

**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.  
3401 N. California Ave.  
Chicago. IL 60618**

# 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
P.8 All Data

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

T.1 Switch Edges
T.2 Switch Levels
T.3 Single Switches
T.4 Solenoid Test
T.5 Flasher Test
T.6 General Illumination
T.7 Sound and Music Test
T.8 Single Lamps
T.9 All Lamps
T.10 Lamp & Flasher Test
T.11 Display Test

## U. Utilities Menu

U.1 Clear Audits	
U.2 Clear Coins	
U.3 Reset H.S.T.D.	
U.4 Set Time & Date	
U.5 Custom Message	
U.6 Set Game I.D.	
U.7 Factory Adjustments	
U.8 Factory Resets	
U.9 Presets	etc., etc.
U.10 Clear Credits	
U.11 Auto Burn-in	

## A. Adjustments Menu

A.1 Standard Adjustments	etc., etc.
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	

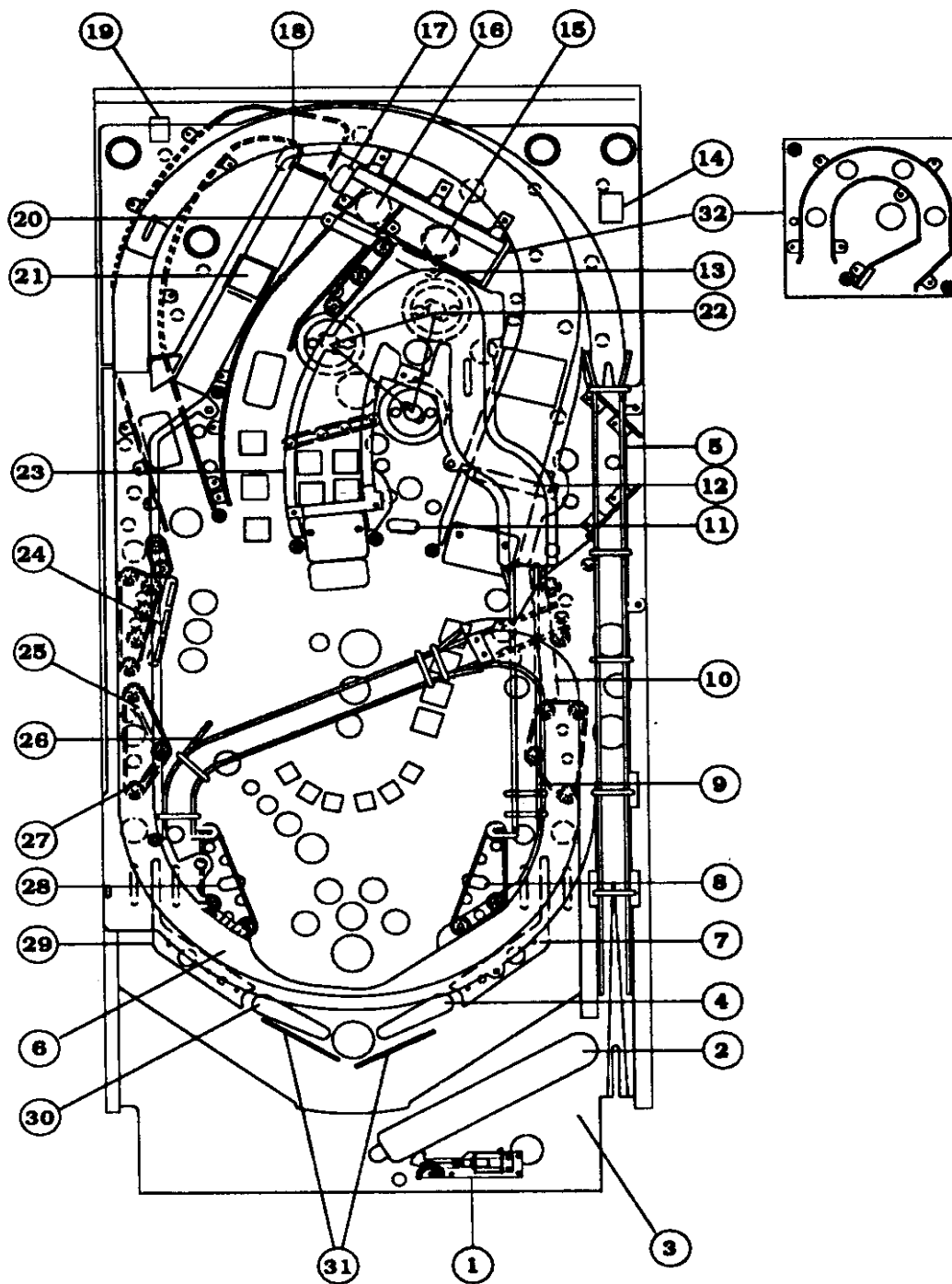
# Playfield Parts

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

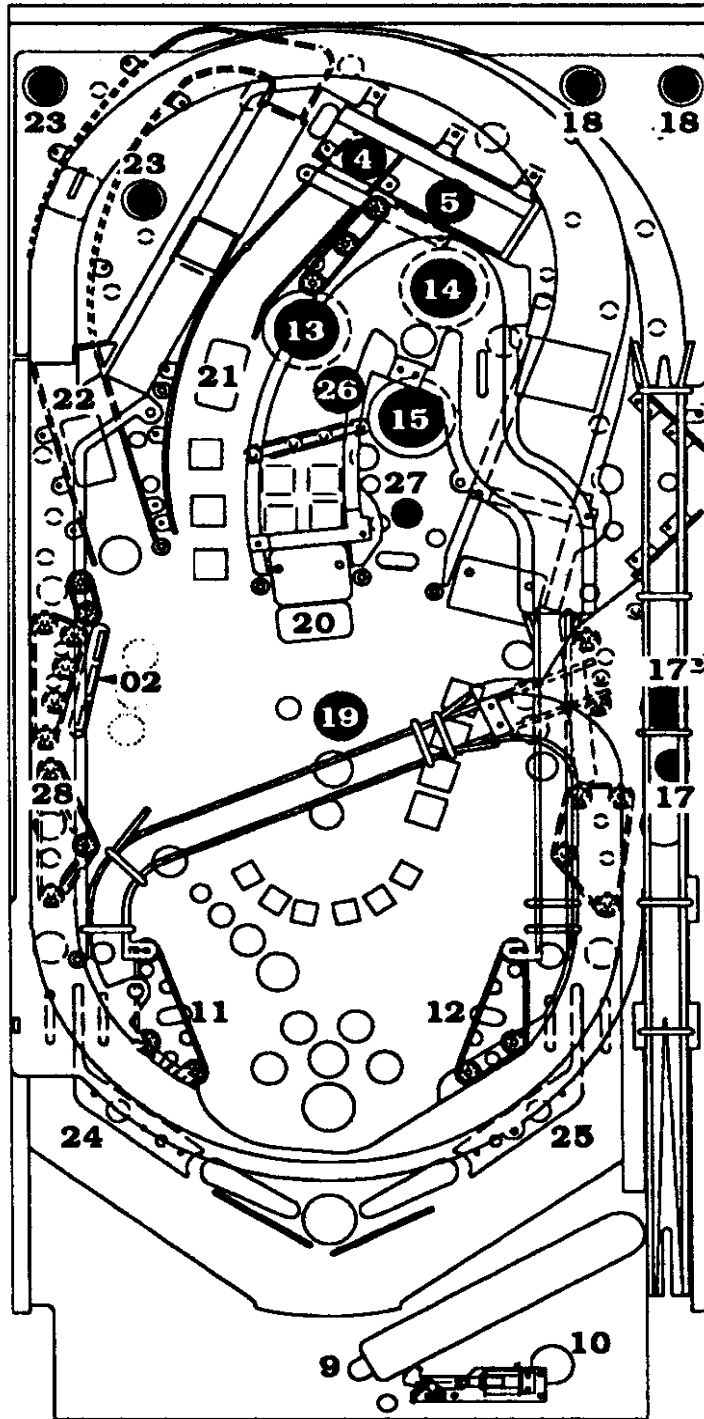
# Playfield Parts Locations



# 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-Cry		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-Cry		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-Cry	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
	<b>General Illumination</b>			<b>Playfield - Insert - Cabinet</b>		
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

