

# **Section 2**

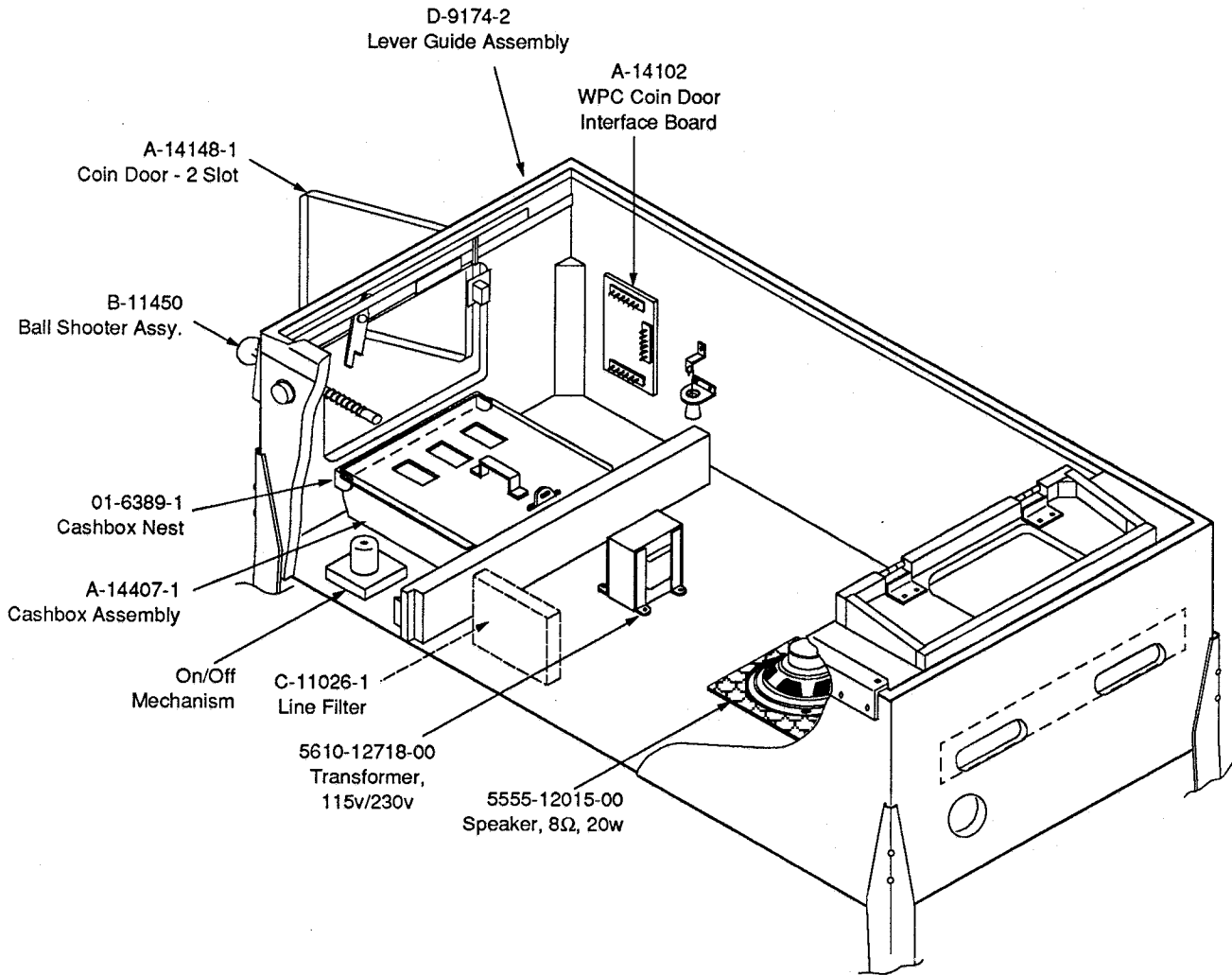
## *Game Parts Information*

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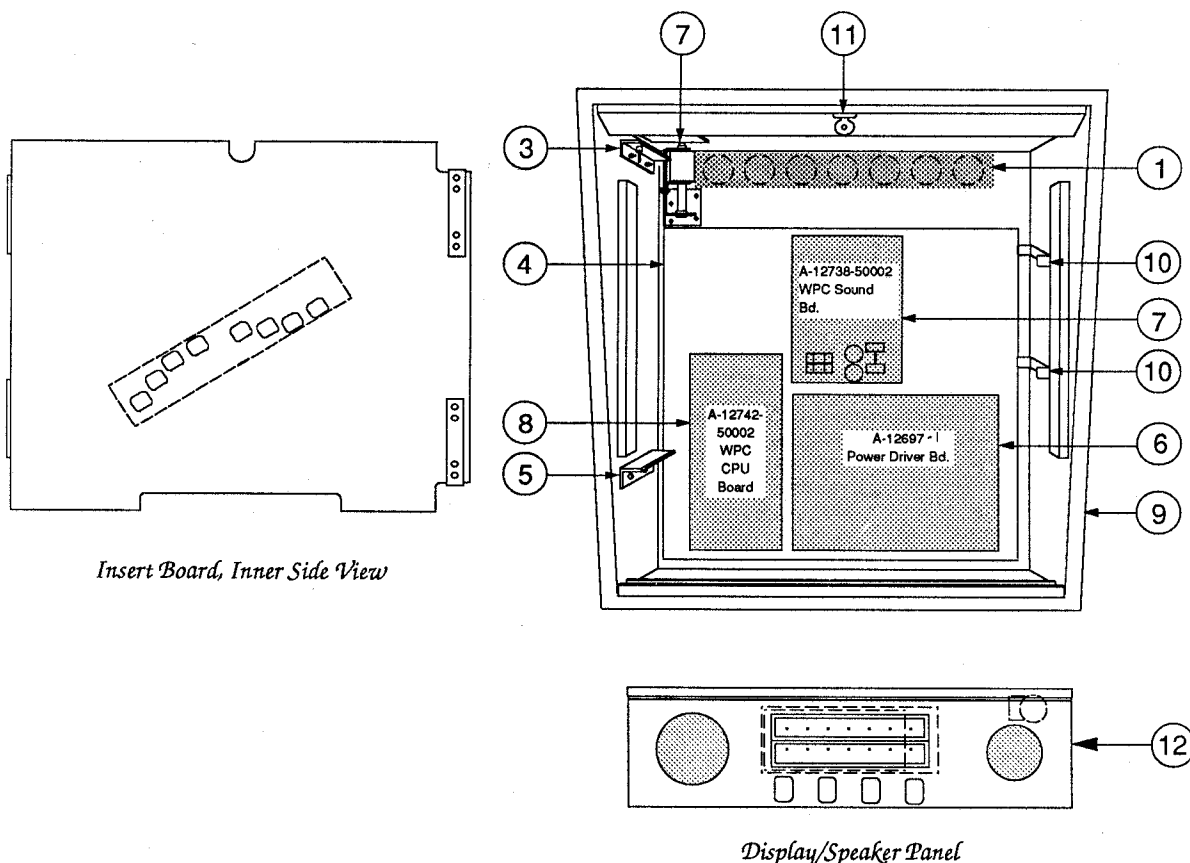
# Cabinet Parts



## Miscellaneous Parts

Part Number	Description	Part Number	Description
03-7960-50002	Playfield Mylar	31-1009-50002	Shooter Plate (Screened)
08-7028-T	Glass Playfield	31-1524-1	Decal - Coinage
08-7456	Backbox Glass, 27 x 18-7/8	31-1524-2	Decal - Tokens
31-1002-50002	Playfield (Screened)	31-1524-3	Decal - See Cards
31-1008-50002	Bottom Arch (Screened)	31-1-50002-	Playfield Plastics Set (Screened)

## Backbox Assembly



Item	Part Number	Description	Item	Part Number	Description
1	01-6645	Venting Screen	9	A-14376-50002	<b>The Machine</b> Backbox
2	B-10686-1*	Knocker & Bracket Assy.	10	01-9047	Insert Stop Bracket
3	A-12497	Upper Insert Bd Hinge Assy.	11	A-13379	Lock Plate Assembly
4	A-14092	Plate & Clip Assembly	a)	20-9637	Lock & Cam Kit
5	A-12498	Lower Insert Bd Hinge Assy.	12	A-14368	Speaker / Display Assembly
6	A-12697-1	Power Driver Assembly	a)	A-14087-1	WPC Display/Driver Assy.
7	A-12738-50002	WPC Sound Board	1)	A-12739-1	WPC Display Drive Assy.
8	A-12742-50002	WPC CPU Board	b)	5555-12015-00	Speaker, 8Ω, 6", 20w
			c)	5555-12068-00	Piezo Speaker, 4", 50w.
			d)	A-14292-1	Coil & Bracket Assembly

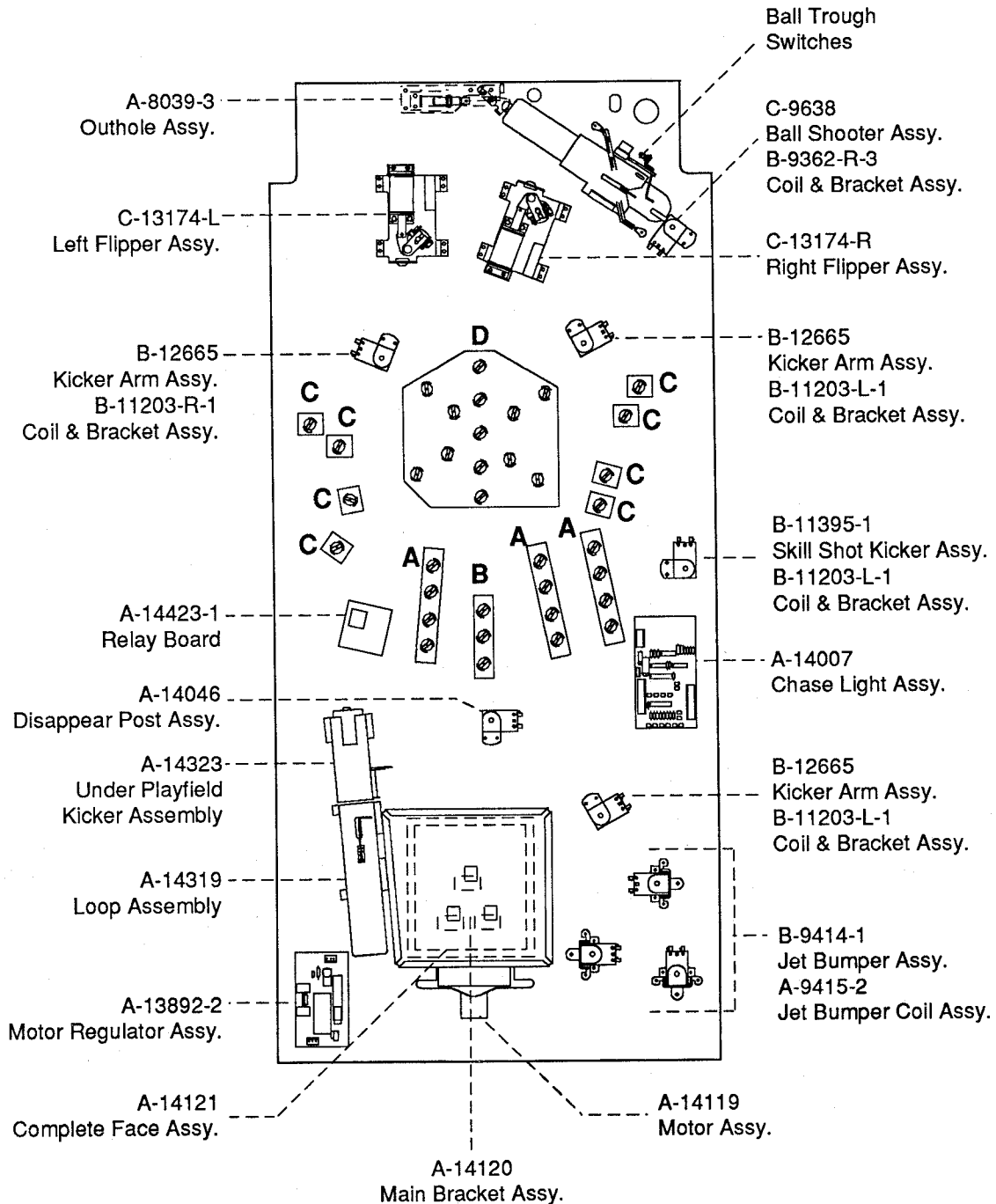
\* Refer to Individual Unit's Parts List

## Miscellaneous Backbox Parts

Part Number	Description
A-1552-50002	Backglass Assembly
31-1357-50002	<b>The Machine</b> Backglass
50002-IN	<b>The Machine</b> Insert
01-6571	Hinge Mounting Bracket
01-6655	Latch -Insert Board
01-6652	Insert Stop Bracket
03-8149-9	Mini Dome - Tr. Red
03-8519	Egg Crate

# Locations Diagram - Game Major Mechanisms

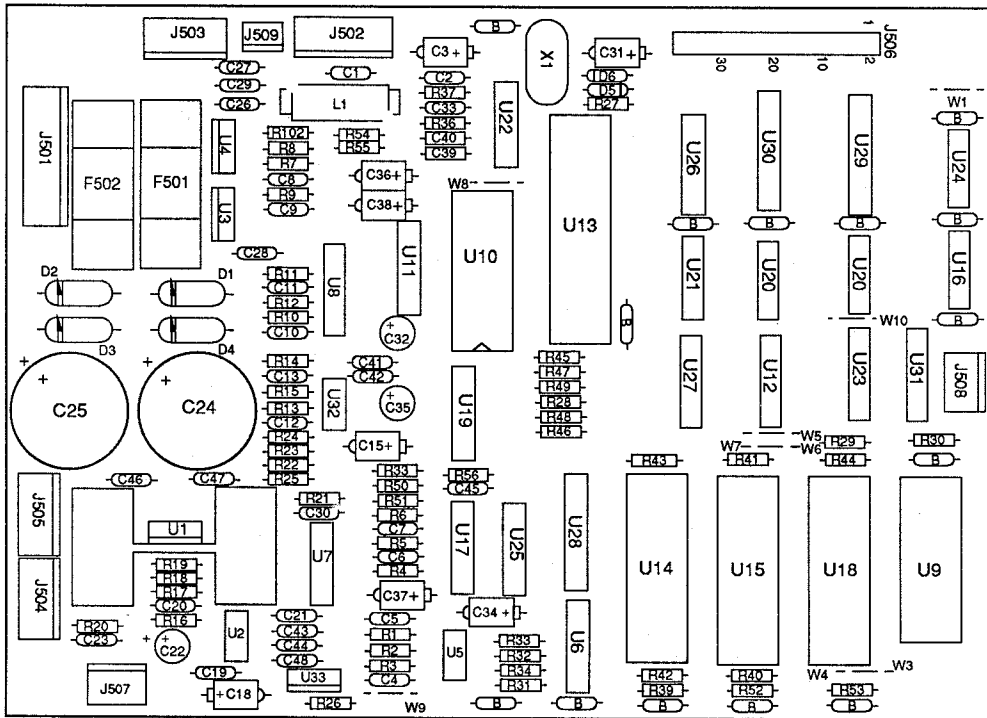
*Underside of Playfield, Viewed in Raised Position*



