

WARNINGS & NOTICES

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WARNING

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Pinball Game:

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

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DIRTY HARRY™

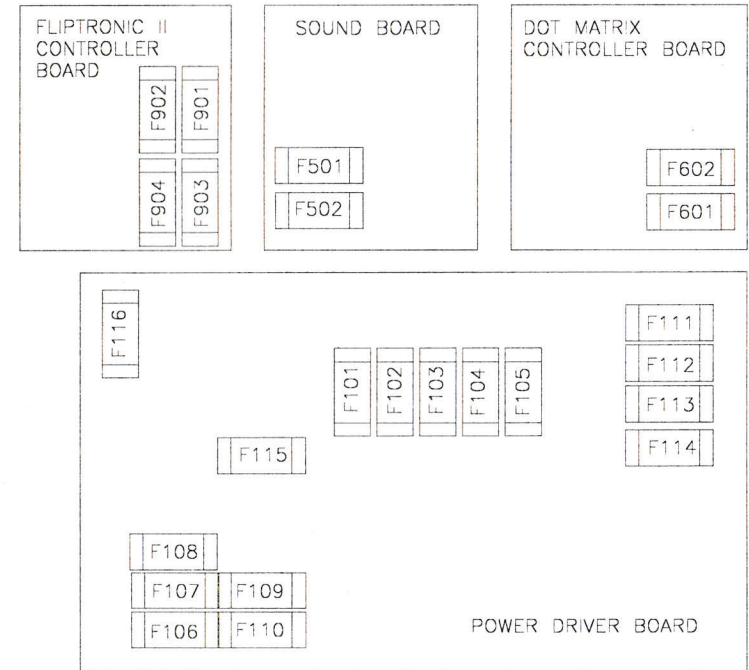
Operators Handbook

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

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FUSE LIST



Sound Board

F501 -25V Circuit	3A, S.B.
F502 +25V Circuit	3A, S.B.

Dot Matrix Controller Board

F601 +62V Circuit,	3/8A, F.B.
F602 -113V & -125V Circuits	3/8A, F.B.

Power Driver Board

F101 +50V general (l. flipper)	3A, S.B.
F102 +50V general (r. flipper)	3A, S.B.
F103 Solenoid #25-#28	3A, S.B.
F104 Solenoid #9-#16	3A, S.B.
F105 Solenoid #1-#8	3A, S.B.
F106 G.I. #5 Wht-Vio	5A, S.B.
F107 G.I. #4 Wht-Grn	5A, S.B.
F108 G.I. #3 Wht-Yel	5A, S.B.
F109 G.I. #2 Wht-Org	5A, S.B.
F110 G.I. #1 Wht-Brn	5A, S.B.
F111 Flasher Secondary	5A, S.B.
F112 Solenoid Secondary	7A, S.B.
F113 +5V Logic	5A, S.B.
F114 +18V Lamp Matrix	8A, N.B.
F115 +12V Switch Matrix	3/4A, S.B.
F116 +12V Secondary	3A, S.B.

Fliptronic II Controller Board

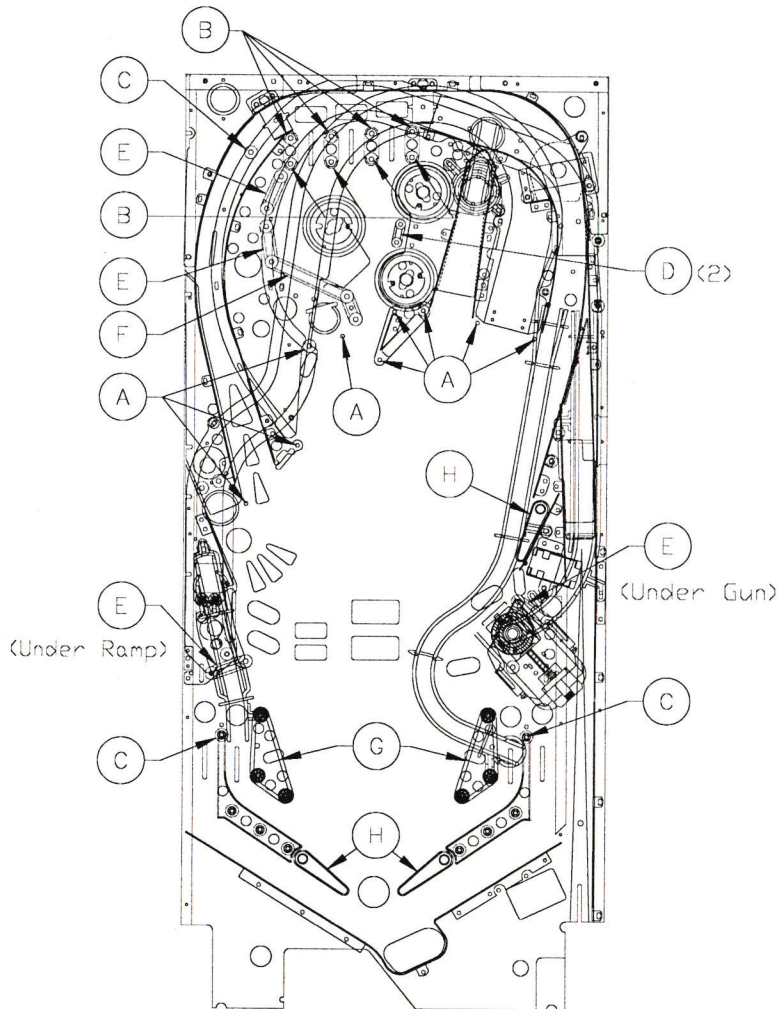
F901 Upper Right Flipper	3A, S.B.
F902 Upper Left Flipper	3A, S.B.
F903 Lower Right Flipper	3A, S.B.
F904 Lower Left Flipper	3A, S.B.

