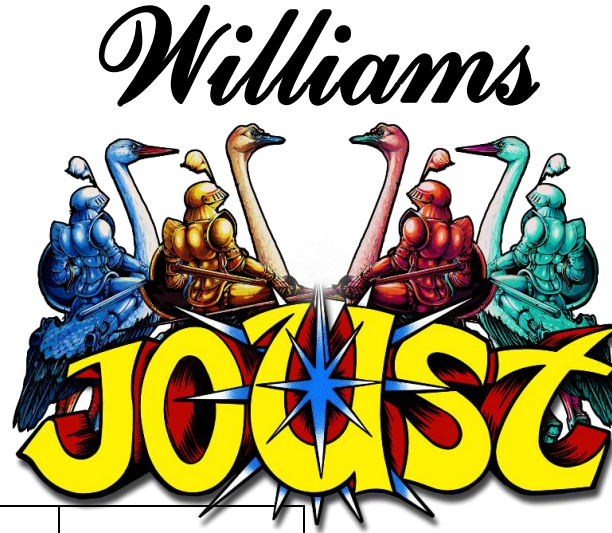


**Model # 519**

**FUSE LIST**

Power Supply Board D-8345			Sound Board D-8223 (Type-2)		
F1	100V Display Power Input	0.25A, 250V, SB	F1	Power Input	4A, 250V, SB
F2	Solenoids	2.5A, 250V, SB	F2	Power Input	4A, 250V, SB
F3	Controlled lamps 18V	8A, 250V, SB	<b>Back Box</b>		
F4	Flippers	10A, 250V	BR1	Bridge Rectifier 18V	8A, 250V, SB
F5	5V & 12V Logic Power Input	7A, 250V, SB	BR2	Bridge Rectifier 34V	8A, 250V, SB
F6	5V & 12V Logic Power Input	7A, 250V, SB	<b>Line Filter</b>		
F7	General Illumination	20A, 250V	Foreign	(220-230V)	4A, 250V, SB
			Domestic	(110-120V)	8A, 250V, SB



