neon & Halogen Lighting
- Exciting Super Fast Skill Stop
- Oversized Highly Reliability Buttons
- Operator Programmable

SPECIFICATIONS

Parameter	Value	Units
Voltage	115	VAC
Frequency	60	HZ
Weight	200	Pounds

Overview

Black Light Bowling consists of a lighted clock face with a motorized spinner, a player console with a large joystick and a numeric display for game play, speakers for sound effects, two coin acceptors, and a ticket dispenser. The objective is to skillfully stop the spinner to a desirable position to maximize the number of points won.

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Game Play

Blacklight Bowling offers very fast and interesting play with many different strategies for maximizing points won.

- Insert coins(s) to ready the game for play.
- Move the *Joystick* forward to the *Spin* position to begin the *Bowling Pin* spinning.
- There are several seconds in which to influence where the *Bowling Pin* will stop by skillfully moving the *Joystick* to the *Spin*, *Coast*, or *Stop* position.
- Points are awarded when you avoid stopping on a *Gutter Ball*. The game ends immediately when the *Bowling Pin* stops there.
- Points are awarded and displayed in addition to any accumulated points already won.
- Tickets may be dispensed each time that you avoid landing on a *Gutter Ball*.

Game Programming

BlackLight Bowling is controlled by a CPU board having several operator controllable options that are programmed by entering data through a four-button keypad and by setting DIP switches. Both the four-button keypad and the DIP switches are located on the CPU board.

Keypad Programming

Press the *Mode* button on the CPU board to begin keypad programming. The numeric display on the player console will show the mode number on the left with its value on the right. To change the mode's value, press the *Up* or *Dn* buttons on the CPU board to cycle through each of the allowable values. When the desired value is displayed, the *Mode* button may be pressed repeatedly to select other modes to modify. When all of the modes have their values set as desired, press the *Reset* button on the CPU board. The reset button must remain held down for a minimum of ten seconds or until the game begins running.

Game Play Programming Table

PROG	DESCRIPTION	Units	Factory Defaults
1	Total coins in		0
2	Spins/Frame	Spins per Frame	2
3	Frame Time	Seconds	30
4	Points/Ticket	Points	5
5	Multi-Coin Code	Multi-Coin Selection Code	1
6	Free Spin Code	Code for Free Spins	0
7	Spins Before Tickets Dispensed	# Spin Before Tickets Dispensed	3
8	Perfect Score Value		300
9	Perfect Score Multiples		3
10	Motor RAMP-UP Speed Limit	RPM	150
11	Motor RAMP-UP Speed Limit	RPM	100
12	Attract ON	Seconds	120
13	Attract OFF	Seconds	5
14	Consolation		0
15	Wheel Location 1	GUTTER	0
16	Wheel Location 2	Points	2
17	Wheel Location 3	Points	1
18	Wheel Location 4	STRIKE	100
19	Wheel Location 5	Points	2
20	Wheel Location 6	Points	1
21	Wheel Location 7	SPARE	25
Points	Wheel Location 8	Points	2
Points	Wheel Location 9	Points	1
24	Wheel Location 10	GUTTER	0

Game Programming Continued

25	Wheel Location 11	Points	3
26	Wheel Location 12	Points	1
27	Wheel Location 13	SPARE	25
28	Wheel Location 14	Points	2
29	Wheel Location 15	Points	1
30	Wheel Location 16	SPARE	25
31	Wheel Location 17	Points	1
32	Wheel Location 18	Points	3
33	Wheel Location 19	GUTTER	0
34	Wheel Location 20	Points	2
35	Wheel Location 21	Points	1
36	Wheel Location 22	SPARE	25
37	Wheel Location 23	Points	2
38	Wheel Location 24	Points	1
39	Wheel Location 25	BONUS	200
40	Wheel Location 26	Points	2
41	Wheel Location 27	Points	1
42	Not Used		

Game Programming Continued

FREE SPIN CODE TABLE

CODE	GUTTER 1 SPIN	SPARE 1 SPIN	STRIKE 1 SPIN	STRIKE 1 SPIN
0				
1	X			
2		X		
3	X	X		
4			X	
5	X		X	
6		X	X	
7	X	X	X	
8				
9	X			
10		X		
11	X	X		
12			X	X
13	X		X	X
14		X	X	X
15	X	X	X	X

Game Programming Continued

CODE # 0 MULTI-COIN TABLE

	MAX	MAX	LIGHT
CREDITS	FRAMES	GUTTERS	CODE
1	1	100	080h
2			
3			
4			
5			
6			
7			
8			
9			
10			

CODE # 1 MULTI-COIN TABLE

	MAX	MAX	LIGHT
CREDITS	FRAMES	GUTTERS	CODE
1	1	100	080h
2			
3			
4			
5			
6			
7			
8	10	100	040h
9			
10			

CODE # 2 MULTI-COIN TABLE

	MAX	MAX	LIGHT
CREDITS	FRAMES	GUTTERS	CODE
1	1	0	080h
2	2	1	040h
3	4	2	020h
4	5	3	010h
5			
6	8	5	008h
7			
8			
9			
10			

Game Programming Continued

DIP Switch Programming

Eight DIP switches numbered 1 through 8 are located on the CPU board. These switches control various aspects of game play and configurations. *The CPU board must be turned off and back on again for new DIP Switch settings to take effect.*

Dip Switch Setting

DIP SWITCH NUMBER	Description of DIPO Switch Function	Factory Default Setting
1	ATTRACT MODE DISABLE ON = Disable Attraction Audio OFF= Enable Attraction Audio	OFF
2	AUTO TICKET DISPENSE ON = Enable Dispense As Points Won.. OFF =Disable Dispense At End of Game	OFF
3	MULTI COIN GAME PLAY ON = Enable Multi-Coin Game Play OFF = Disable Multi-Coin Play	ON
4	TICKET DISPENSER SELECT ON = Multiple ticket dispenser OFF = Single ticket dispenser	OFF
5	GAME CLOCK CALIBRATION ON = Enable Calibration During Start Up OFF =Disable Calibration (Use Defaults)	ON
6	GAME CLOCK ON = Enable Game Clocks OFF = disable clock, use software game timer	ON
7	JOYSTICK RAMP-CONTROL ON = Ramp-up motor speed when joystick engaged. OFF = Joystick forward turns motor on until stop selected.	OFF
8	PERFECT GAME ENABLE ON = Enable perfect scores check for special prize. OFF = Normal game play.	ON

