

16-50012-103
September 1991

Hurricane Operator's Handbook

Including----

Main Menu Chart

Playfield Parts and Locations

Solenoid Table and Locations

Lamp Matrix and Locations

Switch Matrix and Location

**Williams Electronics Games, Inc.
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Chicago. IL 60618**



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Main Menu

B. Bookkeeping Menu

B.1	Main Audits	etc., etc.
B.2	Earnings Audits	etc., etc.
B.3	Standard Audits	etc., etc.
B.4	Feature Audits	etc., etc.
B.5	Histograms	etc., etc.
B.6	Time-Stamped	etc., etc.

Press Escape
To move out of a menu selection.

Press Enter
To get into a menu selection.

Press Up
Increases sequence; (ex. A.1, A.2, A.3, A.4).

Press Down
Decreases sequence; (ex. A.4, A.3, A.2, A.1).

P. Printouts Menu

P.1	Earnings Data
P.2	Main Audits
P.3	Standard Audits
P.4	Feature Audits
P.5	Score Histograms
P.6	Game Time Histograms
P.7	Time-Stamped
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Use Up or Down to cycle through the selections in a menu.

Use Escape and Enter to move into and out of the selected menu.

T. Test Menu

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T.5	Flasher Test
T.6	General Illumination
T.7	Sound and Music Test
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U.1	Clear Audits	
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U.3	Reset H.S.T.D.	
U.4	Set Time & Date	
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A. Adjustments Menu

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A.2	Feature Adjustments	etc., etc.
A.3	Pricing Adjustments	etc., etc.
A.4	H.S.T.D. Adjustments	etc., etc.
A.5	Printer Adjustments	

