

# BRIARWOOD™

BEFORE ATTEMPTING TO ASSEMBLE, PERFORM MAINTENANCE ON, OR SERVICE THIS GAME, READ THIS OWNER'S MANUAL COMPLETELY.

## OWNERS MANUAL

# PINBALL

# GAME

CONTENTS  
WARRANTY  
GENERAL NOTES  
INSTALLATION  
MAINTENANCE  
REPAIR  
TOLL FREE NUMBER



8/24/77

## BRIARWOOD SERVICE DEPARTMENT

55-900224-000

325 BRUNSWICK LANE

MARION, VIRGINIA 24354 U.S.A.

printed in U.S.A.

# **BRIARWOOD™**

## **LIMITED WARRANTY**

**Briarwood** warrants to the original purchaser only, that the **Home Pinball Game**, and all **parts** and **components** thereof, except those specifically excluded herein, will remain free from defects in material and workmanship for a period of six (6) months from date of purchase, provided recommended assembly and maintenance procedures set forth in this Owner's Manual have been followed, and ownership has been properly registered.

Parts **specifically excluded** and not covered by this Warranty or any implied Warranty are: **playfield face sheet, upper cabinet face sheet, all rubber bands, and all light bulbs.** Parts and components which have been subjected to abuse, lack of maintenance, or damage subsequent to purchase are not covered by this Warranty.

The **Owner Registration Card** included in this package must be filled in as directed on the **Registration Card** and forwarded to **Briarwood**, along with proof of purchase, copy of bill of sale (cash register receipt, etc.) within ten (10) days of purchase. Failure to register your purchase voids this Warranty in its entirety, and releases all parties hereto, from any liability.

Shipping damages, both obvious and concealed, are the responsibility of the carrier and purchaser. Inspect your purchase immediately upon receipt and if any damage is noted, notify the carrier **within fifteen (15) days** of receipt and file a formal claim.

Should any part covered by this Warranty fail due to defective material or workmanship during the Warranty Period, replacement parts will be furnished to the purchaser free of charge. Removal of defective part and installation of replacement is the responsibility of the purchaser.

Technical assistance and warranty parts replacement may be obtained by calling **toll free 1-800-336-8771**. For additional details, see General Notes paragraph 3, page 2. **NOTICE: Toll free number is applicable only from within the continental United States.**

This game is intended for home recreational use. This Warranty does not apply to games used in commercial or institutional locations.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

BRIARWOOD  
Attn: Service Department  
325 Brunswick Lane  
Marion, Virginia 24354  
U.S.A.

# — INTRODUCTION —

## TO YOUR NEW PINBALL GAME

This **Home Pinball Game** design was thoroughly tested in the field to assure a reliability which will give you many hours of recreation in your home with a minimum of maintenance and problems. This game has incorporated certain **solid state features** in addition to its mechanical features to insure its reliability. This manual has been developed to thoroughly acquaint you with the function of your game, how to maintain it, and, in the event of a problem, how to recognize its cause and correct it. It also contains instructions for obtaining parts and technical assistance in the event you require them.

### GENERAL

1. If you have not done so, read your **Warranty** carefully so that you are familiar with its details and return your **Owner Registration Card**.
2. Each **Pinball** machine has been inspected at the factory to assure its completeness and functional operation. Vendor parts have been sample inspected to assure conformance to our specifications. In spite of all precautions, some human errors occur. In the event one of these errors results in a problem with your game, we have taken significant action to give you speedy recourse to the problem.
3. During the **Warranty Period**, should you encounter a problem, parts and technical advice can be obtained by taking the following action:
  - A. **Game Malfunction**  
Check the problem solving section of this manual and effect the solution for your particular problem. If the solution does not correct the problem and you need technical assistance, call our **toll free number, 1-800-336-8771 or 8772**. Your message will be received by a recorder, analyzed, and a return call made to you. Give your **name, mailing address, and telephone number**. Give the **machine serial number** (located on rear panel of lower cabinet assembly) and exactly what the **problem** is plus the solution(s) you tried.
  - B. **Warranty Parts**  
Call **toll free number 1-800-336-8771 or 8772** and give your **name, mailing address, machine serial number** (located on rear panel of lower cabinet assembly), **part number, description of part, and quantity** needed. Part numbers and description of parts are contained in the Parts List.
4. **Warranty parts** are available direct from the **Briarwood Service Department**. Major components are available as assemblies and are designed for easy replacement on an exchange basis and can be ordered by calling the toll free number. During **Warranty**, these units are on a no-charge basis. After **Warranty**, the charge listed on the parts price list applies. Exchange parts are shipped in a reuseable container, with a pre-addressed shipping label for returning the replaced part, and a detailed installation instruction sheet for installing the major component.
5. **Service Parts Ordering:** After expiration of **Warranty** on those parts covered by **Warranty**, service parts may be ordered by using the order form included with this package. Simply fill out the form listing the parts desired, enclose your check or money order, and mail. In the case of exchange parts, keep old part until new part is received. Then pack old part in container, affix the pre-addressed label, and ship in accordance with shipping instructions.
6. If you have purchased your **Pinball Game** from a "Franchised" **Brunswick-Briarwood Dealer** or a **Brunswick Leisure Mart**, they will assist you in resolving any problems you may encounter with parts and function of your game.

# ASSEMBLY INSTRUCTIONS

1. Make sure the hardware bag is complete as follows:
  - (8) Hex. Washer Head, Slotted, Machine Screw, 1/4-20 x 2".
  - (4) Truss Head, Phillips Machine Screws, No. 10-24 x 2".
  - (4) Leg Caps.
 NOTE: STEPS 2 AND 4 REQUIRE TWO (2) PEOPLE.
2. Carefully turn lower cabinet assembly upside-down as shown in Figure 1.
3. Securely fasten the 4 legs using the 8 Hex Head Machine Screws from the hardware bag, then fit the rubber leg caps over the end of the legs. (Figure 1)

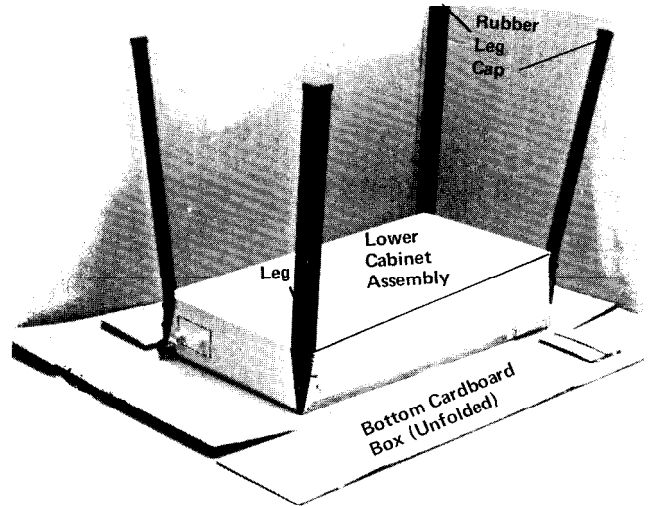


FIGURE 1

4. Carefully turn the cabinet to an up-right position. (Figure 2)
5. If unit has a protective cardboard sheet underneath the Playfield face sheet, carefully lift the Playfield face sheet with one hand at notched end of Playfield and with other hand, carefully pull out protective cardboard sheet and discard.
6. Again, carefully lift the Playfield face sheet and insert the three (3) steel balls into the Playfield at the notch. (Figure 2)
7. Remove the two (2) Phillips screws securing the inverted scoring unit at the upper end of the Playfield. Save the screws for reattachment of the scoring unit. (Figure 2)
8. Un-coil the electrical wall cord and drape over the rear of lower cabinet. (Figure 2)

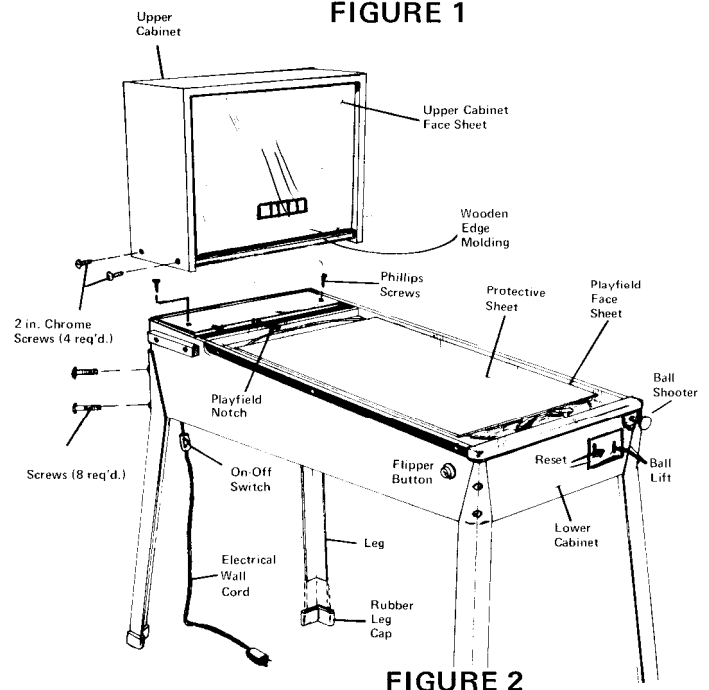


FIGURE 2

9. Standing at rear of cabinet, carefully lift the scoring unit straight up until the entire score unit assembly is clear of the lower cabinet. Turn score unit over, in a counter-clockwise direction, as shown in Figure 3. Reattach the score unit to lower cabinet with the two (2) Phillips Screws saved from Step No. 7.
10. Slide the upper cabinet face sheet into the guide slots at front of the upper cabinet. Make sure that all three edges of the face sheet are firmly seated in the grooves. (Figure 2)
11. Fit the wooden edge molding onto bottom of face sheet as shown in Figure 2 with painted side of edge molding to outside.
12. Holding the wooden edge molding and face sheet firmly in place, position the upper cabinet over the lower cabinet.
13. Align the four pre-drilled holes in the upper and lower cabinets and fasten together using the four truss head Phillips Machine Screws from hardware bag.
14. READ BASIC GAME OPERATION SECTION.