**SOLENOID/FLASHER TABLE**

Sol. No.	Function	Solenoid Type	Wire Color <sup>1</sup>	Connections		Driver Transistor	Solenoid Part Number
				Driver Board	Playfield / Cabinet		
1	Outhole P1	Controlled	Gry-Brn	2J11-4	8P3-1	Q15	SA-23-850-DC
2	Outhole P2	Controlled	Gry-Red	2J11-5	8P3-2	Q17	SA-23-850-DC
3	Ball Release P1	Controlled	Gry-Orn	2J11-7	8P3-3	Q19	SA-23-850-DC
4	Ball Release P2	Controlled	Gry-Yel	2J11-8	8P3-4	Q21	SA-23-850-DC
5	Ball Shooter P1	Controlled	Gry-Grn	2J11-9	8P3-5	Q23	SA-23-850-DC
6	Ball Shooter P2	Controlled	Gry-Blu	2J11-3	8P3-6	Q25	SA-23-850-DC
7	Eject Hole P1	Controlled	Gry-Vio	2J11-2	8P3-7	Q27	SA-23-850-DC
8	Eject Hole P2	Controlled	Gry-Blk	2J11-1	8P3-8	Q29	SA-23-850-DC
9	Disappearing Target (Front) P1	Controlled	Brn-Blk	2J9-9	8P3-9	Q31	SA-24-750-DC
10	Disappearing Target (Front) P2	Controlled	Brn-Red	2J9-7	8P3-10	Q33	SA-24-750-DC
11	Disappearing Target (Rear) P1	Controlled	Brn-Orn	2J9-1	3P7-1	Q35	SA-24-750-DC
12	Disappearing Target (Rear) P2	Controlled	Brn-Yel	2J9-2	8P3-12	Q37	SA-24-750-DC
13	Left 3-Bank Drop Target Reset Relay	Controlled	Brn-Grn	2J9-3	8P3-13	Q39	5580-09613-00
14	Right 3-Bank Drop Target Reset Relay	Controlled	Brn-Blu	2J9-4	8P3-14	Q41	5580-09613-00
15	General Illumination Relay	Controlled	Brn-Vio	2J9-5	7P1-17	Q43	5580-09555-00 <sup>3</sup>
16	Coin Lockout Coil	Controlled	Brn-Gry	2J9-6	7P1-18, 7P2-4	Q45	904218-696
17	Flipper Select Relay	Special #1	Blu-Brn	2J12-7	8P3-17	Q2	5580-09613-00
		Sp. Switch #1	Orn-Brn	2J13-5	8P3-24	IC6	
18	Not Used	Special #2	Blu-Red	2J12-4	8P3-18	Q4	SG1-23-850-DC
		Sp. Switch #2	Orn-Red	2J13-3	8P3-25	IC6	
19	Left Slingshot P1	Special #3	Blu-Orn	2J12-3	8P3-19	Q6	SG1-23-850-DC
		Sp. Switch #3	Orn-Blk	2J13-2	8P3-26	IC6	
20	Left Slingshot P2	Special #4	Blu-Yel	2J12-6	8P3-20	Q8	SG1-23-850-DC
		Sp. Switch #4	Orn-Yel	2J13-4	8P3-27	IC6	
21	Right Slingshot P1	Special #5	Blu-Grn	2J12-8	8P3-21	Q10	SG1-23-850-DC
		Sp. Switch #5	Orn-Grn	2J13-8	8P3-28	IC7	
22	Right Slingshot P2	Special #6	Blu-Blk	2J12-9	8P3-22	Q12	SG2-23-850-DC
		Sp. Switch #6	Orn-Blu	2J13-5	8P3-29	IC7	
Flipper Circuits			Power				
	Player 1 - Left Flipper <sup>2</sup>	Switch	Blu-Gry	8P3-32	Blu	8J2-23	SFL19-400 / 30-750-DC
	Player 1 - Right Flipper <sup>2</sup>	Switch	Blu-Vio	8P3-34	Gry	8J2-24	SFL19-400 / 30-750-DC
	Player 2 - Left Flipper <sup>2</sup>	Switch / Relay	Blk-Orn	8P3-31	Blu	8J2-24	SFL19-400 / 30-750-DC
	Player 2 - Right Flipper <sup>2</sup>	Switch / Relay	Blk-Grn	8P3-33	Gry	8J2-23	SFL19-400 / 30-750-DC

Notes:

1. Wire colors are ground connections (to coil terminal with unbanded end of diode).
2. Flipper connections are from flipper button switch to flipper coil.
3. Relay is mounted on Power Supply Board D-8345 in the backbox.

**LAMP MATRIX**

Column	Red				Yellow (B+)						
	1 Yel-Brn 2J5-8 Q63	2 Yel-Red 2J5-9 Q65	3 Yel-Orn 2J5-6 Q67	4 Yel-Blk 2J5-7 Q69	5 Yel-Grn 2J5-3 Q71	6 Yel-Blu 2J5-5 Q73	7 Yel-Vio 2J5-1 Q75	8 Yel-Gry 2J5-2 Q77			
1 Red-Brn 2J7-1 Q47	Game Over 1	Right 3-Bank 50K 9	Hunter 1 17	Egg Bonus 1 25	Spinner Value 5K 33	Right 3-Bank 150K 41	Hunter 3 49	Egg Bonus 4 57			
2 Red-Blk 2J7-2 Q49	Match 2	Right 3-Bank 100K 10	Hunter 2 18	Egg Bonus 2 26	Unlimited Balls 34	Right 3-Bank 200K 42	Extra Ball 50	Egg Bonus 8 58			
3 Red-Orn 2J7-3 Q51	Tilt 3	Right 3-Bank 150K 11	Hunter 3 19	Egg Bonus 4 27	2X Bonus Multiplier 35	Disappearing Target Lane 40K 43	50K + 5 Eggs 51	Egg Bonus 16 59			
4 Red-Yel 2J7-4 Q53	High Score 4	Right 3-Bank 200K 12	Extra Ball 20	Egg Bonus 8 28	3X Bonus Multiplier 36	Disappearing Target Lane 80K 44	Eject 20K 52	Egg Bonus 32 60			
5 Red-Grn 2J7-5 Q55	2X Bonus Multiplier 5	Disappearing Target Lane 40K 13	50K + 5 Eggs 21	Egg Bonus 16 29	5X Bonus Multiplier 37	Disappearing Target Lane 160K 45	Eject 30K 53	Collect Egg Bonus 61			
6 Red-Blu 2J7-6 Q57	3X Bonus Multiplier 6	Disappearing Target Lane 80K 14	Eject 20K 22	Egg Bonus 32 30	Release 38	Disappearing Target Lane 320K 46	Eject 50K 54	Spinner Value 1K 62			
7 Red-Vio 2J7-9 Q61	5X Bonus Multiplier 7	Disappearing Target Lane 160K 15	Eject 30K 23	Collect Egg Bonus 31	Right 3-Bank 50K 39	Hunter 1 47	Egg Bonus 1 55	Spinner Value 5K 63			
8 Red-Gry 2J7-8 Q59	Release 8	Disappearing Target Lane 320K 16	Eject 50K 24	Spinner Value 1K 32	Right 3-Bank 100K 40	Hunter 2 48	Egg Bonus 2 56	Unlimited Balls 64			
				Player 1				Player 2			

