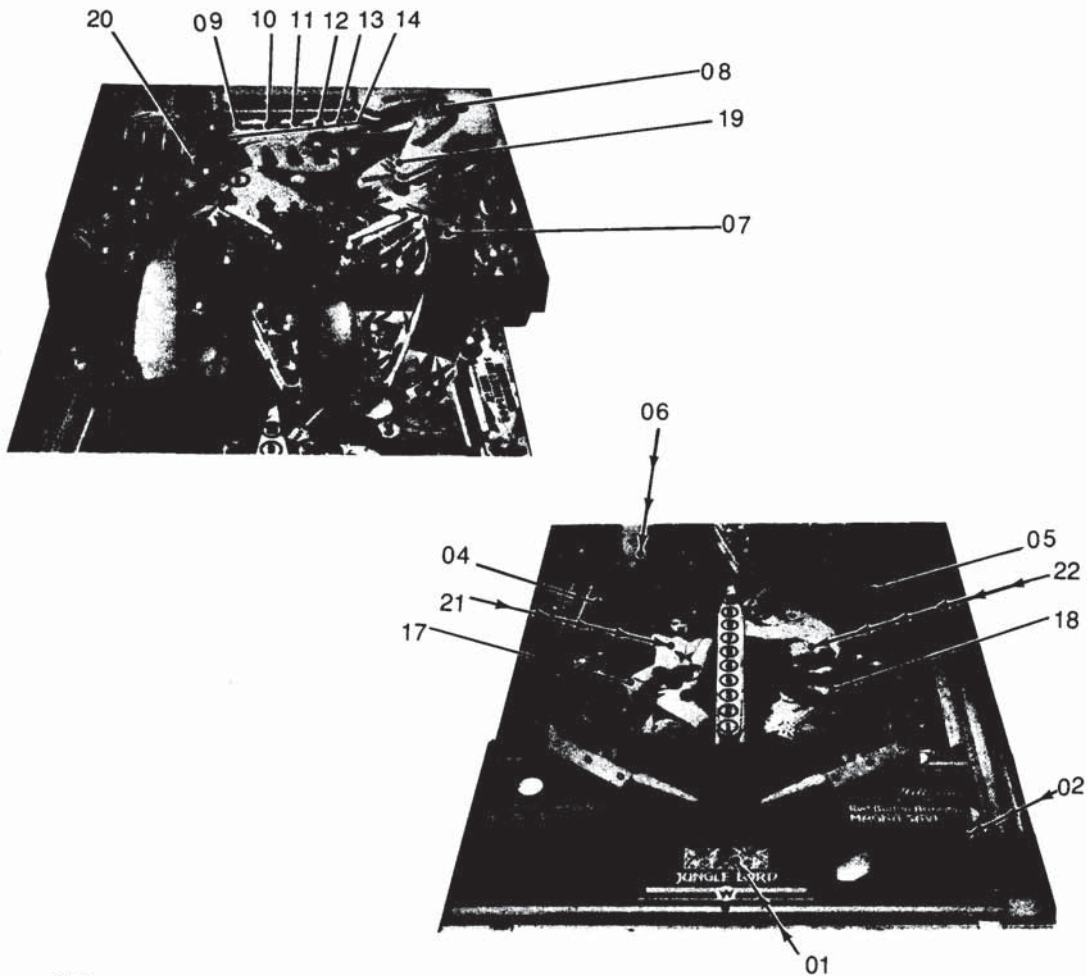


Solenoid Test

1. From Lamp Test depress ADVANCE with the switch set to AUTO-UP. Test 02 should be indicated in the Credits display. Display sequences from 01 thru 25. Corresponding solenoids 01 thru 24 are pulsed. Flipper relay is de-energized with subtest 25.
2. To continuously pulse a single solenoid set switch to MANUAL-DOWN. Operate ADVANCE pushbutton sequence through the solenoids one at a time. Set toggle switch to AUTO-UP to resume sequencing.



Sol.

No. Function

01	Ball Release	12	5-Bank #4 Drop Target Reset
02	Ball Ramp Thrower	13	5-Bank #5 (Right) Drop Target Reset
03	Special Relay	14	5-Bank Drop Targets Release
04	Left Drop Target 3-Bank Reset	15	Bell
05	Right Drop Target 3-Bank Reset	16	Coin Lockout
06	Buzzer	17	Left Kicker
07	Lower Eject Hole	18	Right Kicker
08	Upper Eject Hole	19	Upper Kicker
09	5-Bank #1 (Left) Drop Target Reset	20	Mini-Ball Kicker
10	5-Bank #2 Drop Target Reset	21	Left Magnet Relay
11	5-Bank #3 Drop Target Reset	22	Right Magnet Relay

