

SERVICE BULLETIN BOOK

1994

WMS GAMES

PARTS AND SERVICE INC.

WILLIAMS ELECTRONIC GAMES, INC.

MIDWAY MANUFACTURING COMPANY

MAKERS OF WILLIAMS AND BALLY AMUSEMENT GAMES

3401 N. CALIFORNIA AVE.

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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 AND 11C CAN ONLY BE USED FOR THEIR OWN SYSTEMS RESPECTIVELY. WPC CPU'S BEFORE INDIANA JONES CAN ONLY BE USED ON GAMES MADE BEFORE INDY, ANY WPC CPU'S AFTER INDY (GAMES WITH A "*" AFTER THEM) ARE DOWNWARD COMPATIBLE.

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

WILLIAMS AND BALLY GAMES BY SYSTEM (CONTINUED)

GAME	SYSTEM
DINER	11C
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
HOT SHOT	WPC
DRACULA	WPC
TWILIGHT ZONE	WPC
INDIANA JONES	WPC*
JUDGE DREDD	WPC*
STAR TREK	WPC*

W M S G A M E S

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SERVICE TIP

FLIPPER COILS USED IN WILLIAMS AND BALLY PINBALL MACHINES

AT WILLIAMS BALLY/MIDWAY, WE TRY TO HAVE A BALANCE OF POWER FOR THE FLIPPERS WHICH IS REALLY BASED ON THE LAYOUT AND DESIGN OF A GIVEN GAME. OBVIOUSLY, FLIPPERS ARE ONE OF THE MOST IMPORTANT PARTS FOR PLAYER SATISFACTION. AND, IF YOU HAVE A WEAK FLIPPER IT CAN ADVERSELY EFFECT A PLAYER'S ENJOYMENT AND ABILITY TO PLAY A MACHINE. CONVERSELY, IF THE FLIPPER IS TOO STRONG, THE BALL WILL TEND TO BOUNCE AND COULD CAUSE UNNECESSARY DAMAGE TO THE PLAYFIELD.

GOING FROM THE LIGHTEST, OR WEAKEST, THIS IS A HANDY REFERENCE LIST.

FL-11753 YELLOW: USED WITH SHORT FLIPPERS AND CLOSE SHOTS.

FL-11722 GREEN: USED FOR CLOSE SHOTS NEAR DROP TARGETS.

FL-11630 RED: THE STANDARD AND MOST FREQUENTLY USED.

FL-15411 ORANGE: USED ON LONG PLAYFIELD SHOTS.

FL-11629 BLUE: USED ON LONG SHOTS AND HIGH RAMPS.

IN REBUILDING OLDER 50 VOLT (FIREPOWER II UP TO F-14 TOMCAT) GAME FLIPPERS THAT DID NOT HAVE PARALLEL WOUND STYLE COILS, MAKE CERTAIN THAT YOU DO NOT HAVE AN OVER-POWERED COIL (TOO STRONG), BECAUSE THE PLAYFIELDS DID NOT HAVE THE EXTRA SUPPORT FOR THE PLASTIC POSTS AND PLAYFIELD RAMPS THAT ARE BUILT INTO TODAY'S GAMES.

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SERVICE BULLETIN

DATE: MAY 17, 1993

SB54

GAME: "TWILIGHT ZONE"

SUBJECT: LEG (BOLT) MOUNTING HOLES.

PLEASE BE AWARE THAT STARTING WITH THE PINBALL MACHINE "TWILIGHT ZONE", THERE WILL BE THREE CABINET MOUNTING HOLES FOR EACH PINBALL LEG.

*USE THE BOTTOM HOLES FOR NORMAL PINBALL OPERATIONS.

*USE THE TOP HOLES IF YOU ARE PLACING THE MACHINE IN A CHILDREN'S LOCATION.

*DO NOT MIX MOUNTING LOCATIONS. USE EITHER THE UPPER HOLES OR THE LOWER CONFIGURATION.

*USING THE WRONG SET OF HOLES CAN ADVERSELY AFFECT THE EARNINGS.

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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,

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SERVICE BULLETIN

DATE: MAY 18, 1993

SB56

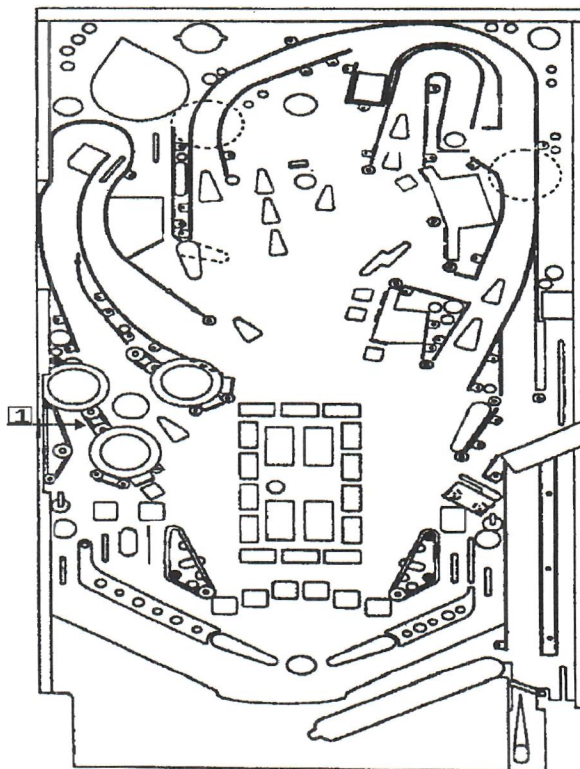
GAME: "TWILIGHT ZONE"

SUBJECT: REMOVING 2 DOUBLE STAR POSTS TO DECREASE BALL TIMES.

WE HAVE FOUND THROUGH OUR TEST LOCATIONS THAT THE AVERAGE BALL TIMES HAVE BEEN LONGER THAN 65 SECONDS ON "TWILIGHT ZONE" (WE TRY FOR 45 SECONDS). IN OUR CONSTANT EFFORTS TO MAXIMIZE EARNINGS, WE HAVE BEEN REMOVING THE 2 DOUBLE STAR POSTS AND RUBBERS FROM BETWEEN THE JET BUMPERS (REFER TO FIGURE 1). AFTER REMOVING THE POSTS AND T-NUTS, FILL THE HOLES WITH 2 PLASTIC PLUGS PART # 03-8416. NOTE: ALL GAMES MANUFACTURED AFTER MAY 13th WILL HAVE THIS CHANGE.

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SERVICE BULLETIN

DATE: SEPTEMBER 29, 1993

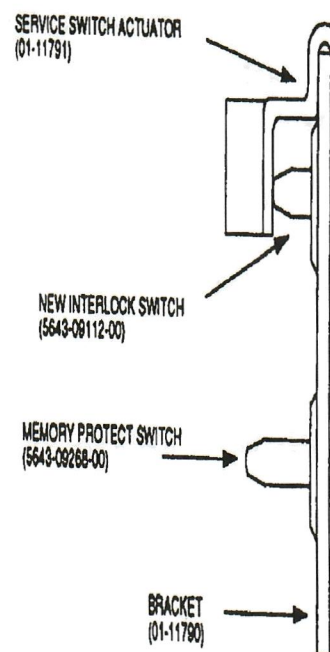
SB57

SUBJECT: COIN DOOR SAFETY SWITCH

WILLIAMS AND BALLY PINBALL MACHINES ARE NOW EQUIPPED WITH A NEW SAFETY FEATURE TO PREVENT SHOCKS FROM THE SOLENOID CIRCUIT WHEN THE COIN DOOR IS OPENED. A NEW INTERLOCK SWITCH ASSEMBLY (PART # A-17077), LOCATED AT THE LEFT OF THE COIN DOOR OPENING, HAS BEEN ADDED TO THE GAMES. THIS ASSEMBLY IS A BRACKET CONTAINING THE EXISTING MEMORY PROTECT SWITCH ON THE BOTTOM AND A NEW INTERLOCK SWITCH ON THE TOP. WHEN THE COIN DOOR IS OPENED, THIS NEW INTERLOCK SWITCH OPENS, BREAKING THE CONNECTION TO THE +50V AND +20V WINDING OF THE TRANSFORMER SECONDARY.

A SPECIAL TOOL CALLED THE SERVICE SWITCH ACTUATOR IS PROVIDED FOR THE SERVICEMAN / TECHNICIAN THAT REPAIRS THE GAME. THIS TOOL IS PAINTED YELLOW AND LOCATED IN A BAG STAPLED INSIDE THE CABINET. THE SERVICE SWITCH ACTUATOR SLIPS OVER THE INTERLOCK SWITCH AND HOLDS IT CLOSED WHILE THE DOOR IS OPENED, ALLOWING THE SERVICEMAN TO TEST AND REPAIR THE SOLENOID CIRCUIT.

