

SERVICE BULLETIN BOOK

1993

WMS GAMES

PARTS AND SERVICE INC.

WILLIAMS ELECTRONIC GAMES, INC.

MIDWAY MANUFACTURING COMPANY

MAKERS OF WILLIAMS AND BALLY AMUSEMENT GAMES

3401 N. CALIFORNIA AVE.

CHICAGO, ILLINOIS 60618

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TABLE OF CONTENTS

BULLETINS

GAMES BY SYSTEM	1
FISHING REEL BUTTON ON "FISH TALES"	3
FLIPPER BUTTON OPTO BOARDS	4
SPRING STEEL FLAP ON "DR. WHO"	5
DOLLAR BILL VALIDATOR KIT FOR "NBA JAM"	6
MINI PLAYFIELD KIT FOR "DR. WHO"	7
WIRING CORRECTIONS ON "CREATURE FROM THE BLACK LAGOON"	8
INTERMITENT ACTION FROM BALL POPPER ON "WHITE WATER"	9
COIL BRACKET ON "CREATURE FROM THE BLACK LAGOON" AND "WHITE WATER"	10
COIN DOOR WIRE HARNESS	11
BALL REPLACEMENT KIT FOR "HOT SHOT"	12
LONG RANGE OPTO ON "DRACULA"	15

AMENDMENTS

"BLACK ROSE"	17
"DOCTOR WHO"	19
"DRACULA"	21
"FISH TALES"	22
"NBA JAM"	24

WILLIAMS AND BALLY GAMES BY SYSTEM

THIS IS A LISTING OF GAMES BY THE CPU SYSTEM IT USED. 11A BOARDS CAN BE USED FOR 11 AND 11A GAMES. 11B BOARDS CAN BE USED FOR SYSTEMS 11A, 11B AND 11C. SYSTEMS 9, 11, 11C AND WPC CAN ONLY BE USED FOR THEIR OWN SYSTEMS RESPECTIVELY.

GAME	SYSTEM
SPACE SHUTTLE	9
SORCERER	9
COMET	9
STRIKE ZONE	9
HIGH SPEED	11
GRAND LIZARD	11
ROAD KINGS	11
ALLEY CATS	11
PINBOT	11A
MILLIONAIRE	11A
F-14 TOMCAT	11A
FIRE!	11A
TIC TAC STRIKE	11A
BIG GUNS	11A/11B
SPACE STATION	11B
CYCLONE	11B
BANZAI RUN	11B
SWORDS OF FURY	11B
TAXI	11B
JOKERZ	11B
GOLD MINE	11B
TOP DAWG	11B
EARTHSHAKER	11B
BLACK KNIGHT 2000	11B
POLICE FORCE	11B
ELVIRA	11B
TRANSPORTER	11B
BAD CATS	11B
SHUFFLE INN	11B
MOUSIN' AROUND	11B
WHIRLWIND	11B
SHUFFLE INN DELUXE	11B
GAME SHOW	11C
POOL SHARKS	11C
ROLLER GAMES	11C
RADICAL	11C
DINER	11C

WILLIAMS AND BALLY GAMES BY SYSTEM (CONTINUED)

GAME	SYSTEM
RIVERBOAT	11C
BUGS BUNNY	11C
DR. DUDE	11C/WPC
FUNHOUSE	WPC
HARLEY DAVIDSON	WPC
THE MACHINE	WPC
SLUGFEST	WPC
GILLIGAN'S ISLAND	WPC
TERMINATOR 2	WPC
PARTY ZONE	WPC
ADDAMS FAMILY	WPC
STRIKE MASTER	WPC
STRIKE MASTER JR.	WPC
HURRICANE	WPC
THE GETAWAY	WPC
BLACK ROSE	WPC
FISHTALES	WPC
DOCTOR WHO	WPC
CREATURE	WPC
WHITE WATER	WPC
HOTSHOT	WPC
DRACULA	WPC
TWILIGHT ZONE	WPC

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SERVICE BULLETIN

DATE: NOVEMBER 2, 1992

SB44A

GAME: "FISH TALES"

SUBJECT: BUTTON BREAKING ON FISHING REEL

IMPORTANT: PLEASE DISCARD SERVICE BULLETIN # SB44, AND REPLACE IT IN YOUR FILES WITH THIS BULLETIN # SB44A. AN ERROR WAS MADE IN REGARDS TO THE SERIAL NUMBER FOR DOMESTIC GAMES.

THERE HAS BEEN A CHANGE TO THE FISHING REEL BUTTON'S ON THE PINBALL MACHINE "FISH TALES".

ALL GAMES WITH A SERIAL NUMBER PRIOR TO Q2O657 (PRODUCTION DATE 9/22/92) DOMESTIC AND 027206 INTERNATIONAL WILL REQUIRE THE FOLLOWING CHANGES. (PLEASE REFER TO PAGE 2-34 IN YOUR "FISH TALES" MANUAL.)

1. ITEM # 5 HAS BEEN CHANGED TO PART # 01-11126
2. ITEM # 6 HAS BEEN CHANGED TO PART # 20-9804
3. ITEM # 11 HAS BEEN CHANGED TO PART # 03-8829
4. PART # A-16234 IS AN ASSEMBLY WHICH INCLUDES THE 3 ITEMS LISTED ABOVE.

PLEASE NOTE: THE NEW SWITCH WILL NOT BE AN ILLUMINATED SWITCH.

THANK YOU,

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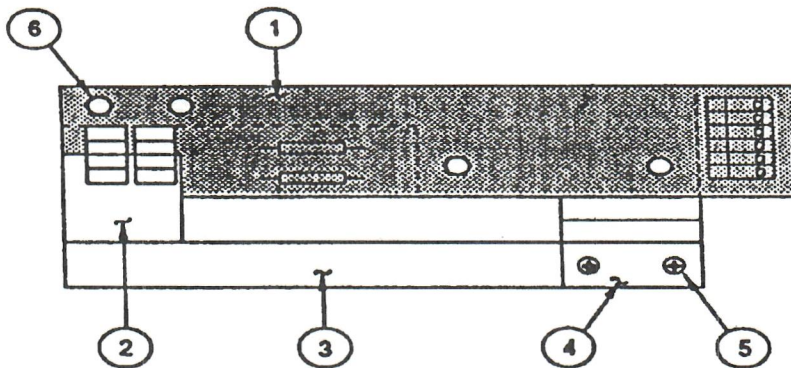
SERVICE BULLETIN

DATE: JANUARY 4, 1992

SB45

SUBJECT: FLIPPER BUTTON OPTO BOARDS

STARTING WITH THE PINBALL MACHINE "FISH TALES", ALL WILLIAMS AND BALLY PINBALL MACHINES WILL BE USING OPTO BOARDS INSTEAD OF SWITCHES FOR THE FLIPPER CABINET BUTTONS. BELOW IS THE PARTS LAYOUT OF THE FLIPPER OPTO ASSEMBLY. THIS COMPLETE BREAKDOWN IS NOT IN THE "FISH TALES" OR THE "DR. WHO" MANUAL.