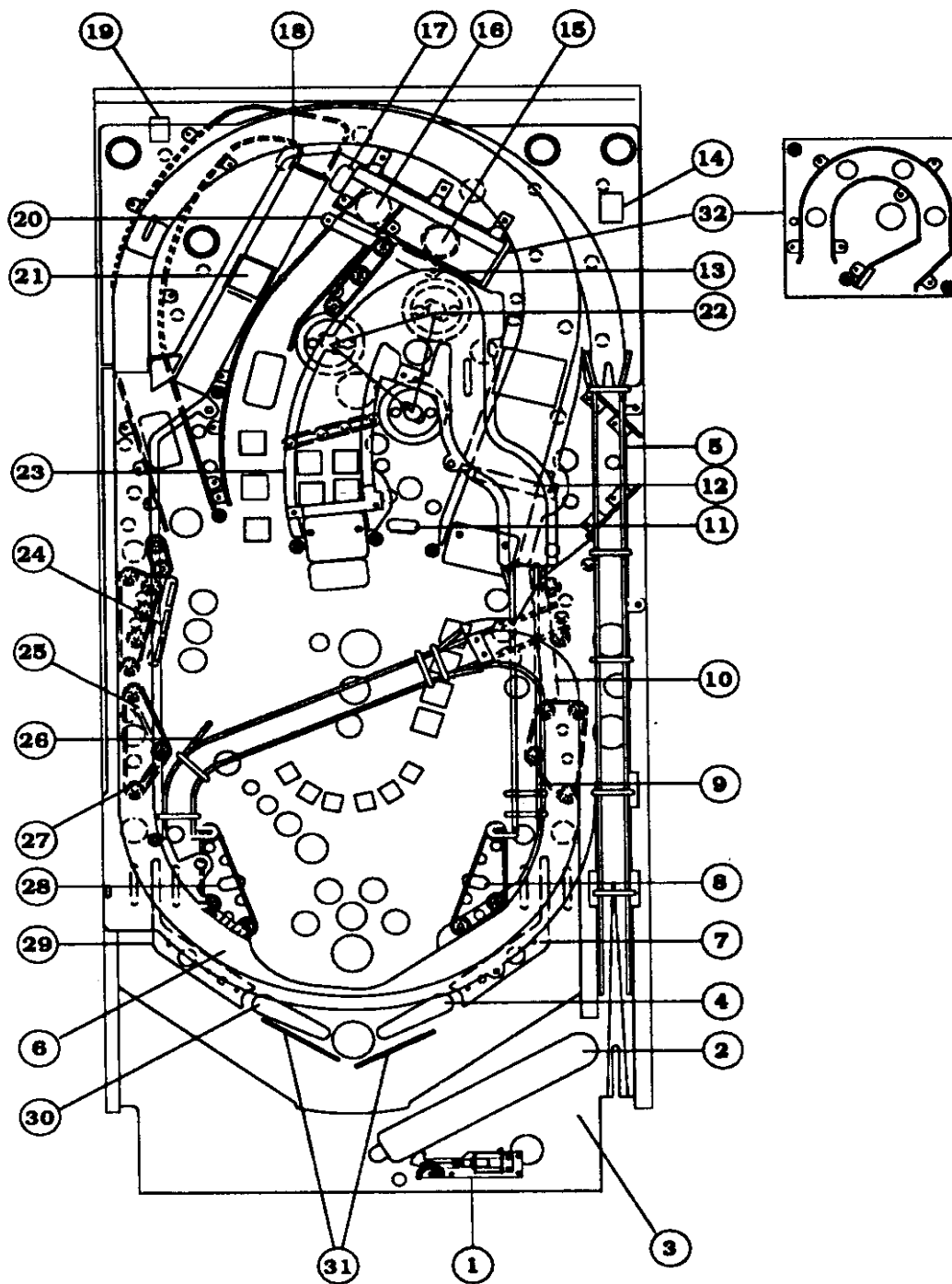
Playfield Parts

Item	Part Number	Description
1	A-10417	Outhole Switch
2	B-8925	Switch Plate
3a	B-9362-R-3	Coil & Bracket
	b A-11619-2	Switch
	c C-9638	Outhole Eject
4	C-13174-R	Right Flipper
5	12-6982	Entry Ramp
6	A-14709	Hurricane Ramp
7	B-12363-R	Flipper Return Guide
8a	B-11203-R-1	Slingshot Coil & Bracket
	b B-8284-1	Slingshot Switch
9	12-6980	Center Ramp
10	B-11854-4	Stand-up Targets
11	B-11854-4	Stand-up Targets
12	A-14708	Hurricane Top Ramp
13	A-14786	Ball Gate
14	A-13901-3	Opto Board
15a	B-9361-R Ball	Eject Coil & Bracket
	b A-9361-R	Switch Assembly
16a	D-11335-1	Ball Popper Coil & Brckt
	b A-11657	Ball Popper Switch Assy
17	A-14725	Opto Mounting Assembly
18	A-14724	Opto Mounting Assembly
19	A-14423-1	Relay Assembly
20	A-14788	Ball Gate
21	A-14741	Ferris Wheel
22a	A-9415-2	Jet Bumper Coil & Bracket
	b B-12030-2	Switch Assembly
23	A-14710	Comet Ramp
24	A-13595-3	3-bank Drop Target
25	12-6981	Lower Ramp
27	12-6466-3	Wireform
28a	B-11203-R-1	Sling Coil & Bracket
	b B-8284-1	Sling Switch
29	B-12363-J	Flipper Return Guide
30	C-13174-L	Left Flipper
31	12-6468	Rebound Wire
32	A-14787	Juggler Assembly

Not Shown

A-13204	Bottom Arch Assembly
12-6842	Wire Fence
16-50012-1	Instruction Card
20-9041	Tinnerman
20-9045	Instruction Card
23-6313-1	Grommet
31-1008-50012	Screened Bottom Arch
31-1-50012	Screened Playfield Plastic Set
31-1002-50012	Screened Playfield
03-7557	Slingshot Mylar
03-7960-50012-1	Full Playfield Mylar
03-7960-50012-2	Ramp Mylar
03-7960-50012-3	Ramp Mylar

