

WHITE WATER

Operator's Handbook

Including----

- Rubber Rings Locations
- Ramp Locations
- Playfield Parts Locations
- Solenoid Table and Locations
- Lamp Matrix and Locations
- Switch Matrix and Locations
- Main Menu Chart

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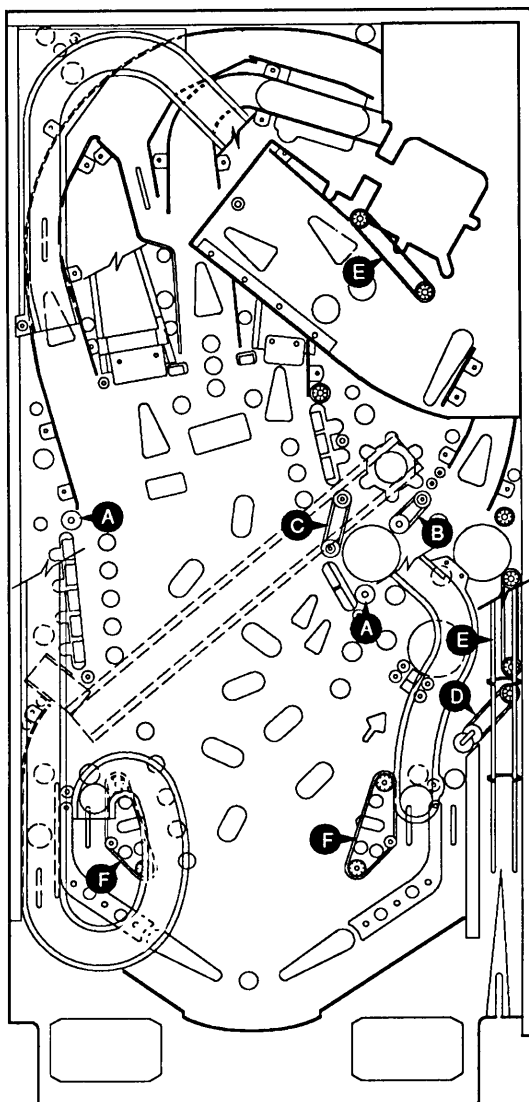
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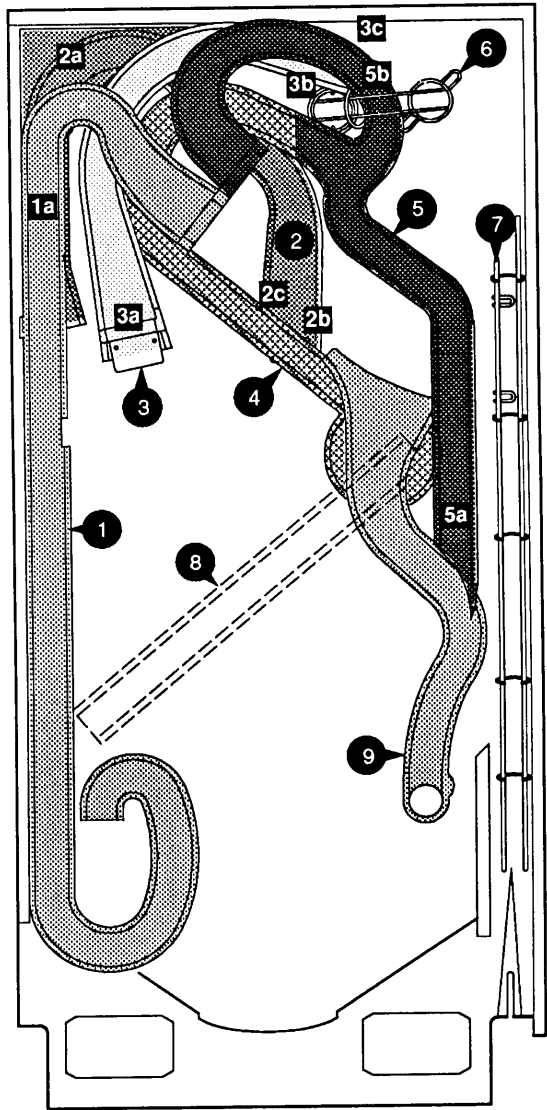
Rubber Rings