Line Filter

Domestic Game	8A, N.B.
Foreign Game	5A, S.B.

RUBBER RINGS

Item	Part No.	Description	Qty.
A	23-6556	Black Sleeve	9
B	23-6641	Black Bumper	8
C	23-6694-1	3/32" Black Ring	3
D	23-6694-4	7/16" Black Ring	2
E	23-6694-6	1" Black Ring	4
F	23-9994-9	2" Black Ring	1
G	23-6694-10	2-1/2" Black Ring	2
H	23-6695	Black Flipper Ring	3



MAIN MENU

The Main Menu allows you to choose from several categories, which in turn lead to other menus to choose from. To access the Main Menu, open the coin door and press the Begin Test button, then press the Enter button. Press the Up or Down buttons to cycle through the Main Menu. Press the Enter button to access a menu. Press the Escape button to return to the Main Menu. Press the Start button for HELP at any time.

B. BOOKKEEPING MENU

B.1 Main Audits	Press Escape
B.2 Earning Audits	To move out of a menu selection.
B.3 Standard Audits	
B.4 Feature Audits	Press Enter
B.5 Histograms	To get into a menu selection.
B.6 Time-Stamps	

P. PRINTOUTS MENU

P.1 Earnings Data	Press Up
P.2 Main Audits	Increases sequence;
P.3 Standard Audits	(ex. A.1, A.2, A.3, A.4).
P.4 Feature Audits	Press Down
P.5 Score Histograms	Decreases sequence;
P.6 Time Histograms	(ex. A.4, A.3, A.2, A.1).
P.7 Time-Stamps	
P.8 All Data	

T. TEST MENU

T.1 Switch Edges Test	Use Up or Down to cycle through the menu selections.
T.2 Switch Levels Test	Use Escape and Enter to move into and out of the selected menu.
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 Magnet Test	
T.17 Gun Test	
T.18 Trap Door Test	
T.19 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

