

#867 - "CAMELOT"

INSTALLATION AND GENERAL OPERATION INSTRUCTIONS

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 transformer to correspond to location voltage. (Transformer wiring card in front cabinet).

Before line cord is plugged in:

Check all plugs and sockets and dress cables:

- (A) Plugs in correct sockets.
- (B) Plugs securely seated in sockets.
- (C) Dress cables away from relays.

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

Plug in line cord:

Check adjustment of the three (normally closed) anti-cheat switches that hold in anti-cheat relay:

- (A) On front door.
- (B) On bottom of cabinet to right of cash box.
- (C) On mounting board, near cable plugs.

NOTE: Adjustment of above switches should be checked after game is plugged in. If not properly adjusted the anti cheat relay may drop out during normal playing of game.

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GENERAL GAME OPERATION

Place ball into playfield by out hole.

Plug in line cord.

(A) No lites lit.

Coin game:

- 1A. If coin is inserted in 1st (5¢) coin chute*, and if game is adjusted to require two coins per play. The first coin inserted will advance the "2 coin unit", and second coin inserted will energize the "coin relay" thru the 2 coin unit switch. If game is adjusted to require one coin per play. The first coin inserted will energize the "coin relay".

* See 1st coin chute adjustment plug on "game adjustment" sheet.

- 1B. If coin is inserted in 2nd (10¢) coin chute**, it will energize the "2nd coin chute relay", and if game is being operated at 5¢ per play, 2nd coin chute relay will advance the "replay unit" thru credit circuit. If game is being operated at 10¢ per play, the 2nd coin chute relay will not advance "replay unit".

- 1C. If coin is inserted in 3rd (25¢) coin chute**, it will energize the "3rd coin chute" relay, and if game is being operated at 5¢ or 10¢ per play, 3rd coin chute relay will advance "the replay unit" thru credit circuit accordingly.

** See 2nd & 3rd coin chute adjustment plug on "game adjustment" sheet.

2. 1st coin chute switch and 2nd or 3rd coin chute relay will energize the "coin relay", coin relay will then energize the "start relay". When replays are on replay unit, replay button switch will energize the "replay relay", replay relay will then energize the start relay. After game start cycle is completed, if additional coins are inserted or replays played, coin relay or replay relay will energize the "multiple play relay"
(See multiple players - section 11.)
3. Start relay, thru (normally closed) #1 score motor switch will energize the "anti-cheat relay" which stays energized thru its own hold in switch, the game anti-cheat switches and push button shut off switch.
4. Start relay will operate the "score motor" and energize the "reset relay". A reset relay switch will in turn keep motor running until all score units return to "zero position".
5. Reset relay resets the "coin unit", "ball count unit" and energizes the "game over relay" (latch) coil thru (normally open) #4 score motor switch.
6. Start relay resets the "player-up unit" thru (normally open) #4 score motor switch. Start relay or multiple play relay advances the "total play meter" thru (normally open) #7 score motor switch.
7. When the replay button is used to start new game or for additional players, replay relay resets the "replay unit" one position thru (normally open) #3 score motor switch for each replay used.

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8. After all above units have been reset and score motor unit has returned to "index position", ball on "out hole switch" will energize the "ball return relay" thru (normally closed) #1 score motor switch. Ball return relay will stay energized thru its own hold in switch in series with (normally closed) #8 score motor switch.
9. The ball return relay operates score motor and then energized the "ball return kicker solenoid" thru (normally open) #3 score motor switch. Ball is kicked thru ball trough, closes trough switch, which energizes the "player advance relay".
10. The player advance relay operates score motor and then advances the "player-up unit" from "0 to 1st" position thru (normally open) #8 score motor switch. Game is now conditioned for "1 player".
11. For multiple players, insertion of 2nd coin or replay played energizes the "multiple play relay" thru the coin relay or replay relay. Multiple play relay operates score motor and then advances the "coin unit" from "0 to 1st" position thru (normally open) #7 score motor switch. Game is now conditioned for "2 players". This sequence is then repeated to condition game for "3 and 4 players".

COIN CREDIT OPERATION

- (A) When multiple play coin chutes are used to start new game, one credit is automatically used to condition game for 1 player and remainder of credit (s) are registered on replay unit.
- (B) When multiple play coin chutes are used after game is conditioned for 1 player but before game is conditioned for 4 players, one credit is automatically used for each additional player (2 to 4) and remainder of credit (s) are registered on replay unit.
- (C) When multiple or single play coin chutes are used after game is conditioned for 4 players, all credit (s) (to 25) are registered on replay unit.

