Williams® ELECTRONICS, INC.

16P-499-103
Game No. 499
October, 1980

ALGAR



INSTRUCTION BOOKLET

This booklet provides game operation, bookkeeping, game adjustment, and diagnostic procedures for ALGAR. For installation and special maintenance information refer to the blue-covered game manual. For detailed information refer to Williams Solid State Flipper Maintenance Manual.

SPECIAL CONSIDERATIONS WHEN REPLACING CIRCUIT BOARDS

CPU Board

1. For memory protection feature, revision level 6 CPU Boards (batteries located on lower right corner of board) must be used. Revision level 4 CPU Boards equipped with IC14 and IC26 sockets may be used but the memory protection feature is lost.
2. Must be equipped with green-labeled ALGAR game ROM and green-labeled flipper ROMs.
3. Jumper J3 must be connected and J4 removed.

Sound Board

1. Must be equipped with two fuse clips.
2. Must be jumpered for ROM operation and be equipped with Sound ROM 4.

Power Supply Board

1. Fuse F4 (10A SB) for flipper solenoids must be installed.

Display Boards

Model C 8363 Master Display and 7-digit Slave Displays required.

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GAME OPERATION

*Indicates adjustable features

Game Over Mode - Turn game ON; player scores show zero, high score to date* alternates with player 1 score, player 1 up lamp flashes, game over lamp lights, all playfield lamps except for credit lamp cycle in attract mode.

Credit Posting - Insert coin; knocker sounds, number of credits displayed. If maximum credits* exceeded by coin or high score to date*, credits are posted correctly, coin lockout de-energized until remaining credits are below maximum. No credits may be won and coins are rejected while lockout is energized.

Game Start - Push credit button; start-up tune played, ball served, credit display reduced by one, player 1 up lamp flashes until first scoring switch is made, ball in play shows 1. Pushing credit button before ball 2 displayed allows additional players.

Bonus - Bonus is advanced by making any "K-O-R-A" rollover, drop target when flashing, left inside rollover, or right outlane. The bonus multiplier is advanced by spotting "K-O-R-A" or making the right return gate when lit. Making the eject hole opens and lights the return gate. Making the eject hole or the left inside rollover spots a "K-O-R-A" lamp. The "K-O-R-A" lamps rotate by operating the right flipper (***LANE CHANGE***™ Feature).

Drop Target 3-Banks - Making target stops associated arrow from flashing. Lighting all six arrows steadily scores and advances the Bonus lamps (10,30,50, and 100 times 1,000). Lighting arrows with "100" lit lights eject hole for Extra Ball. Making either 3-bank lights loop shot for 2X.

Loop Shot - Making loop shot for loop gate and loop lane switches lites spinners alternately and scores and advances loop lane lamps (10-60 times 1,000). Making loop shot with "60" lit lights outlanes alternately for Special. The spinners alternate with time and the outlane Specials alternate with each 10 point score.

Chamber - Driving captive ball against Chamber target scores highest flashing value and lights ball shooter to score 50,000 and to release balls in Chamber.

Memory - Partial spotting of "K-O-R-A", drop target arrows, loop lane lamps*, drop target 3-bank bonus*, and bonus multipliers* below 5X.

Extra Ball - Maximum of one* Extra Ball per ball. Making eject hole when lit for Extra Ball awards Extra Ball and resets Drop Target 3-Banks bonus lamps.

Tilts - Ball in play tilted on first closure of Playfield and Ball Roll tilts and third* closure of Plumb Bob. Slam Tilt returns game to game over.

End of Game - Match Digits* appears in ball in play display, *credit awarded for match. Exceeding high score to date awards* three credits. Match, High Score to Date, and Game Over sounds made as appropriate. Balls released from eject holes and are placed on ball ramp before new game can be started.