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Game Programming Continued

Jumper Configuration Setting

The four jumpers are labeled JP1 – JP4. The jumpers control the game hardware configuration. *They can only be set or changed with power off.*

Jumper Configuration Table

JUMPER	PIN	FACTORY DEFAULT SETTING	DESCRIPTIONS
JP1	1-2	ON	Vend Daisy Chain Out = SDOUT3.
JP2	2-3	ON	Vend Bank 2 Daisy Chain Out = SDOUT1.
JP3	2-3	ON	Vend Bank 3 Daisy Chain Out = SDOUT2.
JP4	1-2	OFF	GND to EGND jumper.

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Input / Output Signals

CPU Inputs/Outputs

Target Inputs	Wire #	Signal Source	CPU Board Location
SENSOR BOARD F	1	J1F	Group 1-1
SENSOR BOARD E	2	J1E	Group 1-2
SENSOR BOARD D	3	J1D	Group 1-3
SENSOR BOARD C	4	J1C	Group 1-4
SENSOR BOARD B	5	J1B	Group 1-5
SENSOR BOARD A	6	J1A	Group 1-6
BRAKE BUTTON	7		
DUAL FUNCTION STOP BUTTON	8	Player Console	Group 1-8
COIN1	9	Coin Acceptor	Group 1 -9
COIN2	10	Coin Acceptor	Group 1-10
START BUTTON	11	Player Console	Group 1-11
NOT USED	12		
P_TICKET_SENSE	13	Ticket Dispenser	
ATTENDANT BUTTON	14	Inside Cabinet	Group 1-14
CLOCK SWITCH 2	15	Clock Header	Group 1-15
CLOCK SWITCH 1	16	Player Console	Group 1-16
CPU Vend Outputs	Wire #	Signal Source	Signal Destination
START LAMP	1	Vend 1	Player Console
TICKET LAMP	2	Vend 2	
DOUBLE LAMP	3	Vend 3	
BRAKE LAMP	4	Vend 4	Player Console
CLOCK MOTOR 1	5	Vend 5	Clock Header
ATTENDANT LAMP	6	Vend 6	Player Console
DUAL FUNCTION STOP LAMP	7	Vend 7	Player Console
CLOCK MOTOR 2	8	Vend 8	Player Console
P_TICKET	9	Vend 9	Ticket Dispenser
Not Used	10	Vend 10	Player Console
BRAKE ON (RELAY)	11	Vend 11	Speed/Brake Control
MOTOR ON (RELAY)	12	Vend 12	Speed/Brake Control

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Input / Output Signals Continued

Vend Expansion Board Outputs

Outputs	JP1	Signal Source	**Wheel Light Locations
Target 1a(Gutter Ball 1)	JP1-1	Bit 63	LL23
Target 2	JP1-2	Bit 61	LL1
Target 3	JP1-3	Bit-59	LL2
Target 5	JP1-4	Bit 57	LL3
Target 6	JP1-5	Bit 55	LL4
Target 8	JP1-6	Bit 53	LL5
Target 9	JP1-7	Bit 51	LL6
Target 10 (Gutter Ball 2)	JP1-8	Bit 49	LL7
Target 11	JP1-9	Bit 47	LL9
Target 12	JP1-10	Bit 45	LL10
Target 14	JP1-11	Bit 43	LL11
Target 15	JP1-12	Bit 41	LL12
Target 17	JP1-13	Bit 39	LL13
Target 18	JP1-14	Bit 37	LL14
Target 19 (Gutter Ball 3)	JP1-15	Bit 35	LL15
Target 20	JP1-16	Bit 33	LL17
Target 21	JP1-17	Bit 31	LL18
Target 23	JP1-18	Bit 29	LL19
Target 24	JP1-19	Bit 27	LL20
Target 26	JP1-20	Bit 25	LL21
Target 27	JP1-21	Bit 23	LL21
Outputs	JP1	Signal Source	Player Console
Dual Func Brake Stop Lamp	JP1-28	Bit 9	
Dual Func Brake Coast Lamp	JP1-29	Bit 7	
Brake Lamp 2	JP1-30	Bit 5	
Brake Lamp	JP1-31	Bit 3	
Dual Function Stop Lamp	JP-32	Bit 1	

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Input / Output Signals Continued

