

JANUARY 1997
16-10316

JUNK YARD

Operators Handbook

WILLIAMS ELECTRONICS GAMES, INC.
3401 N. CALIFORNIA
CHICAGO, IL 60618

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MENU SYSTEM OPERATION

The Main Menu allows you to choose from several options, which in turn lead to other menus to choose from. To access the Main Menu open the coin door, press the Begin Test button, then the Enter button. Press the Up and Down buttons to scroll through the Main Menu. To access a menu, (Bookkeeping, Printouts, etc.), from the Main Menu, press the Enter button. To return to the Main Menu (from Bookkeeping, Printouts, etc.) press the Escape button. Press the Start button for HELP.

MAIN MENU

B. BOOKKEEPING MENU		
	B.1 Main Audits	<u>Press Escape</u>
	B.2 Earning Audits	To move out of a menu selection.
	B.3 Standard Audits	
	B.4 Feature Audits	<u>Press Enter</u>
	B.5 Histograms	To get into a menu selection.
	B.6 Time-Stamps	
P. PRINTOUTS MENU		
	P.1 Earnings Data	<u>Press Up</u>
	P.2 Main Audits	Increases sequence; Example A.1, A.2, A.3, A.4.
	P.3 Standard Audits	
	P.4 Feature Audits	<u>Press Down</u>
	P.5 Score Histograms	Decreases sequence; Example A.4, A.3, A.2, A.1.
	P.6 Time Histograms	
	P.7 Time-Stamps	Use Up or Down to cycle through the
	P.8 All Data	selections in a menu.
T. TEST MENU		
	T.1 Switch Edges Test	
	T.2 Switch Levels Test	
	T.3 Single Switches Test	
	T.4 Solenoid Test	
	T.5 Flasher Test	
	T.6 General Illumination Test	
	T.7 Sound and Music Test	
	T.8 Single Lamp Test	
	T.9 All Lamps Test	
	T.10 Lamp and Flasher Test	
	T.11 Display Test	
	T.12 Flipper Coil Test	
	T.13 Ordered Lamps Test	
	T.14 Lamp Row-Col.	
	T.15 DIP Switch Test	
	T.16 Empty Balls Test	
U. UTILITIES MENU		
	U.1 Clear Audits	
	U.2 Clear Coins	
	U.3 Reset H.S.T.D.	
	U.4 Set Time and Date	
	U.5 Custom Message	
	U.6 Set Game I.D.	
	U.7 Factory Adjustments	
	U.8 Factory Resets	
	U.9 Presets	
	U.10 Clear Credits	
	U.11 Auto Burn-in	
A. ADJUSTMENT MENU		
	A.1 Standard Adjustments	
	A.2 Feature Adjustments	
	A.3 Pricing Adjustments	
	A.4 H.S.T.D. Adjustments	
	A.5 Printer Adjustments	

LAMP MATRIX

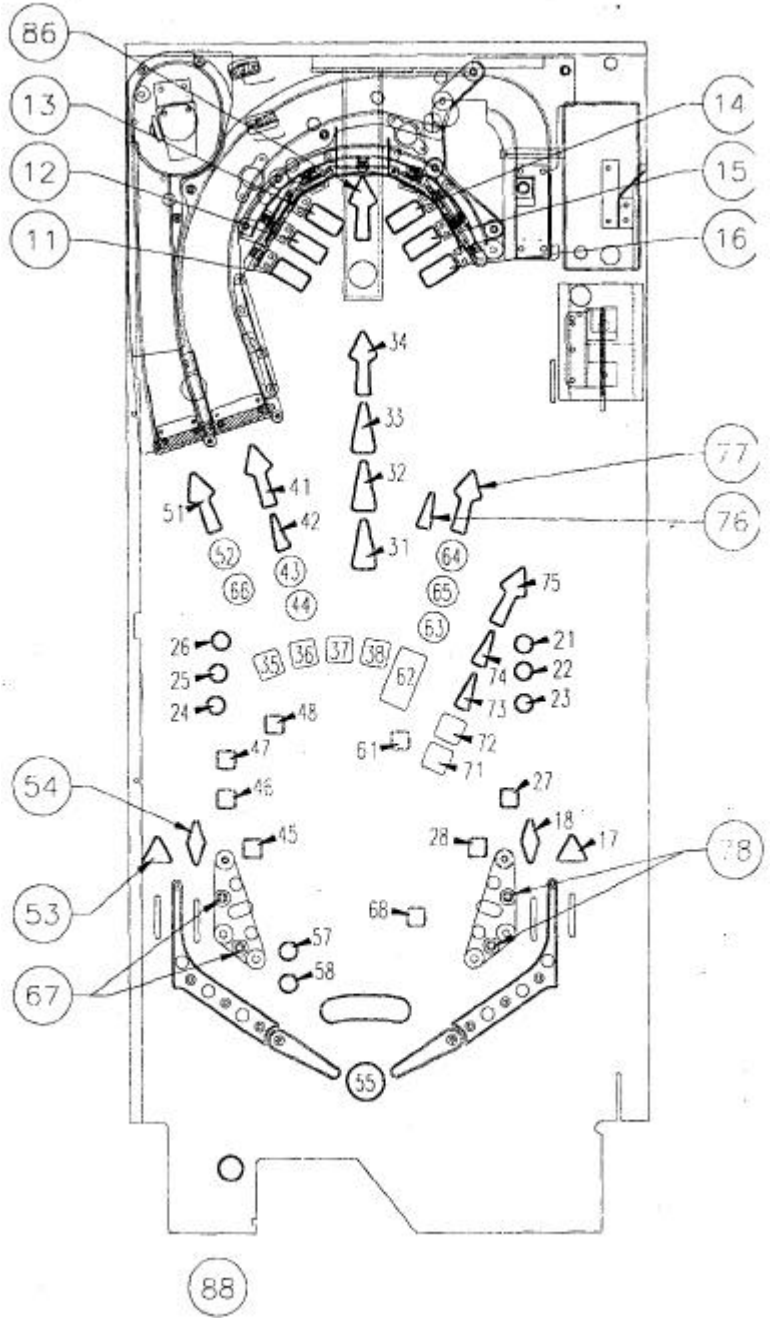
Yellow (B+)  Red

Column \ Row	1 Yellow-Brown J121-1 Q96	2 Yellow-Red J121-2 Q100	3 Yellow-Orange J121-3 Q95	4 Yellow-Black J121-4 Q99	5 Yellow-Green J121-5 Q94	6 Yellow-Blue J121-6 Q98	7 Yellow-Violet J121-7 Q93	8 Yellow-Gray J121-9 Q97
1 Red-Brown J125-1 Q104	TOP LEFT BANK BOTTOM 11	RIGHT 3 BANK TOP 21	JACKPOT 31	GEN. BUS 41	GEN. TOILET 51	PROPELLER 61	TIME MACHINE 71	FIREWORKS 81
2 Red-Black J125-2 Q108	TOP LEFT BANK MIDDLE 12	RIGHT 3 BANK MIDDLE 22	SUPER JACKPOT 32	TOAST 42	WINDOW SHOPPING 52	OUTER SPACE 62	START ADVENTURE 72	TOXIC WASTE 82
3 Red-Orange J125-4 Q103	TOP LEFT BANK TOP 13	RIGHT 3 BANK BOTTOM 23	MULTIBALL 33	MAGIC BUS 43	LEFT RECYCLE 53	DO(G) 63	EXTRA BALL 73	LIGHT EXTRA BALL 83
4 Red-Yellow J125-5 Q107	TOP RIGHT BANK TOP 14	LEFT BANK BOTTOM 24	WRECKING BALL 34	COLLECT JUNK 44	LEFT CRANE H. U. 54	(D)OG 64	TOAST 74	FREE GAME 84
5 Red-Green J125-6 Q102	TOP RIGHT BANK MIDDLE 15	LEFT BANK MIDDLE 25	RADAR ADVENTURE 35	COO COO CLOCK 45	SHOOT AGAIN 55	D(O)G 65	GEN. SEWER 75	LIGHT JACKPOT 85
6 Red-Blue J125-7 Q106	TOP RIGHT BANK BOTTOM 16	LEFT BANK TOP 26	JALOPY RACE 36	TELEVISION 46	NOT USED 56	CHOOSE JUNK 66	TOASTER GUN 76	GEN. CRANE 86
7 Red-Violet J125-8 Q101	RIGHT RECYCLE 17	FAN 27	TOILET ADVENTURE 37	WEATHER VANE 47	TOASTER 57	ANGEL SLING 67	GEN. ALLEY 77	NOT USED 87
8 Red-Gray J125-9 Q105	RIGHT CRANE H. U. 18	BATH TUB 28	A.T.C. ADVENTURE 38	FISH BOWL 48	HAIR DRYER 58	BICYCLES 68	DEVIL SLING 78	START BUTTON 88

