

#927 "LITTLE JOE"

INSTALLATION AND GENERAL GAME OPERATION INSTRUCTIONS

INSTALLATION

On all games there are certain items that should be checked after shipment. These are visual inspections which may avoid time consuming service work later. Minor troubles caused by abusive handling in shipment are unavoidable. Cable plugs and sockets may be loosened, switches (especially tilt switches) may go out of adjustment. Plumb bob tilt switch should always be adjusted after game is set on location and leg levelers are adjusted.

Visual inspections before plugging in line cord: -

1. Check that all cable plugs are firmly seated in proper sockets.
2. Check that cables are clear of all moving parts and relays.
3. Check for any wires that may have become disconnected.
4. Check switches for loose solder or other foreign material that may have come loose in shipment and could cause shorting of contacts.
5. Check wires on relay coils for proper soldering, especially the bare (common) wire connecting a row of relay coils. Cold solder connections may not show up in factory inspection, but vibration in shipment may break contact.
6. Check that fuses are firmly seated and making good contact.
7. Check (manually) the stepping and resetting of all step-up units. The wiper action should not be sluggish.
8. Check transformer for any foreign material shorting across wiring lugs.
9. Check wiring of transformer to correspond to location voltage. (Transformer wiring card in front cabinet.)

Before the line cord is plugged in: -

Check all plugs and sockets and cable dressing:

- (A) Plugs in correct sockets.
- (B) Plugs securely seated in sockets.
- (C) Dress cables away from relays, step ups and any mechanically acting units.

Check adjustment of the three (normally open) tilt switches:

- (A) Panel tilt on bottom of playfield panel.
- (B) Plumb-bob tilt on left side of cabinet near front door.
- (C) Ball tilt above plumb-bob tilt.

Insert one of the four balls into ball tilt assembly and adjust bracket so ball will roll over switch blade if front of cabinet is raised.

Adjust of Kick-off and Anti-Slam Switches:

Check adjustment of the (normally closed) kick-off switch at rear of cabinet mounting board, near cable plugs. Check adjustment of the (normally closed) anti-slam switch, on front door.

GENERAL GAME OPERATION

Place a ball on playfield by the out hole.

Plug in the Line Cord:

Starting Game: Insert correct coin, if coin should be rejected, move on-off master switch at bottom right front corner of cabinet to "on" position. Then insert coin again. The coin lock-out device rejects all coins when power (master switch) is off.

- 1A. If a coin is inserted in 1st (nickel) coin chute and game is set for 1 play-5¢, it will energize the "coin relay". If game is set for 1 play-10¢, the first coin inserted will advance the "2-coin unit", then second coin inserted will energize the "coin relay" thru 2-coin unit switch. (see 1st coin chute adjustment plug positions on game adjustments sheet).
- 1B. If a coin is inserted in 2nd (dime) coin chute and game is set for 1 play-10¢, it will energize the "coin relay". If game is set for 2 plays-10¢, it will energize the "2nd coin chute relay" and the 2nd coin chute relay will advance "credit unit" (2 steps) thru coin credit circuit. (see 2nd coin chute adjustment plug positions on game adjustments sheet).
- 1C. If a coin is inserted in 3rd (quarter) coin chute and game is set for 2-3-4-5-or 6 plays-25¢, it will energize the "3rd coin chute relay" and 3rd coin chute relay will advance "credit unit" (2-3-4-5-6 steps) thru coin credit circuit. (see 3rd coin chute adjustment plug positions on game adjustments sheet).
- 1D. When "credit unit" has been advanced from 2nd or 3rd coin chute, (as described in section 1B and 1C) the front door "credit button" switch will energize the "credit relay" and then the credit relay will energize the "coin relay".

- 2A. The coin relay, when energized by any of the ways described, (in sections 1A thru 1D) will stay energized thru its own hold-in switch and (normally closed) #8 score motor switch.
- 2B. The coin relay will energize the "lock relay" which stays energized thru its own hold-in switch and cabinet kick-off switch.
- 2C. The coin relay will energize the "reset relay" thru a game over relay switch and energize the "score motor", then thru (normally open) #2 and #11 score motor switches, pulse the "#1 and #2 score reset relays" and thru (normally open) #4 score motor switch will latch the game over relay. The reset relay will energized will continue to operate the score motor. The reset relay will stay energized thru (normally closed) #8 score motor switch, and/or until all "score counter units" are reset to "zero position".
- 2D. The coin relay, thru (normally open) #3 score motor switch will advance the "total play meter", and thru reset relay will reset the "coin unit", "ball count unit" and "player up unit". The coin relay will also reset the "credit unit" (1 step) when energized by credit button.
- 3A. A ball on the out hole switch will energize the "out hole relay", thru (normally closed) #1 score motor switch and it will stay energized thru its own hold-in switch and (normally closed) #10 score motor switch.
- 3B. The outhole relay will operate the score motor, and then energize the outhole kicker solenoid thru the normally open #7 score motor switch.
- 3C. To condition game for "2nd player", inserting coin (s) or pressing credit button (before 1st ball is played) will energize the "coin relay" again. This time, coin relay will not energize the "reset relay". It will operate the "score motor", advance "total play meter", subtract a credit from "credit unit", (if credit button was used) and advance the "coin unit" thru (normally open) #3 score motor switch. Game is now set for "2 players". Repeating this sequence will condition game for "3rd player" and "4th player".