BOOKKEEPING AND EVALUATION TOTALS
(Functions 01-12)

1. In game over mode, set alternate-action switch to AUTO-UP (out) and depress ADVANCE pushbutton. Test 04 is indicated in number of credits display, Function 00 in ball in play display, and game identification in Player 1 display.
2. Operate the ADVANCE pushbutton to display each function on the ball in play display (see Table 1) and record each total from Player 1 display. (To reveiw a total that has been advanced past, set alternate-action switch to MANUAL-DOWN (in) and operate the ADVANCE pushbutton.)
3. Calculate the following if desired:
   % Paid Credits = Function 04 ÷ Function 08
4. Turn the game OFF and back ON to return to game over mode.
5. To change current High Score to Date to value of Function 13, momentarily depress HIGH SCORE RESET pushbutton.
6. To zero Functions 01-11, see page 7

GAME ADJUSTMENT PROCEDURE
(Functions 13-35)

Coin door must be open to change settings.

1. In game over mode, set alternate-action switch to AUTO-UP (out) and depress ADVANCE pushbutton. Test 04 is indicated in number of credits display, Function 00 in ball in play display, and game identification in Player 1 display.
2. **To raise** Function number in ball in play display, operate ADVANCE pushbutton with switch set to AUTO-UP (in). **To lower** Function number operate ADVANCE with it set to MANUAL-DOWN (out).
3. With desired Function indicated in ball in play display, **raise** value in player 1 display by operating credit button with switch set to AUTO-UP (out); **lower** value by operating credit button with it set to MANUAL-DOWN (in). Value left of Player 1 display is new setting. For values see Table 1 and (for pricing) Table 2.
4. Repeat steps 2 and 3 until all required adjustments have been made.
5. Turn game OFF and back ON to return to game over mode.
6. To restore factory settings **and** zero audit totals, see page 7.

DIAGNOSTIC PROCEDURES
(Display Digits, Lamp, Solenoid, and Switch Tests)

1. In game over mode, set alternate-action switch to MANUAL-DOWN (in) and depress ADVANCE. All displays should go blank.
2. Momentarily depress ADVANCE and set switch to AUTO-UP (out). Display Digits test is performed.
3. Momentarily depress ADVANCE. Test 01 is indicated on number of credits display and Lamp Test is performed.
4. Set toggle switch to MANUAL-DOWN and momentarily depress ADVANCE. Test 02 is indicated on number of credits display and solenoid 01 on the ball in play display; solenoid 01 is pulsed by driver board.
5. Operate ADVANCE to pulse each solenoid (see Figure 3).
6. Set toggle switch to AUTO-UP and momentarily depress ADVANCE. Test 03 is indicated on number of credits display and stuck switches on ball in play display.
7. See Figure 4. Operate switches; switch number is indicated on ball in play display.
8. Turn game OFF and back ON to return to game over mode.
9. To set up Auto-Cycle Mode (Display Digits, Lamp, and Solenoid Tests) see page 7.