J1XX = Power Driver Board

Lamp Locations

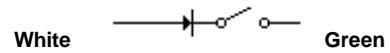
Item No.	Bulb No.	Lamp Assy No.	Description
11	24-8768	A-21322	Top Left Bank Bottom
12	24-8768	A-21322	Top Left Bank Middle
13	24-8768	A-21322	Top Left Bank Top
14	24-8768	A-21322	Top Right Bank Top
15	24-8768	A-21322	Top Right Bank Middle
16	24-8768	A-21322	Top Right Bank Bottom
17	24-6549	A-17835	Right Recycle
18	24-6549	A-17835	Right Crane H.U.
21	24-8768	A-21322	Right 3-Bank Top
22	24-8768	A-21322	Right 3-Bank Middle
23	24-8768	A-21322	Right 3-Bank Bottom
24	24-8768	A-21322	Left Bank Bottom
25	24-8768	A-21322	Left Bank Middle
26	24-8768	A-21322	Left Bank Top
27	24-6549	A-17835	Fan
28	24-6549	A-17835	Bath Tub
31	24-8768	A-21323	Jackpot
32	24-8768	A-21323	Super Jackpot
33	24-8788	A-21323	Multiball
34	24-8768	A-21323	Wrecking Ball
35	24-8768	A-21321	Radar Adventure
36	24-8768	A-21321	Jalopy Race
37	24-8768	A-21321	Toilet Adventure
38	24-8768	A-21321	A.T.C.Adventure
41	24-8768	A-21320	Gen. Bus
42	24-8768	A-21320	Toast
43	24-8768	A-21320	Magic Bus
44	24-6549	A-17807	Collect Junk
45	24-8768	A-21324	Coo Coo Clock
46	24-8768	A-21324	Television
47	24-8768	A-21324	Weather Vane
48	24-8768	A-21324	Fish Bowl
51	24-8768	A-21320	Gen. Toilet
52	24-8768	A-21320	Window Shopping
53	24-6549	A-17835	Left Recycle
54	24-6549	A-17835	Left Crane H.U.
55	24-6549	A-17807	Shoot Again
56			Not Used
57	24-6549	A-17835	Toaster
58	24-6549	A-17835	Hair Dryer
61	24-8768	A-21319	Propeller
62	24-8768	A-21319	Outer Space
63	24-8768	A-21319	DO(G)
64	24-8768	A-21319	(D)OG
65	24-8768	A-21319	D(O)G
66	24-8768	A-21320	Choose Junk
67	24-6549	04-10514	Angel Slingshot (2 Bulbs)
68	24-6549	A-17835	Bicycles
71	24-8768	A-21319	Time Machine
72	24-8768	A-21319	Start Adventure
73	24-8768	A-21319	Extra Ball
74	24-8768	A-21319	Toast
75	24-8768	A-21319	Gen. Sewer
76	24-6549	A-17807	Toaster Gun
77	24-6549	A-17807	Gen. Alley
78	24-6549	04-10514	Devil Slingshot (2 Bulbs)
81	24-8768	-----	*Fireworks
82	24-8768	-----	*Toxic Waste
83	24-8768	-----	*Light Extra Ball
84	24-8768	-----	*Free Game
85	24-8768	-----	*Light Jackpot
86	24-6549	A-17835	*Gen. Crane
87			Not Used
88	-----	20-9663-1 6	Start Button



*These lamps are located on the insert panel.

