

SKEE BALL ***L I G H T N I N G***

In tallation and Operation

Manual 990017, Revision (D)



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A. UNPACKING INSTRUCTIONS

REMOVE ALL PARTS FROM THE SHIPPING BOXES OR CRATES. AN INVENTORY OF THE PARTS SHOULD INCLUDE THE FOLLOWING:

1. BACK CABINET ASSEMBLY.
2. RUNWAY ASSEMBLY.
3. 1/4-20 UNC X 2.00 LG. HEX HEAD BOLTS (QTY. 2)
4. 1/4 FLAT WASHER (QTY. 2)
5. 1/4-20 UNC NUTS (QTY. 2)
6. TICKET TRAY ASSEMBLY (IF EQUIPPED).
7. RIGHT SIDE CAGE.
- a. LEFT SIDE CAGE.
9. FRONT CAGE.
10. 8-32 UNC X .38 LG. BUTTON HEAD SCREWS (QTY. 121
11. #E1 FLAT WASHERS (QTY. 12)
12. #8 KNURLED HEAD SCREW (QTY. 4).
13. MANUAL 990017 SKEE-BALL LIGHTNING INSTALLATION AND OPERATION.
14. MANUAL 990007 TICKET DISPENSER MANUAL (IF EQUIPPED).
15. LEVELING GLIDES (QTY. 6)
16. GAME COST STICKERS.
17. COIN BOX
18. BALLS (QTY. 5)

IF ANY OF THE ABOVE ITEMS ARE MISSING, PLEASE CONTACT YOUR SALESPERSON IMMEDIATELY.

B. STANDARD ALLEY ASSEMBLY.

1. FRONT RUNWAYS AND BACK CABINETS NEED NOT BE MATCHED.
2. INSTALL FOUR (4) LEVELING GLIDES ON THE BOTTOM OF THE REAR CABINET AND TURN THEM ALL THE WAY IN.
3. INSTALL TWO (2) LEVELING GLIDES ON THE BOTTOM OF THE RUNWAY IN THE TWO HOLES NEAR THE REAR CABINET END OF THE UNIT.
4. PLACE THE REAR CABINET AND THE RUNWAY IN THEIR APPROXIMATE FINAL POSITION LEAVING A 12" GAP BETWEEN THEM. CAREFULLY LOOSEN THE CABLE TIE IN THE REAR CABINET AND CONNECT SIX (6) JUNCTION PLUGS (24 PIN, 1 PIN, 6 PIN, 3 PIN AND ROPE LIGHT PLUG 2 PLCS.).
5. BUTT THE REAR CABINET AND THE RUNWAY TOGETHER. PLACE THE 1/4-20 FLAT WASHER ONTO THE BOLT AND INSERT THEM INTO THE HOLES ON EITHER SIDE OF THE BACK CABINET. THEY WILL THREAD INTO THE T-NUTS LOCATED ON THE RUNWAY. THESE BOLTS SHOULD THEN BE HAND TIGHTENED TO KEEP THE BACK CABINET AND RUNWAY ALIGNED.

CAUTION THESE BOLTS AND THE BALL COUNT SWITCH SHOULD BE REMOVED BEFORE MOVING THE ALLEY. THE ALLEY SHOULD BE MOVED IN TWO PIECES UNLESS IT IS PLACED ON DOLLIES.

