

Gottlieb's Time Line

Switch Matrix

	RETURN 0 A1J6-10 Blu-Blk-Blk (600)	RETURN 1 A1J6-11 Blu-Brn-Brn (611)	RETURN 2 A1J6-12 Blu-Red-Red (622)	RETURN 3 A1J6-13 Blu-Orn-Orn (633)	RETURN 4 A1J6-14 Blu-Yel-Yel (644)	RETURN 5 A1J6-15 Blu-Grn-Grn (655)	RETURN 6 A1J5-8 / A1J6-16 Blu-Blu-Blu (666)	RETURN 7 A1J5-1 / A1J6-17 Blu-Pur-Pur (677)
STROBE 0 A1J5-2 / A1J6-1 Yel-Blk-Blk (400)	Not Used SW.00	#1 Top Target Blk-Blk-Blk (000) SW.01	#1 Red Drop Target Brn-Blk-Blk (100) SW.02	#1 Yellow Drop Target Orn-Blk-Blk (300) SW.03	#1 Black Drop Target Blk-Slt-Slt (088) SW.04	Not Used SW.05	Not Used SW.06	Test Button Grn-Blk-Blk (500) SW.07
STROBE 1 A1J5-3 / A1J6-2 Yel-Brn-Brn (411)	Not Used SW.10	Not Used SW.11	#2 Red Drop Target Brn-Brn-Brn (111) SW.12	#2 Yellow Drop Target Orn-Brn-Brn (311) SW.13	#2 Black Drop Target Blk-Yel-Yel (044) SW.14	Not Used SW.15	Not Used SW.16	Left Coin Chute Grn-Brn-Brn (511) SW.17
STROBE 2 A1J5-4 / A1J6-3 Yel-Red-Red (422)	Not Used SW.20	#2 Top Target Red-Grn-Grn (255) SW.21	#3 Red Drop Target Brn-Red-Red (122) SW.22	#3 Yellow Drop Target Orn-Red-Red (322) SW.23	#3 Black Drop Target Blk-Grn-Grn (055) SW.24	Not Used SW.25	Not Used SW.26	Center Coin Chute Grn-Red-Red (522) SW.27
STROBE 3 A1J5-5 / A1J6-4 Yel-Orn-Orn (433)	Not Used SW.30	Not Used SW.31	#4 Red Drop Target Brn-Orn-Orn (133) SW.32	#4 Yellow Drop Target Orn-Orn-Orn (333) SW.33	#4 Black Drop Target Blk-Blu-Blu (066) SW.34	Not Used SW.35	Not Used SW.36	Right Coin Chute Grn-Orn-Orn (533) SW.37
STROBE 4 A1J5-6 / A1J6-5 Yel-Yel-Yel (444)	Not Used SW.40	#3 Top Target Red-Yel-Yel (244) SW.41	#5 Red Drop Target Brn-Yel-Yel (144) SW.42	Left Lane Target Orn-Pur-Pur (377) SW.43	#5 Black Drop Target Blk-Pur-Pur (077) SW.44	Not Used SW.45	Not Used SW.46	Replay Button Grn-Yel-Yel (544) SW.47
STROBE 5 A1J5-7 / A1J6-6 Yel-Grn-Grn (455)	Not Used SW.50	Right Side Rollover Slt-Pur-Pur (877) SW.51	Runway Red-Brn-Brn (211) SW.52	Collect Bonus Rollover Red-Blu-Blu (266) SW.53	Not Used SW.54	Not Used SW.55	Not Used SW.56	Tilt Grn-Grn-Grn (555) Yel-Slt-Slt (488) SW.57
STROBE 6 A1J6-7 Yel-Blu-Blu (466)	Not Used SW.60	Right Side Target Red-Blk-Blk (200) SW.61	Left, Center, & Right Return Rollovers Red-Orn-Orn (233) SW.62	Ball Kicker Red-Red-Red (222) SW.63	Not Used SW.64	Not Used SW.65	Not Used SW.66	Outhole Red-Pur-Pur (277) SW.67
STROBE 7 A1J5-9 / A1J6-8 Yel-Pur-Pur (477)	Not Used SW.70	10 Points (8) Blk-Orn-Orn (033) SW.71	Left & Right Outlanes Blk-Brn-Brn (011) SW.72	Pop Bumpers (3) Pur-Blk-Blk (700) SW.73	Not Used SW.74	Not Used SW.75	Not Used SW.76	Not Used SW.77