## Lamp Boards

A.	A-14305	4-Lamp Board
B.	A-14302	3-Lamp Board
C.	B-12224	1-Lamp Board
D.	A-14304	13-Lamp Board

# A-12738-50002 WPC Audio Board

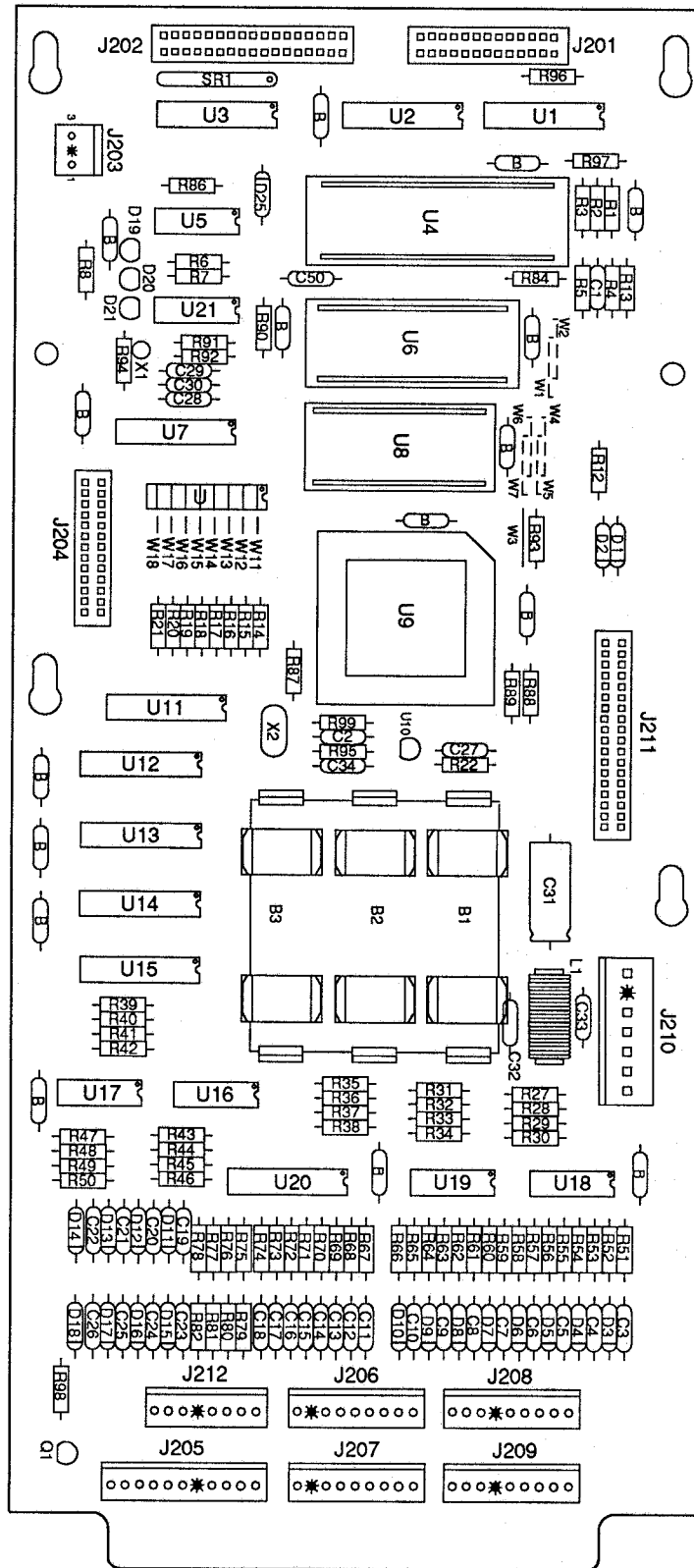


Part No.	Ckt Designator	Description	Part No.	Ckt Designator	Description
01-9980		Shield: Wire Protector	5048-12746-00	C5, C7	Capacitor, 330pfd., 50V
20-9229	U1	Thermal Compound	5048-12748-00	C9, C11, C30	Capacitor, 220pfd., 50V
4004-01005-06	U1	Mach. Screw, 4-40 x 3/8	5070-08919-00	D5, D6	Diode, 1N4148
4104-01012-04	U1	Sh. Mach. Screw, #4 x 1/4	5070-09045-00	D1-D4	Diode MR501, 3.0A.
4104-01012-04	U1	Sh. Metal Screw, #4 x 1/4	5250-10495-00	U3	Reg. 7912 1.0A -12v
4404-01119-00	U1	Nut, 4-40 SNUIT	5281-09215-00	U22	IC, 74LS04 Hex INV
5010-09324-00	R21	Resistor 27K $\Omega$ , 1/4w, 5%	5281-09246-00	U12	IC, 74LS139 2-4 Dec.
5010-12065-00	R22, R25	Resistor, 120K $\Omega$ , 1/4w, 5%	5281-09486-00	U28-U30	IC, 74LS374 8 Dual Flipflop
5010-08991-00	R51	Resistor, 4.7K $\Omega$ , 1/4w, 5%	5281-09487-00	U6, U23-U25	IC, 74LS74 Dual Flipflop
5010-08998-00	R36, R37	Resistor, 2.2K $\Omega$ , 1/4w, 5%	5281-09500-00	U31	IC, 74LS32
5010-09034-00	R13, R14, R29-R31, R33, R34, R50, R45-R49	Resistor, 10K $\Omega$ , 1/4w, 5%	5281-09745-00	U26, U27	IC, 74LS138 DMLTPX
5010-09035-00	R4	Resistor, 47K $\Omega$ , 1/4w, 5%	5281-09850-00	U20	IC, 74LS11 Tripple AND
5010-09036-00	R35	Resistor, 100 $\Omega$ , 1/4w, 5%	5370-11086-00	U10	IC, 74LS125 Q/B Bfr
5010-09134-00	R1, R2, R6, R8, R9, R11, R12, R23, R24	Resistor, 150K $\Omega$ , 1/4w, 5%	5371-11087-00	U11	IC, YM2151 Sound
5010-09162-00	R26, R102	Resistor, 100K $\Omega$ , 1/4w, 5%	5400-10320-00	U13	IC, MPU 68B09E
5010-08774-00	R3, R5, R17, R19	Resistor, 22K, 1/4w, 5%	5284-12651-00	U21	IC 4584
5010-09269-00	R15	Resistor, 12K $\Omega$ , 1/4w, 5%	5340-12278-00	U9	S/Ram 2064
5010-09358-00	R18, R32	Resistor, 1K $\Omega$ , 1/4w, 5%	5370-09691-00	U17	IC, 55536 CVSD
5010-09416-00	R28, R39, R40-R44	Resistor, 470 $\Omega$ , 1/4w, 5%	5370-12260-00	U2	IC, 3340 Elec Atten
5010-09534-00	W3, W5, W7-W10	Resistor, 0 $\Omega$	5370-12728-00	U1	IC, Audio Amp LM1875
5010-10171-00	R38, R56	Resistor, 56 $\Omega$ , 1/4w, 5%	5370-12730-00	U7, U8	IC, Op Amp TL084
5010-10258-00	R16	Resistor, 1M, 1/4w, 5%	5370-12742-00	U32	IC, Op Amp TL082
5010-10650-00	R7, R10	Resistor, 62K, 1/4w, 5%	5371-12727-00	U19	Dac AD7524
5010-10989-00	R54, R55, R27	Resistor, 470K, 1/4w, 5%	5432-12726-00	U5	EE Prom Pot X9503
5010-12752-00	R20	Resistor, 1 $\Omega$ , 1/4w, 5%	5460-12423-00	U4	IC, LM7812
5040-08986-00	C3	Capacitor, 100M, 10v ( $\pm$ 20%)	5460-12743-00	U33	LM7809 TO-220
5040-09332-00	C15, C18, C34, C36, C38	Capacitor, 47 $\mu$ fd., 25v, Axial	5520-09020-00	X1	Crystal, 3.58 MHz.
5040-11036-00	C32, C35	Capacitor, 47 $\mu$ fd., 16v, Rad.	5521-10931-00	OSC1	Oscillator, 8.0 MHz.
5040-12729-00	C24, C25	Capacitor, 4700 $\mu$ fd., 35v	5551-09822-00	L1	Ind, 4.7UH 3.0A.
5040-12750-00	C22	Capacitor, 22 $\mu$ fd., 35v, Rad.	5700-08985-00	U13	Socket, IC 40-pin, .6"
5041-09031-00	C26-C29, C37, C46-C48	Capacitor, 1 $\mu$ fd. TANT	5700-09004-00	U9, U10	Socket, IC 24-pin, .6"
5041-09243-00	C20, C21	Capacitor, 10 $\mu$ fd. TANT	5700-09006-00	U11	Socket, IC 16-pin, .3"
5043-08980-00	C41-C44, B(15)	Capacitor, .01M, 50v, (+80, -20)	A-5343-50002-2	U14	IC, Audio ROM
5043-08996-00	C1, C2	Capacitor, .1 $\mu$ fd., 50v, 10%	A-5343-50002-3	U15	IC, Audio ROM
5048-11027-00	C8, C10	Capacitor, 33pfd., 50v, 10%	A-5343-50002-4	U18	IC, Audio ROM
5048-11028-00	C45	Capacitor, 22pfd., 50V, Axial	5700-12088-00	U1	Socket, IC 32-pin (U14, U15, U18)
5048-11029-00	C33	Capacitor, 100pfd., 50v	5705-12755-00	F501, F502	Heatsink 5299B-220
5048-11030-00	C12	Capacitor, 470pfd., 50v	5731-08633-00		Fuse, 3A, S-B
5048-11031-00	C19, C31	Capacitor, .001 $\mu$ fd., 50v, 10%	5733-12060-01		Fuse Holder (F501, F502)
5048-11065-00	C13	Capacitor, .0022 $\mu$ fd., 50v, 10%, Ax.	5766-12433-00		PCB-Sound 90
5048-11072-00	C39, C40	Capacitor, .0033 $\mu$ fd.	5791-10862-04	J504, J505	Connector, 4-pin Header Sq. .156
5048-12036-00	C23	Capacitor, .22 $\mu$ fd., 10v, Ceramic	5791-10862-05	J502	Connector, 5-pin Header Sq. .156
5048-12745-00	C4, C6	Capacitor, 1800pfd., 50V, 10%	5791-10862-07	J501	Connector, 7-pin Header Sq. .156
			5791-12462-03	J509	Connector, 3-pin Header Sq. .100
			5791-12462-04	J508	Connector, 4-pin Header Sq. .100
			5791-12516-00	J506	34 Hen 2x17 STR
			16-8850-339		PCB Label

## A-12742-50002 WPC CPU Board

Item	Part Number	Ckt Designator	Description
1	5010-09034-00	R14-R22, R27-R42, R86, R90, R94, R98	Resistor, 10K $\Omega$ , 1/4w, 5%
2	5010-09085-00	R1, R2, R4, R93, R96, R97	Resistor, 1.5K $\Omega$ , 1/4w, 5%
3	5010-09314-00	R52, R54, R56, R58, R60, R62, R64, R66, R75-R82	Resistor, 1.2K $\Omega$ , 1/4w, 5%
4	5010-09358-00	R3, R43-R51, R53, R55, R57, R59, R61, R63, R65, R67-R74, R84	Resistor, 1K $\Omega$ , 1/4w, 5%
5	5010-09416-00	R5-R8, R12, R13, R87-R89	Resistor, 470 $\Omega$ , 1/4w, 5%
6	5010-09534-00	W2, W4, W7, W13-W18	Resistor, 0 $\Omega$
7	5010-10258-00	R95, R99	Resistor, .01 $\mu$ fd $\Omega$ , 1/4w, 5%
8	5010-10989-00	R92	Resistor, 470K $\Omega$ , 1/4w, 5%
9	5010-12104-00	R91	Resistor, 22 $\mu$ fd, 1/4w, 5%
10	5019-09362-00	SIP 1	SIP, 9R, 10-pin, 4.7K $\Omega$ , 5%
11	5040-08986-00	C31	Capacitor, 100 $\mu$ fd, 10v ( $\pm$ 20%)
12	5043-08980-00	B	Capacitor, .01 $\mu$ fd, 50v, (+80, -20%)
13	5043-09030-00	C27	Capacitor, 0.047 $\mu$ fd, 50v ( $\pm$ 20%)
14	5043-09065-00	C3 - C26	Capacitor, 470pfd, 50v ( $\pm$ 20%)
15	5043-09491-00	C2, C29, C30, C34	Capacitor, 22pfd, 1KV, ( $\pm$ 10%)
16	5043-09492-00	C28	Capacitor, 100pfd, 50v, ( $\pm$ 10%)
17	5043-09845-00	C32, C33	Capacitor, 1KP, 50v, ( $\pm$ 20%)
18	5070-08919-00	D2 - D18	Diode, 1N4148, 150MA
19	5070-09266-00	D1, D25	Diode, 1N5817, 1.0A.
20	5160-10269-00	Q1	Transistor, 2N3904, NPN
21	5162-12422-00	U20	IC, ULN, 2803A
22	5281-09308-00	U3	IC, 74LS245, Octal Bus Trncv
23	5281-09486-00	U14	IC, 74LS374, 8D F/F
24	5281-09851-00	U5	IC, 74LS14, SMT/TRG
25	5281-09867-00	U1, U2, U7	IC, Octal Buffer, 74LS244
26	5281-10182-00	U11, U12, U13, U15	IC, 74LS240 Driver
27	5284-12651-00	U21	IC, 4584
28	5340-12278-00	U8	S/RAM 2064
29	5370-12272-00	U16 - U19	IC, LM339, Quad. Comp
30	5370-12687-00	U10	MC, 34064 Reset Chip
31	5520-10438-00	X2	Crystal, 8.0MHz.
32	5520-12084-00	X1	Crystal 32.768 KHz
33	5551-09822-00	L1	ILN, 4.7 UH 3A
34	5671-09019-00	D19 - D21	DSPL LED RED
35	5700-08985-00	U4	Socket, IC 40P, .6"
36	5700-12088-00	U6	Socket, IC 32P, .6"
37	5700-12424-00	U9	Socket, 84 Pin PLCC
38	5764-12431-00		PC Board
39	5791-10850-00	J201, J204	Connector, 26-pin Header Str Sq.
40	5791-10862-07	J210	Connector, 7-pin Header Str Sq.
41	5791-12461-08	J212	Connector, 8-pin Header Str Sq.
42	5791-12461-09	J206 - J209	Connector, 9-pin Header Sq. pin
43	5791-12461-12	J205	Connector, 12-pin Header Sq. pin
44	5791-12516-00	J202, J211	34 Hen 2x17 STR
45	5881-09021-00	B1 - B3	Battery Holder "AA"
46	5048-11033-00	C50	Capacitor, 0.022 $\mu$ f, 10v
47	16-8850-321		PCB Label
48	A-5343-50002-1	U6	Game PROM Assembly
49	5410-12426-00	U9	WPC-89 ASIC
50	5400-10320-00	U4	IC MPU 68B09E
51	5880-09022-00	B1 - B3	Battery, Alkaline, 1.5v ("AA")

# A-12742-50002 WPC CPU Board



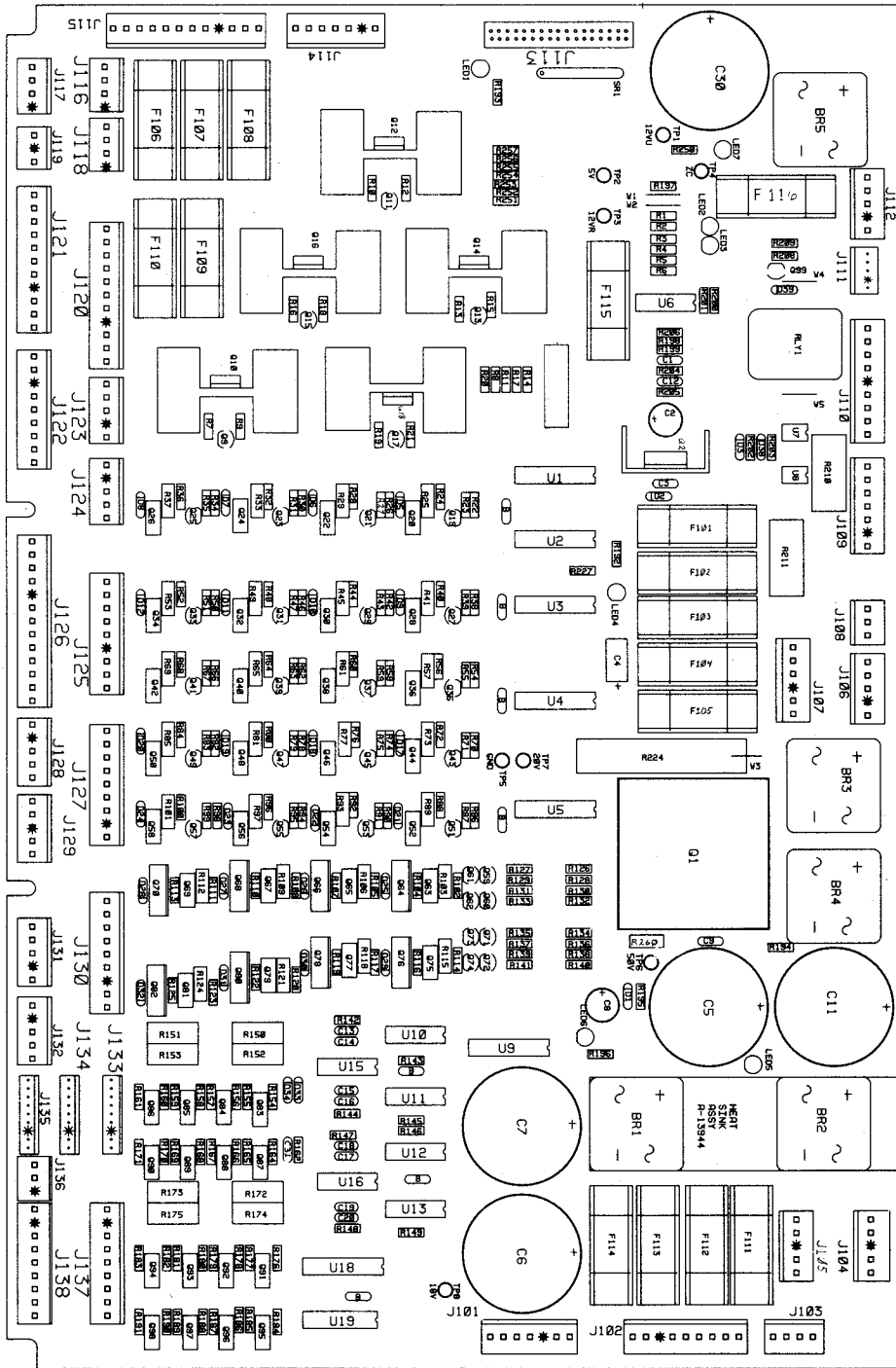
# A-12697-1 WPC Power Driver Assembly

Item	Part Number	Ckt Designator	Description	Item	Part Number	Ckt Designator	Description
1	20-9229	Q2, Q10, Q12, Q14, Q16, Q18	Thermal Compound	41	5194-09055-00	Q9, Q11, Q13, Q15, Q17, Q19, Q21, Q23, Q25, Q27, Q29, Q31, Q33, Q35, Q37, Q39, Q41, Q43, Q45, Q47, Q49, Q51, Q53, Q55, Q57, Q59-Q62, Q71-Q74, Q99	Transistor, 2N4403 PNP
2	4006-01005-06	Q1, Q2	Mach. Screw, 6-32 x 3/8	42	5191-12179-00	Q64, Q66, Q68, Q70, Q76 Q78, Q80, Q82	Transistor, TIP36C PNP
3	4406-01128-00	Q1, Q2	Nut, 6-32 KEPS	43	5192-12428-00	Q91-Q98	Transistor, TIP 107
4	4004-01005-06	Q10, Q12, Q14, Q16, Q18	Mach. Screw, 4-40 x 3/8	44	5250-12634-00	Q1	Reg LM 323 5v
5	4404-01119-00	Q10, Q12, Q14, Q16, Q18	Nut, 4-40 SNUT	45	5281-09486-00	U1-U5, U18	IC, 74LS374 8 Dual D Flipflop
6	5010-08981-00	R260	Resistor, 10K $\Omega$ , 1/2w, 5%	46	5281-09487-00	U10-U13	IC, 74LS74 Dual D Flipflop
7	5010-08991-00	R9, R12, R15, R18, R21, R23, R27, R31, R35, R39, R43, R47, R51, R55, R59, R63, R67, R71, R75, R79, R83, R87, R91, R95, R99, R126, R128, R130, R132, R134, R136, R138, R140, R209, R227	Resistor, 4.7K $\Omega$ , 14w, 5%	47	5281-10182-00	U9	IC, 74LS240, L/Drvr
8	5010-08992-00	R8, R11, R14, R17, R20, R177, R179, R181, R183, R185, R187, R189, R191, R208	Resistor, 560 $\Omega$ , 1/4w, 5%	48	5370-12272-00	U6, U15, U16	IC, LM339 Quad. Comp
9	5010-08993-00	R25, R29, R33, R37, R41, R45, R49, R53, R57, R61, R65, R69, R73, R77, R81, R85, R89, R93, R97, R101, R103, R106, R109, R112, R115, R118, R121, R124	Resistor, 68 $\Omega$ , 1/4w, 5%	49	5460-12423-00	Q2	IC, LM 7812
10	5010-08997-00	R24, R28, R32, R36, R40, R44, R48, R52, R56, R60, R64, R68, R72, R76, R80, R84, R88, R92, R96, R100, R102, R105, R108, R111, R114, R117, R120, R123, R195	Resistor, 2.7K $\Omega$ , 1/4w, 5%	50	5490-10892-00	U7, U8	Opto Isolator, 4N25
11	5010-08998-00	R155, R157, R159, R161, R165, R167, R169, R171	Resistor, 2.2K $\Omega$ , 1/4w, 5%	51	5580-08994-01	RLY 1	Relay 4PDT 6VDC5A VS
12	5010-09034-00	R3, R4, R6, R142-R149, R197-R198	Resistor, 10K $\Omega$ , 1/4w, 5%	52	5671-09019-00	LED1 - LED7	Display LED Red
13	5010-09085-00	R194, R196, R251, R253-R257	Resistor, 1.5K $\Omega$ , 1/4w, 5%	53	5701-09652-00	Q1	Thermal Pad TO-3
14	5010-09086-00	R252	Resistor, 6.8K $\Omega$ , 1/4w, 5%	54	5705-09199-00	Q2	Heatsink, #6030B
15	5010-09224-00	R1, R2, R192, R201- R205	Resistor, 270 $\Omega$ , 1/4w, 5%	55	A-13944	Bridge Assembly	WPC Heatsink Rectifier Assy
16	5010-09314-00	R176, R178, R180, R182, R184, R186, R188, R190	Resistor, 1.2K $\Omega$ , 1/4w, 5%	56	5705-12637-00	Q1	Heatsink 5054
17	5010-09324-00	R206	Resistor, 27K $\Omega$ , 1/4w, 5%	57	5705-12638-00	Q10, Q12, Q14, Q16, Q18	Heatsink 5298B
18	5010-09358-00	R154, R156, R158, R160, R164, R166, R168, R170, R162, R193, R199, R200	Resistor, 1K $\Omega$ , 1/4w, 5%	58	5733-12060-01		Fuse Holder, F101-F116
19	5010-09361-00	R104, R107, R110, R113, R116, R119, R122, R125	Resistor, 220 $\Omega$ , 1/4w, 5%	59	5763-12405-00		Bare PCB
20	5010-09416-00	R22, R26, R30, R34, R38, R42, R46, R50, R54, R58, R62, R66, R70, R74, R78, R82, R86, R90, R94, R98, R127, R129, R131, R133, R135, R137, R139, R141	Resistor, 470 $\Omega$ , 1/4w, 5%	60	5791-10862-03	J108, J119, J136	Connector, 3-pin Header STR Sq.
21	5010-09534-00	W1, W2	Resistor, $\infty\Omega$	61	5791-10862-04	J103, J116-J118	Connector, 4-pin Header STR Sq.
22	5010-11079-00	R7, R10, R13, R16, R19	Resistor, 51 $\Omega$ , 1/4w, 5%	62	5791-10862-05	J112, J104-J106, J123, J124, J128, J129, J131, J132, J105	Connector, 5-pin Header STR Sq.
23	5010-12427-00	R150-R153, R172-R175	Resistor, .22 $\Omega$ , 1w, 5%	63	5791-10862-06	J107	Connector, 6-pin Header STR Sq.
24	5010-12632-00	R224	Resistor, .12 $\Omega$ , 10w, 5%	64	5791-10862-07	J101, J109, J114	Connector, 7-pin Header STR Sq.
25	5012-12238-00	R210, R211	Resistor, 3.3K $\Omega$ , 5w, 10%	65	5791-10862-09	J102, J110, J122, J125, J127, J130, J137, J138	Connector, 9-pin Header STR Sq.
26	5019-10143-00	SR1	SIP, 9R, 10 pin, 470 $\Omega$ , 5%	66	5791-10862-11	J120, J121	Connector, 11-pin Header STR Sq.
27	5040-08986-00	C4	Capacitor, 100 $\mu$ fd, 10v ( $\pm$ 20%)	67	5791-10862-12	J115	Connector, 12-pin Header STR Sq.
28	5040-09421-00	C2	Capacitor, 100 $\mu$ fd, 25v (+50, -10%)	68	5791-10862-13	J126	Connector, 13-pin Header STR Sq.
29	5040-09537-00	C8	Capacitor, 100 $\mu$ fd, 100v ( $\pm$ 20%)	69	5791-12461-05	J111	Connector, 5-pin Header STR Sq.
30	5040-12313-00	C5, C6, C7, C11, C30	Capacitor, 15,000 $\mu$ fd, 25v ( $\pm$ 20%)	70	5791-12461-09	J133-J135	Connector, 9-pin Header STR Sq.
31	5043-08980-00	B-BYPASS	Capacitor, .01 $\mu$ fd, 50v (+80, -20%)	71	5791-12516-00	J113	Connector, 2x17 STR
32	5043-08996-00	C13-C20, C31	Capacitor, .1 $\mu$ fd, 50v ( $\pm$ 20%)	72	5824-09248-00	TP1-TP8	Test Point #1502-1
33	5043-09845-00	C1, C12	Capacitor, 1,000 $\mu$ fd, 50v ( $\pm$ 20%)	73	5041-09163-00	C9	Capacitor, 2.2 $\mu$ fd TANT
34	5048-10994-00	C3	Capacitor, .33 $\mu$ fd, 50v ( $\pm$ 20%) Ax.	74-100	Not Used		ID Label
35	5070-08919-00	D33, D34	Diode, 1N4148, 150MA.	101	16-8850-323		Fuse, 8A, 32v
36	5070-09054-00	D1-D3, D5-D12, D17-D32, D38, D39	Diode, 1N4004, 1.0A.	102	5730-09071-00	F114	Fuse, S-B, 2.5A., 250v
37	5100-09690-00	BR3-BR5	Bridge Rectifier, 35A., 200v	103	5731-09128-00	F101, F102	Fuse, S-B, 5A., 250v
38	5131-12725-00	Q10, Q12, Q14, Q16, Q18	Triac, BT138E	104	Not Used		Not Used
39	5162-12422-00	U19	IC, ULN 2803	105	5731-09651-00	F106-F113	Fuse, S-B, 5A., 250v
40	5162-12635-00	Q20, Q22, Q24, Q26, Q28, Q30, Q32, Q34, Q36, Q38, Q40, Q42, Q44, Q46, Q48, Q50, Q52, Q54, Q56, Q58, Q63, Q65, Q67, Q69, Q75, Q77, Q79, Q81, Q83 - Q90	Transistor, TIP 102	106	Not Used		Not Used

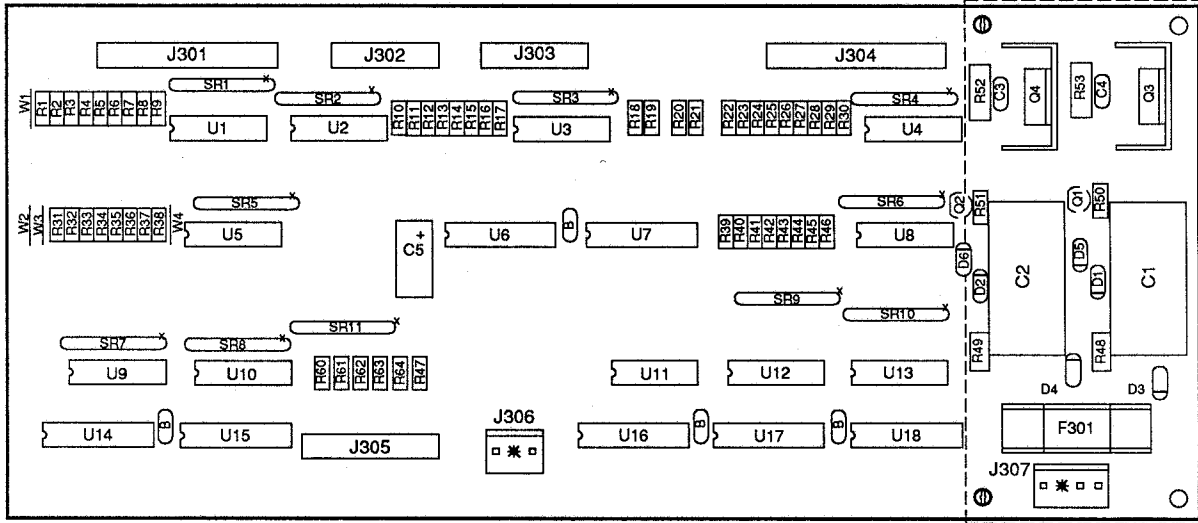
**NOTE:** For schematic refer to drawing #16-9057.