HOLD THE TOP INTERLOCK SWITCH IN, THEN SLIDE THE SHORT END OF THE SERVICE SWITCH ACTUATOR OVER THE TOP OF THE INTERLOCK SWITCH BRACKET AND THE LONG END OVER THE CENTER OF THE SWITCH PLUNGER TO HOLD IT IN.



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SERVICE BULLETIN

DATE: SEPTEMBER 29, 1993

SB58

GAMES: "INDIANA JONES" AND "JUDGE DREDD".

SUBJECT: FLIPPER BUTTON OPTO BOARDS.

ON GAMES THAT HAVE A BALL LAUNCHER COIL INSTEAD OF A TRADITIONAL SHOOTER PLUNGER, THERE IS A POSSIBILITY THAT IF THE FLIPPER BUTTON OPTO BOARD IS MOUNTED TOO HIGH THE OPTO INTERRUPTER CAN HANG-UP ON THE COIL PLUNGER. THIS CONDITION IS MORE PREVALENT IF THE FLIPPERS ARE ENERGIZED AND THE BALL LAUNCH IS ACTIVATED. TO CORRECT THIS CONDITION SIMPLY REMOUNT THE FLIPPER OPTO BOARD LOWER.

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SERVICE BULLETIN

DATE: OCTOBER 6, 1993

SB59

SUBJECT: WRONG POWER AMPLIFIER IN SOUND BOARD.

GAMES AFFECTED: "INDIANA JONES" & "JUDGE DREDD" MANUFACTURED BEFORE OCTOBER 4, 1993

LOCATIONS U27 AND U28 ON THE "INDIANA JONES" AND THE "JUDGE DREDD" SOUND BOARD ARE THE POWER AMPLIFIERS. BOTH OF THESE COMPONENTS ARE TDA2030A 18 WATT +/-22 VOLT (WILLIAMS PART # 5370-13419-00). WE HAVE JUST DISCOVERED THAT SOME SOUND BOARDS WERE STUFFED WITH THE WRONG POWER AMPLIFIER. THE PART THAT WAS INADVERTENTLY USED WAS A TDA2030 WHICH IS A 14 WATT +/-14 VOLT POWER AMPLIFIER. THE TDA2030 IS A LOW POWER VERSION OF THE TDA2030A. IF THE WRONG POWER AMPLIFIER IS INSTALLED IT WILL OVERHEAT AND SOUNDS WILL BE DISTORTED AND EVENTUALLY, CUT OUT.

THANK YOU,

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SERVICE BULLETIN

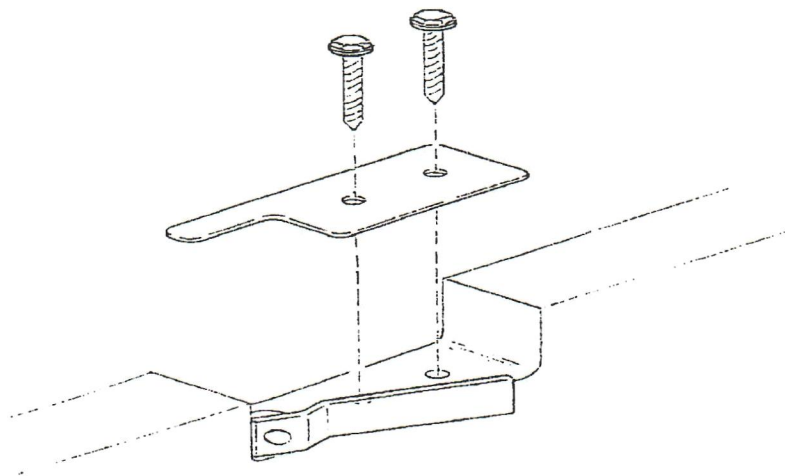
DATE: OCTOBER 15, 1993

SB60

GAME: "JUDGE DREDD".

SUBJECT: DIVERTER BRACE

A RUNNING CHANGE IS TAKING PLACE ON "JUDGE DREDD" PINBALL MACHINES. BEGINNING ON OCTOBER 13th A DIVERTER BRACE IS BEING INSTALLED TO PREVENT THE DIVERTER SHAFT FROM BEING PUSHED BACK BY THE FORCE OF THE BALL. A KIT (PART # A-17627) IS AVAILABLE TO UPDATE ANY GAMES THAT MAY BE EXHIBITING THAT CONDITION. THE KIT INCLUDES THE BRACE, TWO SCREWS, AND INSTRUCTIONS.



THANK YOU,

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SERVICE BULLETIN

DATE: NOVEMBER 4, 1993

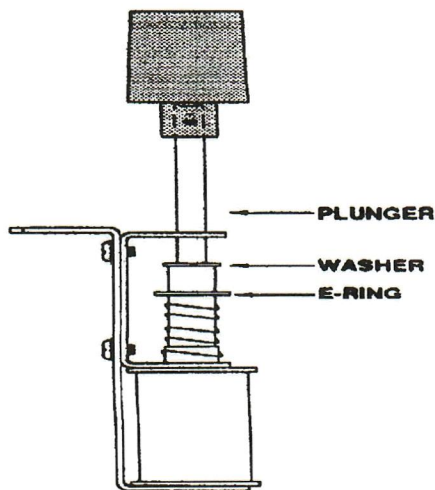
SB61

GAME: "INDIANA JONES"

SUBJECT: IDOL ASSEMBLY STICKING

IF YOU ARE EXPERIENCING OCCASIONAL STICKING ON THE IDOL ASSEMBLY, ADD A PLASTIC SPLIT WASHER, .260 x .50 x .032, (PART # 03-9046) TO THE IDOL COIL PLUNGER TO PREVENT THE ASSEMBLY FROM MAGNETIZING.

TURN OFF THE GAME AND RAISE THE PLAYFIELD. GRASP THE E-RING ON THE IDOL COIL PLUNGER AND PULL THE PLUNGER DOWN. PUSH THE PLASTIC SPLIT WASHER AROUND THE THIN PART OF THE PLUNGER. LOWER THE PLAYFIELD.



THANK YOU,

AMENDMENTS

TWILIGHT ZONE

Manual Amendment

The following corrections/changes have been made to the Twilight Zone Operations Manual. Please keep this amendment with your manual.

Page 1-41 Pricing Table Changes on Australia, New Zealand and USA.