Table 1. Game Adjustments

FUNCTION	DESCRIPTION	NOTES	FACTORY SETTING
00	Game Identification	1	1499 1
01	Coins, Left Chute (Closest to coin door hinge)	1	—
02	Coins, Center Chute	1	—
03	Coins, Right Chute	1	—
04	Total Paid Credits	1	—
05	Total Specials	1	—
06	Total Replay (Extra Ball) Scores	1	—
07	Match and High Score to Date Credits	1	—
08	Total Credits	1,2	—
09	Total Extra Balls	1,3	—
10	Total Ball Time in Minutes	1	—
11	Total Number of Balls Played	1	—
12	Current High Score to Date	4	*
13	Backup High Score to Date	5	*
14	Replay 1 Score	6	*
15	Replay 2 Score	6	*
16	Replay 3 Score	6	0
17	Replay 4 Score	6	0
18	Maximum Credits	7	20
19	Standard and Custom Pricing Control (00-07)	8	02
20	Left Coin Slot Multiplier	8	01
21	Center Coin Slot Multiplier	8	04
22	Right Coin Slot Multiplier	8	01
23	Coin Units Required for Credit	8	01
24	Coin Units Bonus Point	8	00
25	High Score Credits	5	03
26	Match/Multiple Extra Ball 00 = Match ON, 1 Extra Ball per Ball 01 = Match OFF, 1 Extra Ball per Ball 10 = Match ON, Multiple Extra Ball 11 = Match OFF, Multiple Extra Ball	—	00
27	Special 00 = Awards Credit 01 = Awards Extra Ball 02 = Awards Points	—	00
28	Scoring Awards 00 = Credits at Replay Score 01 = Extra Ball at Replay Score	—	00
29	Maximum Plumb Bob Tilts (1-9)	—	03
30	Number of Balls (03 or 05)	—	03
31	3-Banks 00 = No target bonus memory, "10" lamp not lit initially 01 = Target bonus on memory, "10" lamp not lit initially 10 = No target bonus memory, "10" lamp lit initially 11 = Target bonus on memory, "10" lamp lit initially	—	11
32	Loop Shot 00 = No lane lamp memory, "10" lamp not lit initially 01 = Lane lamps on memory, "10" lamp not lit initially 10 = No lane lamp memory, "10" lamp lit initially 11 = Lane lamps on memory, "10" lamp lit initially	—	11
33	Extra Ball Lamp 00 = No Extra Ball 01 = Lit once per ball when 3-Banks 100,000 collected 02 = Lights each time 3-Banks 100,000 collected	—	01
34	Background Sound 00 = Background Sound OFF 01 = Background Sound ON	—	01
35	Bonus Multiplier 00 = No lamp memory 01 = Lamps below 5x on memory	—	01

*To be determined.

Notes:

1. Functions 00-11 cannot be changed from the coin door; however, Functions 01-11 can be set to zero as described on page 7.
2. Total Credits (Function 08) is the sum of Function 04 and as applicable, Functions 05, 06, and 07.
3. Total Extra Balls (Function 09) is the sum of the game extra ball feature and Functions 05 and 06, as applicable.
4. Current High Score to Date (Function 12) can be changed to the value of the Backup High Score to Date (Function 13) by operating the HIGH SCORE RESET switch while in the game over mode.
5. Function 13 may be set to any multiple of 100,000 points. Setting Function 25 to zero with Function 13 set to any score but zero permits the High Score to Date feature to operate but no credits are awarded.
6. Functions 14-17 (Replay Scores) may be set to any multiple of 100,000 points. Setting a function to zero disables the replay score point. **Always disable the Replay 4 level first, the Replay 3 level second, etc. The replay levels must be set with ascending values.**
7. Setting Maximum Credits (Function 18) to zero places the game in a **free play mode.**
8. With Function 19 set to 00, Functions 20-24 must be set manually. Refer to Table 2 for seven standard pricing schemes (selected by values of 01-07 for Function 19) and custom pricing values.