Item	Part No.	Qty.	Description
A	23-6300	4	5/16" Rubber Ring
B	23-6301	1	3/4" Rubber Ring
C	23-6302	1	1" Rubber Ring
D	23-6304	1	1-1/2" Rubber Ring
E	23-6305	2	2" Rubber Ring
F	23-6306	2	2-1/2" Rubber Ring



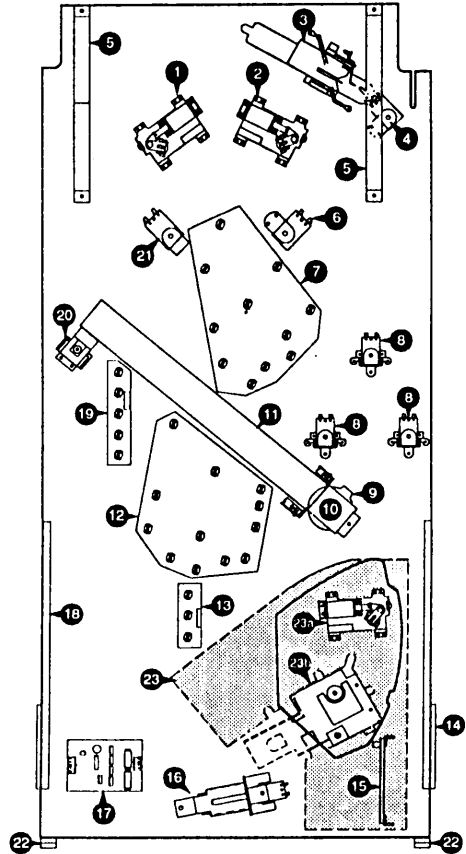
Ramps

Item	Part No.	Description
1	A-15838	Waterfall Ramp Assy.
1a)	5647-12693-21	Mini-Micro Switch
2	A-15840	Suicide Canyon Ramp Assy.
2a)	5647-12693-21	Mini- Micro Switch
2b)	A-14316	Photo Transistor Assy.
2c)	A-14315	LED Assy.
3	A-15830	Lower-to-Upper Ramp Assy
3a)	5647-12693-11	Mini-Micro Switch
3b)	A-14316	Photo Transistor Assy.
3c)	A-14315	LED Assy.
4	03-8693	Whirlpool Ramp Assy.
5	A-15837	Bigfoot Ramp Assy.
5a)	5647-12693-13	Mini-Micro Switch
5b)	5647-12693-21	Mini-Micro Switch
6	12-7049	Wire Ramp
7	12-7044	Wire Ramp
8	03-8694	Under Ramp Assy.
9	03-8691	Upper-to-Lower Ramp



Lower Playfield Parts

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1.	A-15205-L	Lower Left Flipper
2.	A-15205-R	Lower Right Flipper
3.	B-8925	Micro Switch Plate Assembly
4.	C-9638	Multiball Eject Assembly
	10-128	Spring
	B-9362-R-3	Coil & Bracket Assy.
5.	01-10721	Safety Bracket (2 Used)
6.	B-12665	Kicker Arm (Slingshot) Assy. - R.
	A-14369-R	Coil & Bracket Assy.
	10-128	Spring
	B-8284-1	Kicker Switch Assembly
7.	A-15764	11-Lamp Board
8.	A-9415-2	Jet Bumper Coil Assy. (3 Used)
a)	B-12030-2	Switch & Diode Assy. (3 Used)
9.	A-15768	8-Lamp Board Assy.
10.	A-15829	Whirlpool Assembly
11.	03-8694	Under Ramp
12.	A-15767	12-Lamp Board
13.	A-15766	3-Lamp Board
14.	A-15421-1	Playfield Slide Assembly - R.
15.	A-15595	7-Opto Switch Board
16.	A-15926	Ball Popper & Multiball Assembly
a)	A-15769	Ball Popper & Opto Assy.
b)	A-15927	Multiball Trough Assy.
17.	A-15782	Bi-Directional Board
18.	A-15421-1	Playfield Slide Assy., Left
19.	A-15763	5-Lamp Board
20.	A-15758	Whirlpool Eject Assembly
21.	B-12665	Kicker Arm (Slingshot) Assy. - L.
a)	A-15749	Coil & Bracket Assy.
b)	10-128	Spring
c)	B-8284-1	Kicker Switch Assembly
22.	01-10726	Rear Guide Leg (2 Used)



