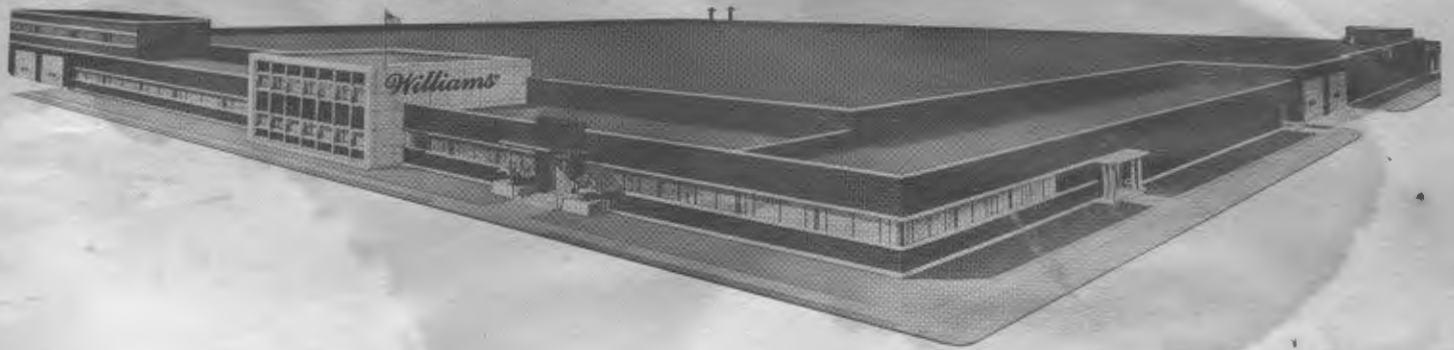


Instruction Manual

for

BALL PARK



Williams[®] ELECTRONICS, INC.
SUBSIDIARY OF THE SEEBURG CORPORATION

3401 N. California Ave.
Phone 267-2240

Chicago, Ill. 60618, U.S.A.
Cable Address: Wilcoin

INSTRUCTIONS FOR ALTERING COIN CHUTES EQUIPPED WITH A FLIP-OVER DEVICE.

FOR 1 COIN - FOR 1 PLAY

OR

2 COINS - FOR 1 PLAY.

FIGURE 1

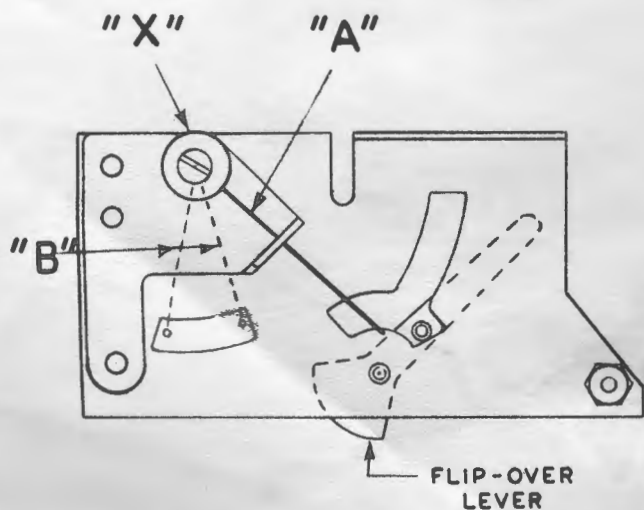
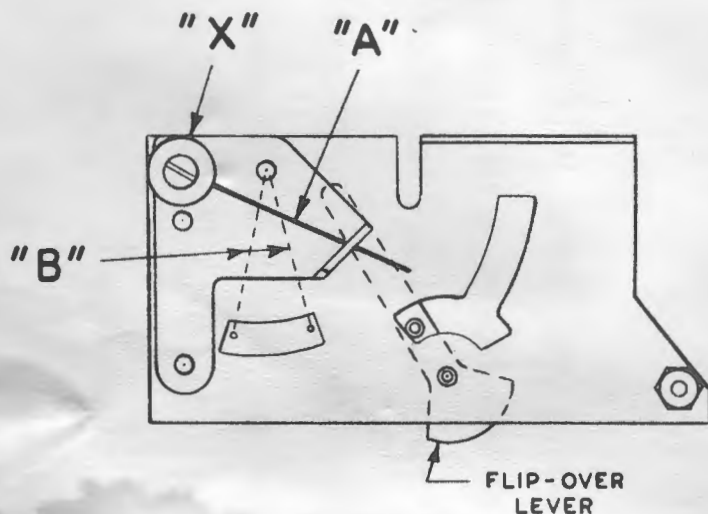


FIGURE 2



1 COIN - FOR 1 PLAY (FIGURE 1):

Wire form "A" should be in position as shown in Figure 1. Flip-over lever should rebound from wire form "A" and return to position shown in Figure 1 everytime a coin is inserted. All coins pass over the coin trip switch wire "B".

2 COINS - FOR 1 PLAY (FIGURE 2):

Wire form "A" should be in position as shown in Figure 2 (see note). Flip-over lever should alternate from side to side. 1st coin should go to cash box without actuating coin trip switch wire "B", 2nd coin should pass the coin trip switch wire "B" and returns flip-over to position as shown in Figure 2.

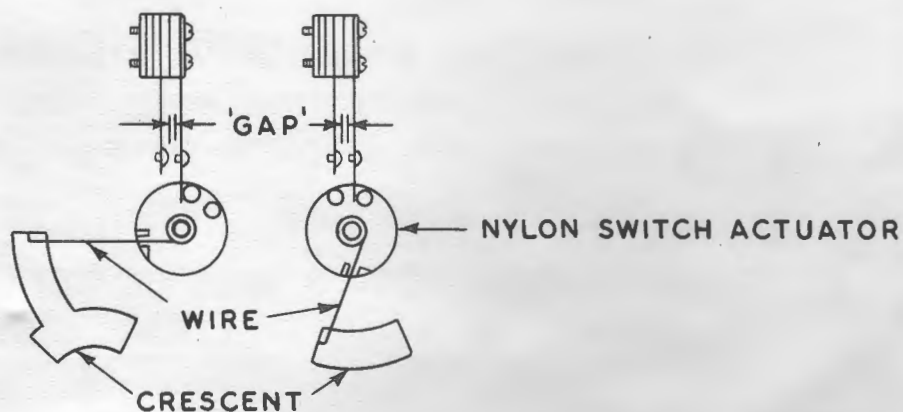
NOTE:

To change from 1 coin play to 2 coin play or vice versa - loosen screw "X" and move screw, bushing & wire form "A" to position as required - shown in Figure 1 position as required - shown in Figure 1 or Figure 2.

When using 1 coin for 1 play, wire form "A" should not under any circumstances be allowed to enter the "Banana" slot and cause binding of flip-over lever.

INSTRUCTIONS FOR COIN TRIP SWITCH ADJUSTMENT

WIRE SHOULD BE IN CONTACT WITH END OF CRESCENT OPENING WHEN BLADE ADJUSTMENT IS MADE.