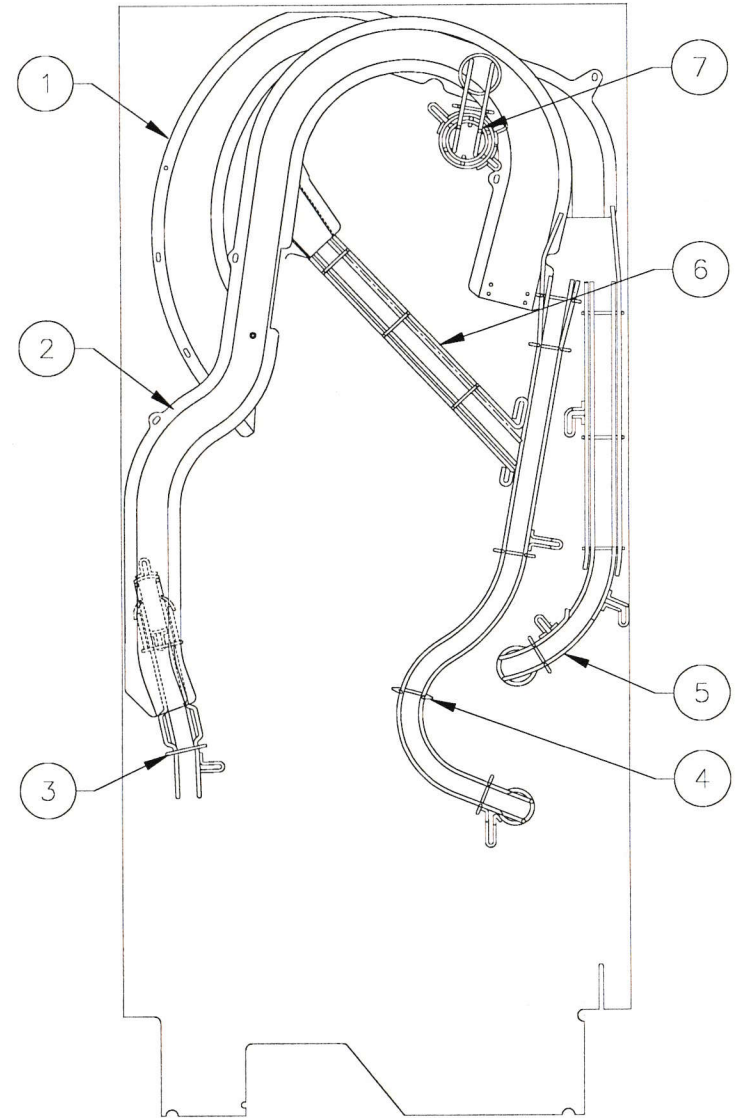
LAMP MATRIX

COLUMN \ ROW	1	2	3	4	5	6	7	8
	Yellow-Brown J137-1 Q98	Yellow-Red J137-2 Q97	Yellow-Orange J137-3 Q96	Yellow-Black J137-4 Q95	Yellow-Green J137-5 Q94	Yellow-Blue J137-6 Q93	Yellow-Violet J137-7 Q92	Yellow-Gray J137-9 Q91
Red-Brown J134-1 Q90 1	Left Rollover 11	Right Ramp Badge 21	Barroom Brawl 31	Safehouse Badge 41	Safehouse 51	Left Loop Generic 61	Not Used 71	Silver 8 Bullet 81
Red-Black J134-2 Q89 2	Middle Rollover 12	Silver 6 Bullet 22	Car Chase 32	Left Ramp Badge 42	Silver 4 Bullet 52	Ricochet 62	Not Used 72	Left Shootout 82
Red-Orange J134-4 Q88 3	Right Rollover 13	Right Loop Generic 23	Warehouse Raid 33	Silver 3 Bullet 43	Silver 5 Bullet 53	Extra Ball 63	Not Used 73	Light Magna Force 83
Red-Yellow J134-5 Q87 4	Magnum Jets 14	Magna Force 24	Letter Bomb 34	Super Jackpot 44	Left Loop HQ 54	HQ Badge 64	Not Used 74	Jets 84
Red-Green J134-6 Q87 5	Magnum Bullets 15	Right Ramp Generic 25	Meet the Mob 35	Left Ramp Generic 45	Warehouse Start Multiball 55	Ransom 65	Not Used 75	Jets 85
Red-Blue J134-7 Q86 6	Light Extra Ball 16	Right Ramp Jackpot 26	Stop Scorpio 36	Ramp Start Multiball 46	Feel Lucky 56	Silver 1 Bullet 66	Not Used 76	Body Armor 86
Red-Violet J134-8 Q84 7	Light Shootout 17	Right Loop HQ 27	Crime Wave 37	Magazine Award 47	Right Shootout 57	HQ 67	Shoot Again 77	Buy In Button 87
Red-Gray J134-9 Q83 8	Playfield Promo. 18	Warehouse Badge 28	Bank Robber Hurry Up 38	Contraband 48	Light Ransom 58	Silver 2 Bullet 68	Silver 7 Bullet 78	Start Button 88

J1XX = POWER DRIVER BOARD

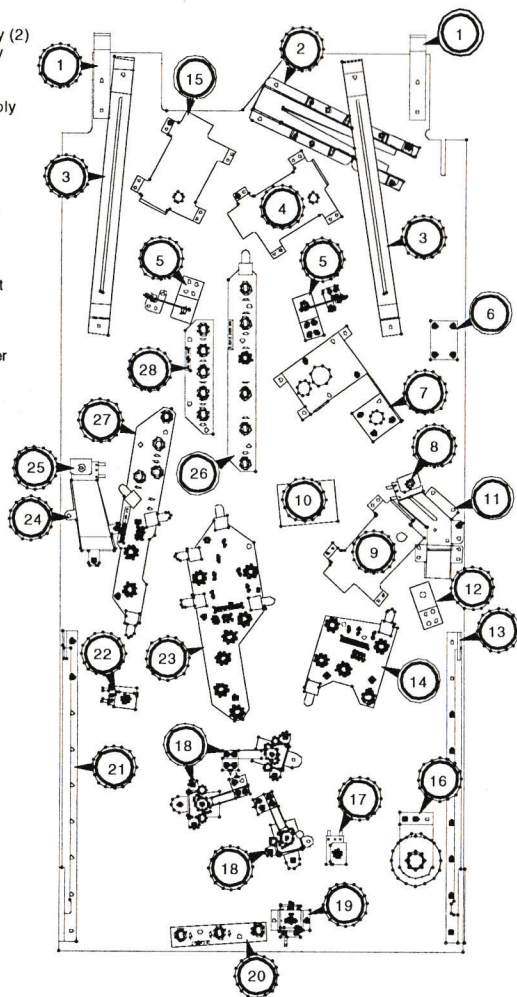
RAMPS

Item	Part Number	Description
1	A-18604	Main Ramp Assembly
2	A-19040	Right Ramp Assembly
3	12-7227	Ball Popper Wire Ramp
4	12-7228.2	Diverter Wire Ramp
5	A-19637	Gun Load Ramp Assembly
6	12-7256	Wire Ramp
7	12-7237.1	Ball Popper Wire Ramp



LOWER PLAYFIELD PARTS & LOCATIONS

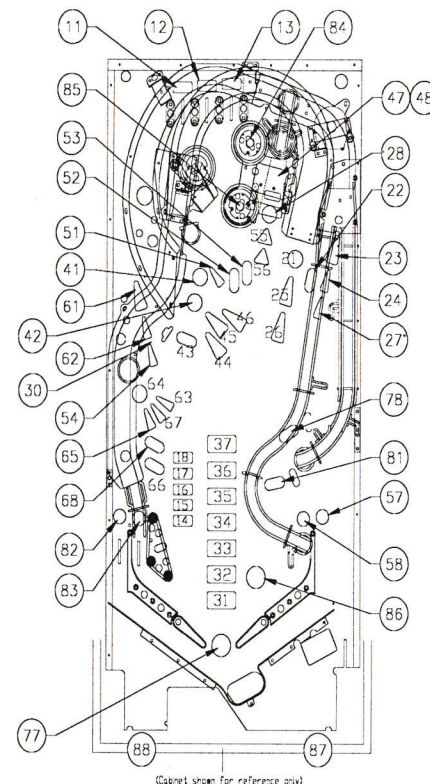
Item	Part Number	Description
1	01-9211	Pfld. Hanger Bracket Assembly (2)
2	A-19963	Outhole Ball Trough ASsembly
3	01-13645	Leg Support (2)
4	A-19223-R	Flipper Assembly, Lwr. Right
5	A-17811	Kicker Arm (Slingshot) Assembly
6	B-9362-R-3	Coil & Bracket Assembly
7	A-15542	Motor EMI Board
8	A-18581	Gun Motor Assembly
9	A-18791	Ball Popper Assembly
10	A-19818-R-2	Flipper Assembly, Upr. Right
11	A-16998.1	16-Opto Board PCB Assembly
12	A-19087	Switch Trough Assembly
13	A-19282	Coil & Bracket Assembly
14	A-19132	Door Assembly
15	A-17749-1-2	Slide Playfield Assembly, Right
16	A-19497	7-Lamp Board Assembly
17	A-15849-L-2	Flipper Assembly, Lwr. Left
18	A-16460	Bracket & Nut Assembly
19	20-9247	Coil Magnet & Thermal Breaker
20	A-19543	Ball Popper Assembly
21	A-9415-2	Jet Bumper Coil Assembly (3)
22	A-17796	Ball Gate Actuator Assembly
23	A-17624	3-Lamp Board Assembly
24	A-17749-1-1	Slide Playfield Assembly, Left
25	A-20024	Eject Assembly
26	A-19496	11-Lamp Board Assembly
27	01-13261	Trough Left Popper
28	A-19119	Ball Popper Assembly
29	A-19363	6-Lamp Board Assembly
30	A-19498	9-Lamp Board Assembly
31	A-19364	5-Lamp Board Assembly