Outputs	JP2	Signal Source	**Wheel Light Locations
Gutter Ball 1 Target 1b	JP2-1	Bit 63	LU1
Bonus score 1 Target 4	JP2-2	Bit 61	LU2
Bonus score 1 Target 4	JP2-3	Bit 59	LU3
Bonus score 2 Target 7	JP2-4	Bit 57	LU4
Bonus score 2 Target 7	JP2-5	Bit 55	LU5
Gutter Ball 2 Target 10	JP2-6	Bit 53	LU6
Bonus score 3 Target 13	JP2-7	Bit 51	LU7
Bonus score 3 Target 13	JP2-8	Bit 49	LU8
Bonus score 4 Target 16	JP2-9	Bit 47	LU9
Bonus score 4 Target 16	JP2-10	Bit 45	LU10
Gutter Ball 3 Target 19	JP2-11	Bit 43	LU11
Bonus score 5 Target 22	JP2-12	Bit 41	LU12
Bonus score 5 Target 22	JP2-13	Bit 39	LU13
Bonus score 6 Target 25	JP2-14	Bit 37	LU14
Bonus score 6 Target 25	JP2-15	Bit 35	LU15
Gutter Ball 1 Target 1a or 1b	JP2-16	Bit 33	LL24
Gutter Ball 2 Target 10	JP2-17	Bit 31	LL8
Gutter Ball 3 Target 19	JP2-18	Bit 29	LL16
Outputs	JP2	Signal Source	Wheel Led Locations
Gutter Ball Lamp Level 6	JP2-19	Bit 27	LEDL6
Gutter Ball Lamp Level 5	JP2-20	Bit 25	LEDL5
Gutter Ball Lamp Level 4	JP2-21	Bit 23	LEDL4
Gutter Ball Lamp Level 3	JP2-22	Bit 21	LEDL3
Gutter Ball Lamp Level 2	JP2-23	Bit 20	LEDL2
Gutter Ball Lamp Level 1	JP2-24	Bit 21	LEDL1
Multi-Coin Lamp Level 5	JP2-28	Bit 9	LEDC5
Multi-Coin Lamp Level 4	JP2-29	Bit 7	LEDC4
Multi-Coin Lamp Level 3	JP2-30	Bit 5	LEDC3
Multi-Coin Lamp Level 2	JP2-31	Bit 3	LEDC2
Multi-Coin Lamp Level 1	JP2-32	Bit 1	LEDC1
Outputs	JP3-JP6	Signal Source	Player Console
Spinner Motor	JP6	Bit 1	
Brake	JP5	Bit 2	
Gutter Ball Motor 1	JP3	Bit 3	
Gutter Ball Motor 2	JP3	Bit 4	

Clock Timing Adjustments

Control Panel Clock Adjustment

There are two game clocks, a Header and Control Panel clock. the adjustment of the Control Panel clock is to synchronize the two clocks. The clocks should start and stop simultaneously, due to some differences the Control Panel motor runs slightly faster. There is a potentiometer that increases or decreases the speed of the Control Panel clock motor to match with the Header clock motor.

The game is programmed to officially stop only after both clocks have reached the stop position. E.g. If the Control Panel clock has not been adjusted, it will stop before the Header clock, however, and the game will not end until after the Header clock stops. By adjusting the Control Panel game will end at the same time.

NoteThe adjustment of the Control Panel clock will not affect game playtime. Changing game playtime can only be done in programmed mode 2.**

Appendix A Encoding Wheel Details

Wheel Details

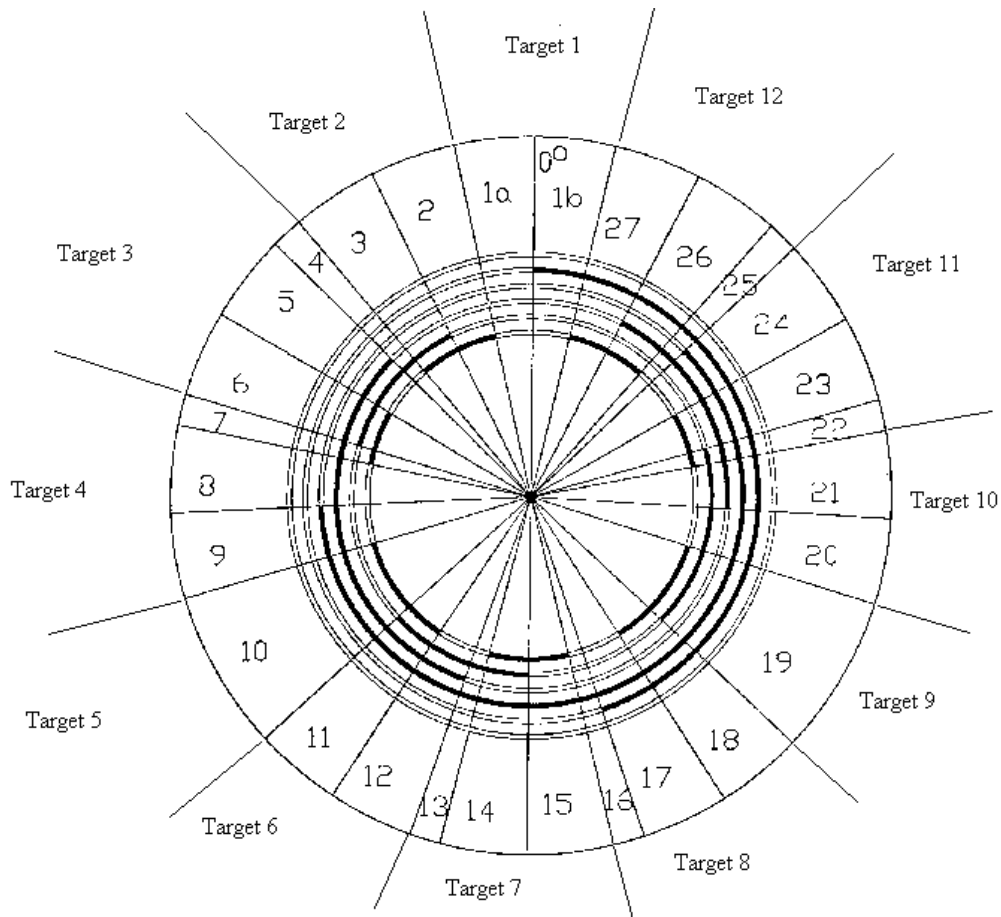


Figure 1- Encoding Wheel (Rear View)