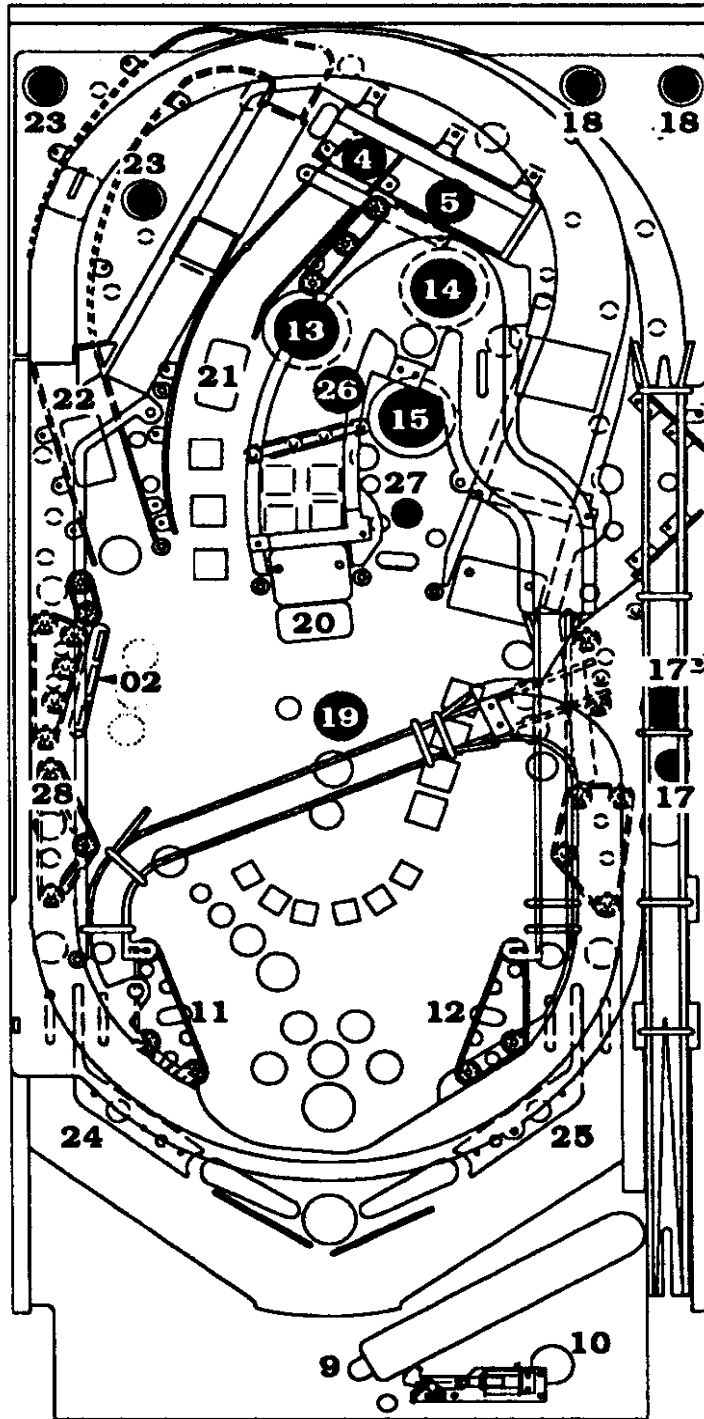
Playfield Parts Locations



Solenoid Table

Sol. No.	Function	Solenoid Type	Wire Color	Connections Playfield - Insert - Hood	Driver Trmstr	Solenoid Part Number Flashlamp Type
01	Backbox Motor	High Power	Vio-Brn	J132-1	Q82	A-14750
02	Left Bank	High Power	Vio-Red	J130-2	Q80	AE-26-1200
03	Not Used	High Power	Vio-Org		Q78	
04	Left Jumper	High Power	Vio-Yel	J130-5	Q76	AE-24-900
05	Right Jumper	High Power	Vio-Grn	J130-6	Q64	AE-26-1500
06	Ferris Wheels	High Power	Vio-Blu	J130-7	Q66	A-14593-1
07	Knecker	High Power	Vio-Blk	J130-8	Q68	AE-23-800
08	Not Used	High Power	Vio-Gry		Q70	
09	Outsole	Low Power	Brn-Blk	J127-1	Q58	AE-27-1200
10	Ball Release	Low Power	Brn-Red	J127-3	Q56	AE-26-1200
11	Left Slingshot	Low Power	Brn-Org	J127-4	Q54	AE-25-1500
12	Right Slingshot	Low Power	Brn-Yel	J127-5	Q52	AE-26-1500
13	Left Jet Bumper	Low Power	Brn-Grn	J127-6	Q50	AE-26-1200
14	Right Jet Bumper	Low Power	Brn-Blu	J127-7	Q48	AE-26-1200
15	Bottom Jet Bumper	Low Power	Brn-Vio	J127-8	Q46	AE-26-1200
16	Not Used	Low Power	Brn-Gry		Q44	
17	Right Side Flasher	Flasher	Blk-Brn	J126-1 J125-1	Q42	#906 2 PL - 1 BB
18	Top Right Flasher	Flasher	Blk-Red	J126-2 J125-2	Q40	#906 2 PL - 1 BB
19	All Scores X3 Flasher	Flasher	Blk-Org	J126-3 J125-3	Q38	#906 1 PL - 1 BB
20	Cornet Million Flasher	Flasher	Blk-Yel	J126-4 J125-5	Q36	#906 1 PL - 1 BB
21	Jackpot Flasher	Special	Blu-Grn	J126-5 J125-6	Q28	#906 1 PL - 1 BB
22	Ferris Wheel Flasher	Special	Blu-Blk	J126-6 J125-7	Q30	#906 1 PL - 1 BB
23	Top Left Flasher	Special	Blu-Vio	J126-7 J125-8	Q34	#906 2 PL - 1 BB
24	Left Return Flasher	Special	Blu-Gry	J126-8 J125-9	Q32	#89/#906 1 PL - 1 Hood
25	Right Return Flasher	Special	Blu-Brn	J122-1 J123-1	Q26	#89/#906 1 PL - 1 Hood
26	Jet Bumper Flasher	Special	Blu-Red	J122-2 J123-3	Q24	#906 1 PL - 1 BB
27	Dunk the Dummy Flasher	Special	Blu-Org	J122-3 J123-4	Q22	#89/#906 1 PL - 1 BB
28	Left Side Flasher	Special	Blu-Yel	J122-4 J123-5	Q20	#89/#906 1 PL - 1 BB
	General Illumination			Playfield - Insert - Cabinet		
01	Backbox G.I.	G.I.	Wht-Brn	J121-7	Q18	#555
02	Backbox G.I.	G.I.	Wht-Org	J121-8	Q10	#555
03	Playfield G.I.	G.I.	Wht-Yel	J120-9	Q14	#44
04	Backbox G.I.	G.I.	Wht-Grn	J121-10	Q16	#555
05	Playfield G.I.	G.I.	Wht-Vio	J120-11 J119-1	Q12	#44
	Lower Right Flipper		Blu-Yel	J109-7		FL-11630
	Lower Left Flipper		Gry-Yel	J109-5		FL-11630

