

GAME ADJUSTMENT AND DIAGNOSTIC PROCEDURES FOR FLASH

BOOKKEEPING AND EVALUATION TOTALS

(Functions 01-12)

1. In game over mode, set toggle switch to AUTO-UP and depress ADVANCE pushbutton. Test 04 is indicated in number of credits display, Function 00 in ball in play display, and PROM ID 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 review a total that has been advanced past, set toggle switch to MANUAL-DOWN and operate ADVANCE pushbutton.)
3. Calculate the following as desired:
 $\% \text{ Paid Credits} = \text{Function 08} \div \text{Function 04}$
 $\text{Average Ball Time (Seconds)} = 60 \times \text{Function 10} \div \text{Function 11}$
4. Turn 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 instructions adjacent to CPU Board in backbox.

GAME ADJUSTMENT PROCEDURE

(Functions 13-35)

1. In game over mode, set toggle switch to AUTO-UP and depress ADVANCE pushbutton. Test 04 is indicated in number of credits display, Function 00 in ball in play display and PROM ID in player 1 display.
2. **To raise** Function number in ball in play display operate ADVANCE pushbutton with switch set to AUTO-UP.
To lower Function number operate ADVANCE with it set to MANUAL-DOWN.
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; **lower** value by operating credit button with it set to MANUAL-DOWN. Value left on 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 the game over mode.
6. To restore factory settings, see instructions adjacent to CPU Board in backbox; game must be turned OFF and ON twice to return to game over.

Table 1. Game Adjustments

| Function | Description | Notes | Factory Setting |
|----------|---|-------|-----------------|
| 00 | PROM Identification | 1 | 0486 2 |
| 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 | 550,000 |
| 13 | Backup High Score to Date | 5 | 550,000 |
| 14 | Replay 1 Score | 5 | 270,000 |
| 15 | Replay 2 Score | 5 | 370,000 |
| 16 | Replay 3 Score | 5 | 470,000 |
| 17 | Replay 4 Score (Disabled) | 5 | 0 |
| 18 | Maximum Credits | 6 | 20 |
| 19 | Standard and Custom Pricing Control (00-07) | 7 | 01 |
| 20 | Left Coin Slot Multiplier | 7 | 01 |
| 21 | Center Coin Slot Multiplier | 7 | 01 |
| 22 | Right Coin Slot Multiplier | 7 | 01 |
| 23 | Coin units required for credit | 7 | 01 |
| 24 | Coin units bonus point | 7 | 02 |
| 25 | Credits in game | — | 00 |
| 26 | High Score Credits | 8 | 03 |
| 27 | Play | — | 11 |
| | 01-Liberal, Eject Hole Lamps Restored, 5,000 Lamp Lit Initially | | |
| | 02-Moderate, Eject Hole Lamps Restored 5,000 Lamp not Lit Initially | | |
| | 11-Factory Setting, Eject Hole Lamps not Restored, 5,000 Lamp Lit Initially | | |
| | 12-Conservative, Eject Hole Lamps not Restored, 5,000 Lamp not Lit Initially | | |
| | 14-No Extra Ball, Eject Hole Lamps not Restored, 5,000 Lamp not Lit Initially | | |
| 28 | Match (00=ON, 01=OFF) | — | 00 |
| 29 | Special | — | 00 |
| | 00 = Awards Credit | | |
| | 01 = Awards Extra Ball | | |
| | 02 = Awards 50,000 Points | | |
| 30 | Scoring Awards | — | |
| | 00 = Credits at Replay Score | | |
| | 01 = Extra Ball at Replay Score | | |
| 31 | Number of balls (03 or 05) | — | 03 |
| 32 | Maximum Plumb Bob Tilts (1-9) | — | 03 |
| 33 | Sound Option | — | 00 |
| | 00 = Background Sound OFF | | |
| | 01 = Background Sound ON | | |
| 34 | SUPER FLASH Scoring | — | 00 |
| | 00 = Awards 50,000 Points | | |
| | 01 = Awards Extra Ball | | |
| 35 | SUPER FLASH Restore | — | 00 |
| | 00 = Restores | | |
| | 01 = Does not Restore | | |

Notes:

1. Functions 00-11 cannot be changed from the coin door; however, Functions 01-11 can be set to zero as described on label adjacent to CPU Board in backbox.
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. Functions 13-17 may be set to any multiple of 10,000 points. Setting a function to zero disables the High Score to Date (Function 13) or the replay score (Functions 14-17).
6. Setting Maximum Credits (Function 18) to zero places the game in a **free play** mode.
7. With Function 19 set to 00, Functions 20-24 can 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.
8. Setting Function 26 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.