<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1.	A-15894 5010-08930-00 5490-12451-00 5791-12273-07	PC Board Assembly Resistor 470Ω, 1/2w, 5% Opto Inter Lg. 10ma. Connector, 7-pin Header
2.	01-10939	Interrupter Opto
3.	06-86	Back Up Blade (2)
4.	A-15893	Opto Board Mtg. Bracket
5.	4006-01003-04	MS 6-32 x 1/4 P-PH (2)
6.	4406-01119-00	Nut #6 ESN (2)

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SERVICE BULLETIN

DATE: FEBRUARY 15, 1993

SB46a

GAME: "DR. WHO"

SUBJECT: BLUE SPRING STEEL FLAP BUCKLING ON MINI PLAYFIELD.

IF YOU HAVE A "DR.WHO" MINI PLAYFIELD IN WHICH THE BLUE SPRING STEEL FLAP IS NOT ADHERING TO THE WOOD, PLEASE FOLLOW THESE STEPS:

- 1) ORDER A NEW SPRING STEEL FLAP (PART # 01-10650).
- 2) ADHERE SPRING STEEL FLAP TO MINI PLAYFIELD USING SUPER GLUE. PUT GLUE ON BOTH THE MINI PLAYFIELD AND THE SPRING STEEL FLAP.
- 3) LET GLUE DRY THOROUGHLY, THEN TIGHTEN POSTS, MAKING SURE THAT YOU DO NOT OVER TIGHTEN THE POSTS AND PUT UNDUE STRESS ON THE FLAP.

THANK YOU,

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SERVICE BULLETIN

DATE: FEBRUARY 12, 1993

SB47

GAME: "NBA JAM"

SUBJECT: DOLLAR BILL VALIDATOR KIT.

AVAILABLE THROUGH THE *WMS GAMES* PARTS DEPARTMENT IS A DOLLAR BILL VALIDATOR KIT FOR THE "NBA JAM" VIDEO GAME. THE PART NUMBER FOR THE KIT IS 63232 AND IS DESIGNED TO BE USED WITH A "MARS" BILL ACCEPTOR, WHICH IS ALSO AVAILABLE THROUGH THE *WMS GAMES* PARTS DEPARTMENT UNDER PART NUMBER 09-43000)

INCLUDED WITH THE KIT IS:

- 1) CHUTE BRACKET
- 2) MARS CHUTE
- 3) INSTALLATION SHEET
- 4) AC CABLE
- 5) BILL VALIDATOR CABLE

THANK YOU,

***WMS GAMES* PARTS AND SERVICE INC.**

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SERVICE BULLETIN

DATE: FEBRUARY 12, 1993

SB48

GAME: "DR. WHO"

SUBJECT: MINI PLAYFIELD KIT

IF YOU ARE EXPERIENCING BINDING ON THE MINI PLAYFIELD ON "DR. WHO", AVAILABLE THROUGH THE *WMS GAMES* PARTS DEPARTMENT IS A MINI PLAYFIELD ROLLER KIT. THE PART NUMBER IS 23306.

INCLUDED WITH THE KIT IS:

- 1) 4 ROLLERS
- 2 INSTALLATION INSTRUCTIONS

THANK YOU,

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SERVICE BULLETIN

DATE: MARCH 2, 1993

SB49

GAME: "CREATURE FROM THE BLACK LAGOON"

SUBJECT: SAMPLE GAME MISWIRING ON SOLENOID 23 (UP RAMP COIL) AND
MANUAL WIRING CORRECTIONS.

THE WIRING FOR THE UP RAMP COIL (SOLENOID 23) MAY HAVE BEEN
MISWIRED ON SAMPLE GAMES. THE TIEBACK DIODE (D12) SHOULD BE
CONNECTED TO J126 PIN 10.

DUE TO THE FACT THAT SOME SAMPLE GAMES WERE MISWIRED, THE
OPERATIONS MANUAL ALSO HAS SOME ERRORS IN IT. PLEASE CORRECT
YOUR MANUAL AS FOLLOWS:

1.) THE SOLENOID TABLE ON PAGE 3-5 AND INSIDE THE FRONT COVER, AT
THE BOTTOM OF THE PAGE (**J126-12, VIOLET-GREEN, TIEBACK DIODE)
SHOULD READ J126-10.

2.) PAGE 3-23, THE POWER DRIVER BOARD CONNECTOR:

J126- 7 (SHOULD READ) BLUE- VIOLET, SOL 23 TO PLAYFIELD COIL.

J126-10 (SHOULD READ) VIOLET- GREEN, SOL 23 TO TIEBACK DIODE.

J126-12 (SHOULD READ) NOT USED.

3.) PAGE 3-8, SOLENOID WIRING, CHANGE J126-12 TO J126-10.

THANK YOU,

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SERVICE BULLETIN

DATE: MARCH 2, 1993

SB50

GAME: "WHITE WATER"

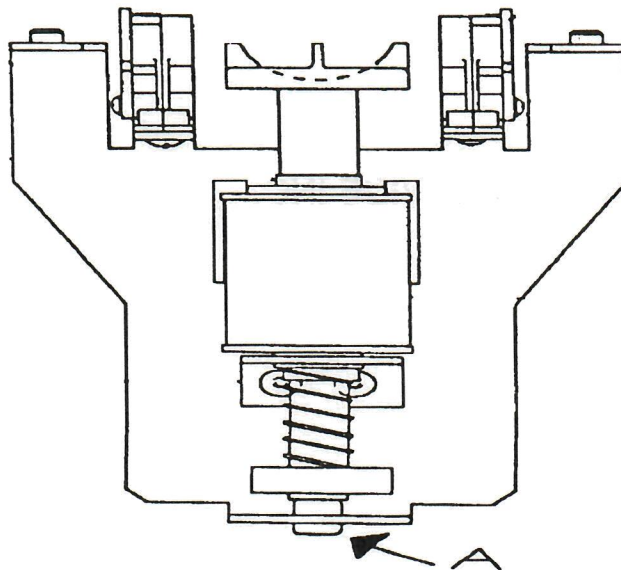
SUBJECT: INTERMITTENT OR WEAK ACTION FROM BALL POPPER ASSEMBLY (A-15769).