24-6549 = #44 Bulb 24-8768 = #555

SWITCH MATRIX

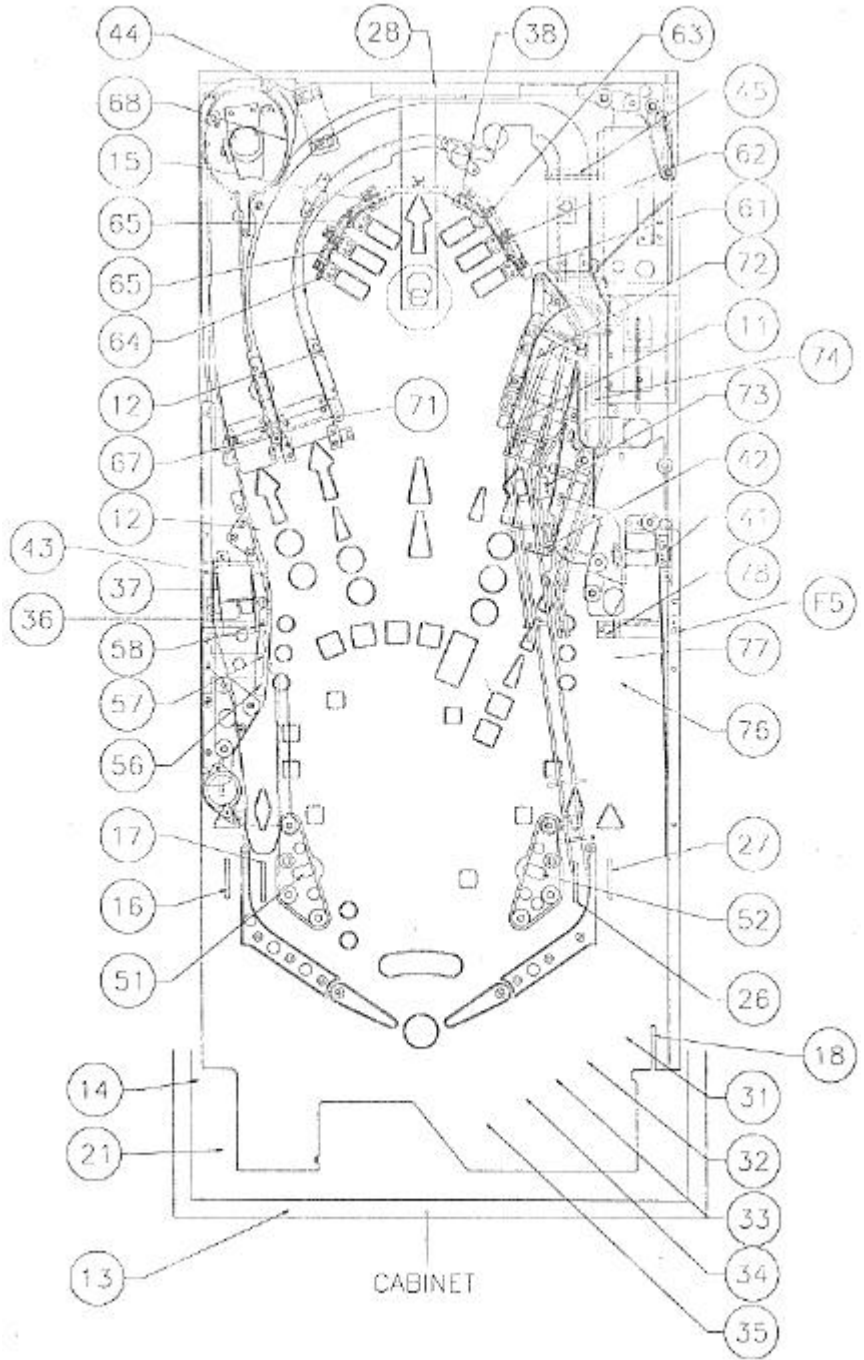


Dedicated Grounded Switches	Column	1	2	3	4	5	6	7	8	Flipper Grounded Switches
	Row	Green-Brown J206-1 U20-18	Green-Red J206-2 U20-17	Green-Orange J206-3 U20-16	Green-Yellow J206-4 U20-15	Green-Black J206-5 U20-14	Green-Blue J206-6 U20-13	Green-Violet J206-7 U20-12	Green-Gray J206-9 U20-11	
Orange-Brown J205-1 Left Coin Chute U17-5 D1	1 White-Brown J208-1 U18-11	TOASTER GUN 11	SLAM TILT 21	TROUGH EJECT 31	PAST SPINNER 41	LEFT SLING 51	UPPER RIGHT 3 BANK BOTTOM 61	RAMP ENTRY 71	NOT USED 81	Black-Green J208-13 Lower Right Flipper E.O.S. F1
Orange-Red J205-2 Center Coin Chute U17-7 D2	2 White-Red J208-2 U18-9	REBOUND SWITCH 12	COIN DOOR CLOSED 22	TROUGH BALL 1 32	IN THE SEWER 42	RIGHT SLING 52	UPPER RIGHT 3 BANK MIDDLE 62	SCOOP DOWN 72	NOT USED 82	Blue-Violet J212-12 Lower Right Flipper Opto F2
Orange-Black J205-3 Right Coin Chute U17-11 D3	3 White-Orange J2083 U18-5	START BUTTON 13	NOT USED 23	TROUGH BALL 2 33	LOCK JAM 43	CAR TARGET 4 53	UPPER RIGHT 3 BANK TOP 63	SCOOP MADE 73	NOT USED 83	Black-Blue J208-12 Lower left Flipper E.O.S. F3
Orange-Yellow J205-4 4th Coin Chute U17-9 D4	4 White-Yellow J208-4 U18-7	PLUMB BOB TILT 14	ALWAYS CLOSED 24	TROUGH BALL 3 34	PAST CRANE 44	CAR TARGET 5 (RIGHT) 54	UPPER LEFT 3 BANK BOTTOM 64	DOG ENTRY 74	NOT USED 84	Blue-Gray J212-11 Lower Left Flipper Opto F4
Orange-Green J205-6 U16-9 Normal Test Function Function Srv Crdts Escape D5	5 White-Green J208-5 U19-11	TOP LEFT CRANE 15	NOT USED 25	TROUGH BALL 4 35	RAMP EXIT 45	NOT USED 55	UPPER LEFT 3 BANK MIDDLE 65	NOT USED 75	NOT USED 85	Black-Violet J208-11 SPINNER F5
Orange-Blue J205-7 U16-11 Normal Test Function Function Volume Dn Down D6	6 White-Blue J208-7 U19-9	LEFT OUTLANE 16	RIGHT RETURN LANE 26	LOCK UP 2 36	CAR TARGET 1 (LEFT) 46	LOWER LEFT 3 BANK BOTTOM 56	UPPER LEFT 3 BANK TOP 66	RIGHT 3 BANK BOTTOM 76	NOT USED 86	Black-Yellow J212-10 Upper Right Flipper Opto F6
Orange-Violet J205-8 U16-7 Normal Test Function Function Volume Up Up D7	7 White-Violet J208-8 U19-5	LEFT RETURN LANE 17	RIGHT OUTLANE 27	LOCK UP 1 37	CAR TARGET 2 47	LOWER LEFT 3 BANK MIDDLE 57	BOWL ENTRY 67	RIGHT 3 BANK MIDDLE 77	NOT USED 87	Black-Gray J208-10 Upper Left Flipper E.O.S. F7
Orange-Gray J205-9 U16-5 Normal Test Function Function Begin Test Enter D8	8 White-Gray J208-9 U19-7	SHOOTER LANE 18	CRANE DOWN 28	TOP RIGHT CRANE 38	CAR TARGET 3 48	LOWER LEFT 3 BANK TOP 58	BOWL EXIT 68	RIGHT 3 BANK TOP 78	NOT USED 88	Black-Blue J212-9 Upper Left Flipper Opto F8

J2XX = CPU BOARD = OPTO, TYPICALLY CLOSE

SWITCH LOCATIONS

Item No.	Switch No.	Description
F7	SW-1A-194	Lower Right Flipper E.O.S.
F2	A-17316	Lower Right Flipper Cabinet
F3	SW-1A-194	Lower Left Flipper E.O.S.
F4	A-17316	Lower Left Flipper Cabinet
F5	5647-12693-24	Spinner
F6	Not Used	Upper Right Flipper Cabinet
F7	Not Used	Upper Left Flipper E.O.S.
F8	Not Used	Upper Left Flipper Cabinet
11	A-18530-6	Toaster Gun
12	A-17794 (2)	Rebound Switch
13	20-9663-16	Start Button
14	04-10346	Plumb Bob
15	A-18530-4	Top Left Crane
16	5647-12693-19	Left Outlane
17	5647-12693-19	Left Return lane
18	5647-12693-65	Shooter Lane
21	A-17238	Slam Tilt
22	5643-09268-00	Coin Door Closed*
23	Not Used	Not Used
24	5643-15190-00	Always Closed*
25	Not Used	Not Used
26	5647-12693-19	Right Return Lane
27	5647-12693-19	Right Outlane
28	5647-12693-31	Crane Down
31	A-18617-1 (LED)	Trough Eject
	A-18618-1 (PHOTO TRANS)	
32	A-18617-1 (LED)	Trough Ball 1
	A-18618-1 (PHOTO TRANS)	
33	A-18617-1 (LED)	Trough Ball 2
	A-18618-1 (PHOTO TRANS)	
34	A-18617-1 (LED)	Trough Ball 3
	A-18618-1 (PHOTO TRANS)	
35	A-18617-1 (LED)	Trough Ball 4
	A-18618-1 (PHOTO TRANS)	
36	A-16908 (LED)	Lock Up 2
	A-16909 (PHOTO TRANS)	
37	A-16908 (LED)	Lock Up 1
	A-16909 (PHOTO TRANS)	
38	A-18530-4	Top Right Crane
41	A-16908 (LED)	Past Spinner
	A-16909 (PHOTO TRANS)	
42	A-16908 (LED)	In The Sewer
	A-16909 (PHOTO TRANS)	
43	A-16908 (LED)	Lock Jam
	A-16909 (PHOTO TRANS)	
44	A-16908 (LED)	Past Crane
	A-16909 (PHOTO TRANS)	
45	A-12556	Ramp Exit
46	SW-1A-210-1	Car Target 1 (Left) ***
47	SW-1A-210-2	Car Target 2 ***
48	SW-1A-210-3	Car Target 3 ***
51	A-17800 (KICK)	Left Slingshot (Angel)
	A-17794 (SCORE)	
52	A-17800 (KICK)	Right Slingshot (Devil)
	A-17794 (SCORE)	
53	SW-1A-210-4	Car Target 4 ***
54	SW-1A-210-5	Car Target 5 (Right) ***
55	Not Used	Not Used
56	A-21349-1	Lower Left 3-Bank Bottom
57	A-21349-1	Lower Left 3-Bank Middle
58	A-21349-1	Lower Left 3-Bank Top
61	A-21351-1	Upper Right 3-Bank Bottom
62	A-21351-2	Upper Right 3-Bank Middle
63	A-21351-3	Upper Right 3-Bank Top
64	A-21351-4	Upper Left 3-Bank Bottom
65	A-21351-5	Upper Left 3-Bank Middle
66	A-21351-6	Upper L.R 3-Bank Top
67	5647-12693-36	Bowl Entry
68	5647-12693-21	Bowl Exit
71	5647-12693-21	Ramp Entry
72	5647-12693-36	Scoop Down
73	5647-12693-21	Scoop Made
74	5647-12693-19	Dog Entry
75	Not Used	Not Used
76	A-21349-1	Right 3-Bank Bottom
77	A-21349-1	Right 3-Bank Middle
78	A-21349-1	Right 3-Bank Top
81 to 88	Not Used	Not Used