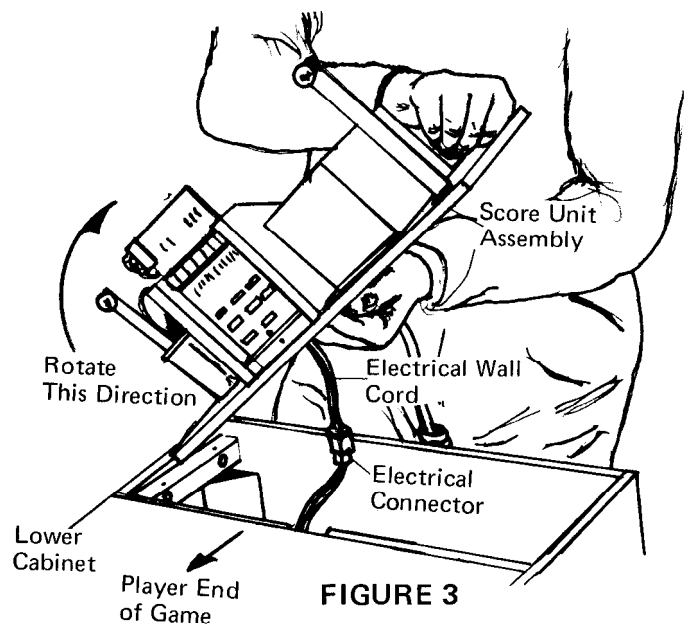


FIGURE 3

# BASIC GAME OPERATION

REFER TO FIGURE 1, PAGE 4

First, your Home Pinball Game should be plugged into an electrical outlet and the cord switch turned "on". (PC Digits may not illuminate totally until reset is activated.)

Second, activate the **reset lever** by lifting to release the three game balls. This will also reset the **solid state scorer** to zero. Hold **reset lever** up momentarily to assure that all three balls have cleared the ball stop.

Third, push the **ball lift lever** to raise the first game ball into position in front of the **ball shooter**.

Fourth, pull back the **ball shooter** and release it to shoot the ball into the **playfield**. Once the ball enters the playfield, scoring will begin. The player's goal is to get as high a score as possible with three balls (balls which go into the **free ball lane** are played again for additional scoring).

Scoring occurs when the ball hits various **thumper bumpers**, **targets** or goes over the roll-over. The **flippers** are used to keep the ball in play to increase the score, and as skill and timing improve . . . so will scoring.

The player continues to shoot until all three balls (and any free balls) have been played . . . which completes the scoring for that game. Compete with other players to see who can get the highest score, or play again to improve your own scoring ability.

## HOW IT WORKS

This Section will help explain how the game actually operates so that the maintenance and service sections of this manual are more understandable.

Basically, this Home Pinball Game is a combination of **levers, switches, lights, and solenoids** that operate on low voltage (6 volts or 28 volts). The game has three main operating sections: (1) the **Score Unit Assembly**, (2) the **Playfield**, and (3) **Player Controls**. These sections are explained below and refer to **Figure 1**.

### SCORE UNIT ASSEMBLY

The Score Unit Assembly receives power from the **transformer**, which reduces the high incoming voltage from your home. The transformer is protected by **resettable circuit breakers** which help prevent transformer overload. The transformer also sends out low voltage power to the playfield that operates all the switches and solenoids (28 volts) and all lights (6 volts). The ball rolling on the playfield will close various switches that send signals to the score unit through wires. These wires are combined into what is called an **electrical harness**. The **playfield wires** and the **score unit assembly wires** are connected by an **electrical connector**. (See **Figure 1, Page 10**)

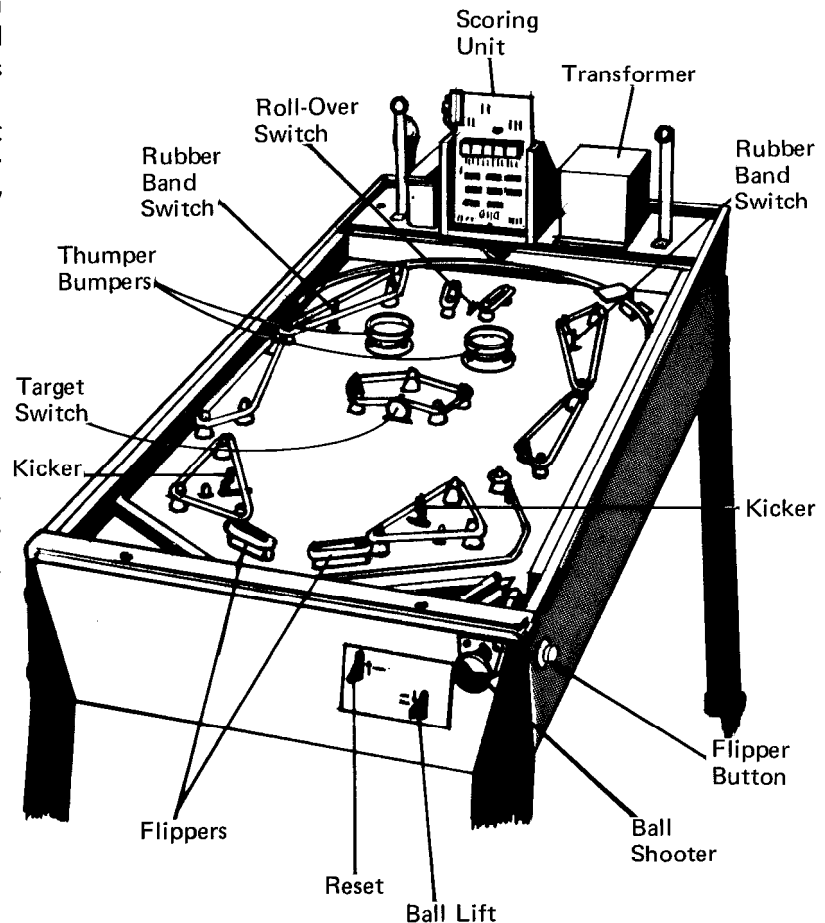


FIGURE 1

## PLAYFIELD

The **playfield** has all the parts that cause scoring and ball action. When the ball hits one of the **bumpers** or **kickers**, a **switch** is closed, sending a signal to the corresponding **solenoid**. This solenoid takes electrical energy and turns it into mechanical energy that causes ball action . . . in the case of your Home Pinball Game, the bumpers and kickers move the ball away faster than it hit. At the same time all this is going on, a signal is sent through the **wire harness** to the **score unit**, which records the points from the scoring area. In the case of the Roll-Over, Target, and Upper Rubber Band Switches, no solenoids are activated, but a signal is sent directly to the score unit to register the points.

## PLAYER CONTROLS

The **Player Controls** are located on the outside of the **lower cabinet** and are: the **score reset lever**, the **ball lift lever**, the **two flipper buttons**, and the **ball shooter**. They are mechanical inputs from the player that either move the ball or close switches. The ball lift & ball shooter apply force directly to the ball. Lifting the reset lever mechanically releases three balls and also closes a switch that signals the scorer to set all numbers to zero. Pushing in either flipper button closes a switch that causes the **flipper solenoid** to move the two flippers.

# PRECAUTIONARY STATEMENT

BEFORE DISASSEMBLING OR PERFORMING ANY MAINTENANCE OR SERVICE PROCEDURES ON YOUR HOME PINBALL GAME, ITS ELECTRICAL CORD MUST BE DISCONNECTED FROM THE HOME'S ELECTRICAL OUTLET AND REMAIN DISCONNECTED UNTIL IT HAS BEEN COMPLETELY REASSEMBLED.

## MAINTENANCE

Your **Home Pinball Game** has been designed to be relatively trouble free and easy to service. Simple adjustments and repairs can be made in the home. Under normal playing conditions, no regular lubrication or cleaning of the mechanical or electrical parts is needed. If the game has received very heavy play, has been in a dusty environment, or has been played over an extended length of time . . . the following parts may be lubricated, after the part has been wiped clean: (lubricate with a fine machine oil, 3 in one, sewing machine oil, etc.)

	Page	Figure
Ball Shooter Rod	6	2
Kicker Arm Pivots	12	7
Ball Lift Lever	6	2
Reset Lever	6	2

The playfield and upper plastic face sheets, and playfield wood surface, can be cleaned with a soft cloth and a mild, non-abrasive, detergent or glass cleaner. Cleaners using ammonia or solvents could cause damage and should not be used. Clean game balls with a soft, dry cloth after handling.

Servicing steps are detailed in the following **PROBLEM SOLVING** section, and they will help solve most of the problems that could happen.

# PROBLEM SOLVING

Most of the problems that could happen are minor in nature and are relatively easy to solve. As with any machine that delivers as much action as your **Home Pinball Game**, some adjustments over time will be required to maintain maximum performance and enjoyment.