Underside of Playfield, Viewed in Raised Position

Mini-Playfield Lower Parts:

23.	A-15772	Upper Mini-Playfield
a)	A-15843	Electronic Flipper Assembly
b)	A-15573	Big Foot Mech. Assembly

Upper Playfield Parts

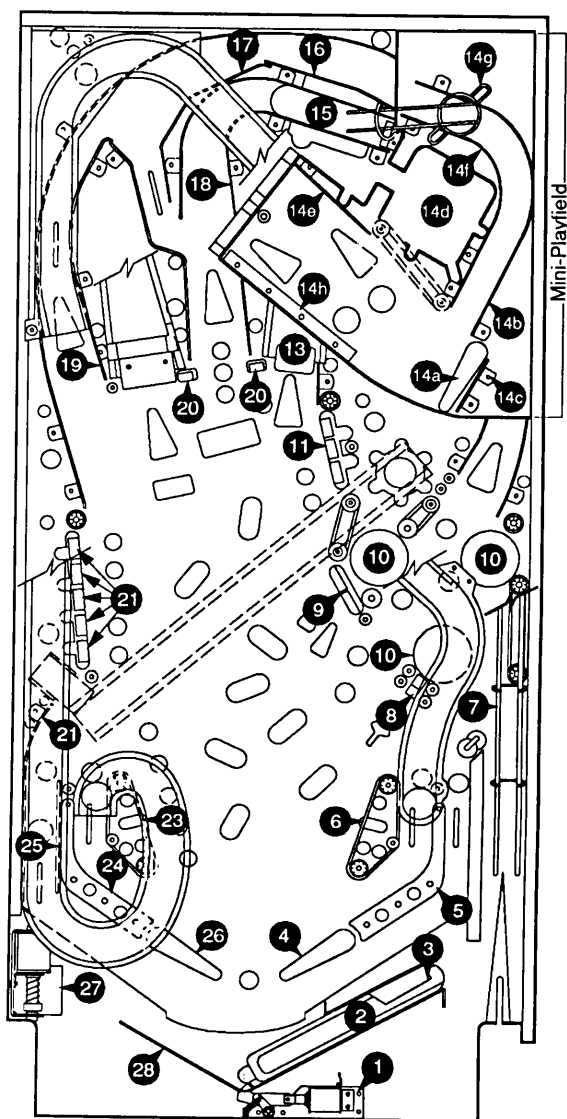
<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	A-8039-3	Outhole
2	B-8925	Microswitch Plate
3	B-9362-R-3	Coil & Bracket Assembly
4	20-9250-5	Flipper Paddle & Shaft
5	A-16082-1	Right Flipper Ball Guide
6	A-14369-R	Coil & Bracket Assembly
7	12-7044	Wire Ramp Shoot
8	A-14604-12	Oblong Target, Orange
9	B-12912-24	Oblong Target, White
10	B-9414	Jet Bumper Assembly
10a)	A-9415-2	Coil & Bracket Assembly
11	B-12912-23	Standup Target, Red
12	01-10901	Ball Guide
13	01-10906	Ramp Flap
14	A-15772	Upper Mini Playfield
14a)	20-9250-5	Flipper Shaft & Paddle
14b)	01-10855	Ball Guide
14c)	01-10844	Upper Ball Guide
14d)	A-15573	Bigfoot Mech. Assembly
14e)	01-10843	Bigfoot Ball Guide
14f)	01-10841	Ball Guide
14g)	12-7049	Ball Guide
14h)	01-10842	Fence Ball Guide
15	A-15926	Ball Popper & Multi Ball Trough
15a)	A-15927	Multi Ball Trough
16	12-7052	Boomerang Wire
17	12-7051	Boulder Wire
18	01-10852	Ball Guide
19	01-10850	Ball Guide
20	A-14604-11	Standup Target, Green
21	B-12912-10	Standup Target, Blue
22	01-10845	Bottom Ball Guide
23	A-15749	Coil & Bracket Assembly
24	B-12919	Left Flipper Guide
25	12-6466-45	Wireform
26	20-9250-5	Flipper Shaft & Paddle
27	B-11873	Bottom Arch Kicker
28	12-7063	Wireform