Table 2. Standard and Custom Price Settings

COIN DOOR MECHANISM	CREDITS	FUNCTION					
		19	20	21	22	23	24
Twin-Quarter	1/25¢, 3/50¢, 7/$1	00	03	12	03	02	12
Quarter, Dollar, Quarter	1/25¢, 3/50¢, 7/$1 coin only	00	03	14	03	02	00
	1/25¢, 7/$1 coin only	00	01	07	01	01	00
	1/25¢, 3/50¢, 6/$1	00	01	04	01	01	02
	1/25¢, 6/$1 coin only	00	01	06	01	01	00
	1/25¢, 5/$1	00	01	04	01	01	04
	1/25¢, 5/$1 coin only	00	01	05	01	01	00
	•1/25¢, 4/$1	**02**	**01**	**04**	**01**	**01**	**00**
	•1/50¢, 2/75¢, 3/4 x 25¢, 4/$1 or 5 x 25¢	**05**	**03**	**15**	**03**	**04**	**15**
	•1/50¢, 3/$1	**01**	**01**	**04**	**01**	**02**	**04**
	1/50¢	00	01	04	01	02	00
1DM, 5DM,2DM	**•1/1DM, 3/2DM, 10/5DM**	**03**	**09**	**45**	**18**	**05**	**45**
	2/1DM, 5/2DM, 14/5DM	00	13	65	26	05	65
20-Cent, 50-Cent	1/20¢, 3/50¢	00	06	00	15	05	00
1 Franc, 10 Franc, 5 Franc	**•1/2F, 3/5F only, 8/10F only**	**04**	**01**	**16**	**06**	**02**	**00**
25 Cent,	**•1/25¢, 4/1G**	**06**	**01**	**00**	**04**	**01**	**00**
1 Guilder,	1/25¢, 5/1G	00	01	00	04	01	04
50 Yen, 100 Yen	**•1/50Y, 2/100Y**	**07**	**01**	**00**	**02**	**01**	**00**
1 Franc or	1/1F, 3/2F	00	01	01	01	01	02
Twin-1 Franc	1/1F	00	01	01	01	01	00
5 Franc,	**•1/5F, 2/10F**	**07**	**01**	**00**	**02**	**01**	**00**
10 Franc	1/10F	00	01	00	02	02	00
Twin-2 Franc	**•1/2F**	**02**	**01**	**04**	**01**	**01**	**00**
10, 20 Franc	**•1/10F, 2/20F**	**07**	**01**	**00**	**02**	**01**	**00**
Twin-1 Sucre	1/3S, 2/5S	00	02	00	02	05	00

•Indicates standard price settings by adjusting **only** Function 19. For other price settings, set Function 19 to 00 and set Functions 20 through 24 to the values indicated in the chart.

RESETTING AUDIT TOTALS AND ADJUSTMENTS; INITIATING AUTO-CYCLE MODE

1. In game over mode, set the alternate-action switch to MANUAL-DOWN (in) and momentarily depress the ADVANCE pushbutton. All displays should go blank.
2. Remove the backglass and unlatch and open the insert door.
3. Set all switches on the MASTER COMMAND slide switch to OFF (move to the right).
4. Set switch on MASTER COMMAND switch to ON (move to left):
   a. To zero audit totals (Functions 01-11) set switch 8 to ON.
   b. To restore factory settings **and** zero audit totals, set switch 7 to ON. *Coin Door must remain open to restore factory settings.*
   c. For Auto-Cycle Mode set switch 6 to ON.
5. Momentarily depress MASTER COMMAND ENTER pushbutton. The LEDs should blink once.
6. a. After zeroing audit totals turn game OFF and ON to return to game over mode.
   b. After restoring factory settings, turn game OFF and ON **twice** to return to game over mode.
   c. To initiate Auto-Cycle Mode, set alternate-action switch to AUTO-UP (out) and momentarily depress the ADVANCE pushbutton. Each cycle of this mode sequences through display digits test, flashes all multiplexed lamps 64 times and pulses each solenoid. To terminate the Auto-Cycle mode and go to game over, turn the game OFF and ON.