# A-12697-1 WPC Power Driver Board



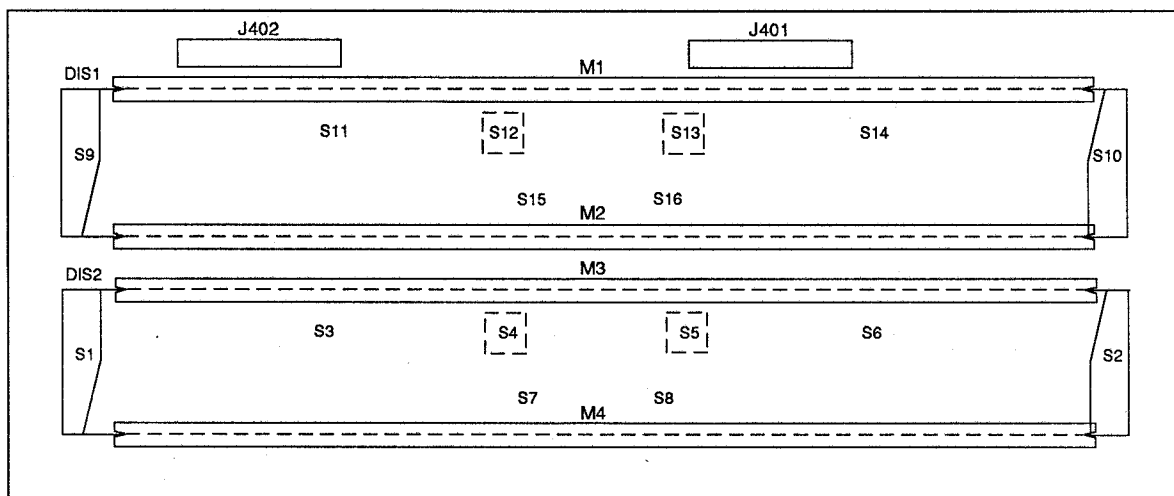
# A-12739-1 WPC Display Driver Assembly



Part Number	Ckt Designator	Description	Part Number	Ckt Designator	Description
20-9229	Q3, Q4	Thermal Compound	5043-08980-00	B	Cap., 0.01 $\mu$ fd, 50v, (+80, -20%)
4006-01003-06	Q3, Q4	Mach. Screw, 6-32 x 3/8	5043-09072-00	C3, C4	Cap., 0.1 $\mu$ fd, 500v, (+80, -20%)
4406-01128-00	Q3, Q4	Nut, 6-32 KEPS	5070-09054-00	D3, D4	Diode, 1N4004, 1.0A.
5010-08991-00	R47	Resistor, 4.7K $\Omega$ , 1/4w, 5%	5075-09059-00	D1, D2	Zener, 1N5990, 3.9v, 1/2w
5010-09061-00	R50, R51	Resistor, 680 $\Omega$ , 1/2w, 5%	5075-12650-00	D5, D6	Zener, 1N4763A, 91v, 1w
5010-09069-00	R52, R53	Resistor, 330K $\Omega$ , 1/2w, 5%	5164-09056-00	Q1	Transistor, MP5D02 NPN
5010-09085-00	R60- R64	Resistor, 1.5K $\Omega$ , 1/4w, 5%	5164-12154-00	Q4	Transistor, MJE15030 NPN
5010-09536-00	R48, R49	Resistor, 39K $\Omega$ , 1w, 5%	5194-09055-00	Q2	Transistor, MP5D52 PNP
5010-10258-00	R3, R18 - R21, R24	Resistor, 1M $\Omega$ , 1/4w, 5%	5194-12155-00	Q3	Transistor, MJE15031 PNP
5010-08773-00	R4, R5, R25, R26, R33, R38, R41, R46	Resistor, 18K $\Omega$ , 1/4w, 5%	5281-09246-00	U11	IC, 2-4 Dec, 74LS139
5010-09034-00	R6, R27, R31, R34, R36, R39, R42, R44	Resistor, 10K $\Omega$ , 1/4w, 5%	5281-09486-00	U14 - U18	IC, Dual D Flipflop, 74LS374
5010-09219-00	R1, R2, R7-R9, R22, R23, R28-R30, R32, R35, R37, R40, R43, R45	Resistor, 8.2K $\Omega$ , 1/4w, 5%	5281-10182-00	U6, U7	IC, 74LS240 L/Driver
5010-09534-00	W3, W4	Resistor, 0 $\Omega$	5680-08969-00	U9, U10, U12, U13	IC, 7180 Cathode Drive
5019-10143-00	SR11	SIP, 9R, 10-pin, 470 $\Omega$ , 5%	5680-08968-00	U1, U4, U5, U8	IC, 6184 Anode Drive
5019-12509-00	SR1, SR4-SR10	SIP, 10R, 10-pin, 100K $\Omega$ , 5%	5705-09199-00	Q3, Q4	Heatsink, #6030B
5040-08986-00	C51	Cap., 100 $\mu$ fd, 10v, ( $\pm$ 20%)	5731-12328-00	F301	Fuse, 3/8A., S-B, 250v
5040-12324-00	C1, C2	Cap., 150 $\mu$ fd, 160v, ( $\pm$ 50%)	5733-12060-01		Fuse Holder, F301
			5764-12432-00	PCB	PCB Display Driver
			5791-10850-00	J305	Connector, 26-pin STR Sq.
			5791-10862-03	J306	Connector, 3-pin STR Sq.
			5791-10862-04	J307	Connector, 4-pin STR Sq.
			5791-12516-00	J301, J304	34 HEN 2x17 STR
			03-8019-2		PCB Support Post
			01-9967		Shield

Note: For Schematic refer to drawing #16-9059

# A-12793 WPC Dual Assembly



Part Number	Ckt Designator	Description
03-8329	S1, S2, S9, S10	Retainer
03-8088-1	S4, S5, S12, S13	Support 3/8"
5760-12448-00	PCB	Bare PCB
5670-12308-00	DIS1, DIS2	Alphanumeric Display Board
5791-12516-00	J401, J402	Connector, 34 Hen 2x17 STR
23-6655	M1-M4	Mask WPC Display

## Lamp Boards

### B-12224 Single Lamp Board

Part Number	Description
5768-12312-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.

### C-12000 3-Lamp Board

Part Number	Description
5768-12245-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-05	Connector, 5-pin Header Sq Post

## Lamp Boards - (Continued)

### A-14025 Face Lamp Assembly

Part Number	Description
5768-12708-00	Lamp PCB
24-8804	Socket V-Wedge PCB
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10862-05	Connector, 5-pin Header Sq Post

### A-14302 3-Lamp Board

Part Number	Description
5768-12762-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-06	Connector, 6-pin Header Sq Post

### A-14303 5-Lamp Board

Part Number	Description
5768-12763-00	Lamp PCB
24-8805	Socket H-Wedge PCB
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10869-07	Connector, 7-pin Header Sq Post

### A-14304 13-Lamp Board

Part Number	Description
5768-12764-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-10	Connector, 10-pin Flat Header

### A-14305 4-Lamp Board

Part Number	Description
5768-12765-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.
5791-10871-06	Connector, 6-pin Header Sq Post

### A-14410 8-Chase Lamp Board

Part Number	Description
5768-12775-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.

### A-14412 8-Chase Lamp Board

Part Number	Description
5768-12778-00	Lamp PCB
24-8767	Twist Lamp Socket
24-8768	Bulb #555, (6.3v, 0.25A.)
5070-09054-00	Diode, 1N4004, 1.0A.

### A-14423-1 Playfield Relay Board

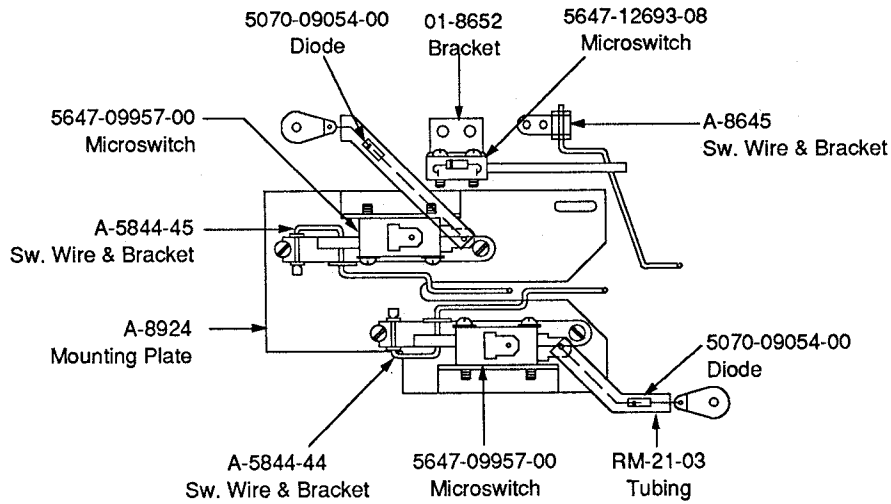
Part Number	Description
5768-12243-00	Lamp PCB
5010-09534-00	Resistor, 0Ω
5070-09054-00	Diode, 1N4004, 1.0A.
5580-12782-00	Relay, 12vdc
5791-12273-02	Connector, 2-pin Header
5791-12273-07	Connector, 7-pin Header

### C-11998-1 Relay Board

Part Number	Description
5768-12243-00	Lamp PCB
5010-09534-00	Resistor, 0Ω
5070-09054-00	Diode, 1N4004, 1.0A.
5580-09555-01	Relay, 24vdc, 30A.
5791-12273-02	Connector, 2-pin Header
5791-12273-07	Connector, 7-pin Header

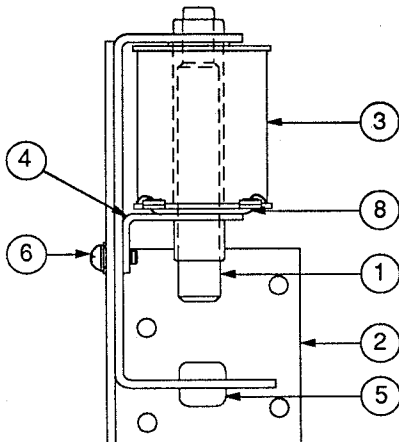
## Ball Trough Switches

(Viewed from underside of playfield to show locations)



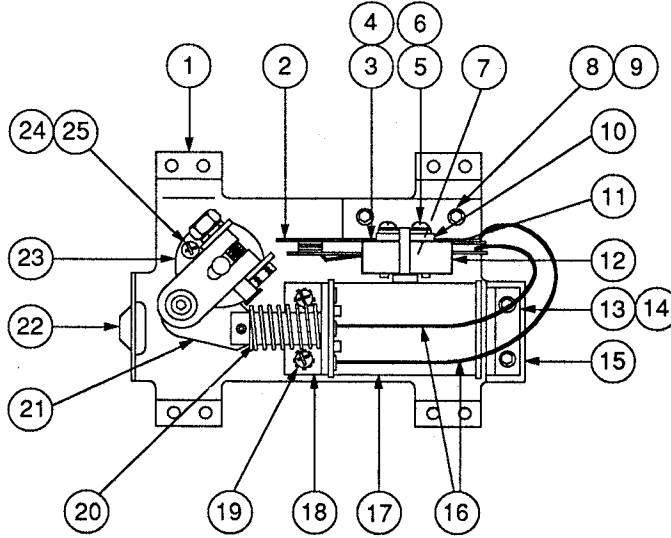
Part Number	Description	Part Number	Description
B-8925	Ball Trough Switch Plate Assy.	5070-09054-00	Diode, 1N4004, 1.0A.
A-5844-44	Switch Wire & Bracket Assy.	5825-06522-00	Solder Lug-Flat, #6
A-5844-45	Switch Wire & Bracket Assy.	RM-21-03	Insulating Tubing, #10 x 1.75
A-8924	Bracket & Mounting Plate Assembly	A-11680	Ball Trough Switch, Right
5647-09957-00	Microswitch, Center & Left Ball Trough	5647-12693-08	Submin. Switch
4004-01003-10	Mach. Screw, 4-40 x 5/8	5070-09054-00	Diode, 1N4001, 1.0A.
4005-01005-02	Mach. Screw, 5-40 x 1/8	A-8645	Switch Wire & Bracket Assy.

## B-10686-1 Knocker Assembly



Item	Part Number	Description
1	A-5387	Coil Plunger Assembly
a)	02-2653	Coil Plunger
b)	03-6013	Bell Arm Ext.
2	B-7409-2	Mtg. Bracket Assembly
3	AE-23-800	Coil Sub-Assembly
4	01-8-508-T	Coil Retaining Bracket
5	23-6420	Rubber Grommet
6	4008-01017-06	Mach. Screw, 8/32 x 3/8
7	H-11835	Knocker Cable
8	03-7067-5	Coil Tubing

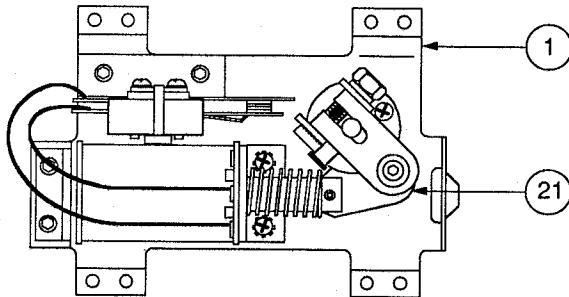
## C-13174-R Right Flipper Assembly



Item	Part Number	Description	Item	Part Number	Description
1	B-13104-R	Flipper Base Assy, R.	21	B-10655-R	Crank Link Assembly, Right
2	03-7811	End of Stroke (EOS) Sw	a)	02-4179	Link Spacer Bushing
3	RM-21-06	Sleeve, Vinyl (Cap. leads)	b)	4010-01086-14	Cap Screw, 10-32 x 7/8, SH
4	5045-12098-00	Capacitor, 2.2 µFd, 250V, 20%	c)	4700-00023-00	Flatwasher, 5/8 x 13/64 x 16ga.
5	4701-00002-00	Lockwasher, #6 Split	d)	4701-00004-00	Lockwasher, #10 Split
6	4105-01019-10	Sh. Metal Screw, #5 x 5/8	e)	4410-01132-00	Nut, 10-32 ESNA
7	23-6622	Tape, Double-sided	f)	A-10656	Flipper Link Assembly
8	4008-01079-05	Cap Screw, 8-32 x 5/16	1.)	02-4219	Coil Plunger
9	4701-00003-00	Lockwasher, #8 Split	2.)	20-9370-1	Spring Pin, 5/32 dia. x 7/16
10	01-9375	Switch Mounting Bracket	3.)	03-8050-1	Flipper Link
11	03-7520-2	Ty-Wrap, Nylon	g)	B-10657-R	Flipper Crank Assy, R.
12	20-6516	Speednut, Tinnerman	1.)	01-8073-R	Flipper Crank, R.
13	4010-01066-06	Cap Screw, 10-32 x 3/8, SH	2.)	17-1037	Crank Washer
14	4701-00004-00	Lockwasher, #10 Split	3.)	4010-01066-20	Cap Screw, 10-32 x 1-1/4
15	A-12111	Flipper Stop Assembly	4.)	4410-01127-00	Nut, 10-32 Hex Hd.
16	HW-30018-6	Wire, 18 AWG, Blue	5.)	4700-00107-00	Flatwasher, 5/8 x 13/64 x 12ga.
17	FL-11630	Flipper Coil (Red)	6.)	4701-00004-00	Lockwasher, #10 Split
18	01-7695	Solenoid Bracket	7.)	RM-23-06	Tubing, H. S. 1/4 DWP
19	4006-01017-04	Mach. Screw, 6-32 x 1/4	22	23-6577	Bumper Plug
20	10-376	Coil Plunger Spring	23	03-7568	Flipper Bushing
			24	4006-01005-06	Mach. Screw, 6-32 x 3/8
			25	4406-01117-00	Nut, 6-32 Hex.

**Associated Parts:** 20-9250-5 Flipper Arm on Shaft (White)  
 23-6519-4 Red Rubber Ring (Red)

## C-13174-L Left Flipper Assembly



(Parts listed replace same items of C-13174-R)

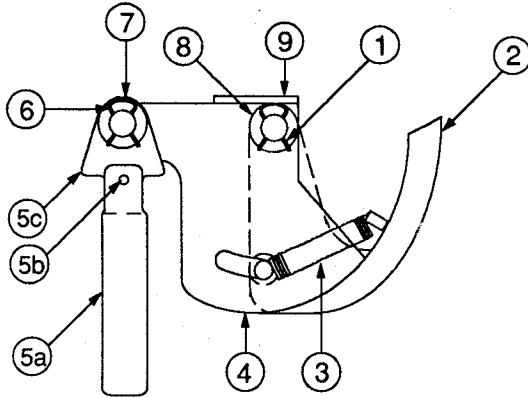
Item	Part Number	Description
1	B-13104-L	Flipper Base Assembly, L
21	B-10655-L	Crank Link Assembly, L
g)	B-10657-L	Flipper Crank Assembly
1.)	01-8073-L	Flipper Crank, Left

Associated Parts:	Part Number	Description
	20-9250-5	Flipper Arm on Shaft (White)
	23-6519-4	Red Rubber Ring (Red)

### Flipper Assembly Notes...

1. Each Flipper Assembly on the Lower Playfield is mounted beneath the playfield, in conjunction with the plastic Flipper Paddle and Shaft (20-9250-5) and Flipper Rubber (23-6519-4) on the upper side of the playfield.
2. The tip of the EOS Switch must travel 0.150 (+ .010, - .000) inch, before the contacts fully open, with the flipper in the actuated position. The EOS Switch contacts must have a gap of 0.062 ( $\pm$  .015) inch. Adjustment of the EOS Switch must be made at a minimum distance of 0.25 inch from the switch body.
3. All moving elements of the assembly must operate freely, with no evidence of binding.
4. The large end of the Coil Plunger Spring (item 20) must fit within the four lugs of the Solenoid Bracket.
5. For coil replacement, remove the Solenoid Bracket (item 18) to prevent screw damage.
6. Use Loctite™ 242 when reattaching screws to the Flipper Stop Assembly, the Solenoid Bracket, and the Flipper Bushing.
7. When replacing their Bumper Plug (item 22) to restore proper flipper operation, readjust the flipper paddle and shaft position.
8. Solid-color blue wire connects to the banded end of each diode, mounted on the connector end of the Flipper Coil (item 17). Trace-color wire connects to the unbanded end of the diode.