CAUSE: RUBBER GROMMET MISSING OR INSTALLED INCORRECTLY ON BALL POPPER ASSEMBLY.

WE HAVE HAD A FEW CUSTOMERS REPORTING THAT THE RUBBER GROMMET (PART # 23-6420) ON THE BALL POPPER ASSEMBLY ON "WHITE WATER" PINBALLS HAVE BEEN MISSING. SEE ITEM (A) BELOW FOR LOCATION OF GROMMET. PLEASE CHECK YOUR GAME AND INSTALL A NEW GROMMET IF NEEDED.

THANK YOU,

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SERVICE BULLETIN

DATE: MARCH 2, 1993

SB51

GAME: "CREATURE FROM THE BLACK LAGOON" AND "WHITE WATER"

SUBJECT: COIL BRACKET BREAKING (PART # 01-11273).

COIL BRACKET (PART # 01-11273) WHICH IS USED ON THE BOTTOM ARCH KICKER ASSEMBLY (WHITE WATER) AND THE KNOCKER COIL ASSEMBLY (BOTH GAMES) MIGHT BREAK DUE TO A MANUFACTURING FLAW. IF YOU DO EXPERIENCE A BREAKAGE ON THIS BRACKET, REPLACE IT WITH PART # B-7409-2.

NOTE: THE ONLY GAMES AFFECTED HAVE BEEN MANUFACTURED ON FEBRUARY 19th, 22nd, AND 23rd. THE MANUFACTURED DATE CAN BE FOUND ON THE SERIAL NUMBER TAG, WHICH IS LOCATED ON THE BACK OF THE CABINET AND INSIDE THE COIN DOOR.

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SERVICE BULLETIN

DATE: MAY 6, 1993

SB52

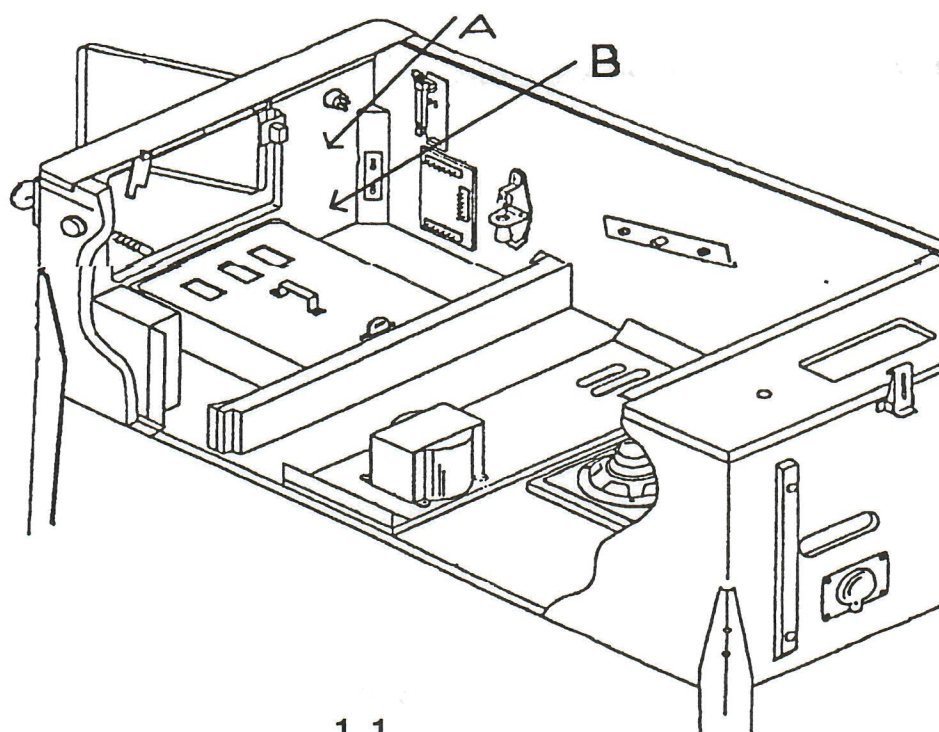
SUBJECT: POSITION OF COIN DOOR WIRE HARNESS CLAMP.

GAME: ALL PINBALL GAMES WITH DOLLAR BILL VALIDATOR READY DOOR.

DUE TO THE POSSIBILITY OF THE COIN DOOR PINCHING THE WIRING HARNESS, PLEASE MOVE THE CLAMP THAT IS SECURING THE HARNESS FROM IT'S ORIGINAL POSITION (ITEM B IN DIAGRAM) AND MOVE IT APPROXIMATELY 4 INCHES HIGHER (TO POSITION A IN DIAGRAM). AS AN ADDED MEASURE TO INSURE THAT THE HARNESS WON'T GET PINCHED, PUT SOME SPIRAL TUBING OR TAPE OVER THE HARNESS, ESPECIALLY THE 115VAC CABLE.

THANK YOU,

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SERVICE BULLETIN

DATE: APRIL 13, 1993

SB53

GAME: "HOTSHOT BASKETBALL"

SUBJECT: BALL REPLACEMENT KIT (PART # 63717)

WHEN ORDERING THE NEW STYLE BASKETBALLS (PART # 23-6701) FOR THE FIRST TIME, YOU MUST ORDER THE BALL REPLACEMENT KIT (PART # 63717) . INCLUDED IN THE KIT IS EVERYTHING YOU WILL NEED TO MAKE "HOTSHOT BASKETBALL" WORK WITH THE NEW, MORE DURABLE BASKETBALLS. IN FACT, THE BALLS ARE INCLUDED AS WELL.

THE ATTACHED SHEET HAS ALL THE INSTALLATION INSTRUCTIONS NEEDED FOR THIS KIT.

THANK YOU,

WMS GAMES PARTS AND SERVICE INC.

HOT SHOTS Ball Replacement Kit (63717)

The purpose of this kit is to replace the basketballs, the opto 24-switch PCB assembly and upgrade the opto mounting base that currently exist in the *HOT SHOTS* game. The new style basketballs allows the I.R. beam to pass through, therefore the game does not see the balls.