Solenoid Locations

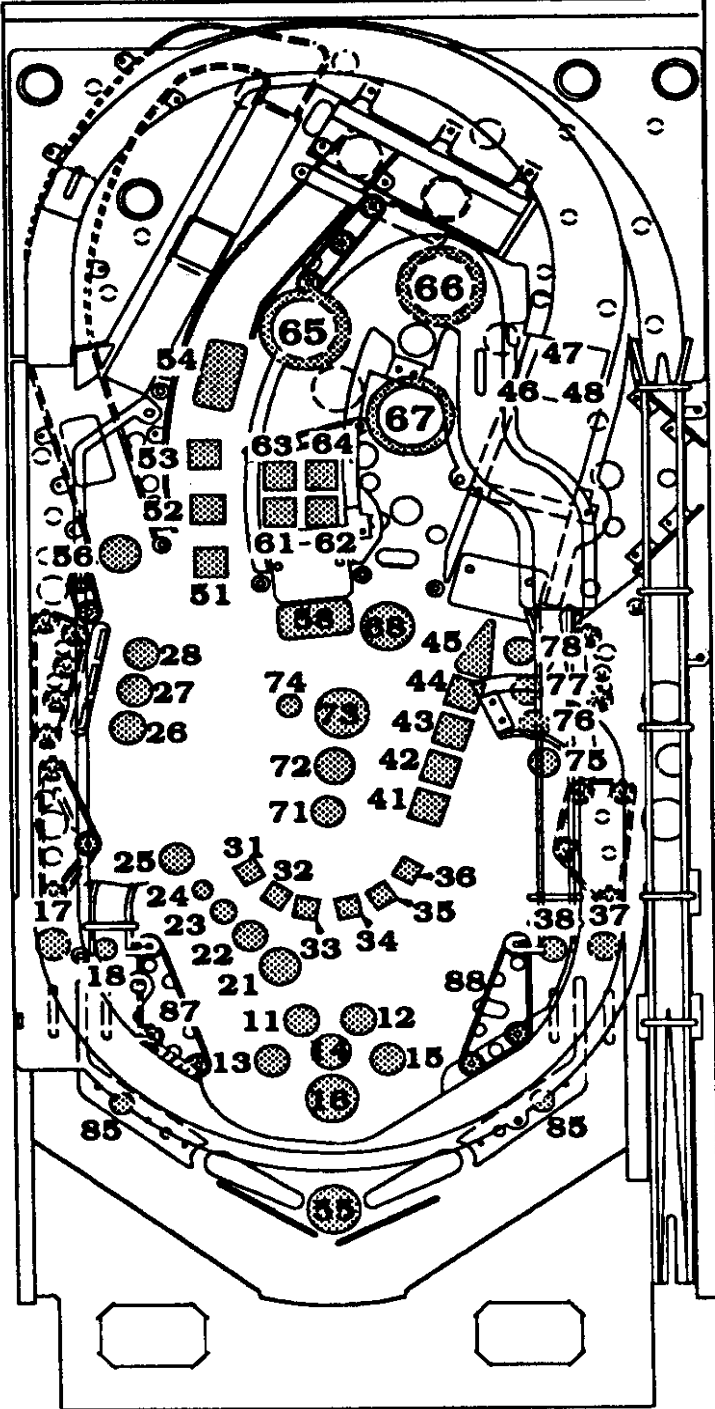
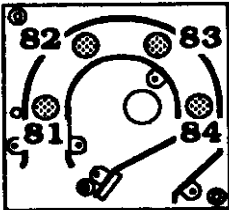