*NOT SHOWN. **SCORE SWITCHES HAVE DIODES ATTACHED.
 ***ABOVE CRANE

SOLENOID/FLASHER TABLE

Sol No.	Function	Solenoid Type	Voltage Connections			Drive Xistor	Drive Connection			Drive Wire Color	Solenoid Part Number	
			Playfield	Backbox	Cabinet		Playfield	Backbox	Cabinet		Flashlamp Type	Playfield
01	AUTO PLUNGER	High Power	J133-2			Q72	J116-1			VIO-BRN	AE-23-800	
02	REFRIGERATOR POPPER	High Power	J133-2			Q68	J116-2			VIO-RED	AF-23-800	
03	POWER CRANE	High Power	J133-2			Q71	J116-4			VIO-ORG	A-20099	
04	NOT USED	High Power				Q67				VIO-YEL		
05	SCOOP DOWN	High Power	J133-2			Q70	J116-6			VIO-GRN	SM1-28-900	
06	BUS DIVERTER	High Power	J133-2			Q66	J116-7			VIO-BLU	AE-26-1200	
07	KNOCKER	High Power		J133-2		Q69		J116-8		VIO-BLK		AE-23-800
08	NOT USED	High Power				Q65	J116-9			VIO-GRY		
09	TROUGH	Low Power	J133-3			Q44	J113-1			BRN BLK	AE-26-1500	
10	LEFT SLINGSHOT	Low Power	J133-3			Q48	J113-3			BRN-RED	AE-26-1200	
11	RIGHT SLINGSHOT	Low Power	J133-3			Q43	J113-4			BRN-ORG	AE-26-1200	
12	NOT USED	Low Power				Q47				BRN-YEL		
13	NOT USED	Low Power				Q42				BRN-GRN		
14	NOT USED	Low Power				Q46				BRN-BLU		
15	HOLD CRANE	Low Power	J133-2			Q41	J113-8			BRN-VIO	A-20099	
16	MOVE DOG	Low Power	J133-3			Q45	J113-9			BRN-GRY	AE-26-1200	
17	DOG FACE FLASHER	Flasher	J133-6			Q28	J111-1			BLK-BRN	#906 (1)	
18	WINDOW SHOP FLSHR	Flasher	J133-6			Q32		J112-2		BLK-RED		#906 (1)
19	AUTOFIRE FLASHERS	Flasher	J133-6			Q27	J111-3			BLK-ORG	#89 (2)	
20	LEFT SIDE FLASHERS	Flasher	J133-6			Q31	J111-4	J112-5		BLK-YEL	#906 (1)	#906 (1)
21	SCOOP UP**	Low Power	J133-3			Q26	J111-5			BLU-GRN	AE-26-1200	
22	UNDER CRANE FLSHR	Flasher	J133-6			Q30	J111-6			BLU-BLK	#906 (1)	
23	BACK LEFT FLASHERS	Flasher	J133-6			Q25	J111-7	J112-8		BLU-VIO	#906 (1)	#906 (1)
24	BACK RIGHT FLASHERS	Flasher	J133-6			Q29	J111-8	J112-9		BLU-GRY	#906 (1)	#906 (1)
25	SHOOTER FLASHER	Gen. Purpose	J133-6			Q16	J109-1			BLU-BRN	#906 (1)	
26	SCOOP FLASHERS	Gen. Purpose	J133-6			Q15	J109-2	J108-3		BLU-RED	#906 (1)	#906 (1)
27	DOG HOUSE FLASHER	Gen. Purpose	J133-6			Q14	J109-3			BLU-ORG	#89 (1)	
28	CARS FLASHERS	Gen. Purpose	J133-6			Q13	J109-4			BLU-YEL	#89 (2)	
General Illumination												
01	PLAYFIELD STRING 1	G.I.	J105-1			Q5	J105-7			WHT-BRN	#44	
02	PLAYFIELD STRING 2	G.I.	J105-2			Q4	J105-8			WHT-ORG	#44	
03	LOGG STRING 3	G.I.		J106-3		Q3		J106-9		WHT-YEL		#555
04	*ILLUMINATION STRING 4	G.I.		J106-5		Q2		J106-10		WHT-GRN		#555
05	*ILLUMINATION STRING 5	G.I.		J106-6	J104-3	Q1		J106-11	J104-1	WHT-VIO		#555
Flipper Circuits												
Sol No.	Function	Voltage Connection	Drive Transistors		Drive Connection.		Drive Colors		Wire Coil Part No.	Coil Colors		
			Playfield	Power	Playfield	Power	Playfield	Power				
29		Lwr. Rt. Power	119-1 (RED-GRN)	Q90		J120-13	YEL-GRN		FL-11629	BLUE		
30	LOWER RIGHT FLIPPER	Lwr. Rt. Hold	119-1 (RED-GRN)	Q92		J120-11	ORG-GRN					
31		Lwr. Lt. Power	119-4 (RED-BLU)	Q87		J120-9	YEL-BLU		FL-11629	BLUE		
32	LOWER LEFT FLIPPER	Lwr. Lt. Hold	119-4 (RED-BLU)	Q89		J120-7	ORG-BLU					
33	NOT USED	Upr. Rt. Power	119-6 (RED-VIO)	Q84		J120-6	YEL-VIO		NOT USED			
34	UPPER RIGHT FLIPPER	Upr. Rt. Hold	119-6 (RED-VIO)	Q86		J120-4	ORG-VIO					
35	NOT USED	Upr. Lt. Power	119-8 (RED-GRY)	Q81		J120-3	YEL-GRY		NOT USED			
36	UPPER LEFT FLIPPER	Upr. Lt. Hold	119-8 (RED-GRY)	Q83		J120-1	ORG-GRY					

J1XX = POWER DRIVER BOARD

24-6549= #44 BULB; 24-8704 = #89 BULB; 24-8768 = #555 BULB; 24-8802 = #906 BULB

* THESE G.I. STRINGS DO NOT BRIGHTEN AND DIM, THEY ARE ALWAYS ON.