Long blade should be in contact with nylon switch actuator and have a maximum overtravel of $1/32$.

or

Using a gram gauge, tension of long blade should not exceed 10 grams.

SWITCH ADJUSTMENT

1. For small coins, such as dimes, adjust short blade so that the 'gap' between the silver contacts is .045 to .055.
2. For larger & heavier coins the 'gap' should be .045 to .060.
3. Do not adjust 'gap' closer than .040.

WARRANTY

THE MOTORS IN ALL NEW WILLIAMS PRODUCTS ARE UN-CONDITIONALLY GUARANTEED FOR 6 MONTHS FROM DATE OF PURCHASE.

ANY DEFECTIVE MOTORS RETURNED DURING THE WARRANTY PERIOD WILL BE REPLACED FREE OF CHARGE BY YOUR WILLIAMS DISTRIBUTOR.

IMPORTANT NOTICE

WHEN ORDERING PARTS ALWAYS SPECIFY NAME OF UNIT, GAME AND SERIAL NUMBER, IN ADDITION TO A CLEAR DESCRIPTION OF THE PART AND PART NUMBER IF POSSIBLE.

UNIT PARTS LIST FOR "BALL PARK"

UNIT NAME	CONTACT DISC	WIPER ASSEMBLY	RATCHET GEAR ASSEMBLY	MOTORS
REPLAY	—	—	A-6400	14A-7751 (60cycle) MAN RUN
INNING	C-6417	C-6520-5	A-6402-9	14A-7757 (50cycle) MAN RUN
OUT	C-6417	C-6520-2	A-6402-3	14A-7805 (60cycle) CONTROL
1st PLAYER 0-9	B-6297	A-6294	3C-7128	14A-7806 (50cycle) CONTROL
1st PLAYER 10-90	B-6297	A-6294	3C-7128	14A-7821 (60cycle) PITCHER
2nd PLAYER 0-9	B-6297	A-6294	3C-7128	14A-7823 (50cycle) PITCHER
2nd PLAYER 10-90	B-6297	A-6294	3C-7128	
GRAND SLAM	B-6297	A-6294	3C-7128	

"BALL PARK" COIL & MOTOR CHART

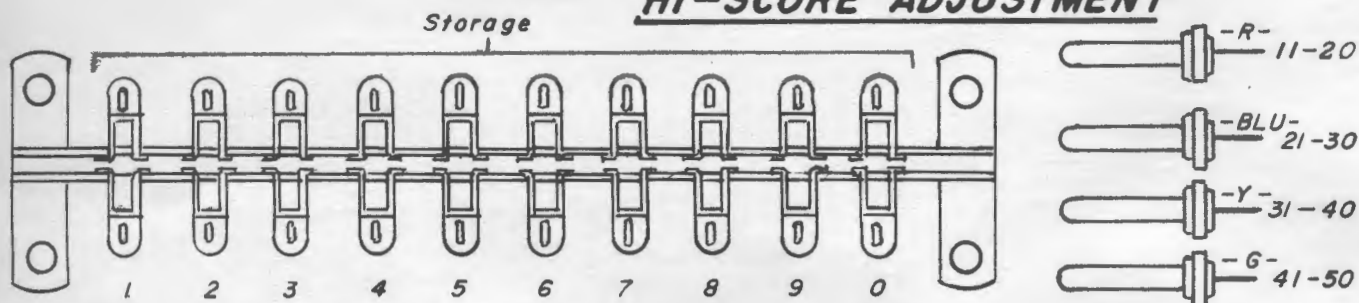
NOTICE:

THIS GAME OPERATES ON 24 VOLTS. WHEN ORDERING REPLACEMENT TRANSFORMERS, MOTORS, COILS OR METERS ... MAKE SURE TO SPECIFY CORRECT PART NUMBER.

NUMBER	DESCRIPTION	LOCATION
14 A 7751	MAN RUN MOTOR - 60 CYCLE	MAN RUN UNIT
14 A 7757	MAN RUN MOTOR - 50 CYCLE	MAN RUN UNIT
14 A 7805	CONTROL MOTOR - 60 CYCLE	MECH. PANEL
14 A 7806	CONTROL MOTOR - 50 CYCLE	MECH. PANEL
14 A 7821	PITCHER MOTOR - 60 CYCLE	PLAYFIELD
14 A 7823	PITCHER MOTOR - 50 CYCLE	PLAYFIELD
15 A 6771	TRANSFORMER - 60 CYCLE	MECH. PANEL
15 A 6773	TRANSFORMER - 50 CYCLE	MECH. PANEL
20 A 8702	CURVE MAGNET COIL (110 Volt)	PLAYFIELD
20 A 8702	KNUCKLER MAGNET COIL (110 Volt)	PLAYFIELD
B 6396.	24 VOLT METER	MECH. PANEL
<u>SOLENOID COILS</u>		
A 22-550	OUT UNIT STEP UP INNING UNIT STEP UP	INSERT INSERT
A 23-600	CREDIT UNIT STEP UP	INSERT
A 24-850	MAN LOADING COIL	MAN RUN UNIT
A2-23-750	LARGE RUN BELL KNOCKER	CABINET CABINET
B 26-800	CREDIT UNIT RESET OUT UNIT RESET INNING UNIT RESET 1st 0-9 DRUM 2nd 0-9 DRUM 1st 10-90 DRUM 2nd 10-90 DRUM GRAND SLAM DRUM	INSERT INSERT INSERT INSERT INSERT INSERT INSERT INSERT
C2-26-800	SMALL BELL EXTRA INNING CHIME	CABINET CABINET
D 22-1150	RELAY BANK RESET	MECH. PANEL
H 23-870	BAT COIL	PLAYFIELD
M 30-1400	INNING UNIT TOTAL RESET	INSERT
<u>RELAY COILS</u>		
M 29-1100	10¢ RELAY 25¢ RELAY RUN RELAY OUT RELAY #1 RELAY #2 RELAY #3 RELAY #4 RELAY PLAYER RELAY (Trip)	MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL INSERT
M1-31-1500	COIN LOCKOUT COIL (24 Volt)	FRONT DOOR
S 27-500	RELAY BANK COILS ... (16 req'd.)	MECH. PANEL
Z 27-1000	COIN RELAY 3rd OUT RELAY LOAD CONTROL PLAYER RELAY (Reset)	MECH. PANEL MECH. PANEL MECH. PANEL INSERT
Z 28-1150	TRANSFER RELAY BAT RELAY FAST RELAY CURVE RELAY	MECH. PANEL PLAYFIELD PLAYFIELD PLAYFIELD
Z 28-1200	LOCK RELAY	MECH. PANEL