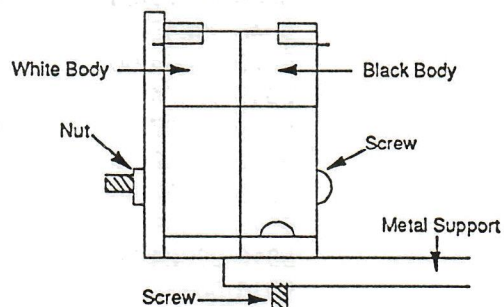
Parts List

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
A-15646-3	24-switch opto PCB assembly	1
03-8506	opto mounting base, black	1
23-6701	basketball	5
4004-01005-16	machine screw, 4-40 phillips pan head	1
4404-01119-00	nut, 4-40 ESN	1

Installation

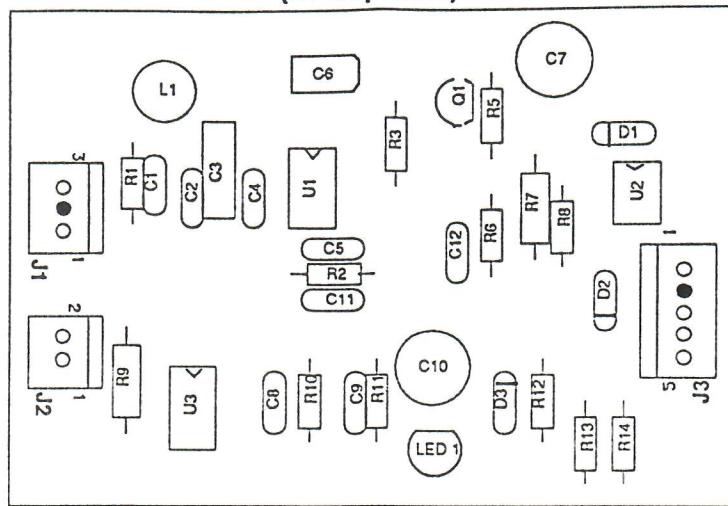
- 1) Turn off power and unplug the game.
- 2) Open the coin door. Release the latches and remove the front molding, be careful not to damage any wires. Remove the dome. Raise the playfield and remove the existing basketballs.
- 3) Remove the existing 24-switch opto PCB assembly, located to the right of the shooter assembly on the wood shelf. Using the same hardware, replace it with the newer version included in this kit.
- 4) Locate the white opto mounting base on the left side of the shooter assembly. Remove the two screws that hold the I.R. LED assembly to the metal support.
- 5) Remove the screw that holds the white plastic cover to the opto PCB. Place the new black opto cover on top of the existing one so that the tab is pointing out. Use the screw and nut provided in this kit to secure the two covers to the opto PCB.

Double-stacked opto mounting bases on opto PCB.



- 6) Mount the new version of the opto assembly to the shooter assembly. Use the original two screws to secure it into place.
- 7) Lower the playfield. Place the new basketballs in the game. Close the coin door, plug the game in and turn it on.
- 8) Enter the switch test and check switch 26, Ball In Shooter. The switch name and number should show on the display when it is activated. If it does not, the left side opto must be adjusted so that the receiver on the right side can actuate properly.
- 9) If the new assembly functions properly, replace the dome and the front molding after power is turned off.
- 10) After the game is assembled, apply power and play a test game. Be sure the game plays properly.

A-15646-3
24-switch Opto PCB Assembly
 (with spacers)



<u>Part Number</u>	<u>Designation</u>	<u>Description</u>
5370-10891-00	U1	I.C. opto receiver, MC3373
5490-10892-00	U2	I.C. opto isolator
5431-10449-00	U3	I.C. 555 timer
5192-13591-00	Q1	Transistor, MPSA64, PNP Darlington
5043-10893-00	C3	Cap. .0015 MFD
5043-09065-00	C4, C12	Cap. 470 PF
5043-08996-00	C5, C11	Cap. 0.1 MFD
5041-10588-00	C6	Cap. 6.8 MFD
5043-08980-00	C8	Cap. .01 MFD
5048-12577-00	C2	Cap. .47 MFD
5043-09845-00	C1, C9	Cap. .001 MFD
5070-09054-00	D1, D2, D3	Diode, 1N4004, 1.A
5040-10974-00	C7, C10	Cap. 100 MFD, 35V, +80/-20
5010-08997-00	R1	Res. 2.7K Ω , 1/4W, 5%
5010-09162-00	R2, R6	Res. 100K Ω , 1/4W, 5%
5010-09768-00	R3	Res. 180 Ω , 1/4W, 5%
5010-09039-00	R4	Res. 10 Ω , 1/4W, 5%
5010-09324-00	R5	Res. 27K Ω , 1/4W, 5%
5010-08930-00	R7	Res. 470 Ω 1/2W, 5%
5010-09034-00	R8	Res. 10K Ω , 1/4W, 5%
5010-10022-00	R10	Res. 7.5K Ω , 1/4W, 5%
5010-08773-00	R11	Res. 18K Ω , 1/4W, 5%
5010-09085-00	R13	Res. 1.5K Ω , 1/4W, 5%
5671-09019-00	LED 1	Display LED Red 1
5791-12273-03	J1	3H Str Sq Lck .156
5791-12273-02	J2	2H Str Sq Lck .156
5791-12273-05	J3	5H Str Sq Lck .156
5551-10890-00	L1	Inductor, 10 mH
5010-09534-00	R12	Res. 0 Ω jumper
5010-09085-00	R9	Res. 1.5K Ω , 1/4W, 5%

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SERVICE BULLETIN

DATE: APRIL 23, 1993

SB55

GAME: "DRACULA"

SYMPTOM: INTERMITTENT ERRORS ON LONG RANGE OPTO (SWITCH #82).

OUR QUALITY DEPARTMENT HAS FOUND IN THEIR AUDITS SOME .01 ufd CAPS INSERTED IN C9 OF THE 24-SWITCH OPTO ASSEMBLY. CAPACITOR C9 SHOULD BE A .001 ufd.

IF YOU ARE EXPERIENCING INTERMITTENT SWITCH READINGS ON SWITCH #82, THE MAGNET ON SWITCH, CHECK CAPACITOR C9 ON THE 24-SWITCH OPTO ASSEMBLY (PART # A-15646).