## C-9638 Ball Shooter Lane Feeder

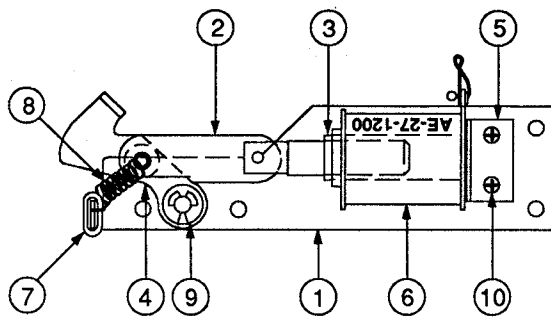


Item	Part Number	Description
1	12-6227	Hair Pin Clip
2	A-8247	Eject Cam Assembly
3	10-362	Ejector Spring (Plain)
4	A-6949-L	Spring Plate Assembly
5	A-8050-1	Coil Plunger Assy, 2-1/8"
a)	02-3407-2	Coil Plunger, 2-1/8"
b)	20-8716-5	Roll Pin, 1/8 x 7/16
c)	03-8085	Armature Link
6	12-6227	Hair Pin Clip
7	4700-00030-00	Flatwasher, 17/64 x 1/2 x 15ga.
8	4700-00103-00	Flatwasher, 17/64 x 1/2 x 28ga.
9	A-8268	Mounting Bracket Assembly

### Associated Parts

B-9362-R-3	Coil & Bracket Assembly
B-7572-1	Bracket & Stop Assembly
01-8-508-S	Coil Retaining Bracket
4006-01017-06	Mach. Screw, 6-32 x 3/8
4406-01119-00	Nut, 6-32 ESN
AE-26-1200	Coil Assembly
03-7066	Coil Tubing

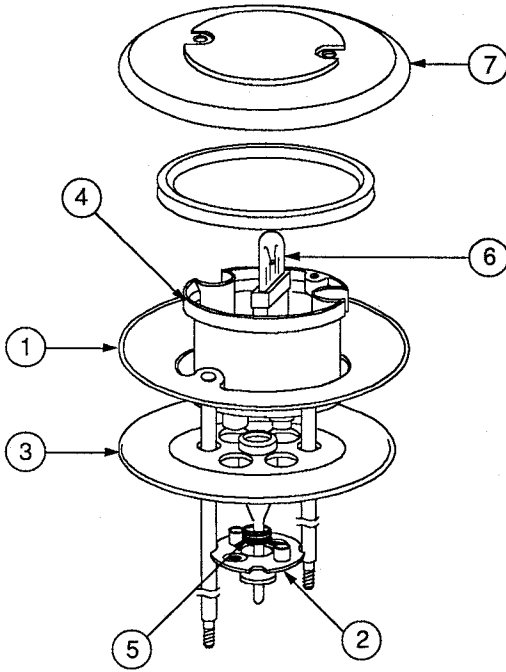
## A-8039-3 Outhole Kicker Assembly



Item	Part Number	Description
1	A-6378	Mounting Plate Assembly
2	A-8335	Coil Plunger Assembly
a)	02-2364	Coil Plunger
b)	20-8716-5	Roll Pin, 1/8 x 7/16
c)	01-4251	Ball Return Link
3	03-7066	Coil Tubing
4	A-6889	Kicker Lever Assembly
5	A-8038	Coil Stop Assembly
6	AE-27-1200	Coil Assembly
7	03-7176-1	Striker Ring
8	10-101-4	Spring-Reset
9	20-8712-25	"E" Ring, 1/4" Shaft
10	4006-01003-03	Mach. Screw, 6-32 x 3/16



## B-9414-1 Jet Bumper Assembly

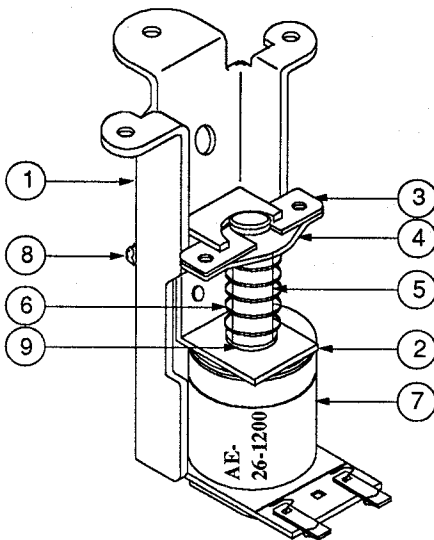


Item	Part Number	Description
1	A-4754	Bumper Ring Assembly
2	03-6009-A5	Bumper Base - White
3	03-6035-1	Bumper Wafer - Blue
4	03-7443-5	Bumper Body - White
5	10-7	Spring - Jet Bumper
6	A-11199	Socket & Bulb

### Associated Part:

7	03-8254-9	Jet Bumper Cap - Red
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## A-9415-2 Jet Bumper Coil Assembly

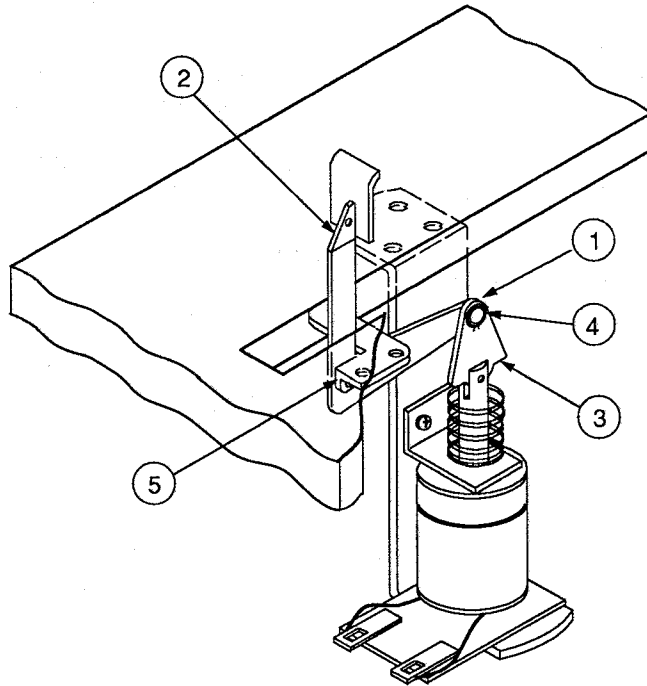


Item	Part Number	Description
1	B-7417	Bracket & Stop Assembly
2	01-1747	Coil Retaining Bracket
3	01-5492	Armature Link, Steel
4	01-5493	Armature Link, Bakelite
5	02-3406-1	Coil Plunger
6	10-326	Armature Spring
7	AE-26-1200	Coil Assembly
8	4006-01017-04	Mach. Screw, 6-32 x 1/4
9	03-7066	Coil Tubing

### Associated Parts

B-12030-2	Jet Bumper Sw & Diode Assy
B-12029-2	Jet Bumper Sw & Brkt. Assy
SW-11A-37	Jet Bumper Switch Assy
5070-09054-00	Diode, 1N4004

**B-12665 Kicker Arm (Slingshot) Assembly**  
(Left & Right Kickers)



Item	Part Number	Description
1	12-6227	Clip, Hairpin
2	A-12664	Kicker Crank Assembly
3	A-5103	Coil Plunger Assembly
a)	02-2364	Coil Plunger
b)	20-8716-5	Roll Pin, 1/8 x 7/16
c)	03-8085	Armature Link
4	4700-00030-00	Flatwasher, 17/64 x 1/2 x 15ga.
5	A-5653	Mounting Bracket Assembly

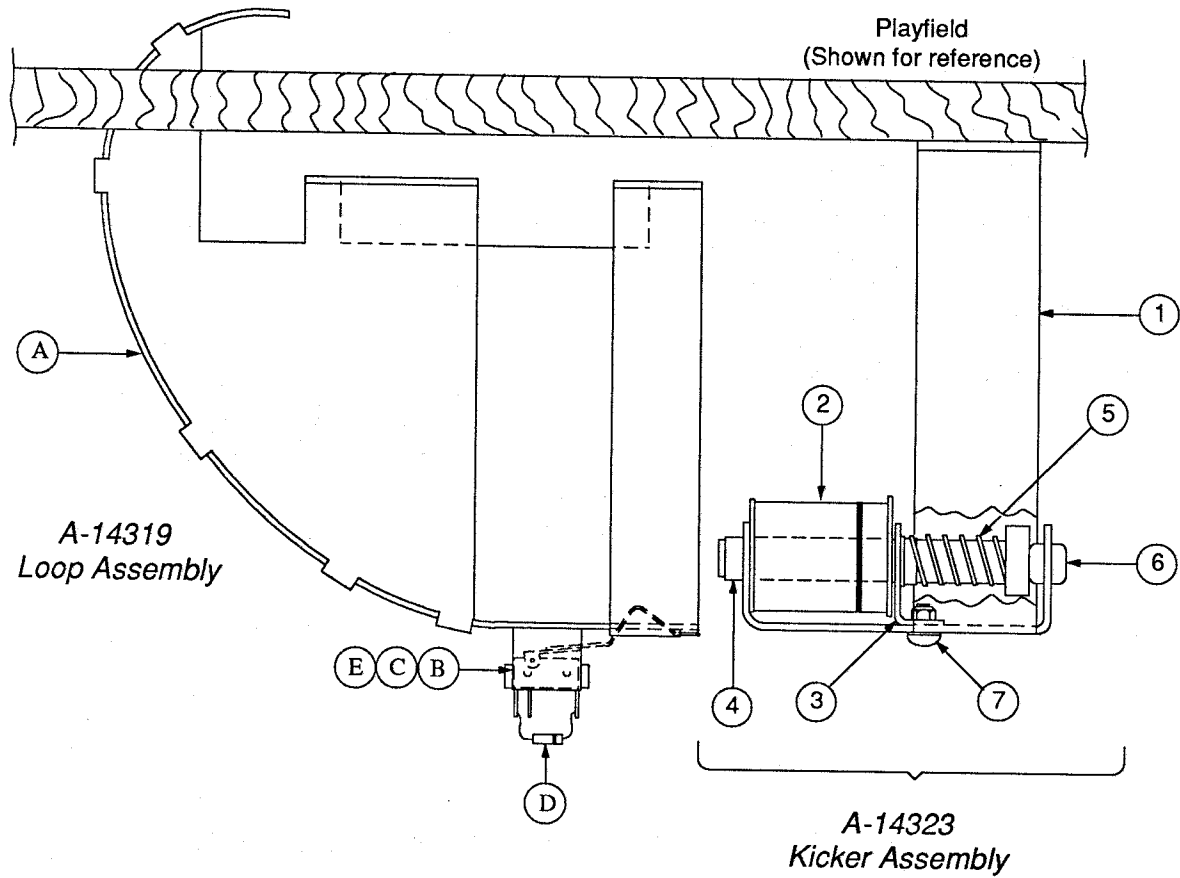
**Associated Parts for Left Kicker**

<b>B-11203-R-1</b>	Coil & Bracket Assembly
B-7572-1	Bracket & Stop Assembly
01-8-508-S	Coil Retaining Bracket
4006-01017-06	Mach. Screw, 6-32 x 3/8
4406-01119-00	Nut, 6-32 ESN
AE-26-1500	Coil Assembly
03-7066	Coil Tubing

**Associated Parts for Right Kicker**

<b>B-11203-L-1</b>	Coil & Bracket Assembly
B-7572-1	Bracket & Stop Assembly
01-8-508-S	Coil Retaining Bracket
4006-01017-06	Mach. Screw, 6-32 x 3/8
4406-01119-00	Nut, 6-32 ESN
AE-26-1500	Coil Assembly
03-7066	Coil Tubing

# Loop & Kicker Assembly



## A-14319 Loop Assembly

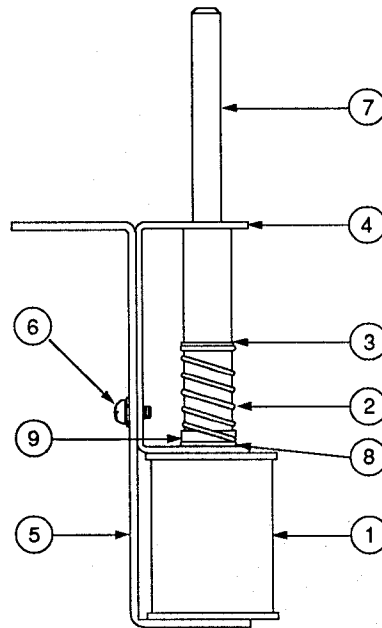
Item	Part No.	Description
A	A-14320	Loop Sub-Assembly
B	01-8240	Nut Plate, #2-56
C	4002-01105-07	Mach. Screw, 2-56 x 7/16
D	5070-09054-00	Diode, 1N4001, 1.0A
E	5647-12693-25	Microswitch

## A-14323 Kicker Assembly

Item	Part No.	Description
1	01-10130	Kicker Mounting Bracket
2	AE-23-800	Coil Assembly
3	01-8-508-T	Retainer Bracket
4	03-7067	Coil Tubing
5	10-135	Coil Spring Plunger
6	23-6420	Rubber Grommet
7	4008-01017-05	Mach. Screw, 8-32 x 5/16

## A-14046 Disappear Post Assembly

Item	Part Number	Description
1	AE-26-1200	Coil Assembly
2	10-135	Spring
3	20-8712-43	"E"-Ring, 7/16" Shaft
4	01-10008	Coil Stop Bracket
5	01-1748-1	Mounting Bracket
6	4006-01005-04	Mach. Screw, #6-32 x 1/4
7	02-4494	Post
8	01-10024	Insulator
9	03-7066-3	Tubing Coil, 1-7/8"

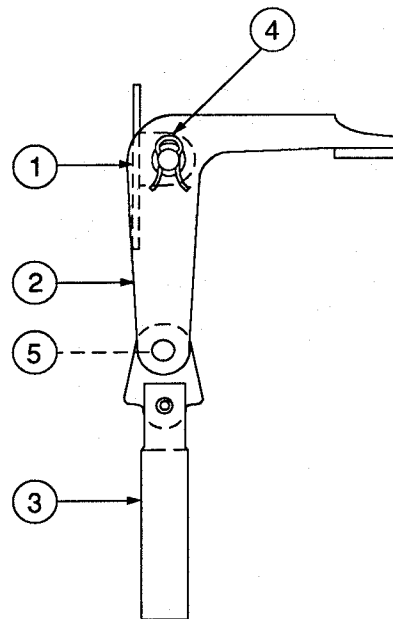


## B-11395-1 Skill Shot Kicker Assembly

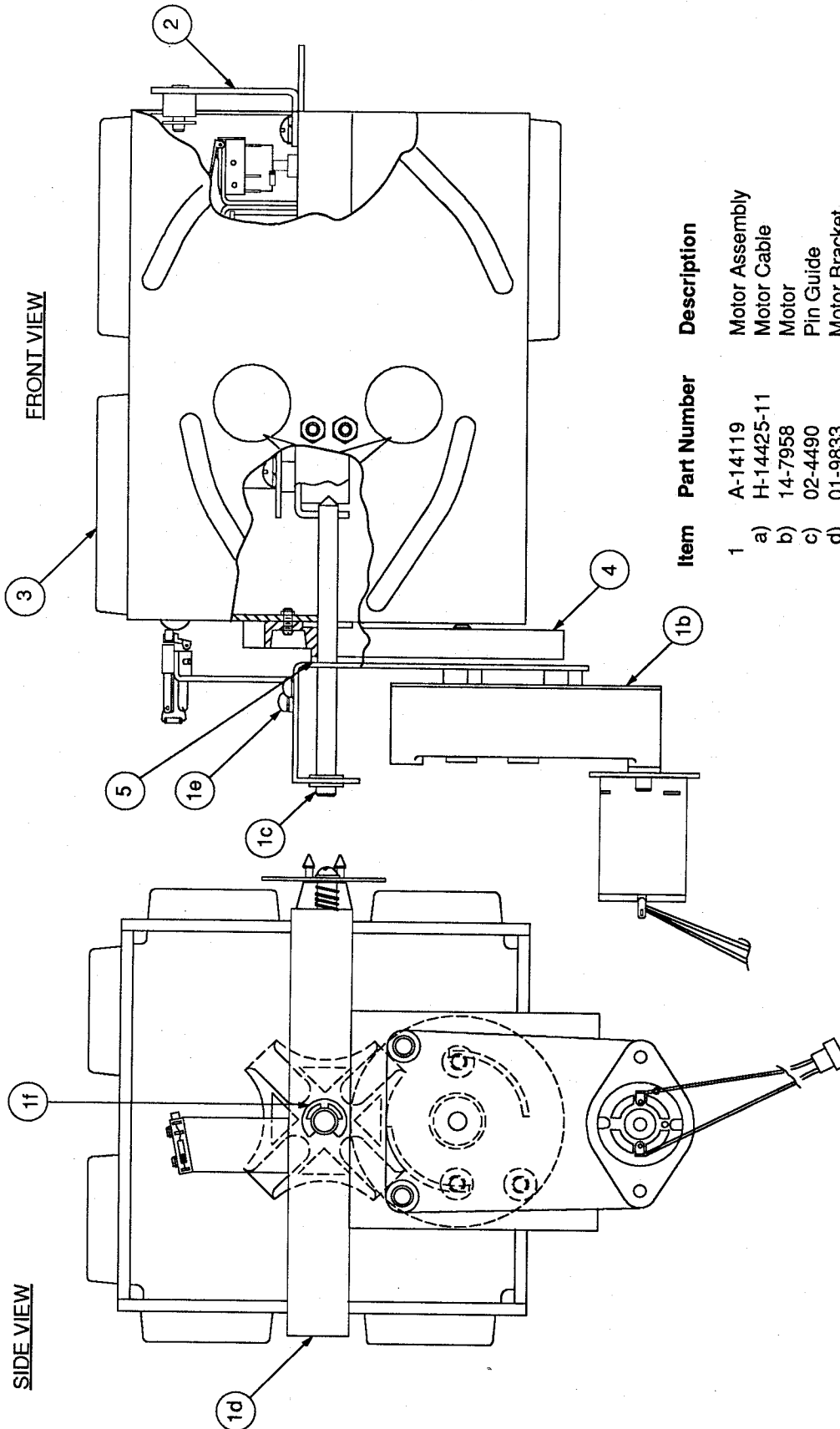
Item	Part No.	Description
1	A-11396	Kicker Mtg. Bracket Assy
2	A-5652-1	Kicker Crank Assembly
a)	A-8769	Kicker Crank Sub-Assembly
b)	02-2089	Pin Cam
3	A-5103	Plunger Assembly
a)	02-2364	Coil Plunger
b)	03-8085	Armature Link
c)	20-8716-5	Roll Pin, 1/8 x 7/16"
4	12-6227	Hairpin Clip
5	4700-00030-00	Flatwasher, 17/64 x 1/2 x 15ga.