REGULAR BALL TO BALL SEQUENCE OF OPERATION:

- 1A. When the 1st ball is played, the ball index relay will be energized by the 10 point, 100 point or 1000 point relay, and it will stay energized thru its own hold-in switch; a normally closed outhole relay switch and a normally closed #6 score motor switch.
- 1B. When the 1st ball returns to the outhole, the outhole relay will be energized thru a normally closed #1 score motor switch and the outhole switch, then the outhole relay will stay energized thru its own hold-in switch and a normally closed #10 score motor switch.
- 1C. The outhole relay when energized will operate the score motor, and if game is set for a single player; the ball count unit is advanced one step by a normally open #3 score motor switch thru the coin unit zero position. If the game is set for multiple players (2, 3 or 4 players), the player-up unit is advanced one step thru a normally open #4 score motor switch. The outhole relay also completes the circuit to the outhole kicker solenoid thru a normally open #7 score motor switch. The 1st ball is returned to the shooter alley and the game is set for 1st player - 2nd ball or 2nd player - 1st ball. During a multiple player game; when the last eligible player's 1st ball returns to the outhole, the outhole relay advances the ball count unit thru a series #3 score motor switch, the coin unit disc and/or player up unit disc. The ball count unit end-of-stroke switch will energize the player reset relay, which will stay energized thru its own hold-in switch and normally open #1 score motor switch, which is closed during the motor run cycle. When the player reset relay is energized, the outhole relay thru #4 score motor switch will reset the player-up unit, and the game is set for 1st player - 2nd ball.
- 1D. When the last eligible player's final ball returns to the out-hole, the final advance of the ball count unit will in turn energize the "game over interlock relay trip coil" and the game is completed.
- Note: Normal ball to ball sequence of operation is interrupted when a "tilt" occurs. A "tilt relay switch" will bypass the ball index relay switch to advance the ball count unit and reset the player up unit or advance the player up unit.

Top Lanes Roll-overs feature:

- a. A ball thru any lane will lite corresponding dice on left column at lower section of playfield. The dice of the right column are lit by the 2nd dice unit disc. The total of the left and right column dice lit, determines what the top area exit switch will score. The top area exit switch scores as follows:

<u>Total Lit Dice Points</u>	<u>Switch Scores</u>
2	500 points
3	500 points
4	500 points and extra ball
5	500 points
6	500 points and opens upper gate
7	5,000 points
8	500 points and opens lower gate
9	500 points
10	500 points
11	5,000 points
12	500 points

upper gate stays open only while dice total six points. Lower gate when opened, remains open until the ball goes thru the open gate or when the ball goes into the outhole. The gate also closes when the game is tilted.

- b. A ball over #2, #3, #4 or #5 top lane roll-over will lite the red thumper-bumpers to score 100 points when hit. A ball over #1, #3, #4 or #6 top lane roll-over will lite the yellow thumper-bumpers to score 100 points when hit.
- c. The left column dice lites can only be lit by the top lane roll-overs. The right column dice lites are lit by the 2nd dice unit disc. This unit is advanced by the mushroom-bumpers when hit. This unit is also advanced one step, when the ball goes into the outhole and the right column #1, #2 or #3 dice is lit.

Total Disc Score After Ball Leaves the top Area:

The total dice points change whenever a mushroom-bumper is hit. The extra ball target is lit while the total points are 4. The target is hit when lit, scores an extra ball. (unless) an extra ball has already been earned and has not been played) the upper gate will open while the total points are 6. A ball thru the upper gate will score 3000 and blanks the left column dice lite. The eject hole is lit while the total points are 7 or 11. A ball going into the eject hole when lit, will score 5000 points. The open lower gate target is lit while the total points are 8. If the target is hit when lit; the lower gate is opened and the gate will remain open, until a ball goes thru the opened gate, the ball goes into the outhole, or if the game is tilted. A ball thru

the opened gate will turn off the left column dice lite.

