

Fuse List:

| Wire in           | Value          | Wire out          | description                                       | location     |
|-------------------|----------------|-------------------|---------------------------------------------------|--------------|
| Blk-Red-Red (022) | 5 Amp Slo-Blo  | Blk-Brn-Brn (011) | 115V Primary Fuse                                 | Bottom Board |
|                   | 2½ Amp Slo-Blo |                   | 230V Primary Fuse                                 | Bottom Board |
| Blk-Orn-Orn (033) | 1 Amp Slo-Blo  | Brn               | Small transformer primary fuse                    | Bottom Board |
| Yel-Blk-Blk (400) | 1 Amp Slo-Blo  | Yel-Yel-Yel (444) | Sound Board Fuse                                  | Bottom Board |
| Yel-Blu-Blu (466) | ¼ Amp Slo-Blo  | Grn-Blk-Blk (500) | Displays 69VAC                                    | Bottom Board |
| Blk-Blu-Blu (066) | 5 Amp Slo-Blo  | Red-Slt-Slt (288) | Coils 25VAC                                       | Bottom Board |
| Orn-Blk-Blk (300) | 5 Amp Slo-Blo  | Orn-Brn-Brn (311) | Controlled lamps 8VAC                             | Bottom Board |
| Red-Blu-Blu (266) | 7½ Amp         | Red-Orn-Orn (233) | G.I. Playfield (via Tilt Relay) & Coin Chute 6VAC | Bottom Board |
| Red-Blu-Blu (266) | 10 Amp         | Red-Red-Red (222) | G.I. Name & Scene Lights 6VAC                     | Bottom Board |
|                   |                |                   |                                                   |              |
| Red-Pur-Pur (277) | 2 Amp Slo-Blo  | Brn-Slt-Slt (188) | "A" Shooter                                       | Playfield    |
|                   |                |                   | "B" Shooter                                       |              |
|                   |                |                   | Drop Target Bank Reset                            |              |