Lamp Matrix

		Yellow (B+) → Red							
		1	2	3	4	5	6	7	8
Column	Row	Yellow-Brown J133-1 CB9	Yellow-Red J133-2 CB7	Yellow-Orange J133-3 CB6	Yellow-Black J133-4 CB5	Yellow-Green J133-5 CB4	Yellow-Blue J133-6 CB3	Yellow-Violet J133-7 CB2	Yellow-Gray J133-8 CB1
1	Red-Brown J133-1 CB9	Left Clown Eye 11	Bonus 2X 21	Palace "P" 31	Special 41	Lock 2 51	Comet 50K 61	All Scores X3 71	Juggler 1 81
2	Red-Black J133-2 CB8	Right Clown Eye 12	Bonus 3X 22	Palace "A" 32	Clown Time 42	Lock 1 52	Comet 100K 62	All Scores X3 72	Juggler 2 82
3	Red-Orange J133-4 CB6	Left Clown Cheek 13	Bonus 4X 23	Palace "L" 33	Spot Palace 43	Mystery 53	Comet 200K 63	All Scores X5 73	Juggler 3 83
4	Red-Yellow J133-5 CB7	Clown Nose 14	Bonus 5X 24	Palace "A" 34	Skill Shot 44	Jackpot 54	Comet 300K 64	Palace Clock 74	Juggler 4 84
5	Red-Green J133-6 CB6	Right Clown Cheek 15	Bonus 6X 25	Palace "C" 35	Hurricane Value 45	Play It Again 55	Left Jet Bumper 65	Right Stand-up 4 75	Flipper Lenses 85
6	Red-Blue J133-7 CB5	Clown Mouth 16	Left Drop 1 26	Palace "E" 36	Hurricane 1 Million 46	Quick Score 56	Right Jet Bumper 66	Right Stand-up 3 76	Start Button J133-3 86
7	Red-Violet J133-8 CB4	Left Outlane 17	Left Drop 2 27	Right Outlane 37	Hurricane 2 Million 47	Ferris Wheel 57	Bottom Jet Bumper 67	Right Stand-up 2 77	Left Sling 87
8	Red-Gray J133-9 CB3	Left Return Lane 18	Left Drop 3 28	Right Return Lane 38	Hurricane 3 Million 48	Million 58	Dunk the Dummy 68	Right Stand-up 1 78	Right Sling 88

Lamp Locations

Juggler Assy.