Reading the previous sections of this manual is strongly recommended to help you understand the terms used in this section, and **BEFORE PERFORMING ANY OF THE STEPS IN THIS SECTION, MAKE SURE YOU HAVE THOROUGHLY READ THE PRECAUTIONARY STATEMENT ON PAGE 5.**

For a detailed exploded view of how each item is assembled (disassembled) refer to the **SERVICE PARTS** section of this manual. Component identification can be simplified by reviewing each assembly breakdown. For reference, **schematic wiring diagrams** are available on **pages 15 and 16.**

**BEFORE DOING ANY OF THE RECOMMENDED SOLUTIONS, READ THE FOLLOWING INFORMATION.**

## HOW TO REMOVE PLAYFIELD:

1. Remove the two screws from the end trim as shown in **Figure 1**. Set end trim and the attaching screws aside.
2. Remove the six (6) screws attaching the side trim pieces (3 screws per side trim). **NOTE:** The short screw at the foot end of unit must be re-installed in the same location when re-assembling. (See **Figure 1**). Set the two side trim strips aside.

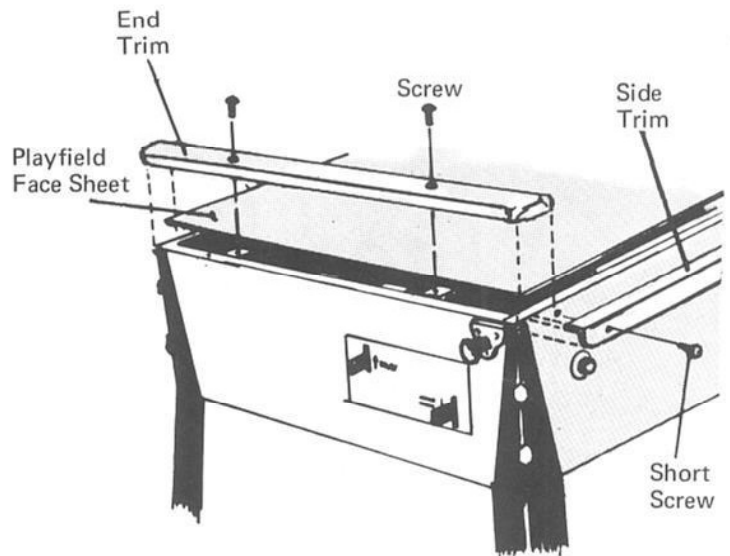


FIGURE 1

3. Carefully lift the end of the playfield face sheet, pull slightly toward you and put it in a safe place to prevent scratching.
4. Lift the reset lever to prevent damage to the reset switch (**Figure 2**).
5. While holding the reset lever up, push the playfield forward (toward rear of cabinet) approximately 1/2" inch to clear the playfield of the retaining cleat. (**Figure 2**)
6. Lift the playfield up as shown in **Figure 2** until it clears the reset lever, then release the reset lever.

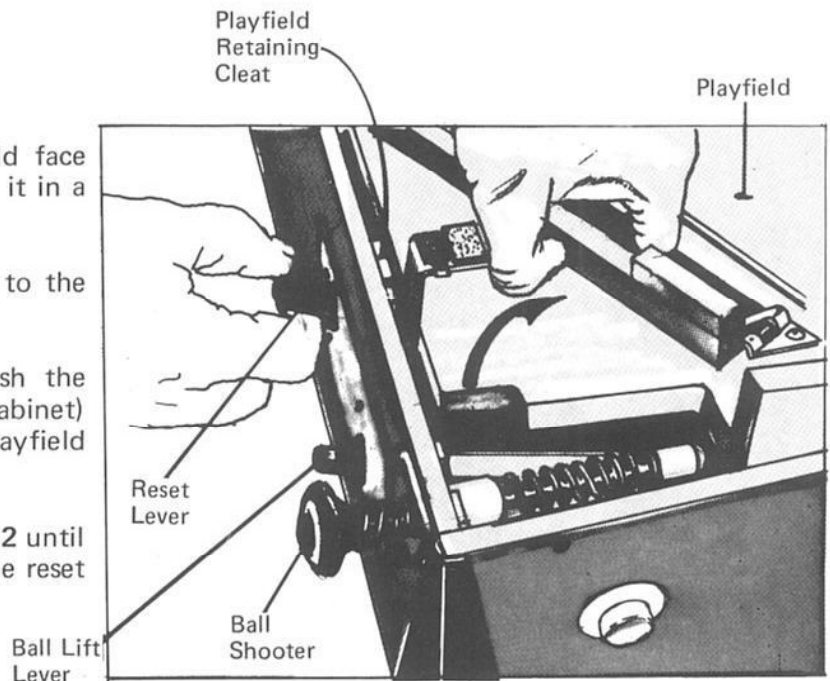


FIGURE 2

# PROBLEM SOLVING

7. Tilt the playfield up to near vertical position as shown in **Figure 3**, lower to bottom of cabinet, hook forward edge of playfield behind the lower blocks. This position will support the playfield for servicing.

## HOW TO REPLACE PLAYFIELD INTO PLAYING POSITION

1. Lower the playfield back into position.
2. Lift the reset lever, then slide playfield toward front of lower cabinet until end of playfield is underneath the retaining cleat. (Refer to Page 6, Figure 2)
3. Release the reset lever.
4. Position the playfield face sheet on top of lower cabinet. With a kitchen knife or other suitable object, lift the black wooden trim strip up at bottom of upper cabinet sufficient to slide the edge of playfield face sheet underneath. With playfield correctly re-positioned, proceed to install the two side trim strips, then the end trim. Replace short screw as shown in **Figure 1**, Page 6.

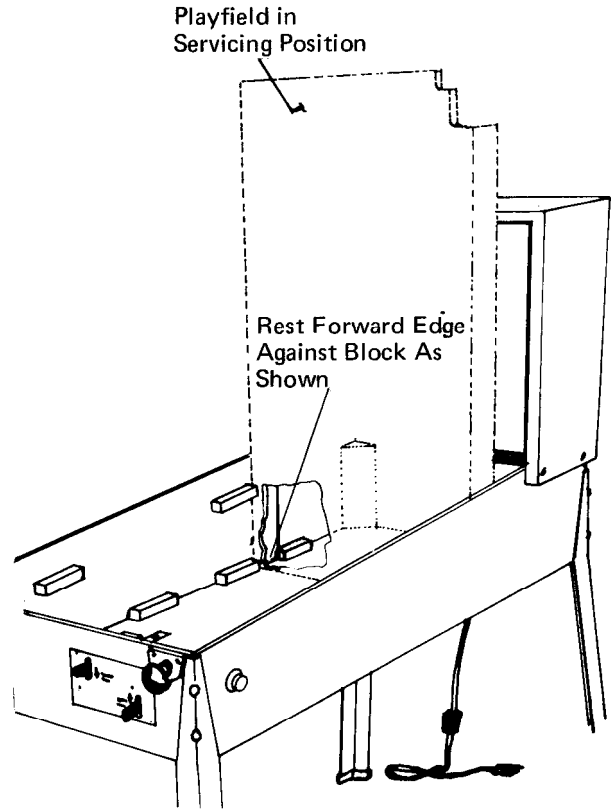


FIGURE 3

## HOW TO REMOVE UPPER CABINET

1. Remove the two screws on each side of the upper cabinet hood as shown in **Figure 4**.
2. Lift the upper cabinet slightly.
3. Place one hand underneath the wooden edge molding at front of upper cabinet and the other hand underneath the back panel of upper cabinet.
4. Carefully lift the upper cabinet straight up until it completely clears the scoring unit, then set aside.
5. There is no need to remove the scoring unit assembly from the lower cabinet. Any servicing required should be done with the base of the scoring unit firmly attached to lower cabinet.

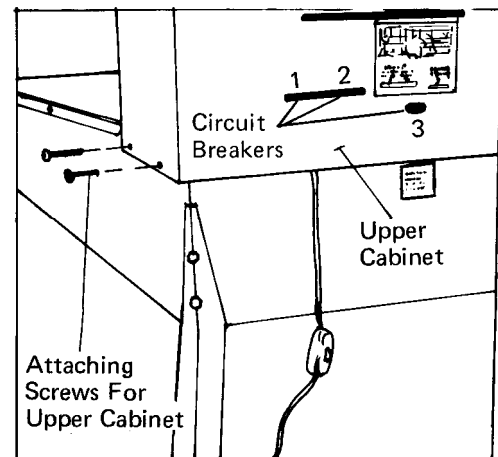


FIGURE 4

## HOW TO USE THE "CAUSE OF PROBLEM/PROBLEM SOLUTION CHART":

Read the **problem descriptions** and select the description that most closely fits your problem. To the right of the description are "**Cause of Problem/Problem Solutions**". You will notice that one or more numbers (Cause of Problem) are indicated. These numbers represent the **problem solution paragraph** on **pages 10 through 14**. At top of page, directly above each number is an explanation of the problem. Try each of the solutions until the particular problem is corrected. If, after trying all of the solutions and the problem still exists, you may call the toll free number (1-800-336-8771 or 8772) for **technical assistance** as directed on **Page No. 2** of this Manual.