ANY "DRACULA" MANUFACTURED PRIOR TO APRIL 21, 1993 MAY HAVE HAD THIS WRONG VALUE CAPACITOR.

REPEATING: CAPACITOR C9 SHOULD BE A .001 ufd (PART # 5043-09845-00).

THANK YOU,

WMS GAMES PARTS AND SERVICE INC.

AMENDMENTS

BLACK ROSE

Should it become necessary to re-level the Cannon Assembly, use the following procedure:

READ ALL INSTRUCTIONS BEFORE BEGINNING

1. Secure large leveling guide with vice grips (or comparable tool) while using an open-end wrench to loosen lock nut. *Be careful not to let the entire locked screw/shaft assembly turn!* This may result in permanent damage to the unit.
2. Once the lock nut is loose, use a 5/32" allen-wrench to loosen leveling guide set screw.
3. Rotate leveling guide (clockwise to raise, counter-clockwise to lower) to align the top of the mechanism with the top of the playfield. Adjust the remaining two guides if necessary. To check adjustment, return playfield to the horizontal playing position.
4. Reverse step sequence to re-secure the assembly.

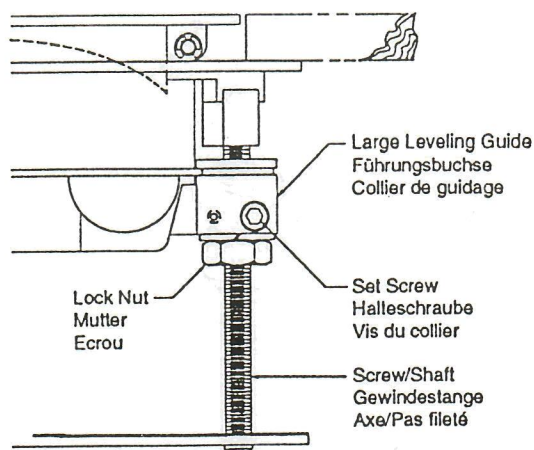
"Im Falle einer erforderlichen Neujustierung der Kanone gehen Sie bitte folgendermaßen vor:

1. Vor Arbeitsbeginn alle Anweisungen lesen!
2. Mit einer Poligrip-Zange (oder ähnlichem Werkzeug) große Führungsbuchse festhalten und Mutter mit Schraubenschlüssel lösen.
Achtung! Sicherstellen, daß sich die Gewindestange nicht mitdreht, da sonst bleibende Schäden verursacht werden können.
3. Danach mit einem 5/32" Innensechskantschlüssel Halteschraube lösen.
4. Führungsbuchse solange hin und her drehen, bis Kanone und Spielfeld richtig justiert sind. Notfalls auch die beiden anderen Führungen justieren. Danach Justierung bei heruntergeklappter Spielfläche überprüfen.
5. Führungsbuchse in umgekehrter Weise wieder sichern.

S'il devient nécessaire de régler à nouveau le niveau du Canon, veuillez appliquer la procédure suivante:

LISEZ CES INSTRUCTIONS AVANT DE COMMENCER

1. Avec une pince multiple (ou un outil similaire) tenez fermement le collier de guidage et, en même temps, avec une clé plate débloquez le contre-écrou.
Faites attention de ne pas faire tourner sur lui-même l'axe à pas fileté, car cela pourrait endommager l'ensemble d'une manière définitive.
2. Une fois le contre-écrou débloqué, avec une clé à 6 pans de 5/32 desserrez les vis du collier.
3. Vissez ou dévissez le collier sur l'axe à pas fileté afin de régler la hauteur du mécanisme par rapport au plateau. Pour obtenir un niveau parfait, il serait peut être nécessaire de régler deux ou même les trois colliers de guidage.
4. Une fois le niveau réglé, faites la même procédure en sens inverse pour rebloquer l'ensemble du mécanisme.