Appendix A Encoding Wheel Details Continued

Target Location	Small Angle	Large Angle	Points Won	Ring 1	Ring 2	Ring 3	Ring 4	Ring 5	Ring 6
1b	0.0	13.0	0					■	
27	13.0	27.0	1	■				■	
26	27.0	41	2	■		■		■	
25	41.0	46.0	200			■		■	
24	46.0	60.0	1			■	■	■	
23	60.0	74.0	2	■		■	■	■	
22	74.0	79.0	25	■	■	■	■	■	
21	79.0	93.0	1		■	■	■	■	
20	93.0	107.0	2		■		■	■	
19	107.0	133.0	0	■	■		■	■	
18	133.0	147.0	3	■			■	■	
17	147.0	161.0	1				■	■	
16	161.0	166.0	25				■		
15	166.0	180.0	1	■			■		
14	180.0	194.0	2	■	■		■		
13	194.0	199.0	50		■		■		
12	199.0	213.0	1		■	■	■		
11	213.0	227.0	3	■	■	■	■		
10	227.0	253.0	0	■		■	■		
9	253.0	267.0	1			■	■		
8	267.0	281.0	2			■			
7	281.0	286.0	25	■		■			
6	286.0	300.0	1	■	■	■			
5	300.0	314.0	2		■	■			
4	314.0	319.0	50		■				
3	319.0	333.0	1	■	■				
2	333.0	347.0	2	■					
1a	347.0	0.0	0						

Figure 2 - Encoding Wheel Geometry and Codes

Appendix A Encoding Wheel Details Continued

Backlight Bowling Gray Code Table

Wheel Position	Ring Code	Hexadecimal Representation
1B	000010	02
27	100010	22
26	101010	2A
25	001010	0A
24	001110	0E
23	101110	2E
22	111110	3E
21	011110	1E
20	010110	16
19	110110	36
18	100110	26
17	000110	06
16	000100	04
15	100100	24
14	110100	34
13	010100	14
12	011100	1C
11	111100	3C
10	101100	2C
9	001100	0C
8	001000	08
7	101000	28
6	111000	38
5	011000	18
4	010000	10
3	110000	30
2	100000	20
1A	000000	00