6. LEVEL THE GAME SIDE TO SIDE USING THE LEVELING GLIDES.
7. RELOCATE THE BALL COUNT SWITCH MOUNTING BRACKET BY REMOVING THE TWO 1/4 X 20 X 1" MACHINE BOLTS FROM THE BALL COUNT SWITCH MOUNTING BRACKET WHICH HOLDS THE BRACKET TO THE FRONT BULKHEAD 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 AROUND AND REINSTALL 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 NO. 600035 IN BACK OF MANUAL.
- a. THE FRONT AND SIDE CAGE PIECES ARE PACKED IN A SEPARATE BOX. THE CAGE ASSEMBLY CONSISTS OF THREE PARTS: FRONT CAGE, LEFT CAGE AND RIGHT CAGE. PLACE RIGHT CAGE ON ALLEY SO THAT IT FITS INTO THE RECESSED CUT ON THE RIGHT SIDE OF THE REAR CABINET.
 <<NOTE>> WHEN INSTALLING SIDE NETS, TAKE CARE NOT TO SCRATCH THE PLASTIC CHANNEL COVERS WITH THE END OF THE NETS.
 SECURE IN PLACE USING SIX #8 SCREWS AND WASHERS PROVIDED. REPEAT THIS PROCEDURE ON THE OTHER SIDE. THE FRONT CAGE FITS ON THE SIDE CAGE AND IS TO BE SECURED USING THE FOUR KNURLED SCREWS PROVIDED.
9. UNLOCK THE TICKET TRAY ACCESS PANEL ON THE FRONT LEFT SIDE OF THE ALLEY AND REMOVE. FILL THE TICKET TRAY WITH TWO STACKS OF TICKETS INTO THE TRAY. CONNECT THE WIRE HARNESS FOR THE LOW TICKET INDICATOR SWITCH TO THE RECEPTACLE UNDER THE ACCESS PANEL AND PLACE THE TICKET TRAY IN PLACE IN THE GROOVES IN THE ALLEY. SEE SECTION C FOR TICKET LOADING INSTRUCTIONS.
10. UNLOCK COIN BOX DOOR AND PLACE COIN BOX IN ALLEY. SHUT AND LOCK DOOR.
11. OFTEN IN SHIPMENT, THE LAMPS IN THE BACK CABINET MAY LOOSEN IN THEIR SOCKETS. MAKE SURE ALL ARE TIGHT PRIOR TO POWERING UP THE ALLEY.
12. INSTALL FIVE BALLS INTO THE ALLEY. ALLEY WILL WORK WITH ANY NUMBER OF BALLS FROM ONLY ONE TO SEVEN MAXIMUM.
13. PLUG WIRE INTO PROPERLY WIRED 120V AC RECEPTACLE AND VERIFY ALL LAMPS ARE LIT. THE GAME IS READY TO PLAY.

C. TICKET DISPENSER

1. BASIC ELECTRONIC OPERATION OF TICKET DISPENSER MODEL DL1275H: 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.

2. **BASIC MECHANICAL OPERATION OF THE TICKET DISPENSER MODEL DL1275H:** 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 HAS TWO NEOPRENE O RINGS INSTALLED, AND UNDER NORMAL OPERATING CONDITIONS ARE THE ONLY CONTACT WITH THE TICKETS. 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 O RINGS TO DEPRESS AND THE COURSE KNURLED SURFACE OF THE ROLLER WILL THEN GRIP THE TICKETS. ONE OUNCE OF PULL WILL APPLY 20 LBS. OF PRESSURE ON THE ROLLERS.
3. **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.
4. **TICKET DISPENSER 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 BREAKER SENSOR. ALSO INCLUDED IN SIGNAL CONDITIONING WHICH PROVIDES HIGH ELECTRICAL NOISE IMMUNITY. THE OUTPUT OF THE TICKET SENSING CIRCUITRY IS THE EQUIVALENT TO A SINGLE POLE DOUBLE THROW SWITCH.
5. **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 AND MOVE SPRING FORWARD. TENSION IS ADJUSTED CORRECTLY WHEN THE TICKETS CANNOT BE PULLED FROM THE DISPENSER.
6. **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 OUTER SPRING UP. 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.