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Driverboard

transistor	connector	code	description	wire code	wire color	transistor type
Q01	A3J3-A	L0	Game Over Relay (Q)	288	Red-Slt-Slt	MPS-U45
Q Relay			Match	011	Blk-Brn-Brn	Q relay n.c.
Q Relay			Ball in Play	033	Blk-Orn-Orn	Q relay n.o.
Q02	A3J3-B	L1	Tilt Relay (T)	277	Red-Pur-Pur	MPS-U45
T Relay			Tilt	022	Brn-Red-Red	T relay n.o.
Q03	A3J5-2	L2	Coin Lockout	877	Slt-Pur-Pur	MPS-U45
Q04	A3J2-1 / A3J3-C	L3	Same Player Shoot Again	588	Gm-Slt-Slt	MPS-U45
Q05	A3J2-2	L4	Player 1	500	Gm-Blk-Blk	MPS-A13
Q06	A3J2-3	L5	Player 2	511	Gm-Brn-Brn	MPS-A13
Q07	A3J2-5	L6	Player 3	522	Gm-Red-Red	MPS-A13
Q08	A3J2-4	L7	Player 4	533	Gm-Orn-Orn	MPS-A13
Q09	A3J2-10	L8	Not Used	544	Gm-Yel-Yel	MPS-A13
Q10	A3J2-9	L9	Not Used	555	Gm-Gm-Gm	MPS-A13 + UPT
Q11	A3J2-7	L10	High Game To Date	577	Gm-Pur-Pur	MPS-A13
Q12	A3J2-8	L11	Game Over	566	Gm-Blu-Blu	MPS-A13
Q13	A3J3-25	L12	X - 1st Circle	100	Brn-Blk-Blk	MPS-U45
Q14	A3J3-24	L13	X - 2nd Circle	111	Brn-Brn-Brn	MPS-U45 + UPT
Q15	A3J3-22	L14	X - 3rd Circle	122	Brn-Red-Red	MPS-U45 + UPT
Q16	A3J3-23	L15	X - 4th Circle	133	Brn-Orn-Orn	MPS-U45
Q17	A3J3-13	L16	X - Center Circle	144	Brn-Yel-Yel	MPS-U45
Q18	A3J3-14	L17	X - 6th Circle	155	Brn-Gm-Gm	MPS-U45
Q19	A3J3-16	L18	X - 7th Circle	166	Brn-Blu-Blu	MPS-U45
Q20	A3J3-15	L19	X - 8th Circle	177	Brn-Pur-Pur	MPS-U45
Q21	A3J3-21	L20	X - 9th Circle	300	Orn-Blk-Blk	MPS-U45
Q22	A3J3-20	L21	O - 1st Circle	311	Orn-Brn-Brn	MPS-U45
Q23	A3J3-18	L22	O - 2nd Circle	322	Orn-Red-Red	MPS-U45
Q24	A3J3-19	L23	O - 3rd Circle	333	Orn-Orn-Orn	MPS-U45
Q25	A3J3-9	L24	O - 4th Circle	344	Orn-Yel-Yel	MPS-U45
Q26	A3J3-10	L25	O - 6th Circle	355	Orn-Gm-Gm	MPS-U45
Q27	A3J3-12	L26	O - 7th Circle	366	Orn-Blu-Blu	MPS-U45
Q28	A3J3-11	L27	O - 8th Circle	377	Orn-Pur-Pur	MPS-U45
Q29	A3J3-Y	L28	O - 9th Circle	500	Gm-Blk-Blk	MPS-U45
Q30	A3J3-X	L29	#1 Top Target	511	Gm-Brn-Brn	MPS-U45
Q31	A3J3-V	L30	#2 Top Target	522	Gm-Red-Red	MPS-U45
Q32	A3J3-W	L31	#3 Top Target	533	Gm-Orn-Orn	MPS-U45
Q33	A3J3-5	L32	Left Lane Extra Ball	544	Gm-Yel-Yel	MPS-A13
Q34	A3J3-6	L33	Red Drop Target 5,000 When Lit	555	Gm-Gm-Gm	MPS-A13
Q35	A3J3-K	L34	Gong	566	Gm-Blu-Blu	MPS-A13 + UPT
Q36	A3J3-7	L35	Special	577	Gm-Pur-Pur	MPS-A13
Q37	A3J4-1	L36	15,000 When Lit Plunger Return	700	Pur-Blk-Blk	MPS-A13
Q38	A3J4-2	L37	Yellow Drop Target 5,000 When Lit	711	Pur-Brn-Brn	MPS-A13
Q39	A3J4-4	L38	Win	722	Pur-Red-Red	MPS-A13
Q40	A3J4-3	L39	Lose	733	Pur-Orn-Orn	MPS-A13
Q41	A3J3-4	L40	5,000 / 1X	744	Gm-Yel-Yel	MPS-A13
Q42	A3J3-3	L41	20,000 / 2X	755	Gm-Gm-Gm	MPS-A13
Q43	A3J3-T	L42	Extra Ball / 3X	766	Gm-Blu-Blu	MPS-A13
Q44	A3J3-2	L43	50,000 / 4X	777	Gm-Pur-Pur	MPS-A13
Q45	A3J3-D	L44	Special / 5X	800	Slt-Blk-Blk	MPS-U45
Q46	A3J3-F	L45	Gate Open	811	Slt-Brn-Brn	MPS-U45
Q47	A3J3-P	L46	Gives Center "X"	822	Slt-Red-Red	MPS-U45
Q48	A3J3-M	L47	Auxiliary Relay	833	Slt-Orn-Orn	MPS-U45
Q49	A3J3-E	L48	Not Used	844	Slt-Yel-Yel	MPS-U45
Q50	A3J3-H	L49	Not Used	855	Slt-Gm-Gm	MPS-U45
Q51	A3J3-R	L50	Gives "X" in Circle 7	866	Slt-Blu-Blu	MPS-U45
Q52	A3J3-N	L51	Not Used	877	Slt-Pur-Pur	MPS-U45
Q53	A3J5-8	Solenoid 8	Knocker	888	Slt-Slt-Slt	2N6043
Q54	A3J6-3	Solenoid 3	Coin Counter 1	655	Blu-Gm-Gm	MPS-U45
Q55	A3J6-2	Solenoid 4	Coin Counter 2	644	Blu-Yel-Yel	MPS-U45
Q56	A3J6-1	Solenoid 7	Coin Counter 3	633	Blu-Orn-Orn	MPS-U45
Q57-Q58	A3J4-13	Solenoid 2	Red Drop Target Bank Reset	200	Red-Blk-Blk	MPS-U45 - 2N3055
Q59	A3J4-8	Solenoid 9	Outhole	244	Red-Yel-Yel	2N6043
Q60	A3J4-7	Solenoid 1	Yellow Drop Target Bank Reset	266	Red-Blu-Blu	2N6043
Q61-Q62	A3J4-6	Solenoid 5	Ball Kicker	211	Red-Brn-Brn	MPS-U45 - 2N3055
Q63-Q64	A3J4-12	Solenoid 6	Black Drop Target Bank Reset	233	Red-Orn-Orn	MPS-U45 - 2N3055