BALLS IN PLAY OPERATION

1. Ball in out hole energizes the ball return relay when score motor is in index ("0") position and it remains energized thru its own switch and #8 score motor cam switch.
2. Ball return relay will operate the score motor and then operate the ball return kicker solenoid thru #3 score motor cam switch.
3. Player advance relay will be energized thru a ball trough switch (or if game is coined while ball is in shooter alley, by 1 point or 10 point relay switch) and it remains energized thru its own switch and #10 score motor cam switch.
4. Until the last eligible player has played the "first ball", the player advance relay will advance the player-up unit thru #8 score motor cam switch. After the last eligible player has played the "first ball", the ball return relay will energize the player reset relay. This relay will advance the ball count unit thru #3 score motor cam switch, then ball count unit end-of-stroke switch will in turn reset the player-up unit and game is conditioned for 1st player to shoot the "second ball". This sequence is then repeated on each ball.
5. After the last eligible player has played his last ball, (3 or 5) the player reset relay will energize the match relay, which in turn will energize the game over (trip) relay thru #7 score motor cam switch.

OPERATION OF FEATURES AND SCORING

BONUS HOLE FEATURE:

BALL IN THIS HOLE SCORES 100 POINTS OR "BONUS SCORE" OF 200 - 300 - 400 - 500 POINTS DEPENDING ON BONUS SCORE LIT. BONUS SCORES ADVANCED BY (4) TOP LANE ROLLOVERS AND (3) TARGETS WHEN LIT. ROLLOVER LANES LITE AT RANDOM THRU ADVANCE UNIT. LOWER RIGHT TARGET (ONLY) LITES AT RANDOM THRU 0-9 MATCH UNIT, OTHER (2) TARGETS ALWAYS LIT.

TEN TIMES VALUE HOLE FEATURE:

BALL IN THIS HOLE SCORES 50 POINTS OR "TEN TIMES 50" (500) POINTS WHEN FEATURE IS LIT. FEATURE LITES THRU ADVANCE UNIT.

EXTRA BALL ALLEY FEATURE:

BALL THRU EXTRA BALL ALLEY SCORES 100 POINTS OR "EXTRA BALL* AND 300 POINTS" WHEN ALLEY FEATURE IS LIT. FEATURE LITES AT RANDOM THRU 0-9 MATCH UNIT. *WHEN EXTRA BALL IS SCORED, "SHOOT AGAIN" LITES ON PANEL AND BACKGLASS AND EXTRA BALL MUST BE PLAYED BEFORE ANOTHER EXTRA BALL CAN BE SCORED.

MINI-POST FREE BALL GATE FEATURE:

MINI-POST "GOES DOWN" (OPENS GATE) WHEN BALL GOES OVER "OPEN GATE" ROLLOVER BUTTON. BALL THRU GATE SCORES 300 POINTS AND RETURNS TO SHOOTER FOR PLAY. MINI-POST "GOES UP" (CLOSES GATE) WHEN BALL GOES THRU GATE, BALL GOES OVER "CLOSE GATE" ROLLOVER BUTTON, BALL RETURNS TO OUTHOLE, OR GAME IS TILTED.

PLAY-MORE POST FEATURE:

"POST UP" PREVENTS BALL FROM GOIN THRU FLIPPERS INTO OUTHOLE, KEEPS BALL IN PLAY FOR MORE SCORING. POST GOES UP WHEN BALL HITS "UP POST" ROLLOVER BUTTON. POST GOES DOWN WHEN BALL HITS "DOWN POST" ROLLOVER BUTTON, BALL RETURNS TO OUTHOLE, GAME IS TILTED, NEW GAME IS STARTED.

THUMPER-BUMPER LITE FEATURE:

BALL HITTING LIT THUMPER-BUMPERS SCORE 10 POINTS INSTEAD OF 1 POINT.

"A" - THUMPER-BUMPERS (2) ARE LIT WHEN BALL HITS "A" TOP LEFT ROLLOVER BUTTON.

"B" - THUMPER-BUMPERS (2) ARE LIT WHEN BALL HITS "B" TOP RIGHT ROLLOVER BUTTON.

THUMPER-BUMPERS REMAIN LIT UNTIL BALL RETURNS TO OUTHOLE OR GAME IS TILTED.

GAME ADJUSTMENTS

PLAYFIELD PANEL POST ADJUSTMENTS:

The playfield panel has posts that can be moved at operators discretion to increase or decrease scoring. "Liberal" and "conservative" positions of these posts are shown on "play-field panel layout and parts sheet".

BELL ADJUSTMENT PLUG:

Located on back box insert. This plug provides positions to ring bell for "10 point" scores, "100 point" scores, or both "10 and 100 point" scores.

