



**DOUBLE PROGRESSIVE
OPERATOR INSTRUCTIONS**

USING VERSION 6

**For use with the following Models
Series 1000, E-2000, V-2000,
S-5000, & V-5000**



**MANUFACTURING CORPORATION
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1-800-HOT SLOT

BALLY may also be contacted using the following TELEX number and answer or FAX number.

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PURPOSE

This manual contains complete information on the BALLY System 5000 Double Progressive Display with the "invisible" Progressive Display option. It is written for the users, whether they are set up personnel, owners or service technicians. By following each Section's step-by-step procedures, the user can easily and quickly get the System 5000 Double Progressive ready for play.

ABOUT THE SYSTEM 5000 DOUBLE PROGRESSIVE DISPLAY

The BALLY System 5000 Double Progressive Display consists of two basic components, the Prudent Progressive Control Board and the 16 Digit Progressive Display Board. The control board computes both "upper" and "lower" progressive jackpot amounts based on the initialized values. Initializing various parameters for the double progressive operation requires the BALLY keypad. The display board can show either both the "upper" and "lower" progressive jackpot amounts or only one. When a specified winning combination occurs with the required number of coins wagered for that game, the player wins the "upper" or "lower" progressive jackpot indicated by the glowing lamp.

ORGANIZATION

This manual is designed in a sequential order:

- Power up
- Initialization
- Operations
- Troubleshooting

HELP

For any questions, please contact your BALLY Distributor or refer to the service information number in the front of this manual on page II.

2. SET UP

Power Up

Power up the machine. One of the following malfunction codes may appear in the upper display. All 4 lamps flash. (Fig. 1)

1. If a "01" or "02" code appears, see POWER UP MALFUNCTION TILT TABLE.
2. If a "04" appears, all parameters and options must be set, because Safe RAM was cleared.

The double progressive system consists of States which designate a particular mode of operation.

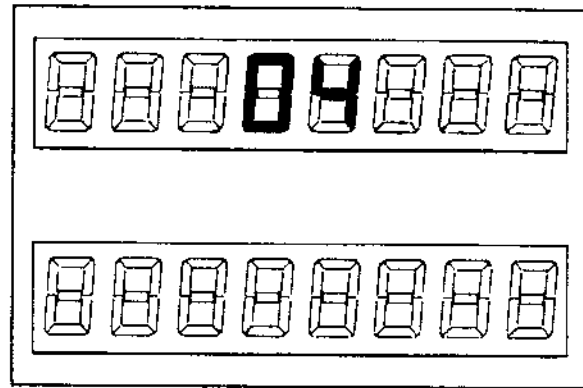


Fig. 1

In order to set the parameters and options, (1) go to the Keypad Mode (State "21") (2) then to the Set Option Mode (State "0") and (3) follow the Initialization Instructions.

Keypad Mode (State "21")

To enter the keypad mode (State "21") follow these steps.

1. Open the machine door with the machine in a Game Over state. This must be done before steps 2 and 3.
2. Actuate the jackpot release key switch.
3. Connect the keypad (part # AS-3311). If all 4 lamps do not turn on, reverse the keypad connector at J1 on the control board. (Fig. 2)

The current jackpot amounts remain on the displays. All 4 lamps turn on. State "21" has been entered.

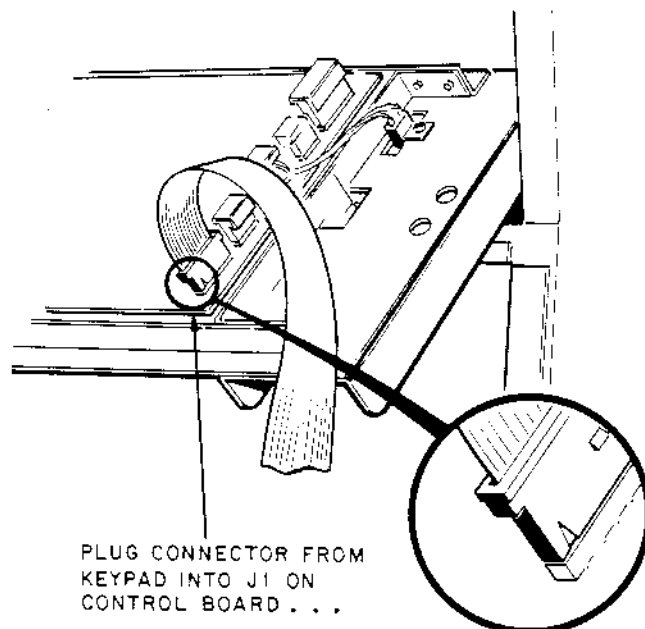


Fig. 2

Set Option Mode (State "0")

To enter the set option mode (State "0"), press "KEYBD/CLR" (Fig. 3). The upper and lower displays clear and "0" appears on the lower display.