ADJUSTMENTS IN BACKBOX

HI-SCORE ADJUSTMENT



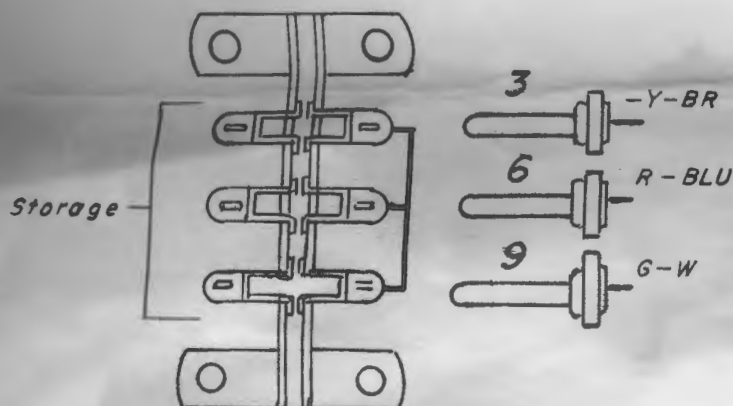
INSERT PHONE TIPS INTO FEMALE AT DESIRED POSITIONS

Example:-

Yellow wire into three (3) position scores at 33

Yellow wire into Zero (0) position scores at 40

GRAND SLAM ADJUSTMENT



INSERT PHONE TIPS INTO
DESIRED POSITIONS

Example:-

*Y-Br wire will score when grand
slam drum unit advances to (3)*

THE POWER TRANSFORMER,

LOCATED ON PANEL. IS EQUIPPED WITH A SECONDARY TAP. IF YOUR GAME IS ON LOCATION WITH EXTREMELY LOW LINE VOLTAGE, REMOVE LEAD FROM LUG MARKED 24 VOLT AND SOLDER TO ALTERNATE LUG MARKED "HIGH". THIS WILL BOOST SECONDARY VOLTAGE BY APPROXIMATELY 4 VOLTS.

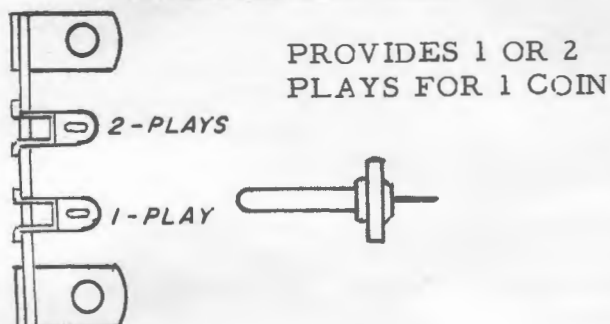
SUGGESTED SCORE CARDS:

FOR NOVELTY PLAY-355-29

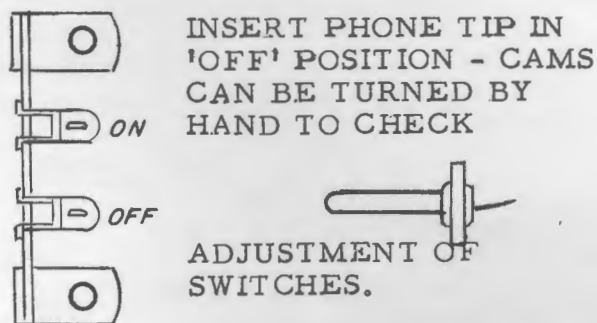
FOR CREDIT PLAY-355-13

ADJUSTMENTS ON MECHANISM PANEL

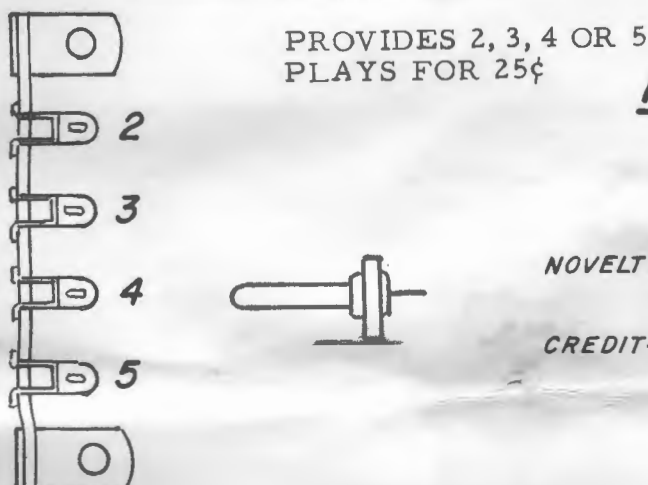
10¢ Adjustment



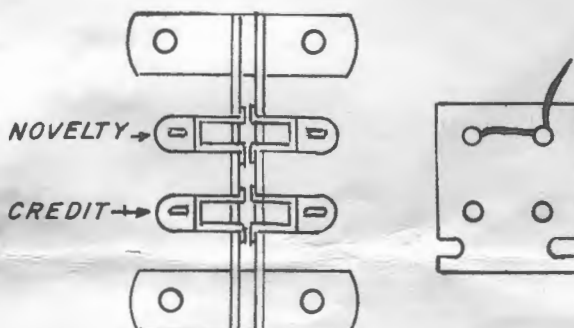
Motor Service Jack



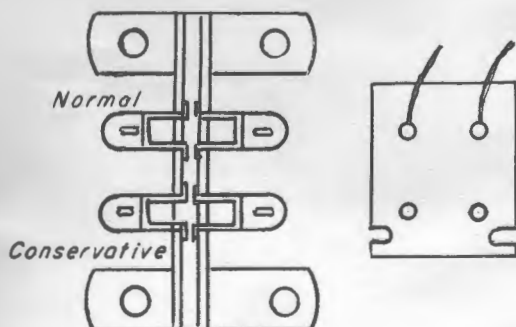
25¢ Adjustment



NOVELTY - CREDIT ADJ.



N-Hits Predominate



INSERT JACK IN NOVELTY (N) POSITION-
HI SCORES AND GRAND SLAM HOME RUNS,
AS INDICATED, PLUS LEFT, CENTER,
AND RIGHT HOME RUNS, WILL SCORE
ADDITIONAL INNING.

INSERTING JACK IN CREDIT POSITION
WILL SCORE ADDITIONAL CREDITS.

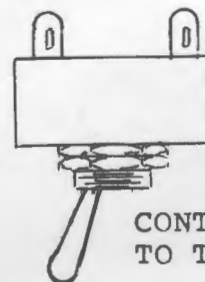
C-Outs Predominate

IN NORMAL POSITION, WHEN AN OUT
TARGET AND A HIT TARGET ARE
ACTUATED SIMULTANEOUSLY ONLY
THE HIT WILL REGISTER.

IN CONSERVATIVE POSITION, ONLY
THE OUT WILL REGISTER.

MASTER ON-OFF SW.

(Located under front of
Cabinet)



CONTROLS POWER
TO TRANSFORMER

"BALL PARK"

"BALL PARK" OPERATES AS FOLLOWS:

PLAYER PRESSES DESIRED PITCH BUTTON-FAST, CURVE, OR KNUCKLER. PLAYER THEN PRESSES BAT BUTTON (LOCATED TO THE RIGHT OF PITCH BUTTONS) TO HIT THE BALL. THE SEVEN TARGETS AT REAR OF PLAY-FIELD SCORE AS INDICATED.