# PROBLEM SOLUTION CHART

CAUSE OF THE PROBLEM

PROBLEM DESCRIPTION	CAUSE OF THE PROBLEM						
	No Power From AC Wall Outlet	Circuit Breaker "Tripped"	Faulty Electrical Connection	Switch Requires Adjustment	Failed Electrical Part	Failed Mechanical Part	P.C. Board Failure
	PROBLEM SOLUTION PARAGRAPH NUMBERS						
1. All lights "off", nothing works on playfield.	1 2	3	4		24		
2. All playfield lights "off", lights "on" in upper cabinet.			5 6				
3. No action on playfield, no scoring all lights "on".		7	5 6		24		
4. Circuit Breaker No. 1 "trips" repeatedly. (Fig. 4, Page 7)		27			24 28 29		
5. Circuit Breaker No. 2 "trips" repeatedly. (Fig. 4, Page 7)		7		25	24 32		
6. Circuit Breaker No. 3 "trips" repeatedly. (Fig. 4, Page 7)		8		23	21 24		
7. One push button fails to operate flippers.				12 13	9		
8. Neither push button makes flippers move.				12 13 14	9 31	33	
9. Flippers "chatter" when operated.				12 13	9 31		
10. One flipper does not move.						22	
11. Kickers work; not scoring every time hit.				12 17	9		
12. Kicker ball-action slow, or inconsistent.				12 15		22	
13. Kickers do not work.					9 31	22	

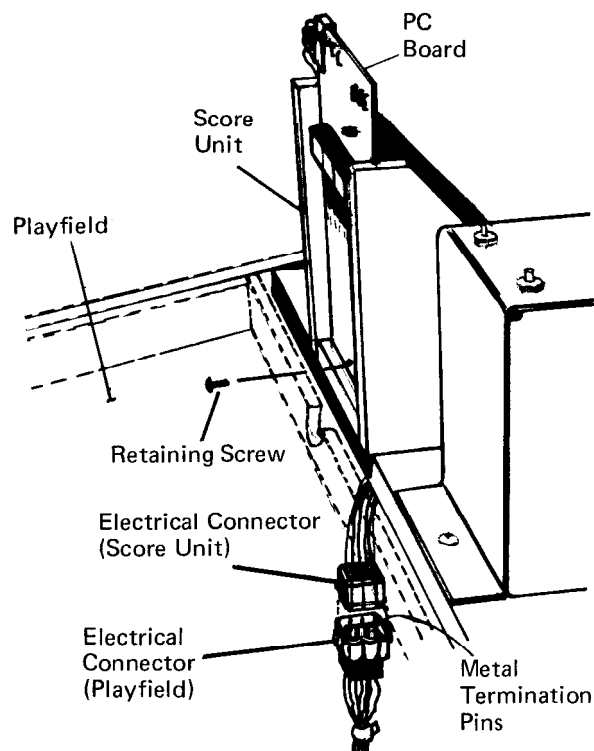
# PROBLEM SOLUTION CHART

CAUSE OF THE PROBLEM

PROBLEM DESCRIPTION	CAUSE OF THE PROBLEM						
	No Power From AC Wall Outlet	Circuit Breaker "Tripped"	Faulty Electrical Connection	Switch Requires Adjustment	Failed Electrical Part	Failed Mechanical Part	P. C. Board Failure
14. Bumpers work; not scoring every time hit.				12 17	9		
15. Bumper ball-action slow, or inconsistent.				12 16		22	
16. Bumpers do not work.					9 31	22	
17. Roll-over fails to score every time.				12 18			
18. Roll-over stops ball or "trips" circuit breaker.				12 18			
19. Target fails to score every time hit.				12 19	9		
20. Reset lever does not "zero" score.			5 6 10	12 20			26
21. All lights "off", score lights "off", playfield items work.		27			24 28 29	30	
22. Scoring lights "off", all other lights "on", playfield items work.			5 6 10		11		26
23. No 100 point score or no 1000 point score recorded.			5 6 10				26
24. Game scoring does not "carry" (add) to next digit.							26
25. Score numbers change (plus or minus) in a random pattern (float).			5 6 10		11	30	26
26. Will not record any score, all "zeroes" on score board.			5 6 10	12 20	11		26

# PROBLEM/SOLUTION PROCEDURES

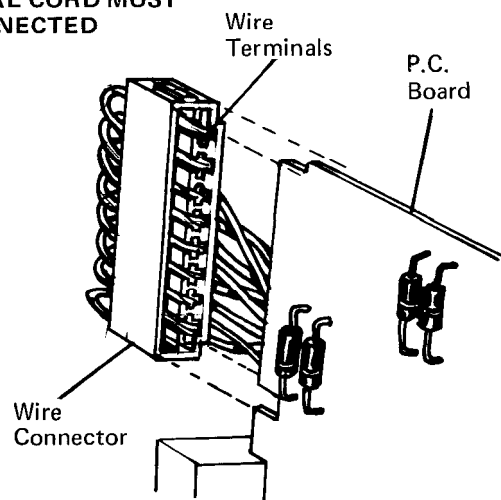
**ELECTRICAL CORD MUST BE DISCONNECTED**



**FIGURE 1**

1. Firmly insert wall cord into electrical outlet.
2. Determine that outlet is "live" by connecting an appliance that you know works.
3. Reset circuit breakers No. 1 and No. 2 by pressing the appropriate red stems (inside the back panel at rear of upper cabinet) with a pencil eraser until a "click" is heard (ref. Fig. 4, pg. 7).
4. Turn wall cord switch "on".
5. Press the two mating electrical connectors firmly together, making sure that no wires or metal terminations are loose or protruding (Figure 1).
6. If a wire termination pin is out of or loose in the electrical connector, push pin back into connector so that pin contacts the same wire color in score unit connector.
7. Reset circuit breaker No. 2 as indicated in Solution No. 3.
8. Reset circuit breaker No. 3 as indicated in Solution No. 3.
9. Locate the area of the problem underneath the playfield. (See service parts illustration of the playfield components, Page 18). Inspect all wiring and wire terminals for loose or broken connections. Repair as required.
10. Remove wiring connector (see Figure 2) from the P.C. Board using firm pulling motion. Carefully check all contacts (wire terminals) in the connector to insure that they are firmly in place. If a contact is loose, press the contact firmly into position. Remove any foreign material that may be lodged in connector.
11. Carefully inspect all wiring and wire terminals on score unit assembly for possible "loose or broken" connections. Repair if required.
12. Prior to making a switch adjustment, inspect the switch contacts for dirt or corrosion. Gently clean contacts with fine sandpaper or emory board, as required. Use a feeler gauge to adjust the proper gap between switch contacts as specified on pages 11 thru 13.

**ELECTRICAL CORD MUST BE DISCONNECTED**



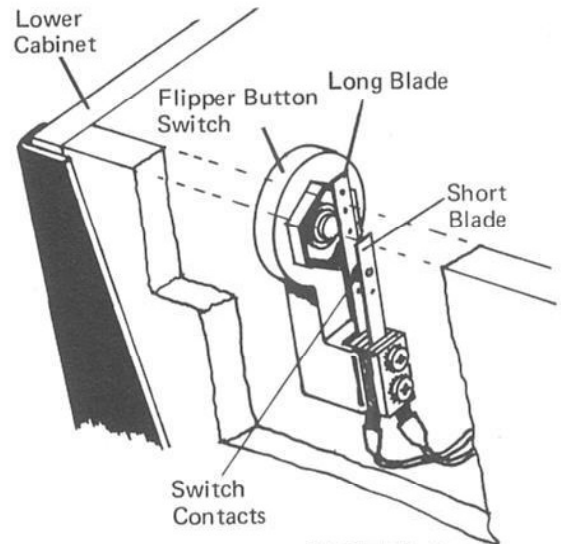
**FIGURE 2**

**WARNING:**  
Prior to REMOVING OR INSTALLING the PRINTED CIRCUIT BOARD, UNPLUG the POWER CORD from the wall socket. This will prevent any possibility of shorting out the printed circuit board.

# PROBLEM/SOLUTION PROCEDURES

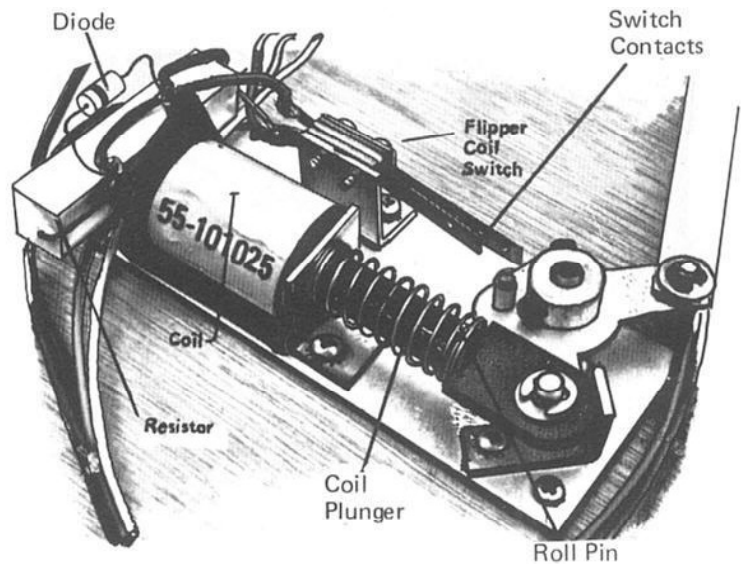
**ELECTRICAL CORD MUST  
BE DISCONNECTED**

13. Adjust the flipper button switch: (See Figure 3.) Gently bend long blade of switch until it is straight. Gently bend short blade so that the contacts are approximately .060 inch apart. Depress the flipper button to make sure that the flipper button moves the long blade sufficient to contact the short blade.