Any of the following choices may be made:

1. Press "TEST". See Diagnostic Self-Test.
2. To set parameters and options, see Initialization.
3. Press "GAME" to return to State "21".
4. To return to Game state, see Return to Normal Game Operations.

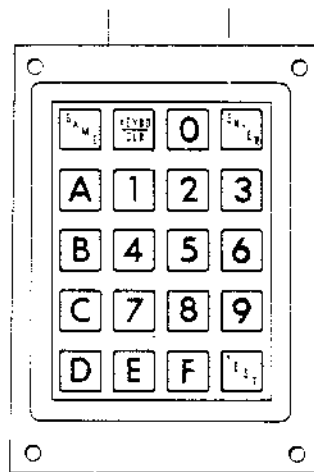


Fig. 3

Diagnostic Self-Test

From State "0", press the "TEST" key. The segments, 0-9, and blanks are checked. "0s" appear on the displays in each of the 16 digits; "1s" appear on the displays in each of the 16 digits; etc. (Fig. 4) The number sequence continues until "GAME" is pressed or the Return to Normal Game Functions is followed.

NOTE: If any numbers do not display properly, see TROUBLESHOOTING CHART.

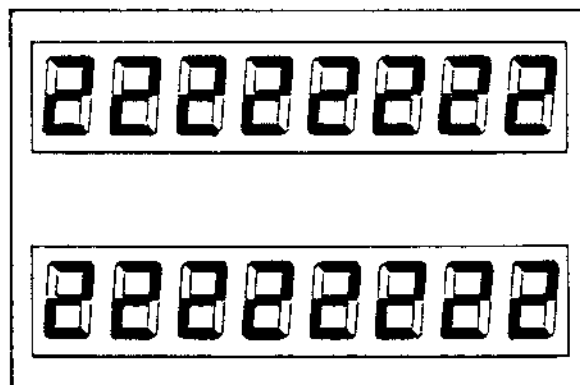


Fig. 4

2. SET UP

Initialization

The parameters and options are initialized from the Set Option Mode (State "0") using the keypad. After entering Keypad Mode (State "21") and then Set Option Mode (State "0"), follow these steps.

1. Press the proper key to choose any one of the parameters or options to be set. See **PARAMETER/OPTION TABLE**. They may be set in any order.

NOTE: Use enough digits to show cents if cents are indicated on the feature glass.

2. The amount appears on the upper display. The State number appears on the lower display. (Fig. 5)

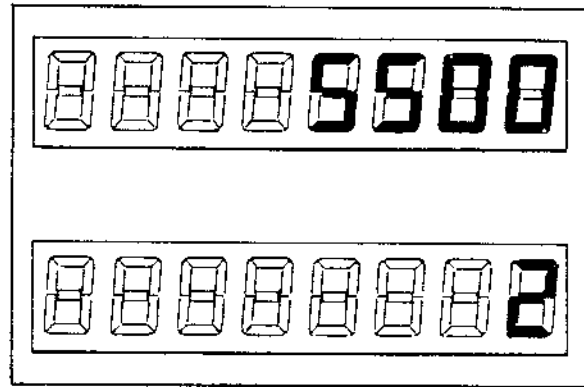


Fig. 5

4. If an incorrect amount is entered, press "KEYBD/CLR" and re-enter the amount.
5. When the desired amount or value appears, press "ENTER". The number is set and State "21" is entered. The upper and lower jackpot amounts appear.
6. If no change is required, press "GAME". The value is kept and State "0" is entered.