LAMP LOCATIONS

Item No.	Bulb Number	Lamp Assy Number	Description
11	24-8768	A-17624	Left Rollover
12	24-8768	A-17624	Middle Rollover
13	24-8768	A-17624	Right Rollover
14	24-8768	A-19364	Magnum Jets
15	24-8768	A-19364	Magnum Bullets
16	24-8768	A-19364	Light Extra Ball
17	24-8768	A-19364	Light Shootout
18	24-8768	A-19364	Playfield Promo.
21	24-8768	A-19497	Right Ramp Badge
22	24-8768	A-19497	Silver Bullet
23	24-8768	A-19497	Right Loop Generic
24	24-8768	A-19497	Magna Force
25	24-8768	A-19497	Right Ramp Generic
26	24-8768	A-19497	Right Ramp Jackpot
27	24-8768	A-19497	Right Loop HQ
28	24-6549	A-17807	Warehouse Badge
31	24-6549	A-17807	Barroom Brawl
32	24-8768	A-19363	Car Chase
33	24-8768	A-19363	Warehouse Raid
34	24-8768	A-19363	Letter Bomb
35	24-8768	A-19363	Meet The Mob
36	24-8768	A-19363	Stop Scorpio
37	24-8768	A-19363	Crime Wave
38	24-6549	A-8882	Bank Rob. Hurry-up
41	24-8768	A-19496	Safehouse Badge
42	24-8768	A-19496	Left Ramp Badge
43	24-8768	A-19496	Silver Bullet
44	24-8768	A-19496	Super Jackpot
45	24-8768	A-19496	Left Ramp Generic
46	24-8768	A-19496	Right Start Multiball
47	24-6549	A-16041	Magazine Award
48	24-6549	A-16041	Contraband
51	24-8768	A-19496	Safehouse
52	24-8768	A-19496	Silver Bullet 4
53	24-8768	A-19496	Silver Bullet 5
54	24-8768	A-19498	Left Loop HQ
55	24-8768	A-19496	Warehouse St Mball
56	24-8768	A-19496	Feel Lucky
57	24-6549	A-17835	Right Shootout
58	24-6549	A-17835	Light Ransom
61	24-8768	A-19498	Left Loop Generic
62	24-8768	A-19498	Ricochet
63	24-8768	A-19498	Extra Ball
64	24-8768	A-19498	HQ Badge
65	24-8768	A-19498	Ransom
66	24-8768	A-19498	Silver Bullet 1
67	24-8768	A-19498	HQ
68	24-8768	A-19498	Silver Bullet 2
71			Not Used
72			Not Used
73			Not Used
74			Not Used
75			Not Used
76			Not Used
77	24-6549	A-17835	Shoot Again
78	24-6549	A-17807	Silver Bullet 7
81	24-6549	A-17807	Silver Bullet 8
82	24-6549	A-17835	Left Shootout
83	24-6549	A-17835	Light Magna Force
84	24-8768	----	Jets
85	24-8768	----	Jets
86	24-6549	A-17835	Body Armor
87	----	20-9663-20	Buy In Button
88	----	20-9663-1	Start Button

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



(Cabinet shown for reference only)

