

SKEE BALL CLASSIC
SINGLE PLAYER
MODEL-H

Installation and Operation
Manual 990098

Skee Ball, Inc., 121 Liberty Lane, Chalfont, PA 18914

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UNPACKING INSTRUCTIONS

Crate size approximately 64 x 37 x 33:

Contains:

- Rear Cabinet
- Net Frames
- Front Supports
- Skee Ball balls
- Hardware/Fasteners
- Steel legs

Crate size 21 x 122 x 31:

Contains Front Runway.

STANDARD ALLEY ASSEMBLY

1. Front runways and back cabinets need not be matched.
2. Lay back cabinet and front runway on their sides. Join the two using 1/2" machine bolts. Be sure the face of the joint is free of any packing material, which would prevent a tight joint.
3. Fasten front support to the front runway using 3/8" bolts. T nuts are already fastened to the runway to receive these bolts. Tighten to secure.
4. Carefully loosen cable tie in rear cabinet and pass harnesses through opening of cabinet. Run harness through front runway and connect junction plugs.
5. Insert two 2 1/4" square steel legs into square holes in floor of extreme end of rear cabinet and fasten with two 3/8 x 3" carriage bolts in each leg with nuts on inside of the cabinet.
6. To install the leg on the lower side, which is on the floor, it will be necessary to lift the alley and slip a 3" or 4" block underneath, in order to get clearance from the floor to install the bolts. Be sure all four nuts are tight before attempting to raise alley upright.
7. Two men can now set the alley upright on its supports. One man should grip and lift under the cover on top of the back cabinet and the other should grip the front of the assembled alley to follow through on the lift and prevent undue twist in the alley as it is lifted. All alleys should be assembled and set upright before proceeding with the net frame assembly.
8. Reposition the Ball Count Switch Mounting Bracket by removing the two 1/4 - 20 x 1" machine bolts from the bracket which is located in the right side of the rear cabinet in the No Score Floor area. Do not unplug the connector leading from the wire harness to the ball

- count switch. After the two machine bolts are removed, simply turn the bracket 180° and re-install the bolts through the switch mounting bracket and back into the pre-tapped holes in the front bulkhead of the rear cabinet. Adjust the actuating wire of the switch so that the balls strike the wire as they pass through the ball return outlet. Refer to Drawing 600035 in the back of the manual.
9. Net frame assembly: Nets are packed in a separate box. The net frame assembly consists of three parts: Top Net, Left Side Net, and Right Side Net (Front net if 10' is ordered as an option). Place side net on alley so that the protruding boss on the lower casting fits into the slot on the top of the channel cover. Install flat head bolts into the upper casting and through the rear cabinet. Install flat washer and nut from rear of machine. Repeat this procedure on the other side. The top net fits in between the two side nets and snaps into the four clips (two on each side) that are fastened to the inside of the ornamental side net channels.
 10. Ticket and locking channel cover are shipped in a separate box. Connect the wire harness on ticket dispenser to matching connector on left side of alley. Load ticket dispenser with tickets. Place dispenser in alley making sure that rear of dispenser hooks over the 3/4" poplar rib. Insert tab of cover under front of already installed channel cover. Lower front of cover into place with the key in the lock and the lock turned in the unlocked position. Turn the key and lock into place.

NOTICE: The lock may become difficult to engage if the locking tab on the hinge on the left knock off cover is bent down. It can be adjusted by bending the tab back up into its original position.
 11. A maximum of **12 balls** and minimum of 9 balls should be placed in the alley. (See Drawing SB-350A in back of Manual).
 12. Open coin cover on right side of alley. Place mech into slide. Connect junction plug, keeping cable away from **REJECT** area. Close cover and lock. Plug wire into properly wired 120V AC receptacle. The alley is ready to play.