Figure 2. Playfield Solenoid Locations and Solenoid Chart

Table 4. Solenoid Connections

SOL. NO.	FUNCTION	WIRE COLOR	CONNECTIONS	DRIVER TRANS.	SOLENOID PART NO.
01	Ball Release	GRY-BRN	2P11-4, 8P3-1, 8P6-17	Q15	SA-23-850-DC
02	Ball Ramp Thrower	GRY-RED	2P11-5, 8P3-2, 8P6-18	Q17	SG-23-850-DC
03	Special Relay	GRY-ORN	2P11-7, 3P7-1	Q19	5580-09555-00
04	Left Drop Target 3-Bank Reset	GRY-YEL	2P11-8, 8P3-4, 8P6-20	Q21	SA3-23-850-DC
05	Right Drop Target 3-Bank Reset	GRY-GRN	2P11-9, 8P3-5, 8P6-21	Q23	SA3-23-850-DC
06	Buzzer	GRY-BLU	2P11-3, 8P3-6, 8P6-22	Q25	A-8597
07	Lower Eject Hole	GRY-VIO	2P11-2, 8P3-7	Q27	SG-23-850-DC
08	Upper Eject Hole	GRY-BLK	2P11-1, 8P3-8	Q29	SG-23-850-DC
09	5-Bank #1 (Left) Drop Target Reset	BRN-BLK	2P9-9, 8P3-9	Q31	SA5-24-750-DC
10	5-Bank #2 Drop Target Reset	BRN-RED	2P9-7, 8P3-10	Q33	SA5-24-750-DC
11	5-Bank #3 Drop Target Reset	BRN-ORN	2P9-1, 8P3-11	Q35	SA5-24-750-DC
12	5-Bank #4 Drop Target Reset	BRN-YEL	2P9-2, 8P3-12	Q37	SA5-24-750-DC
13	5-Bank #5 (Right) Drop Target Reset	BRN-GRN	2P9-3, 8P3-13	Q39	SA5-24-750-DC
14	5-Bank Drop Targets Release	BRN-BLU	2P9-4, 8P3-14	Q41	SA6-24-750-DC
15	Bell	BRN-VIO	2P9-5, 7P1-17	Q43	SM-29-1000-DC
16	Coin Lockout	BRN-GRY	2P9-6, 7P1-18, 7P2-4	Q45	SM-35-4000-DC
*17	Left Kicker	BLU-BRN	2P12-7, 8P3-17, 8P6-11	Q2	SG-23-850-DC
*18	Right Kicker	BLU-RED	2P12-4, 8P3-18, 8P6-12	Q4	SG-23-850-DC
*19	Upper Kicker	BLU-ORN	2P12-3, 8P3-19	Q6	SG-23-850-DC
20	Mini-Ball Kicker	BLU-YEL	2P12-6, 8P3-20	Q8	SG-23-850-DC
*21	Left Magnet Relay	BLU-GRN	2P12-8, 8P3-21, 8P6-15	Q10	A-8592
22	Right Magnet Relay	BLU-BLK	2P12-9, 8P3-22, 8P6-16	Q12	A-8592
*	Lower Right Flipper	BLU-VIO	7P1-8, 8P3-34, 8P6-3	—	SFL-19-400/ 30-750-DC
*	Upper Right Flipper	BLK-YEL	7P1-31, 8P3-33	—	SFL-19-400/ 30-750-DC
*	Lower Left Flipper	BLU-GRY	7P1-10, 8P3-32, 8P6-4	—	SFL-19-400/ 30-750-DC
*	Upper Left Flipper	BLK-BLU	7P1-30, 8P3-31	—	SFL-19-400/ 30-750-DC

***NOTES:**

- Contacts of solenoids 21 and 22 switch ground to magnets (Part No. 20-8991).
- Special switch connections for solenoids 17 through 19 are as follows:
 17 — ORN-BRN — 2P13-5, 8P3-24, 8P6-5
 18 — ORN-RED — 2P13-3, 8P3-25, 8P6-6
 19 — ORN-BLK — 2P13-2, 8P3-26
- Flipper button connections are as follows:
 Right — ORN-VIO — 2P12-1, 7P1-7
 Left — ORN-GRY — 2P12-2, 7P1-9
- Typical wiring for solenoids and special switches:

Switch Test

- From Solenoid Test depress ADVANCE with the switch set to AUTO-UP. Test 03 should be indicated in the Credits display and any stuck switches in the Master display. As stuck switch(es) is displayed a sound is produced. The display continuously cycles through the stuck switches and as they are opened, the number is removed from the sequence. When all switches are open, the Match display is blank and the sounds stop.
- If all switches in a row are displayed, first verify that all are open and then check for a short to ground on the row wire.