A HOME RUN IS SCORED BY HITTING THE BALL INTO UPPER DECK. THE UPPER DECK IS DIVIDED INTO THREE SECTIONS: LEFT, CENTER, AND RIGHT. MAKING THESE THREE SCORES A CREDIT.

HITTING A HOME RUN WITH THE BASES LOADED ADVANCES THE GRAND SLAM DRUM UNIT. A CREDIT IS SCORED ON THE THIRD, SIXTH, AND/OR NINTH GRAND SLAM, AS INDICATED ON SCORE CARD.

BASE-RUNNER, ADVANCING FROM THIRD BASE TO HOME PLATE REGISTERS ONE RUN ON SCORE DRUMS. HI-SCORE, AS INDICATED ON SCORE CARD, REGISTERS A CREDIT.

IF NOVELTY-CREDIT ADJUSTMENT JACK IS IN NOVELTY POSITION, AN EXTRA INNING WILL REGISTER INSTEAD OF THE CREDITS REFERRED TO ABOVE.

WHEN ALL SEVEN TARGETS ARE HIT, AS INDICATED BY LITES ABOVE THE TARGETS, AN EXTRA INNING IS SCORED.

FOR INFORMATION ON ADJUSTMENT JACKS, REFER TO PAGES SIX AND SEVEN.

WHAT TO DO IF:

1. Lights are out, game is inoperative:
 - a. Check A.C. cord and plugs for breaks, cuts or other damage.
 - b. Check fuses, located behind cash box.
 - c. Check master switch, located under front of cabinet.
 - d. Check plugs and jacks for proper installation.
2. Lights are out, game operates:
 - a. Check 10 Amp fuse, Blue wire.
 - b. Check lite bulbs.
3. Game resets, but Game Over Relay trips immediately:
 - a. Check switch on Tilt Relay, Orange-Green wire.
 - b. Check switch on Lock Relay, Green-Orange wire.
4. Lock Relay fails to pull in:
 - a. Check switch on Coin Relay, Blue wire.
 - b. Check Cabinet Bottom Slam switch.
5. Inning S.U. fails to register when all seven targets are hit and lit.
 - a. Check switch on 3rd Out Relay, Black-Yellow wire.
 - b. Check switch on Game Over Relay, Black-Yellow and Brown wires.
 - c. Check switch on 7 TGTS. Bar (mechanical bar on Relay Bank), Brown and a Jumper.
 - d. Check switch on 7 TGTS. Extra Inning Relay, Jumper and Red-White.
 - e. Check switch on Transfer Relay, Red-White and White-Black wires.
 - f. Check Inning S. U. coil.
6. Grand Slam Drum Unit fails to operate:
 - a. Check 5 a and 5 b above.
 - b. Check Cam switch, zero position on Man Run unit, Brown and Orange-Red.
 - c. Check switch on Load Control Relay, Orange-Red and White-Green.
 - d. Check 1st, 2nd, and 3rd Base switches on Man Run unit.
 - e. Check switch on #4 Relay, Orange and Brown-Black.
 - f. Check Grand Slam Drum Unit coil.

NOTE: Grand Slam Drum Unit automatically steps from 9 to 0.

7. Grand Slam Unit fails to automatically step from 9 to 0:
 - a. Check feed from wiper (Brown wire) to White-Orange on Grand Slam Drum Unit Disc.
 - b. Check switch on #2 Relay, White-Brown.
 - c. Check #2 Cam switch on Man Run Unit, White-Brown and Brown-Black.

I GENERAL

NEVER EXPERIMENT with any of the mechanism. Locate any trouble with the aid of Wiring Diagrams or Operating & Servicing Information supplied with the machine, then check for proper adjustment of the units involved before making any changes. Improper adjustment or make-shift repair will only cause serious damage to other parts of the machine or repeated failure of the part.

NOTE: Always look for a possible loose wire, bad connection at a plug and socket, broken or unhooked springs on step-up units, relays, etc., before adjustments are made or wires reconnected.

II FUSES

IMPORTANT: Never replace fuses with any rating, other than specified on the fuse block; this fuse block is located adjacent to the transformer.

III LUBRICATION

Over-lubrication causes far more trouble in coin operated equipment than under-lubrication. Practically all cases of poor contact on switches and wiper discs are due to oil or grease, or oil vapor, which forms a film or residue on the contacts and will not allow current to pass through. Excess lubricant may also seep into clutches causing them to slip.

IMPORTANT: NEVER USE VASELINE FOR LUBRICATION OF ANY PART OF THE MACHINE. Vaseline is not a true lubricant. It leaves a dirty and gummy residue and it becomes very thick when cold. A special Coin Machine Lubricant is supplied with each machine.

STEP-UP Levers, Ratchets, Cams, Shafts and other sliding or oscillating parts should be very lightly greased with special Coin Machine Lubricant (supplied with machine) not oftener than every six months. The bakelite discs (biscuits) on the Motor Units and Step-up Units will require lubrication with the special Coin Machine Lubricant only after the grease is completely evaporated (3 to 12 months, depending on climate) or when the film of grease becomes dirty. In either event, clean the parts thoroughly with Benzol, Naptha, White Gasoline, or Carbon Tetrachloride, then apply an extremely thin coat of the special grease.

Solenoid Plungers should not have a lubricant of any kind. Should there be a sluggish tendency or if plungers are sticking, the parts should be cleaned with a solvent and flaked graphite applied on reassembly.

IV RELAY AND SWITCH ADJUSTMENT

Where relay adjustments are called for, before bending blades, in all cases, on any machine, make certain that the screws holding the switch stacks are down very tightly. This is suggested because the plastic spacers in the switch stacks have occasionally shrunk by drying out, causing a poor adjustment.