PARAMETER/OPTION TABLE

KEY	STATE	DESCRIPTION	KEY	STATE	DESCRIPTION
A	1	Upper Display Minimum—the amount set to appear after a jackpot reset—minimum amount allowed is "0"	4	11	4 options set using digits 1 through 4— Digit 1: "1" represents the lamps set for the single or double progressive option "0" represents the lamps set for the "invisible" progressive option Digit 2: "2" represents invisible progressive play "1" represents double progressive play "0" represents single progressive play Digit 3: "1" represents a fast rate of incrementation "0" represents a slow rate of incrementation Digit 4: "1" represents that the lower display is the first visible jackpot meter "0" represents that the upper display is the first visible jackpot meter
B	2	Upper Display Maximum—the highest limits set for the progressive jackpot—maximum amount allowed is "999,999.99" or "99,999,999"			
C	3	Upper Display Jackpot—the amounts appearing when returning to Game State			
D	4	Lower Display Minimum			
E	5	Lower Display Maximum			
F	6	Lower Display Jackpot			
0	7	Number of Coin(s) per Toggle—The maximum value that can be entered is "255". The value "0" has the lamps toggle on the maximum number of coin(s) in per game.			
1	8	Number of Coin(s) per Incrementation—(1st Progression Rate) The maximum value that can be entered is "255". The value "0" has the jackpot meters increment on the maximum number of coin(s) in per game.	5	12	Limit Amount set for 1st Progression Rate— After this amount for the 1st progression rate is reached, the 2nd progression rate is used NOTE: To have only 1 progression rate, set this amount to match the higher limit between the upper or lower display
2	9	Jackpot Increment Amount (1st Progression Rate)	6	13	Number of Coin(s) per Incrementation—(2nd Progression Rate) The maximum value that can entered is "255". The value "0" has the jackpot meters increment on the maximum number of coin(s) in per game.
3	10	Maximum Number of Coin(s) per Game—The maximum that can be entered is "255". NOTE:Set the maximum number of coins per game the same as the machine's maximum.			
			7	14	Jackpot Increment Amount (2nd Progression Rate)

2. SET UP

Return to Normal Game Operations

To return to normal game operations, follow these steps from any state.

1. Remove the keypad. This must be done before steps 2 and 3.
2. Turn the key switch off.
3. Close the door.

NOTE: If any parameter or option was changed, the lamp indicates the lower display. The counters for maximum coin in, coins in per toggle, and coins in per increment are all reset to "0".
If the parameters and options were only checked or if the diagnostic self-test was run, the lamps and counters will resume their position and count.

Verify Current System Parameters and Options

To check the current system parameters and options, follow the directions under these headings.

1. Keypad Mode (State "21")
2. Set Option Mode (State "0")
3. Initialization
4. Return to Normal Game Operations.

Double Progressive
Upper and Lower Play

Example 1: The upper and lower jackpot amounts appear on the display board. The game begins with the lower display lamps lit. (Fig. 6) The lamps are set to toggle on the 2nd coin. The number of coins in per incrementation is set to 3. The progression is set to 5 cents. The count for coins in per toggle and coins in per incrementation begin on the lower display.

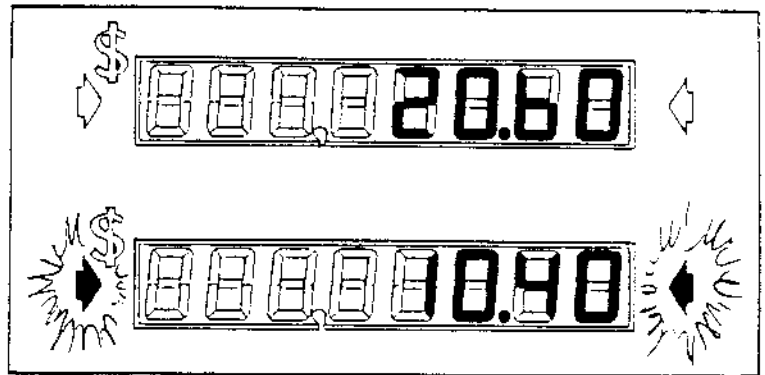


Fig. 6

The 1st coin is inserted. One coin is registered on each counter (the number of coins in per toggle and the number of coins in per incrementation). (Fig. 7)