Appendix B Wiring Diagrams

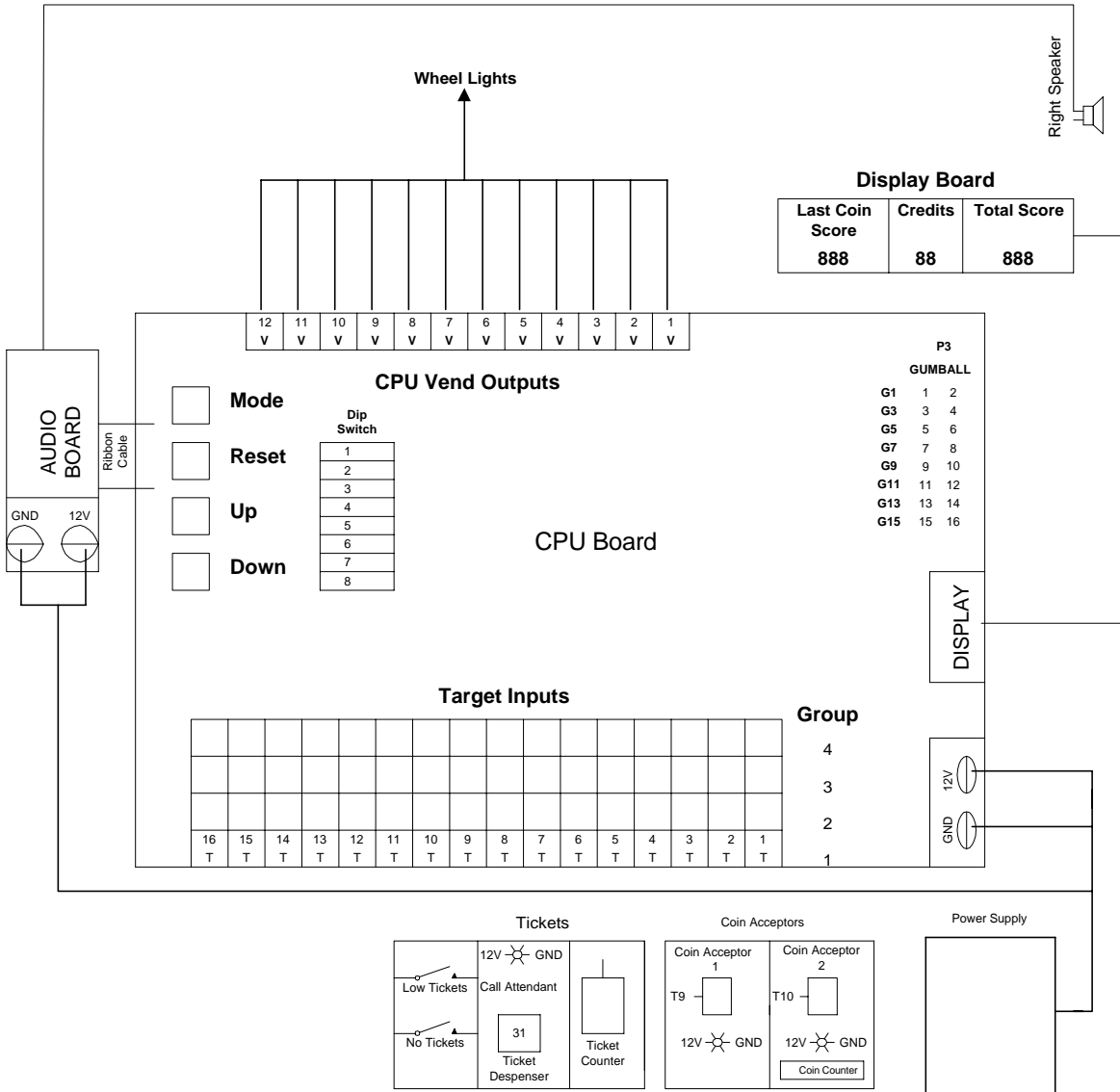


Figure 1 – Main Wiring Diagram

Appendix B Wiring Diagram Continued

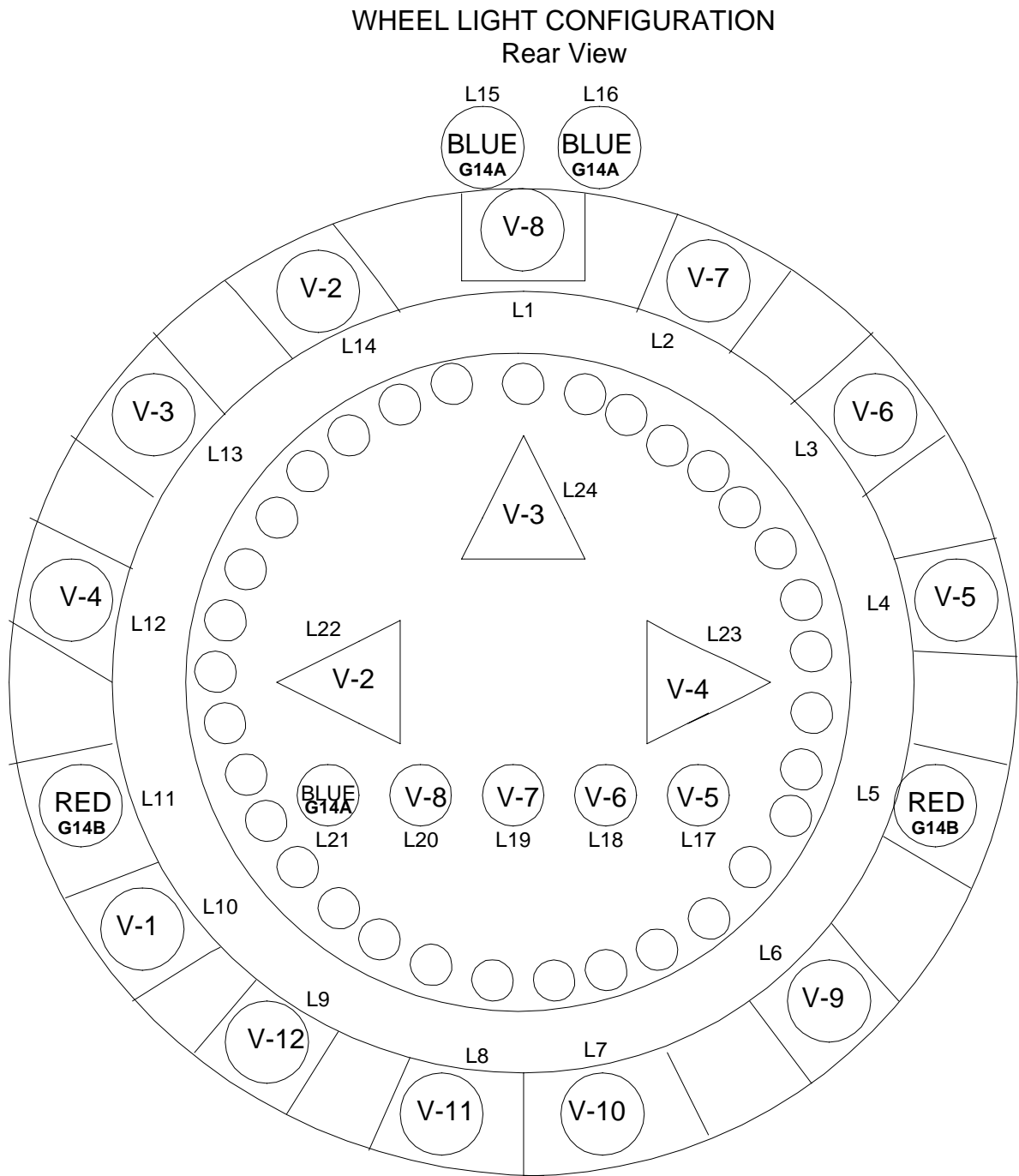


Figure 2 - Rear View Clock Face Lights

Appendix B Wiring Diagram Continued

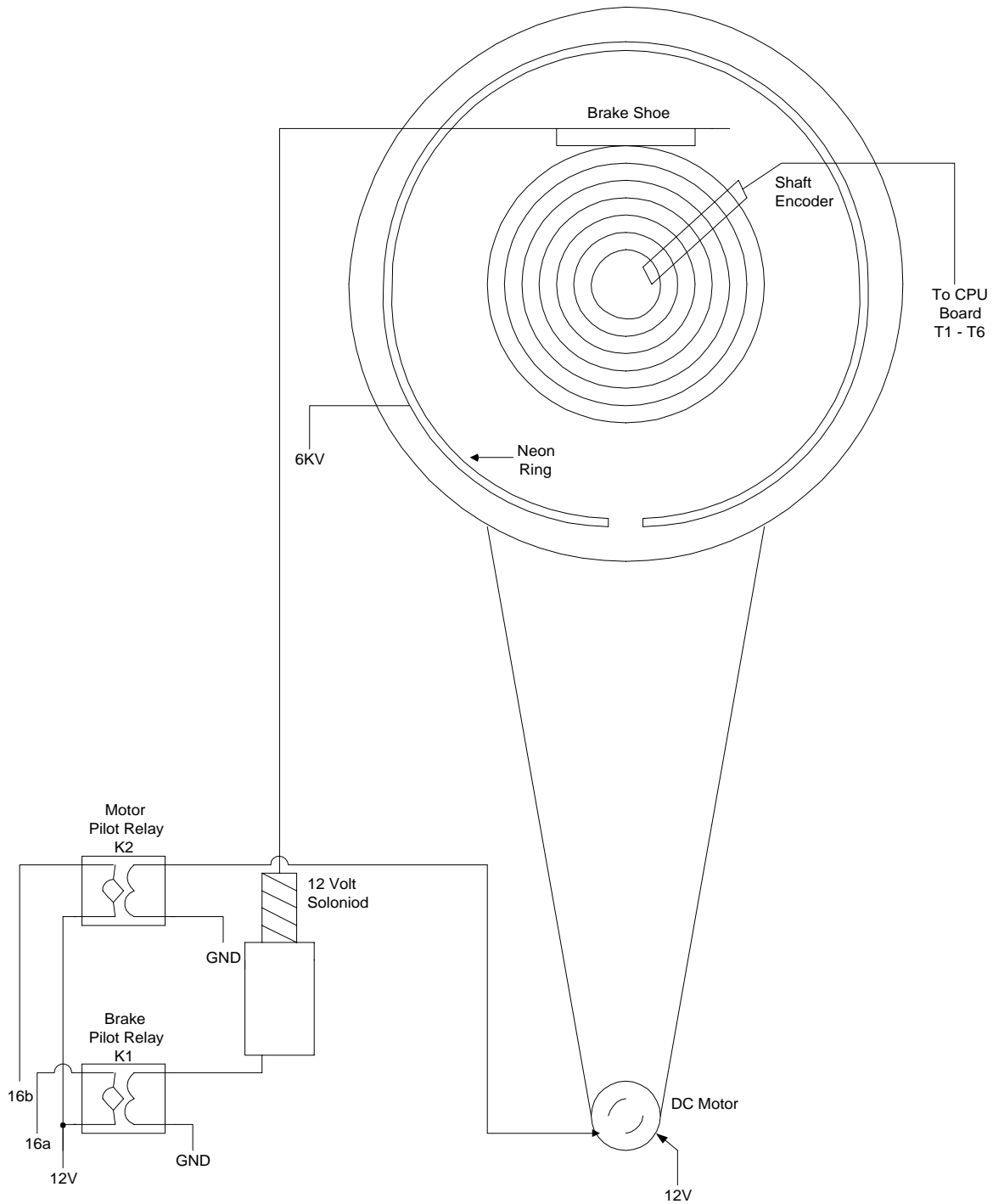


Figure 3 – Wheel with Motors

Appendix B Wiring Diagram Continued

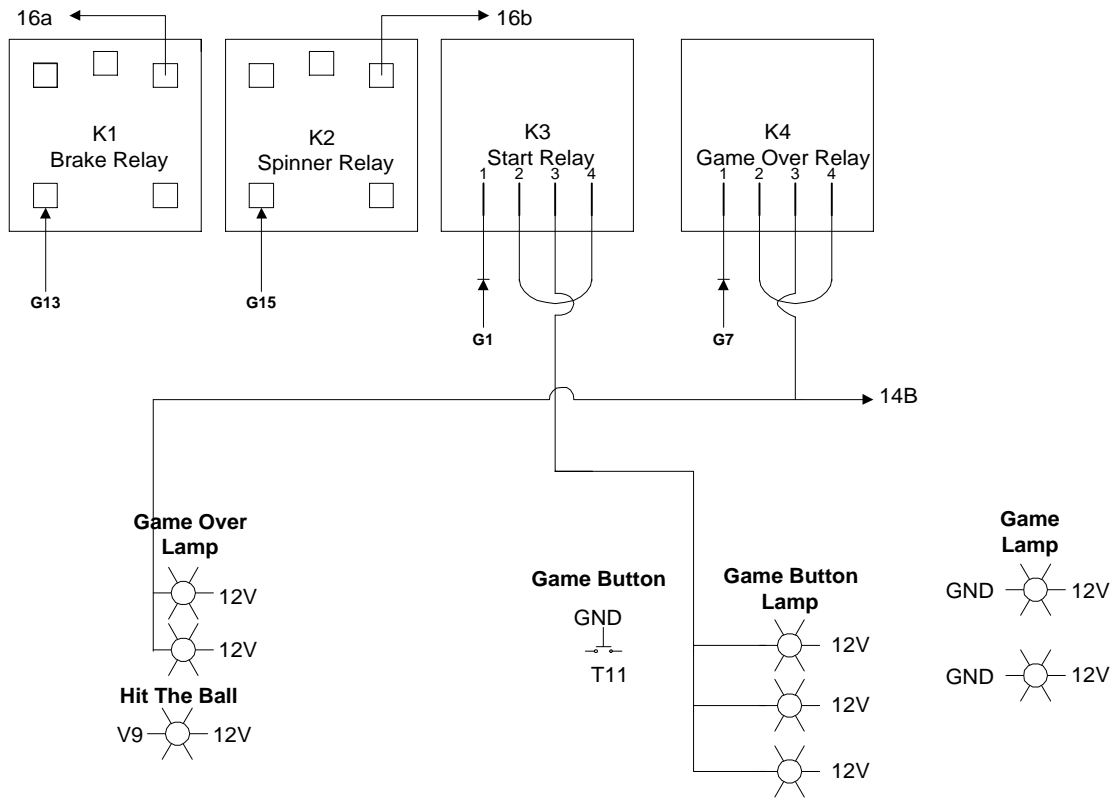


Figure 4 – Player Console

Appendix C Replacement Parts

Part Number Listing

#	PART NUMBER	PART DESCRIPTION	QTY
1	CA1 - 0001	HINGE (.5)	
2	CA1 - 0002	CASTERS	4
3	CA1 - 0007	SPEAKER	2
4	CA1 - 0008	SPEAKER COVER	2
5	CA1 - 0011	POWER SUPPLY (10/15 A)	
6	CA1 - 0021	COIN DOOR OVER UNDER	
8	CA1 - 0043	BACK DOOR LOCK & KEY	
9	CA1 - 0134	FLOURESENT LIGHT (18")	2
11	CA2 - 0261	SENSOR BRACKET	
12	CA2 - 0262	BRAKE STOP BRACKET	
13	CA2 - 0263	MOTOR SUPPORT BRACKET	
15	CA2 - 0265	LARGE BUTTON PLATE	
16	CA2 - 0266	3 BUTTON PLATE	
18	CA2 - 0268	METAL TRIM, LIP	
19	CA2 - 0269	UPPER LEFT & RIGHT METAL TRIM	
20	CA2 - 0270	LOWER LEFT & RIGHT METAL TRIM	
21	CA2 - 0271	BACK LEFT & RIGHT METAL TRIM	
22	CA2 - 0273	BACK COVER	
23	CA2 - 0274	LOCKDOWN BRACKET	
24	CA2 - 0275	CLOCK FACE REINFORCEMENT BRKT.	
26	CA2 - 0277	MOTOR SUPPORT PLATE	