Not Shown

A-13204-50018	Bottom Arch Assembly
16-50018-1	Instruction Card
20-9041	Tinnerman Speednut
20-9045	Instruction Card Cover
23-6313-1	Rubber Grommet
31-1008-50018	Screened Bottom Arch
A-15878	Flipper Cabinet Switch
01-3569-1	Ball Return Runway
03-8801-1*	Full Lower Playfield Mylar
03-8801-2	Jet Bumper Mylar
03-8801-3	Full Upper Playfield Mylar
03-8801-4	Upper Ball Popper Mylar
03-8801-5	Right Return Lane Mylar
03-8801-6	Left Return Lane Mylar
20-6500	Steel Ball

* The White Water Diamond Plate™ playfield does not require a full mylar.
However, mylars can be purchased through your local Williams Distributor

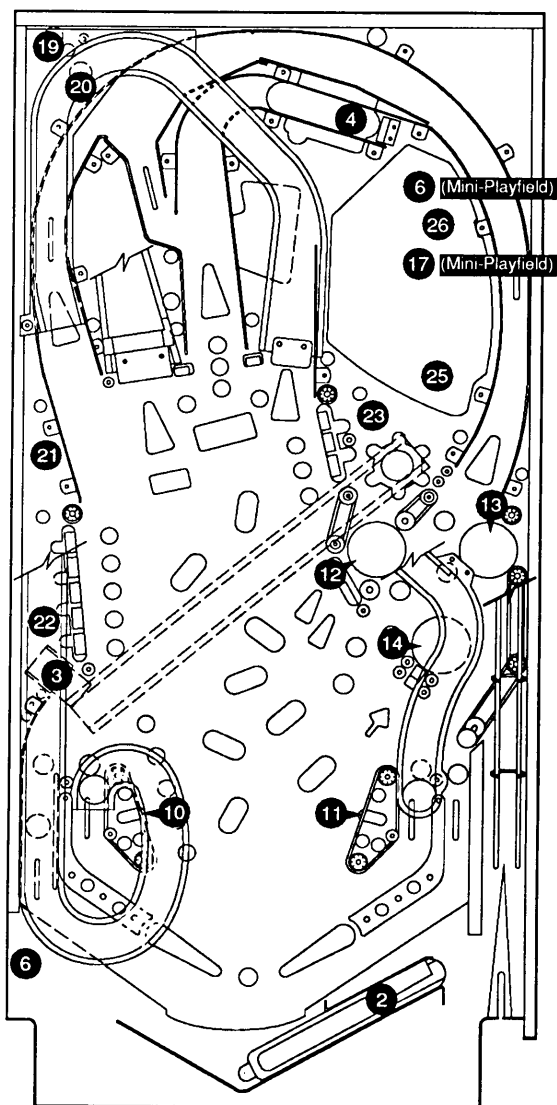
Upper Parts Location



Solenoid/Flasher Table

Sol. No.	Function	Solenoid Type	Voltage Connections		Drive Xster	Drive Connections		Drive Wire Color	Solenoid Part Number	
			Playfield	Backbox		Playfield	Backbox		Playfield	Flashlamp Type Backbox
01	Outrole	High Power	J107-3		Q82	J130-1		Vio-Brn	AE-27-1200	
02	Ball Serve	High Power	J107-3		Q80	J130-2		Vio-Red	AE-26-1200	
03	Whirlpool Popper	High Power	J107-3		Q78	J130-4		Vio-Org	AE-23-800	
04	Lockup Popper	High Power	J107-3		Q76	J130-5		Vio-Yel	AE-23-800	
05	Kickback	High Power	J107-3		Q64	J130-6		Vio-Grn	AE-23-800	
06	Ramp Diverter	High Power	J107-3		Q66	J130-7		Vio-Blu	AE-26-1200	
07	Knocker	High Power	J107-3		Q68	J130-8		Vio-Blk	AE-23-800	(2) #906
08	Backglass (2)	High Power		J106-5	Q70		J131-5	Vio-Gry		(1) #906
09	Wet Willie Head	Low Power		J106-5	Q58		J128-1	Brn-Blk		(1) #906
10	Left Sling	Low Power	J107-2		Q56	J127-2		Brn-Red	AE-27-1200	
11	Right Sling	Low Power	J107-2		Q54	J127-4		Brn-Org	AE-27-1200	
12	Left Jet Bumper	Low Power	J107-2		Q52	J127-5		Brn-Yel	AE-26-1200	