GENERAL DESCRIPTION:

1. The system is made up of a microprocessor, along with LSI circuitry, some TTI and CMOS IC's and some discrete components. The switches are used to count the balls played and released, the score, and the coins inserted. One is also used for a knock off switch for the game room operator. If the unit does not have a ticket dispenser, the operator is in charge of dispensing rewards. Usually the first winning score is programmed at the factory unless the alley comes with an adjustable win select (thumb wheel switches) that would be used to change the first winning score (available on alleys without ticket dispensers).
2. Factory programmed options. If the unit contains a ticket dispenser, the following can be programmed.
 - A. From 0-7 tickets at any score from 0-450. The winner song is played, and winner lights come on when the first ticket is dispensed.
 - B. From 0-1 free games at any score from 0-450. When the free game is achieved, the free game song is played.
 - C. Score at which the high score song is played.
3. If the unit does not contain a ticket dispenser or adjustable win select, the following can be programmed:
 - A. The present score at which the winner light and song come on.
 - B. From 0-1 free games at any score from 0-450. When the free game is achieved, the free game song is played.
 - C. Score at which high score song is played.
4. Adjustable win select units can be programmed to do the following:
 - A. From 0-1 free games at any score from 0-450. When the free game is achieved, the free game song is played.
 - B. Score at which high score song is played.

5. Field programmable options:

The logic unit contains a group of switches that are obtainable through the cover. These switches are used for enabling the options that come with the alley. A list of these options, and the corresponding switches, is given below. If these switches are changed while the unit is powered up, the change takes effect the next time the game goes into rotating lights (even if the change is made while in rotating lights). If the changes are made when the unit is powered down, the changes will take place when the machine is powered up. When in doubt of any changes, always power down, then up.

A. For single and dual coin units:

- Switch #1 Depressed for dual, raised for single
- Switch #3 Depressed for 6 balls, raised for 9 balls
- Switch #5 Depressed for free game, raised for no free game
- Switch #8 Depressed for no ticket dispenser, raised for ticket dispenser

B. For single coin units:

Switches 2 and 4 determine number of coins to begin play.
 R = switch raised, D = switch depressed

COINS	SWITCH 2	SWITCH 4
1	R	R
2	R	D
3	D	R
4	D	D

Switch #6 raised gives three games for x amount of coins, one game if switch is depressed.

Switch #7 raised gives three times the number of tickets, one times the number of tickets if switch is depressed.

C. For dual coin unit:

Switch #2 and 4 must be raised: One coin per play.

Switch #6 depressed gives one game for coin type 1, and three games for coin type 2; raised gives one game for either coin type.

Switch #7 depressed gives one times the number of tickets programmed for coin type 1, and 3 times for coin type 2. Raised it gives 1 times the number of tickets for either coin type.

D. For adjustable winner select:

The thumbwheels program the winner score. Set the thumbwheels to the desired score, divided by 10. For example, a score of 200 sets the thumbwheel to 20. A unit with the thumbwheels must have switch #8 depressed since there is no ticket dispenser.

FUNCTIONAL DESCRIPTION

After the proper number of coins are inserted, the controller turns the Ball Release Solenoid ON, and the proper number of balls are released. The following conditions should exist:

- a. Score is 000
- b. Ball played is 0
- c. WINNER, FREE GAME, and GAME OVER lights are OFF
- d. COINUP tune will play

The alley is now ready to be played. If a ball is rolled and goes into the fifty pocket, the score will increase by 10 every time it passes one of the score switches. Therefore, after the ball reaches the bottom of the score track, the score should have increased by 50. Also, shortly after passing the ball count switch, a tune will be played by the controller and the ball count display will increment by one. Each pocket has its own individual tone. If, however, during the scoring time a winning score is achieved, the winner song is played instead of the pocket sound. This is also true if a FREE GAME or HIGH SCORE is achieved. Each achievement has its own sound. If the ball does not go into any of the pockets (a gutter ball), a GUTTER BALL tune is played and the balls played are increased by one. When the last ball is played, the game over light will stop flashing after about two minutes: If the alley has a ticket dispenser. This can also be achieved by hitting the knock off switch or by starting another game (inserting coins). If the alley does not contain a ticket dispenser and either winner or free game score was achieved, the two minute flashing will not occur. The only way to stop the flashing and/or get the free game is to press the knock off switch. If the game is in the rotating lights condition, depressing the knock off switch will flash the score of the last game.

TICKET DISPENSER

A. Basic operation of ticket dispenser model DL1275S

When the control unit calls for a ticket to be issued, the motor in the dispenser is turned on. When a ticket is dispensed, the opto beam breaker senses a notch in the ticket and sends back a signal to the control unit. At this time the ticket counter is incremented. If no more tickets are called for the motor is turned off.