### Associated Parts

B-11064-R-1	Coil & Bracket Assembly
B-7572-1	Bracket & Stop Assembly
01-8-508-S	Coil Retaining Bracket
4006-01017-06	Mach. Screw, 6-32 x 3/8
4406-01119-00	Nut, 6-32 ESN
AE-24-900	Coil Assembly

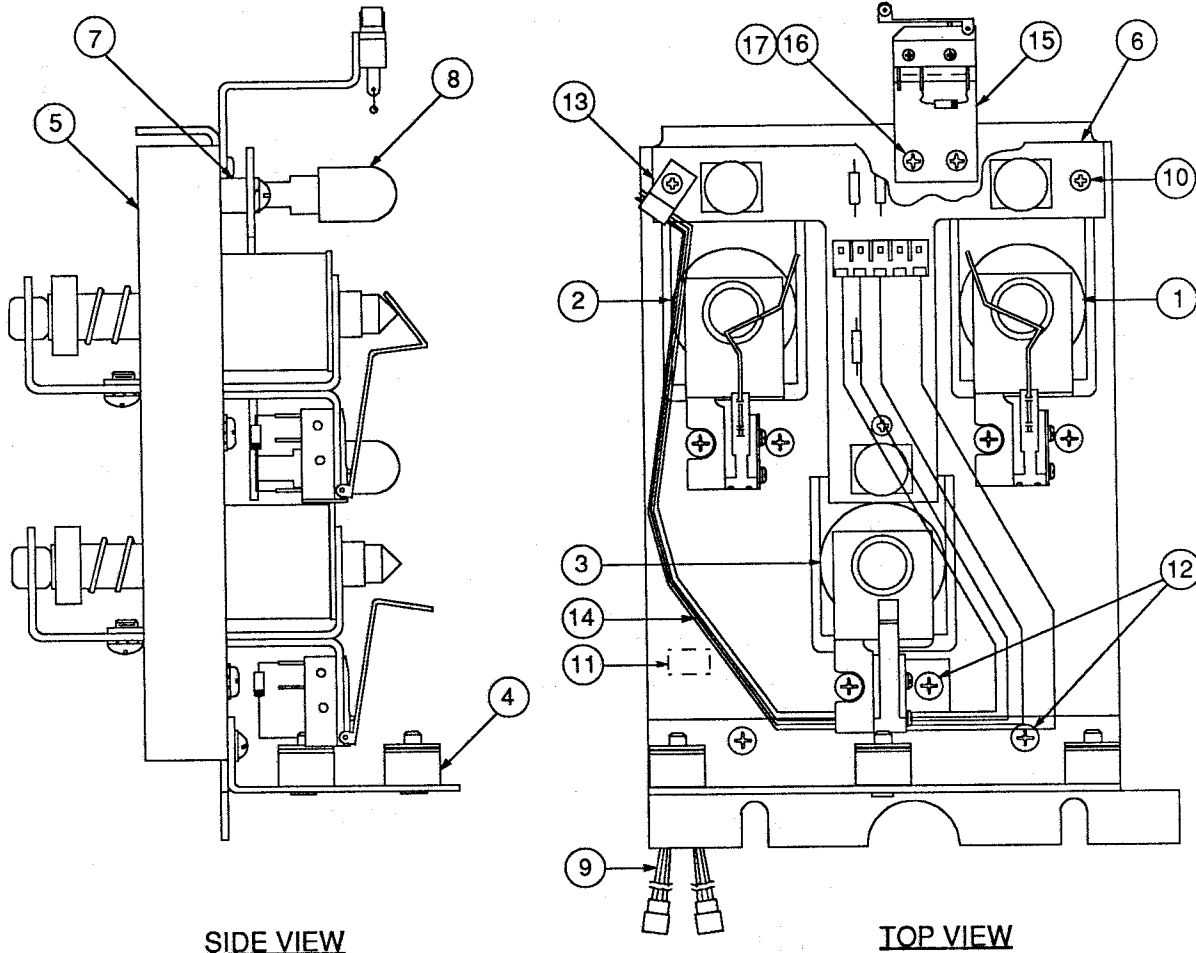


# A-14118 Face Playfield Assembly



Item	Part Number	Description
1	A-14119	Motor Assembly
a)	H-14425-11	Motor Cable
b)	14-7958	Motor
c)	02-4490	Pin Guide
d)	01-9833	Motor Bracket
e)	4008-01041-06	Mach. Screw, 8-32 x 3/8
f)	20-8712-25	"E"-Ring, 1/4" Shaft
2	A-14120	Main Bracket Assembly (See p.2-22)
3	A-14121	Face Assembly (See p. 2-24)
4	03-8476	Wheel Drive
5	4700-00030-00	Flatwasher, 17/64 x 1/2 x 15ga.

## A-14120 Main Bracket Assembly

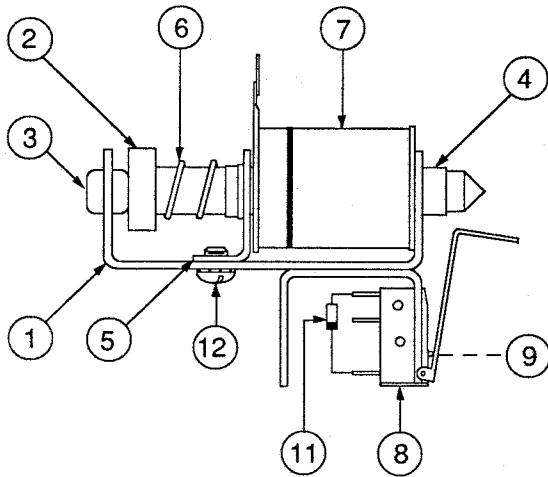


**SIDE VIEW**

**TOP VIEW**

Item	Part Number	Description
1	A-14123	Head Right Eye Assembly (See p.2-23)
2	A-14124	Head Left Eye Assembly (See p.2-23)
3	A-14125	Head Mouth Assembly (See p.2-23)
4	A-14126	Roller Assembly
5	A-14128	Main Bracket Sub-Assembly
6	A-14025	Face Lamp Assembly
7	03-8022-4	Spacer, 1/4" Lg.
8	03-8063-4	Light Bulb Sleeve (Red)
9	H-14425-3	Skull Cable
10	4006-01003-10	Mach. Screw, 6-32 x 5/8
11	03-7722-4	Kwik Clip, 1/4"
12	4008-01003-06	Mach. Screw, 8-32 x 3/8
13	03-7655-4	Clip Harness, 1/4"
14	H-14425-10	Skull Cable
15	A-14624	Top Switch Assembly
16	4006-01005-04	Mach. Screw, 6-32 x 1/4
17	4701-00002-00	Lockwasher #6 Split

## A-14125 Head Mouth Assembly



Item	Part Number	Description
1	A-14135	Coil Switch Bracket Assy.
2	A-14134	Bell Armature Assembly
3	23-6420	Rubber Grommet
4	03-7067-5	Tubing Coil
5	01-8-508-T	Solenoid Bracket
6	10-135	Spring
7	AE-30-2000	Coil Sub-Assembly
8	5647-12693-39	Mini Microswitch
9	4002-01105-06	Mach. Screw, 2-56 x 3/8
10	Not Used	
11	5070-09054-00	Diode, 1N4004
12	4008-01017-04	Mach. Screw, 8-32 x 1/4

**Note:**  
For Coil Assemblies **A-14123** and **A-14124**, refer to diagram above  
Item #8 is the only one that changes.

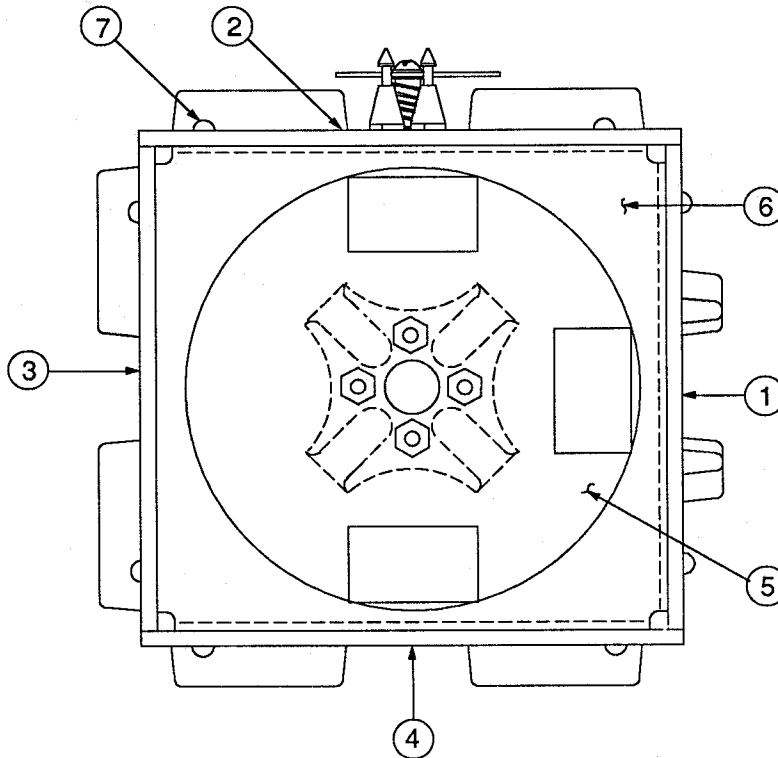
## A-14123 Head-Right Eye Assembly

Item	Part Number	Description
1	A-14135	Coil Switch Bracket Assy.
2	A-14134	Bell Armature Assembly
3	23-6420	Rubber Grommet
4	03-7067-5	Tubing Coil
5	01-8-508-T	Solenoid Bracket
6	10-135	Spring
7	AE-30-2000	Coil Sub-Assembly
8	5647-12693-48	Mini Microswitch
9	4002-01105-06	Mach. Screw, 2-56 x 3/8
10	01-10112	Switch Bracket Adjustment
11	5070-09054-00	Diode, 1N4004
12	4008-01017-04	Mach. Screw, 8-32 x 1/4

## A-14124 Head-Left Eye Assembly

Item	Part Number	Description
1	A-14135	Coil Switch Bracket Assy.
2	A-14134	Bell Armature Assembly
3	23-6420	Rubber Grommet
4	03-7067-5	Tubing Coil
5	01-8-508-T	Solenoid Bracket
6	10-135	Spring
7	AE-30-2000	Coil Sub-Assembly
8	5647-12693-47	Mini Microswitch
9	4002-01105-06	Mach. Screw, 2-56 x 3/8
10	01-10112	Switch Bracket Adjustment
11	5070-09054-00	Diode, 1N4004
12	4008-01017-04	Mach. Screw, 8-32 x 1/4

## A-14121 Complete Face Assembly

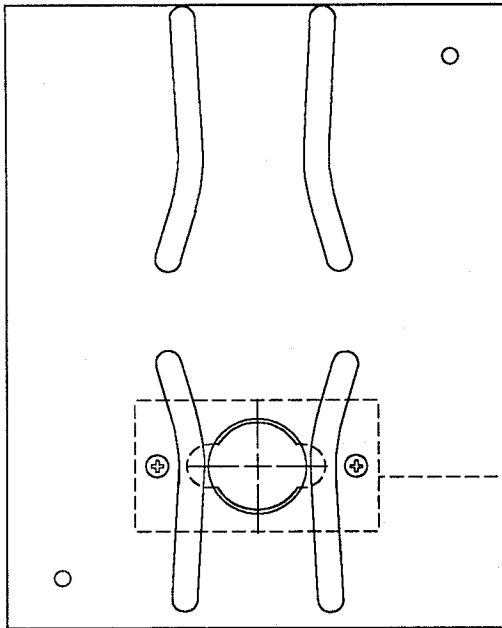


Item	Part Number	Description
1	A-14130	Face Plate - 1 Assembly
	31-1626-1	Screened Face Plate
	03-8482	Rail Ball Guide
	03-8498	Rail Ball Guide
	01-9993	Stop Plate
2	A-14131	Face Plate - 2 Assembly
	31-1626-2	Screened Face Plate
	01-10164	Y-Diverter-Eye Lane Select
	03-8482	Rail Ball Guide
	03-8498	Rail Ball Guide
	03-8044-13	Mini Plastic Post
3	A-14132	Face Plate - 3 Assembly
	31-1626-3	Screened Face Plate
	03-8482	Rail Ball Guide
	03-8498	Rail Ball Guide
4	A-14133	Face Plate - 4 Assembly
	31-1626-4	Screened Face Plate
	03-8482	Rail Ball Guide
	03-8498	Rail Ball Guide
5	A-14136	Bracket Assembly - Top
6	01-9832	Face Plate Bracket - Bottom
7	4006-01027-06	Mach. Screw, 6-32 x 3/8

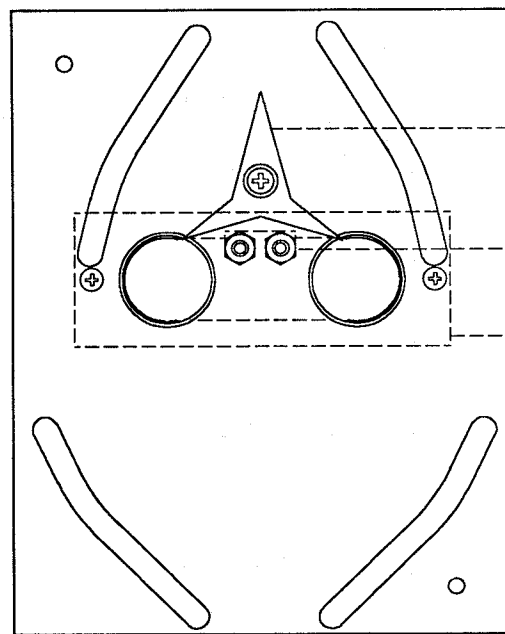


# Face Plate Assemblies

**A-14130 Face Plate - 1**



**A-14131 Face Plate - 2**



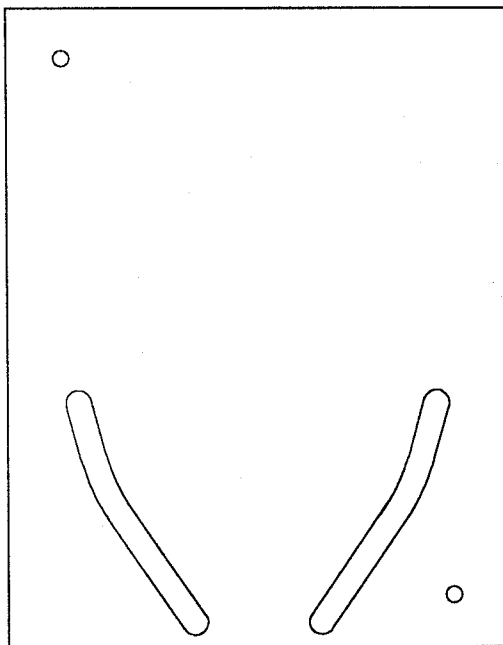
01-10164  
Y-Eye Lane Select

03-8044-13  
Mini Plastic Post

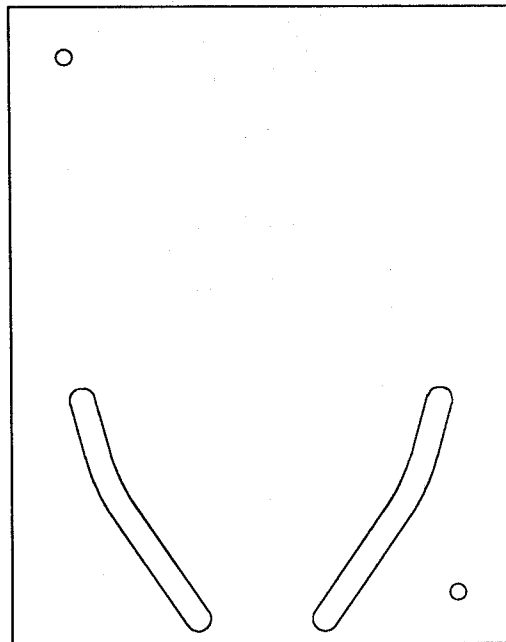
01-9992  
Stop Plate

01-9993  
Stop Plate

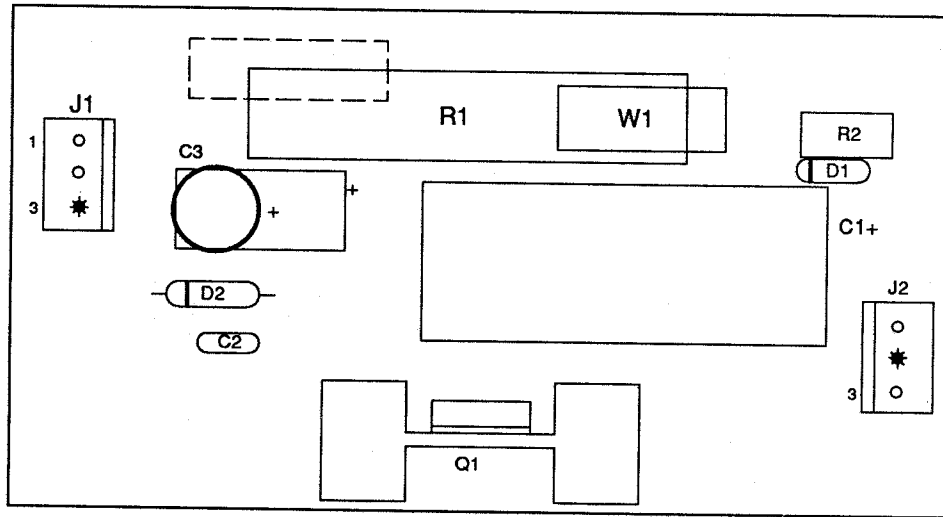
**A-14132 Face Plate - 3**



**A-14133 Face Plate - 4**

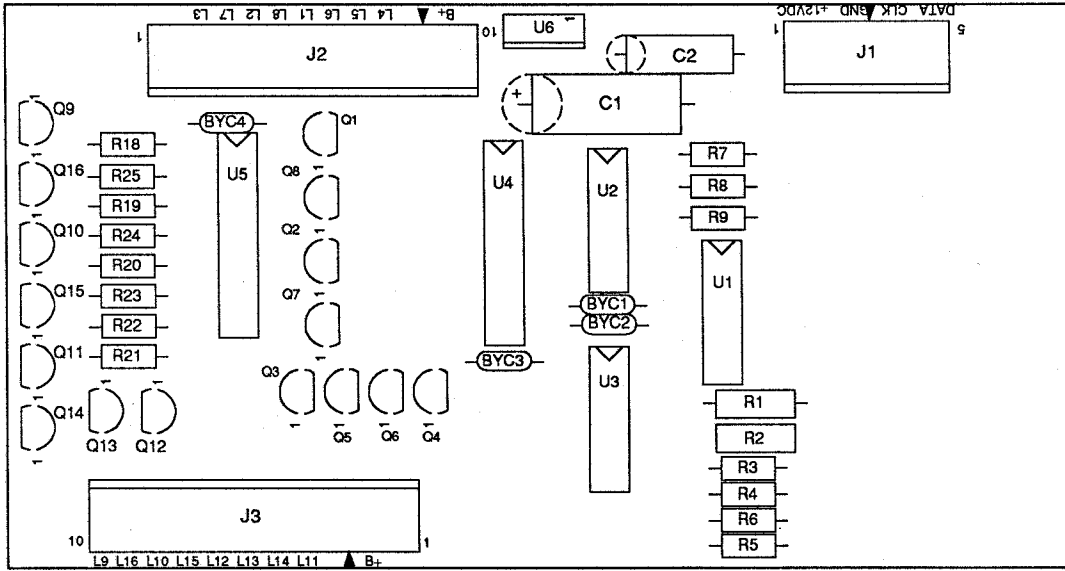


## A-13892-2 Motor Regulator Assembly



Part Number	Designator	Description
5040-12466-00	C1	Capacitor, 1000 $\mu$ fd, 50v, Axial
5043-08996-00	C2	Capacitor, .1 $\mu$ fd, 50v, Axial
5040-10974-00	C3	Capacitor, 100 $\mu$ fd, 35v, Radial
5070-09054-00	D1	Diode, 1N40004, 1.0A.
5075-12467-00	D2	Zener, Diode 1N5243B, 13V.
5791-12273-03	J1, J2	Connector, 3-pin Header
5162-12635-00	Q1	Trans. NPN Darl TIP 102
Not Used		
5010-09061-00	R2	Resistor, 680 $\Omega$ , 1/2w, 5%
5705-12464-00		Heatsink
4004-01005-06		Mach. Screw, 4-40 x 3/8
4404-01117-00		Nut, 4-40 Hex.
4703-00015-00	W1	Flatwasher External, #4
20-9229		Thermal Compound
5010-09534-00		Resistor, 0 $\Omega$
5768-12685-00		PCB Motor Regulator
16-8850-352		Label