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Fuse List

designation	Wire in	Value	Wire out	description	location
F1	Blk-Slt-Slt (088)	5 Amp	Blk-Pur-Pur (077)	6.3VAC Lightbox Illumination	Bottom Board
F2		10 Amp	Blk-Blu-Blu (066)	6.3VAC Playboard Illumination	Bottom Board
F3	Orn-Blk-Blk (300)	8 Amp Slo-Blo	Orn-Brn-Brn (311)	8VAC Controlled Lamps	Bottom Board
F4	Orn-Red-Red (322)	¼ Amp Slo-Blo	Orn-Orn-Orn (333)	12VAC Sound Board	Bottom Board
F5	Red-Brn-Brn (211)	5 Amp Slo-Blo	Red-Orn-Orn (233)	10VAC Power Supply	Bottom Board
F6	Red-Blu-Blu (266)	5 Amp Slo-Blo	Red-Pur-Pur (277)	25VAC Solenoids	Bottom Board
F7	Brn-Slt-Slt (188)	¼ Amp Slo-Blo	Brn-Blk-Blk (100)	60VAC Score Displays	Bottom Board
F8	--	5 Amp Slo-Blo	Grn-Slt-Slt (588)	115VAC Primary Fuse	Bottom Board
		2½ Amp Slo-Blo		230VAC Primary Fuse	Bottom Board
F9	Red-Red-Red (222)	1 Amp Slo-Blo	Slt-Blu-Blu (866)	Outhole	Playfield
F10	Red-Red-Red (222)	2 Amp Slo-Blo	Grn-Blu-Blu (566)	Yellow Drop Target Bank Reset	Playfield
				Red Drop Target Bank Reset	
				Ball Kicker	
				Black Drop Target Bank Reset	
F11	Orn-Slt-Slt (388)	2 Amp Slo-Blo	Yel-Pur-Pur (477)	Gong	Playfield
F12		2 Amp Slo-Blo	Slt-Yel-Yel (844)	Left Pop Bumper	Playfield
F13		2 Amp Slo-Blo	Slt-Grn-Grn (855)	Right Pop Bumper	Playfield
F14		2 Amp Slo-Blo	Slt-Brn-Brn (811)	Bottom Pop Bumper	Playfield