HI-SCORE ADJUSTMENT PLUGS:

Located on back box insert. These (2) plugs combine to provide a wide range of score coverage at which replays can be awarded. Recommended plug settings that correspond to score cards shipped with game are shown on "hi-scores adjustment sheet".

BALLS PER GAME ADJUSTMENT PLUG:

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

MATCH FEATURE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to operate game with or without "match number feature" replay award.

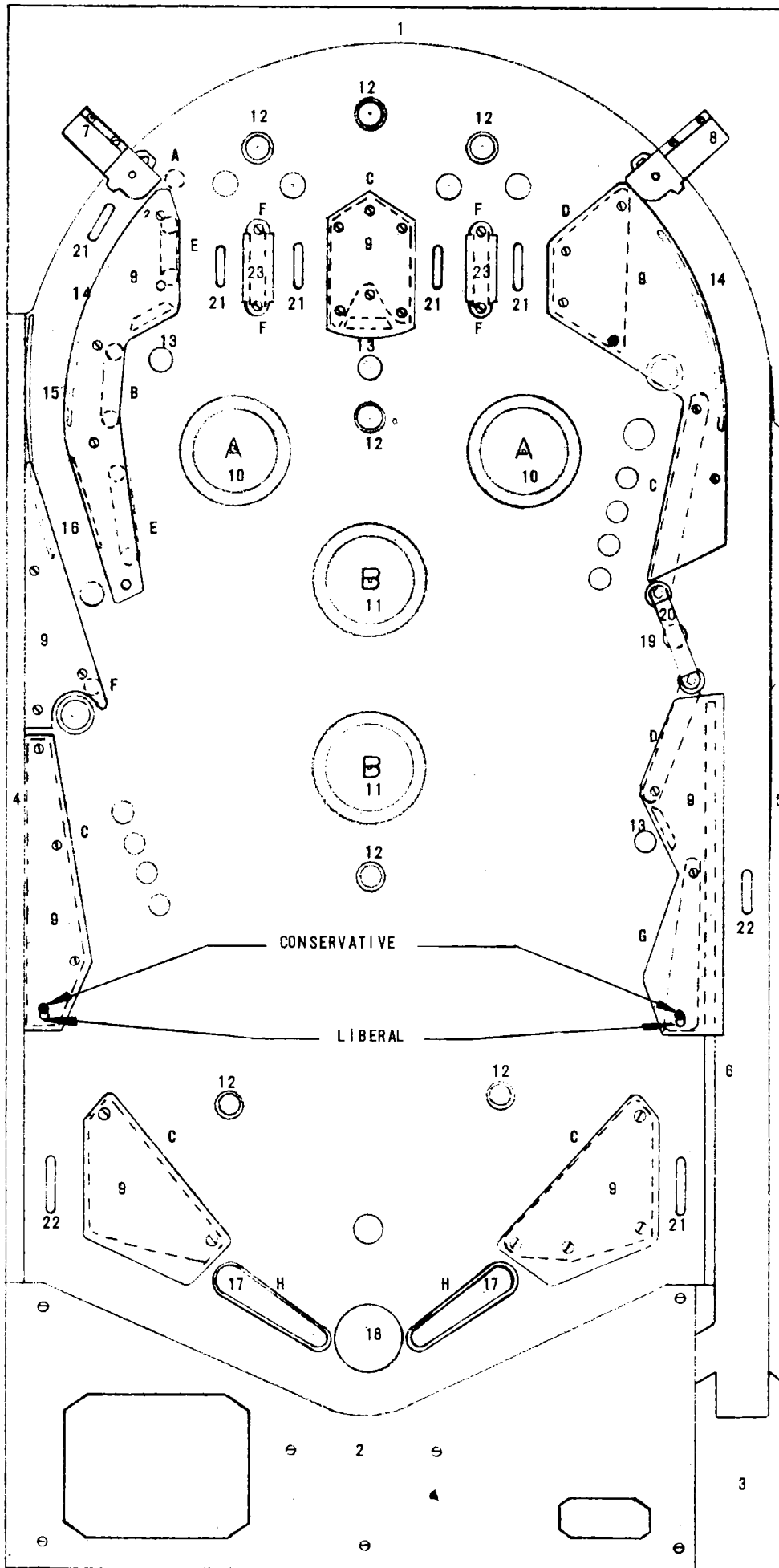
2ND & 3RD COIN CHUTE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to give "2 to 6 plays" per coin thru 2nd and/or 3rd coin chutes.

1ST COIN CHUTE ADJUSTMENT PLUG:

Located on 2 coin unit. (On front cabinet mounting board.). This plug provides positions to give "1 play per two coins" or "1 play per coin" thru 1st coin chute.