**FIGURE 3**

14. Adjust the flipper coil switch: (Figure 4). Note that the switch contacts are closed. (Touching) (Figure 4) To adjust these contacts properly, push the coil plunger all the way into the coil with your finger. While holding the coil plunger in as far as it will go, gently bend the short switch contact blade so that the contacts are approximately .030 inch apart.

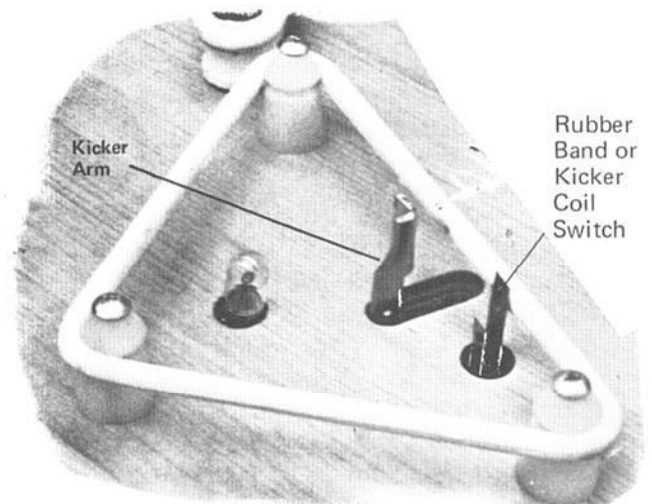


**FIGURE 4**

15. Adjust the rubber band switches. (Kicker Coil Switches) (Figure 5).

Gently bend the long switch contact blade until it just touches the rubber band.

Gently bend the short switch contact blade so that the switch contacts are approximately .030 inch apart.



**FIGURE 5**

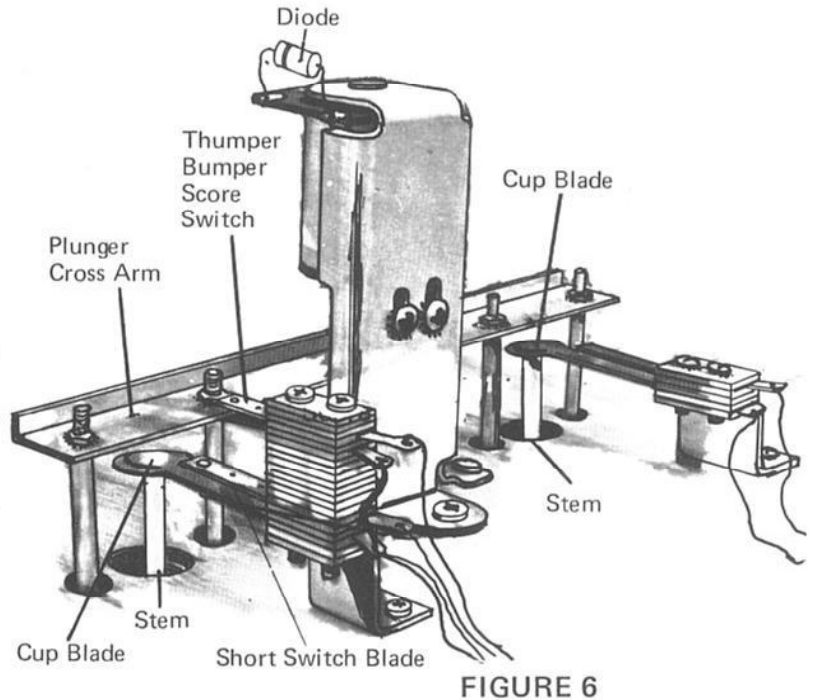
# PROBLEM/SOLUTION PROCEDURES

**ELECTRICAL CORD MUST  
BE DISCONNECTED**

## 16. Adjust thumper bumper cup switches:

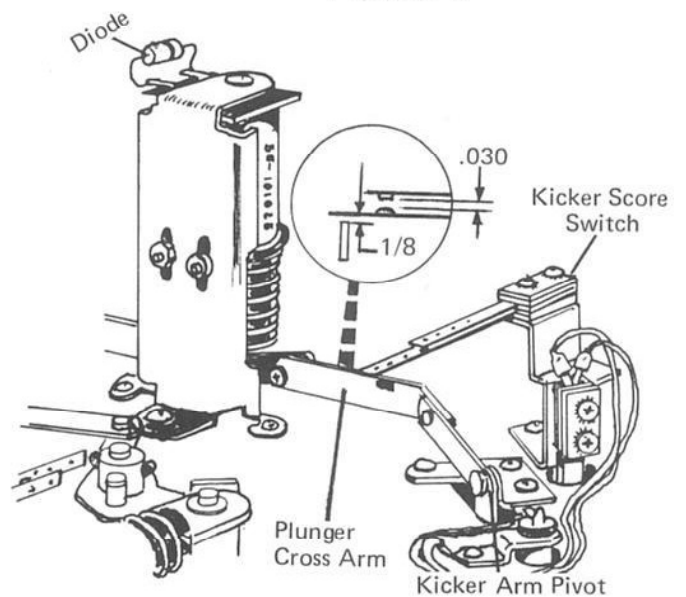
Adjust the cup blade so that the stem touches the center of the cup as shown in **Figure 6**. This insures a uniform action of the thumper bumper.

Gently bend the short switch blade so that the contacts are approximately .020 inch apart.



**FIGURE 6**

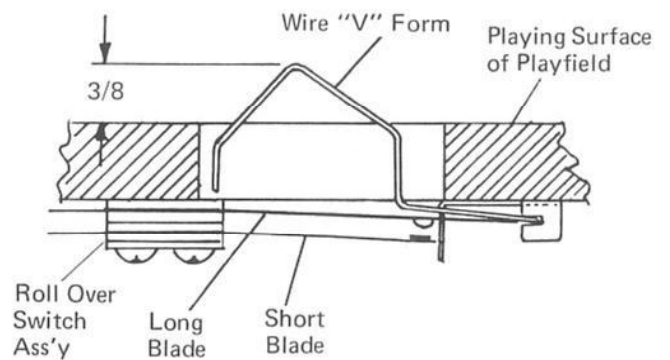
## 17. Adjust the thumper bumper score switch or the kicker score switch as follows: Gently bend the long blade of switch until it is 1/8 inch from the plunger crossarm. See (Figure 6 or 7). Gently bend the short switch blade so that the contacts are approximately .030 inch apart for the kicker score switch, (See Figure 7), and .040 inch apart for the thumper bumper score switch. (See Figure 6).



**FIGURE 7**

## 18. Adjust the rollover switch as follows: Gently bend the long blade of switch until the wire "V FORM" is supported approximately 3/8 inch above the playing surface (Figure 8).

Gently bend the short switch blade until the contacts are approximately .030 inch apart.



**FIGURE 8**

# PROBLEM/SOLUTION PROCEDURES

**ELECTRICAL CORD MUST  
BE DISCONNECTED**

19. Adjust the target switch as follows:

Gently bend the long blade of target switch until straight. (Figure 9). Gently bend the short switch blade so that the contacts are approximately .030 inch apart.

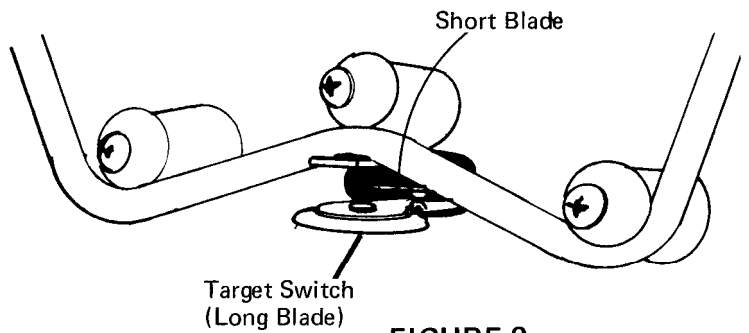


FIGURE 9

20. Adjust the reset switch as follows:  
See Figure 10.

Note that the switch contacts should be closed (touching) as shown in Figure 10, while the playfield is raised out of cabinet. With your finger, gently bend the short switch blade so that it is parallel with surface of playfield. Gently bend the long switch blade up against the short switch blade sufficient to assure the contacts are touching. Replace playfield into playing position, activate the reset lever. If the three game balls are released prior to the sound of the chime, (score returning to 00000) readjust the reset switch by bending both blades slightly toward the surface of playfield maintaining a firm contact of the switchblades.