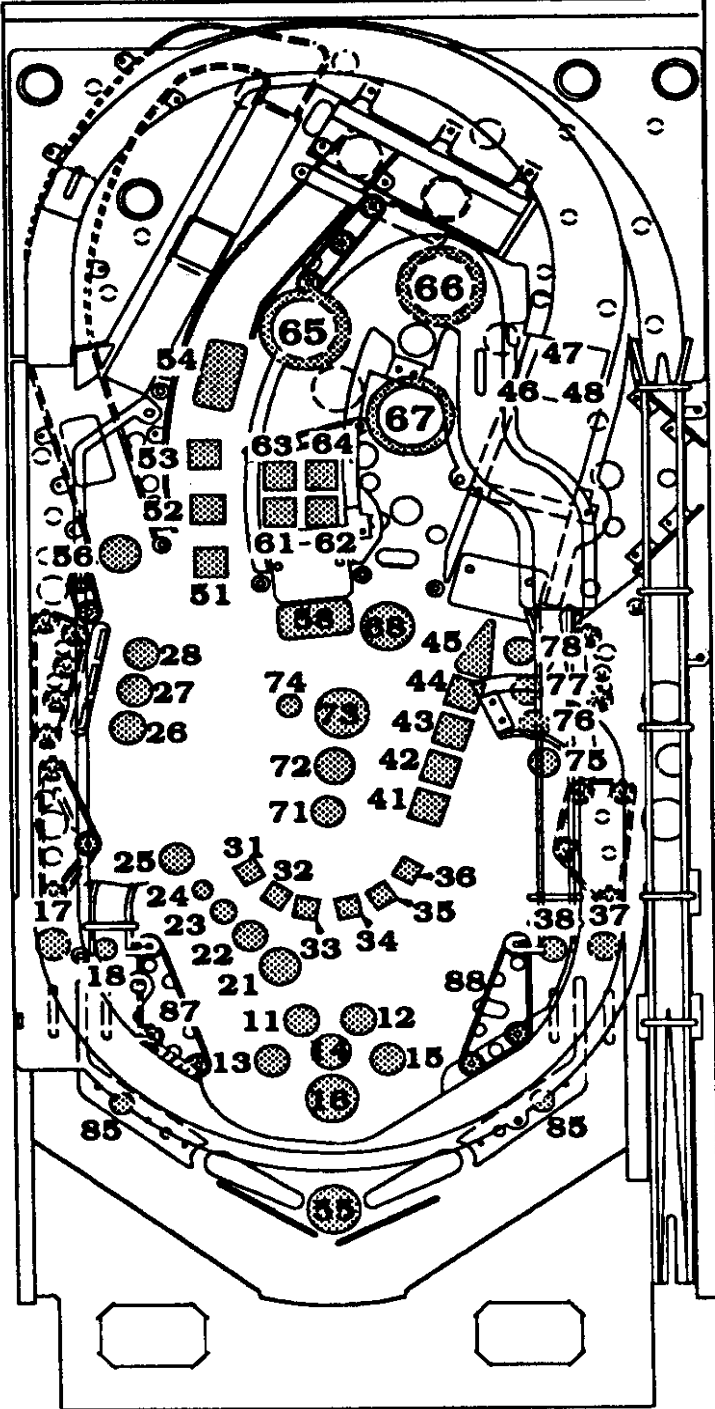
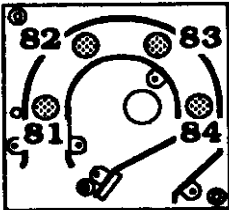


# Lamp Matrix

		Yellow (B+)						Red	
Column	Row	1	2	3	4	5	6	7	8
Red-Brown J133-1 CB9	1	Yellow-Brown J138-1 CB8	Yellow-Red J138-2 CB7	Yellow-Orange J138-3 CB6	Yellow-Black J138-4 CB5	Yellow-Green J138-5 CB4	Yellow-Blue J138-6 CB3	Yellow-Violet J138-7 CB2	Yellow-Gray J138-8 CB1
Red-Black J133-2 CB8	2	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
Red-Orange J133-4 CB8	3	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
Red-Yellow J133-5 CB7	4	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
Red-Green J133-6 CB6	5	Clown Nose 14	Bonus 5X 24	Palace "A" 34	Skill Shot 44	Jackpot 54	Comet 300K 64	Palace Clock 74	Juggler 4 84
Red-Blue J133-7 CB5	6	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
Red-Violet J133-8 CB4	7	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 J138-9 86
Red-Gray J133-9 CB3	8	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
		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.