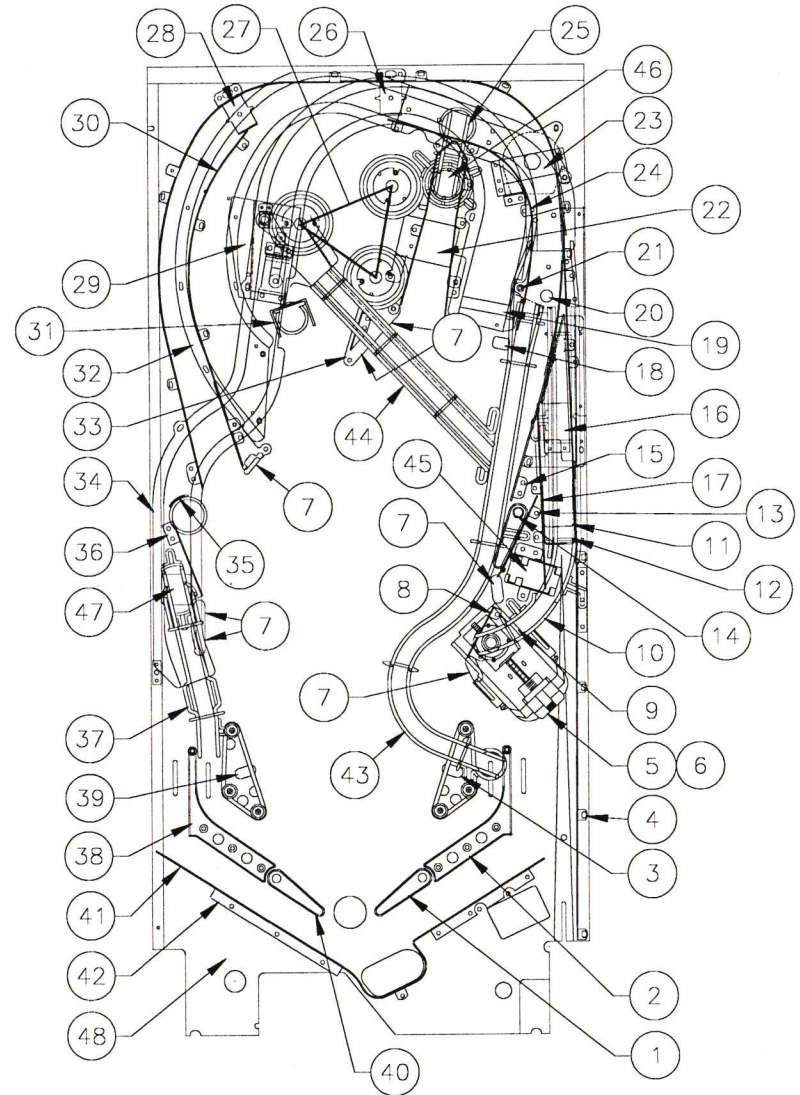
SWITCH MATRIX

Dedicated Grounded Switches	COLUMN		1	2	3	4	5	6	7	8	Flipper Grounded Switches
	ROW		Green-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 J207-9 U20-11	
Org-Brn J205-1 Left Coin Chute D1	White-Brown J209-1 U18-11	Gun Handle Trigger	Slam Tilt	Trough Jam	Left Ramp Enter	Right Ramp Enter	Left Sling	Left Loop	Not Used	Not Used	Black-Green J906-1 Lower Right E.O.S. F1
Org-Red J205-2 Center Coin Chute D2	White-Red J209-2 U18-9	Not Used	Coin Door Closed	Trough 1	Right Loop	Not Used	Right Sling	Not Used	Not Used	Not Used	Blue-Violet J905-1 Lower Right Opto F2
Org-Blk J205-3 Right Coin Chute D3	White-Orange J209-3 U18-5	Start Button	Buy In Button	Trough 2	Left Ramp Make	Not Used	Left Jet	Safehouse	Not Used	Not Used	Black-Blue J906-3 Lower Left E.O.S. F3
Org-Yel J205-4 4th Coin Chute D4	White-Yellow J209-4 U18-7	Plumb Bob Tilt	Always Closed	Trough 3	Gun Chamber	Standup 6	Middle Jet	Not Used	Not Used	Not Used	Blue-Gray J905-2 Lower Left Opto F4
Org-Grn J205-6 Normal Service Credit D5	White-Green J209-5 U19-11	Shooter Lane	Left Inlane	Trough 4	Gun Popper	Standup 7	Right Jet	Not Used	Not Used	Not Used	Black-Violet J906-4 Upper Right E.O.S. F5
Org-Blu J205-7 Normal Volume Down D6	White-Blue J209-7 U19-9	Right Outlane	Left Outlane	Not Used	Warehouse Popper	Standup 5	Left Rollover	Gun Position	Not Used	Not Used	Black-Yellow J905-3 Upper Right Opto F6
Org-Vio J205-8 Normal Volume Up D7	White-Violet J209-8 U19-5	Right Inlane	Standup 1	Not Used	Left Popper	Standup 4	Middle Rollover	Gun Lockup	Not Used	Not Used	Black-Gray J906-5 Upper Left E.O.S. F7
Org-Grp J205-9 Normal Begin Test D8	White-Gray J209-9 U19-7	Standup 8	Standup 2	Right Ramp Make	Not Used	Standup 3	Right Rollover	Not Used	Not Used	Not Used	Black-Blue J905-5 Upper Left Opto F8