**SWITCH MATRIX**

Column	White				Green						
	1 Grn-Brn 2J2-9 IC17	2 Grn-Red 2J2-8 IC17	3 Grn-Orn 2J2-7 IC17	4 Grn-Yel 2J2-6 IC17	5 Grn-Blk 2J2-5 IC18	6 Grn-Blu 2J2-3 IC18	7 Grn-Vio 2J2-2 IC18	8 Grn-Gry 2J2-1 IC18			
1 Wht-Brn 2J3-9 IC15	Plumb Bob Tilt 1	Outhole 9	Disappearing Target (Front) 17	Left 3-Bank Drop target (Right) 25	Outhole 33	Disappearing Target (Front) 41	Left 3-Bank Drop target (Right) 49	2-Player Start 57			
2 Wht-Red 2J3-8 IC15	Ball Roll Tilt 2	Ball Ramp 1 10	Disappearing Target (Rear) 18	Right 3-Bank Drop target (Left) 26	Ball Ramp 1 34	Disappearing Target (Rear) 42	Right 3-Bank Drop target (Left) 50	Player-1 Left Flap 58			
3 Wht-Orn 2J3-7 IC15	Credit Button 3	Ball Ramp 2 11	Disappearing Target Rollover 19	Right 3-Bank Drop target (Center) 27	Ball Ramp 2 35	Disappearing Target Rollover 43	Right 3-Bank Drop target (Center) 51	Player-1 Right Flap 59			
4 Wht-Yel 2J3-6 IC15	Left Coin Chute 4	Ball Ramp 3 12	Hunter Rollover 1 20	Right 3-Bank Drop target (Right) 28	Ball Ramp 3 36	Hunter Rollover 1 44	Right 3-Bank Drop target (Right) 52	Player-2 Left Flap 60			
5 Wht-Grn 2J3-5 IC16	Center Coin Chute 5	Ball Ramp 4 13	Hunter Bulls Eye 2 21	Left Slingshot 29	Ball Ramp 4 37	Hunter Bulls Eye 2 45	Left Slingshot 53	Player-2 Right Flap 61			
6 Wht-Blu 2J3-4 IC16	Right Coin Chute 6	Shooter Lane 14	Hunter Bulls Eye 3 22	Right Slingshot 30	Shooter Lane 38	Hunter Bulls Eye 3 46	Right Slingshot 54	Not Used 62			
7 Wht-Vio 2J3-3 IC16	Slam Tilt 7	Eject Hole (5,000 / lit value) 15	Left 3-Bank Drop target (Left) 23	Right Drain Rollover 31	Eject Hole 39	Left 3-Bank Drop target (Left) 47	Right Drain Rollover 55	Not Used 63			
8 Wht-Gry 2J3-1 IC16	High Score Reset 8	Spinner 16	Left 3-Bank Drop target (Center) 24	Not Used 32	Spinner 40	Left 3-Bank Drop target (Center) 48	Not Used 56	Not Used 64			
				Player 1				Player 2			