Playmore Post (Up Post) Feature:

A ball going over the up post roll-over button, will raise the post located between the flippers. When the ball goes over either down post roll-over buttons, the post will be lowered. The post is also lowered at the start of a game, when ball goes into the outhole and when a game is tilted.

Points	Points
100 points	10
200 points	10
300 points	10
400 points	10
500 points	10
600 points	10
700 points	10
800 points	10
900 points	10
1000 points	10
1100 points	10
1200 points	10
1300 points	10
1400 points	10
1500 points	10
1600 points	10
1700 points	10
1800 points	10
1900 points	10
2000 points	10

upper gate which opens when the ball goes into the outhole. The gate also opens when the ball goes into the outhole. The gate also opens when the ball goes into the outhole.

A ball over 100 points will raise the post. A ball over 200 points will raise the post. A ball over 300 points will raise the post. A ball over 400 points will raise the post. A ball over 500 points will raise the post.

The right column dice lite will be lit up when the ball goes into the outhole. The right column dice lite will be lit up when the ball goes into the outhole. The right column dice lite will be lit up when the ball goes into the outhole.

Total dice points change whenever a ball goes over the up post. The total dice points change whenever a ball goes over the up post. The total dice points change whenever a ball goes over the up post.

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GAME ADJUSTMENTSPLAYFIELD PANEL POST ADJUSTMENTS:

Posts that control left and right outlane opening on panel (see panel sketch FO-320) can be moved to make access to outlanes easier or harder for ball to enter.

Easier entry will "decrease" playing time and scoring.

Harder entry will "increase" playing time and scoring.

HI-SCORE ADJUSTMENT PLUG:

Located on back box lite insert. This plug provides a wide range of coverage at which hi-score "credits" can be scored. (see "Score adjustment card" in back box for plug positions).

MATCH FEATURE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to operate game on "5th ball" or "3 ball" play.

HI-SCORE FEATURE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to turn hi-score "credit" feature "on" or "off".

1ST COIN CHUTE ADJUSTMENT PLUG:

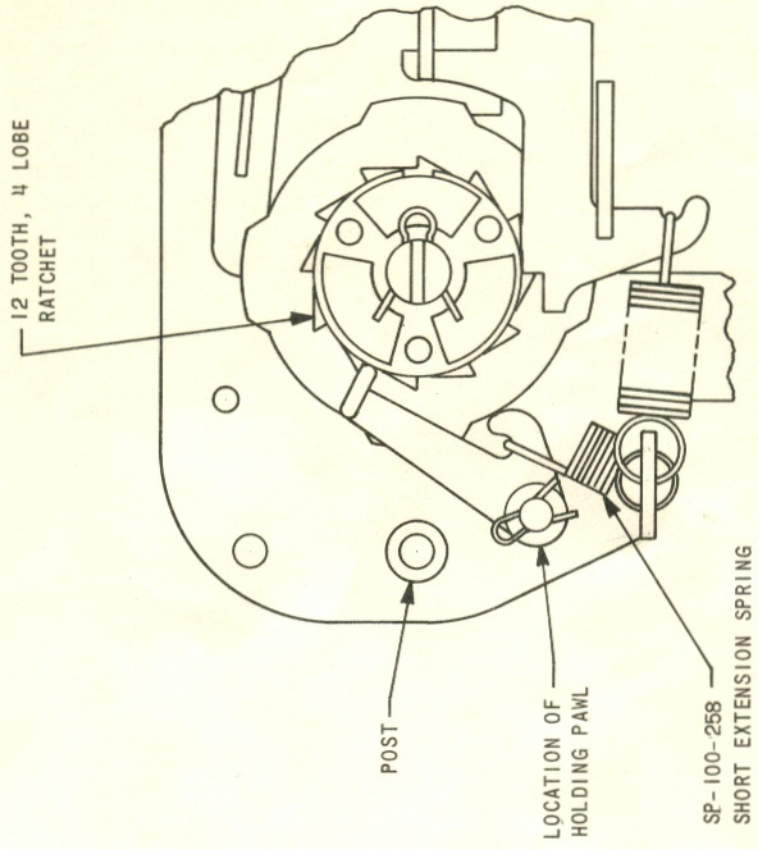
Located on the 2 coin unit, on front cabinet mounting board. This plug provides positions to give "1 play for 1 coin" or "1 play for 2 coins" thru the 1st (nickel) coin chute.