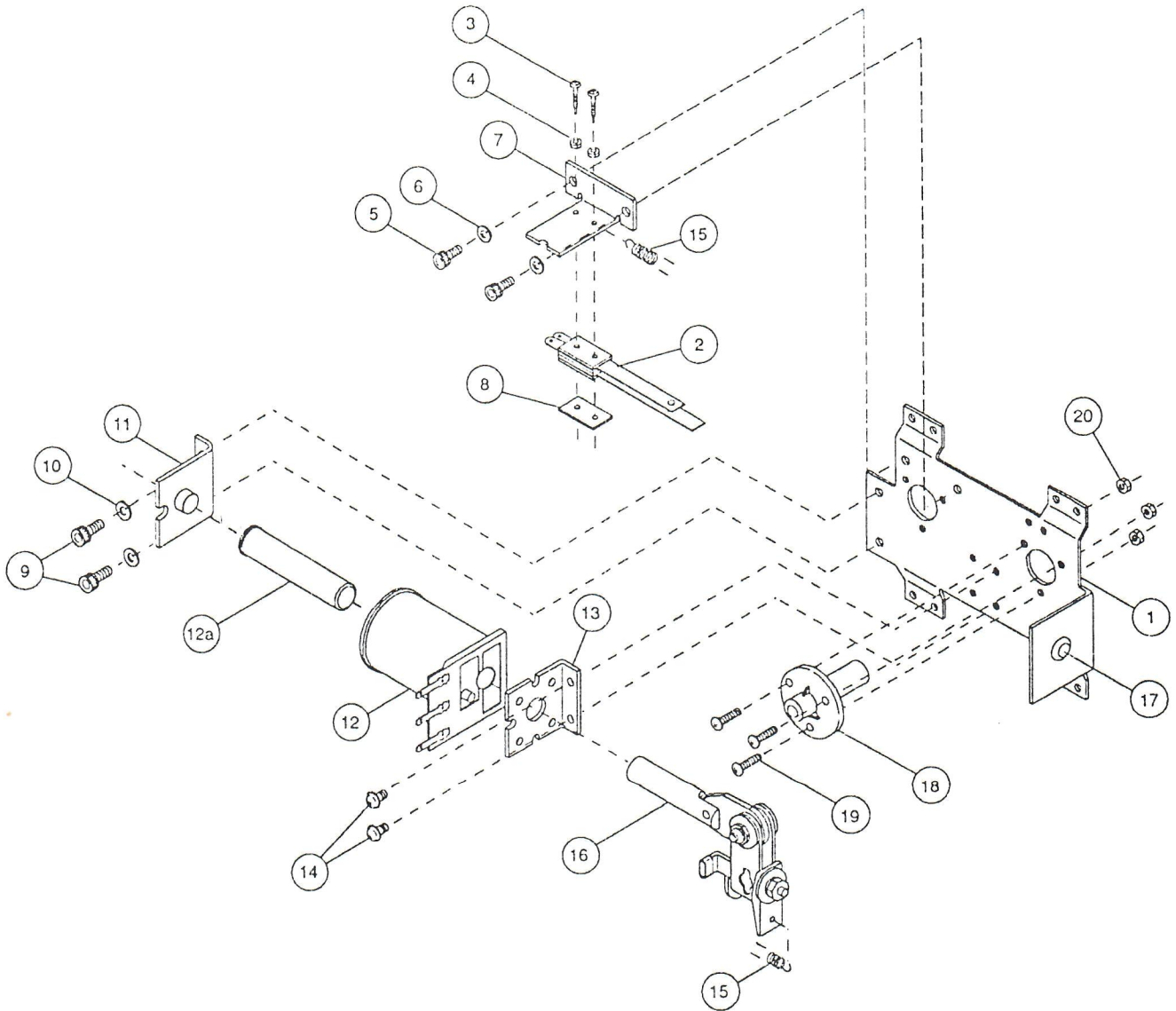
Country	Coin Chutes		4th Right	Games/Coins	Display	Pricing Adjustments A3											
	Left Chute	Center				02	03	04	05	06	07	08	09				
USA	25¢	\$1.00*	25¢	-	1/50¢, 2/75¢, 3/\$1 ² 1/50¢, 2/\$1 ² 1/50¢, 3/\$1 ² 1/50¢, 2/\$1.00, 6/\$2.00 1/50¢, 2/\$1.00, 5/\$2.00 1/50¢, 2/\$1.00, 4/\$1.50, 6/\$2.00 ^{1,2}	50¢, 75¢, \$1.00 USA 2/\$1.00 USA 3/\$1.00 USA 6/\$2.00 USA 5/\$2.00											
Canada	25¢	-	\$1.00	-	1/50¢, 2/75¢, 3/\$1 1/50¢, 2/\$1 ²	CANADA 1 CANADA 2											
Austria	5sch	10sch	10sch	-	1/2x5sch, 3/2x10sch ² 2/5sch, 5/10sch	AUSTRIA CUSTOM	02	00	05	00	01	00	01	00			
Australia	20¢	\$1	\$1	\$2	1/\$1, 2/\$2 ²	AUSTRALIA 2											
U.K.	£1.00	50P	20P	10P	1/3x10P, 2/50P, 4/£1 ²	U. KINGDOM											
Switzerland	1Fr	2Fr	5Fr	-	1/1Fr, 3/2Fr, 7/5Fr ² 1/2Fr, 2/3Fr, 3/4Fr, 5/5Fr	SWISS SWISS 2											
Belgium	5Fr	20Fr	50Fr	-	1/4x5Fr, 1/20Fr, 3/50Fr ²	BELGIUM											
Germany	1DM	2DM	5DM	-	1/2DM, 2/3DM, 3/4DM, 5/5DM ^{1,2}	GER. 1/2DM											
Holland	1G	-	1G	-	1/1G	HOLLAND											
Sweden	1Kr	5Kr	10Kr	-	1/5x1Kr, 1/5kr, 2/10Kr ^{1,2} 1/5Kr ²	SWEDEN 1 SWEDEN 2											
France	1Fr	5Fr	10Fr	20Fr	1/3x1Fr, 2/5Fr, 5/10Fr, 10/20Fr ^{2,3} 1/2x1Fr, 3/5Fr, 7/10Fr, 14/20Fr ^{2,3} 1/5Fr, 3/10Fr, 7/2x10Fr, 7/20Fr ^{1,2,3} 2/5Fr, 4/10Fr, 9/2x10Fr, 9/20Fr ^{2,3} 2/5Fr, 5/10Fr, 11/2x10Fr, 11/20Fr ^{2,3} 1/5Fr, 3/10Fr, 6/20Fr ^{2,3}	TARIF 1 TARIF 2 TARIF 3 TARIF 4 TARIF 5 TARIF 6											
Italy	500L	-	500L	-	1/500L ² 1/2x500L, 3/4x500L ^{1,2}	ITALY 1 ITALY 2											
Spain	100P	-	500P	-	1/100P, 6/500P ² 1/25P, 5/100P 1/25P, 4/100P 1/2x25P, 2/100P 1/2x25P, 3/100P	SPAIN CUSTOM CUSTOM CUSTOM CUSTOM	01	00	04	00	01	04	01	00	01	00	00
Japan	100¥	-	100¥	-	1/100¥ ²	JAPAN											
Chile	Token	-	Token	-	1/1Token ²	CHILE											
Denmark	1Kr	5Kr	10Kr	-	1/2x1 Kr, 3/5Kr, 7/10Kr ²	DENMARK											
Finland	1Mka	-	5Mka	-	1/2x1Mka, 3/5Mka ²	FINLAND											
New Zealand	\$2.00	-	\$1.00	-	1/\$1, 3/\$2	NEW ZEALAND 2											
Norway	5Kr	-	10Kr	-	1/5Kr, 2/10Kr, 5/20Kr ²	NORWAY											
Argentina	10¢	10¢	10¢	-	1/1Token ²	ARGENTINA											
Hungary	10F	10F	20F	-	1/1x20F, 1/2x10F, 3/2x20F ²	HUNGARY											

Note: 1. Factory Default. 2. Standard Setting - Change by pressing Enter button. 3. Other functions are also affected.
* Only if Bill Acceptor and Center Coin Chute are available.

Page 2-20 Fliptronic II Flipper Assembly
Part changed.

Item 2 has been changed to SW-1A-194 Switch Assembly and,
Item 11 has been changed to A-12390 Flipper Stop Bracket Assembly.

Page 2-21 Fliptronic II Flipper Assembly
Pictorial change.



Page 2-23 Ball Shooter Lane Feeder-Associated Parts
Part added.

Item 9f, 03-7066 Coil Tubing.

Page 2-25 Ball Popper Assembly
Parts changed/deleted.

Items 7, 10 and 16 are no longer used.

Item 14 was changed to A-16909 Opto Photo Transistor Assembly and,
Item 15 was changed to A-16908 Opto LED Assembly.

Page 2-28 Rear Diverter Assembly
Parts changed.
Item 2 was changed to A-16957 Stop Bracket Assembly,
Item 8 was changed to 10-128 Spring and,
Item 11 changed to 4010-01169-00 SS #10-32 x 1/4".

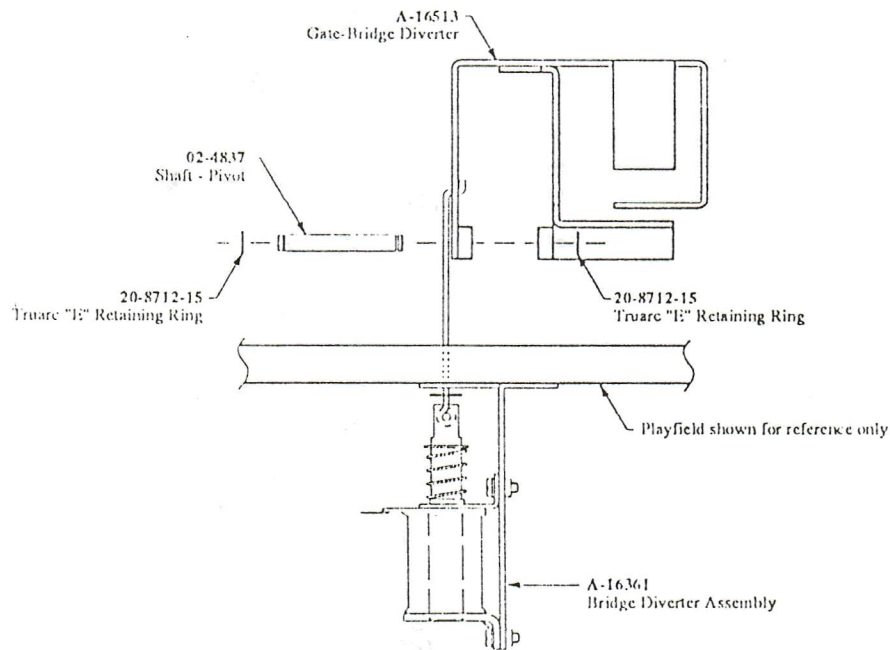
Page 2-29 Shooter Diverter Assembly
Part number error.
Item 3 should be listed as SZ-33-3000 Coil Assembly.

Page 2-32 Clock Assembly
Page 2-33 Parts changed
Clock Assembly part number changed to A-16124-1 and
Item 13 changed to A-17047 Shaft and Roll Pin Assembly.

Page 2-35 Kicker Assembly
Part number error.
Item 7 should be listed as AE-24-900 Coil Assembly.

Page 2-47 See Back.

Page 2-48 Upper Playfield Parts List
Item 27a changed to A-16124-1 Clock Assembly.
Under the listing of parts not shown, A-16513 Bridge Diverter Assembly is listed,
below is a diagram to show its associated parts.