J2XX = CPU BOARD; J9XX = FLIPTRONIC II BOARD

= OPTO, TYPICALLY CLOSED

UPPER PLAYFIELD PARTS LOCATION



UPPER PLAYFIELD PARTS LIST

Item No.	Part Number	Description
1	20-9250-5	Flipper Paddle & Shaft
	A-19818-R-2	Flipper Assembly
2	03-9216-9	Flipper Ball Guide
3	A-17811	Slingshot Kicker
	B-9362-R-3	Coil & Bracket Assembly
4	01-12037.1	Shooter Lane Ball Guide-Right
5	31-2260	Decorated Gun
6	A-19112	Gun Assembly
7	A-19723	Black Standup Target
8	01-13281	Gun Ball Guide
9	A-17802	Bulb & Socket Assembly
10	A-19637	Gun Load Ramp
11	A-19699	Shooter & Decal Guide
12	A-19132	Door Assembly
13	A-19341	Upper Flipper Ball Guide
14	20-9250-5	Flipper Paddle & Shaft
	A-15849-L-2	Flipper Assembly
15	A-19347	Ball Guide
16	A-18623	Ramp
17	01-13277.1	Shooter Lane Ball Guide-Left
18	A-17778-7	Oblong Black Standup Target
19	A-19265	Switch Gate
20	A-18585	Ramp Diverter
21	01-13262.1	Ramp Protect
22	A-19793	Warehouse
23	A-19529	Opto Mounting Bracket
24	A-19342	Ball Guide
25	12-7237.1	Wire Ramp
26	A-19710-2	Ball Gate Wireform
27	B-9414-3	Jet Bumper Assembly
	03-8254-4	Red Wafer Cap
28	A-19710-1	Ball Gate Wireform
29	A-19784	Safehouse
30	A-19605.1	Left Loop Inside Ball Guide
31	01-13785	Ball Guide
32	A-18604	Main Ramp
33	A-19696	Plate & Decal
34	A-19040	Right Ramp
35	01-8806	Ball Deflector
36	01-13280	Left Hole Ball Guide
37	12-7227	Wire Ramp
38	03-9216-9	Flipper Ball Guide
39	A-17811	Slingshot Kicker
	B-9362-R-3	Coil & Bracket Assembly
40	20-9250-5	Flipper Paddle & Shaft
	A-15849-L-2	Flipper Assembly
41	12-6842	Bottom Arch Fence
42	01-13638	Bottom Arch Ball Guide
43	12-7228.2	Diverter Ramp
44	12-7256	Wire Ramp
45	A-19543	Gun Ball Popper
46	A-18791	Top Right Ball Popper
47	A-19119	Left Ball Popper
48	A-13204-50030	Bottom Arch Assembly
	31-2027.2	Decorated Bottom Arch

Miscellaneous

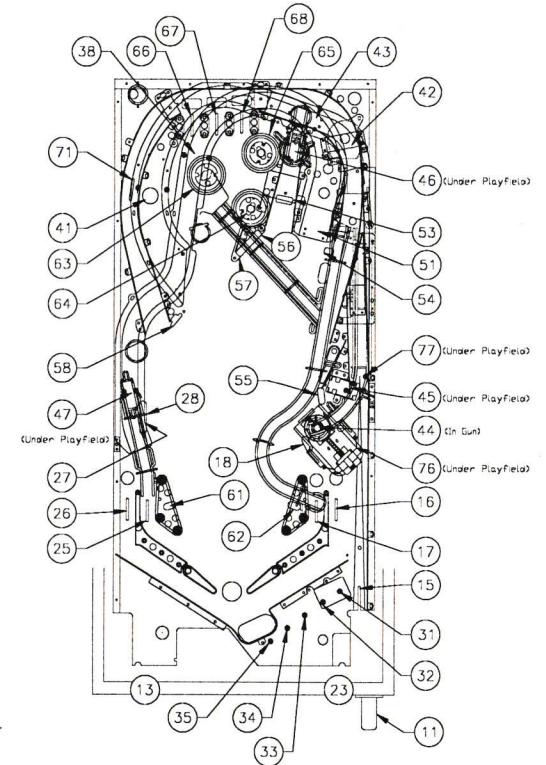
Part Number	Description
A-13769-50030	Playfield & Insert Assembly
A-16113-1	Gun Handle Assembly
01-11066	Trigger
10-320	Eject Spring (red)
21-6692-1	Ride Side Handle
21-6692-2	Left Side Handle
A-19514	Chrome Leg Assembly
D-12615	Stainless Front Molding Assy
03-9310-1	*Full Playfield Mylar
03-9310-2	Small Mylar
08-7028-T	Playfield Glass
Magnet Assembly	
02-4773	Adjustable Magnet Core
20-9247	Coil Magnet
20-2612	Wave Spring Washer

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

SWITCH LOCATIONS

Item No.	Switch Number	Description
F1	SW-1A-194	Lower Right Flipper E.O.S.
F2	A-17316	Lower Right Flipper Cab.
F3	SW-1A-194	Lower Left Flipper E.O.S.
F4	A-17316	Lower Left Flipper Cab.
F5	SW-1A-194	Upper Right Flipper E.O.S.
F6	A-17316	Upper Right Flipper Cab.
F7	SW-1A-194	Upper Left Flipper E.O.S.
F8	A-17316	Upper Left Flipper Cab.
11	5647-12133-12	Gun Handle Trigger
12		Not Used
13	20-9663-1	Start Button
14	A-15361	*Plumb Bob Tilt
15	5647-12693-32	Shooter Lane
16	5647-12693-19	Right Outlane
17	5647-12693-19	Right Inlane
18	A-19723	Standup 8
21	A-17238	*Slam Tilt
22	5643-09268-00	*Coin Door Closed
23	20-9663-20	Buy-in Button
24	5643-09112-00	*Always Closed
25	5647-12693-19	Left Inlane
26	5647-12693-19	Left Outlane
27	A-19723	Standup 1
28	A-19723	Standup 2
31	A-18617-1 (LED)	Trough Jam
	A-18618-1 (Trans)	
32	A-18617-1 (LED)	Trough 1
	A-18618-1 (Trans)	
33	A-18617-1 (LED)	Trough 2
	A-18618-1 (Trans)	
34	A-18617-1 (LED)	Trough 3
	A-18618-1 (Trans)	
35	A-18617-1 (LED)	Trough 4
	A-18618-1 (Trans.)	
36		Not Used
37		Not Used
38	A-16908 (LED)	Right Ramp Make
	A-16909 (Trans.)	
41	A-16908 (LED)	Left Ramp Enter
	A-16909 (Trans.)	
42	A-16908 (LED)	Right Loop
	A-16909 (Trans.)	
43	A-16908 (LED)	Left Ramp Make
	A-16909 (Trans.)	
44	A-16908 (LED)	Gun Chamber
	A-16909 (Trans.)	
45	A-16908 (LED)	Gun Popper
	A-16909 (Trans.)	
46	A-16908 (LED)	Warehouse Popper
	A-16909 (Trans.)	
47	A-16908 (LED)	Left Popper
	A-16909 (Trans.)	
48		Not Used
51	5647-12693-11	Right Ramp Enter
52		Not Used
53		Not Used
54	A-17778-7	Standup 6
55	A-19723	Standup 7
56	A-19723	Standup 5
57	A-19723	Standup 4
58	A-19723	Standup 3
61	A-17801	Left Slingshot
62	A-17801	Right Slingshot
63	B-12030-2	Left Jet Bumper
64	B-12030-2	Middle Jet Bumper
65	B-12030-2	Right Jet Bumper
66	5647-12693-19	Left Rollover
67	5647-12693-19	Middle Rollover
68	5647-12693-19	Right Rollover
71	5647-12693-19	Left Loop
72		Not Used
73	5647-12693-31	Safehouse
74		Not Used
75		Not Used