** TIEBACK DIODE FROM J111-12 & J111-13.

Solenoid/Flashlamp Locations

Item No.	Coil/Flasher Number	Assembly Number	Description
01	AE-23-800	A-21022	Auto Plunger
02	AE-23-800	A-21216	Refrigerator Poppar
03	A-20099	A-21523	Power Crane
04			Not Used
05	SM1-28-900	A-21220	Scoop Down
06	AE-27-1200	A-21409-1	Bus Diverter
07	AE-23-800	B-10686-1	**Knocker
08			Not Used
09	AE-26-1500	A-19963-1	Trough
10	AE-26-1200	B-9362-R-3	Left Slingshot
11	AE-26-1200	B-9362-R-3	Right Slingshot
12			Not Used
13			Not Used
14			Not Used
15	A-20099	A-21523	**Hold Crane
16	AE-26-1200	A-21383	Move Dog
17	#906 (1)	A-21395	Dog Face Flasher
18	#906 (1)	-----	Window Shop Flasher
19	#89 (2)	A-17984	AutoFire Flashers
20	#906 (1)	-----	Left Side Flashers
	#906 (1)	-----	Insert Panel
21	AE-26-1200	A-21220	Scoop Up
22	#906 (1)	A-21525	Under Crane Flasher
23	#906 (1)	A-20158	Back Left Flashers
	#906 (1)	-----	Insert Panel
24	#906 (1)	A-20158	Back Right Flashers
	#906 (1)	-----	Insert Panel
25	#906 (1)	A-17802	Shooter Flasher
26	#906 (1)	A-21355	Scoop Flashers
	#906 (1)	-----	Insert Panel
27	#89 (1)	A-17983	Dog House Flasher
28	#89 (2)	04-10509	Cars Flasher

Flippers

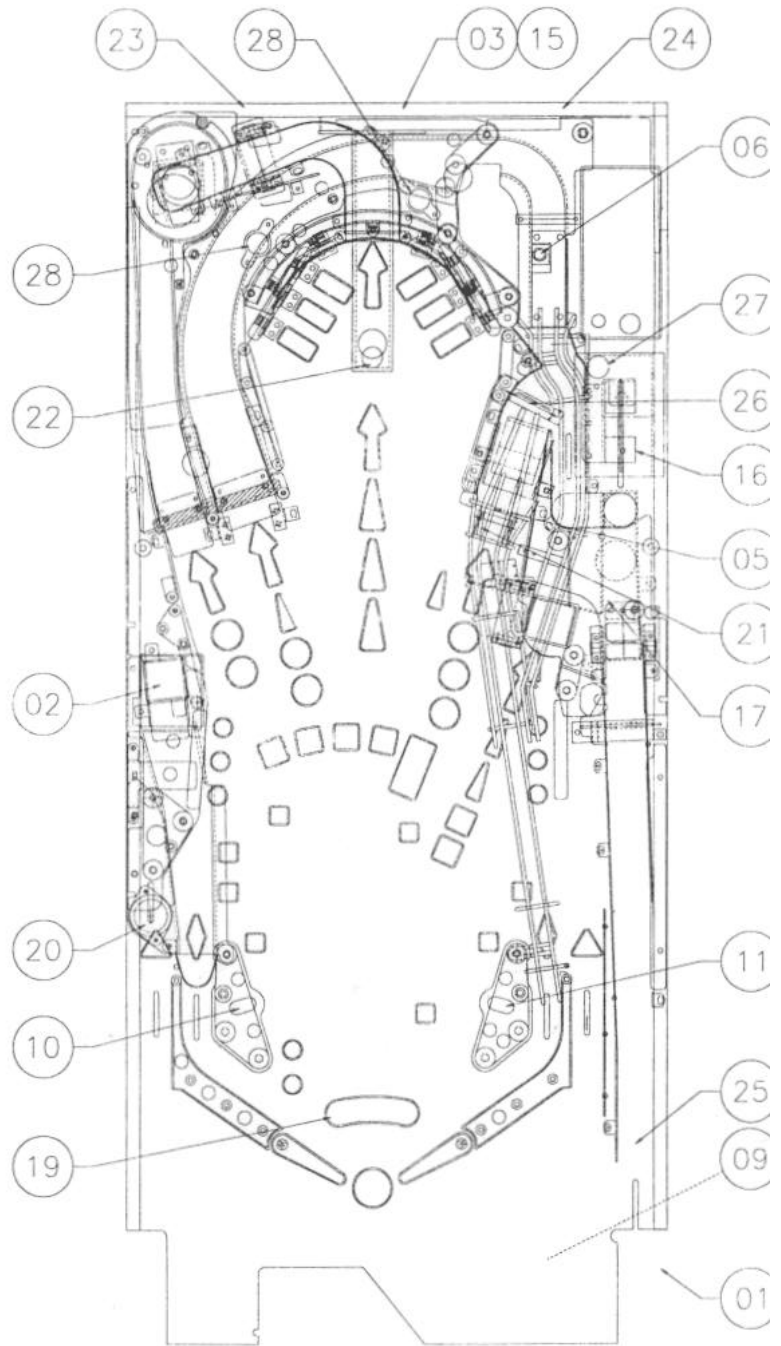
Item No.	Coil/Flasher Number	Assembly Number	Description
29-30	FL-11629	A-15849-R-2	Lower Right Flipper
31-32	FL-11629	A-15849-L-2	Lower Left Flipper
33-34			
35-36			

General Illumination

Item No.	Bulb Number	Description
01	#44	*Playfield String 1
02	#44	*Playfield String 2
03	#555	*Logo String 3
04	#555	*Illumination String 4
05	#555	*Illumination String 5