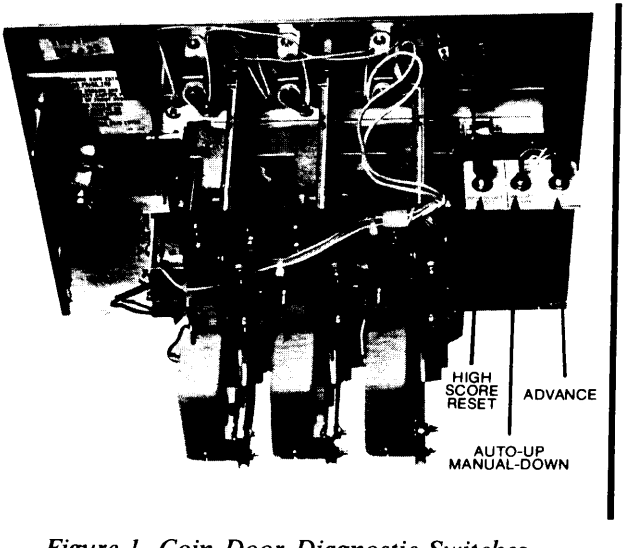


Figure 1. Coin Door Diagnostic Switches

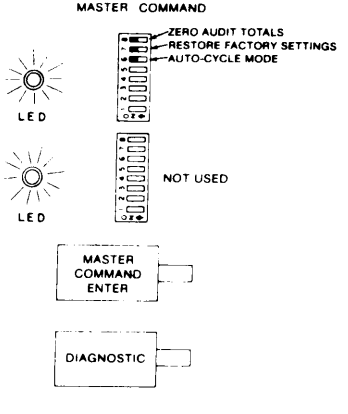
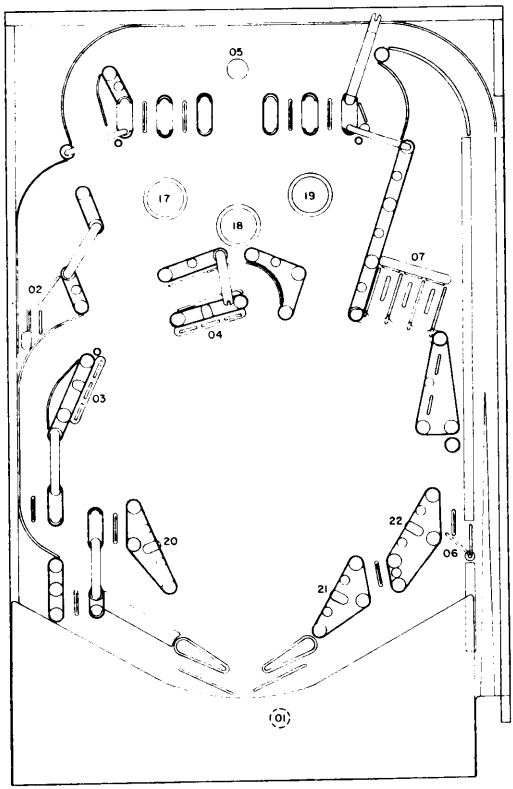


Figure 2. Master Command Settings Switch



SOL. NO.	FUNCTION
01	Ball Release
02	Ball Shooter
03	Left 3-Bank Drop Targets Reset
04	Center 3-Bank Drop Targets Reset
05	Eject Hole
06	Ball Return Gate
07	Chamber Reset
08	Not Used
09	Sound
10	Sound
11	Sound
12	Sound
13	Sound
14	Credit Knocker
15	Not Used
16	Coin Lockout
17	Left Jet Bumper
18	Center Jet Bumper
19	Right Jet Bumper
20	Left Kicker
21	Right Inside Kicker
22	Right Outside Kicker