Tickets are moved through the ticket chute by means of a power driven roller which is spring loaded against an idler roller. The power driven roller is mounted on the output shaft of the motor gear train assembly. The motor assembly is mounted to the pivot bracket assembly in the two Oilite Bearings. The motor assembly has a limited free swing, limited by a single pin engaged in the brake sprag. The brake sprag engages the roller as an anti-theft device. With the free swing of the motor assembly, the direction of torque, when the electric power is applied, is in a direction so as to release the brake sprag. When an attempt is made to pull tickets from the machine with the power off, the torque is reversed and the brake sprag is engaged. Also, the pulling of tickets will cause the pivot bracket assembly to apply a pressure to the power driven roller against the ticket and idler roller greater than the pre-set spring load. This will cause the coarse knurled surface of the rollers to increase the grip on the tickets. One ounce of pull will apply 20 lbs. of pressure on the rollers.

B. Ticket Dispenser Components

1. Controller Board

Attached to the ticket machine is a transistor motor controller which provides dynamic braking to ensure accurate and repeatable ticket stopping after issuing any number of tickets. Included as part of the controller is ticket sensing by means of an Opto Beam Breaking Sensor. Also included is signal conditioning which provides high electrical noise immunity. The output of the ticket sensing circuitry is equivalent to a single pole double throw switch.

2. Roller Tension Spring

The roller tension spring keeps constant tension on the tickets, which insures proper delivery and prevents tickets from being pulled through when the dispenser is idle. To increase tension, loosen screw, move spring forward, and retighten screw. Tension is adjusted correctly when the tickets cannot be pulled from the dispenser.

3. Ticket Guide Spring

The ticket guide spring insures that the notches in the tickets pass through the Opto Beam Breaker Sensor. To increase tension, loosen screw, and move the outer spring up, and retighten screw. This changes the tension on the inner spring. Tickets should be snug between spring and side plate but not deformed by excess tension. This spring is adjusted at the factory for 1-3/16" wide tickets.

4. Ticket Stop Adjustment

The ticket stop adjustment allows positioning of tickets while machine is off. The ticket should protrude through slot approximately 1/16". The ticket dispenser PC board is mounted with two screws and two slotted holes. Loosening the screws and moving the board forward will allow the tickets to stop farther out beyond the edge of the slot.

C. Conditions Which Could Cause Ticket Error Code "CALL" To Be Displayed.

1. Dispenser out of tickets.
2. Insufficient tension on roller tension spring.
3. Tickets stopping back too far in slot causing tickets to jam.
4. Ticket guide spring not guiding tickets.
5. Dirt on opto beam breaker.
6. Missing notches on tickets.
7. Defective dispenser controller board or motor.

D. Loading of Tickets

Tickets are entered in the rear of ticket chute and pushed forward. The power driven roller will be spring loaded against the idler roller and tickets will not pass until the rollers are clear of each other. This is accomplished by use of thumb and index finger, one placed on the block to which the spring is attached, the other on the pivot bracket assembly, then squeeze. Push the tickets through until you see the edge of the ticket. Align the notch in the center of the optic sensor.

- E. **Ticket Dispenser Replacement:** The ticket dispenser can be removed and replaced after unlocking and removing the channel cover over the dispenser. Lift out the ticket tray/dispenser assembly, and disconnect the connector at the dispenser. Next, remove the 4 screws (2 large and 2 small) on the face of the dispenser assembly (near the ticket meter) and lift out the dispenser. Install the new dispenser in reverse order remembering to reconnect the connector.

F. Ticket Sales Information

Tickets are available through: National Ticket Company in Shamokin, Pennsylvania (717) 648-6803. We have found these tickets to be of the best quality for use in Skee-Ball Machines.

GENERAL TROUBLESHOOTING OF SKEE-BALL CLASSIC

CAUTION: High voltage is present in some areas of the alley (power supply, fan, solenoid, etc.). Unplug line cord before performing any troubleshooting.