Table 2. Standard and Custom Pricing Settings

| COIN DOOR MECHANISM | CREDITS | FUNCTION | | | | | | |
|---|----------------------|----------|----|----|----|----|----|--|
| | | 19* | 20 | 21 | 22 | 23 | 24 | |
| Quarter, Twin-Quarter, or 3-Quarter | 1/25c, 3/50c | 01 | 01 | 01 | 01 | 01 | 02 | |
| | 1/25c | 02 | 01 | 01 | 01 | 01 | 00 | |
| | 2/25c, 5/50c | 00 | 02 | 02 | 02 | 01 | 04 | |
| | 2/25c | 00 | 02 | 02 | 02 | 01 | 00 | |
| | 1/50c | 00 | 01 | 01 | 01 | 02 | 00 | |
| | 1/50c, 3/\$1 | 00 | 01 | 01 | 01 | 02 | 04 | |
| | 1/75c | 00 | 01 | 01 | 01 | 03 | 00 | |
| Nickel-Dime- Quarter | 1/25c, 3/50c | 00 | 01 | 02 | 05 | 05 | 10 | |
| | 1/25c | 00 | 01 | 02 | 05 | 05 | 00 | |
| | 2/25c | 00 | 01 | 02 | 05 | 05 | 05 | |
| | 1/15c, 2/25c | 00 | 02 | 04 | 10 | 05 | 00 | |
| 1DM, 5DM, 2DM 20-Cent, 50-Cent | 1/10c, 3/25c | 00 | 03 | 06 | 15 | 05 | 00 | |
| | 2/1DM, 5/2DM, 14/5DM | 03 | 13 | 65 | 26 | 05 | 65 | |
| 1 Franc, 5 Franc | 1/20c, 3/50c | 00 | 06 | 00 | 15 | 05 | 00 | |
| | 1/1F, 6/5F | 04 | 01 | 00 | 05 | 01 | 05 | |
| | 1/1F, 7/5F | 05 | 06 | 00 | 30 | 05 | 30 | |
| 25 Cent, 1 Guilder | 1/25c | 06 | 01 | 00 | 04 | 01 | 00 | |
| | 1/25c, 5/1G | 00 | 01 | 00 | 04 | 01 | 04 | |
| 50 Yen, 100 Yen | 1/50Y, 2/100Y | 07 | 01 | 00 | 02 | 01 | 00 | |
| | 1/1F, 3/2F | 01 | 01 | 01 | 01 | 01 | 02 | |
| 1 Franc, 1 Franc 5 Franc, 10 Franc | 1/1F | 02 | 01 | 01 | 01 | 01 | 00 | |
| | 1/5F, 2/10F | 07 | 01 | 00 | 02 | 01 | 00 | |
| | 1/10F | 00 | 01 | 00 | 02 | 02 | 00 | |
| 2 Franc, 2 Franc 10 Franc, 20 Franc | 1/2F | 02 | 01 | 01 | 01 | 01 | 00 | |
| | 1/10F, 2/20F | 07 | 01 | 00 | 02 | 01 | 00 | |
| 1 Sucre, 1 Sucre | 1/3S, 2/5S | 00 | 02 | 00 | 02 | 05 | 00 | |

*Function 19 set to values 01-07 automatically selects corresponding values of Functions 20-24. With Function 19 set to 00, Functions 20-24 must be set manually.

DIAGNOSTIC PROCEDURES

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

1. In game over mode, set toggle switch to MANUAL-DOWN and depress ADVANCE. All displays should go blank.
2. Momentarily depress ADVANCE and set toggle switch to AUTO-UP. 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 ball in play display; solenoid 01 is pulsed by Driver Board.
5. Operate ADVANCE to pulse each solenoid (see Table 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 Table 4 and Figure A. 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 instructions adjacent to CPU Board in backbox.

Table 3. Solenoids

SOLENOID

NO.

1. Ball Release
2. 5 - Bank (1-3) (Top) Drop Targets
3. 5 - Bank (4-5) (Bottom) Drop Targets Reset
4. 3 - Bank Drop Targets Reset
5. Eject Hole
6. "Flash" Lamps*
7. Not Used
8. Not Used
9. Sound
10. Sound
11. Sound
12. Sound
13. Sound
14. Credit Knocker
15. Not Used
16. Coin Lockout
17. Right Jet Bumper
18. Left Jet Bumper
19. Lower Jet Bumper
20. Right Kicker
21. Left Kicker
22. Not Used.