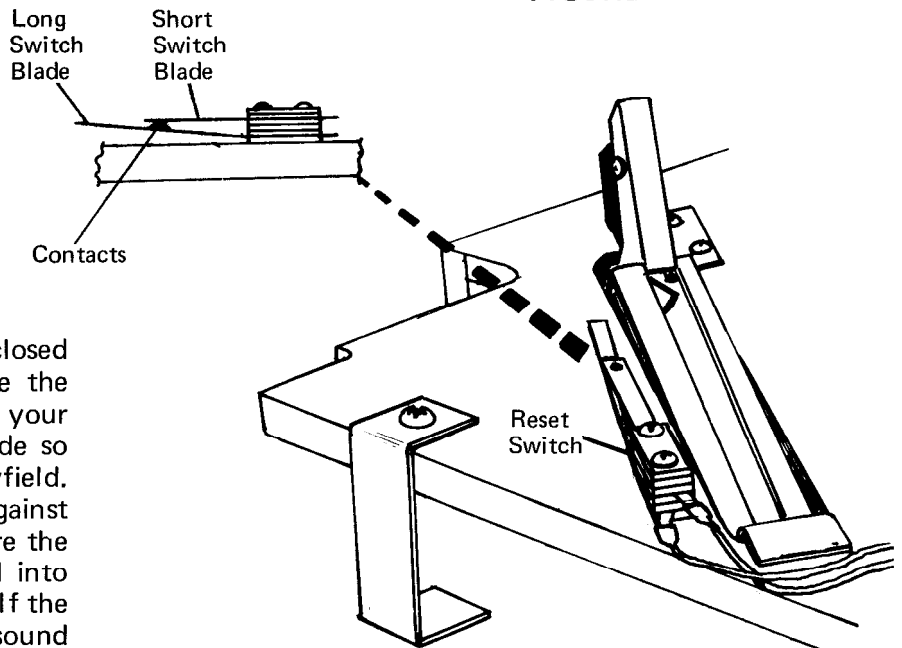


FIGURE 10

21. If circuit breaker No. 3 "trips" only when 100 points are scored, replace the diode across terminals of chime solenoid. (See Figure 11). If circuit breaker "trips" only when 1000 points are scored, replace the diode across the bell solenoid. (Figure 11)