PROBLEM	RECOMMENDATION
No Display	<ol style="list-style-type: none"> 1. Make sure power is applied to the alley. 2. Check the connections on the cable from the controller to the display. 3. Fan should be on. If not, replace fuse on side of controller. 4. Replace display with a known good display. 5. Check fuse. 6. Replace controller.
Display not showing proper readout	<ol style="list-style-type: none"> 1. Inspect cable for good connections. 2. Replace display with a known good display.
Ball count not accurate	<ol style="list-style-type: none"> 1. Adjust ball count switch wire towards the ball if it does not count the ball. 2. Adjust the switch wire away from the ball if it counts one ball as two.
Missing ball count.	<ol style="list-style-type: none"> 1. Adjust the switch wire to make sure it contacts the ball. 2. Replace the switch. **See drawing 600035
Coins-up but does not release balls	<ol style="list-style-type: none"> 1. Check fuse (1 amp Slo-Blo). 2. Inspect the rocker arm assembly (springs and control rods). 3. Replace solenoid. **See Drawing 600035 4. Replace controller.
Will not coin up	<ol style="list-style-type: none"> 1. Inspect coin mechanism switch. 2. Try actuating the coin mech. switch wire manually. 3. Replace controller.

Does not give ticket at winning score. Displays “HELP” or “CALL”.	<ol style="list-style-type: none"> 1. Out of tickets. 2. Tickets jammed. 3. Clean optic eye. **See Ticket Dispenser Section of this manual for Ticket Dispenser Maintenance. 4. Replace ticket dispenser. 5. Replace controller.
Does not give ticket. Does not display “HELP” or “CALL”.	<ol style="list-style-type: none"> 1. Check settings on dip switch
Gives more than 1 ticket	<ol style="list-style-type: none"> 1. Adjust tension spring. 2. Replace O-ring on drive roller. 3. Replace brake sprag. 4. Replace drive roller. **See Ticket Dispenser Section of this manual for Ticket Dispenser Operation.
None of the above	<ol style="list-style-type: none"> 1. Review the manual for a possible solution. 2. Obtain as much information about the problem before calling Skee-Ball’s Technical Service. 3. Before calling Skee-Ball, make sure you know the Model # and Serial # of your Skee-Ball alley. These are located on the metal plate found on the back of the game cabinet.

1. **Improper Scoring:**

Each of the five switches in the score track should score ten points. To determine which switch is not functioning properly, simply roll a ball into each pocket starting with 10 and increasing to 50. The first switch that scores improperly is suspect. An intermittent switch can give misleading results. In that case, roll as many balls as needed in each pocket to determine which switch may need adjusting, or the entire switch may need replacing.

2. **Improper Ball Count Display:**

Check the **Ball Count** switch for proper action. The actuating arm may need adjusting or the entire switch may need replacement.

3. **No Sound:**

If no music occurs during the play of a game, first check that the volume control (in the power supply) is set properly. Then check that the cables are connected properly from the power supply to the speaker. Next make sure that the speaker is not damaged. Replace speaker if necessary. Then replace the power supply board. If this is not the problem, then return the unit as per instructions.

4. **Coin Insertion Does Not Reset Score:**

After inserting coin the display should go to 000. If this does not occur, check the **COIN MECH** switch for proper action. The actuating arm may need adjusting or the entire switch may need replacing.

5. **Counters Do Not Work:**

Check the cable connection from the counters to the logic board. Replace the counter with a good counter. If it still does not work, then replace the logic board. Return the unit for repair as instructed in this text.

6. **Lamp Does Not Light:**

If any lamp does not light, first check to insure that the lamp is properly seated in the socket. Do not replace lamps while power is on. Use only the proper replacement bulbs. Remove bulb by the glass portion of the bulb only. Do not place any tool in the socket while the power is on. This could damage expensive circuitry.

If the lamp still does not light, and the faulty lamp is a Score or Ball Count display lamp, remove the IC (ULN20003A) below the digit with the faulty lamp and replace it with the proper replacement IC. Next, try replacing the IC under the ULN20003A (74C14). **Always Power Down to replace lamps and IC's.** Make absolutely sure that the new IC's are installed properly. Identify the direction of which the new IC is to be installed before the suspected bad IC is removed.

If the lamp is one of the three lights above the readouts (FREE GAME, WINNER, or GAME OVER), ensure that the bulbs and sockets are good. Check the readout cable connections back to the power supply. If the lamp does not light, then replace it as instructed above. If the lamp still does not light, then replace the logic and/or the power supply and return for repair.