24-6549 = #44 BULB
 24-8704 = #89 BULB
 24-8768 = #555 BULB
 24-8802 = #906 BULB

*NOT SHOWN
 **IN BACKBOX

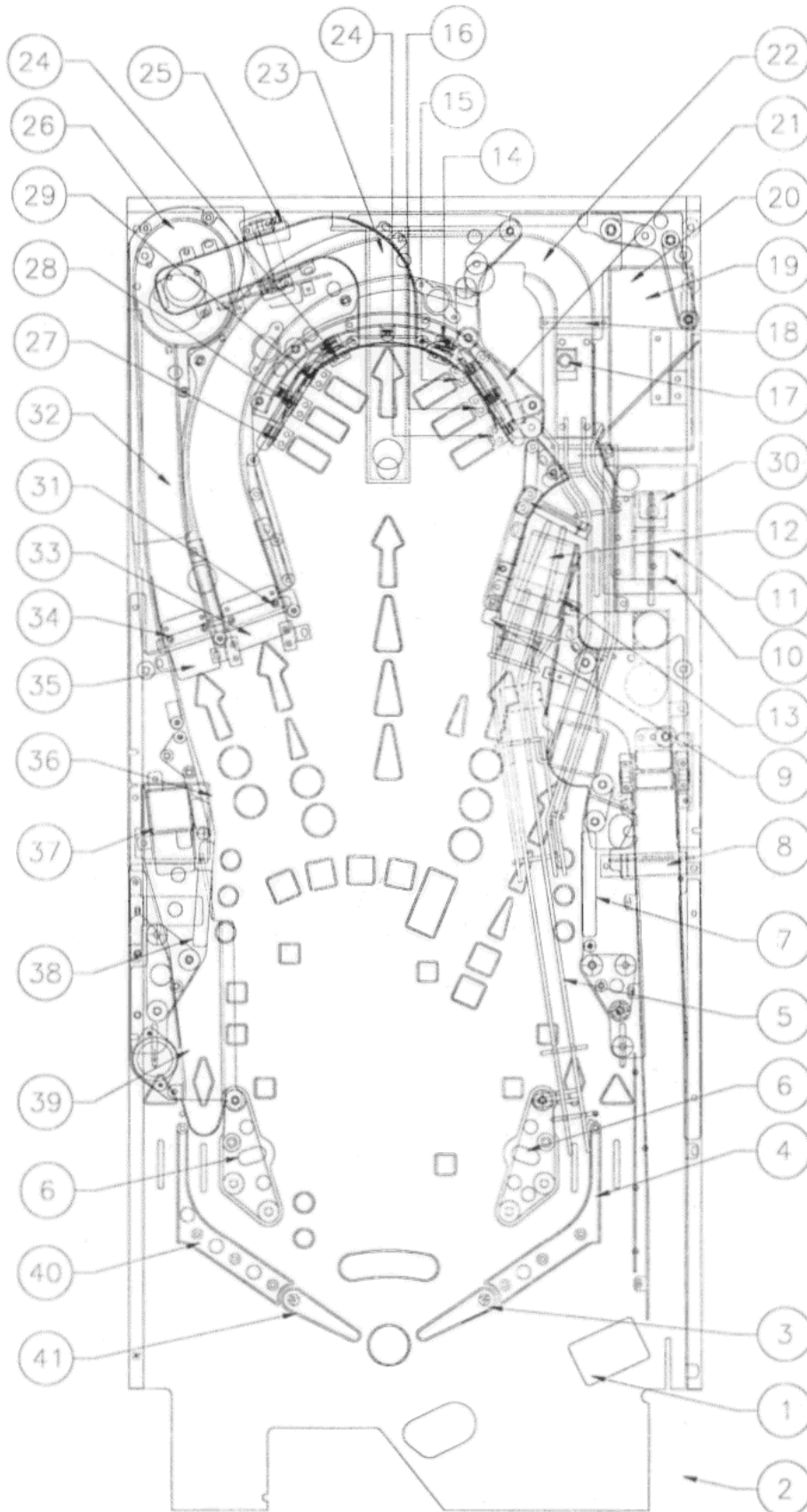


UPPER PLAYFIELD PARTS LIST

Item No.	Part No.	Description	Not Shown:	
1	A-19963-1	Ball Trough Assembly	03-8633	Level Mount
2	A-21022	Shooter Lane Kicker Assembly	03-9610-1	*Full Playfield Myltar
3	A-15849-R-2	Flipper Assembly	03-9610-2	Drop Area Mylars (2)
	20-10110-5	Shaft & Paddle Assembly	039610-3A	Wrecking Ball Area Mylar
4	039216-13	Clear Flipper Ball Guide	039610-5	Right Rear Area Mylar
5	A-21224	Wire Ramp Assembly	20-6500	Steel Balls (4)
6	A-17811	Kicker Assembly	20-9691	Level
	B-9362-R-3	Coil & Bracket Assembly	31-1357-50052	Backglass Translite
7	A-21349-1	Blue Standup Target	31-2601	Screened Bottom Arch
8	A-21338	Spinner	36-50052	Screened Hardcoat Playfield
9	A-18530-6	Yellow Standup Target		
10	31-2598	Dog		
11	A-21398	Dog House & Decal Assembly		
	31-2599	Dog House		
12	A-21220	Fork Lift Assembly		
	A-21232	Fork Mech. Gate Assembly		
13	A-21355	Fork Hood Assembly		
14	A-21351-1	Decal & Standup Target		
	A-18060-4	Target		
	31-26033	Decal		
15	A-21351-2	Decal & Standup Target		
	A-18060-4	Target		
	31-2603-4	Decal		
16	A-21351-3	Decal & Standup Target		
	A-18060-4	Target		
	31-26035	Decal		
17	A-21409-1	Up/Down Post		
18	A-21370	Switch Gate Assembly		
19	31-2597.1	Bus		
20	A-21516	Bus Bracket Assembly		
21	A-21247	Wrecking Ball Target Assembly		
22	A-21222	Main Ramp		
23	A-21215	Wrecking Ball Mech. Assembly		
24	A-18530-4	Red Standup Target		
25	A-21249	Popper Ball Guide		
26	31-2595	Toilet		
27	A-21351-4	Decal & Standup Target		
	A-180604	Target		
	31-26036	Decal		
28	A-21351-5	Decal & Standup Target		
	A-18060-4	Target		
	31-26037	Decal		
29	A-21351-6	Decal & Standup Target		
	A-18060-4	Target		
	31-26038	Decal		
30	A-21383	Dog Mech.		
31	A-17515	Switch Gate & Bracket		
32	A-21223	Toilet Ramp		
33	01-14407	Main Ramp Flap		
34	A-21207	Ramp Gate Assembly		
35	01-14410	Toilet Ramp Flap		
36	31-2596	Refrigerator		
37	A-21216	3-Ball Popper Assembly		
38	A-213491	Blue Standup Target		
39	A-21212	Left Plastic Ramp		
40	039216-13	Clear Flipper Guide		
41	A-15849L-2	Flipper Assembly		
	20-10110.5	Shaft & Paddle Assembly		

*The JUNK YARD hardcoat playfield does not require a full mylar. However, mylars can be purchased through your local Williams Distributor.

Upper Playfield Parts

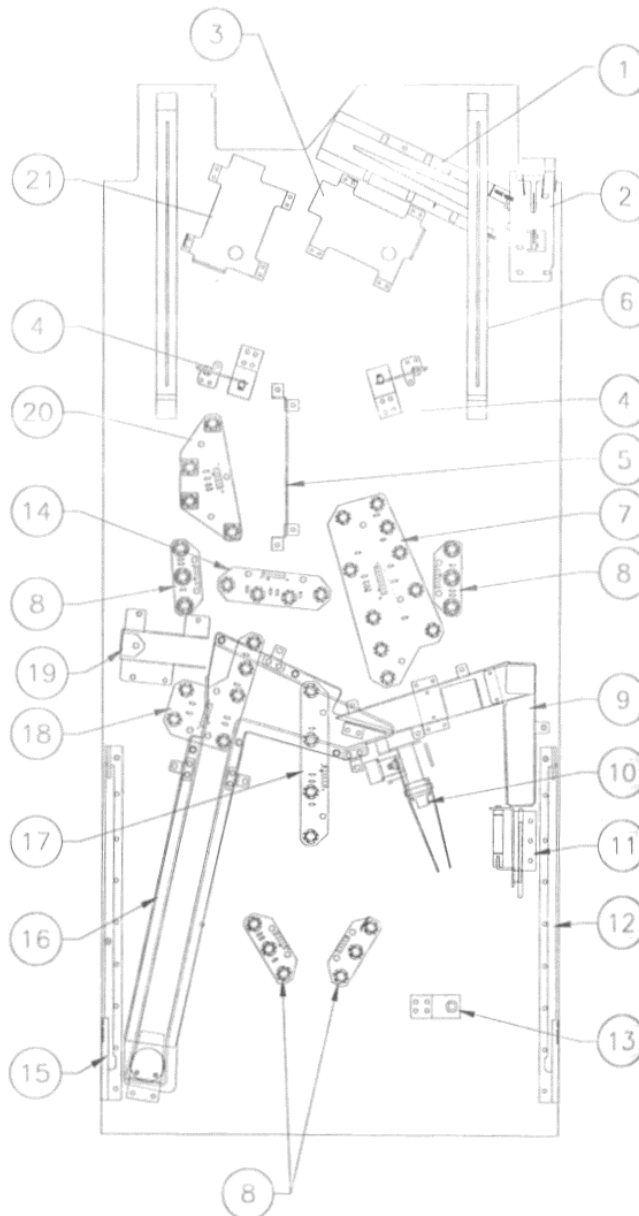


LOWER PLAYFIELD PARTS & LOCATIONS

Item	Part Number	Description
1	A-19963-1	Ball Trough Assy. w/Cable
2	A-21022	Shooter Lane Auto Kicker
3	A-15849-R-2	Flipper Assembly - Right
4	B-9362-R-3	Coil & Bracket Assembly (2)
	*A-17811	Kicker (Slingshot) Assy. (2)
5	A-17223	16-Opto PCB w/Bracket
6	01-11781	Support Bracket Assy. (2)
7	A-21319	10-Lamp PCB Assembly
8	A-21322	4-Lamp PCB Assembly (4)
9	A-21227	Metal Trough Assembly
10	A-21220	Fork Lift Assembly
11	A-21383	Dog Mech. Assembly
12	A-17749.1-2	Playfield Slide Assy.-Right
13	A-21409-1	Up/Down Post Assembly
14	A-21321	4-Lamp Assembly
15	A-17749.1-1	Playfield Slide Assy.-Left
16	A-21226	Trough Assembly
17	A-21323	4-Lamp PCB Assembly
18	A-21320	6-Lamp PCB Assembly
19	A-21216	3-Ball Popper Assembly
20	A-21324	4-Lamp PCB Assembly
21	A-15849-L-2	Flipper Assembly - Left