Page 2-51 Switch Locations
Part number changed
Switch 61 changed to 5647-12693-57.

Lower Playfield Parts

Part number error and parts added.

Item 4 should be listed as 01-11523 Leg Support,

Item 12a was added: A-16535 Ramp Prox Opto Sensor Assy.,

Item 15 should be listed as A-16637-2 Plfd. Slide Mechanism-Right,

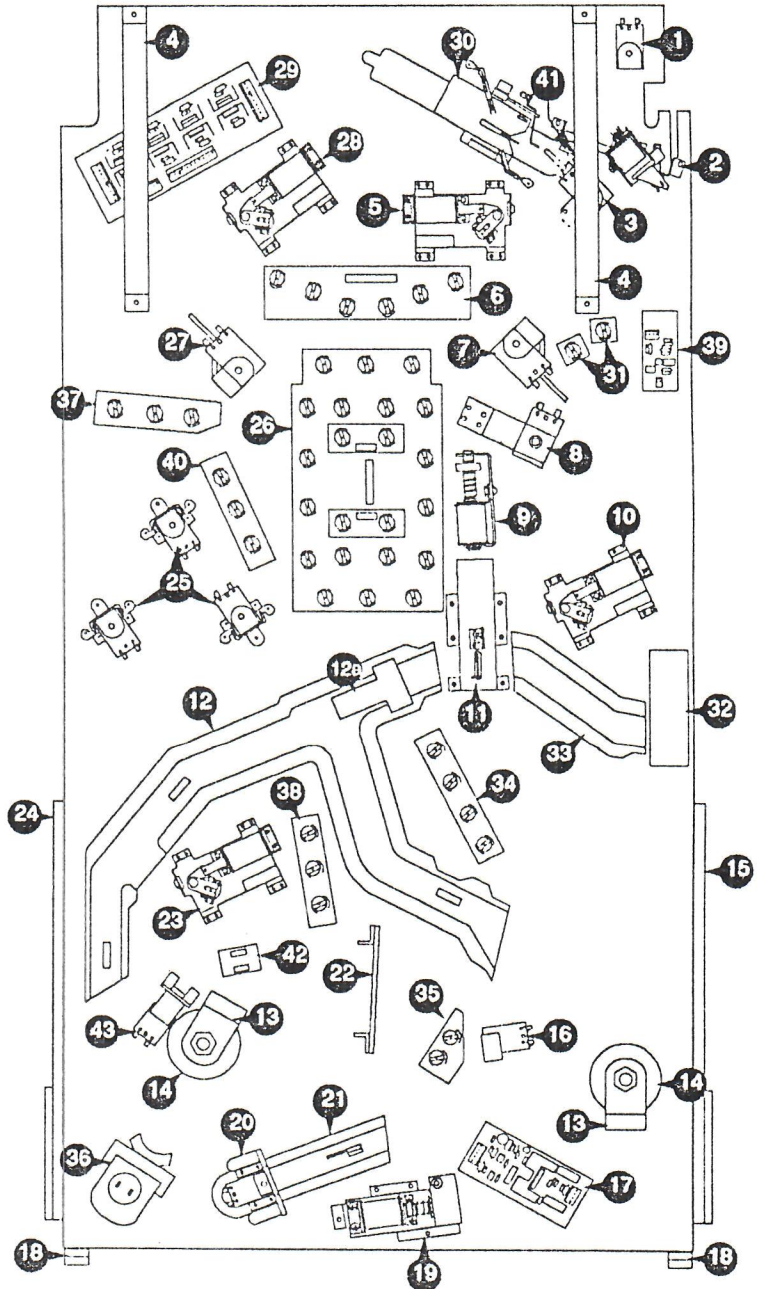
Item 32 should be listed as A-16923 Right Deflector Assembly,

Item 42 was added: A-15542 Motor EMI Assembly and,

Item 43 was added: A-16361 Right Ramp Diverter.

Item	Part Number	Part Number
1.	A-16713	Metal Kicker
	A-16647	Coil & Bracket Assembly
2.	A-16338	Shooter Diverter Assembly
3.	C-9638	Multiball Eject Assembly
	10-128	Spring
	A-16766	Coil & Bracket Assembly
4.	01-11523	Leg Support (2 Used)
5.	A-15205-R-4	Lower Right Flipper Assembly
6.	A-16328	6-Lamp Board
7.	B-12665	Kicker Arm (Slingshot) Assy., Right
	A-16645-R	Coil & Bracket Assembly
8.	A-16713	Kicker Assembly V-Pad
	A-16647	Coil & Bracket Assembly
9.	A-16434	Kicker Assembly
10.	A-15205-R-3	Upper Right Flipper Assembly
11.	A-16381	Loop Assembly
12.	A-16133	Main Chute Assembly
a)	A-16535	Ramp Prox Opto Sensor Assy.
13.	A-16460	Bracket & Nut Assembly (2 used)
14.	20-9247	Coil Magnet (2 used)
15.	A-16637-2	Plfd. Slide Mechanism, Right
16.	A-16307	Eject Assembly
17.	A-16120	D.C. Motor Assembly
18.	01-10726	Rear Guide Leg (2 used)
19.	A-16313	Rear Diverter Assembly
20.	A-16312	Ball Popper Assembly
21.	A-16216	Rear Trough Assembly
22.	A-16807	10-Switch Opto PC Board
23.	A-15205-L-1	Upper Left Flipper Assembly
24.	A-16637-1	Plfd. Slide Mechanism, Left
25.	A-9415-2	Jet Bumper Coil Assembly (3 used)
	B-12030-2	Switch & Diode Assembly (3 used)
26.	A-16327	19-Lamp Board Assy.
27.	B-12665	Kicker Arm (Slingshot) Assy., Left
	A-16645-L	Coil & Bracket Assembly
28.	A-15205-L-4	Lower Left Flipper Assembly
29.	A-16116	8-High Power Driver PC Board
30.	C-11615	Micro-Switch Plate Assembly
31.	B-12224	Single Lamp Board
32.	A-16923	Right Deflector Assy.
33.	03-8826	Small Chute Assembly
34.	A-16514	4-Lamp Board
35.	A-16515	3-Lamp Board
36.	A-16132	Gumball Machine Assembly
37.	A-16516	3-Lamp Board
38.	A-16329	3-Lamp Board
39.	A-16534	Prox Opto Sensor Assembly
40.	A-16517	3-Lamp Board
41.	A-16533	Ball Sensor Assembly
42.	A-15542	Motor EMI Board
43.	A-16361	Right Ramp Diverter

LOWER PLAYFIELD PARTS



Underside of Playfield, Viewed In Raised Position

TWILIGHT ZONE

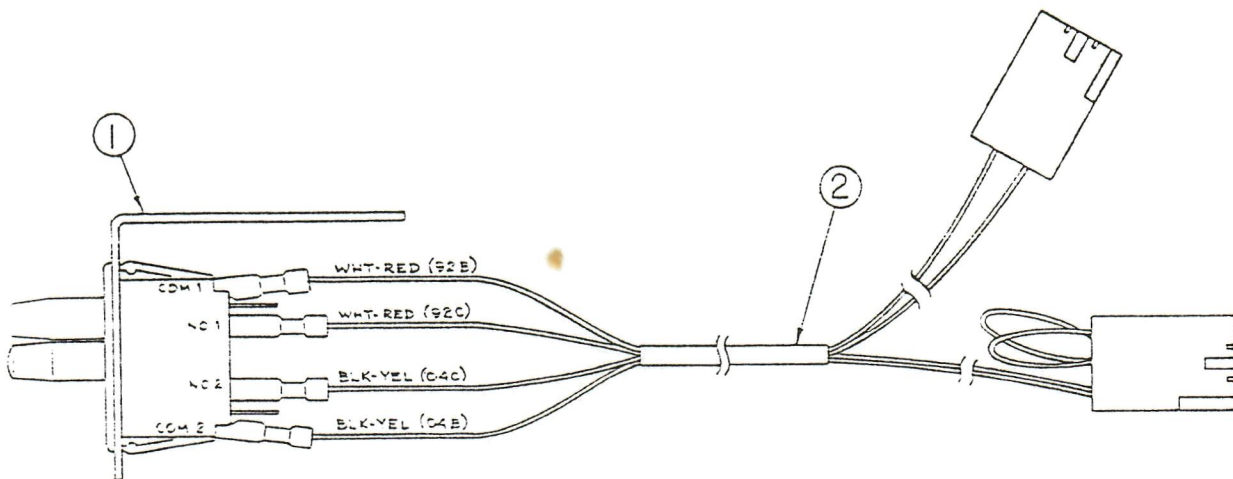
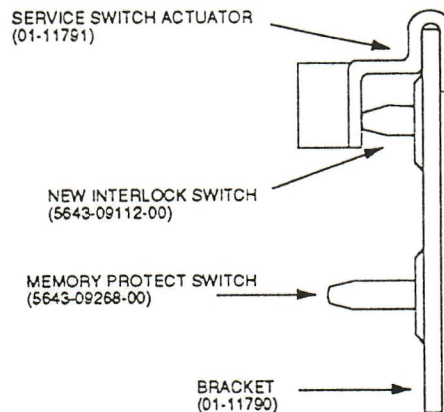
MANUAL AMENDMENT

*** * * IMPORTANT NOTICE * * * PLEASE READ * * ***

The TWILIGHT ZONE pinball game is now equipped with a SAFETY FEATURE to prevent shocks from the solenoid circuit when the coin door is opened. A new interlock switch assembly (part no. A-17077), located at the left of the coin door opening, has been added to this game. This assembly is a bracket containing the existing memory protect switch on the bottom and a new interlock switch on the top. When the coin door is opened, this new interlock switch opens, breaking the connection to the +50V and +20V winding of the transformer secondary.