13	Right Jet Bumper	Low Power	J107-2		Q50	J127-6		Brn-Grn	AE-26-1200	
14	Center Jet Bumper	Low Power	J107-2		Q48	J127-7		Brn-Blu	AE-26-1200	
15	Backglass Ricters	Low Power	J107-2		Q46			Brn-Vio		(2) #906
16	Backglass Flirt	Low Power		J108-5	Q44			Brn-Gry		(2) #906
17	Bigfoot Body	Flasher	J107-6		Q42	J126-1		Blk-Brn	(1) #89	(1) #906
18	Right Mountains	Flasher	J107-6	J106-5	Q40	J126-2		Blk-Red	(1) #89	(1) #906
19	Left Mountains	Flasher	J107-6		Q38	J126-3		Blk-Org	(1) #89	(1) #906
20	Upper Left Playfield	Flasher	J107-6	J106-5	Q36	J126-4		Blk-Yel	(1) #89	(1) #906
21	Insanity Falls	Flasher	J107-6		Q28	J126-5		Blk-Grn	(1) #89	(1) #906
22	Whirlpool Popper	Flasher	J107-6		Q30	J126-6		Blk-Blk	(1) #89	(1) #906
23	Whirlpool Enter	Flasher	J107-6	J106-5	Q34	J126-7		Blk-Vio	(1) #89	(1) #906
24	Bigfoot Cave	Flasher	J107-6		Q32	J126-8		Blk-Gry	A-15680	
25	Bigfoot Drive	Low Power	J118-2,3		Q26	J122-1		Blk-Brn	A-15680	
26	Bigfoot Enable	Low Power	J118-2,3		Q24	J122-2		Blk-Red	A-15680	
27	Chase Lamp Click	Low Power		J105-4,5; J118-2,3	Q22		J123-4	Blk-Org	A-15761	
28	Chase Lamp Data	Low Power		J105-4,5; J118-2,3	Q20		J123-5	Blk-Yel	A-15761	
General Illumination										
01	Playfield Upper	G.I.	J120-1		Q18	J120-7	J121-9	Wht-Brn	#44	
02	Playfield Center	G.I.	J120-2		Q10	J120-8	J121-10	Wht-Org	#44	#555
03	Playfield Lower	G.I.	J120-3	J121-3	Q14	J120-9	J121-11	Wht-Yel	#44	#555
04	Backglass Boat	G.I.		J121-5	Q16			Wht-Grn	#555	#555
05	Backglass Sky	G.I.		J121-6	Q12			Wht-Vio		#555
Flipper Circuits										
	Lower Right Flipper	Flipper	J907-5,9 (Blu-Yel)		Q4	J902-11,13		Hold		FL-11629
	Upper Right Flipper	Flipper	J907-4,5 (Blu-Yel)		Q2	J902-4,6		Org-Vio		FL-11630
	Lower Left Flipper	Flipper	J907-6,7 (Gry-Yel)		Q3	J902-7,9		Org-Blu		FL-11629