27	CA3 - 0024	FRONT METAL TRIM	
28	CA3 - 0090	MAIN SUPPORT FRAME	
29	CA3 - 0091	BRAKE ARM (3/4" TUBE 14" LONG)	
30	CA3 - 0092	BRAKE CONNECTING ROD	
31	CA4 - 0081	PLASTIC LID 3 BUTT.	
33	CA4 - 0083	PLASTIC FRONT PANEL	
34	CA4 - 0084	INSIDE PLASTIC LEFT & RIGHT	
35	CA4 - 0085	SIDE PANELS LEFT & RIGHT	
36	CA4 - 0086	TARGET FACE	
37	CA4 - 0087	CLOCK FACE	
38	CA4 - 0087-R	CLOCK FACE REAR	
39	CA4 - 0091-BLB	BOWLING PIN	
41	CA4 - 0092-BLB	BOWLING PIN SPINNER SUPPORT	
42	CA4 - 0093	BRAKE PAD ASSY.	
43	CA4 - 0094	LID NEON COVER	
44	CA4 - 0095	NEON COVER SIDE L/R	
45	CA4 - 0097	WOOD CABINET	

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Appendix C Replacement Parts Continued

47	CA5 - 0028	FLY WHEEL SENSOR	
49	CA5 - 0031	FLY WHEEL BEARINGS PLASTIC	
50	CA7 - 0046	FRONT WOOD	
51	CA9 - 0062	FOAM FOR LG. BUTTONS	
53	CA9 - 0065	RUBBER LAMP HOLDER LG.	
56	GR1 - 0001	WIRE TAG CARD	
57	GR4 - 0030-5	STICKER KIT	
58	GR4 - 0033-CC	CLOCK FACE TARGET GRAPHIC	
59	GR4 - 0076	STICKER, "ON"	
60	GR4 - 0077	STICKER, "OFF"	
61	GR4 - 0150-BLB	DISPLAY GRAPHICS	
64	GR4 - 0161-BLB	MANUAL	
66	HA1 - 0001	WIRE,BLACK,22GA,UL1007 (9.3')	
67	HA1 - 0002	WIRE,RED,22GA,UL1007 (19.8')	
69	HA1 - 0003	WIRE,WHITE,22GA,UL1007 (11.4')	