A special tool called the Service Switch Actuator is provided for the serviceman/technician that repairs the game. This tool is painted yellow and located in a bag stapled inside the cabinet. The Service Switch Actuator slips over the interlock switch and holds it closed while the coin door is opened, allowing the serviceman to test and repair the solenoid circuit.

Hold the top interlock switch in, then slide the short end of the Service Switch Actuator over the top of the interlock switch bracket and the long end over the center of the switch plunger to hold it in.



Item	Part No.	Description
1	A-17077	Bracket & Switches Assembly
2	H-16810	Cable Assembly (mounted in cabinet)

Page: Inside Front Cover
Jumper Chart Correction

Country	W14	W15	W16	W17	W18
America	In	Out	Out	Out	Out
European	In	In	Out	In	In
French	In	In	In	Out	Out
German	In	In	In	In	Out
Spain	In	Out	In	In	In

Page: 2-18

LED changed to 5671-13732-00 on A-16535 and A-16534, Opto Sensor Assemblies.

INDIANA JONES OPERATIONS MANUAL AMENDMENT for manual 16-50017-101

This amendment reflects changes that occurred after the INDIANA JONES Operations Manual was printed. Please keep this amendment with your manual.

- Page 1-35: A.2 35 Jackpot Difficulty**
The operator selects how hard it is to collect jackpot and multiply jackpots during 3 ball idol multiball.
- Settings: EASY - Center drop target bank does not reset when starting multiball or when a ball enters the center idol lock hole for a jackpot multiplier.
HARD - Center drop target bank resets at the start of the multiball and each time a ball enters the center idol lock hole. Also, once a jackpot has been collected the center drop targets will automatically reset every few seconds.
- Page 2-15: 3-bank Drop Target Opto PCB Assembly**
The part number for LED 1 was 5671-09019-00. It has been changed to 5671-13732-00.
- Page 2-15, 2-44 and 3-20: 3-sw. Opto PCB Assembly**
The part number for the 3-sw. Opto PCB Assembly was A-13901-2. It has been changed to A-17042-3. On page 3-20, R10 is shown as 220KΩ. It should be 22KΩ.
- Page 2-22: Ball Trough Assembly**
The wire colors have been changed as follows:
Gray-Green becomes Gray-Violet
Gray-Violet becomes Gray-Green
Orange-Violet becomes Orange-Green
Orange-Green becomes Orange-Violet
- Page 3-20 and 3-21: 3-sw. Opto PCB Assembly**
On connector J1-7, the Violet-White wire for switch column 9 should come from the 8-driver board connector J5-1 not J5-4.
- Page 3-22: 8-driver PCB Assembly**
The Violet-White wire for switch column 9 going to the Motor Opto PCB and the 3-sw Opto PCB comes from J5-1 not J5-4.
- Page 3-24: Motor Opto Switch PCB Assembly**
On connector J1-6, the Violet-White wire for switch column 9 should come from the 8-driver board connector J5-1 not J5-4.

INDIANA JONES

AMENDMENT

These corrections effect page 2-2 of the INDIANA JONES manual.

INDIANA JONES Ribbon Cables:

17.	5795-12653-03	Ribbon Cable, 3"
18.	5795-10938-14	Ribbon Cable, 14"
19.	5795-13018-01	Ribbon Cable, 9.5"
20.	5795-12830-30	Ribbon Cable, 30"
21.	5795-10938-32	Ribbon Cable, 32"

JUDGE DREDD

Manual Amendment

The following corrections/changes have been made to the Judge Dredd Operations Manual. Please keep this amendment with your manual.

Page 1-33 Pricing Table
Changes on USA, Germany, and Finland.

Country	Coin Chutes			4th Chute	Games/Coins	Display	Pricing Adjustments A3								
	Left	Center	Right				02	03	04	05	06	07	08	09	
USA	25¢	\$1.00 ¹	25¢	-	1/50¢, 2/75¢, 3/51 ²	50¢, 75¢, \$1.00									
	25	\$1.00	25¢	-	1/3X25¢ ²	USA1 1/\$0.75									
	25	\$1.00	25¢	-	1/50¢, 2/\$1 ²	USA 2/\$1.00									
	25	\$1.00	25¢	-	1/50¢, 3/\$1.00 ²	USA 3/\$1.00									
	25	\$1.00	25¢	-	1/2x25¢, 2/4x25¢, 3/\$1.00 ²	3/\$1.00 Coin									
	25	\$1.00	25¢	-	1/2x25¢, 2/\$1.00, 3/\$1.50, 6/\$2.00 ²	USA 6/\$2.00									
	25	\$1.00	25¢	-	1/2x25¢, 2/\$1.00, 3/\$1.50, 5/\$2.00 ²	USA 5/\$2.00									
	25	\$1.00	25¢	-	1/3X25¢, 2/\$1.50, 4/\$2.00 ²	1/75, 4/\$2.00									
25	\$1.00	25¢	-	1/2x25¢, 2/\$1.00, 4/\$1.50, 6/\$2.00 ^{1,2}	6/\$2.00 4/\$1.50										
Canada	25¢	-	\$1.00	-	1/50¢, 2/75¢, 3/\$1 1/50¢, 2/\$1 ²	CANADA 1 CANADA 2									
Austria	5sch	10sch	10sch	-	1/2x5sch, 3/2x10sch ²	AUSTRIA									
	5sch	-	10sch	-	2/5sch, 5/10sch	CUSTOM	02	00	05	00	01	00	01	00	
Australia	20¢	\$1	\$1	\$2	1/\$1, 3/\$2 ²	AUSTRALIA 1									
	20¢	\$1	\$1	\$2	1/\$1, 2/\$2	AUSTRALIA 2									
U.K.	£1.00	50P	20P	10P	1/3x10P, 2/50P, 4/£1 ²	U. KINGDOM									
Switzerland	1Fr	2Fr	5Fr	-	1/1Fr, 3/2Fr, 7/5Fr ²	SWISS 1									
	1Fr	2Fr	5Fr	-	1/2Fr, 2/3Fr, 3/4Fr, 5/5F	SWISS 2									
Belgium	5Fr	20Fr	50Fr	-	1/4x5Fr, 1/20Fr, 3/50Fr ²	BELGIUM									
Germany	1DM	2DM	5DM	-	1/2DM, 2/3DM, 3/4DM, 5/5DM ²	GER. 1/2DM									
				-	1/1DM, 2/2DM, 5/5DM ²	GER. 1/1DM									
				-	1/1DM, 2/2DM, 6/5DM ^{1,2}	GER. 6/5DM									
Holland	1G	-	1G	-	1/1G ²	HOLLAND									
Sweden	1Kr	5Kr	10Kr	-	1/5x1Kr, 1/5kr, 2/10Kr ^{1,2}	SWEDEN 1									
	5Kr	5kr	5Kr	-	1/5Kr ²	SWEDEN 2									
France	1Fr	5Fr	10Fr	20Fr	1/3x1Fr, 2/5Fr, 5/10Fr, 10/20Fr ^{2,3}	TARIF 1									
	1Fr	5Fr	10Fr	20Fr	1/2x1Fr, 3/5Fr, 7/10Fr, 14/20Fr ^{2,3}	TARIF 2									
	1Fr	5Fr	10Fr	20Fr	1/5Fr, 3/10Fr, 7/2x10Fr, 7/20Fr ^{1,2,3}	TARIF 3									
	1Fr	5Fr	10Fr	20Fr	2/5Fr, 4/10Fr, 9/2x10Fr, 9/20Fr ^{2,3}	TARIF 4									
	1Fr	5Fr	10Fr	20Fr	2/5Fr, 5/10Fr, 11/2x10Fr, 11/20Fr ^{2,3}	TARIF 5									
	1Fr	5Fr	10Fr	20Fr	1/5Fr, 3/10Fr, 6/20Fr ^{2,3}	TARIF 6									
Italy	500L	500L	500L	-	1/500L ²	ITALY 1									
	500L	500L	500L	-	1/2x500L, 3/4x500L ^{1,2}	ITALY 2									
	500L	500L	500L	-	1/500L, 2/1000L	ITALY 3									
Spain	100P	-	500P	-	1/100P, 6/500P ²	SPAIN									
	25P	-	100P	-	1/25P, 5/100P	CUSTOM	01	00	04	00	01	04	01	00	
	25P	-	100P	-	1/25P, 4/100P	CUSTOM	01	00	04	00	01	00	01	00	
	25P	-	100P	-	1/2x25P, 2/100P	CUSTOM	01	00	04	00	02	00	01	00	
	25P	-	100P	-	1/2x25P, 3/100P	CUSTOM	03	00	12	00	04	00	01	06	
Japan	100¥	-	100¥	-	1/100¥ ²	JAPAN									
Chile	Token	-	Token	-	1/1Token ²	CHILE									
Denmark	1Kr	5Kr	10Kr	-	1/3x1 Kr, 3/5 Kr, 7/10 Kr ²	DENMARK									
Finland	1Mka	-	5Mka	-	1/2x1Mka, 3/5Mka ²	FINLAND 1									
	1Mka	-	5Mka	-	1/3x1Mka, 2/5Mka ²	FINLAND 2									
New Zealand	\$1.00	-	\$2.00	-	1/\$1, 3/\$2	NEW ZEALAND 1									
Zealand	\$2.00	-	\$1.00	-	1/\$1, 3/\$2, (\$2-\$1 door)	NEW ZEALAND 2									
Norway	5Kr	-	10Kr	-	1/5Kr, 2/10Kr, 5/20Kr ²	NORWAY									
Argentina	10¢	10¢	10¢	-	1/1 Token ²	ARGENTINA									
Greece	10D	20D	50D	-	1/2x10D, 1/20D, 3/50D	GREECE									
Antilles	25¢	25¢	1G	-	1/25¢, 4/1G	ANTILLES									
Netherlands	1Hfl	2.5Hfl	2.5Hfl	-	1/1Hfl, 3/2.5Hfl	NETHERLANDS									
Hungary	10F	10F	20F	-	1/1x20F, 1/2x10F, 3/2x20F ²	HUNGARY									