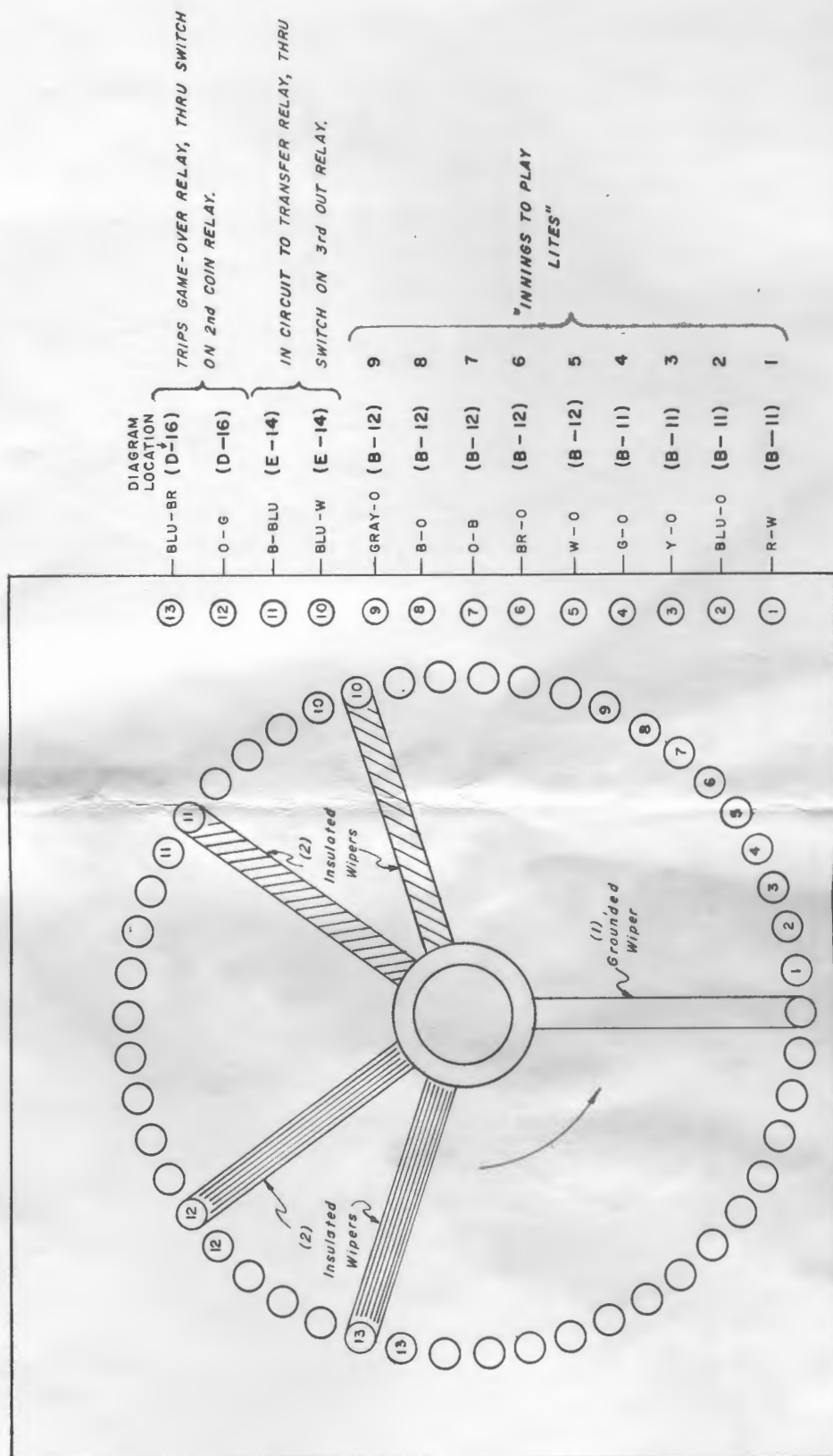
INNING UNIT DISC

THIS UNIT RESETS TOTALLY AT START OF GAME. IT RESETS ONE STEP EACH TIME THE 3rd OUT IS MADE.

THIS UNIT ADVANCES ONE STEP WHEN ALL SEVEN TARGETS ARE LIT. IT ALSO ADVANCES ONE STEP (THRU THE CREDIT-NOVELTY ADJUSTMENT JACK) WHEN :-

① HIGH SCORES, AS INDICATED, ARE MADE — ② LEFT, CENTER AND RIGHT HOME RUNS ARE SCORED — ③ GRAND SLAM HOMERS AS INDICATED, ARE REGISTERED.

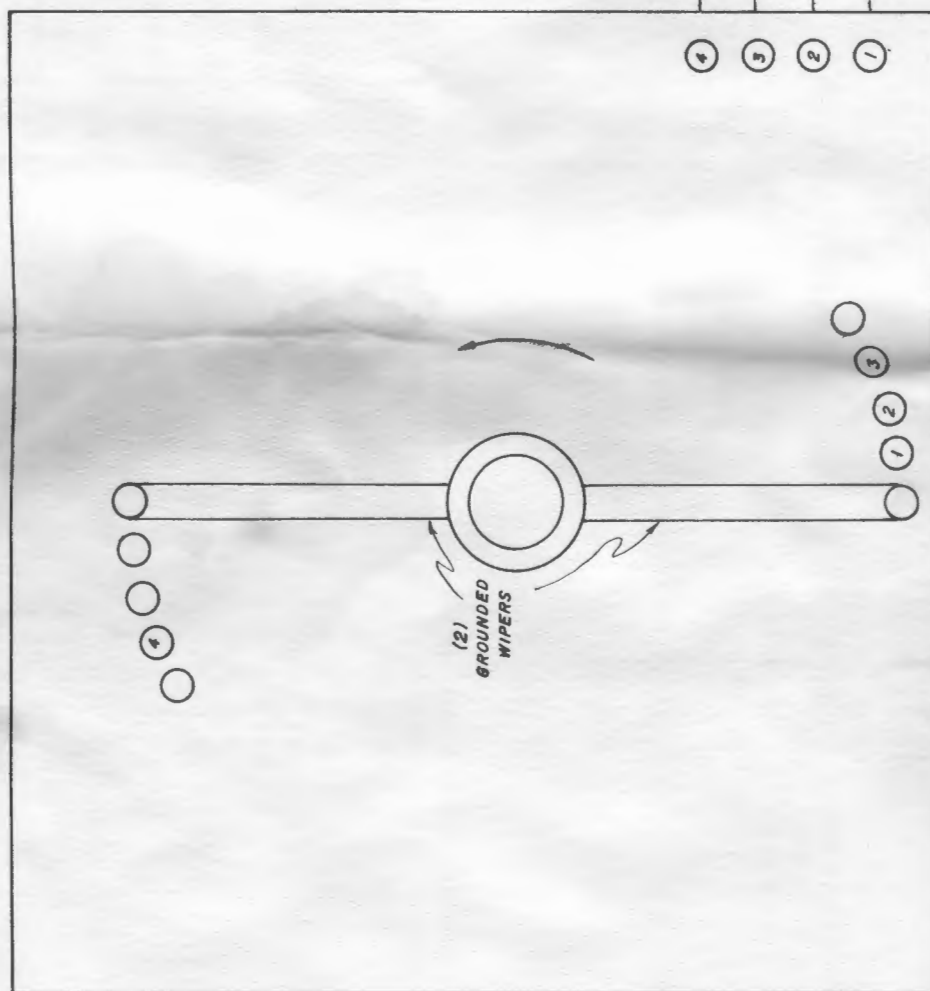
View looking at WIPER FINGER SIDE
with wiper in zero position