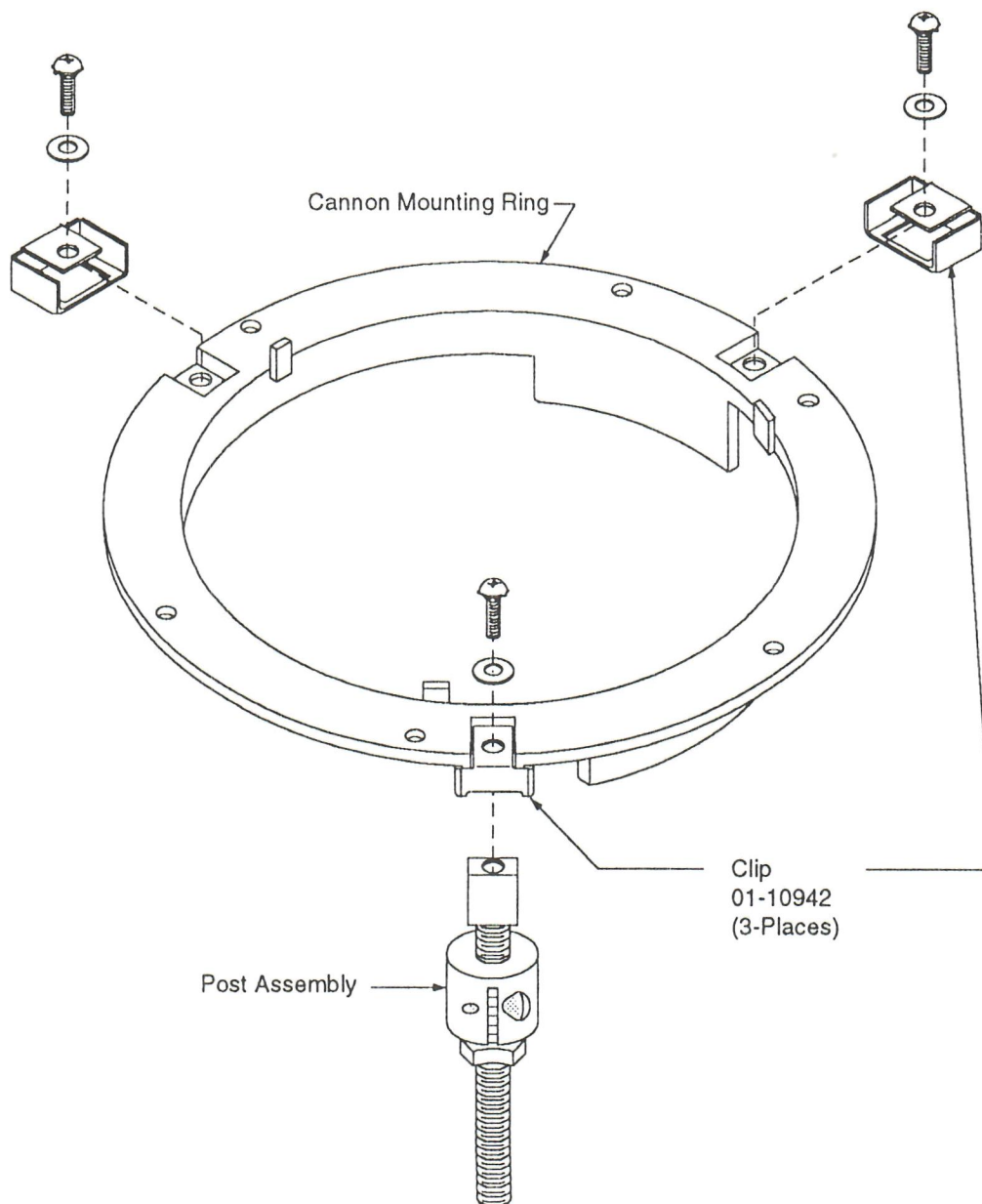


16-9374

BLACK ROSE AMENDMENT

The Cannon Mounting Ring and Post Assembly have changed. The drawing shows the new reinforcing clips used to protect the Plastic Ring.

1. Remove Cannon Assembly from playfield.
2. Remove existing Post Assembly from Plastic Ring.
3. Insert Clips.
4. Assemble Post Assembly to Plastic Ring.
5. Return Cannon Assembly to same position on playfield.



DOCTOR WHO

Manual Amendment

NEW GAME ADJUSTMENTS:

A.2 54 Kick Lock Holes

This adjustment will kick balls out of the lock holes during Bonus Collect when a multiple player game is being played. Note, each player retains their lock status for multiball. This just removes the necessity of locking balls via the middle target when the balls are already locked by a previous player. Note, 1 player games do not use this adjustment. The options are:

- No - Do not kick locks during Bonus Collect.
- Any Lock - Kick any lock with a ball in it.
- 2 Locks - Only kick locks when 2 balls are locked.

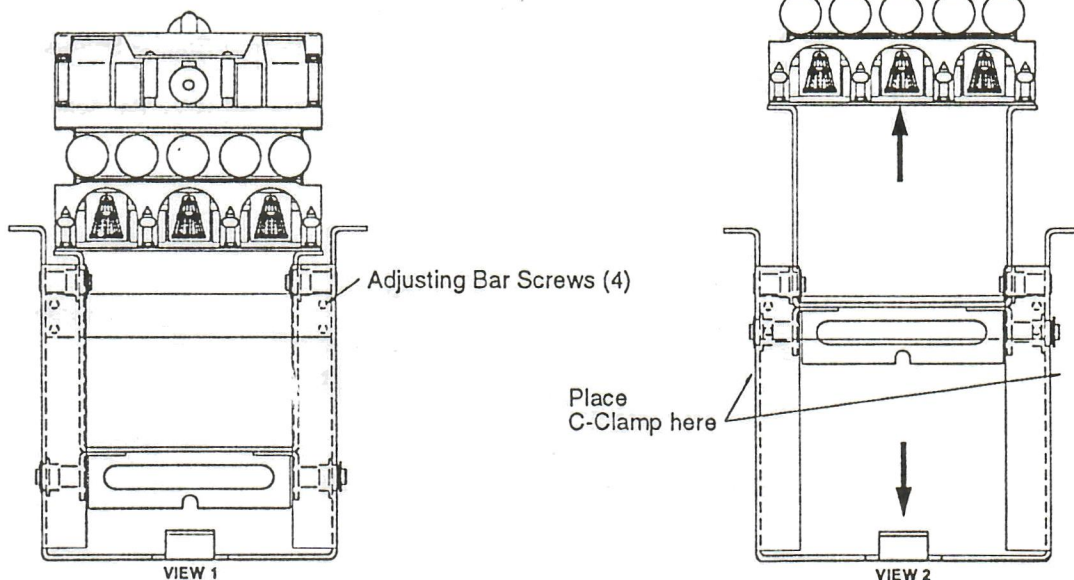
A.2 55 Game Start Doctor

This adjustment sets the initial Doctor Lamp (1 to 7) to start with, at game start. The options are: 1 through 7.

Mini-playfield Cant

To correct the mini-playfield left/right canting problem:

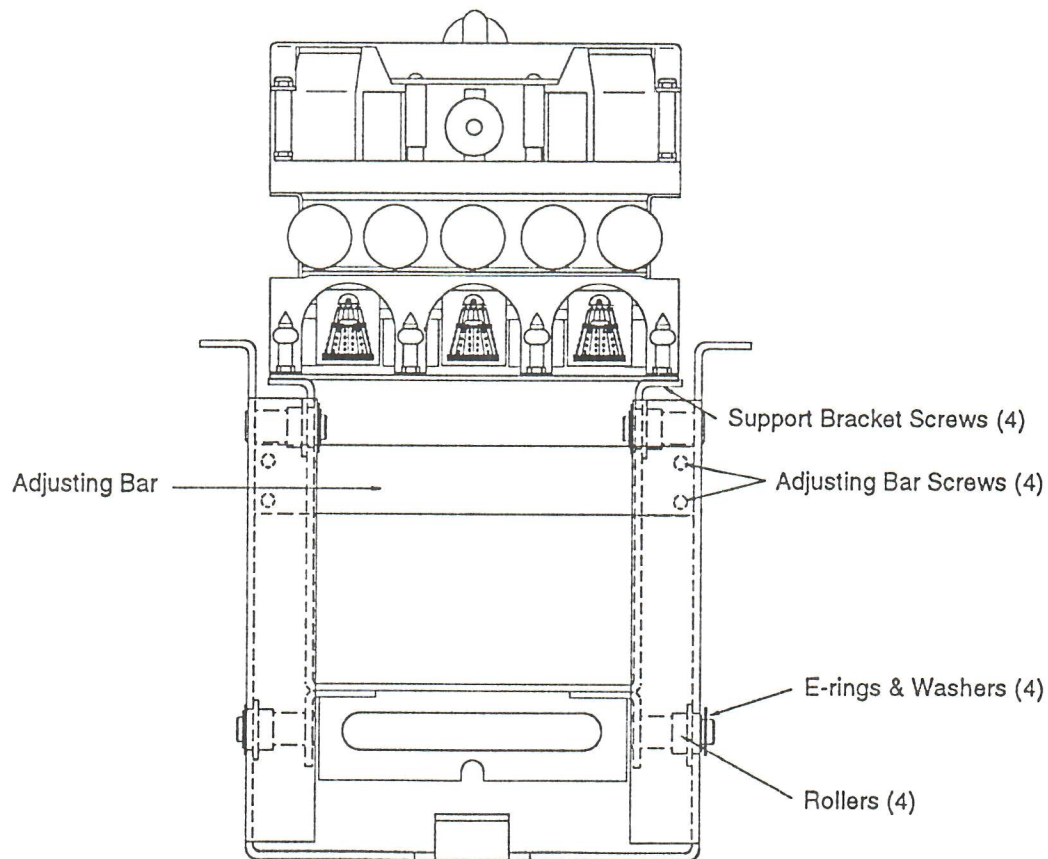
1. Remove mini-playfield from playfield (page 1-52, Operations Manual).
2. Remove motor assembly (page 1-53, Operations Manual).
3. Loosen the screws on the slotted side of the adjusting bar (veiw 1). Extend the Support and Main Brackets to its maximum length (veiw 2). Then, with a C-clamp (with wooden spacers on each end of the C-clamp, it is very important not to scratch or bend the guide) tighten the outer guide so that it seats properly on all 4 bearings (note, the C-clamp should not touch any bearing, only the outer guide).
4. Tighten the adjusting bar's screws (note, all 4 screws should have lock washers on them).
5. Remove C-clamp and check for excessive left to right movement, and for smooth sliding brackets (bearings do require grease).
6. Reattach motor assembly and install in playfield.



Main/Support Bracket Assembly Rollers

To replace the rollers on the Main/Support Bracket Assembly of the mini-playfield:

1. Remove mini-playfield from playfield (page 1-52, Operations Manual).
2. Remove motor assembly (page 1-53, Operations Manual).
3. Remove screws (4) holding support bracket to mini-playfield.
3. Remove the adjusting bar.
4. Remove E-rings and washers from rollers.
5. **Carefully** bend the main bracket **slightly** to allow for the removal of the support bracket.
6. Replace rollers and apply Teflon Grease (Bally P/N EI-204) to rollers.
7. Reassemble main and support brackets; E-rings; adjusting bar; and remount support bracket to mini-playfield.
8. Adjust the left/right cant (see Mini-playfield Cant page 1 of this amendment).
9. Reattach motor assembly and install in playfield by reversing the steps used on pages 52 and 53 of the Operations Manual.



<p>DRACULA Manual Amendment</p>

These changes were put into effect after the DRACULA Game Manual was printed. Keep this sheet with your manual.

SECTION 2 PARTS INFORMATION

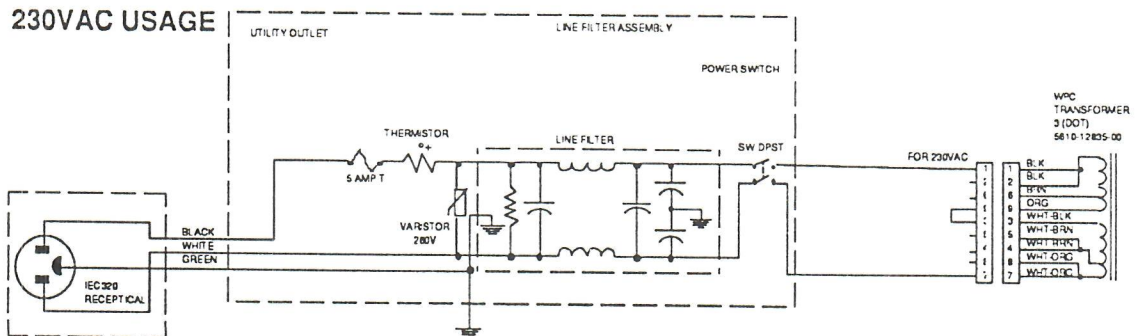
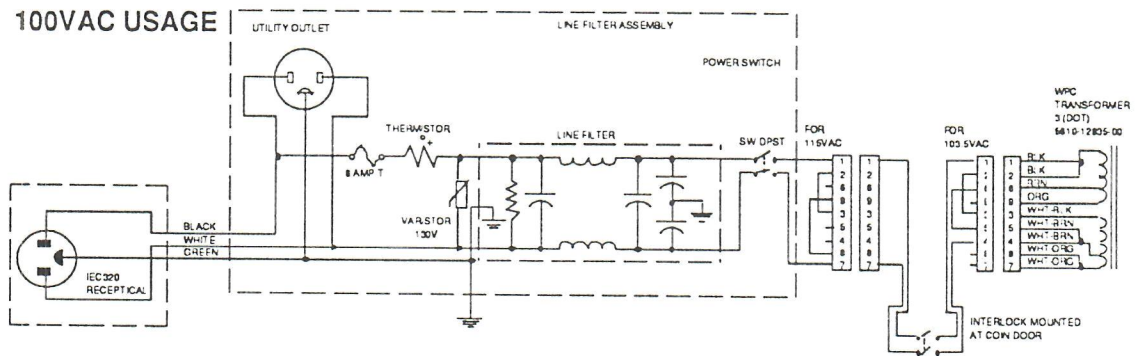
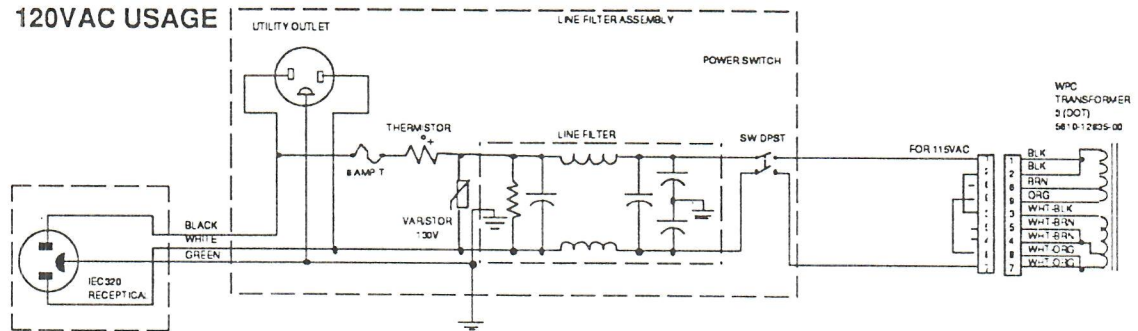
PAGE 2-42

ITEM 13 IS SHOWN AS A-16258, GATE AND WIRE ASSEMBLY. THIS PART HAS BEEN CHANGED TO A-16524, GATE AND WIRE ASSEMBLY.