**"Flash" lamps glow dimly as part of normal operation

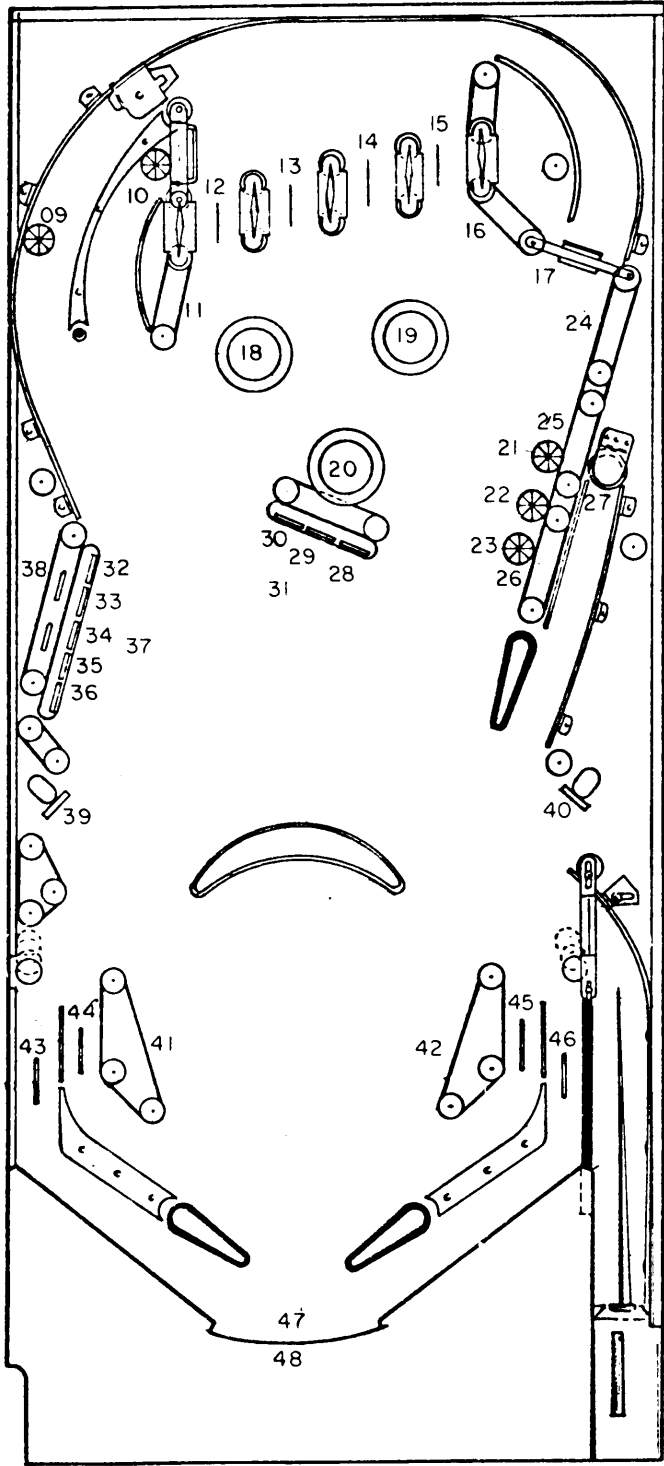


Figure A. Playfield Switch Locations

Table 4. Switches

**SWITCH
NO.**

| | |
|----|----------------------------------|
| 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 to Date Reset |
| 09 | Outside Upper Left Star Rollover |
| 10 | Inside Upper Left Star Rollover |
| 11 | Upper Left Standup |
| 12 | "1" Rollover |
| 13 | "2" Rollover |
| 14 | "3" Rollover |
| 15 | "4" Rollover |
| 16 | Top Right Standup |
| 17 | Spinner |
| 18 | Left Jet Bumper |
| 19 | Right Jet Bumper |
| 20 | Lower Jet Bumper |
| 21 | Upper Right Star Rollover |
| 22 | Center Right Star Rollover |
| 23 | Lower Right Star Rollover |
| 24 | Right Side Standup, Upper |
| 25 | Right Side Standup, Center |
| 26 | Right Side Standup, Lower |
| 27 | Eject Hole |
| 28 | 3 - Bank, Right Drop Target |
| 29 | 3 - Bank, Center Drop Target |
| 30 | 3 - Bank, Left Drop Target |
| 31 | 3 - Bank, Series |
| 32 | 5 - Bank, 1 Drop Target (Top) |
| 33 | 5 - Bank, 2 Drop Target |
| 34 | 5 - Bank, 3 Drop Target |
| 35 | 5 - Bank, 4 Drop Target |
| 36 | 5 - Bank, 5 Drop Target (Bottom) |
| 37 | 5 - Bank, Series |
| 38 | 5 - Bank Standup |
| 39 | Left Target |
| 40 | Right Target |
| 41 | Left Kicker |
| 42 | Right Kicker |
| 43 | Left Special Rollover |
| 44 | Left Flipper Return Rollover |
| 45 | Right Flipper Return Rollover |
| 46 | Right Special Rollover |
| 47 | Playfield Tilt |
| 48 | Outhole |

Game Adjustment Settings for this Game

Function

Setting

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