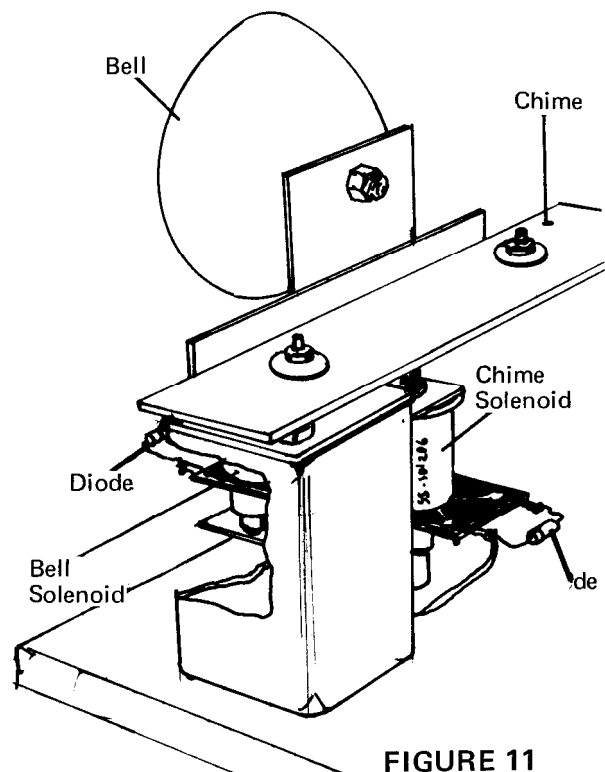


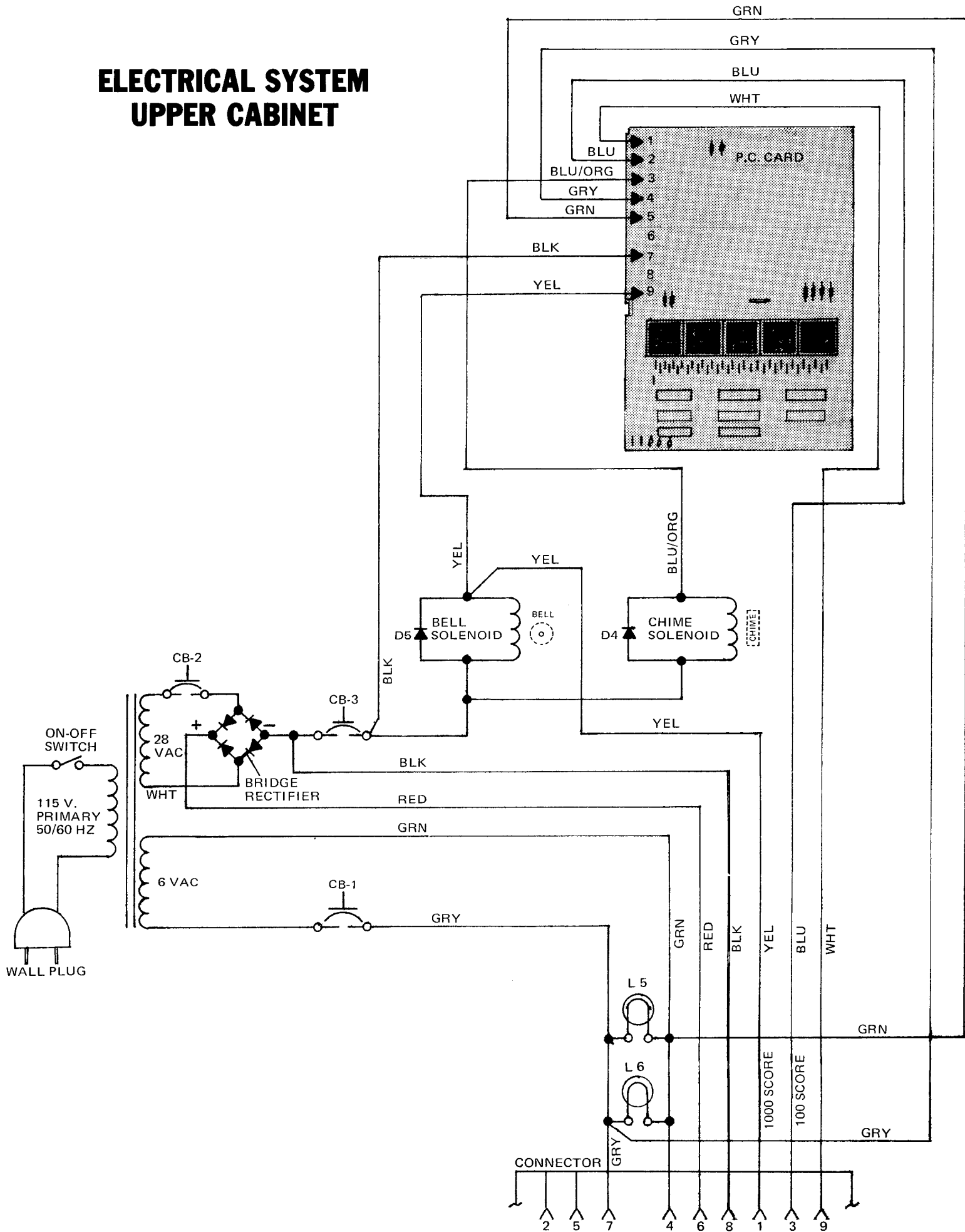
FIGURE 11

# PROBLEM/SOLUTION PROCEDURES

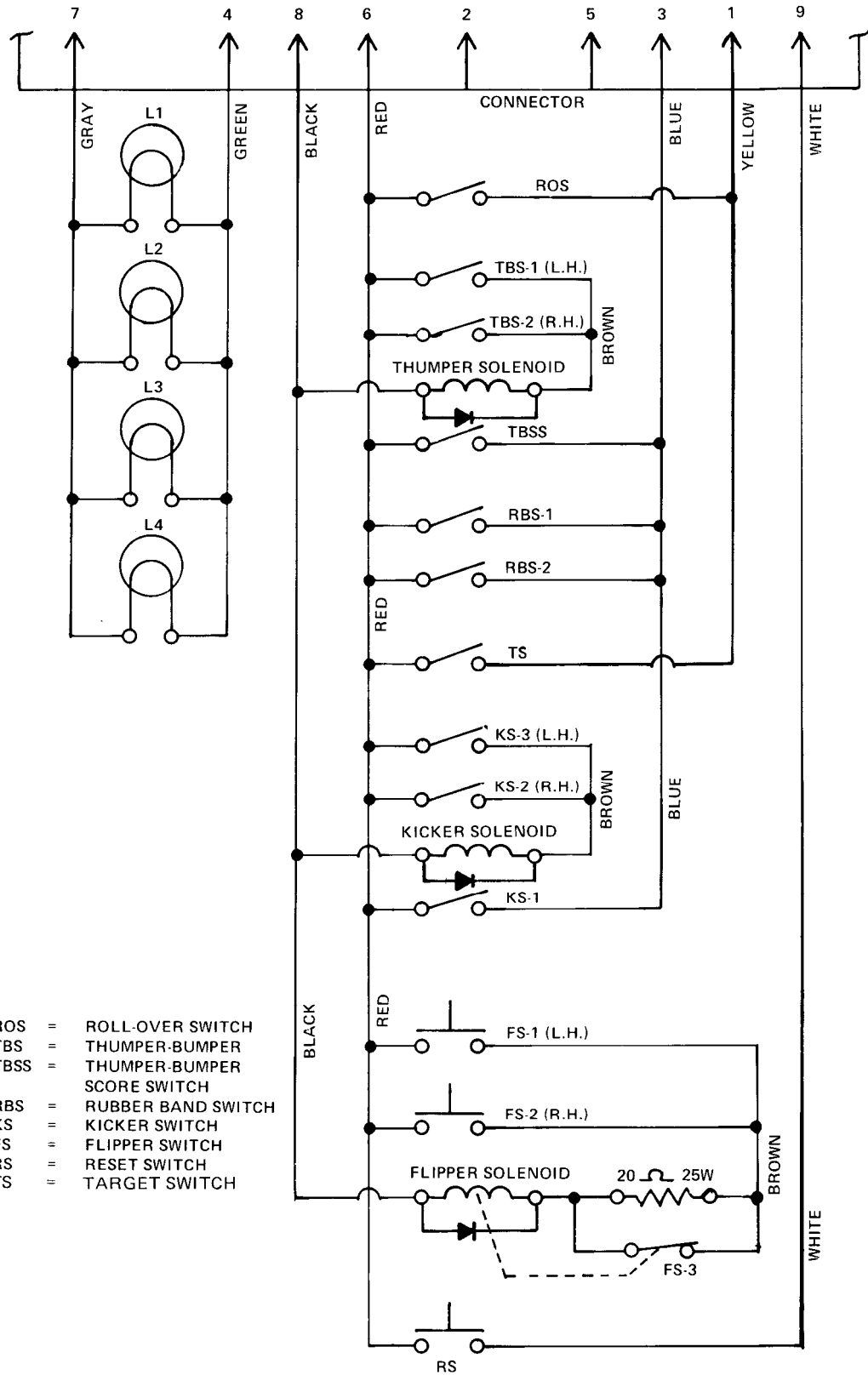
ELECTRICAL CORD MUST  
BE DISCONNECTED

22. Locate the area of the problem underneath the playfield. (See **Service Parts Assembly Drawing, Page 18**). Carefully inspect for broken, missing, loose, or excessively worn parts. Replace as required.
23. Circuit Breaker No. 3 will "trip" when a score switch remains closed. Inspect all score switches. Clean and adjust switches, as required. For detailed adjustment procedures, refer to **Problem Solution Procedures No. 12, 15, and 17 thru 20**.
24. If circuit breaker will not click to reset, replace with new breaker. (See **Service Parts Assembly Drawing, Page 19**). (Score unit, lamp and transformer assembly.)
25. Circuit Breaker No. 2 will "trip" repeatedly when the bumper, kicker, or flipper switches remain closed. Inspect and adjust switches, as required. For detailed adjustment procedures refer to **Problem Solution Procedures No. 12, 14, 15, and 16**.
26. Suspect Failure in P.C. Board (see **Figure 2, Page 10**). Attempt all other possible solutions before replacing the P.C. Board. To obtain a replacement P.C. Board, refer to the Ordering Instructions on Page 2 of this manual. P.C. Board removal is very simple to perform. First, remove wiring connector from P.C. Board using a firm pulling motion. Second, remove the retaining screw (see **Figure 1, Page 10**) in the base of the board. Lastly, lift board from unit.
27. Reset Circuit Breaker No. 1 by pressing as indicated in **Solution 3**.
28. Inspect all wiring and wire terminals to lights for possible bare wires touching. Wrap wire with electrical tape, as required.
29. Check the inside of each lamp socket. The center post in the socket must not touch side of socket. Bend post as required. Remove any foreign material found in socket.
30. Carefully inspect underneath playfield and on score unit assembly for: (A) broken, missing, loose, or excessively worn parts; (B) loose or broken wire terminals.
31. Replace coil and bobbin assembly. (See **Playfield Assembly Service Parts Drawing, Page 18**).
32. If Circuit Breaker No. 2 "trips" only when thumpers are activated, replace diode across terminals of thumper solenoid (see **Figure 6, Page 12**).  
  
If Circuit Breaker No. 2 "trips" only when kickers are activated, replace diode across terminals of kicker solenoid (see **Figure 7, Page 12**).  
  
If Circuit Breaker No. 2 "trips" only when flippers are activated, replace diode across terminals of flipper solenoid (see **Figure 4, Page 11**).
33. Check roll pin and determine if it is broken or out of position (See **figure 4, Page 11**). Replace as required.

# ELECTRICAL SYSTEM UPPER CABINET



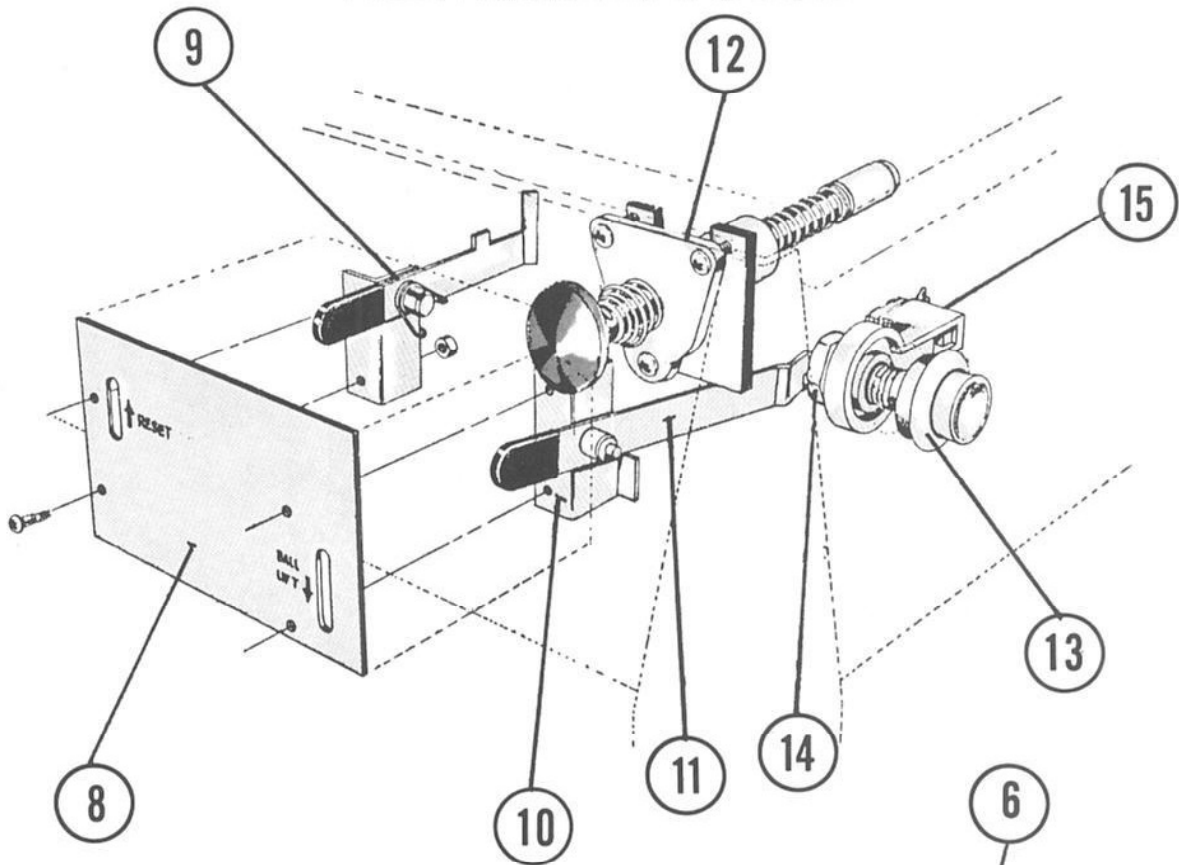




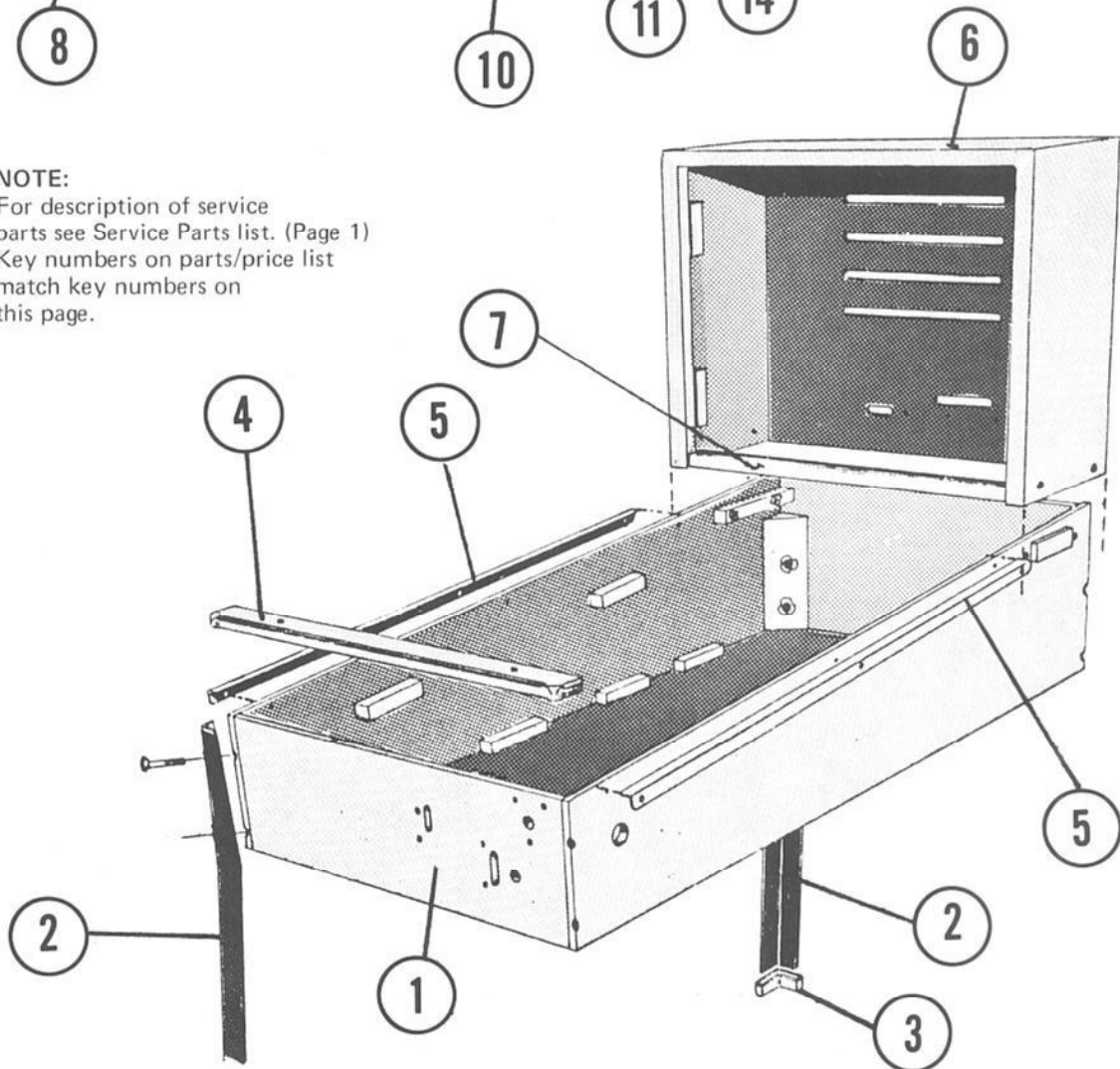
- ROS = ROLL-OVER SWITCH
- TBS = THUMPER-BUMPER
- TBSS = THUMPER-BUMPER SCORE SWITCH
- RBS = RUBBER BAND SWITCH
- KS = KICKER SWITCH
- FS = FLIPPER SWITCH
- RS = RESET SWITCH
- TS = TARGET SWITCH

