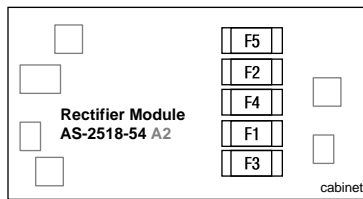


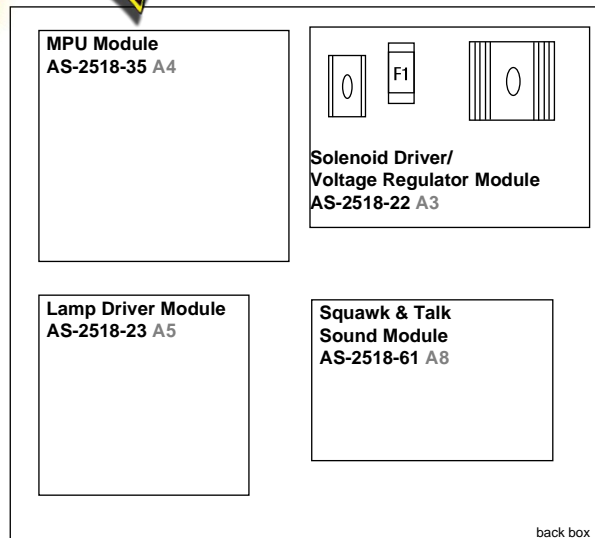


Fuse List

Rectifier Module AS-2518-54		
F1	6.5V Switched illumination	20A, 250V
F2	230V Display power input	0.75A, 250V
F3	5V Unregulated input	4A, 250V
F4	43V Solenoids (3 flippers)	6A, 250V
F5	6.5V General illumination	20A, 250V
Sol. Dr./Volt. Reg. AS-2518-22		
F1	190V Display power output	0.25A, 250V
Under the Playfield fuses		
F1	Solenoids	3A, 250V, SB
F2	Fireball Unit Magnet fuse	1A, 250V, SB
Transformer Module		
F1	Main fuse	3A, 250V, SB



Aux. Lamp Driver Module AS-2518-52 A9
Insert



Coil Table

Sol. No	Solenoid description	Solenoid Type	Wire Code	Wire Color	Connector	Driver Transistor	Solenoid Coil Type
1	Outhole	Momentary	95	Gry-Wht	A3J1-5	Q4	AO-27-1300
2	Knocker	Momentary	85	Blk-Wht	A3J2-5, J3-7	Q3	AR-26-1200
3	Left Thumper Bumper	Momentary	71	Orn-Red	A3J5-9	Q9	AN-26-1200
4	Right Thumper Bumper	Momentary	74	Orn-Grn	A3J5-15	Q10	AN-26-1200
5	Bottom Thumper Bumper	Momentary	67	Brn-Orn	A3J5-13	Q12	AN-26-1200
6	Left Slingshot	Momentary	83	Blk-Yel	A3J5-14	Q11	AN-26-1200
7	Right Slingshot	Momentary	18	Red-Blk	A3J2-6, J3-7, J5-8	Q16	AN-26-1200
8	4 Drop Target Reset (Left)	Momentary	18	Red-Blk	A3J1-2, J2-9	Q1	NO-26-1900
9	3 Drop Target Reset	Momentary	81	Blk-Red	A3J2-10	Q5	NO-26-1900
10	4 Drop Target Reset (Right)	Momentary	67	Brn-Orn	A3J1-3, J2-4	Q2	NO-26-1900
11	Odin Saucer	Momentary	85	Blk-Wht	A3J5-10	Q8	AO-27-1300
12	Wotan Saucer	Momentary	80	Blk	A3J5-12	Q13	AO-27-1300
13	Post Kicker	Momentary	78	Orn-Blk	A3J5-11	Q14	AO-26-1200
14	Coin Lockout	Continuous	36	Yel-Brn	A3J2-8	Q19	FO-36-7000
15	Flipper enabling relay	Continuous	--	--	--	Q15	48V Relay
16	Fireball Relay	Continuous	81	Blk-Red	A3J5-7	Q17	GO-36-6900
		Momentary			A3J2-11	Q6	
		Momentary			A3J2-12	Q7	
		Continuous			A3J2-15, J3-9, J5-3	Q18	
Flipper Circuits	Power Wire	Flipper Coil Wire	Flipper Button Wire	Coil			
Left Flipper	60 (Brn)	40 (Grn)	A3J1-8	20 (Blu)	A3J2-2	AQ-25-500/34-4500	
Right Flipper	60 (Brn)	70 (Orn)	A3J1-9	10 (Red)	A3J2-1	AQ-25-500/34-4500	
Upper Left Flipper	60 (Brn)	85 (Blk-Wht)		(to lower left flipper)		AQ-26-600/34-4500	