*Not Shown



Item No.	Switch Number	Description
76	5647-12693-21	Gun Position
77	5647-12693-46	Gun Lockup
81		Not Used
82		Not Used
83		Not Used
84		Not Used
85		Not Used
86		Not Used
87		Not Used
88		Not Used

SOLENOID TABLE

SOL. NO.	FUNCTION	SOLENOID TYPE	VOLTAGE CONNECTIONS			DRIVE XISTOR	DRIVE CONNECTIONS			DRIVE WIRE	SOLENOID PART NUMBER FLASHLAMP TYPE	
			PLAYFIELD	BACKBOX	CABINET		PLAYFIELD	BACKBOX	CABINET		PLAYFIELD	BACKBOX
			01	BALL RELEASE	High Power		J107-2				Q82	J130-1
02	AUTOPUNGER	High Power	J107-2			Q80	J130-2		Vio-Red	AE-23-800		
03	GUN LAUNCH	High Power	J107-2			Q78	J130-4		Vio-Grn	AE-23-800		
04	OP RIGHT POPPER	High Power	J107-2			Q76	J130-5		Vio-Yel	AE-23-800		
05	GUN POPPER	High Power	J107-2			Q64	J130-6		Vio-Grn	AE-24-900		
06	NOT USED	High Power	J107-2			Q66			Vio-Blu		AE-23-800	
07	KNOCKER	High Power	J107-2	J107-2		Q68			Vio-Bk			
08	RAMP DOOR HIGH	High Power	J107-2			Q70	J130-9		Vio-Grn	A-14701		
09	LEFT SLING	Low Power	J107-3			Q58	J127-1		Brn-Bk	AE-26-1200		
10	RIGHT SLING	Low Power	J107-3			Q56	J127-3		Brn-Red	AE-26-1200		
11	LEFT JET	Low Power	J107-3			Q54	J127-4		Brn-Grn	AE-26-1200		
12	RIGHT JET	Low Power	J107-3			Q52	J127-5		Brn-Yel	AE-26-1200		
13	LEFT POPPER	Low Power	J107-3			Q50	J127-6		Brn-Grn	AE-26-1200		
14	RIGHT POPPER	Low Power	J107-3			Q48	J127-7		Brn-Blu	AE-26-1200		
15	RAMP DIVERTER	Low Power	J107-3			Q46	J127-8		Brn-Vio	AE-26-1200		
16	TRAP DOOR HOLD	Low Power	J107-3			Q44	J127-9		Brn-Grn	A-14701		
17	HEADLAMPERS	Flesner	J107-6			Q42	J126-1		Bk-Brn	#906 (2)		
18	SAFHOUSE	Flesner	J107-6			Q40	J126-2		Bk-Red	#906 (1)		
19	WAREHOUSE	Flesner	J107-6			Q38	J126-3		Bk-Grn	#906 (1)		
20	GUN MOTOR	Low Power	J118-2			Q36	J126-4		Bk-Yel	A-19735		
21	GUN LOADED	Flesner	J107-6			Q28	J126-5		Blu-Grn	#906 (1)		
22	RIGHT RAMP	Flesner	J107-6			Q30	J126-6		Blu-Bk	#89 (1)		
23	RIGHT BACK	Flesner	J107-6			Q34	J126-7		Blu-Grn	#906 (2)		
24	LEFT BACK	Flesner	J107-6			Q32	J126-8		Blu-Grn	#906 (2)		
25	NOT USED	Gen. Purpose	J107-1			Q26			Blu-Brn			
26	TOP LEFT POPPER	Gen. Purpose	J107-1			Q24	J122-2		Blu-Red	AE-26-1500		
27	LEFT DIVERTER	Gen. Purpose	J107-1			Q22	J122-3		Blu-Grn	AE-26-1200		
28	RIGHT LOOP GATE	Gen. Purpose	J107-1			Q20	J122-4		Blu-Yel	A-14406		
29-36	SEE FLIPPER CTS											
37	NOT USED	Low Power				Q16			Brn-Wht			
38	NOT USED	Low Power				Q15			Bk-Wht			
39	NOT USED	Low Power				Q14			Org-Wht			
40	NOT USED	Low Power				Q13			Yel-Wht			
41	NOT USED	Low Power				Q9			Grn-Wht			
42	NOT USED	Low Power				Q10			Blu-Wht			
43	NOT USED	Low Power				Q11			Vio-Wht			
44	NOT USED	Low Power				Q12			Grn-Wht			