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RUBBER RINGS

- A. R-243-2 5/16 (1)
- B. R-135 1" (1)
- C. R-295-5 3" (5)
- D. R-284-5 2" (2)
- E. R-141 1-1/2" (2)
- F. R-243 5/16 (5)
- G. R-196 2" (1)
- H. R-406-3 FLIPPER (2)

PANEL TOP PARTS

- 1. TOP ARCH P-5839-52
- 2. BOTTOM ARCH P-5871-38
- 3. SHOOTER GAUGE P-6359-10
- 4. SIDE RAIL (LEFT) P-6360-33
- 5. SIDE RAIL (RIGHT) A-2900-20
- 6. BALL GUIDE P-6495-61
- 7. BALL GATE (L) AS-1315-6
- 8. BALL GATE (R) A-1475-5
- 9. LIGHT SHIELD & BUSHING A-2890-57
- 10. BUMPER CAP 'A' (YELLOW) C-719-10
- 11. BUMPER CAP 'B' (GREEN) C-719-11
- 12. ROLLOVER BUTTON C-387-5
- 13. TARGET ASSEMBLY (RED) AS-982-699
- 14. BALL GUIDE WIRE M-121-25
- 15. BALL GUIDE WIRE M-121-26
- 16. BALL GUIDE WIRE M-121-27
- 17. FLIPPER (WHITE) C-611-5
- 18. BUMPER C-810
- 19. MINI POST (RUBBER) R-520
- 20. GATE BRACKET P-5867-2
- 21. ROLLOVER WIRE M-1336-10
- 22. ROLLOVER WIRE M-1336-9
- 23. BALL GUIDE (RED) C-695-1

PARTS LIST

MISCELLANEOUS

Transformer
Score Motor (Domestic)
Score Motor (Export)
Meter (Total Play)

PART NO.

E-122-95
E-119-354
E-119-372
E-130-10

ASSEMBLY COILS

Ball Return Kicker
Bonus Hole Kicker
Arrow Hole Kicker
Left T.B.
Right T.B.
Top T.B.
Bottom T.B.
Left Slingshot
Right Slingshot
Left Flipper
Right Flipper
Post
Mini-Post
Sounder
Bell

PART NO.

CO-25-A-7
E-184-213
E-184-213
E-184-265
E-184-265
E-184-265
E-184-265
E-184-243
E-184-243
E-184-268
E-184-268
E-184-261
E-184-261
CO-27-R-11
CO-31-0-55

INTERLOCK RELAY

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"A" Game Over (Trip)
"A" Game Over (Latch)
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M-36-3300
M-36-3300

KK RELAYS

Lane
Extra Ball
Arrow Hole
Bonus Hole
Bonus Advance
Shoot Again
Match
Player Advance
Ball Return
Tilt
Replay
3rd Coin Chute
2nd Coin Chute
Coin
Anti Cheat
Start
Multiple Play
"B" Game Over
Shooter Alley
Player Reset
1 Point
10 Point
100 Point
#1 Reset
#2 Reset
#3 Reset
Left T.B.
Top T.B.
Right T.B.
Bottom T.B.
Mini-Post
"A" T.B. Lite
"B" T.B. Lite
Post

C-7800-3312
C-7800-331
C-7800-331
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C-7800-331
C-7800-332
C-7800-333
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C-7800-3312
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C-7800-3316
C-7800-3316
C-7800-341

UNIT COILS

Player Up (Step Up)
Player Up (Reset)
0-9 Match (Step Up)
Replay (Step Up)
Replay (Reset)
Score (All)
2 Coin
Bonus (Step Up)
Bonus (Reset)
Advance (Step Up)
Coin (Step Up)
Coin (Reset)
Ball Count (Step Up)
Ball Count (Reset)

CO-26-GG-9
CO-28-R-15
E-184-205
CO-26-GG-9
CO-28-R-15
E-184-206
E-184-206
CO-26-GG-9
CO-28-R-15
E-184-205
CO-26-GG-9
CO-28-R-15
E-184-205
CO-28-R-15

UNIT CONTACT DISC'S

Player Up
0-9 Match
1-9 Score
100-900 Score
1000-9000 Score
Bonus
Advance
Coin
Ball Count

W-923-197
W-1123-2
A-2212-7
A-2212-7
A-2212-7
W-1138
W-1122-2
W-923-81
W-1043-1

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PARTS LIST

UNIT WIPER ASSEMBLIES

Player Up	AS-1046-599
0-9 Match	AS-1046-611
1-9 Score	A-1618-3
100-900 Score	A-1618-3
1000-9000 Score	A-1618-3
Bonus	AS-1046-600
Advance	AS-1046-610
Coin	AS-1024-108
Ball Count	AS-1046-464