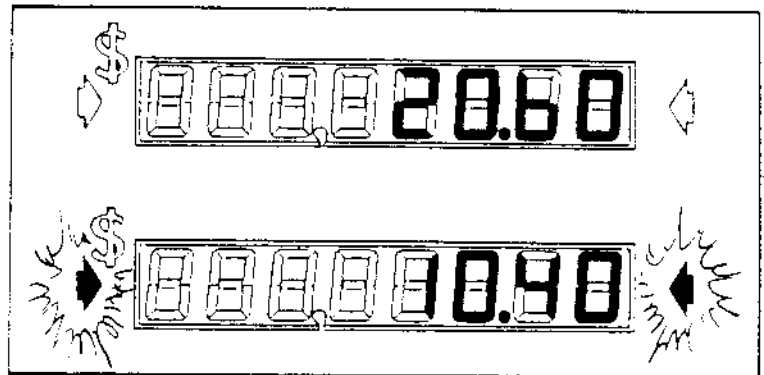


Fig. 7

The 2nd coin is inserted. The lamps toggle to the upper display. The counter for coins in per incrementation registers 2. (Fig. 8)

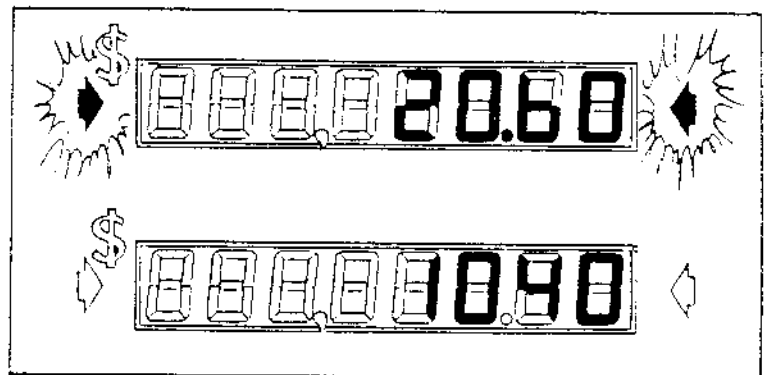


Fig. 8

3. PROGRESSIVE OPERATIONS

Double Progressive Upper and Lower Play (cont'd)

The 3rd coin is inserted. The counter for the number of coins in per toggle registers 1. The counter for the number of coins in per incrementation registers 3, so the upper display increments 5 cents.

(Fig. 9)

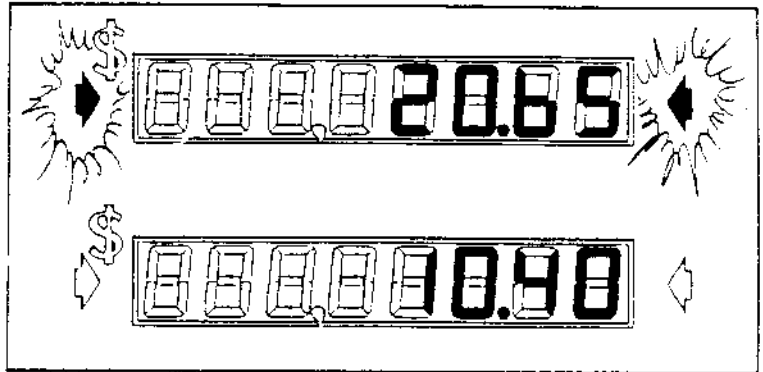


Fig. 9

Example 2: The upper and lower jackpot amounts appear on the display board. The game begins with the lower display lamps lit. (Fig. 10) The lamps are set to toggle on every coin. The number of coins in per incrementation is set to 2. The progression rate is 10 cents.

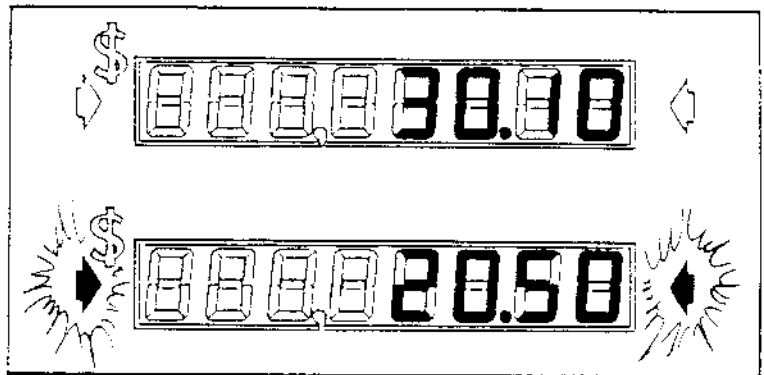


Fig. 10

The 1st coin is inserted. The lamps toggle to the upper display. The counter for the number of coins in per incrementation registers 1. (Fig. 11)