Figure 3. Playfield Solenoid Locations and Solenoid Chart

Table 3. Solenoid Connections

SOL. NO.	FUNCTION	WIRE COLOR	CONNECTIONS	DRIVER TRANS.	SOLENOID PART NO.
01	Ball Release	GRY-BRN	2P11-4, 8P3-17	Q15	SA-23-850-DC
02	Ball Shooter	GRY-RED	2P11-5, 8P3-18	Q17	SG-23-850-DC
03	Left 3-Bank Drop Targets Reset	GRY-ORN	2P11-7, 8P3-19	Q19	SA3-23-850-DC
04	Center 3-Bank Drop Targets Reset	GRY-YEL	2P11-8, 8P3-20	Q21	SA3-23-850-DC
05	Eject Hole	GRY-GRN	2P11-9, 8P3-21	Q23	SA3-23-850-DC
06	Ball Return Gate	GRY-BLU	2P11-3, 8P3-22	Q25	SZ-35-4000-DC
07	Chamber Reset	GRY-VIO	2P11-2, 8P3-23	Q27	SA4-23-850-DC
08	Not Used	GRY-BLK	2P11-1, 8P3-24	Q29	—
09	Sound	BRN-BLK	2P9-9, 10P3-3	Q31	—
10	Sound	BRN-RED	2P9-7, 10P3-2	Q33	—
11	Sound	BRN-ORN	2P9-1, 10P3-5	Q35	—
12	Sound	BRN-YEL	2P9-2, 10P3-4	Q37	—
13	Sound	BRN-GRN	2P9-3, 10P3-7	Q39	—
14	Credit Knocker	BRN-BLU	2P9-4, 7P1-16	Q41	SA-23-850-DC
15	Not Used	BRN-VIO	2P9-5, 8P3-1	Q43	—
16	Coin Lockout	BRN-GRY	2P9-6, 7P1-18, 7P2-4	Q45	SM-35-4000-DC
*17	Left Jet Bumper	BLU-BRN	2P12-7, 8P3-11	Q2	SG-23-850-DC
*18	Center Jet Bumper	BLU-RED	2P12-4, 8P3-12	Q4	SG-23-850-DC
*19	Right Jet Bumper	BLU-ORN	2P12-3, 8P3-13	Q6	SG-23-850-DC
*20	Left Kicker	BLU-YEL	2P12-6, 8P3-14	Q8	SG-23-850-DC
*21	Right Inside Kicker	BLU-GRN	2P12-8, 8P3-15	Q10	SG-23-850-DC
*22	Right Outside Kicker	BLU-BLK	2P12-9, 8P3-16	Q12	SG-23-800-DC
*	Right Flipper	BLU-VIO	7P1-8, 8P3-3	—	SFL-19-400/ 30-750-DC
*	Left Flipper	BLU-GRY	7P1-10, 8P3-4	—	SFL-19-400/ 30-750-DC

***NOTES:**

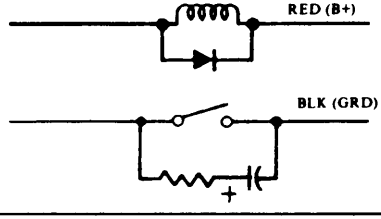
1. Special switch connections for solenoids 17 through 22 are as follows:

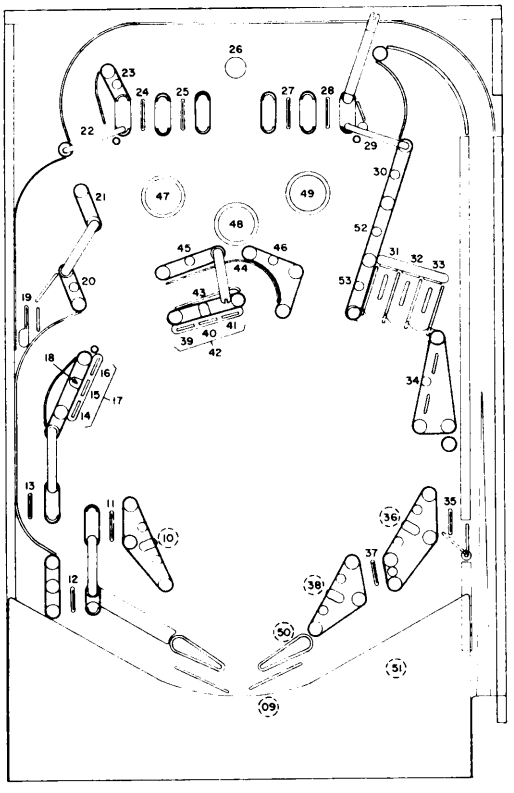
   17 -- ORN-BRN -- 2P13-5, 8P3-5
   18 -- ORN-RED -- 2P13-3, 8P3-6
   19 -- ORN-BLK -- 2P13-2, 8P3-7
   20 -- ORN-YEL -- 2P13-4, 8P3-8
   21 -- ORN-GRN -- 2P13-8, 8P3-9
   22 -- ORN-BLU -- 2P13-9, 8P3-10