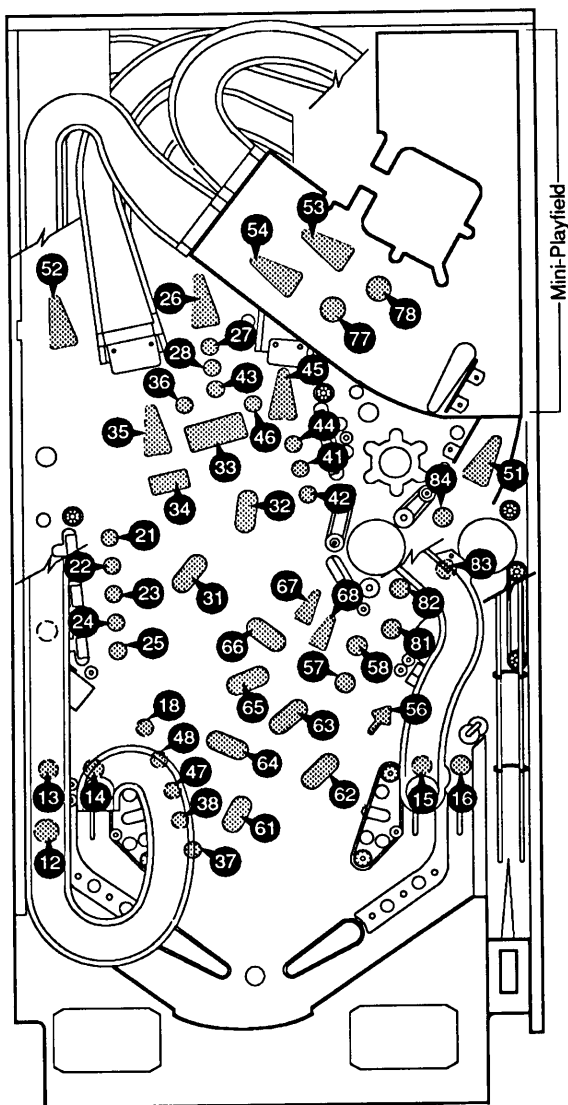
Solenoid Locations



Lamps

Lamp Matrix									
Row	Column	1	2	3	4	5	6	7	8
		Yellow-Brown J137-1 Q86	Yellow-Red J137-2 Q87	Yellow-Orange J137-3 Q88	Yellow-Black J137-4 Q85	Yellow-Green J137-5 Q84	Yellow-Blue J137-6 Q83	Yellow-Violet J137-7 Q82	Yellow-Gray J137-8 Q81
1	Red-Brown J133-1 Q80	Shoot Again 11	River "R1" 21	Rail 7 31	3-Bank Center 41	Hazzard 1 51	Rail 1 61	Whirpool 1 71	Light Extra Ball 81
2	Red-Black J133-2 Q89	Kickback 12	River "T" 22	Rail 8 32	3-Bank Lower 42	Hazzard 5 52	Rail 2 62	Whirpool 2 72	Advance Rail 82
3	Red-Orange J133-4 Q88	Left Outlane 13	River "V" 23	Wet Wine 33	Lock Release 43	Hazzard 6 53	Rail 3 63	Whirpool 3 73	Mystery 83
4	Red-Yellow J133-5 Q87	Left Flipper Lane 14	River "E" 24	Ramp Millions 34	3-Bank Top 44	Hazzard 7 54	Rail 4 64	Whirpool 4 74	Boulder SX Award 84
5	Red-Green J133-6 Q86	Right Flipper Lane 15	River "R2" 25	Hazzard 4 35	Hazzard 4 45	Not Used 55	Rail 5 65	Whirpool 5 75	Not Used 85
6	Red-Blue J133-7 Q85	Right Outlane 16	Hazzard 3 26	Left Light Lock 36	Right Light Lock 46	Extra Ball 56	Rail 6 66	Whirpool 6 76	Not Used 86
7	Red-Violet J133-8 Q84	Not Used 17	Lock 1 27	2X Multiplier 37	4X Multiplier 47	Whirl Challenge 57	2-Bank Upper 67	Multi Jackpot 77	Not Used 87
8	Red-Gray J133-9 Q83	6X Multiplier 18	Lock 2 28	3X Multiplier 38	5X Multiplier 48	Boulder Man Over 58	2-Bank Lower 68	Bigfoot Jackpot 78	Start Button 88