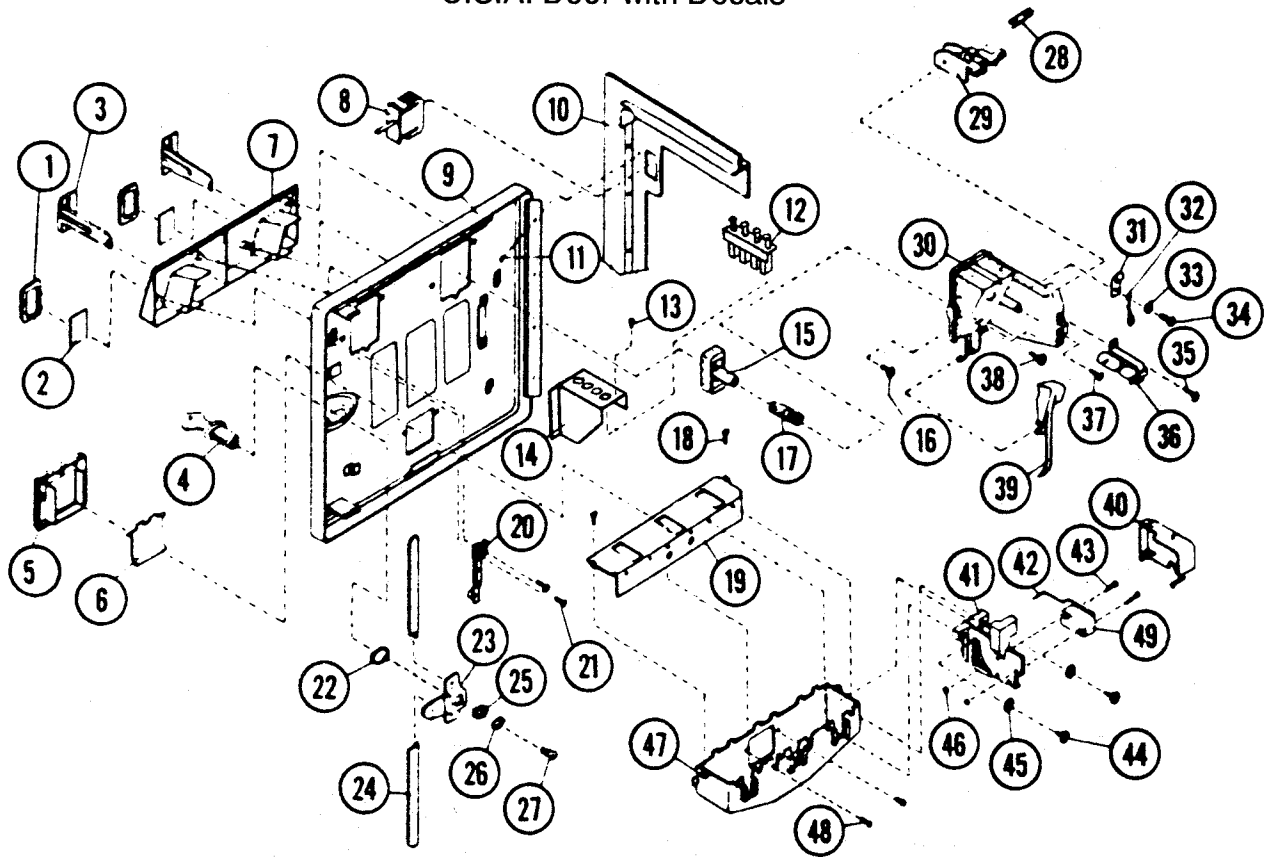
# A-14007 Chase Light Assembly



Item	Part Number	Ckt Designator	Description
1	5768-12705-00		PCB Chase Light
2	5162-08976-00	Q1 - Q16	Tras. 2N6427 NPN
3	5010-08997-00	R10 - R25	Resistor, 2.7K $\Omega$ , 1/4w, 5%
4	5010-09034-00	R7 - R9	Resistor, 10K $\Omega$ , 1/4w, 5%
5	5010-09358-00	R3, R4	Resistor, 1K $\Omega$ , 1/4w, 5%
6	5010-09162-00	R5	Resistor, 100K $\Omega$ , 1/4w, 5%
7	5010-09113-00	R6	Resistor, 33K $\Omega$ , 1/4w, 5%
8	5010-08930-00	R1, R2	Resistor, 470 $\Omega$ , 1/4w, 5%
9	5040-09365-00	C2	Capacitor, 1 $\mu$ fd, 63v (+50, -10%)
10	5040-09421-00	C1	Capacitor, 100 $\mu$ fd, 25v (+50, -10%)
11	5043-08980-00	BYC1 - BYC4	Capacitor, .01 $\mu$ fd, 50v, (+80, -20%)
12	5281-09867-00	U4, U5	IC, 74LS244, Oct. Buff
13	5281-10447-00	U2, U3	IC, 74LS164
14	5370-12272-00	U1	IC, LM339 Quad. Comp
15	5250-09157-00	U6	Reg 7805, 1.0A. 5V
16	5791-10862-05	J1	Connector, 5-pin Header
17	5791-10862-10	J2, J3	Connector, 10-pin Header
18	4004-01005-06		Mach. Screw, 4-40 x 3/8
20	4404-01119-00		Lockwasher Nut, 4-40

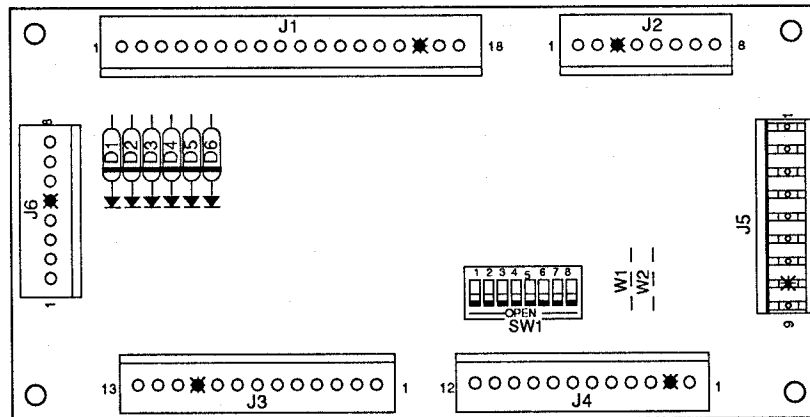
# A-14148-1 Coin Door Assembly

## U.S.A. Door with Decals



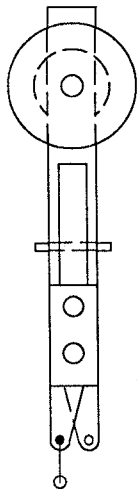
Item	Part No.	Description	Quantity	Item	Part No.	Description	Quantity
1	27-1038	Button Cover	2 or 3	26	27-1018	Star Washer	1
2	27-1041-1→58	Price Panel	2 or 3	27	27-1019	M/C Screw, 1/4-28 x 5/16	1
3	27-1026-1→17	Coin Entry Plate	2 or 3	28	Not Used		
4	27-1016	Lock Assembly	1	29	Not Used		
5	27-1061-1	Coin Return - Bezel	1	30	27-1112	Coin Inlet Chute	2 or 3
6	27-1062	Coin Return Flap	1	31	27-1088	Cable Clamp	2 or 3
7	27-1021	Button Housing - 2-slot	1	32	27-1025	Key Hook	1
	27-1022	Button Housing - 3-slot	1	33	27-1086	Washer, #6	2 or 3
8	27-1111	Interlock Switch	1	34	27-1078	M/C Screw, 6-32 x 3/8	1 or 2
9	27-1006-1	Coin Door, 2-Slot	1		27-1113	M/C Screw, 6-32 x 7/16	1
	27-1007-1	Coin Door, 3-Slot	1	35	27-1079	Self-tapping Screw, #6 x 1/4	2 or 3
10	27-1005	Coin Door Frame	1	36	27-1084	Lamp Socket	2 or 3
11	27-1003	M/C Screw, 6-32 x 3/16	4		27-1085	Lamp	2 or 3
12	5641-12724-00	Diagnostic Switch	1	37	27-1096	Self-tapping Screw, #5 x 3/8	2 or 3
13	27-1101	M/C Screw, 4-40 x 1/4	2	38	27-1087	M/C Screw, 6-32 x 5/8	2 or 3
14	01-9885	Bracket, Diagnostic Switch	1	39	27-1082	Lever Arm	2 or 3
15	03-7601-4	Button, Red	2	40	27-1097	Switch Cover	2 or 3
	03-7601-7	Button, Black	2	41	27-1091-1	Coin Accept Chute	2 or 3
16	27-1078	M/C Screw, 6-32 x 3/8	2 or 3	42	27-1075	Wire Form (Small)	2 or 3
17	27-1039	Conical Spring	2 or 3		or		
18	27-1079	Self-tapping Screw, #6 x 1/4	2		27-1093	Wire Form (Large)	
19	27-1077-1	Coinbox Cover	1	43	27-1094	M/C Screw, 4-40 x 7/8	4 or 6
20	27-1066	Slam Switch	1	44	27-1087	M/C Screw, 6-32 x 5/8	4 or 6
21	27-1067	M/C Screw, 4-40 x 1/2	2	45	27-1086	Washer, #6	4 or 6
22	27-1017	Nut (key)	1	46	27-1095	Nut, 4-40 ESNA	4 or 6
23	27-1012	Locking Cam	1	47	27-1076-1	Coin Return Box	1
24	27-1011	Locking Arm	2	48	27-1078	M/C Screw, 6-32 x 3/8	2
25	27-1020	Washer	1	49	27-1092	Microswitch	2 or 3

## A-14102 WPC Coin Door Interface Board



Part Number	Ckt Designator	Description
5768-12716-00		PCB-WPC Coin Door
5070-09054-00	D1-D6	Diode, 1N4004, 1.0A.
5791-10862-18	J1	Connector, 18-pin Header Str Sq.
5791-10862-08	J2, J6	Connector, 8-pin Header Str Sq.
5791-10862-13	J3	Connector, 13-pin Header Str Sq.
5791-10862-09	J5	Connector, 9-pin Header Str Sq.
5792-10817-09	J5	9R Mt/End 22/.156

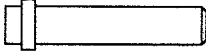
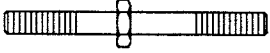
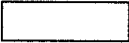
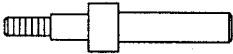
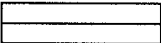
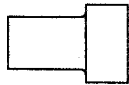
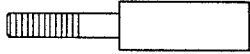
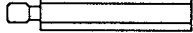
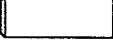


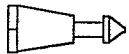

- Notes:**
1. For schematic refer to drawing #16-9152.
  2. For Belgium, France, and Switzerland use A-14102-1 Coin Door Interface Board.



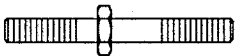
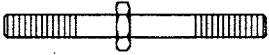
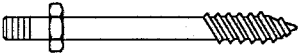
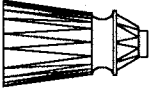
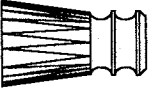
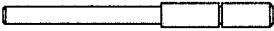
## B-11854-4 Standup Target Assembly

Part Number	Description
SW-1A-170-A	Standup Target Assembly
03-8093-4	Target, Red
5070-06258-00	Diode, 1N4001, 1.0A.

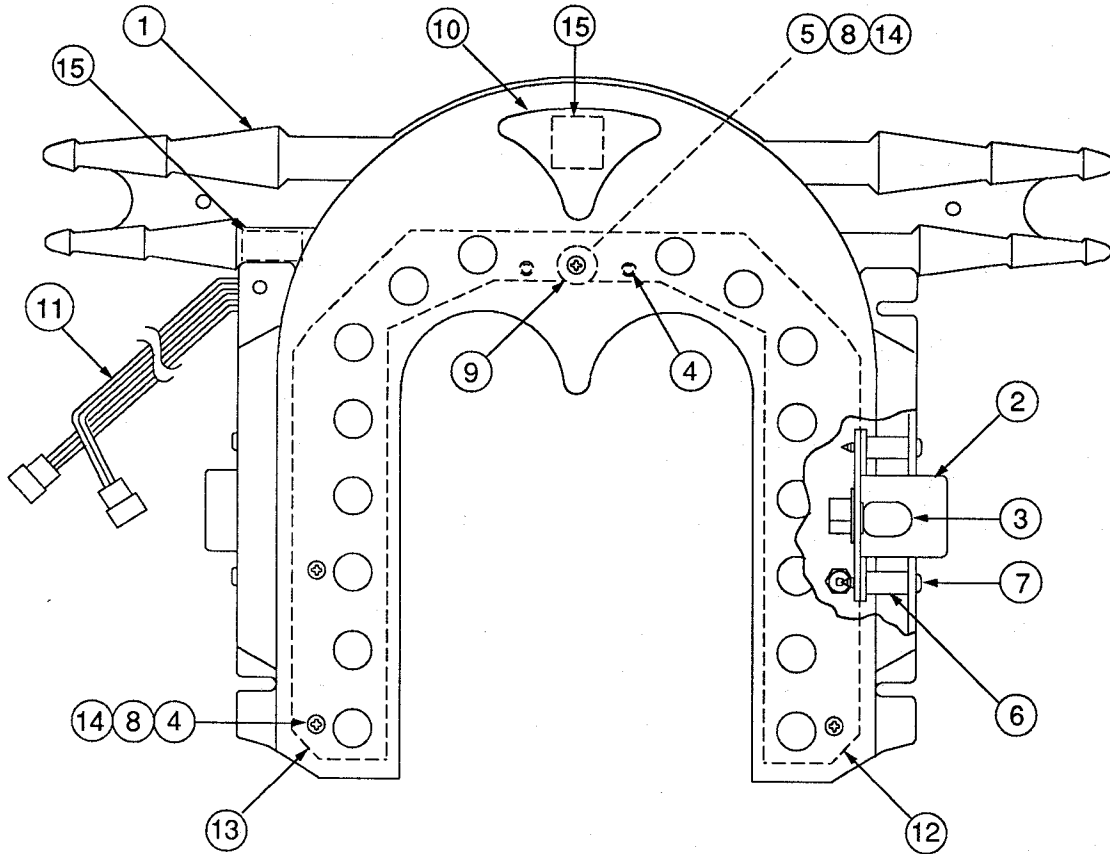
## Metal & Plastic Posts

	Part Number	Description	Quantity
	02-3409	Spring Post	1
	02-3905	Bumper Post, #8 WS	3
	02-4020	Support Post	1
	02-4036	Rubber Bumper Post	5
	02-4252-10	F-F Spacer, 6-32 x 5/8"	2
	02-4252-13	F-F Spacer, 6-32 x 13/16"	1
	02-4252-14	F-F Spacer, 6-32 x 7/8"	1
	02-4252-22	F-F Spacer, 6-32 x 1-3/8"	1
	02-4252-29	F-F Spacer, 6-32 x 1-13/16"	1
	02-4266	Holding Post, 6-32 x 3/4	1
	02-4322-1	M-F Spacer, 8-32 x 3"	1
	02-4322-8	M-F Spacer, 8-32 x 3.63"	3
	02-4322-19	M-F Spacer, 8-32 x 2-1/8"	4
	02-4335-12	Mounting Post, 1.38	1
	02-4433	Post, #8 x 1-3/16"	2
	02-4434	Post, #8 x 1"	2
	02-4498	Roller Post	3
	03-8044-9	Mini Plastic Post - Tr. Red	25
	03-8044-13	Mini Plastic Post - Clear	4
	03-8365-10	Post, Trans. Blue	6

## Metal & Plastic Posts - Continued

	Part Number	Description	Quantity
	02-4424-1	Spring Post, 6-32 x 8-32	6
	02-4425-1	Post, 8-32 / #8-32	4
	02-4426-1	Post, #6-32 / #8 SMS	12
	03-8319-10	Star Post, #8 Tr. Blue	16
	03-8247-13	Double Star Post, Tr. Blue	6
	02-4494	Disappearing Post	1

## A-14508 Helmet Assembly



Item	Part Number	Description
1	01-8548	Helmet
2	03-8149-9	Mini Dome, Tr. Red
3	C-13337	Single Flashlamp Assy.
4	03-8022-4	Spacer, 1/4" Lg.
5	03-6047-1	Spacer, 1/4" Lg.
6	03-6047-3	Spacer, 1/2" Lg.
7	4106-01001-16	Sh. Metal Screw, #6 x 1"
8	4006-01003-12	Mach. Screw, 6-32 x 3/4
9	4700-00070-00	Flatwasher, 3/16 x 5/8 x 16ga.
10	31-2-50002-1	Decal
11	H-14425-7	Helmet Cable
12	A-14410	8-Lamp Board
13	A-14412	8-Lamp Board
14	4406-01128-00	Nut, 6-32 KEPS
15	03-7722-4	Clip, 1/4"
16	03-8063-6	Yellow Light Bulb Sleeve
17	03-8063-4	Red Light Bulb Sleeve



## A-14359 Right Ramp Assembly

Item	Part No.	Description
1	A-14360	Switch Assembly
2	A-14361	Switch Assembly
3	A-14281	Gate & Switch Assembly
4	A-14421	Ramp Sub-Assembly
5	A-14494-2	Playfield Plastic Assy.
6	A-14523	Playfield Plastic Assy.
7	H-14425-2	Switch Cable
8	H-14425-5	Switch Cable
9	03-6047-1	Spacer, 1/4" Lg.
10	20-9646-1	Cover Switch Protect
11	20-9672	Cover Switch Protect
12	4106-01019-06	Sh. Metal Screw, #6 x 3/8
13	4006-01003-06	Mach. Screw, 6-32 x 3/8
14	4006-01003-10	Mach. Screw, #6-32 x 5/8
15	4406-01119-00	Nut, 6-32 ESN
16	31-3-50002-1	Decal
17	31-3-50002-2	Decal
18	31-3-50002-3	Decal
19	31-3-50002-4	Decal
20	31-3-50002-5	Decal
21	31-3-50002-6	Decal
22	02-4252-14	F-F Spacer, 6-32 x 7/8

## A-14362 Left Ramp Assembly

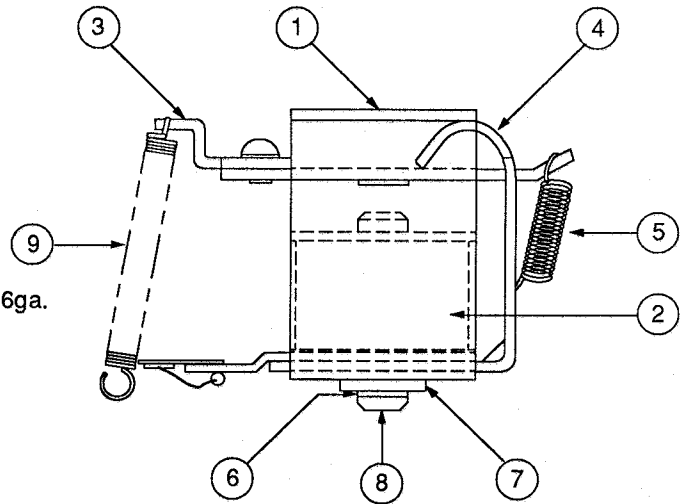
Item	Part No.	Description
1	A-12511	Ball Gate Assembly
2	A-14042	Ball Gate & Switch Assy.
2	A-14363	Gate Assembly
3	A-14364	Ball Gate Actuator Assy. (see p.2-34)
4	A-14420	Ramp Sub-Assembly
5	A-14281	Gate & Switch Assembly
6	H-14425-5	Switch Cable
7	H-14425-1	Switch Cable
8	20-9672	Cover Switch Protect
9	24-8821	Socket w/Diode
10	24-8768	Bulb #555 (6.3V)
11	31-3-50002-7	Decal
12	4006-01027-06	Mach. Screw, 6-32 x 3/8
13	4406-01119-00	Nut 6-32 ESN
14	4106-01033-08	Sh. Metal Screw, #6 x 1/2
15	4006-01041-06	Mach. Screw, 6-32 x 3/8

## A-14357 Wire Ball Return Assembly

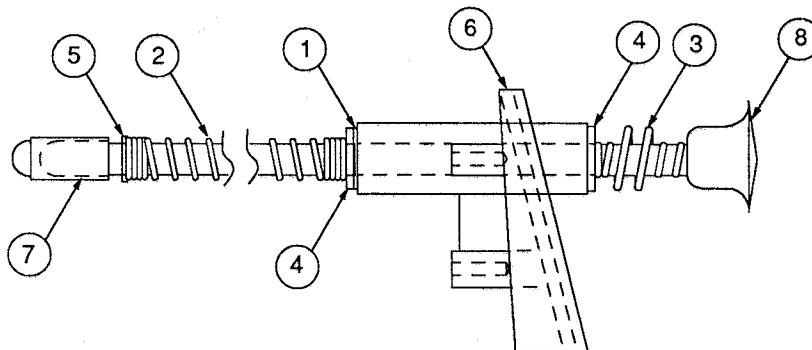
Item	Part No.	Description
1	12-6947	Wire-Ball Return
2	01-8600	Switch Insulator
3	01-8240	Nut Plate
4	5070-09054-00	Diode, 1N4001
5	5647-12693-21	Subminiature Switch
6	H-14425-4	Ball Lock Cable
7	A-14449	Cover & Socket Assembly
8	4002-01105-07	Mach. Screw, 2-56 x 7/16
9	4006-01027-04	Mach. Screw, 6-32

## A-14364 Ball Gate Actuator Assembly

Item	Part No.	Description
1	01-8111	Ball Gate Coil Bracket
2	A-14406	Coil Assembly
3	A-11146	Armature Assembly
4	A-6892	Frame & Eyelet Assy.
5	10-120	Spring
6	4701-00003-00	Lockwasher, #8 Split
7	4700-00089-00	Flatwasher, 11/64 x 7/16 x 16ga.
8	4008-01021-07	Mach. Screw, 8-32 x 7/16
9	10-426	Extension Spring



## B-11450 Ball Shooter Assembly



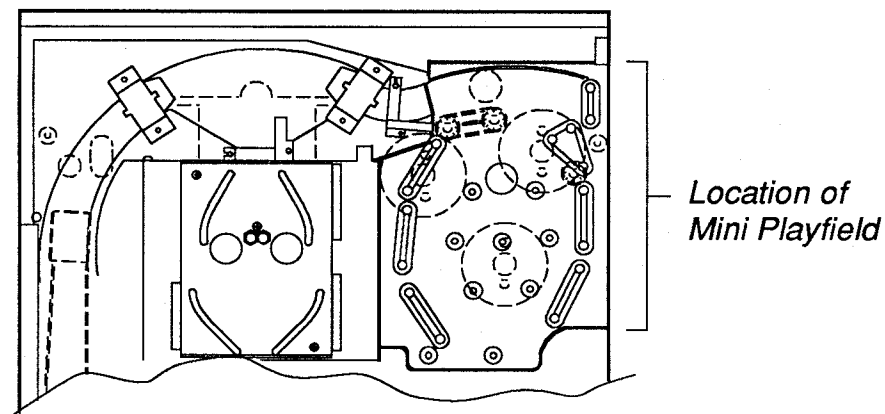
Item	Part Number	Description
1	03-7357	Shooter Sleeve
2	10-148-3	Shooter Spring
3	10-149	Rod Spring
4	4700-00051-00	Flatwasher, 25/64 x 5/8 x 16ga.
5	20-8718-1	"C"-Retaining Ring
6	21-6645	Ball Shooter Housing
7	23-6327	Rubber Shooter Tip
8	20-9253-7	Rod Assembly