## WIRING DIAGRAM PLAYFIELD ONLY

# SERVICE PARTS PINBALL HOME FLIPPER GAME

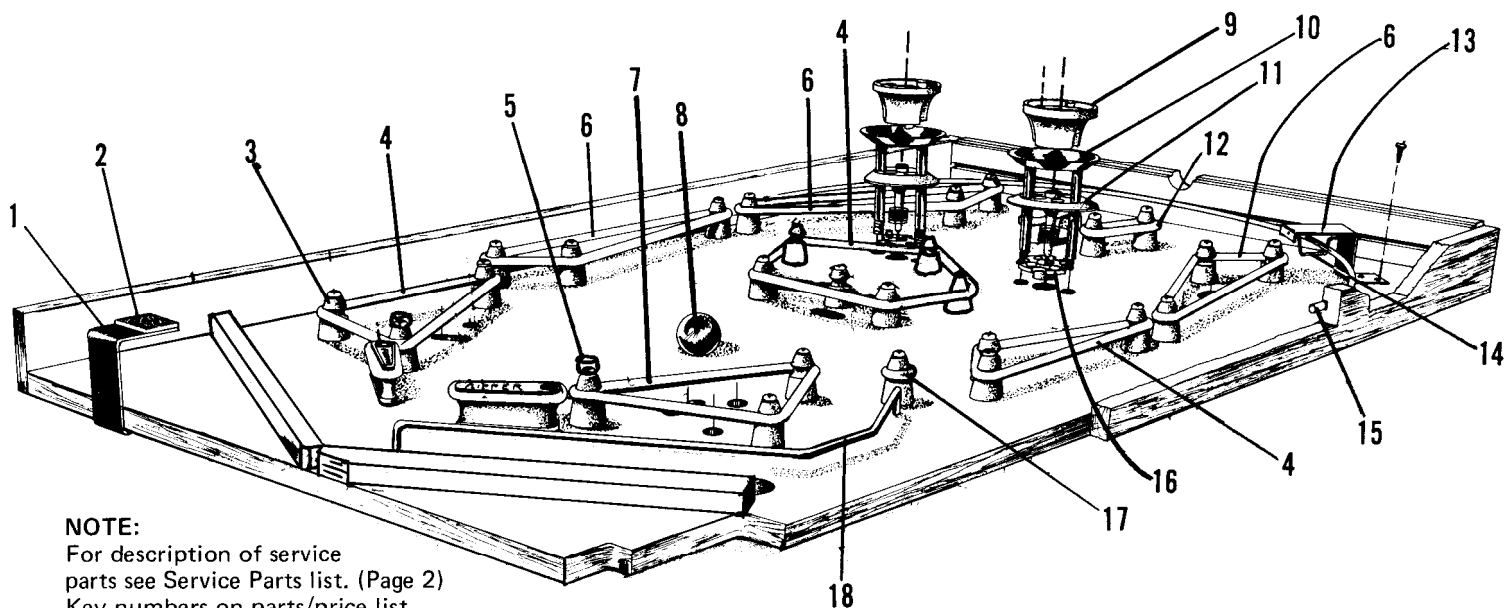


**NOTE:**  
For description of service parts see Service Parts list. (Page 1)  
Key numbers on parts/price list match key numbers on this page.



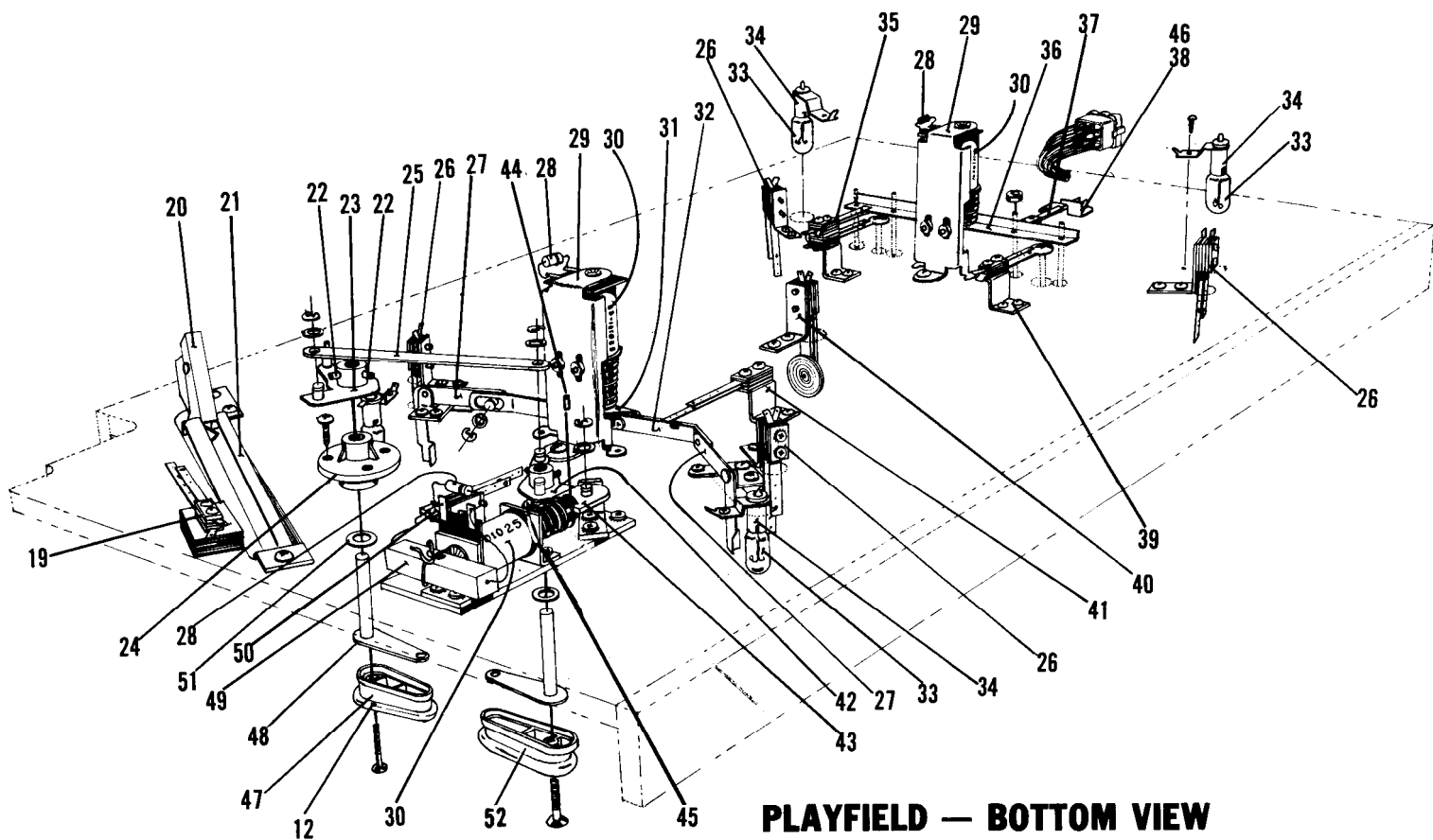
# SERVICE PARTS

## PINBALL HOME FLIPPER GAME PLAYFIELD



**NOTE:**  
For description of service parts see Service Parts list. (Page 2)  
Key numbers on parts/price list match key numbers on this page.

**PLAYFIELD — TOP VIEW**



**PLAYFIELD — BOTTOM VIEW**

# SERVICE PARTS PINBALL HOME FLIPPER GAME

## SCORE UNIT, LAMP & TRANSFORMER ASSEMBLY

**NOTE:**

For description of service parts, see Service Parts list. (Page 3) Key numbers on parts/price list match key numbers on this page.