2. Flipper button connections are as follows:

   Right -- ORN-VIO -- 2P12-1, 7P1-7
   Left -- ORN-GRY -- 2P12-2, 7P1-9

3. Typical wiring for solenoids and special switches:





Switch No.	Function (Score)
01	Plumb Bob Tilt
02	Ball Roll Tilt
03	Credit Button
04	Right Coin Switch
05	Center Coin Switch
06	Left Coin Switch
07	Slam Tilt
08	High Score Reset
09	Outhole
10	Left Kicker (10)
11	Left Inside Rollover (1000)
12	Left Outlane (5000)
13	Left Loop Lane Rollover (5000/10,000 per lit lamp)
14	Left 3-Bank, Left Drop Target (1000/5000*)
15	Left 3-Bank, Center Drop Target (1000/5000*)
16	Left 3-Bank, Right Drop Target (1000/5000*)
17	Left 3-Bank Drop Target Series (5000)
18	Left 3-Bank Standup (50)
19	Ball Shooter (5,000/50,000)
20	Upper Left Standup, Lower (10)
21	Upper Left Standup, Upper (10)
22	Left Spinner (100/1000)
23	Top Left Standup (10)
24	"K" Rollover (1000)
25	"O" Rollover (1000)
26	Eject Hole (5000)
27	"R" Rollover (1000)
28	"A" Rollover (1000)
29	Right Spinner (100/1000)
30	Upper Right Standup, Top (10)
31	Left Chamber Target (Highest flashing Value)
32	Center Chamber Target (Highest flashing Value)
33	Right Chamber Target (Highest flashing Value)
34	Middle Right Standup (10)
35	Right Return Gate Rollover (1000)
36	Right Outside Kicker (10)
37	Right Outlane (5000)
38	Right Inside Kicker (10)
39	Center 3-Bank, Left Target (1000/5000*)
40	Center 3-Bank, Center Target (1000/5000*)
41	Center 3-Bank, Right Target (1000/5000*)
42	Center 3-Bank, Drop Target Series (5000)
43	Center 3-Bank Standup (50)
44	Loop Gate (1000/5000)
45	Center Left Standup (10)
46	Center Right Standup (10)
47	Left Jet Bumper (100)
48	Center Jet Bumper (1000)
49	Right Jet Bumper (1000)
50	Right Flipper ***LANE CHANGE*** Feature
51	Playfield Tilt
52	Upper Right Center Standup (10)
53	Upper Right Lower Standup (10)

Second value is lit or flashing* value.

Figure 4. Playfield Switch Locations and Switch Chart

ROW \ COLUMN	1 GRN-BRN 2J2-9	2 GRN-RED 2J2-8	3 GRN-ORN 2J2-7	4 GRN-YEL 2J2-6	5 GRN-BLK 2J2-5	6 GRN-BLU 2J2-3	7 GRN-VIO 2J2-2	8 GRN-GRY 2J2-1
1 WHT-BRN 2J3-9	PLUMB BOB TILT 1	OUTHOLE 9	LEFT 3-BANK DROP TARGET SERIES 17	"O" ROLLOVER 25	RIGHT CHAMBER TARGET 33	CENTER 3-BANK RIGHT TARGET 41	RIGHT JET BUMPER 49	NOT USED 57
2 WHT-RED 2J3-8	BALL ROLL TILT 2	LEFT KICKER 10	LEFT 3-BANK STANDUP 18	EJECT HOLE 26	MIDDLE RIGHT STANDUP 34	CENTER 3-BANK DROP TARGET SERIES 42	RIGHT FLIPPER ***LANE CHANGE*** FEATURE 50	NOT USED 58
3 WHT-ORN 2J3-7	CREDIT BUTTON 3	LEFT INSIDE ROLLOVER 11	BALL SHOOTER 19	"R" ROLLOVER 27	RIGHT RETURN GATE ROLLOVER 35	CENTER 3-BANK STANDUP 43	PLAYFIELD TILT 51	NOT USED 59
4 WHT-YEL 2J3-6	RIGHT COIN SWITCH 4	LEFT OUTLANE 12	UPPER LEFT STANDUP LOWER 20	"A" ROLLOVER 28	RIGHT OUTSIDE KICKER 36	LOOP GATE 44	UPPER RIGHT CENTER STANDUP 52	NOT USED 60
5 WHT-GRN 2J3-5	CENTER COIN SWITCH 5	LEFT LOOP LANE ROLLOVER 13	UPPER LEFT STANDUP UPPER 21	RIGHT SPINNER 29	RIGHT OUTLANE 37	CENTER LEFT STANDUP 45	UPPER RIGHT LOWER STANDUP 53	NOT USED 61
6 WHT-BLU 2J3-4	LEFT COIN SWITCH 6	LEFT 3-BANK LEFT DROP TARGET 14	LEFT SPINNER 22	UPPER RIGHT STANDUP TOP 30	RIGHT INSIDE KICKER 38	CENTER RIGHT STANDUP 46	NOT USED 54	NOT USED 62
7 WHT-VIO 2J3-3	SLAM TILT 7	LEFT 3-BANK CENTER DROP TARGET 15	TOP LEFT STANDUP 23	LEFT CHAMBER TARGET 31	CENTER 3-BANK LEFT TARGET 39	LEFT JET BUMPER 47	NOT USED 55	NOT USED 63
8 WHT-GRY 2J3-1	HIGH SCORE RESET 8	LEFT 3-BANK RIGHT DROP TARGET 16	"K" ROLLOVER 24	CENTER CHAMBER TARGET 32	CENTER 3-BANK CENTER TARGET 40	CENTER JET BUMPER 48	NOT USED 56	NOT USED 64