## Unique Parts

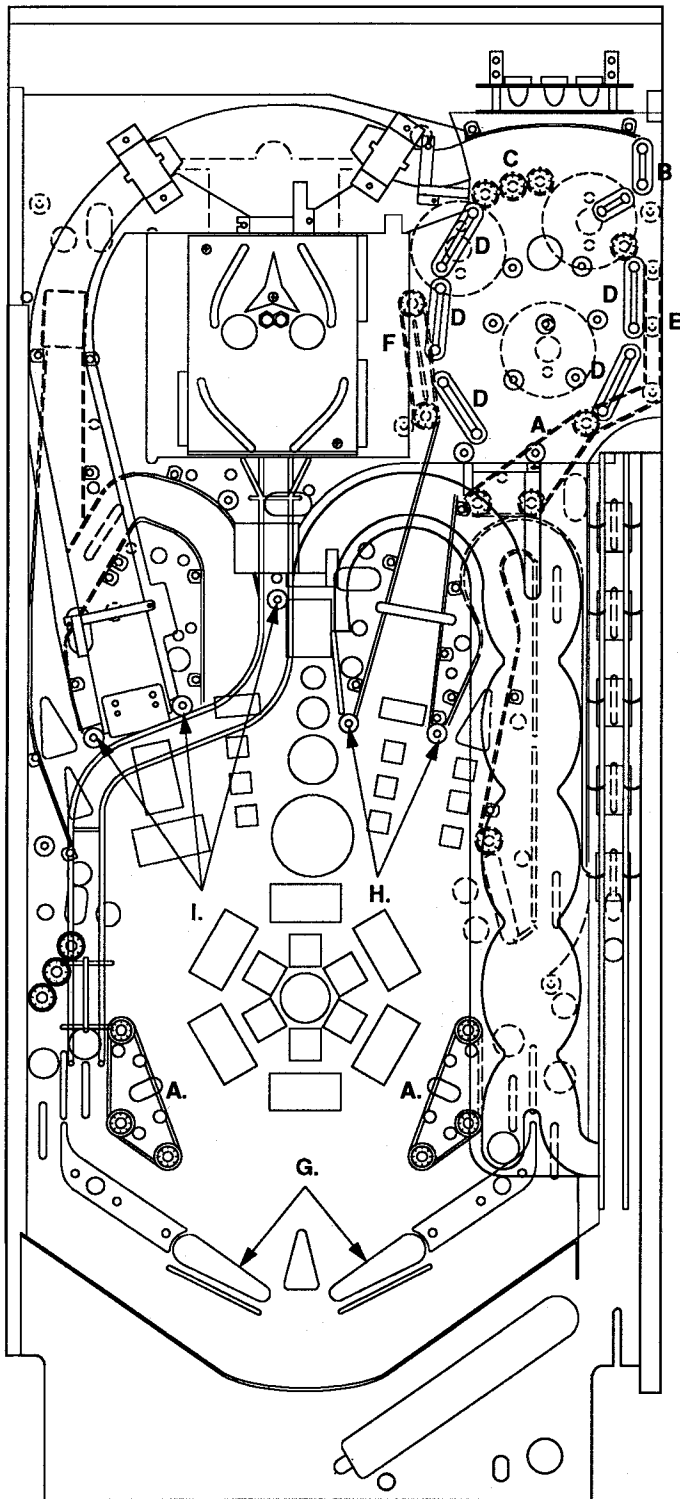
A-12732-50002	WPC Sound Board Assembly	A-14494-3	Playfield Plastic Assembly
A-12742-50002	WPC CPU Board	A-14494-5	Playfield Plastic Assembly
A-13204-50002	Bottom Arch Assembly	A-14508	Helmet Assembly
A-13769-50002	Playfield & Insert Assembly	A-14523	Playfield Plastic Assembly
A-13780-50002	Wood Speaker Panel Assembly	A-14559	Playfield Plastic Assembly
A-13892-2	Motor Regulator Assembly	A-14568	Cover Assembly
A-14007	Chase Light assembly	A-14588	Playfield Plastic Assembly
A-14025	Face Lamp Assembly	A-14609	Ball Gate Assembly
A-14042	Ball Gate & Switch Assembly	A-8108-R-2	Flipper Return Frame Assy.
A-14046	Disappearing Post Assembly	A-8552-50002	Backglass Assembly
A-14118	Face Playfield Assembly		
A-14119	Motor Assembly	AE-30-2000	Coil Assembly
A-14120	Main Bracket Assembly		
A-14121	Face Assembly	H-14425-1	Left Ramp Cable
A-14123	Coil Assembly (Right)	H-14425-10	Head Cable, Upper
A-14124	Coil Assembly (Left)	H-14425-2	Right Ramp Cable
A-14125	Coil Assembly (Center)	H-14425-3	Head Cable, Lower
A-14126	Roller Assembly	H-14425-4	Ball Lock Cable
A-14130	Face Plate - 1 Assembly	H-14425-5	Ramp Switch Cable
A-14131	Face Plate - 2 Assembly	H-14425-6	Flasher Cable
A-14132	Face Plate - 3 Assembly	H-14425-7	Helmet Cable
A-14133	Face Plate - 4 Assembly	H-14425-8	G. I. Cable
A-14281	Gate & Switch Assembly	H-14425-9	Lamp Cable
A-14302	3-Lamp Assembly	H-14426	Playfield Switch Cable
A-14303	5-Lamp Assembly	H-14427	Playfield Lamp Cable
A-14304	13-Lamp Assembly	H-14428	Playfield Solenoid Cable
A-14305	4-Lamp Assembly	H-14429	Insert Cable
A-14318	Ball Guide Assy. - Mini Playfield	H-14430	Cabinet Cable
A-14319	Loop Assembly	H-14431	Logic Power Cable
A-14323	Kicker Assembly		
A-14327	Ball Guide Assy. - Skill Shot	01-9990	Pan
A-14328	Ball Guide Skill Shot Assy.		
A-14333	Ball Guide Assembly	02-4497	Roller
A-14334	Ball Guide Assembly	02-4498	Roller Post
A-14335	Ball Guide Assembly		
A-14336	Ball Guide Assembly	03-7960-50002-1	Mylar - Playfield
A-14337	Ball Guide Assembly	03-7960-50002-2	Mylar - Playfield
A-14338	Ball Guide Assembly	03-8475	Wheel - Geneva
A-14339	Ball Guide Assembly	03-8476	Wheel - Drive
A-14340	Ball Guide Assembly		
A-14341	Ball Guide Assembly	23-6654	Roller, Rubber
A-14357	Wire Ball Return Assy.		
A-14358	Mini Playfield Assembly	31-1-50002	Playfield Plastics
A-14359	Right Ramp Assembly	31-1-50002-	Screened Playfield Plastics Set
A-14362	Left Ramp Assembly	31-1A-50002-1	Playfield Plastic
A-14363	Gate Assembly	31-1A-50002-2	Playfield Plastic
A-14364	Ball Gate Actuator Assy.	31-1A-50002-3	Playfield Plastic
A-14367	Lamp Board & Bracket Assy.	31-1002-50002	Screened Playfield
A-14368	Speaker / Display Assembly	31-1008-50002	Screened Bottom Arch
A-14372	Ball Gate Assembly	31-1009-50002	Shooter Plate Screened
A-14376-50002	Backbox Assembly	31-1420-50002	Speaker Panel Cover, Screened
A-14410	8-Chase Lamp Assembly	31-1625	Mini Playfield Screened
A-14412	8-Chase Lamp Assembly	31-2-50002-1	Decal, Helmet
A-14423-1	Relay 12vdc Assembly	31-2-50002-2 → -8	Decal
A-14451	3-Lamp & Bracket Assembly	31-3-50002-1 → -7	Decal - Bottom Side
A-14494-2	Playfield Plastic Assembly		

## A-14358 Mini Playfield Assembly

Item	Part No.	Description
1	31-1625	Mini Playfield (Screened)
2	A-14318	Ball Guide Assembly
3	03-8044-9	Mini Post, Tr. Red
4	23-6535	Ball Guide Bumper
5	23-6301	Rubber Ring, 3/4"
6	23-6304	Rubber Ring, 1-1/2"
7	4106-01019-08	Sh. Metal Screw, #6 x 1/2
8	4006-01017-06	Mach. Screw, 6-32 x 3/8
9	4406-01119-00	Nut, 6-32 ESN
10	23-6300	Rubber Ring, 5/16"
11	23-6302	Rubber Ring, 1"
12	02-4335-12	Mounting Post, 1.38
13	4700-00021-00	Flatwasher, 13/64 x 7/16 x 21ga.
14	4408-01119-00	Nut, 8-32 ESN
15	01-10126	Shield - Right Side Head
16	03-6047-2	Spacer, 3/8"
17	4008-01003-12	Mach. Screw, 8-32 x 3/4



# THE MACHINE RUBBERS



- A. Rubber Ring 23-6306, 2 1/2"
- B. Rubber Ring 23-6301, 3/4"
- C. Post Rubbers 23-6300, (6)
- D. Rubber Ring 23-6302, 1" (5)
- E. Rubber Ring 23-6304, 1 1/2"
- F. Rubber Ring 23-6305, 2" (2)
- G. Rubber Ring (Flipper), 23-6519-4 (red) (2)
- H. Rubber Bumper Sleeve, 23-6556 (blk) (2)
- I. Rubber Bumper Sleeve, 23-6552 (yel) (3)

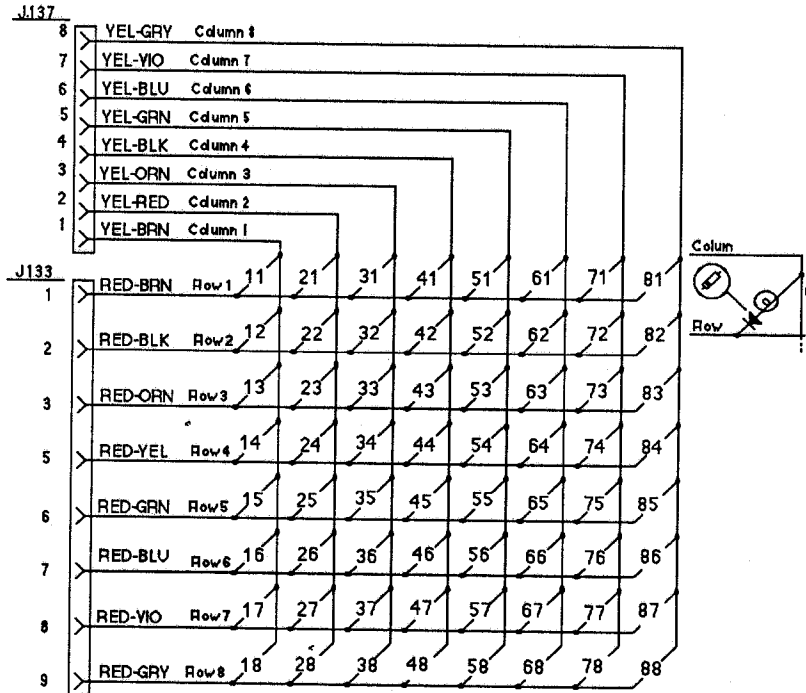
### On Miniplayfield:

- 10 small post rubbers, 23-6535
- 1 small rubber ring, 23-6300

### On Playfield:

- 9 large post rubbers, 23-6300
- 4 small post rubbers, 23-6535

# Lamp Matrix

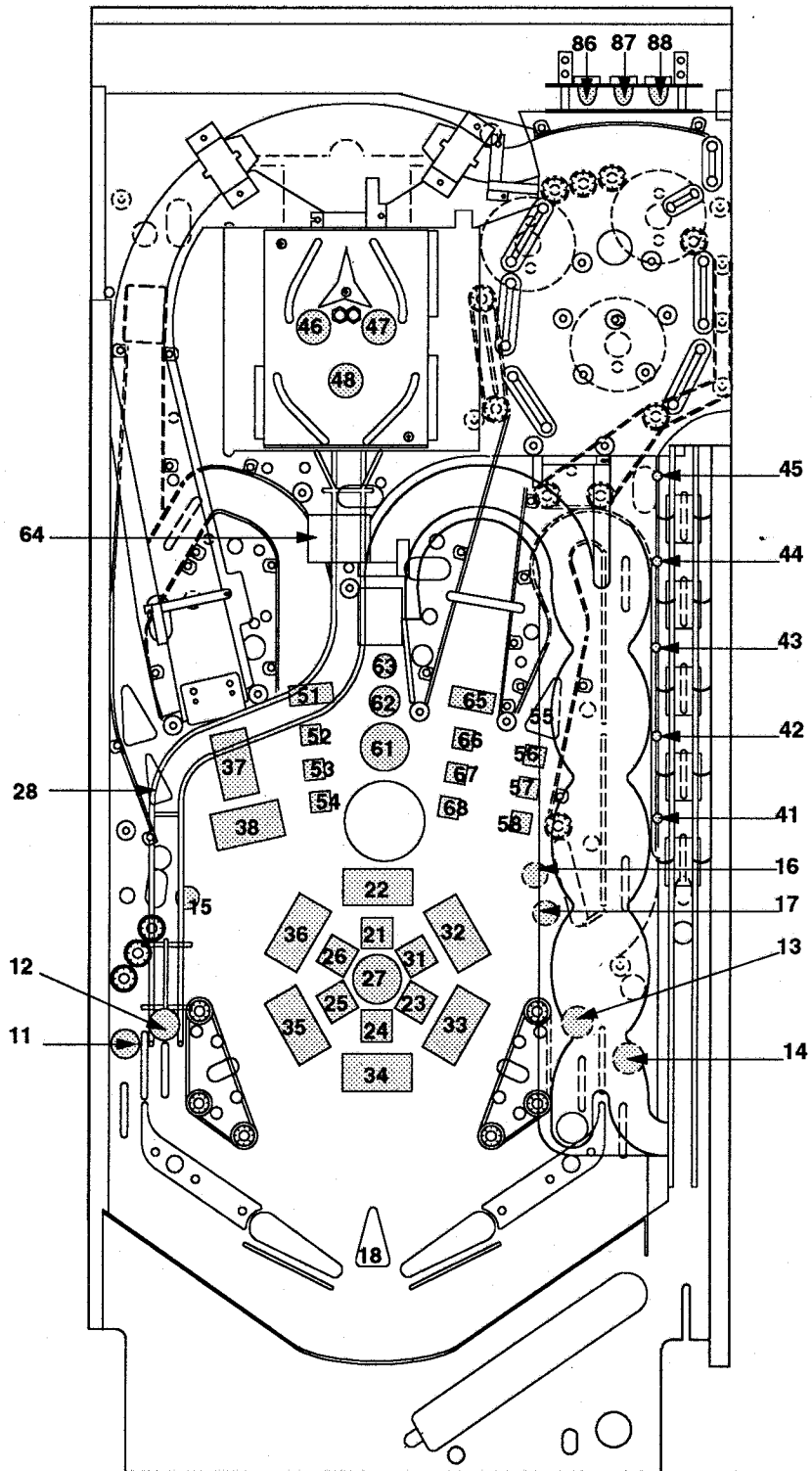


## THE MACHINE Lamp Matrix

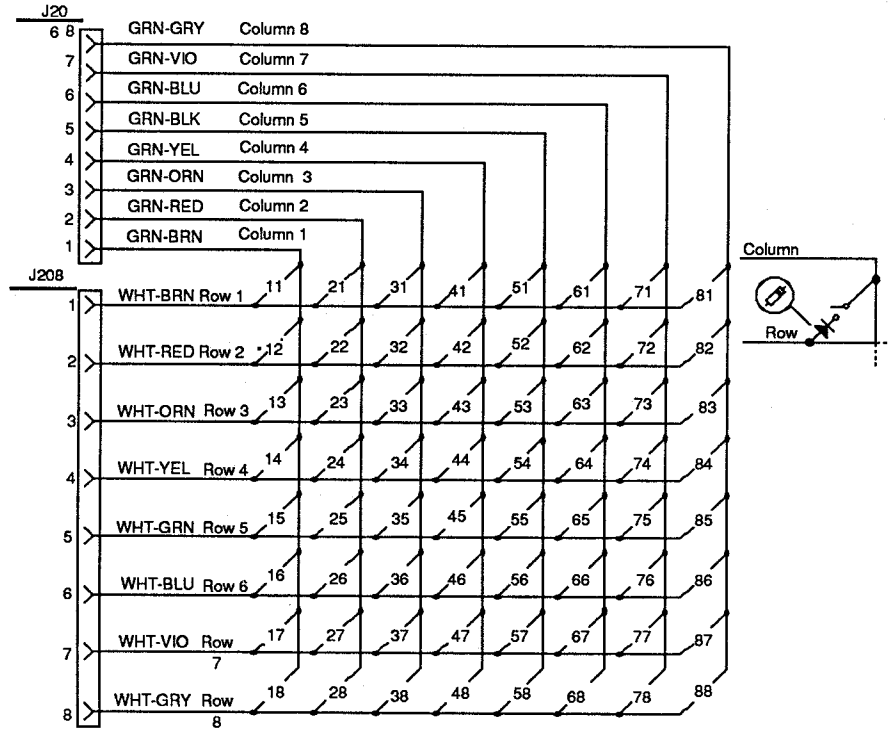
Column \ Row	1 Yellow-Brown	2 Yellow-Red	3 Yellow-Orange	4 Yellow-Black	5 Yellow-Green	6 Yellow-Blue	7 Yellow-Violet	8 Yellow-Gray
1 Red-Brown	Left Outlane 11	Circle Lite Jackpot 21	Circle 250K 31	Skill Shot 50K 41	Left Loop 500K 51	Right Ramp 100K 61	Jackpot 8 Million 71	Backglass Hip 81
2 Red-Black	Left Return Lane 12	Circle Lite Billion 22	Circle 10 Million 32	Skill Shot 75K 42	Left Loop 100K 52	Right Ramp 500K 62	Jackpot 7 Million 72	Backglass Middle leg 82
3 Red-Orange	Right Return Lane 13	Circle Extra Ball 23	Circle 50 Million 33	Skill Shot 100K 43	Left Loop 50K 53	Right Ramp Million 63	Jackpot 6 Million 73	Backglass Knee 83
4 Red-Yellow	Right Outlane 14	Circle Lite Extra Ball 24	Circle Special 34	Skill Shot 200K 44	Left Loop 25K 54	Wire Ball Lock 64	Jackpot 5 Million 74	Backglass Foot 84
5 Red-Green	Left Standup 15	Circle 500K 25	Circle 5 Million 35	Skill Shot 25K 45	Right Loop 500K 55	Jet Enter 500K 65	Jackpot 4 Million 75	Backglass Shoulder 85
6 Red-Blue	Right Top Standup 16	Circle 100K 26	Circle 1 Million 36	Head Left Eye 46	Right Loop 100K 56	Jet Enter 100K 66	Jackpot 3 Million 76	Mini Playfield 100K 86
7 Red-Violet	Right Bottom Standup 17	Values Doubled 27	Space Shuttle 37	Head Right Eye 47	Right Loop 50K 57	Jet Enter 50K 67	Jackpot 2 Million 77	Mini Playfield 200K 87
8 Red-Gray	Shoot Again 18	Spin Small Wheel 28	Launch Pad 38	Head Mouth 48	Right Loop 25K 58	Jet Enter 25K 68	Jackpot 1 Million 78	Mini Playfield 300K 88

# THE MACHINE LAMP LOCATIONS

No.	Description	Bulb
11.	Left Outlane	555
12.	Left Return Lane	555
13.	Right Return Lane	555
14.	Right Outlane	555
15.	Left Standup	555
16.	Right Top Standup	555
17.	Right Bottom Standup	555
18.	Shoot Again	44
21.	Circle - Lite Jackpot	555
22.	Circle - Lite Billion	555
23.	Circle - Extra Ball	555
24.	Circle - Lite Extra Ball	555
25.	Circle - 50K	555
26.	Circle - 100K	555
27.	Circle - Values Doubled	555
28.	Spin Small Wheel	555
31.	Circle - 250K	555
32.	Circle - 10 Million	555
33.	Circle - 50 Million	555
34.	Circle - Special	555
35.	Circle - 5 Million	555
36.	Circle - 1 Million	555
37.	Space Shuttle Ramp	44
38.	Launch Pad	44
41.	Skill Shot 50K	555
42.	Skill Shot 75K	555
43.	Skill Shot 100K	555
44.	Skill Shot 200K	555
45.	Skill 25K	555
46.	Head - Left Eye	555
47.	Head - Right Eye	555
48.	Head - Mouth	555
51.	Left Loop - 500K	555
52.	Left Loop - 100K	555
53.	Left Loop - 50K	555
54.	Left Loop - 25K	555
55.	Right Loop - 500K	555
56.	Right Loop - 100K	555
57.	Right Loop - 50K	555
58.	Right Loop - 25K	555
61.	Right Ramp - Million	555
62.	Right Ramp - 500K	555
63.	Right Ramp - 100K	555
64.	Wire Ball Lock	44
65.	Jets Enter - 500K	555
66.	Jets Enter - 100K	555
67.	Jets Enter - 50K	555
68.	Jets Enter - 25K	555
71.	Jackpot - 8 Million (on insert)	555
72.	Jackpot - 7 Million (on insert)	555
73.	Jackpot - 6 Million (on insert)	555
74.	Jackpot - 5 Million (on insert)	555
75.	Jackpot - 4 Million (on insert)	555
76.	Jackpot - 3 Million (on insert)	555
77.	Jackpot - 2 Million (on insert)	555
78.	Jackpot - 1 Million (on insert)	555
81.	Backglass Hip (on insert)	555
82.	Backglass Middle Leg (on insert)	555
83.	Backglass Knee (on insert)	555
84.	Backglass Foot (on insert)	555
85.	Backglass Shoulder (on insert)	555
86.	Mini Playfield - 100K	555
87.	Mini Playfield - 200K	555
88.	Mini Playfield - 300K	555