Controlled Lamps Chart

SCR	connector	lamp description	code	wire color	tr type	SCR	connector	lamp description	code	wire color	tr type
Q46	A5J3-18	10K "A" Lane	56	Wht-Brn	2N5060	Q10	A5J1-15	Fireball Bonus 15K	13	Red-Yel	MCR-106
Q41	A5J3-20	10K "B" Lane	64	Brn-Grn	MCR-106	Q22	A5J1-10	Fireball Bonus 30K	23	Blu-Yel	MCR-106
Q16	A5J2-22	Ball-in-Play (Back Box)	62	Brn-Blu	MCR-106	Q37	A5J3-23	Fireball Bonus 50K	98	Gry-Blk	2N5060
Q52	A5J3-13	Credit Indicator	35	Yel-Wht	2N5060	Q45	A5J2-1	Fireball Bonus Extra Ball	60	Brn	2N5060
Q14	A5J1-18	Doomsday Bonus 1K	58	Wht-Blk	2N5060	Q09	A5J1-14	Fireball Bonus Multiplier 2X	54	Wht-Grn	MCR-106
Q29	A5J1-1	Doomsday Bonus 2K	41	Gm-Red	2N5060	Q34	A5J1-2	Fireball Bonus Multiplier 3X	52	Wht-Blu	MCR-106
Q36	A5J3-26	Doomsday Bonus 3K	52	Wht-Blu	2N5060	Q48	A5J3-16	Fireball Bonus Multiplier 4X	25	Blu-Wht	MCR-106
Q57	A5J3-1	Doomsday Bonus 4K	10	Red	2N5060	Q55	A5J3-9	Fireball Bonus Multiplier 5X	15	Red-Wht	MCR-106
Q12	A5J1-19	Doomsday Bonus 5K	60	Brn	2N5060	Q60	A5J3-3	Fireball Bonus Special	81	Blk-Red	2N5060
Q27	A5J1-9	Doomsday Bonus 6K	43	Gm-Yel	2N5060	Q33	A5J2-11	Game Over (Back Box)	95	Gry-Wht	MCR-106
Q38	A5J3-25	Doomsday Bonus 7K	36	Yel-Brn	2N5060	Q15	A5J2-23	High Score to Date (Back Box)	97	Gry-Orn	MCR-106
Q50	A5J3-12	Doomsday Bonus 8K	21	Blu-Red	2N5060	Q53	A5J3-14	Lane Arrow "A"	84	Blk-Gm	2N5060
Q13	A5J1-17	Doomsday Bonus 9K	57	Wht-Orn	2N5060	Q39	A5J3-24	Lane Arrow "B"	72	Orn-Blu	2N5060
Q28	A5J1-8	Doomsday Bonus 10K	51	Wht-Red	2N5060	Q21	A5J1-12	Lane Arrow "C"	61	Brn-Red	2N5060
Q44	A5J3-19	Doomsday Bonus 20K	67	Brn-Orn	2N5060	Q07	A5J1-27	Lane Arrow "D"	53	Wht-Yel	2N5060
Q08	A5J1-23	Doomsday Bonus Multiplier 2X	12	Red-Blu	MCR-106	Q54	A5J3-11	Little Demon Post	20	Blu	MCR-106
Q35	A5J1-3	Doomsday Bonus Multiplier 3X	45	Gm-Wht	MCR-106	Q05	A5J2-16	Little Demons Credit	34	Yel-Gm	2N5060
Q49	A5J3-17	Doomsday Bonus Multiplier 4X	13	Red-Yel	MCR-106	Q23	A5J2-8	Match (Back Box)	70	Orn	MCR-106
Q51	A5J3-15	Doomsday Bonus Special	53	Wht-Yel	2N5060	Q59	A5J3-4	Odin & Wotan Target Arrow (Left)	14	Red-Grn	2N5060
Q56	A5J3-10	Fireball (Left Side)	91	Gry-Red	MCR-106	Q32	A5J3-27	Odin & Wotan Target Arrow (Middle)	40	Gm	2N5060
Q42	A5J3-21	Fireball (Right Side)	30	Yel	MCR-106	Q26	A5J1-7	Odin & Wotan Target Arrow (Right)	34	Yel-Gm	2N5060
Q04	A9J2-10	Fireball 1	56	Wht-Brn	MCR-106	Q11	A5J1-16	Odin & Wotan Target Special	90	Gry	2N5060
Q26	A9J3-17	Fireball 1A	27	Blu-Orn	MCR-106	Q25	A5J1-6	Odin Saucer Collect Arrow	25	Blu-Wht	2N5060
Q11	A9J2-18	Fireball 2	57	Wht-Orn	MCR-106	Q58	A5J3-2	Odin Saucer Qualified Arrow	95	Gry-Wht	2N5060
Q18	A9J3-11	Fireball 3	58	Wht-Blk	MCR-106	Q43	A5J2-7	Outlane Special (Left)	91	Gry-Red	2N5060
Q25	A9J3-18	Fireball 4	72	Orn-Blu	MCR-106	Q30	A5J2-6	Outlane Special (Right)	85	Blk-Wht	2N5060
Q05	A9J2-9	Fireball 5	54	Wht-Gm	MCR-106	Q03	A5J2-21	Same Player Shoot Again (Back Box)	47	Gm-Orn	MCR-106
Q12	A9J2-17	Fireball 6	43	Gm-Yel	MCR-106	Q40	A5J3-22	Same Player Shoot Again (Playfield)	23	Blu-Yel	MCR-106
Q19	A9J3-10	Fireball 7	25	Blu-Wht	MCR-106	Q06	A5J2-14	Thumper Bumper (Bottom)	12	Red-Blu	2N5060
Q06	A9J2-6	Fireball 8	80	Blk	MCR-106	Q31	A5J2-2	Thumper Bumper (Left)	20	Blu	2N5060
Q13	A9J2-13	Fireball 9	81	Blk-Wht	MCR-106	Q19	A5J2-15	Thumper Bumper (Right)	23	Blu-Yel	2N5060
Q20	A9J3-7	Fireball 10	82	Blk-Blu	MCR-106	Q47	A5J2-10	Tilt (Back Box)	35	Yel-Wht	MCR-106
Q01	A9J2-7	Fireball Bonus #1	10	Red	MCR-106	Q27	A9J3-14	to G.I. Flasher Driver	83	Blk-Yel	MCR-106
Q08	A9J2-14	Fireball Bonus #2	12	Red-Blu	MCR-106	Q18	A5J2-20	to Lamp Flasher Driver	98	Gry-Blk	2N5060
Q15	A9J3-8	Fireball Bonus #3	13	Red-Yel	MCR-106	Q04	A5J1-28	Wotan Saucer Collect Arrow	78	Orn-Blk	2N5060
Q22	A9J3-15	Fireball Bonus #4	14	Red-Gm	MCR-106	Q20	A5J1-13	Wotan Saucer Qualified Arrow	96	Gry-Brn	2N5060
Q02	A9J2-4	Fireball Bonus #5	15	Red-Wht	MCR-106	Q17	A5J1-11		65	Brn-Wht	MCR-106
Q09	A9J2-11	Fireball Bonus #6	18	Red-Blk	MCR-106	Q01	A5J1-24		50	Wht	MCR-106
Q16	A9J3-3	Fireball Bonus #7	20	Blu	MCR-106	Q02	A5J1-25		75	Orn-Wht	MCR-106
Q23	A9J3-12	Fireball Bonus #8	21	Blu-Red	MCR-106	Q24	A5J1-5		48	Gm-Blk	MCR-106
Q03	A9J2-8	Fireball Bonus #9	51	Wht-Red	MCR-106	Q14	A9J2-12		62	Brn-Blu	MCR-106
Q10	A9J2-15	Fireball Bonus #10	52	Wht-Blu	MCR-106	Q07	A9J2-5		60	Brn	MCR-106
Q17	A9J3-9	Fireball Bonus #11	53	Wht-Yel	MCR-106	Q28	A9J3-13		96	Gry-Brn	MCR-106
Q24	A9J3-16	Fireball Bonus #12	54	Wht-Gm	MCR-106	Q21	A9J3-4		95	Gry-Wht	MCR-106