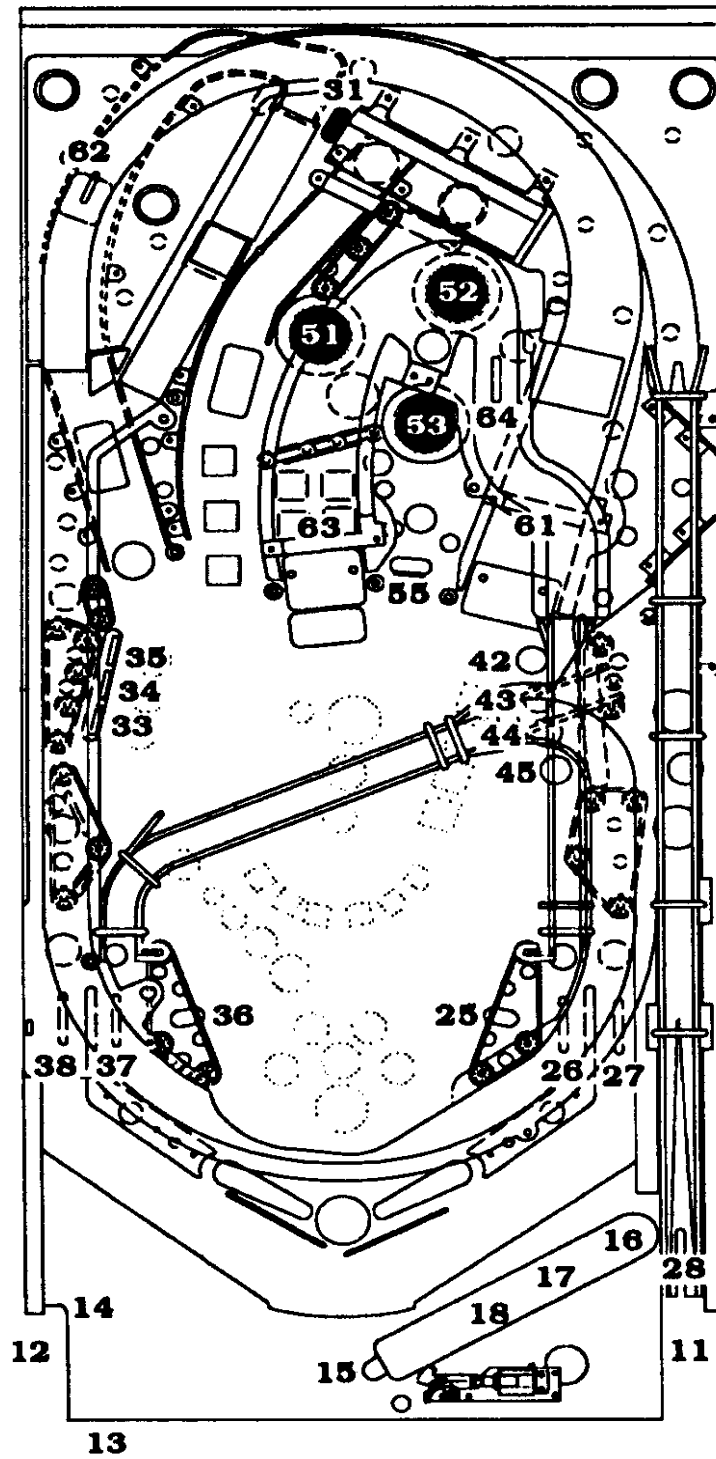




# Switch Matrix

		White ← → Green							
Dedicated Grounded Switches	Column / Row	1	2	3	4	5	6	7	8
		White-Brown J207-1 U20-18	Green-Red J207-2 U20-17	Green-Orange J207-3 U20-16	Green-Yellow J207-4 U20-15	Green-Black J207-5 U20-14	Green-Blue J207-6 U20-13	Green-Violet J207-7 U20-12	Green-Gray J207-8 U20-11
Orange-Brown Left Coin Chute	D1	Right Flipper 11	Slam Tilt 21	Ferris Wheel 31	Not Used 41	Left Jet Bumper 51	Entrance Entry 61	Not Used 71	Not Used 81
Orange-Red Center Coin Chute	D2	Left Flipper 12	Coin Door Closed 22	Not Used 32	Right Stand-up 1 42	Right Jet Bumper 52	Entrance Exit 62	Not Used 72	Not Used 82
Orange-Black Right Coin Chute	D3	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
Orange-Yellow 4th Coin Chute	D4	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
Orange-Green Normal Function Service Escape Credits	D5	Outtake 15	Right Slingshot 25	Left Drop Target 3 35	Right Stand-up 4 45	Dunk the Dummy 55	Not Used 65	Not Used 75	Not Used 85
Orange-Blue Normal Function Volume Down	D6	Trough 1 16	Right Return 26	Left Slingshot 36	Not Used 46	Left Juggler 56	Not Used 66	Not Used 76	Not Used 86
Orange-Violet Normal Function Volume Up	D7	Trough 2 17	Right Outlane 27	Left Return 37	Not Used 47	Right Juggler 57	Not Used 67	Not Used 77	Not Used 87
Orange-Gray Normal Function Begin Test	D8	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.

**SUBSTITUTE PART OR EQUIPMENT MODIFICATIONS** may void FCC Type Acceptance.

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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.

#### *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.

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CALL your authorized  
WILLIAMS Distributor.

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**CAUTION**

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