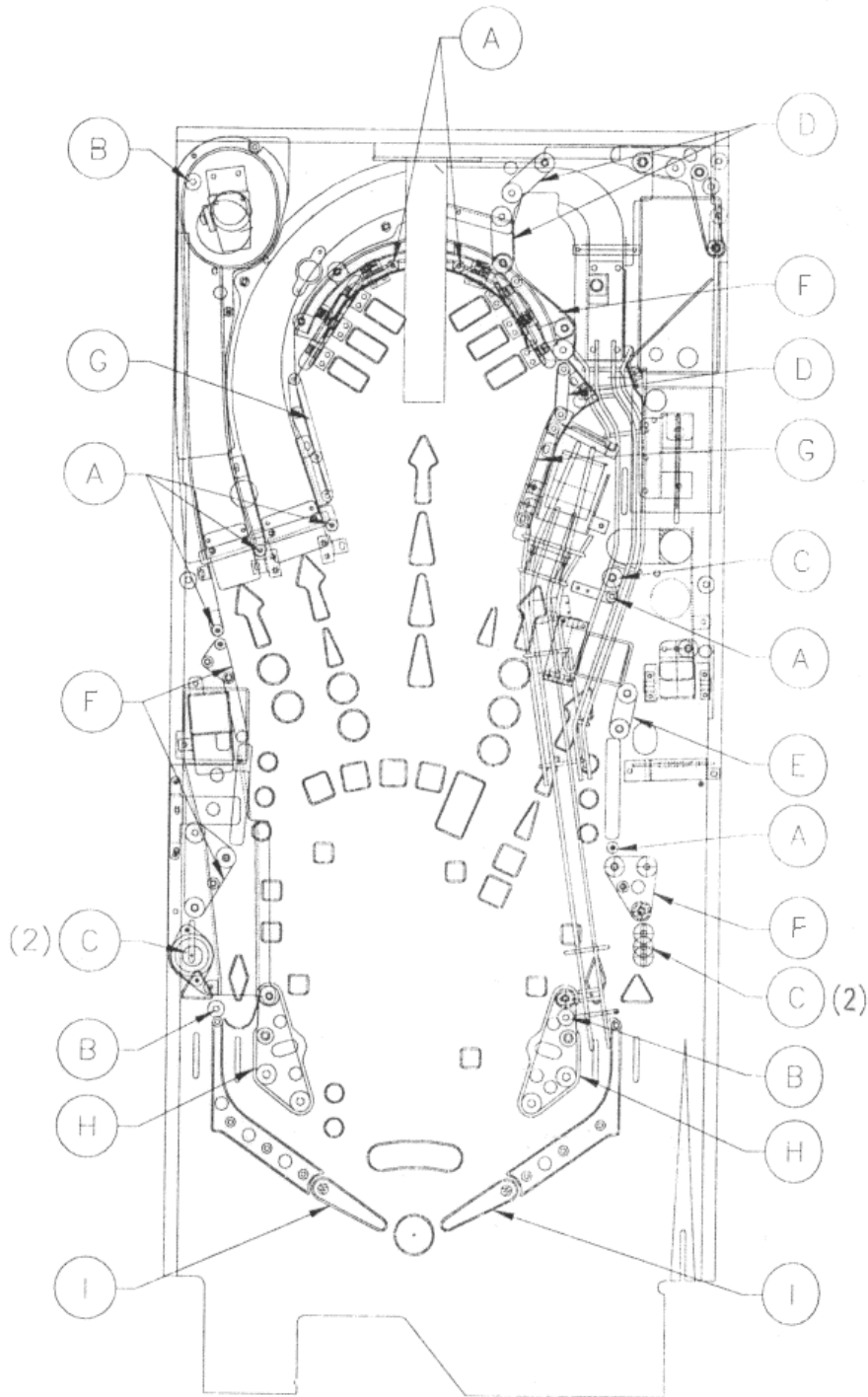
* Located on top of playfield.

Underside of Playfield, Viewed in Raised Position



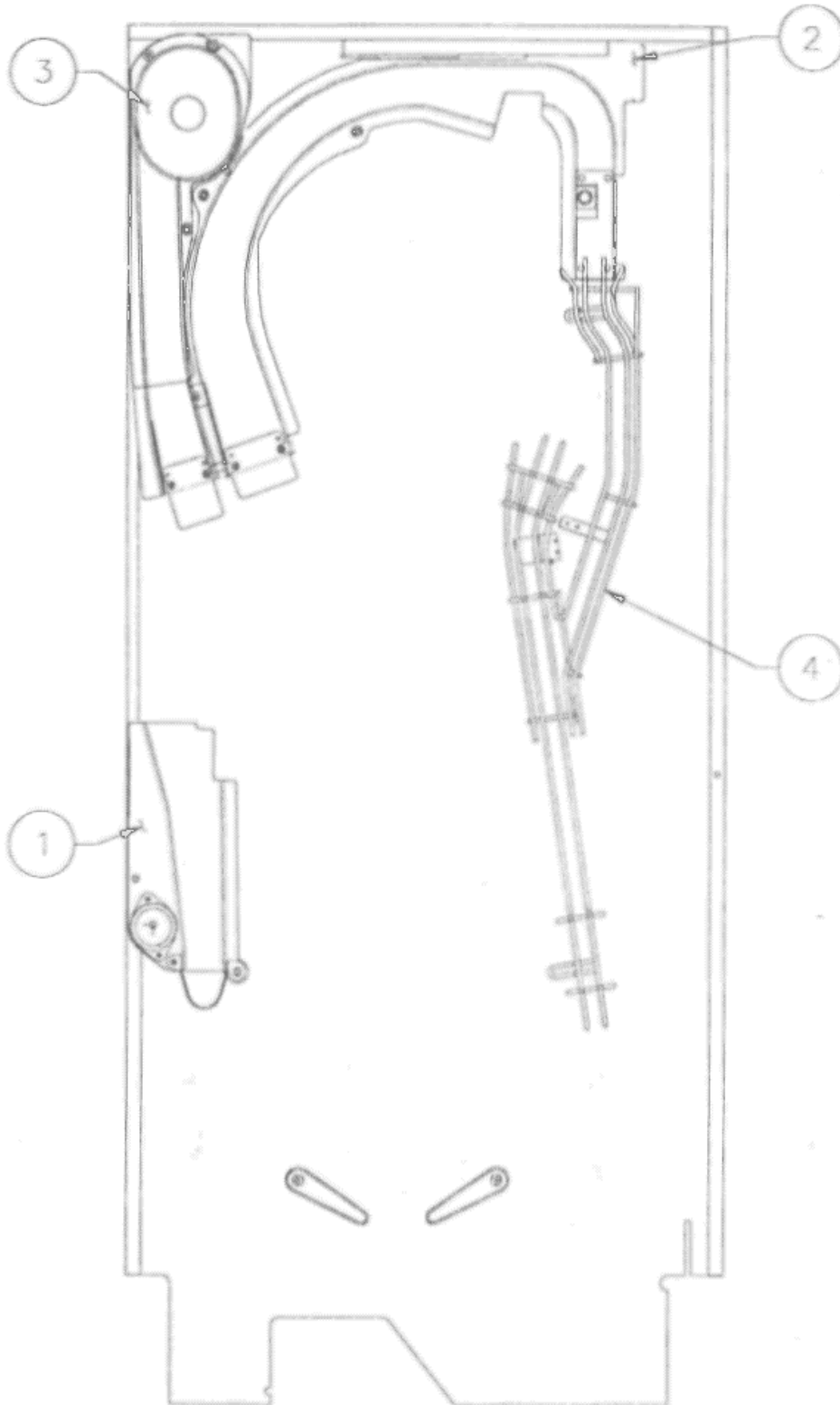
RUBBER PARTS

Item No.	Part No.	Description	Quantity
A	23-6556	Black Bumper Sleeve	7
B	23-6694-1	Black Rubber Grommet	3
C	23-6694-3	Black Rubber Ring 5/16"	5
D	23-6694-5	Black Rubber Ring 1"	3
E	23-6694-6	Black Rubber Ring 3/4"	1
F	23-6694-8	Black Rubber Ring 1/2"	4
G	23-6694-9	Black Rubber Ring 2"	2
H	23-6694-10	Black Rubber Ring 2 1/2"	2