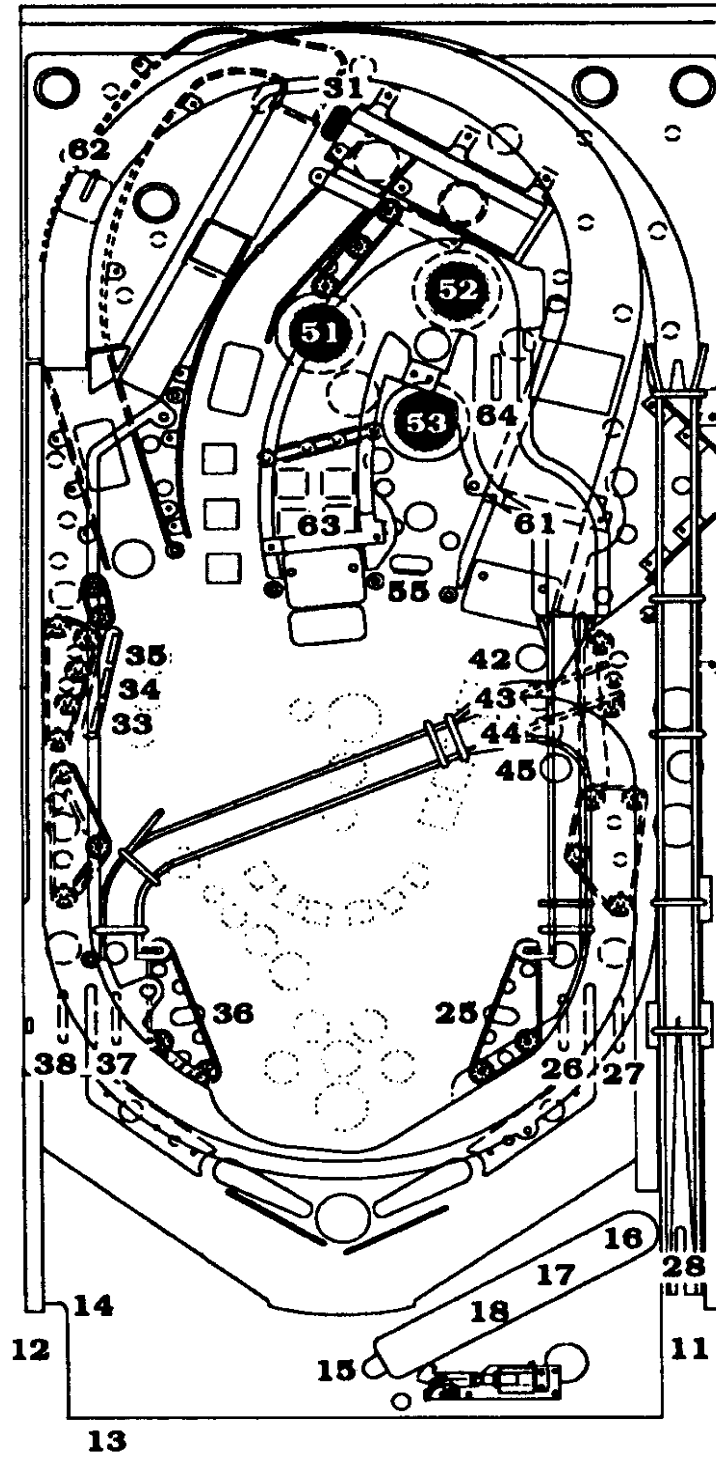


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Switch Matrix

		White ← → Green							
Dedicated Grounded Switches	Column	1	2	3	4	5	6	7	8
	Row	1 White-Brown J200-1 U10-11	2 White-Red J200-2 U10-0	3 White-Orange J200-3 U10-5	4 White-Yellow J200-4 U10-7	5 White-Green J200-5 U10-11	6 White-Blue J200-7 U10-0	7 White-Violet J200-8 U10-5	8 White-Gray J200-9 U10-7
D1 Orange-Brown Left Coin Chute		Right Flipper 11	Slam Tilt 21	Ferris Wheel 31	Not Used 41	Left Jet Bumper 51	Entricane Entry 61	Not Used 71	Not Used 81
D2 Orange-Red Center Coin Chute		Left Flipper 12	Coin Door Closed 22	Not Used 32	Right Stand-up 1 42	Right Jet Bumper 52	Entricane Exit 62	Not Used 72	Not Used 82
D3 Orange-Black Right Coin Chute		Start Button 13	Ticket Dispenser 23	Left Drop Target 1 33	Right Stand-up 2 43	Bottom Jet Bumper 53	Comet Entry 63	Not Used 73	Not Used 83
D4 Orange-Yellow 4th Coin Chute		Plumb Bob Tilt 14	Test Position, Always Closed 24	Left Drop Target 2 34	Right Stand-up 3 44	Not Used 54	Comet Exit 64	Not Used 74	Not Used 84
D5 Orange-Green Normal Function Service Escape Credits		Outtake 15	Right Shingbot 25	Left Drop Target 3 35	Right Stand-up 4 45	Dunk the Dummy 55	Not Used 65	Not Used 75	Not Used 85
D6 Orange-Blue Normal Test Function Volume Down		Trough 1 16	Right Return 26	Left Shingbot 36	Not Used 46	Left Juggler 56	Not Used 66	Not Used 76	Not Used 86
D7 Orange-Violet Normal Test Function Volume Up		Trough 2 17	Right Outlane 27	Left Return 37	Not Used 47	Right Juggler 57	Not Used 67	Not Used 77	Not Used 87
D8 Orange-Gray Normal Test Function Begin Enter		Trough 3 18	Ball Shooter 28	Left Outlane 38	Not Used 48	Not Used 58	Not Used 68	Not Used 78	Not Used 88

Switch Locations



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

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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.

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CAUTION

**Transport this game ONLY
with hinged backbox DOWN!**