70	HA1 - 0005	WIRE,BLUE,22GA,UL1007 (4.1')	
71	HA1 - 0006	WIRE,GREEN,22GA,UL1007 (20')	
72	HA1 - 0007	WIRE,YELLOW,22GA,UL1007 (4.1')	
73	HA1 - 0008	WIRE,BROWN,22GA,UL1007 (1')	
74	HA1 - 0011	WIRE,WHI./RED,22GA,UL1007 (60')	
75	HA1 - 0012	WIRE,BLACK,22GA,1932ST. (24')	
76	HA1 - 0013	WIRE,GREEN,22GA,1932ST. (24')	
77	HA1 - 0015	POWER STRIP	
78	HA1 - 0017	LED, RED, T1 - 3/4	
79	HA1 - 0027	CONNECTOR, MOLEX, 6 POS KK	
80	HA1 - 0029	TOGGLE SWITCH, SPDT	
81	HA1 - 0030	LOW TICKET SWITCH (2)	
82	HA1 - 0030-PR	RELAY	
83	HA1 - 0031	RELAY, 12VDC, SPDT	
84	HA1 - 0034	TICKET & COIN COUNTER 12VDC	
85	HA1 - 0035	MOLEX,CONN. 03-06-1023 MALE	
86	HA1 - 0038	MOLEX,CONN. 02-06-1103 (6)	
87	HA1 - 0040	CAPACITOR, .1 MFD, 50 VDC (2)	
88	HA1 - 0043	MOLEX PIN 08-50-0108 (4)	
89	HA1 - 0088	MOLEX CONN. 03-09-2032	
90	HA1 - 0089	MOLEX CONN. 03-09-2022	
91	HA1 - 0090	PIN MALE (2)	
92	HA1 - 0091	PIN FEMALE (2)	
93	HA1 - 0094	MINIATURE FLASHING LIGHTS (19)	
94	HA1 - 0095	MINATURE LIGHT SOCKET (19)	
95	HA9 - 0002	MODULAR CABLE, 4P4C, 10'	
96	HA9 - 0004	MODULAR CABLE, 8P8C, 10'	
97	HA9 - 0005	MODULAR CABLE, 4 COND.,SPOOL	
98	HA9 - 0006	RIBBON CONNECTOR	
99	HA9 - 0024	BRAKE SOLENOID	
100	HA9 - 0026-BLB	BOWLING PIN MOTOR	

(Continued on next page)