Switch Matrix

|                                                          | RETURN 0<br>A1J7-12 & A1J6-3<br>Blk- Blu-Blu (066) | RETURN 1<br>A1J7-13<br>Brn-Blk-Blk (100)               | RETURN 2<br>A1J7-14<br>Brn-Red-Red (122)         | RETURN 3<br>A1J7-17<br>Brn-Orn-Orn (133)         | RETURN 4<br>A1J7-16<br>Brn-Yel-Yel (144)                | RETURN 5<br>A1J7-15<br>Brn-Grn-Grn (155)      | RETURN 6<br>A1J7-11<br>Brn-Blu-Blu (166)               | RETURN 7<br>A1J7-10<br>Orn-Blu-Blu (366)                |
|----------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|---------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------|---------------------------------------------------------|
| <b>STROBE 0</b><br>A1J7-2<br>A1J6-8<br>Blk-Bm-Brn (011)  | Test Button<br><br>Brn-Blk-Blk (100)<br>SW.00      | #1 Target<br><br>Orn-Yel-Yel (344)<br>SW.10            | #2 Target<br><br>Yel-Grn-Gm (355)<br>SW.20       | #3 Target<br><br>Brn-Pur-Pur (077)<br>SW.30      | 10 Point Contacts (5)<br><br>Yel-Red-Red (422)<br>SW.40 | Pop Bumpers<br><br>Orn-Pur-Pur (377)<br>SW.50 | 2X Rollover<br><br>Grn-Blk-Blk (500)<br>SW.60          | 4X Rollover<br><br>Blu-Blk-Blk (600)<br>SW.70           |
| <b>STROBE 1</b><br>A1J7-3<br>A1J6-4<br>Blk-Red-Red (022) | #1 Coin Chute<br><br>Brn-Red-Red (122)<br>SW.01    | #7 Drop Target<br><br>Blu-Pur-Pur (677)<br>SW.11       | #5 Drop Target<br><br>Yel-Pur-Pur (477)<br>SW.21 | #3 Drop Target<br><br>Red-Yel-Yel (244)<br>SW.31 | "A" Shooter<br><br>Orn-Blk-Blk (300)<br>SW.41           | Not Used<br><br><br>SW.51                     | 3X Rollover<br><br>Grn-Red-Red (522)<br>SW.61          | 5X Rollover<br><br>Blu-Red-Red (622)<br>SW.71           |
| <b>STROBE 2</b><br>A1J7-4<br>A1J6-5<br>Blk-Orn-Orn (033) | #2 Coin Chute<br><br>Brn-Orn-Orn (133)<br>SW.02    | #6 Drop Target<br><br>Grn-Pur-Pur (577)<br>SW.12       | #4 Drop Target<br><br>Yel-Blu-Blu (466)<br>SW.22 | #2 Drop Target<br><br>Red-Red-Red (222)<br>SW.32 | "B" Shooter<br><br>Yel-Grn-Gm (455)<br>SW.42            | Not Used<br><br><br>SW.52                     | Left Outside<br>Rollover<br>Yel-Blk-Blk (400)<br>SW.62 | Right Outside<br>Rollover<br>Blu-Orn-Orn (633)<br>SW.72 |
| <b>STROBE 3</b><br>A1J7-7<br>A1J6-6<br>Blk-Yel-Yel (044) | Replay Button<br><br>Brn-Yel-Yel (144)<br>SW.03    | Not Used<br><br><br>SW.13                              | Not Used<br><br><br>SW.23                        | Not Used<br><br><br>SW.33                        | Not Used<br><br><br>SW.43                               | Not Used<br><br><br>SW.53                     | Not Used<br><br><br>SW.63                              | Not Used<br><br><br>SW.73                               |
| <b>STROBE 4</b><br>A1J7-6<br><br>Blk-Grn-Gm (055)        | Tilt<br><br>Blu-Blu-Blu (666)<br>SW.04             | Rollover Buttons (4)<br><br>Red-Grn-Grn (255)<br>SW.14 | Spin Target<br><br>Red-Orn-Orn (233)<br>SW.24    | #1 Drop Target<br><br>Red-Brn-Brn (211)<br>SW.34 | Right Side<br>Rollover<br>Blu-Grn-Gm (655)<br>SW.44     | Not Used<br><br><br>SW.54                     | Left Return<br>Rollover<br>Yel-Bm-Brn (411)<br>SW.64   | Right Return<br>Rollover<br>Blu-Yel-Yel (144)<br>SW.74  |