Note: 1. Factory Default. 2. Standard Setting - Change by pressing Enter button. 3. Other functions are also affected.
* Only if Bill Acceptor and Center Coin Chute are available.

A-15205-R-2

A-15849-R-2

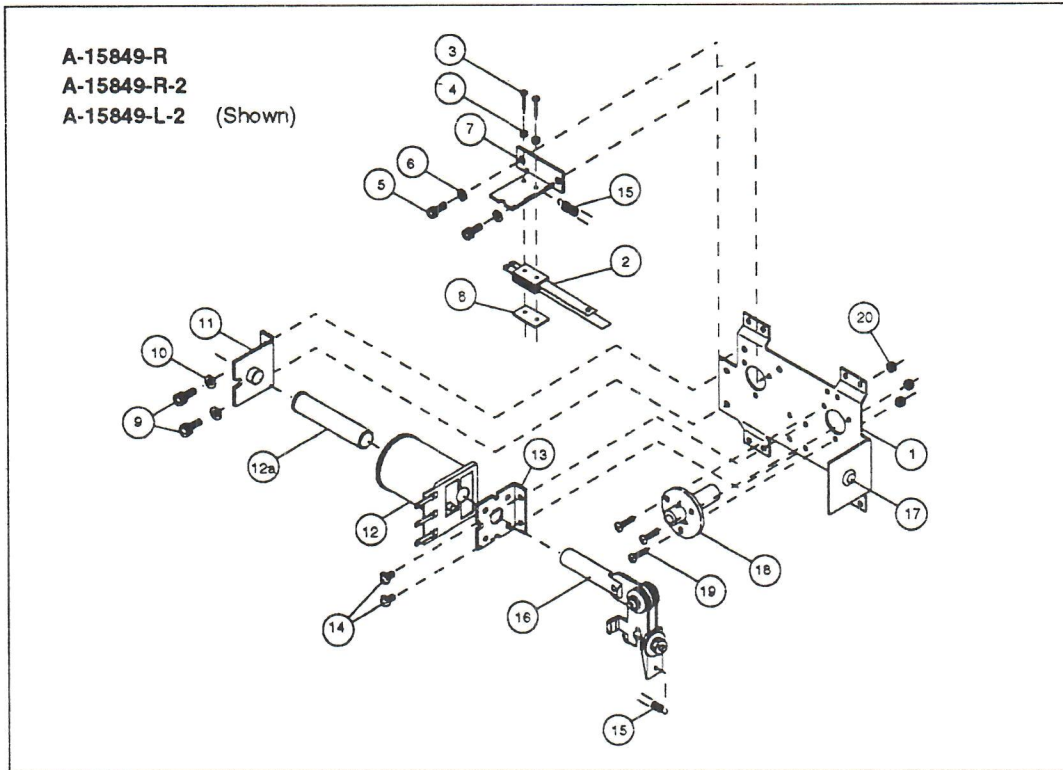
A-15205-L-2

A-15849-L-2

A-15205-R

A-15849-R

Changed Item #16 from B-13882-L(R) to A-15848-L(R).



A-15849-R-2 & A-15849-L-2 Flipper Assembly

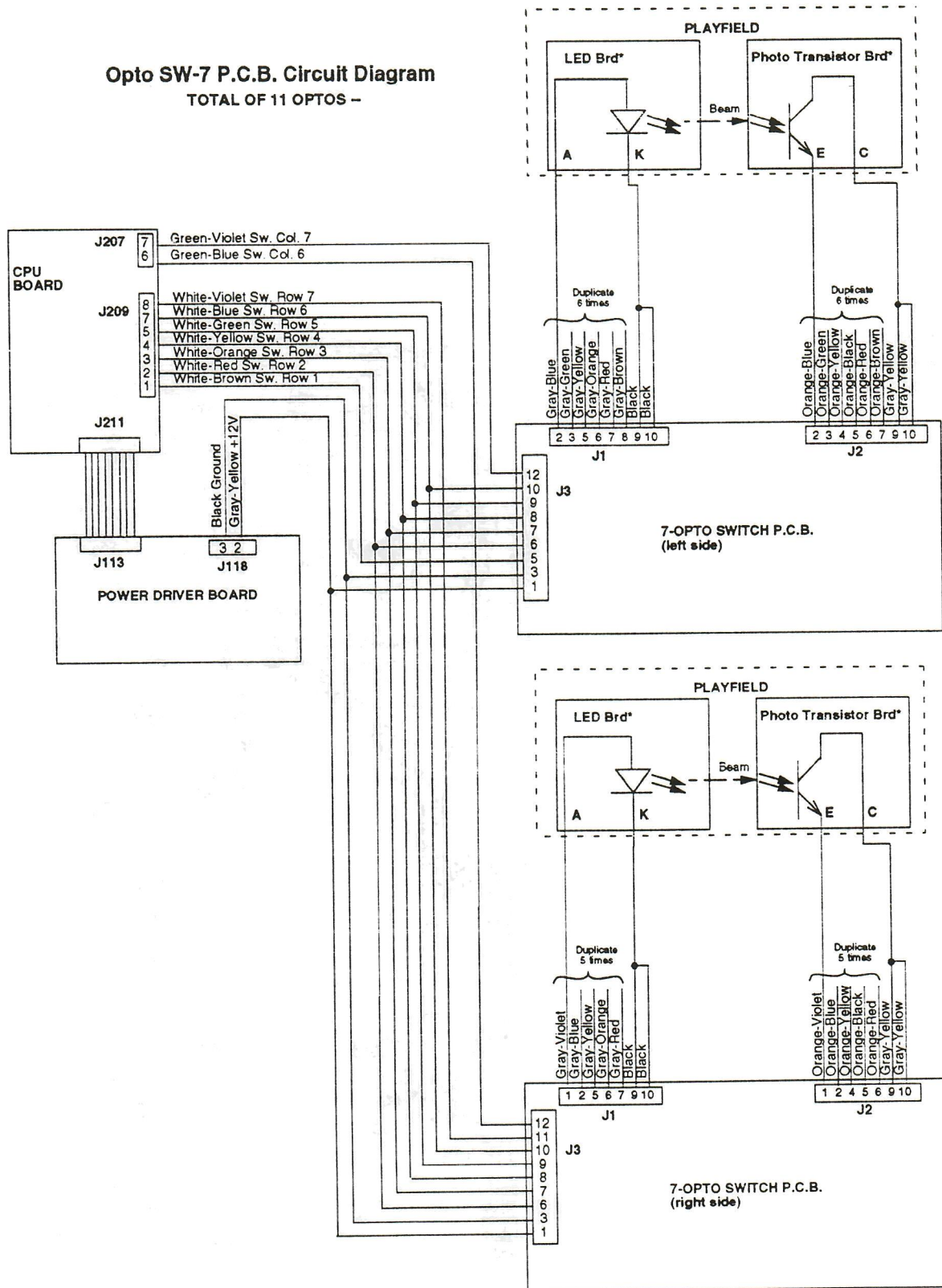
Item	Part Number	Description	Item	Part Number	Description
1.	B-13104-R <i>B-13104-L</i>	Flipper Base Assy., Right <i>Flipper Base Assy., Left</i>	15.	10-364	Spring
2.	SW-1A-194	Switch Assembly	16.	A-15848-R <i>A-15848-L</i>	Crank Link Assembly, Right <i>Crank Link Assembly, Left</i>
3.	4701-00002-00	Lockwasher, #6 Split	a)	A-17050-R	Flipper Crank Assembly, Right
4.	4105-01019-10	Sh. Metal Screw, #5 x 5/8 P-RH-A	b)	A-17050-L	<i>Flipper Crank Assembly, Left</i>
5.	4008-01079-05	Mach. Screw, 8-32 x 5/16 H-SOC	b)	A-15847	Flipper Link Assembly
6.	4701-00003-00	Lockwasher, #8 Split	c)	02-4676	Link Spacer Bushing
7.	01-9375	Switch Mounting Bracket	d)	4010-01086-14	Cap Screw, 10-32 x 7/8 SH
8.	20-6516	Speednut, Tinnerman	e)	4700-00023-00	Flatwasher, 5/8 x 13/64 x 16ga.
9.	4010-01066-06	Cap Screw, 10-32 x 3/8, SH	f)	4701-00004-00	Lockwasher #10 Split
10.	4701-00004-00	Lockwasher, #10 Split	g)	4410-01132-00	Nut, 10-32 ESN
11.	A-12390	Flipper Stop Assembly	17.	23-6577	Bumper Plug, 5/8"
12.	FL-11629	Flipper Coil (Blue)	18.	03-7568	Flipper Bushing
a)	03-7066-5	Coil Tubing	19.	4006-01005-06	Mach. Screw, 6-32 x 3/8 P-PH
13.	01-7695	Solenoid Bracket	20.	4406-01117-00	Nut, 6-32 Hex
14.	4006-01017-04	Mach. Screw, 6-32 x 1/4 P-RH-S			