7. **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.
8. **TICKET DISPENSER REPLACEMENT:** THE TICKET DISPENSER CAN BE REMOVED AND REPLACED BY REMOVING THE NUT ON THE REAR OF THE LOCK ON THE DOOR AND LIFTING OUT THE DISPENSER. REMOVE THE DOOR STOP CHAIN ON THE OLD DISPENSER AND CONNECT TO THE NEW USING THE SAME HARDWARE. PLACE THE DISPENSER INTO THE SLOT ON THE DOOR MAKING SURE THAT THE LEFT SIDE OF THE UNIT IS AGAINST THE LEFT INNER FRAME OF THE DOOR (THIS IS TO INSURE CLEARANCE OF THE DISPENSER CONNECTOR AND THE DOOR FRAME). TIGHTEN THE BRACKET ONTO THE LOCK REUSING THE NUT. RECONNECT THE CONNECTOR.

CONDITIONS WHICH COULD CAUSE TICKET ERROR CODE (CODE 0) 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

TICKETS ARE AVAILABLE THROUGH: NATIONAL TICKET CO IN SHAMOKIN, PA

(717) 648-6803. WE HAVE FOUND THESE TICKETS TO BE OF THE BEST QUALITY FOR USE IN SKEE BALL MACHINES.

D. GAME PLAY

WHEN THE PROPER NUMBER OF COINS ARE INSERTED INTO THE COIN ACCEPTOR, THE START BUTTON WILL BEGIN TO BLINK OFF AND ON. PRESS THE START BUTTON, THE BALL RELEASE SOLENOID WILL OPEN AND RELEASE THE BALLS TO THE PLAYER.

<<NOTE>>: THE GAME WILL OPERATE WITH ANY NUMBER OF BALLS BETWEEN 1 AND 8. THE BALLS WILL CIRCULATE UNTIL THE NUMBER OF BALLS RELEASED TO THE PLAYER MATCHES THE NUMBER SET IN THE PROGRAM (DEFAULT IS 9, SEE SECTION E PROGRAMMING). AT THIS TIME, THE SOLENOID WILL CLOSE.

THE PLAYER THEN ROLLS EACH BALL UP THE ALLEY TRYING TO ACHIEVE THE MAXIMUM SCORE. TICKETS WILL BE DISPENSED DURING

THE GAME IF THE GAME IS EQUIPPED WITH A TICKET DISPENSER. IF FOR ANY REASON THE PLAYER STOPS PLAYING THE GAME, THE GAME WILL RESET ITSELF AFTER 45 SECONDS. IF YOUR GAME IS EQUIPPED WITH THE DUAL FLASH FUNCTION, THE PLAYER WILL BE ABLE TO DOUBLE THE SCORE OF EACH INDIVIDUAL BALL BY TIMING THE BALL TO BE OVER THE LIGHTNING BOLT AS IT ILLUMINATES.

AFTER THE LAST BALL HAS BEEN PLAYED, THE DISPLAY WILL ANNOUNCE 'GAME OVER' ALONG WITH THE FINAL SCORE AND NUMBER OF TICKETS DISPENSED. AFTER ABOUT 20 SECONDS, THE DISPLAY AND GAME WILL GO BACK INTO THE ATTRACT MODE.

E. PROGRAMMING

THE DEFAULT SETTINGS IN THE GAME ARE AS FOLLOWS:

1. TD ON? Y TURNS ON THE TICKET DISPENSER IF SO EQUIPPED. N TURNS IT OFF. THE DEFAULT IS Y.
2. T MUL? TICKET MULTIPLIER DETERMINES THE AMOUNT OF TICKETS ISSUED AT THE WINNER SCORE AND SPAN POINTS. THE RANGE IS 0 TO 9. THE DEFAULT IS 1.
3. LOSER T? THIS DETERMINES THE AMOUNT OF TICKETS ISSUED TO THE PLAYER IF THAT PLAYER DOES NOT REACH THE WINNER SCORE. THE RANGE IS 0 THRU 9. THE DEFAULT IS 0.
4. FIXED T? THIS DETERMINES THE AMOUNT OF TICKETS ISSUED AT COIN UP. THE RANGE IS 0 THRU 20. THE DEFAULT IS 0.
5. MAX. T? THIS SETS THE MAXIMUM TICKETS TO BE ISSUED DURING ANY GAME. THE RANGE IS 5 THRU 95 IN INCREMENTS OF 5. THE DEFAULT IS 40.
6. WS? WINNER SCORE SETS THE VALUE THAT THE FIRST TICKETS WILL BE ISSUED. THE RANGE IS 10000 THRU 950000 IN INCREMENTS OF 10000 STARTING AT 10000. THE DEFAULT IS 100000.
7. TS? THIS IS THE SCORE SPAN THAT TICKETS WILL BE ISSUED AFTER THE WINNER SCORE. THE RANGE IS 10000 THRU 90000 IN INCREMENTS OF 10000. THE DEFAULT IS 20000.
8. COINS? THIS IS THE AMOUNT OF COINS NEEDED TO PLAY THE GAME. THE RANGE IS 0 THRU 4. THE DEFAULT IS 1.
9. SOUND ON? Y TURNS ON THE GAMES SOUND TRACK. N TURNS IT OFF.
10. DF SPEED? THIS DETERMINED THE SPEED OF THE GAMES DUAL FLASH FEATURE IF SO EQUIPPED. THE RANGE IS 1 THRU 9 WITH 1 BEING THE FASTEST AND 9 THE SLOWEST. THE DEFAULT IS 1.
11. BALLS? THIS DETERMINES THE AMOUNT OF BALLS ISSUED TO THE PLAYER FOR THE GAME. THE RANGE IS 1 THRU 9. THE DEFAULT IS 9.

TO CHANGE THE SETTINGS ON ANY OF THE ABOVE PARAMETERS, YOU MUST PUT THE MACHINE IN THE PROGRAMMING MODE. TO DO THIS, REMOVE THE TICKET TRAY COVER TO EXPOSE THE 'RESET', 'AUX1' AND 'AUX2' BUTTONS. TO ENTER THE PROGRAMMING MODE, PRESS THE 'RESET' BUTTON. THE DISPLAY WILL READ:

DEFAULTS: Y

THE 'AUX1' BUTTON WILL CYCLE THRU YOUR CHOICES (Y AND N). TO ACCEPT THE DEFAULT SETTINGS, PRESS THE 'START' BUTTON WHEN THE DISPLAY READS:
 DEFAULTS: Y

TO CHANGE FROM THE DEFAULT SETTINGS, PRESS THE 'AUX2' BUTTON. THE DISPLAY WILL THEN GO ON TO SHOW THE REMAINING 11 SETTINGS WITH THEIR CHOICES AS LISTED ABOVE. THE 'AUX1' BUTTON WILL CYCLE THRU EACH CHOICES RANGE. THE 'START' BUTTON WILL ACCEPT THE CURRENT SELECTION. THE 'AUX2' BUTTON WILL CHANGE THE DISPLAY TO THE NEXT VARIABLE. AFTER ALL 11 ARE SHOWN, THE GAME WILL AUTOMATICALLY GO INTO THE ATTRACT MODE AND WILL BE READY TO PLAY.

F. GENERAL TROUBLESHOOTING OF SKEE-BALL LIGHTNING

PROBLEM	RECOMMENDATION
NO DISPLAY	1. MAKE SURE POWER IS APPLIED TO THE ALLEY 2. CHECK 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 F1 ON CONTROLLER BD. 6. REPLACE CONTROLLER
DISPLAY NOT SHOWING PROPER READOUT	1. INSPECT CABLE 2. REPLACE DISPLAY
BALL COUNT NOT ACCURATE	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. 3. TOO MANY BALLS IN ALLEY
MISSING BALL COUNT	1. ADJUST THE SWITCH WIRE TO MAKE SURE IT CONTACTS THE BALL. 2. REPLACE THE SWITCH 3. TOO MANY BALLS IN ALLEY