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Solenoids

	Solenoid description	Solenoid Type	Power Wire	Fuse	Transfer Wire	Coil Wire Color	Connector	Driver Tr.	Transistor Type	Coil Type
L0	Game Over Relay	controlled	Red-Red-Red (222)			Red-Slt-Slt (288)	A3J3-A	Q1	MPS-U45	A-16890
L1	Tilt Relay	controlled	Red-Red-Red (222)			Red-Pur-Pur (277)	A3J3-B	Q2	MPS-U45	A-16890
L2	Lockout	controlled	Red-Red-Red (222)			Slt-Pur-Pur (877)	A3J5-2	Q3	MPS-U45	A-16890
L34	Gong	controlled	Orn-Slt-Slt (388)	F11	Yel-Pur-Pur (477)	Yel-Blu-Blu (466)	A3J3-K	Q35 + UPT	MPS-U45 - 2N5875	A-5194
L45	Gate Open	controlled	Orn-Slt-Slt (388)			Slt-Brn-Brn (811)	A3J3-F	Q46	MPS-U45	A-20558
L47	Auxiliary Relay	controlled	Orn-Slt-Slt (388)			Slt-Orn-Orn (833)	A3J3-M	Q48	MPS-U45	A-16890
Sol. 1	Yellow Drop Target Bank Reset	controlled	Red-Red-Red (222)	F10	Grn-Blu-Blu (566)	Red-Blu-Blu (266)	A3J4-7	Q60	2N6043	A-18318
Sol. 2	Red Drop Target Bank Reset	controlled	Red-Red-Red (222)	F10	Grn-Blu-Blu (566)	Red-Blk-Blk (200)	A3J4-13	Q57 + Q58	MPS-U45 + 2N3055	A-17891
Sol. 3	Coin Counter #1	controlled	Red-Red-Red (222)			Blu-Grn-Grn (655)	A3J6-3	Q54	MPS-U45	
Sol. 4	Coin Counter #2	controlled	Red-Red-Red (222)			Blu-Yel-Yel (644)	A3J6-2	Q55	MPS-U45	
Sol. 5	Ball Kicker	controlled	Red-Red-Red (222)	F10	Grn-Blu-Blu (566)	Red-Brn-Brn (211)	A3J4-6	Q61 + Q62	MPS-U45 + 2N3055	A-5194
Sol. 6	Black Drop Target Bank Reset	controlled	Red-Red-Red (222)	F10	Grn-Blu-Blu (566)	Red-Orn-Orn (233)	A3J4-12	Q63 + Q64	MPS-U45 + 2N3055	A-17891
Sol. 7	Coin Counter #3	controlled	Red-Red-Red (222)			Blu-Orn-Orn (633)	A3J6-1	Q56	MPS-U45	
Sol. 8	Knocker	controlled	Red-Red-Red (222)			Slt-Slt-Slt (888)	A3J5-8	Q53	2N6043	A-5195
Sol. 9	Outhole	controlled	Red-Red-Red (222)	F9	Slt-Blu-Blu (866)	Red-Yel-Yel (244)	A3J4-8	Q59	2N6043	A-16570
	Left Pop Bumper	Pop Bumper Board	Orn-Slt-Slt (388)	F12	Slt-Yel-Yel (844)	Brn-Slt-Slt (188)	1A8J1-1	board 1 - Q1	2N6057	A-1496
	Right Pop Bumper	Pop Bumper Board	Orn-Slt-Slt (388)	F13	Slt-Grn-Grn (855)	Yel-Slt-Slt (488)	2A8J1-1	board 2 - Q1	2N6057	A-1496
	Bottom Pop Bumper	Pop Bumper Board	Orn-Slt-Slt (388)	F14	Slt-Brn-Brn (811)	Slt-Slt-Slt (888)	3A8J1-1	board 3 - Q1	2N6057	A-1496
	Top Kicking Rubber	directly	Orn-Slt-Slt (388)					switch		A-1496
	Left Kicking Rubber	directly	Orn-Slt-Slt (388)					switch		A-1496
	Right Kicking Rubber	directly	Orn-Slt-Slt (388)					switch		A-1496
	Upper Captive Left Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Grn-Grn (055)	to coil	A7J5-9	button		A-17875
	Left Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Grn-Grn (055)	to coil	A7J5-9	button		A-20095
	Right Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Yel-Yel (044)	to coil	A7J5-10	button		A-20095
	Upper Captive Right Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Yel-Yel (044)	to coil	A7J5-10	button		A-17875

UPT = Under Playfield Transistor

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