Lamp Locations



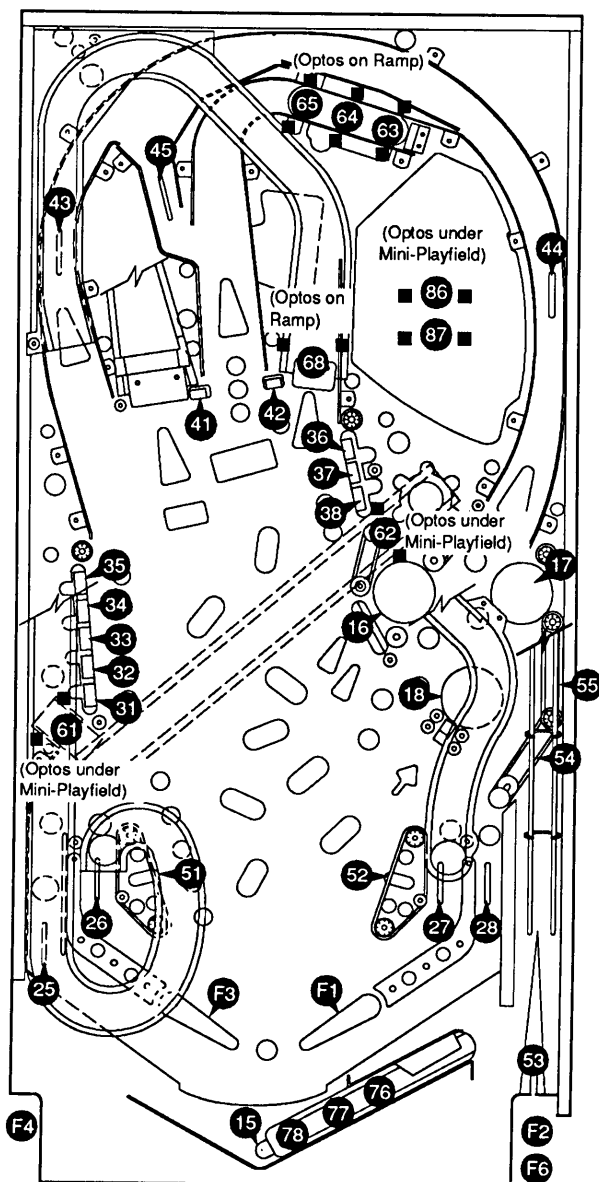
Switches

Switch Matrix									
White Green									
Column	1	2	3	4	5	6	7	8	
Row	Green-Brown J201-1 U20-18	Green-Red J201-2 U20-17	Green-Orange J201-3 U20-16	Green-Yellow J201-4 U20-15	Green-Black J201-5 U20-14	Green-Blue J201-6 U20-13	Green-Violet J201-7 U20-12	Green-Gray J201-8 U20-11	
White-Brown J201-1 U18-11	Not Used	Slam Tie	River "R2"	Light Lock Left	Left Sling	Whirlpool Popper	Rapids Ramp Main	Not Used	81
White-Red J201-2 U18-9	Not Used	Coin Door Closed	River "E"	Light Lock Right	Right Sling	Whirlpool Exit	Not Used	Not Used	82
White-Orange J201-3 U18-5	Start Button	Ticket Oplo.	River "V"	Left Loop	Ball Shooter	Lockup Right	Hot Foot Upper	Not Used	83
White-Yellow J201-4 U18-7	Punch Bob TR	Always Closed	River "I"	Right Loop	Lower Jet Arena	Lockup Center	Hot Foot Lower	Not Used	84
White-Green J201-5 U19-11	Outhole	Left Outlane	River "R1"	Secret Passage	Right Jet Arena	Lockup Left	Disas. Drop Main	Not Used	85
White-Blue J201-6 U19-9	Left Jet Bumper	Left Flipper Lane	3 Bank Top	Left Ramp Enter	Extra Ball	Left Ramp Main	Right Trough	Bigfoot Opto 1	86
White-Violet J201-8 U19-5	Right Jet Bumper	Right Flipper Lane	3 Bank Center	Rapids Enter	Canyon Main	Not Used	Center Trough	Bigfoot Opto 2	87
White-Gray J201-9 U19-7	Center Jet Bumper	Right Outlane	3 Bank Lower	Canyon Entrance	Bigfoot Cave	Disas. Drop Enter	Left Trough	Not Used	88