Figure 5. Switch Matrix

ROW \ COLUMN	1 YEL-BRN 2J5-8	2 YEL-RED 2J5-9	3 YEL-ORN 2J5-6	4 YEL-BLK 2J5-7	5 YEL-GRN 2J5-3	6 YEL-BLU 2J5-5	7 YEL-VIO 2J5-1	8 YEL-GRY 2J5-2
1 RED-BRN 2J7-1	SAME PLAYER SHOOTS AGAIN	LOOP LANE "10"	2X	LEFT 3-BANK LEFT TARGET ARROW	3-BANKS "10" BONUS	2,000 BONUS	NOT USED	#1 PLAYER UP
2 RED-BLK 2J7-2	LEFT SPECIAL	LOOP LANE "20"	3X	LEFT 3-BANK CENTER TARGET ARROW	3-BANKS "30" BONUS	3,000 BONUS	1 CAN PLAY	#2 PLAYER UP
3 RED-ORN 2J7-3	RIGHT SPECIAL	LOOP LANE "30"	4X	LEFT 3-BANK RIGHT TARGET ARROW	3-BANKS "50" BONUS	4,000 BONUS	2 CAN PLAY	#3 PLAYER UP
4 RED-YEL 2J7-4	LOOP GATE 2X	LOOP LANE "40"	5X	CENTER 3-BANK LEFT TARGET ARROW	3-BANKS "100" BONUS	5,000 BONUS	3 CAN PLAY	#4 PLAYER UP
5 RED-GRN 2J7-5	CHAMBER 50,000	LOOP LANE "50"	"K" ROLLOVER	CENTER 3-BANK CENTER TARGET ARROW	NOT USED	6,000 BONUS	4 CAN PLAY	TILT
6 RED-BLU 2J7-6	CHAMBER 40,000	LOOP LANE "60"	"O" ROLLOVER	CENTER 3-BANK RIGHT TARGET ARROW	20,000 BONUS	7,000 BONUS	MATCH	GAME OVER
7 RED-VIO 2J7-9	CHAMBER 30,000	EXTRA BALL WHEN LIT	"R" ROLLOVER	LEFT SPINNER	10,000 BONUS	8,000 BONUS	BALL IN PLAY	SAME PLAYER SHOOTS (BACKBOX)
8 RED-GRY 2J7-8	CHAMBER RESET	NOT USED	"A" ROLLOVER	RIGHT SPINNER	1,000 BONUS	9,000 BONUS	CREDITS (PLAYFIELD)	HIGH SCORE

Figure 6. Lamp Matrix