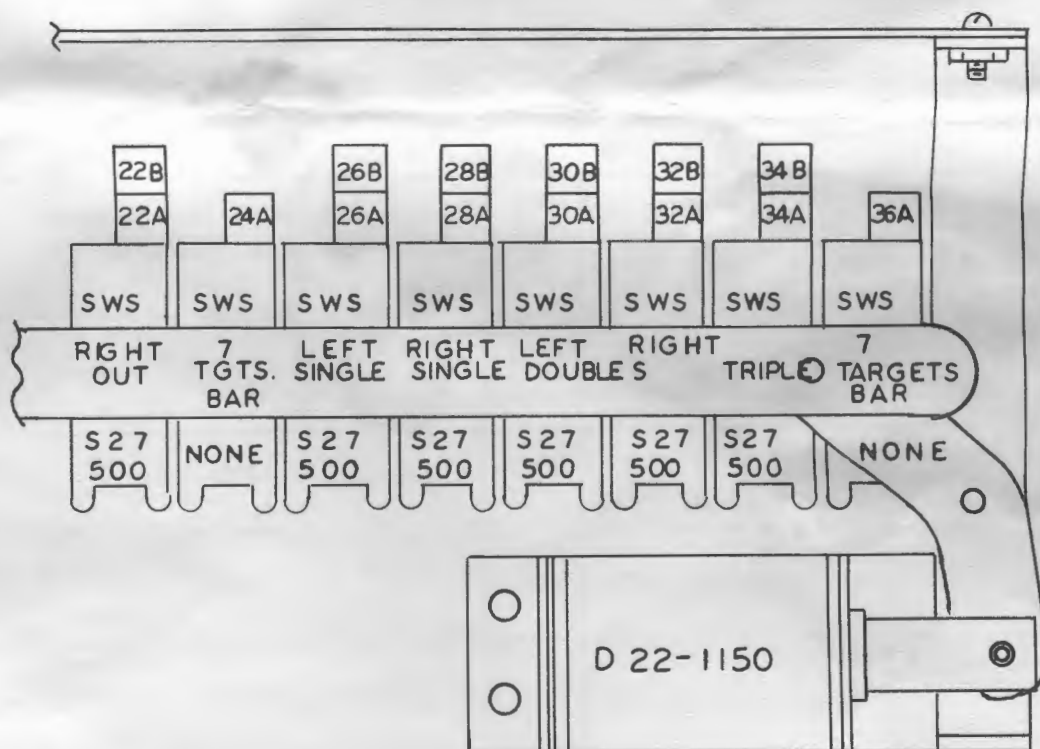
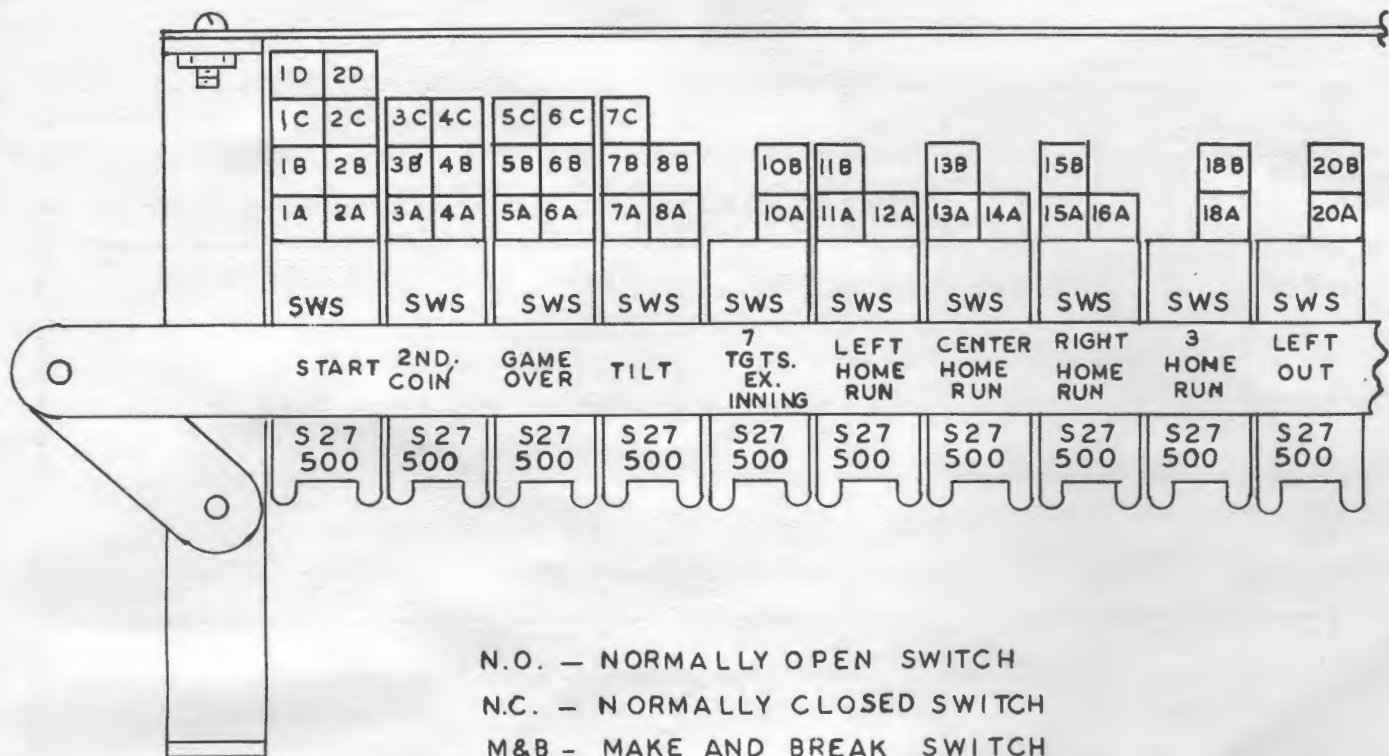


OUT UNIT DI

THIS UNIT RESETS AT START OF NEW GAME-ALSO WHEN SWITCHING FROM "HOME TEAM" TO "VISITING TEAM AT BAT."
IT ADVANCES ONE STEP EACH TIME THE OUT RELAY IS ENERGIZED.

View looking at WIPER
FINGER SIDE With wiper in zero position





RELAY BANK SW'S.

RELAY BANK SWS.

RELAY	SW.	WIRE COLORS	DIAGRAM LOCATION	TYPE	SWITCH OPERATION:
START	1 D	- J - B - Y - J -	F-17	M & B	In circuit to Single Inning Reset Coil.
	1 C	GRAY-G GRAY-BLU.	E-12	N.O.	Reset 2nd Player 0-9 Drum Unit thru zero sw. on same unit.
	1 B	- J - GRAY- W	E-12	N.O.	Reset 1st Player 0-9 Drum Unit thru zero sw. on same unit.
	1 A	- J - - Y - B- BLUE	D-13	M & B	Breaks circuit to Player Re. (Trip Coil), and makes to Transfer Relay.
	2 D	O-R - J -	F-9	N.C.	Breaks circuit to this re. when tripped.
	2 C	GRAY-O - J -	E-13	N.O.	Resets 2nd Player 10-90 Drum Unit thru zero sw. on same unit.
	2 B	- J - GRAY- B	E-12	N.O.	Resets 1st Player 10-90 Drum Unit thru zero sw. on same unit.
	2 A	- J - - J - BR- W	C- 11 D- 17	M & B	Energizes Out Unit Reset Coil & Inning Unit Reset & S.U. Coils thru various Cam switches of Control Motor.
2ND COIN	3 C	W-O W-G - J -	A-10	M & B	To "2 Can Play" Lite.
	3 B	W- R W-BLU	A-9	N C	Breaks circuit to "1 Can Play" Lite.
	3 A	- J - R - O	D - 13	N.O.	Pulses Player Re. (Trip Coil), thru sw. on Transfer Relay.
	4 C	O- BLU - J -	F-10	N.C.	Breaks circuit to this re. when tripped.
	4 B	BR- Y G - R	E - 8	N C	Breaks circuit to Replay Button sw.
	4 A	G-O - J -	E -16	N.C	Breaks circuit to Game Over Relay.