2ND COIN CHUTE ADJUSTMENT PLUG:

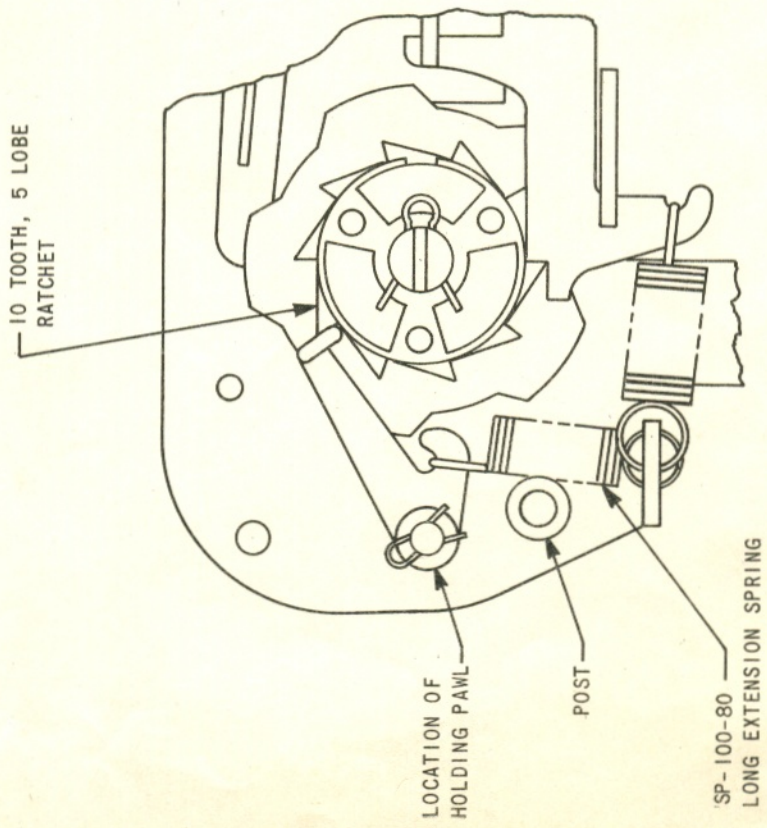
Located on front cabinet mounting board. This plug provides positions to give "1 play for 1 coin" or "2 plays for 1 coin" thru the 2nd (dime) coin chute. Note: When this plug is set for "2 plays - 1 coin", brown-white (male plug) wire on 3rd coin chute adjustment must be in "position 2".

3RD COIN CHUTE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to give "2 to 6 plays for 1 coin" thru the 3rd (quarter) coin chute. Use orange-white (male plug) wire.



3 COINS PER PLAY
ALTERNATOR ASSEMBLY



2 COINS PER PLAY
ALTERNATOR ASSEMBLY

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RUBBER PARTS

A	R-115-4a	REBOUND RUBBER (1)
B	R-115-29a	INSULATING SLEEVE (5)
C	R-521-2	1-1/2" (2)
D	R-521-4	2-1/2" (3)
E	R-521-5	3" (3)
F	R-521-7	4" (1)
G	R-406-3	FLIPPER (2)

PANEL TOP PARTS

1	TOP ARCH	P-5839-59
2	BOTTOM ARCH	P-5871-38
3	SHOOTER GAGE	P-6359-10
4	SIDE RAIL (L)	CA-1208-2
5	SIDE RAIL (R)	CA-1208-1
6	INNER RAIL	CA-1208-18
7	REBOUND ASSY.	AS-493-3
8	BALL GATE	A-1475-1
9	BALL GATE COVER	P-2996-5
10	LITE SHIELDS	A-2890-85
11	BUMPER CAP (RED)	C-719-12
12	BUMPER CAP (YELLOW)	C-719-17
13	ROLLOVER BUTTON	C-387-5
14	BALL GUIDE WIRE	M-121-24
15	BALL GUIDE WIRE	M-121-34
16	BALL GUIDE WIRE	M-121-29
17	ROLLOVER WIRE	M-1336-2
18	ROLLOVER WIRE	M-1336-10
19	ROLLOVER WIRE	M-1336-3
20	FLIPPER	C-611-5
21	BUMPER POST	C-810
22	MUSHROOM ASSY. (YELLOW)	AS-2291-13
23	GATE & WIRE	AS-2250-4
24	GATE & WIRE	AS-2250-11
25	TARGET ASSY. (RED)	AS-982-699
26	FREE GATE WIRE	M-1335-1
27	PROTECTIVE ANGLE	P-7639

INDICATES MOVABLE POSTS
FOR SCORING ADJUSTMENTS