A9 = Aux. Lamp Driver Board AS-2518-52

Switch Matrix

Column	STROBE 0 A4J2-1 Wht-Red (51) A4J3-2 Red-Yel (13)	STROBE 1 A4J2-2 Orn (70) A4J3-3 Red-Gm (14)	STROBE 2 A4J2-3 Gry-Yel (93)	STROBE 3 A4J2-4 Wht-Yel (53)	STROBE 4 A4J2-5 Yel-Red (31)
RETURN I0	Outhole 1	Coin Chute III (Right) 9	Post Kicker Button 17	10 Point Rebound (3) 25	3 Drop Target (Right) 33
RETURN I1	#1 Left of Outhole 2	Coin Chute I (Left) 10	#1 Right of Outhole 18	Odin & Wotan Target (Right) 26	3 Drop Target (Middle) 34
RETURN I2	#2 Left of Outhole 3	Coin Chute II (Middle) 11	Right Outlane 19	Odin & Wotan Target (Middle) 27	3 Drop Target (Left) 35
RETURN I3	Wotan Saucer 4	"D" Lane 12	Left Outlane 20	Odin & Wotan Target (Left) 28	Right Slingshot 36
RETURN I4	Odin Saucer 5	"C" Lane 13	Right 4 Drop Target "D" (Bottom) 21	Left 4 Drop Target "D" (Top) 29	Left Slingshot 37
RETURN I5	Credit Button 6	"B" Lane 14	Right 4 Drop Target "C" 22	Left 4 Drop Target "C" 30	Bottom Thumper Bumper 38
RETURN I6	Tilt (3) 7	"A" Lane 15	Right 4 Drop Target "B" 23	Left 4 Drop Target "B" 31	Right Thumper Bumper 39
RETURN I7	Fireball Relay Switch 8	Slam (2) 16	Right 4 Drop Target "A" (Top) 24	Left 4 Drop Target "A" (Bottom) 32	Left Thumper Bumper 40