RELAY BANK SWS.

RELAY	SW.	WIRE COLORS	DIAGRAM LOCATION	TYPE	SWITCH OPERATION:
GAME OVER	5 C	BR-B BLU-W	D-14	N.C.	Pulses Transfer Re. thru sw. on 3rd Out Relay.
	5 B	-J- -J-	F-15	N.C.	In series with sw. 7A on Tilt Relay.
	5 A	Y-G -J- G-W	B-11	M&B	To Inning or Game Over Lites.
	6C	-J- -J-	F-16	N.C.	Breaks circuit to this re. when tripped.
	6B	-BLU- -G-	A-3	N.C	Breaks circuit to 110V. Bat Coil.
	6 A	B-Y -BR-	E-17	N.C.	In series with sw. 10B on 7 TGTS. Extra Inning Relay.
TILT	7 C	W-B -J- W-BR	F-17	M&B	In series with switch 1D on Start Relay.
	7 B	Y-B -J-	B-8	N.O.	To "Tilt" Lite.
	7 A	W-O -J- O-B	F-15	M&B	Energizes 3rd Out Relay, thru Out Unit disc. (3 outs).
	8 B	B-O -J-	F-11	N.C.	Breaks circuit to this re. when tripped.
	8 A	BLU-B -J- O-G	D-14 D-16	M&B	Hold circuit to Transfer Relay or trips Game Over Relay.
7 TGTS. EX. INNING	10B	R-W -J-	E-17	N.C.	In series with sw. 36A on 7 TGTS. Bar.
	10 A	-J- -J-	F-23	N.C.	Breaks circuit to this re. when tripped.
LEFT HOME RUN	11 B	-O- -J-	C-13	N.O.	To "Left" Home Run Lite.
	11 A	R-Y -J-	E-22	N.O.	In series with sw. 13A on Center Home Run Relay.
	12 A	Y-BR -J-	F-27	N.C.	Breaks circuit to this re. when tripped.

RELAY BANK SWS.

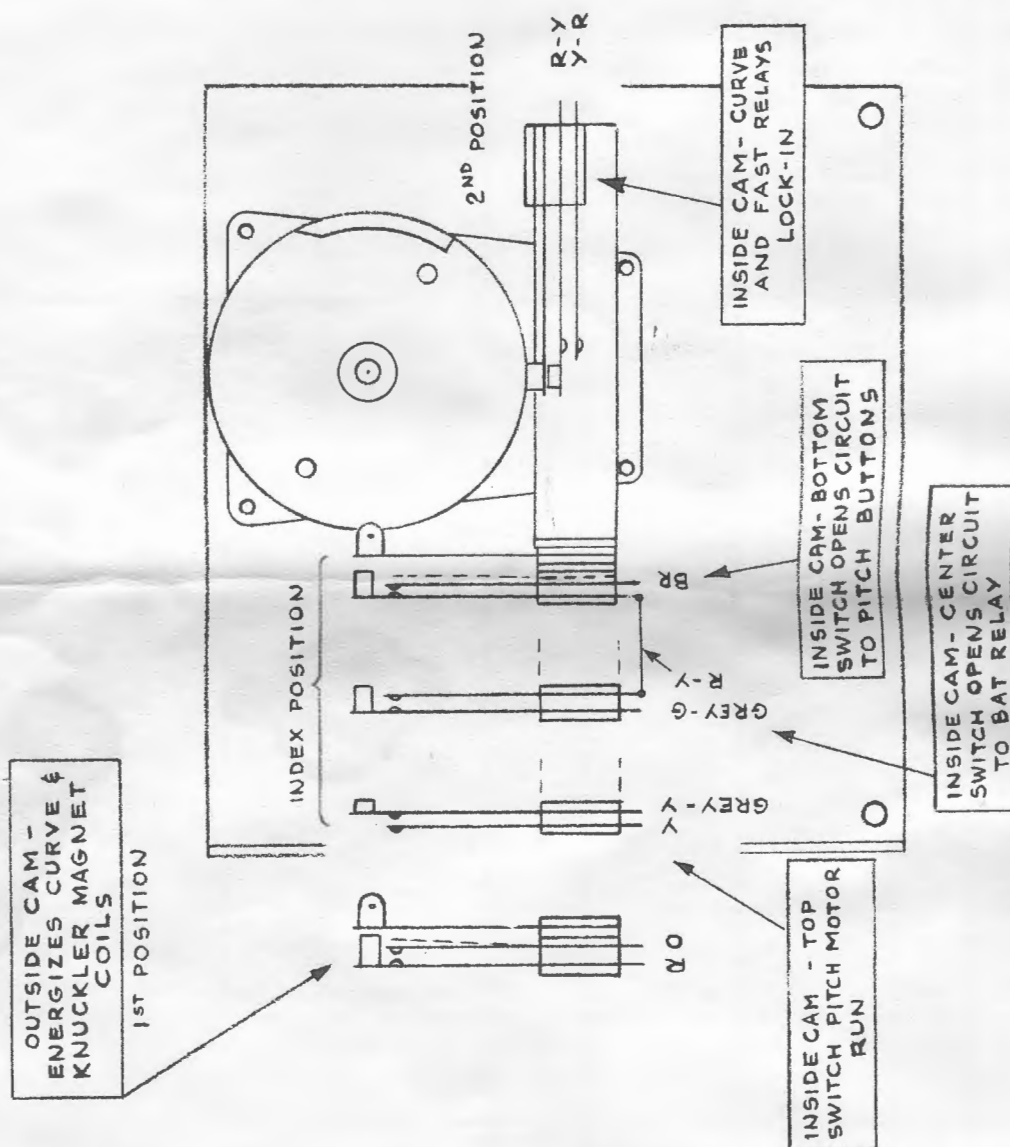
RELAY	SW.	WIRE COLORS	DIAGRAM LOCATION	TYPE	SWITCH OPERATION:
CENTER HOME RUN	13B	BR-W -J-	C-13	N.O.	To "Center" Home Run Lite.
	13A	-J- -J-	F-22	N.O.	In series with sw. 15A on Right Home Run Relay.
	14A	W-BLU -J-	F-27	N.C.	Breaks circuit to this re. when tripped.
RIGHT HOME RUN	15B	O-W -J-	C-13	N.O.	To "Right" Home Run Lite.
	15A	BR-R -J-	F-22	N.O.	To Grand Slam D.U. Coil, thru sw. on 3 H.R. Relay.
	16A	G-B -J-	F-28	N.C.	Breaks circuit to this re. when tripped.
3 HOME RUN	18B	BLU-R -J-	G-23	N.C.	Breaks circuit to this re. when tripped.
	18A	B-G -GRAY-	F-21	N.C.	Prevents more than one pulse to Credit Unit S.U. Coil after completing Left, Center and Right Home Runs.
LEFT OUT	20B	B-W -J-	F-26	N.C.	Breaks circuit to this re. when tripped.
	20A	W-BLU -J-	C-7	N.O.	To Left "Out" Lite.
RIGHT OUT	22B	R-O -J-	F-27	N.C.	Breaks circuit to this re. when tripped.
	22A	Y-R -J-	C-8	N.O.	To Right "Out" Lite.
7 TGTS BAR	24A	GRAY-Y -J-	E-23	N.O.	Trips 7 TGTS. Extra Inning Re.thru E.O.S. Sw. on Inning Unit.
LEFT SINGLE	26B	BLU-BR -J-	F-30	N.C.	Breaks circuit to this re. when tripped.
	26A	W-B -J-	C-7	N.O.	To Left "Single" Lite.
RIGHT SINGLE	28B	BLU-O -J-	F-30	N.O.	Breaks circuit to this re. when tripped.
	28A	Y-BLU -J-	C-8	N.O.	To Right "Single" Lite.