7. **“HELP” or “CALL” Appears in the Display:**

When the word **HELP** appears from the Balls Played and Score display, it means that the CPU board has turned on the ticket dispenser, but has not seen the signal back from the ticket dispenser to indicate that a ticket has been dispensed. This will occur if there are no more tickets, if they have jammed, or two or more notches are missing on the ticket, or if the circuit board on the dispenser is faulty.

When any problem with the ticket dispenser occurs, the word **HELP** appears from the Balls Played and Score display, it means that the CPU board has turned on the ticket dispenser, but has not seen the signal back from the ticket dispenser to indicate that a ticket has been dispensed. This will occur if there are no more tickets, if they have jammed, or two or more notches are missing on the ticket, or if the circuit board on the dispenser is faulty. Check the unit to see which of these conditions exist and make the proper corrections. If necessary, replace and return the defective unit for repair.

After the problem has been corrected, do the following reset procedure to turn off the “help” and to continue play.

1. Place tickets in the dispenser so the notch is in line with photo detector.
2. While pressing the knock off switch, insert a coin/token into the machine. This tells the CPU board the problem has been corrected. The CPU board will then turn on the ticket dispenser so as to dispense the number of tickets that had been tallied up to the point of when the problem occurred.

NOTES:

Once the problem has been corrected, the ticket dispenser will dispense one ticket less than the number tallied.

After inserting a coin, as in step 2, a new game will be started. Therefore, the operator may want the customer to finish the game he was playing before correcting the problem. Remember, the CPU board will keep track of the tickets to be dispensed even while the ticket dispenser has a problem.

RETURNED COMPONENTS

Should your product need servicing, please have the following information ready prior to contacting Skee-Ball, Inc.

1. Model # of the Unit
2. Serial # of the Unit
3. Serial # of the Part (i.e. – Main Processor Board) if applicable.

Most of this information can be found on the UL tag attached usually to rear of the product.

When returning a unit for repair, call prior to returning your product to obtain an Return Material Authorization number (RMA#). Failure to obtain an RMA# can lead to parts being delayed in repairs / shipping or return without repairs being completed. Write the RMA# on the outside of the package. Include the following information inside of the packaging:

1. Name, Address, Phone & Fax Numbers including Area Code.
2. Product Serial & Model Numbers.
3. RMA#
4. Contact Name
5. If possible, symptoms and / or problems experiencing.

Postage, insurance and / or shipping costs incurred while presenting your unit for repairs (in or out of warranty) is the responsibility of the consumer. Skee-Ball, Inc. will ship warranty repaired / replaced items back to the consumer free of charge via UPS Ground, U.S. Mail or other comparable shipping means. Any Express Mail or Overnight Shipping expenses are at cost to the consumer.

Skee-Ball, Inc. can be contacted at:

Skee-Ball, Inc.
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Skee-Ball, Inc.'s distributors are independent, privately owned and operated. In their judgement, they may sell parts or accessories other than those manufactured by Skee-Ball, Inc. We can not be responsible for the quality, suitability, or safety of any non- Skee-Ball, Inc. part, or any modification, including labor, which is performed by such distributor.

WARRANTY INFORMATION

Skee-Ball, Inc. warrants to the original purchaser that the product will be free of defects in workmanship and materials. The main processor and display boards are warranted for 1 year from the date of purchase. During the first 6 months, the main processor and display boards will be replaced by our Advanced Exchange Program. All other components are warranted for 90 days from the date of purchase. These parts will be replaced under our Advanced Exchange Program for a period of 90 days.

If your equipment fails to conform to the above mentioned warranty, Skee-Ball, Inc.'s sole liability shall be, at its option, to repair or replace any defective component with a new or re-manufactured component of equal or greater OEM specifications.

Skee-Ball, Inc. will assume no liability whatsoever, for costs associated with labor to replace defective parts, or travel time associated therein.

This warranty is contingent upon proper and normal use of the product and does not cover equipment which has been modified without Skee-Ball, Inc. written consent. Which has been subject to unusual physical stress, incorrect assembly, hook-up, other misuse, neglect, improper electrical current, failures caused by natural disasters such as fire, flood, and lightning or as a result of any unauthorized repairs or alterations.