Associated Parts for Left & Right Flippers:
 23-6695 Flipper Rubber Ring, 1-1/2" (3 Used) and 20-9250-6 Flipper & Shaft-White (3 Used).

A-15849-R Flipper Assembly
 (Parts listed replace same items of A-15849-R-2)

Item	Part Number	Description
12.	FL-11630	Flipper Coil (Red)

Opto SW-7 P.C.B. Circuit Diagram
 TOTAL OF 11 OPTOS -



JUDGE DREDD

Manual Amendment

The following corrections have been made to the Judge Dredd Operations Manual.
Please keep this amendment with you manual for future reference.

Page: 2-2

Backbox Assembly

Item #17 should be 5795-10938-14 Ribbon Cable, 14"

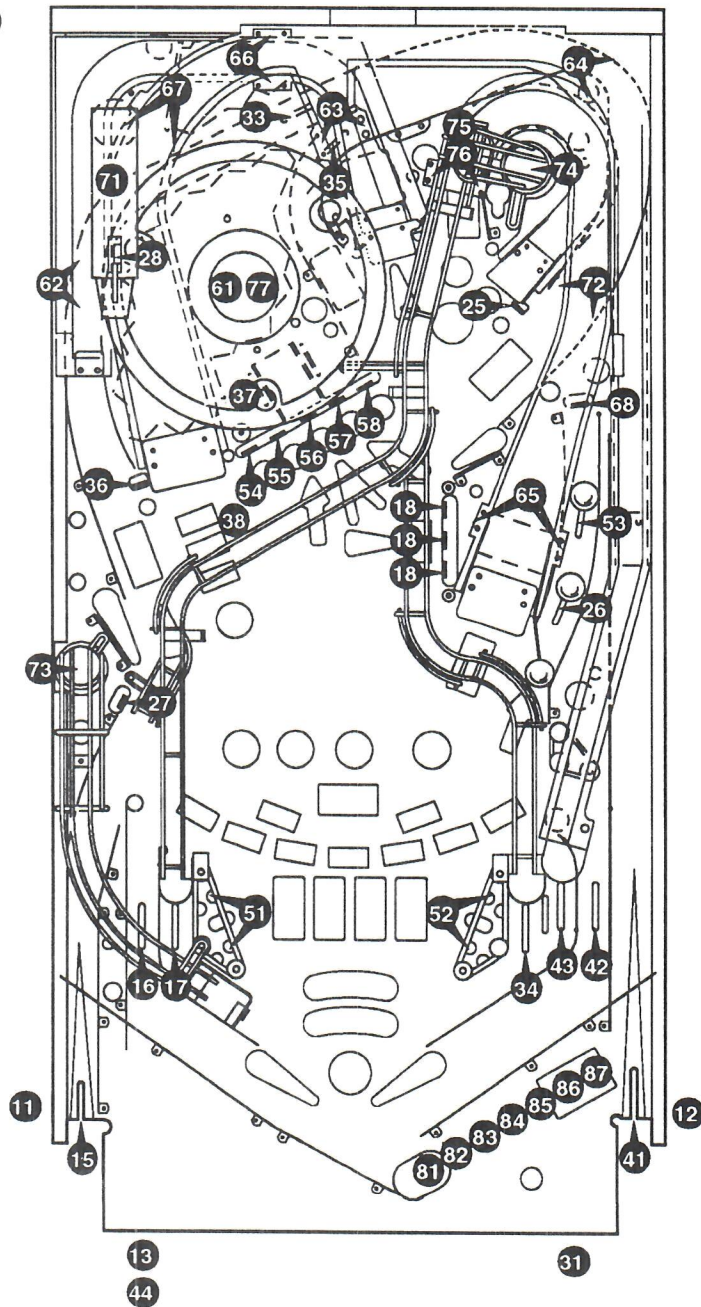
Item #18 should be 5795-13018-01 Ribbon Cable, 23.5"

Page: 2-43

Switch Locations (playfield drawing)

Switch #32 was deleted.

Switch #67 was added.



JUDGE DREDD

Manual Amendment

The following corrections have been made to the Judge Dredd Operations Manual.
 Please keep this amendment with your manual for future reference.

Pages: Inside Front Cover, 2-30, 2-44, 2-45 and 3-5. ↔

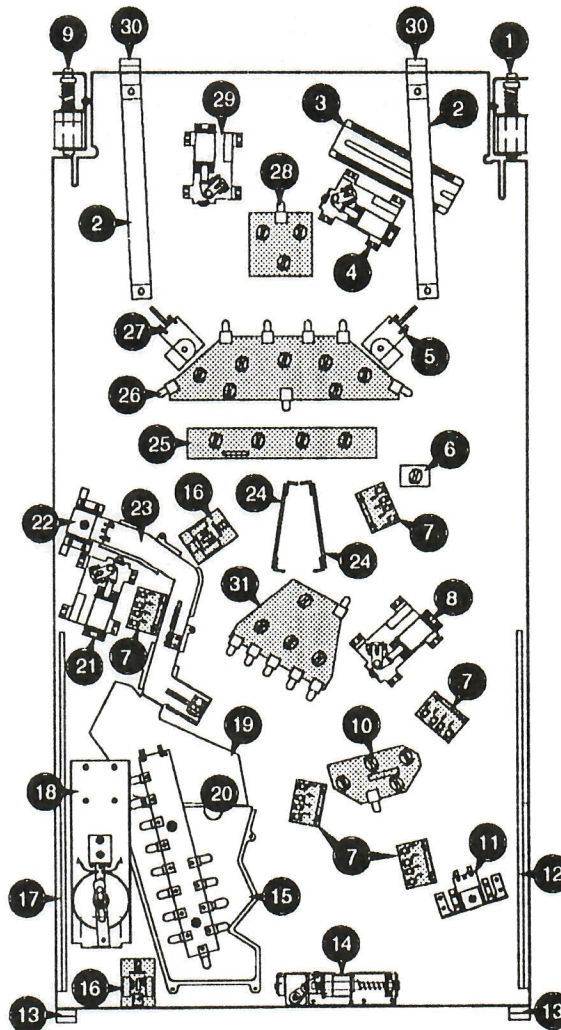
A-16936 Kicker Bracket Assembly

Coil AE-23-800 has been changed to AE-25-1000.

Page: 2-38

Correction to Lower Playfield Part Locations (Items 19 & 31).