Row	Column	1	2	3	4	5	6	7	8
D1	Orange-Brown J205-1 Left Coin Chute								
D2	Orange-Red J205-2 Center Coin Chute								
D3	Orange-Black J205-3 Right Coin Chute								
D4	Orange-Yellow J205-4 Fourth Coin Chute								
D5	Orange-Green J205-5 Test Function Coin Credit								
D6	Orange-Blue J205-7 Test Function Volume Down								
D7	Orange-Violet J205-8 Test Function Volume Up								
D8	Orange-Gray J205-9 Test Function Begin Test								

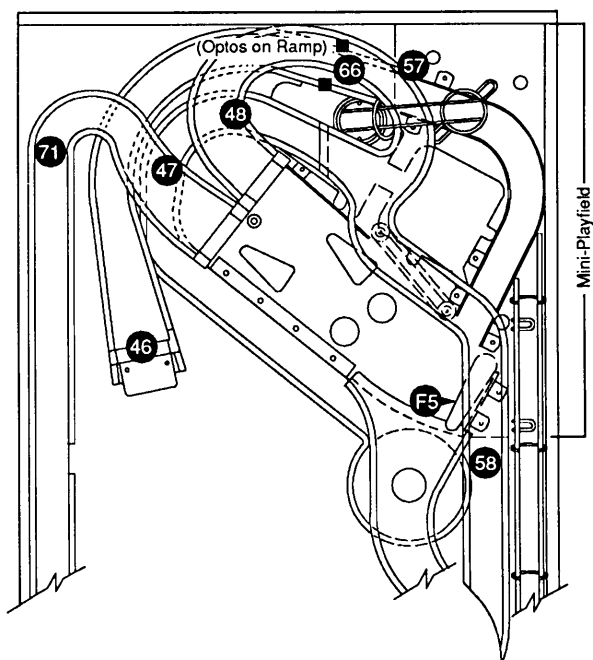
Switch Locations

MAIN PLAYFIELD



Switch Location

UPPER PLAYFIELD



Main Menu

Main Menu

B. Bookkeeping Menu

B.1 Main Audits
B.2 Earning Audits
B.3 Standard Audits
B.4 Feature Audits
B.5 Histograms
B.6 Time-stamps

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 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
T.12 Flipper Coil Test
T.13 Bigfoot Test
T.14 Backbox 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
U.10 Clear Credits
U.11 Auto Burn-in

A. Adjustments Menu

A.1 Standard Adjustments
A.2 Feature Adjustments
A.3 Pricing Adjustments
A.4 H.S.T.D. Adjustments
A.5 Printer Adjustments

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.

BECAUSE THIS GAME IS PROTECTED by Federal copyright, trademark, and patent laws, unauthorized game conversions may be illegal under Federal law.

THIS 'CONVERSION' PRINCIPLE ALSO APPLIES to unauthorized facsimiles of WILLIAMS equipment, logos, designs, publications, assemblies, and games (or game feature not deemed to be public domain), whether manufactured with WILLIAMS components or not.

NOTICE

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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.



CAUTION

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

FOR SERVICE... CALL your authorized WILLIAMS Distributor.