Appendix C Replacement Parts Continued

101	HH1 - 0017	1/4 - 20 X 1/4" SET SCREW	
102	HH1 - 0019	1/4 - 20 X 1 1/2" HEX HEAD BOLT	
103	HH1 - 0106-Z	4 - 40 X 3/8" PHIL	
104	HH1 - 0111-Z	1/4 - 20 X 1 1/2" PHIL. PAN HD. (6)	
105	HH1 - 0113-Z	1/4 - 20 X 2 1/2" PHIL. PAN HD.	
106	HH1 - 0120-Z	1/4 - 20 X 1 3/4" FLAT HD. (2)	
107	HH1 - 0316-Z	6 - 32 X 1" PHIL. (10)	
108	HH1 - 0416-Z	8 - 32 X 1" PHIL.	
109	HH1 - 0424-Z	8 - 32 X 1-1/2" PHIL.	
110	HH1 - 0432-Z	8 - 32 X 2" PHIL. (14)	
111	HH1 - 0508-N	10 - 32 X 1/2" PHIL. NYLON (2)	
112	HH1 - 0512-Z	10 - 32 X 3/4" PHIL. PAN (12)	
113	HH1 - 8608-Z	10 - 24 X 1/2" (2)	
114	HH2 - 0308-B	6 X 1/2" SHT. MTL. PHIL. BLK (70)	
115	HH2 - 5508-Z	10 X 1/2",TEK HEX HD. (47)	
116	HH2 - 5512-Z	10 X 3/4",TEK HEX HD. (30)	
117	HH2 - 6333-B	#6 X 3/4" DRY WALL BLACK (10)	
118	HH3 - 2100-Z	4 - 40 HEX NYLOC NUT	
119	HH3 - 2400	8 - 32 HEX NYLOC NUT (20)	
120	HH3 - 9512-Z	1/4 - 20 KEP NUT	
121	HH3 - 9518	ALUM. STANDOFFS	
122	HH4 - 0016	# 10 ID WASHER 11/16 OD (14)	
123	HH4 - 0024	WASHER,.875 OD 0205 ID .025 THK.	
124	HH4 - 0032	WASHER, EXTERNAL TOOTH, #8 (20)	
125	HH5 - 0002-N	SPACER,#10 ID,1/4 OD,1/4",NYLON (4)	
126	HH5 - 0024	NYLON .196 ID, .307 OD, 200 LG.	
127	HH6 - 0001	BLUE WIRE NUTS (2)	
128	HH6 - 0002	PCB STANDOFFS, 1/4" CLIP-ON (14)	
129	HH6 - 0004	WIRE TIES, 5", BLACK (41)	
130	HH6 - 0004-W	TIE WRAPS 5" WHITE (8)	
131	HH6 - 0005	CABLE WRAP, TSP-1-1 (6)	
132	HH6 - 0006	SHRINK WRAP TUBING, 3/32" DIA. (2)	
133	HH6 - 0007	SHRINK TUBE 1/4"	
134	HH6 - 0008	RIBBON CLAMP, SELF ADHESIVE (25)	
135	HH6 - 0011-B	NYLON LOOP CLAMP, 1/4",BLACK (40)	
136	HH6 - 0013-B	NYLON LOOP CLAMP, 1/4",BLACK (20)	
137	HH6 - 0016	LED PANEL MOUNT CLIP T1-3/4	
138	HH6 - 0021	WIRE NUTS, ORANGE (2)	
139	HH6 - 0022	WIRE TIES, 4", BLACK (60)	
140	HH6 - 0024	SHRINK WRAP TUBING,CLEAR,3/4" DIA. (4)	
141	HH7 - 0003	ADHESIVE SPRAY (.15)	
142	HH7 - 0004	RTV 408C SILICONE (.5)	
143	HH7 - 0007	TAPE, DOUBLE FOAM, 1/2" WIDE (.1)	
144	HH7 - 0019	EPOXY GEL (.5)	
145	HH7 - 0020	ELECTRICAL 3/4" TAPE (1)	
146	HH8 - 0007	MARS BLACK, PAINT (.5)	

(Continued on next page)

Appendix C Replacement Parts Continued

147	HH9 - 0002	POP RIVETS SB6-2 (42)	
148	HH9 - 0015	SILCAST PART "A",55 GAL. DRUM (.01)	
149	HH9 - 0016	SILCAST PART "B",55 GAL. DRUM (.01)	
150	HH9 - 0024	SILINOID 12X19-1-12VDC	
151	HH9 - 0084	BRAKE SPRING #954104-00	
152	HH9 - 0097	3/4" RETAINING RING (2)	
153	HH9 - 0101	SPRING, BRAKE, SOLENOID	
154	HH9 - 0109-C	URETHANE BELT	
155	MA2 - 0025	FLYWHEEL BEARING	
156	MA3 - 0001	PETG SHEETS 4'X8' (3.5)	
157	MA3 - 0005	PLASTIC SHEET,BRONZ, 4'X8'X1/8" (.02)	
158	MA3 - 0006	PLASTIC SHEET,WHT., 4'X8'X1/16" (.02)	
159	MA4 - 0007	TAKE TICKETS BUTTON W/ DECAL	
160	NE1 - 0002	WIRE, GTO # 15 (480)	
161	NE1 - 0004	SHORT STOP, NEON TUBE, 14MM (8)	
162	NE1 - 0005	TUBING,GTO # 3858, BLACK (8)	
163	NE1 - 0007	NEON TRANSFORMER (7500 V)	
164	NE6 - 0052	NEON RING (CLOCK FACE)	
165	NE6 - 0053	SIDE NEON (L & R) (2)	
166	NE6 - 0054	CONTROL PANEL NEON (LID)	
167	NO P/N	MOLD RELEAST (.7)	
168	PC1 - 1007-1	DISPLAY	
169	PC1 - 1025-3	AUDIO BOARD W/O CHIP	
170	PC1 - 2010	CPU BOARD 7 BUTTON. W/O CHIP	
171	PC1 - 2040	FLYWHEEL SENSOR BOARD	
172	PC1 - 3002-1	VEND EXPANTION BOARD	
173	PC2 - 2010-14-3	CPU BOARD 3 BUTTON	
174	PC2 - 2010-15	AUDIO CHIP	
175	TB4 - 1001	PLASTIC LID NO BUTTONS (RAW)	
176	TB4 - 1002	PLASTIC FRONT PANEL (RAW)	
177	TR2 - 0016	FLYWHEEL SENSOR BRACKET	
178	TT1 - 0001	TICKET DISPENSER	
179	TT1 - 0001-1	TICKET DISPENSER WIRE HARNESS	
180	TT1 - 0001-H	TICKET HOLDER	
181	TT1 - 0005	TICKET DOOR WITH LED HOLE	
182	TT1 - 0006	CHAIN, JACK, # 12, ZINK (5.5)	