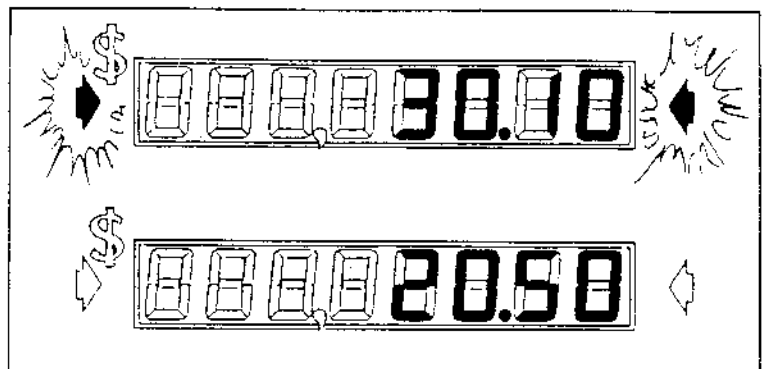


Fig. 11

Double Progressive
Upper and Lower Play (cont'd)

The 2nd coin is inserted. The lamps toggle to the lower display. The counter for the coins in per incrementation registers 2 so the upper display increments 10 cents. (Fig. 12)

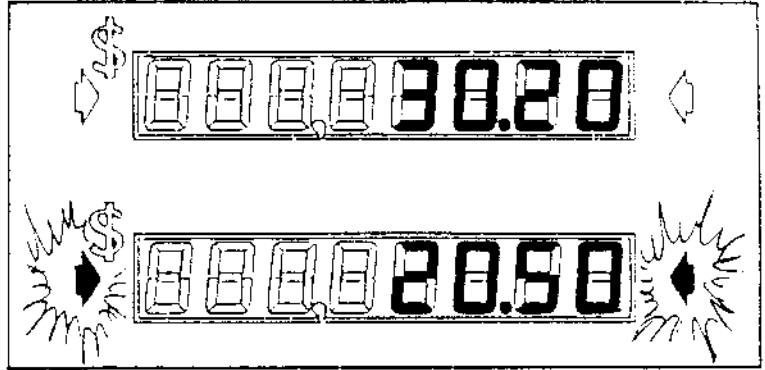


Fig. 12

Invisible Progressive
Upper and Lower Play

As in the "double" progressive option, the "invisible" progressive option uses two jackpot meters which alternately increment upon reaching a selected coin progression rate. Therefore, the invisible progressive upper and lower play is the same as stated for the double progressive play. The only difference is the visibility of the one meter and the invisibility of the other.

Jackpot reaches maximum limit

When either progressive jackpot reaches its maximum limit, that jackpot does not increment further. The other progressive jackpot continues to increment at the present progression amount according to the number of coins. The lamps continue to toggle as optioned enabling the player to win either jackpot.

When both the upper and lower progressive jackpots reach maximum values, there is no incrementation. However, the lamps continue to toggle as optioned.

When the increment to the jackpot amount calculates higher than the jackpot maximum limit, the display stops at the maximum limit.

NOTE: In regard to the "invisible" progressive option, the visible jackpot meter remains on the display until the player wins the jackpot. At this point, the "visible" jackpot meter resets to its minimum jackpot value and becomes "invisible", while the previously "invisible" jackpot meter becomes "visible" on the display.

3. PROGRESSIVE OPERATIONS

Jackpot winner

The player wins the jackpot indicated by the glowing lamps. The machine immediately locks up. The tower light summons an attendant to pay the winner.

Jackpot reset

The user performs a jackpot reset by actuating the key switch on the side of the machine. The winning jackpot display resets to the preset minimum value. The counters for coins in per toggle and coins in per incrementation do not reset.

Bookkeeping Meter

Number of Jackpot Wins Meter: Actuate the key switch when the machine is in a Game Over state and the door is closed. The number of jackpot wins appears on the upper display. The State "16" appears on the lower display.

This meter clears when the Clear Safe RAM chip is used.

Tilts

When a malfunction occurs, all 4 lamps flash. An error code appears on the upper display. (Fig. 13)

Press the "PRESS FOR SERVICE" button to call an attendant.