Solenoids

|        | Solenoid description   | Solenoid Type | Power Wire        | Fuse          | Transfer Wire     | Coil Wire Color   | Connector | Driver Transistor        | Transistor Type  | Coil Type   |
|--------|------------------------|---------------|-------------------|---------------|-------------------|-------------------|-----------|--------------------------|------------------|-------------|
| L01    | Game Over Relay        | Controlled    | Red-Pur-Pur (277) |               |                   | Yel-Blk-Blk (400) | A3J5-18   | Q01                      | MPS-U45          | A-16890     |
| L02    | Tilt Relay             | Controlled    | Red-Pur-Pur (277) |               |                   | Yel-Brn-Brn (411) | A3J5-19   | Q02                      | MPS-U45          | A-16890     |
| Sol. 1 | Outhole                | Controlled    | Red-Pur-Pur (277) |               |                   | Red-Blk-Blk (200) | A3J4-6    | Q32                      | 2N6043           | A-16570     |
| Sol. 2 | Knocker                | Controlled    | Red-Pur-Pur (277) |               |                   | Red-Brn-Brn (211) | A3J2-1    | Q25                      | 2N6043           | A-5195      |
| Sol. 3 | 10's chime             | Controlled    |                   |               |                   | Orn-Brn-Bm (311)  | A3J2-2    | Q26                      | 2N6043           | Sound Board |
| Sol. 4 | 100's chime            | Controlled    |                   |               |                   | Red-Yel-Yel (244) | A3J2-3    | Q27                      | 2N6043           | Sound Board |
| Sol. 5 | 1000's chime           | Controlled    |                   |               |                   | Red-Grn-Gm (255)  | A3J2-4    | Q28                      | 2N6043           | Sound Board |
| Sol. 6 | "A" Shooter            | Controlled    | Red-Pur-Pur (277) | 2 Amp Slo-Blo | Brn-Slt-Slt (188) | Red-Blu-Blu (266) | A3J4-5    | Q31 - UPT                | 2N6043 - 2N5875  | A-5194      |
| Sol. 7 | "B" Shooter            | Controlled    |                   |               |                   | Orn-Blk-Blk (300) | A3J4-4    | Q30 - UPT                | 2N6043 - 2N5875  | A-5194      |
| Sol. 8 | Drop Target Bank Reset | Controlled    |                   |               |                   | Orn-Brn-Bm (311)  | A3J4-2    | Q29 - Q45                | MPS-U45 - 2N3055 | A-18102 (2) |
|        | Left Pop Bumper        | Directly      | Orn-Red-Red (322) |               |                   |                   |           | Switch                   |                  | A-1496      |
|        | Right Pop Bumper       | Directly      | Orn-Red-Red (322) |               |                   |                   |           | Switch                   |                  | A-1496      |
|        | Coin Lockout           | Directly      | Red-Pur-Pur (277) |               |                   |                   | A6J1-11   | Directly wired to ground |                  | A-16890     |
|        | Left Flipper           | Directly      | Om-Yel-Yel (344)  |               |                   |                   | A6J5-4    | Button                   |                  | A-17875     |
|        | Right Flipper          | Directly      | Orn-Grn-Grn (355) |               |                   |                   | A6J5-5    | Button                   |                  | A-17875     |