BALL RELEASE INACCURATE	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 RELEASE COUNT	1. ADJUST THE SWITCH WIRE TO MAKE SURE IT CONTACTS THE BALL. 2. REPLACE THE SWITCH
COINS-UP BUT DOES NOT RELEASE BALLS	1. CHECK F2 ON CONTROLLER (1/2 AMP SLO-BLO) 2. INSPECT SPRINGS & CONTROL RODS 3. REPLACE SOLENOID 4. REPLACE CONTROLLER
WILL NOT COIN-UP	1. INSPECT COIN MECH. SWITCH 2. MAKE SURE UNIT IS PROGRAMMED PROPERLY 3. TRY ACTUATING THE COIN MECH SWITCH WIRE 4. REPLACE CONTROLLER
DOES NOT GIVE TICKET AT WINNING SCORE DISPLAYS 'CODE 0'	1. OUT OF TICKETS, READ MANUAL FOR INFO. 2. TICKETS JAMMED, READ MANUAL FOR INFO. 3. CLEAN OPTIC EYE, READ MANUAL FOR INFO. 4. REPLACE TICKET DISPENSER 5. REPLACE CONTROLLER
DOES NOT GIVE TICKET DOES NOT DISPLAY CODE 0	1. READ SECTION OF MANUAL DEALLING WITH PROGRAMMING THE CONTROLLER
GIVES MORE THAN 1 TICKET	1. ADJUST TENSION SPRING 2. REPLACE O-RING ON DRIVE ROLLER 3. REPLACE BRAKE SPRAG 4. REPLACE DRIVE ROLLER
NONE OF THE ABOVE	1. READ MANUAL 2. BEFORE CALLING SKEE-BALL MAKE SURE YOU KNOW THE MODEL # AND SERIAL # OF YOUR SB ALLEY IT IS LOCATED ON THE METAL PLATE FOUND ON THE BACK OF THE GAME CABINET

CAUTION: HIGH VOLTAGE IS PRESENT IN SOME AREAS OF THE ALLEY (POWER SUPPLY, FAN SOLENOID, ETC.) UNPLUG LINE CORD BEFORE PERFORMING ANY TROUBLE SHOOTING.

1. IMPROPER SCORING

EACH OF THE SEVEN SWITCHES IN THE SCORE TRACK SCORES THE POINTS ASSOCIATED WITH THE POCKET IT IS IN. DROP A BALL IN EACH POCKET ONE AT A TIME TO DETERMINE WHICH SWITCH IS NOT WORKING. 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 SWITCH IN RIGHT REAR SIDE OF THE RUNWAY IN THE NO SCORE FLOOR AREA FOR PROPER ACTION. THE ACTUATING ARM MAY NEED ADJUSTING OR THE ENTIRE SWITCH MAY NEED REPLACEMENT. MAKE SURE ALLEY HAS PROPER AMOUNT OF BALLS(S).

3. IMPROPER NUMBER OF BALLS RELEASED.

CHECK THE SWITCH ON THE BALL RELEASE MECHANISM UNDER THE RIGHT CHANNEL COVER. THE ACTUATING ARM MAY NEED ADJUSTMENT OR THE ENTIRE SWITCH MAY NEED REPLACEMENT. IF THE AMOUNT OF BALLS RELEASED TO THE PLAYER IS ALWAYS ONE LESS THAN THE PROPER NUMBER, THE SWITCH WIRE SHOULD BE ADJUSTED AWAY FROM THE BALLS. IF THE AMOUNT OF BALLS RELEASED IS MORE THAN THE PROPER NUMBER, THE SWITCH SHOULD BE ADJUSTED TOWARD THE BALLS.

4. NO SOUND

IF NO MUSIC OCCURS DURING THE PLAY OF A GAME, FIRST CHECK THAT THE VOLUME CONTROL (ON THE CONTROLLER) 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 SOUND BOARD. IF THIS IS NOT THE PROBLEM, THEN RETURN THE UNIT AS PER INSTRUCTIONS.

5. COIN INSERTION DOES NOT START GAME.

AFTER INSERTING COIN THE START BUTTON SHOULD BLINK. 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.

6. 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.