# Switch Matrix



## THE MACHINE Switch Matrix

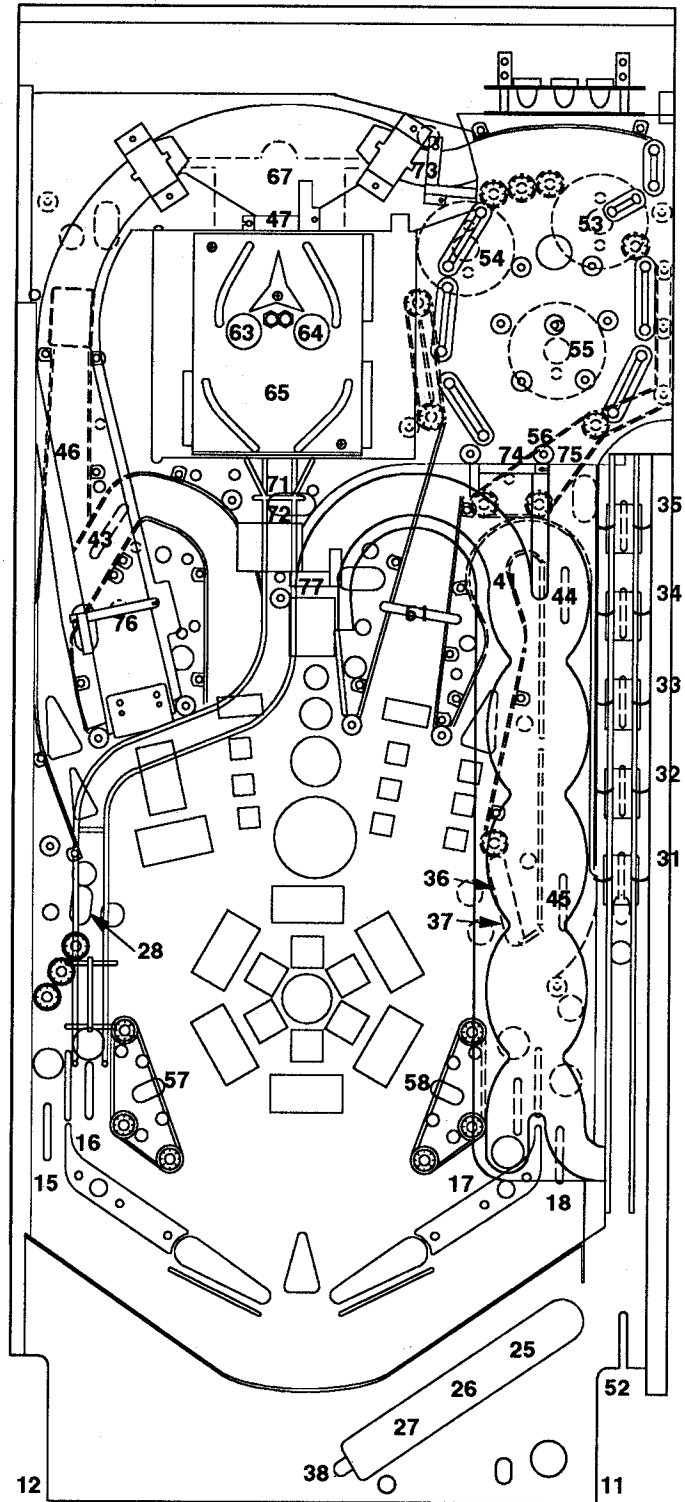
White Green

Dedicated Grounded Switches	Column		1	2	3	4	5	6	7	8
	Row		Green-Brown	Green-Red	Green-Orange	Green-Yellow	Green-Black	Green-Blue	Green-Violet	Green-Gray
Orange-Brown (1) Left Coin Chute	1	White-Brown	Right Flipper	Slam Tilt	Skill Shot 50K	Right Ramp Made	Spinner	Not Used	Wireform Top	
D1			11	21	31	41	51	61	71	81
Orange-Red (2) Center Coin Chute	2	White-Red	Left Flipper	Coin Door Closed	Skill Shot 75K	Not Used	Shooter	Not Used	Wireform Bottom	
D2			12	22	32	42	52	62	72	82
Orange-Black (3) Right Coin Chute	3	White-Orange	Start Button	Ticket Opto	Skill Shot 100K	Left Loop	Upper Right Jet Bumper	Head Left Eye	Enter Mini Playfield	
D3			13	23	33	43	53	63	73	83
Orange-Yellow (4) 4th Coin Chute	4	White-Yellow	Plumb Bob Tilt	Always Closed	Skill Shot 200K	Right Loop Top	Upper Left Jet Bumper	Head Right Eye	Mini Exit Left	
D4			14	24	34	44	54	64	74	84
Orange-Green (5) Normal Function   Test Function Service   Escape Credits	5	White-Green	Left Outlane	Right Trough	Skill Shot 25K	Right Loop Bottom	Lower Jet Bumper	Head Mouth	Mini Exit Right	
D5			15	25	35	45	55	65	75	85
Orange-Blue (6) Normal Function   Test Function Volume Down   Down	6	White-Blue	Left Flipper Lane	Center Trough	Right Top Standup	Under Playfield Kickback	Jet Bumper Sling	Not Used	Left Ramp Enter	
D6			16	26	36	46	56	66	76	86
Orange-Violet (7) Normal Function   Test Function Volume Up   Up	7	White-Violet	Right Flipper Lane	Left Trough	Right Bottom Standup	Enter Head	Left Slingshot	Face Position	Right Ramp Enter	
D7			17	27	37	47	57	67	77	87
Orange-Gray (8) Normal Function   Test Function Begin   Enter Test	8	White-Gray	Right Outlane	Left Standup	Outhole	Not Used	Right Slingshot	Not Used	Not Used	
D8			18	28	38	48	58	68	78	88



# THE MACHINE SWITCH LOCATIONS

Item	Part Number	Description
11	A-9990-1	Right Flipper
12	A-9990-1	Left Flipper
13	SW-1A-126	Game Start
14	20-6502-A	Plum Bob Tilt
15	5647-12693-19	Left Outlane
16	5647-12693-19	Left Flipper Lane
17	5647-12693-19	Right Flipper Lane
18	5647-12693-19	Right Outlane
21	27-1066	Slam Tilt
22	A-8630	Coin Door Closed
23	Not Used	Ticket Opto.
24	A-8630	Always Closed
25	5647-12693-08	Right Trough
26	5647-09957-00	Center Trough
27	5647-09957-00	Left Trough
28	B-11854-4	Left Standup
31	5647-12693-46	Skill Shot 50K
32	5647-12693-19	Skill Shot 75K
33	5647-12693-19	Skill Shot 100K
34	5647-12693-19	Skill Shot 200K
35	5647-12693-19	Skill Shot 25K
36	B-11854-4	Right Top Standup
37	B-11854-4	Right Bottom Standup
38	5647-12133-12	Outhole
41	5647-12693-21	Right Ramp Made
42	Not Used	Not Used
43	5647-12693-19	Left Loop
44	5647-12693-18	Right Loop Top
45	5647-12693-18	Right Loop Bottom
46	5647-12693-25	Under Playfield Kicker
47	5647-12693-36	Enter Head
48	Not Used	Not Used
51	5647-12133-08	Spinner
52	5647-12693-04	Shooter Lane Feeder
53	SW-11A-37	Upper Right Jet Bumper
54	SW-11A-37	Upper Left Jet Bumper
55	SW-11A-37	Lower Jet Bumper
56	SW-1A-114	Jet Bumper Sling Kicker
57	SW-1A-114	B. L. Kicker (Sling)***
58	SW-1A-114	B. R. Kicker (Sling)***
61	Not Used	Not Used
62	Not Used	Not Used
63	5647-12693-47	Head - Left Eye
64	5647-12693-48	Head - Right Eye
65	5647-12693-39	Head - Mouth
66	Not Used	Not Used
67	5647-12693-06	Face Position
68	Not Used	Not Used
71	5647-12693-21	Wireform Top
72	5647-12693-21	Wireform Bottom
73	5647-12693-36	Enter Mini Playfield
74	5647-12693-36	Exit Mini Playfield Left
75	5647-12693-21	Exit Mini Playfield Right
76	5647-12693-36	Left Ramp Enter
77	5647-12693-21	Right Ramp Enter
78	Not Used	Not Used



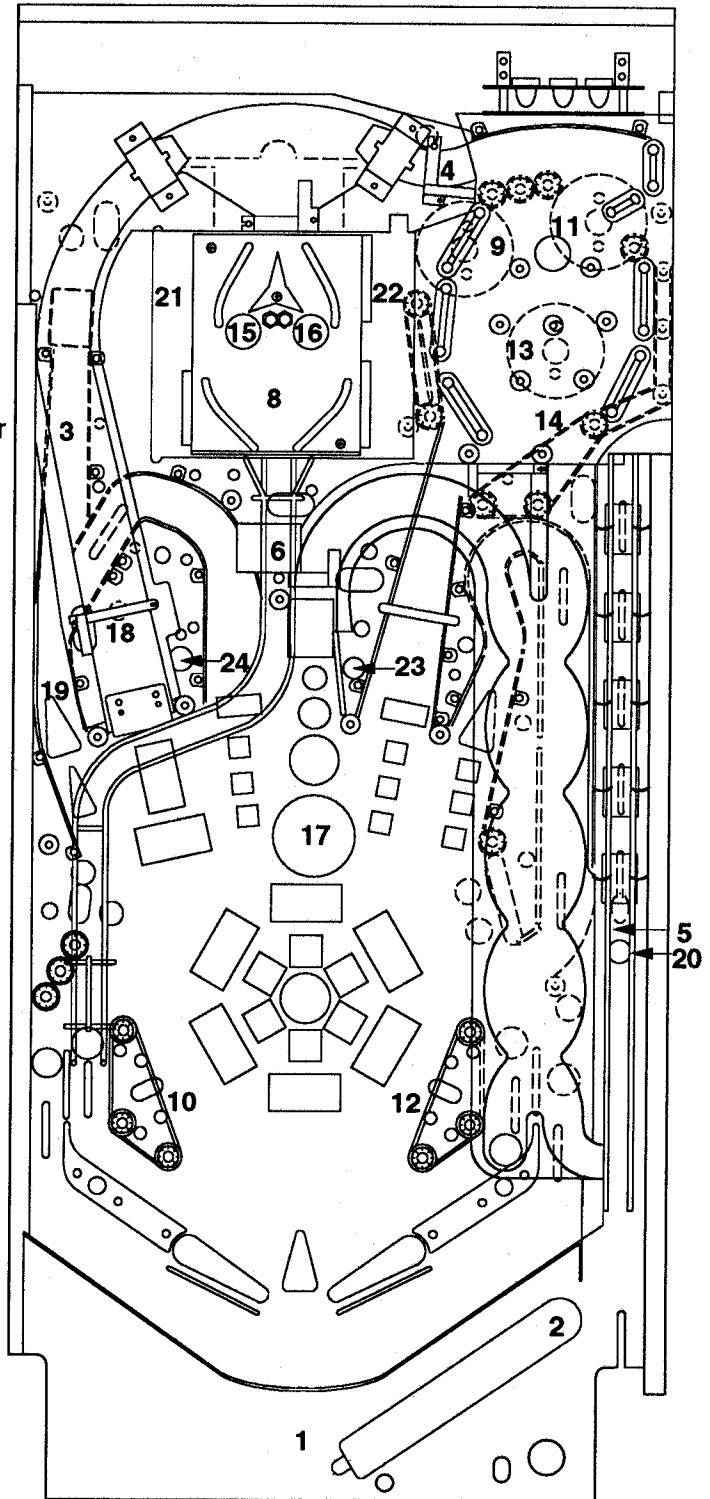
# Solenoid Table

## THE MACHINE Solenoid Table

Sol. No.	Function	Solenoid Type	Wire Color	Connections	Driver Trnstr	Solenoid Part Number Flashlamp Type
01	Outhole	High Power	Vio-Brn	J130-1	Q82	AE-27-1200
02	Ball Release	High Power	Vio-Red	J130-2	Q80	AE-26-1200
03	Under Playfield Kicker	High Power	Vio-Orn	J130-4	Q78	AE-23-800
04	Controlled Gate	High Power	Vio-Yel	J130-5	Q76	A-14406
05	Skill Shot Kicker	High Power	Vio-Grn	J130-6	Q64	AE-24-900
06	Wire Ball Holder	High Power	Vio-Blu	J130-7	Q66	AE-26-1200
07	Knocker	High Power	Vio-Blk	J130-8	Q68	AE-23-800
08	Head Mouth	High Power	Vio-Gry	J130-9	Q70	AE-30-2000
09	Upper Left Jet Bumper	Low Power	Brn-Blk	J127-1	Q58	AE-26-1200
10	Left (sling) Kicker	Low Power	Brn-Red	J127-3	Q56	AE-26-1500
11	Upper Right Jet Bumper	Low Power	Brn-Orn	J127-4	Q54	AE-26-1200
12	Right (sling) Kicker	Low Power	Brn-Yel	J127-5	Q52	AE-26-1500
13	Lower Jet Bumper	Low Power	Brn-Grn	J127-6	Q50	AE-26-1200
14	Jets Sling	Low Power	Brn-Blu	J127-7	Q48	AE-26-1500
15	Head - Left Eye	Low Power	Brn-Vio	J127-8	Q46	AE-30-2000
16	Head - Right Eye	Low Power	Brn-Gry	J127-9	Q44	AE-30-2000
17	Billion Flasher	Flasher	Blk-Brn	J125-1 J125-2	Q42	#89 pflid
18	Left Ramp Flasher	Flasher	Blk-Red	J126-2 J125-3	Q40	#89 pflid, #906 Insert
19	Jackpot Flasher	Flasher	Blk-Orn	J126-3	Q38	#89 pflid, #906 Insert
20	Skill Shot Flasher	Flasher	Blk-Yel	J126-4 J125-6	Q36	#89 pflid
21	Left Helmet Flasher	Flasher	Blu-Grn	J126-6 J125-7	Q28	#555 pflid, #906 Insert
22	Right Helmet Flasher	Flasher	Blu-Blk	J126-7 J125-8	Q30	#555 pflid, #906 Insert
23	Jets Enter Flash	Flasher	Blu-Vio	J126-8 J125-9	Q34	#555 pflid, #906 Insert
24	Left Loop Flash	Flasher	Blu-Gry	J126-9	Q32	#555 pflid, #906 Insert
25	Helmet Lights Data Port	Special	Blu-Brn	J122-1	Q26	
26	Helmet Light Clock Port	Special	Blu-Red	J122-2	Q24	A-14423-1
27	Motor Relay	Special	Blu-Orn	J122-3	Q22	A-14119
28	Head Motor	Special	Blu-Yel	J122-4	Q20	
<b>General Illumination Circuits</b>						
01	Backglass Body	G.I.	Wht-Brn	J121-7	Q18	#555
02	Used In Helmet	G.I.	Wht-Org	J120-8	Q10	#555
03	Rear Playfield	G.I.	Wht-Yel	J120-9	Q14	#555
04	Backglass - No Body	G.I.	Wht-Grn	J121-11	Q16	#555
05	Front Playfield	G.I.	Wht-Vio	J120-11	Q12	#555
	Lower Right Flipper		Blu-Yel	J109-7		FL-11630
	Lower Left Flipper		Gry-Yel	J109-5		FL-11630

# THE MACHINE SOLENOID LOCATIONS

Item	Part Number	Description
01	AE-27-1200	Outhole Kicker
02	AE-26-1200	Ball Release
03	AE-23-800	Under Playfield Kicker
04	A-14406	Controlled Gate
05	AE-24-900	Skill Shot Kicker
06	AE-26-1200	Wire Ball Holder
07	AE-23-800	Knocker
08	AE-30-2000	Head - Mouth
09	AE-26-1200	Upper Left Jet Bumper
10	AE-26-1500	Left ("Sling") Kicker
11	AE-26-1200	Upper Right Jet Bumper
12	AE-26-1500	Left ("Sling") Kicker
13	AE-26-1200	Lower Middle Jet Bumper
14	AE-26-1500	Jets ("Sling") Kicker
15	AE-30-2000	Head - Left Eye
16	AE-30-2000	Head - Right Eye
17	#89PL	Billion Flasher
18	#89PL, #906In	Left Ramp Flash
19	#89PL, #906In	Jackpot Flasher
20	#89PL	Skill Shot Flasher
21	#89PL, #906In	Left Helmet Flasher
22	#89PL, #906In	Right Helmet Flasher
23	#89PL, #906In	Jets Enter Flash
24	#89PL, #906In	Left Loop Flash
25		Helmet Lights Data Port
26		Helmet Light Clock Port
27	A-14423-1	Motor Relay
28	A-14119	Head Motor



## Playfield Parts

Item	Part Number	Description	Item	Part Number	Description
1	C-13174-R	Right Flipper	33	A-14339	Ball Guide Assy.
2	A-8108-R-2	Right Flipper Ball Guide Assy.	34	A-14333	Ball Guide Assy.
3	C-13174-L	Left Flipper	35	A-14334	Ball Guide Assy.
4	A-8108-L-2	Left Flipper Ball Guide Assy.	36	A-14336	Ball Guide Assy.
5	B-12665	Right "sling" Kicker	37	A-14335	Ball Guide Assy.
6	B-12665	Left "sling" Kicker	38	12-6959	Ball Guide Wire
7	12-6466-8	Wireform 2"	39	A-14451	Lamp Assy.
8	A-14359	Right Ramp Assy.	40	A-14126	Roller Assy.
a)	A-14281	Gate & Switch Assy.	41	A-14319	Loop Assembly
b)	A-14361	Ramp Switch Assy.	42	A-14323	Kicker Assembly
c)	03-8513	Right Ramp	43	B-11395-1	Metal Kicker Assembly
d)	01-10007	Ramp Flap	44	A-14007	Chase Light Assembly
e)	20-9646-1	Switch Protective Cover - Blk.	45	A-14046	Disappear Post Assy.
9	12-6957	Right Wire Ramp (Skill)	46	A-13892-2	Motor Regulator
10	A-14609	One Way Gate	47	B-12665	Kicker Arm Assy.
11	B-12586	Spinner (target assy.)	48	Parts below are located beneath Bottom Arch:	
12	A-14358	Mini Playfield Assy.	a)	B-8623	Upper Trough Baffle Assembly
f)	31-1625	Screened Mini Playfield	b)	C-8235	Lower Trough Baffle Assembly
g)	01-10126	Shield - Right Side of Head	c)	12-6542	Trough Baffle Wire
h)	03-8044-9	Mini Post TR - Red	d)	01-3569-1	Ball Trough (runway)
i)	A-14318	Ball Guide Assy.	e)	01-5575	Bottom Arch Mounting Bracket
13	A-14118	Face Assy.	f)	B-8039-2	Outhole Kicker Assembly
j)	A-14119	Motor Assy.	g)	C-9638	Shooter Lane Feeder
k)	A-14120	Main Bracket Assy.			
l)	A-14025	Face Lamp Assy.			
14	A-14362	Left Ramp Assy.			
m)	20-9672	Switch Protective Cover			
n)	03-8512	Left Main Ramp			
o)	01-9848	Ramp Flap			
p)	12-6657-L	Ball Gate Wireform - L			
q)	A-12511	Ball Gate Assy.			
r)	A-14042	Ball Gate & Switch Assy.			
s)	A-14363	Gate Assy.			
15	A-14357	Wire Chute Assy.			
t)	12-6947	Ramp - Ball Return			
u)	A-14449	Cover & Socket Assy.			
v)	5647-12693-21	Switch - Sub Mini Micro			
16	12-6959	Ball Guide Wire			
17	03-8514	Cover - Lamp Board & Skill Shot			
18	A-14367	Lamp Board & Brkt. Assy.			
19	A-14372	Ball Gate Assy.			
20	B-9414-1	Jet Bumper (blue)			
21	03-8254-9	Red Bumper Cap			
22	B-11854-4	Standup Target Assy. (red)			
23	12-6466-2	1/2" Wireform			
24	12-6466-22	5 1/2" Wireform			
25	A-14341	Ball Guide Assy.			
26	A-14329	Ball Guide Assy. (right)			
27	A-14327	Ball Guide Assy. (left)			
28	A-14340	Ball Guide Assy.			
29	A-14338	Ball Guide Assy.			
30	A-14337	Ball Guide Assy.			
31	12-6466-10	2 1/2" Wireform			
32	A-14320	Loop Ball Gde. Assy -under pfd			

# THE MACHINE PLAYFIELD PART LOCATIONS