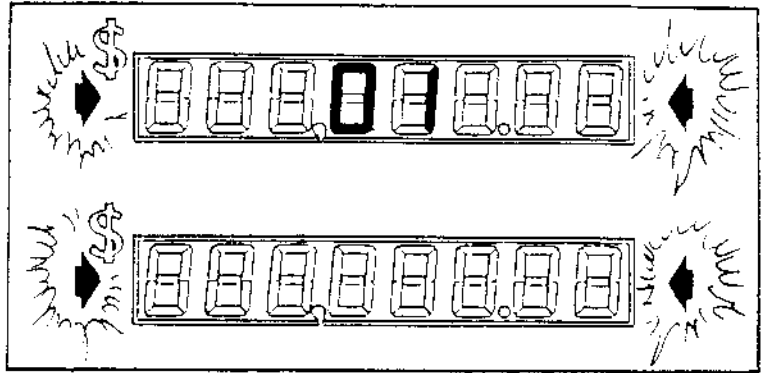


Fig. 13

POWER UP MALFUNCTION TILT TABLE

Tilt Code	Malfunction Condition	Remedy
"01"	Bad Safe RAM battery	Replace Safe RAM chip
"02"	PROM check error	Replace EPROM and clear Safe RAM chip (replace Safe RAM chip if needed)
"03"	Wrong State (improper mode of operation)	Enter State "0" and initialize all parameters and options (tilt code clears after the first is set)
"04"	Bad checksum (meter values do not match with safety values)	Enter State "0" and initialize all parameters and options (tilt code does not clear until all are set)

4. TROUBLESHOOTING

OPERATIONS MALFUNCTION TILT TABLE

Tilt Code	Malfunction Condition	Remedy
"02"	PROM check error	Replace Safe RAM chip
"09"	Jackpot increment amount is set to "0"	Enter State "0" and set the value in State "9"
"10"	Maximum number of coins per game is set to "0"	Enter State "0" and set the value in State "10"
"11"	Double progressive is not set for single or double display	Enter State "0" and set the value in State "11"
"12"	1st Progression Limit Amount is set less than the minimum or more than the maximum	Enter State "0" and set the value in State "12"
"13"	Upper or lower display option not set to "0" or "1"	Enter State "0" and set the value in State "11" Digit 4:
"14"	Error in Invisible Progressive option	Enter State "0" and set the value in State "11" with Digits 1 and 2 maintaining compatibility

TROUBLESHOOTING CHART

PROBLEMS	PROBABLE CAUSE	REMEDY
Control & display board does not respond	Faulty connections	Secure all individual wires and connectors
	TP1 (test point 1) does not read 12 VDC	Need power supply from machine
	TP2 does not read 5 VAC	Replace voltage regulator
	TP5 reads 5 VAC; CPU is reset	Release reset by removing static disturbance and/or replacing clock crystal
Lamps do not light	Faulty light bulbs	Replace
	TP4 reads less than 7.5 VAC	Test power supply to J3
Fluorescent lamps do not light	Faulty ballast starter	Replace
Lamps do not toggle with each coin	Toggle option needs to be reset	Check State "7"
	Door open condition sensed	Close door or turn key to closed position
	Jackpot hit	Reset jackpot
Lamps do not toggle as desired	Toggle option needs to be reset	Check State "7"
Can not enter State "21" Keypad Mode	Did not follow steps exactly	See State "21" Keypad Mode
	Keypad reversed	

4. TROUBLESHOOTING

TROUBLESHOOTING CHART (cont'd)

PROBLEMS	PROBABLE CAUSE	REMEDY
Various segments of digits do not display	Segment not moving freely	Loosen bezel covering segments
	Faulty connections	Secure connections between control & display board
Digit segments are changed manually	Power off	Power up machine; memory restores digit segments to previous jackpot amounts
Jackpot max. limit appears-- not the jackpot amount set	Jackpot amount is set higher than max. limit	See Initialization
Jackpot min. limit appears-- not the jackpot amount set	Jackpot amount is set lower than min. limit	See Initialization
Jackpot min. limit appears as zero	Jackpot min. limit is set higher than max. limit	See Initialization
	Jackpot max. limit is set lower than min. limit	See Initialization
Jackpot amount does not increment	Jackpot reached max. limit	
	Door open condition sensed	Close door or turn key to closed position
	Jackpot hit	Reset jackpot
	Preset number of coins in/incrementation has not been reached	
Jackpot amount does not increase by the complete increment	Jackpot reached max. limit before using total increment	Functioning properly
Only lower jackpot functions	Single progressive option has been set	See Initialization