Item	Part Number	Description
1.	A-14525	Kicker Bracket Assembly
2.	01-11781	Leg Support (2 Used)
3.	A-16765	Outhole Ball Trough Assembly
4.	A-15205-R-2	Flipper Assembly, Lwr. Right
5.	B-12665	Kicker Arm (Slingshot) Assy., Right
	A-14369-R	Coil & Bracket Assembly
	10-128	Spring
	B-8284-1	Kicker Switch Assembly
6.	B-12224	Single Lamp Board
7.	A-16843	4-Lamp Board
8.	A-15205-R	Flipper Assembly, Upper Right
9.	A-16936	Kicker Bracket Assembly
10.	A-16841	5-Lamp Board
11.	A-15769	Ball Popper & Opto Assembly
12.	A-16637-2	Plfd. Slide Mechanism, Right
13.	01-10726	Rear Guide Leg (2 Used)
14.	A-16802	Diverter Assembly
15.	A-16947	Trough Assembly
16.	A-15542	Motor EMI (2 Used)
17.	A-16637-1	Plfd. Slide Mechanism, Left
18.	A-17247	Lifter Assembly
19.	A-16968	Trough Assembly
20.	A-16478	Planet Assembly
21.	A-16976-L	Flipper Assembly, Upper Left
22.	A-16580	Ball Popper Assembly
23.	A-16833	Trough Assembly
24.	A-15576	7-Opto Switch Board (2 Used)
25.	A-16844	4-Lamp Board
26.	A-16839	14-Lamp Combo PCB
27.	B-12665	Kicker Arm (Slingshot) Assy., Left
	A-14369-L	Coil & Bracket Assembly
	10-128	Spring
	B-8284-1	Kicker Switch Assembly
28.	A-16929	4-Lamp Board
29.	A-15205-L-2	Flipper Assembly, Lwr. Left
30.	01-8419	Plfd. Hanger Bracket (2 Used)
31.	A-16840	10-Lamp Combo PCB Assembly

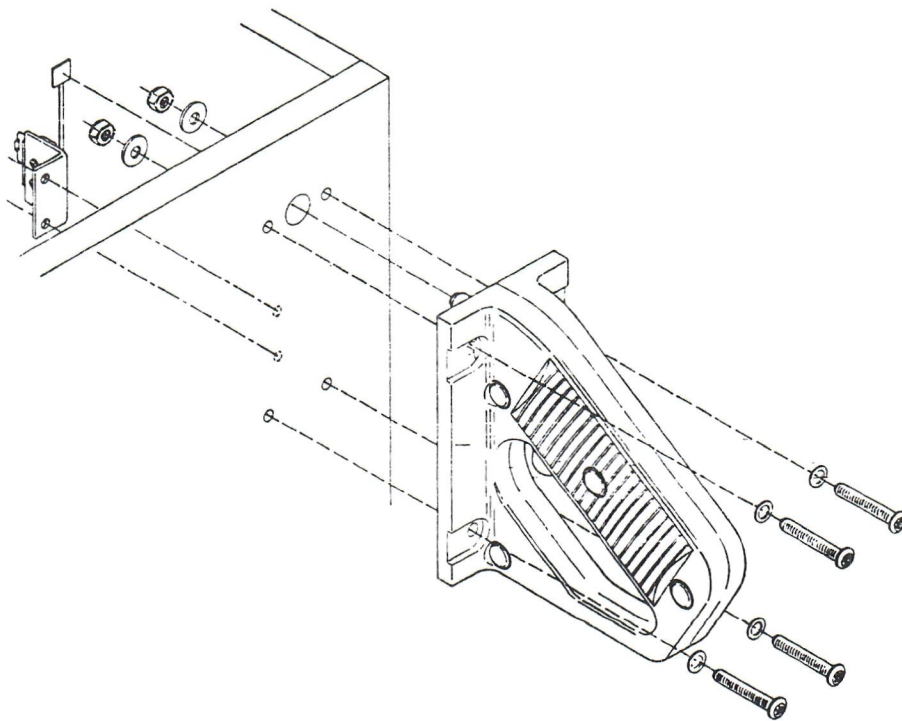


Underside of Playfield, Viewed In Raised Position

STAR TREK (50023) A-14747 Gun Handle Installation

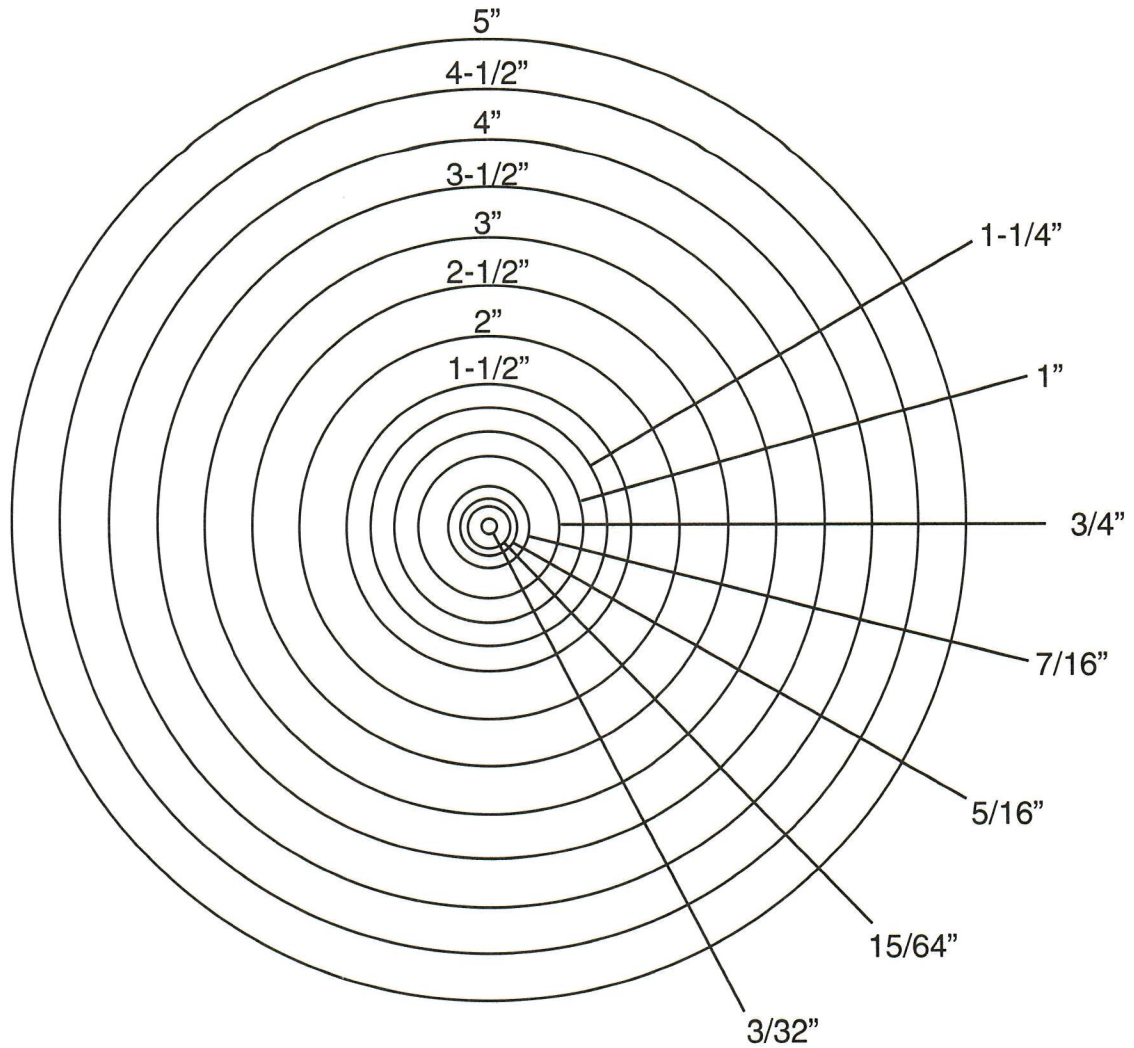
The gun handle is mounted on the partition located behind the cashbox. Remove the hardware holding the gun handle to the partition and set it aside. Position the gun handle at the outside top right corner of the cabinet. (See diagram below.) Fasten the handle in place with the same hardware removed from the partition.

4410-01119-00 (4 used) Nut 10-24 ESN (To install 10-24 ESN nut use 3/8" nut driver: color code, blue)
4700-00060-00 (4 used) Flat Washer .219x.500x.063
4310-01123-24B (4 used) Bolt 10-24 x1-1/2 CB



Rubber Rings

(Inside Dimension Reference)



Also available in black per charts:

Black Part No.	I.D.	White Part No.
23-6694-1	3/32	23-6535
23-6694-2	15/64	23-6641-1
23-6694-3	5/16	23-6300
23-6694-4	7/16	23-6599
23-6694-5	3/4	23-6301
23-6694-6	1	23-6302
23-6694-7	1-1/4	23-6303

Black Part No.	I.D.	White Part No.
23-6694-8	1-1/2	23-6304
23-6694-9	2	23-6305
23-6694-10	2-1/2	23-6306
23-6694-11	3	23-6307
23-6694-12	3-1/2	23-6308
23-6694-13	4	23-6309
23-6694-14	4-1/2	23-6530
23-6694-15	5	23-6310



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