GENERAL ILLUMINATION												
01	RIGHT STRING	G.L.	J120-1	J121-1		Q18	J120-7	J121-7		Wht-Brn	#44	#555
02	LEFT STRING	G.L.	J120-2	J121-2		Q10	J120-8	J121-8		Wht-Grn	#44	#555
03	STRING 3	G.L.	J120-3			Q14	J120-9			Wht-Yel	#44	#545
04	STRING 4	G.L.	J120-5			Q16	J120-10			Wht-Grn	#44	#555
05	BOTTOM STRING	G.L.	J121-6	J119-3	Q12		J121-11	J119-1		Wht-Vio		#555

FLIPPER CIRCUITS											
SOL. NO.	FUNCTION	SOLENOID TYPE	VOLTAGE CONNECTION		DRIVE XISTOR	DRIVE CONNECTION	DRIVE WIRE	COIL PART NUMBER	COIL COLOR	DRIVE CONNECTION	
			POWER	HOLD						PLAYFIELD	POWER
29	LWR RIGHT FLIPPER	Power	J907-1 (Red-Grn)	Q4	Q11	J902-13	Yel-Grn	FL-11629	BLUE		
30	URR RIGHT FLIPPER	Hold	J907-1 (Red-Grn)	Q3	Q11	J902-11	Org-Grn	FL-11629	BLUE		
31	LWR LEFT FLIPPER	Power	J907-4 (Red-Blu)	Q3	Q9	J902-7	Yel-Blu	FL-11629	BLUE		
32	URR LEFT FLIPPER	Hold	J907-4 (Red-Blu)	Q2	Q9	J902-6	Org-Blu	FL-11629	BLUE		
33	LWR RIGHT FLIPPER	Power	J907-6 (Red-Vio)	Q2	Q7	J902-4	Yel-Vio	FL-11629	BLUE		
34	URR RIGHT FLIPPER	Hold	J907-6 (Red-Vio)	Q1	Q7	J902-3	Yel-Grn	FL-11629	BLUE		
35	RIGHT LOOP MAGNET	Power	J907-8 (Red-Grn)	Q1	Q5	J902-1	Org-Grn				*SEE BELOW
36	NOT USED	Hold	J907-8 (Red-Grn)	Q5	Q5	J902-1	Org-Grn				

J1XX-X=POWER DRIVER BOARD; JX-X=AUX. DRIVER BOARD; J9XX-X=FLIPTRONIC II BOARD; 24-6549=#44 BULB; 24-8704=#89 BULB; 24-8768=#555 BULB; 24-8802=#906; 24-8825=#545 *Q2-4773=ADJUSTABLE MAGNET CORE; 20-9247=COIL MAGNET; 20-9612=WAVE SPRING WASHER

TIEBACK DIODES:

J122-6 (RED-ORANGE) TIEBACK DIODE FOR SOL. 26 TOP LEFT POPPER
 J122-8 (RED-ORANGE) TIEBACK DIODE FOR SOL. 27 LEFT DIVERTER
 J122-9 (RED-ORANGE) TIEBACK DIODE FOR SOL. 28 RIGHT LOOP GATE

SOLENOID LOCATIONS

Item No.	Coil/ Flasher No.	Assembly Number	Description
01	AE-26-1500	A-19963	Ball Release
02	AE-23-800	A-14525	Autopunger
03	AE-23-800	A-19112	Gun Launch
04	AE-23-800	A-18791	Top Rt. Popper
05	AE-24-900	A-19543	Gun Popper
06	Not Used		Not Used
07	AE-23-800	B-10686-1	Knocker
08	A-14701	A-19282	Trap Door High
09	AE-26-1200	B-9362-R-3	Left Slingshot
10	AE-26-1200	B-9362-R-3	Right Slingshot
11	AE-26-1200	A-9416-2	Left Jet
12	AE-26-1200	A-9416-2	Middle Jet
13	AE-26-1200	A-9416-2	Right Jet
14	AE-26-1200	A-19119	Left Popper
15	AE-26-1200	A-18585	Ramp Diverter
16	A-14701	A-19282	Trap Door Hold
17	*24-8802	-----	Headquarters
18	24-8802	A-17802	Safehouse
19	24-8802	A-17802	Warehouse
20	A-19735	A-18581	Gun Motor
21	24-8802	A-17802	Gun Loaded
22	24-8704	A-19821	Right Ramp
23	*24-8802	-----	Right Back
24	24-8802	C-13337	Back Panel
25	*24-8802	-----	Left Back
26	24-8802	C-13337	Back Panel
27	Not Used		Not Used
28	AE-26-1500	A-18768	Top Lt. Popper
29	AE-26-1200	A-19746	Left Diverter
30	A-14406	A-17796	Rt. Loop Gate

Flippers

29-30	FL-11629	A-19818-R-2	Lwr. Rt. Flipper
31-32	FL-11629	A-15849-L-2	Lwr. Lt. Flipper
33-34	FL-11629	A-19223-R	Upr. Rt. Flipper
35-36			

General Illumination

01	24-6549	-----	Right String
02	24-8768	-----	Left String
03	24-6549	-----	String 3
04	24-6549	-----	String 4
05	24-8768	-----	Bottom String

24-6549 = #44 BULB
 24-8704 = #89 BULB
 24-8768 = #555 BULB
 24-8802 = #906 BULB
 24-8825 = #545 BLINKING BULB
 *A-14265-13 = RECEPTACLE & SKIRT