2N6043 can be replaced with a TIP 102

UPT = Under Playfield Transistor



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Lamps and solenoids

| transistor | connector | code       | description             | wire code | wire color  | transistor type  |
|------------|-----------|------------|-------------------------|-----------|-------------|------------------|
| Q01        | J5-18     | L01        | Game Over Relay (Q)     | 400       | Yel-Blk-Blk | MPS-U45          |
| Q Relay    |           |            | Match / Game Over Light | 366       | Orn-Blu-Blu |                  |
| Q Relay    |           |            | Ball in Play            | 255       | Red-Grn-Gm  |                  |
| Q02        | J5-19     | L02        | Tilt Relay (T)          | 411       | Yel-Bm-Brn  | MPS-U45          |
| T Relay    |           |            | Tilt Light              | 822       | Slt-Red-Red |                  |
| Q03        | J5-17     | L03        | High Game to Date       | 422       | Yel-Red-Red | MPS-U45          |
| Q04        | J5-15     | L04        | Same Player Shoot Again | 433       | Yel-Orn-Orn | MPS-U45          |
| Q05        | J5-13     | L05        | Right Outside Special   | 455       | Yel-Grn-Gm  | MPS-A13          |
| Q06        | J5-14     | L06        | Not Used                | 466       | Yel-Blu-Blu | MPS-A13          |
| Q07        | J5-12     | L07        | Right Return Special    | 500       | Grn-Blk-Blk | MPS-A13          |
| Q08        | J5-11     | L08        | Left Return Special     | 511       | Grn-Brn-Bm  | MPS-A13          |
| Q09        | J5-9      | L09        | #3 Target               | 522       | Grn-Red-Red | MPS-A13          |
| Q10        | J5-10     | L10        | Left Outside Special    | 533       | Grn-Orn-Orn | MPS-A13          |
| Q11        | J5-8      | L11        | #2 Target               | 544       | Grn-Yel-Yel | MPS-A13          |
| Q12        | J5-7      | L12        | #1 Target               | 566       | Grn-Blu-Blu | MPS-A13          |
| Q13        | J5-5      | L13        | Extra Ball Rollover     | 600       | Blu-Blk-Blk | MPS-A13          |
| Q14        | J5-6      | L14        | Spin Target             | 611       | Blu-Bm-Brn  | MPS-A13          |
| Q15        | J5-4      | L15        | 5X Rollover             | 622       | Blu-Red-Red | MPS-A13          |
| Q16        | J5-3      | L16        | 4X Rollover             | 633       | Blu-Orn-Orn | MPS-A13          |
| Q17        | J5-1      | L17        | 2X Rollover             | 644       | Blu-Yel-Yel | MPS-A13          |
| Q18        | J5-2      | L18        | 3X Rollover             | 655       | Blu-Grn-Gm  | MPS-A13          |
| Q19        | J3-20     | L19        | 5X Bonus                | 700       | Pur-Blk-Blk | MPS-A13          |
| Q20        | J3-18     | L20        | 4X Bonus                | 711       | Pur-Brn-Bm  | MPS-A13          |
| Q21        | J3-16     | L21        | 2X Bonus                | 722       | Pur-Red-Red | MPS-A13          |
| Q22        | J3-17     | L22        | 3X Bonus                | 733       | Pur-Orn-Orn | MPS-A13          |
| Q23        | J3-15     | L23        | 1000 Bonus              | 744       | Pur-Yel-Yel | MPS-A13          |
| Q24        | J3-14     | L24        | 2000 Bonus              | 755       | Pur-Grn-Grn | MPS-A13          |
| Q33        | J3-12     | L25        | 3000 Bonus              | 800       | Slt-Blk-Blk | MPS-A13          |
| Q34        | J3-13     | L26        | 4000 Bonus              | 811       | Slt-Brn-Brn | MPS-A13          |
| Q35        | J3-11     | L27        | 5000 Bonus              | 822       | Slt-Red-Red | MPS-A13          |
| Q36        | J3-9      | L28        | 6000 Bonus              | 833       | Slt-Orn-Orn | MPS-A13          |
| Q37        | J3-7      | L29        | 7000 Bonus              | 844       | Slt-Yel-Yel | MPS-A13          |
| Q38        | J3-8      | L30        | 8000 Bonus              | 855       | Slt-Grn-Gm  | MPS-A13          |
| Q39        | J3-6      | L31        | 9000 Bonus              | 111       | Brn-Brn-Bm  | MPS-A13          |
| Q40        | J3-5      | L32        | 10,000 Bonus            | 333       | Orn-Orn-Orn | MPS-A13          |
| Q41        | J3-4      | L33        | 20,000 Bonus            | 444       | Yel-Yel-Yel | MPS-A13          |
| Q42        | J3-3      | L34        | "A" Light               | 555       | Grn-Grn-Grn | MPS-A13          |
| Q43        | J3-2      | L35        | "B" Light               | 666       | Blu-Blu-Blu | MPS-A13          |
| Q44        | J3-1      | L36        | "C" Light               | 777       | Pur-Pur-Pur | MPS-A13          |
| Q32        | J4-6      | Solenoid 1 | Outhole Kicker          | 200       | Red-Blk-Blk | 2N6043           |
| Q25        | J2-1      | Solenoid 2 | Knocker                 | 211       | Red-Brn-Brn | 2N6043           |
| Q26        | J2-2      | Solenoid 3 | 10's chime              | 311       | Orn-Brn-Bm  | 2N6043           |
| Q27        | J2-3      | Solenoid 4 | 100's chime             | 244       | Red-Yel-Yel | 2N6043           |
| Q28        | J2-4      | Solenoid 5 | 1000's chime            | 255       | Red-Grn-Gm  | 2N6043           |
| Q31        | J4-5      | Solenoid 6 | "A" Shooter             | 266       | Red-Blu-Blu | 2N6043 - 2N5875  |
| Q30        | J4-4      | Solenoid 7 | "B" Shooter             | 300       | Orn-Blk-Blk | 2N6043 - 2N5875  |
| Q29 - Q45  | J4-2      | Solenoid 8 | Drop Target Bank Reset  | 311       | Orn-Brn-Bm  | MPS-U45 - 2N3055 |

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