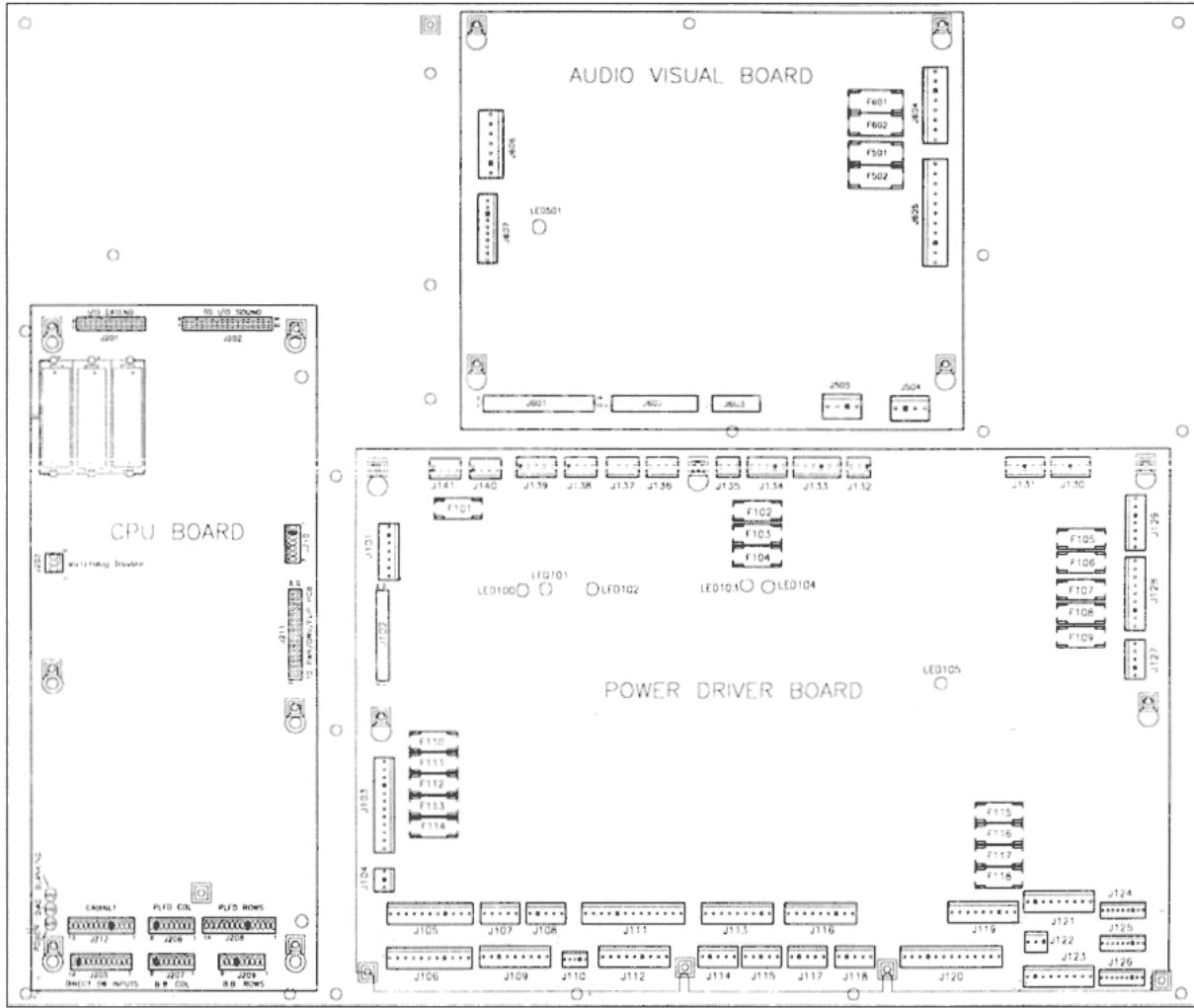


RAMPS

Item	Part Number	Description
1	A-21212	Left Plastic Ramp
2	A-21222	Main Ramp Assy.
3	A-21223	Toilet Ramp Assy.
4	A-21224	Wire Ramp Assembly



FUSE LIST



AUDIO VIDEO BOARD

Loc.	Description	Part Number	Value
F501	-25V	5731-14532-00	T2.5A, 250V
F502	+25V	5731-14532-00	T2.5A, 250V
F601	+62V	5731-14533-00	T0.25A, 250V
F602	-113V & -125V	5731-14533-00	T0.25A, 250V

CPU BOARD

There are no fuses on the CPU board.

POWER DRIVER BOARD

Loc.	Description	Part Number	Value	Loc.	Description	Part Number	Value
F101	Regulated 12V	5731-14531-00	T0.63A, 250V	F110	G.1.#5 WHT-VIO	5731-14530-00	T4.0A, 250V
F102	Solenoid. #25 to #28	5731-14530-00	T4.0A, 250V	F111	G.I. #4 WHT-GRN	5731-14530-00	T4.0A, 250V
F103	Solenoid #148	5731-14530-00	T4.0A, 250V	F112	G.1. #3 WHT-YEL	5731-14530-00	T4.0A, 250V
F104	Solenoid #9 to #16	5731-14530-00	T4.0A, 250V	F113	G.1. #2 WHT-ORG	5731-14530-00	T4.0A, 250V
F105	+5V Logic	5731-14530-00	T4.0A, 250V	F114	G.I. #1 WHT-BRN	5731-14530-00	T4.0A, 250V
F106	+18V Lamp Matrix	5731-14046-00	T5.0A, 250V	F115	+50V Flippers	5731-14530-00	T4.0A, 250V
F107	Flasher Secondary	5731-14530-00	T4.0A, 250V	F116	+50V Flippers	5731-14530-00	T4.0A, 250V
F108	Solenoid Secondary	5731-14529-00	T6.3A, 250V	F117	+SOV Flippers	5731-14530-00	T4.0A, 250V
F109	Unregulated 12V	5731-14530-00	T4.0A, 250V	F118	+50V Flippers	5731-14530-00	T4.0A, 250V

LINE FILTER	Part Number	Value
Loc.	5731-14530-00	T4.0A, 250V
Foreign	5731-14046-00	T5.0A, 250V
Domestic		

WARNINGS & NOTICES

WARNING

FOR SAFETY AND RELIABILITY, substitute parts and equipment modifications are not recommended. Use of Non-WILLIAMS parts or modifications of game circuitry, may adversely affect game play, or may cause injuries.

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WARNING

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generated, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RF Interference Notice

CABLE HARNESS PLACEMENTS and ground strap routing on this game have been designed to keep RF radiation and conduction within levels accepted by the FCC Rules.

TO MAINTAIN THESE LEVELS, reposition harnesses and reconnect ground straps to their original placements, if they become disconnected during maintenance.

FCC STICKER. Check the back of your game to verify that an FCC-certification sticker was attached to your game at the factory. All games that leave the WILLIAMS plant have been tested and found to comply with FCC Rules. Because the sticker is proof of this fact, legal repercussions to the owner and distributor may result, if the sticker is missing. If you receive a game, manufactured after December 1982, that has no FCC sticker, call WILLIAMS for advice or write us a note on your Game Registration Card. Be sure that the card bears your game's serial number.

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Call your authorized Williams Distributor

Williams Electronics Games, Inc.
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Chicago, IL 60618

CAUTION: Transport this game ONLY with the hinged backbox DOWN!