FISH TALES

Schematic Manual Amendment

The primary side of the transformer drawing shown in the Power Wiring Diagram has been changed to include detailed wiring for 120Vac, 100Vac and 230Vac. See diagrams below.



FISH TALES Amendment

The following information was added to the FISH TALES game after the manual was printed. Please keep this amendment with your manual.

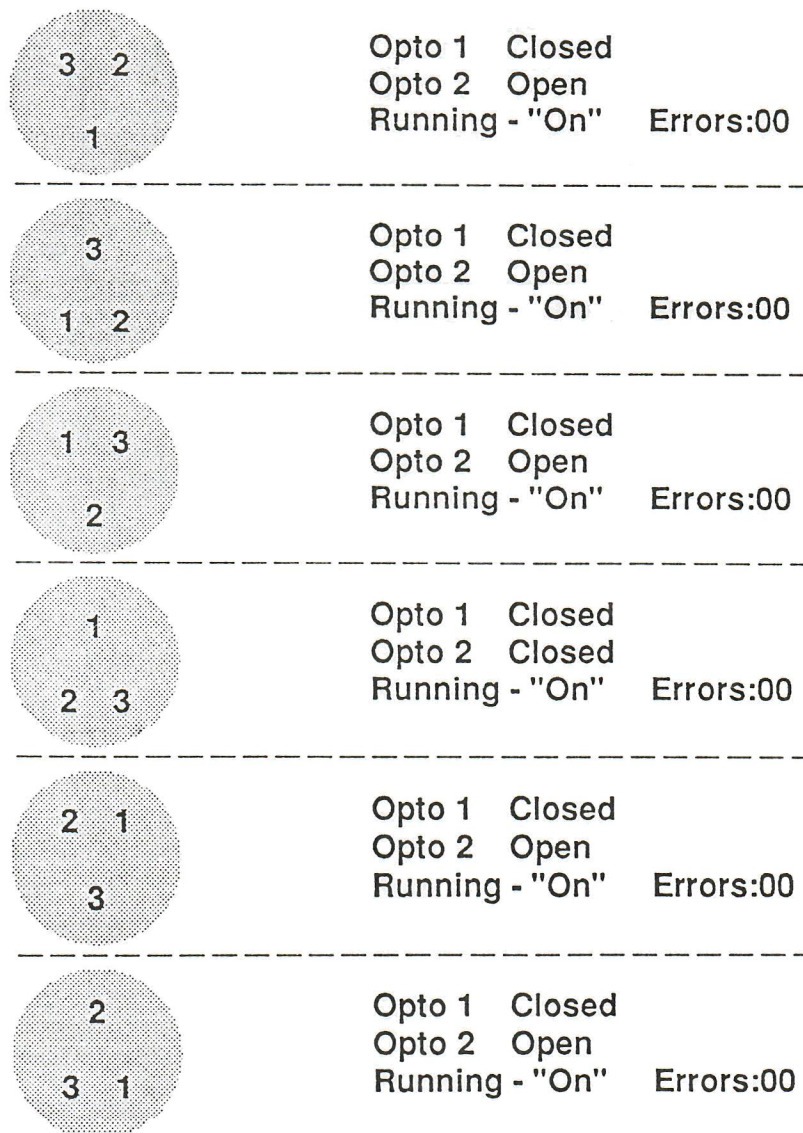
T.13 Reel Test

The Reel Test allows the operator to check the Fishing Reel Mechanism. This test has two modes of operation; Running and Stopped. Press the Enter button to begin the test.

Running - The Fishing Reel turns automatically. The left side of the display shows the position of the reel. The right side of the display shows the state of the opto switches, whether the test is in the Running or Stopped mode and how many errors the test has detected.

Stopped - Press the Enter button during the Running Mode. The Fishing Reel stops. The test resumes the Running mode when the Enter button is pressed again.

The following diagrams show what state the opto switches should be in during the various reel positions.



NBA JAM Amendment

This amendment updates the DIP Switch Settings Table on page 1-13 of the NBA Jam Operations Manual. Please keep this information with the operations manual for future reference.

DIP Switch 2 Settings Table (UJ2)

	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2 Player Kit 4 Player Kit	Off * On							
<u>Dollar Bill Validator</u> Not Installed Installed		Off * On						
Show Video Clips at Halftime Skip Clips			Off * On					
Not Used				Off * On	Off * On	Off * On		
Powerup Test							Off * On	
<u>Test Switch</u> Game Mode Test Mode								Off * On

* Indicates Factory Setting

NBA JAM CABINET RETRO-FIT KIT #60804

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01-11578	Plate, Front Door Upper	1
4320-01123-24B	Carriage Bolt 1/4-20, 1 1/2", Black	2
4420-01141-00	Flange Nut 1/4-20	2
16-9254	Instructions	1

Installing the retro-fit kit:

- 1) Turn OFF power to the game. Unlock and remove the front door assembly.
- 2) Remove lock assembly from the door assembly, saving the carriage bolt, pivot pin, lever, and elastic stop nut.
- 3) On outside of front door, line up the center hole on plate with the hole that previously held the lock assembly.
- 4) Using the parts reserved above, insert carriage bolt through the aligned hole. Place pivot pin on carriage bolt, along with lever and elastic stop nut. Square-up plate edge with the right side of door. Tighten nut very firmly.
- 5) Center drill bit (17/64 dia.) inside square hole in plate and drill two holes through the wood.
- 6) Attach the two carriage bolts and flange nuts from kit into the holes and tighten.
- 7) Return front door assembly to game, making sure lever handle is pointing down.
- 8) Open the coin door. Reach through door and raise the lever, matching lever notch with inner cabinet notch. If cabinet bracket is not mounted straight, straighten bracket to assure proper locking of panel.
- 9) Close coin door. Turn game ON.