RELAY BANK SWS.

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PITCHER MOTOR - CAM SWITCHES

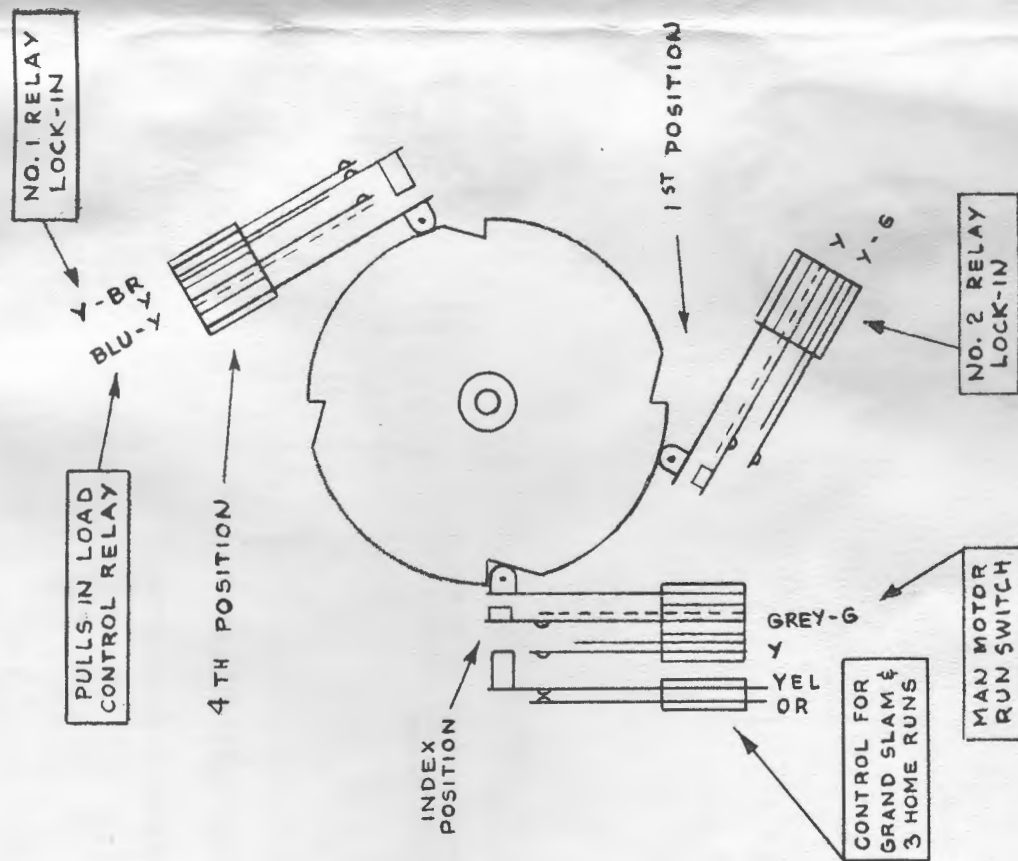
MOTOR NO. 14A-7821



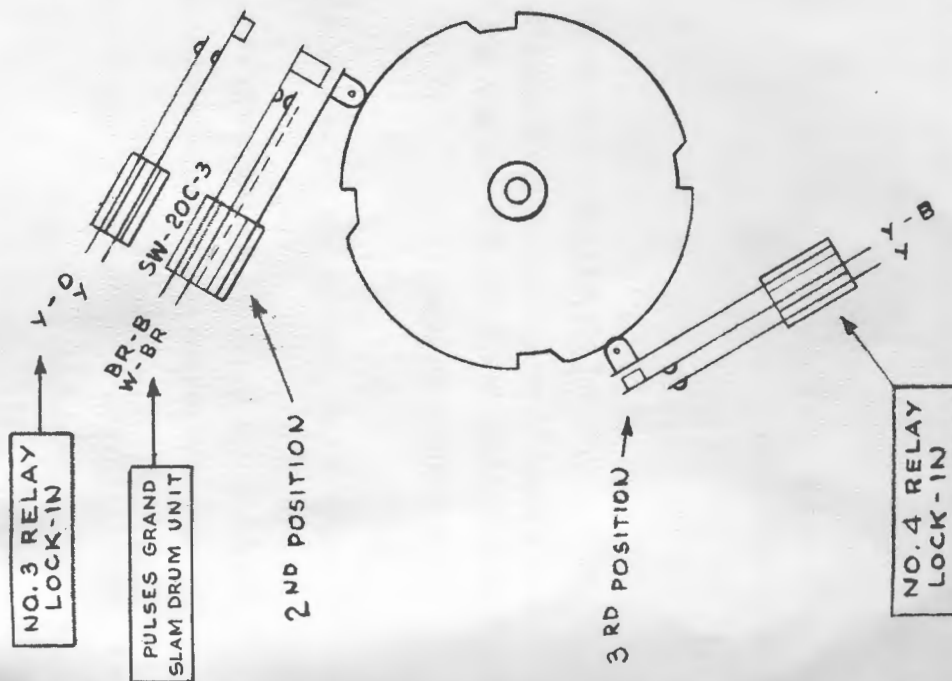
MAN RUNNING UNIT — CAM SWITCHES

MOTOR NO. 14A-7751

INSIDE CAM SWITCHES

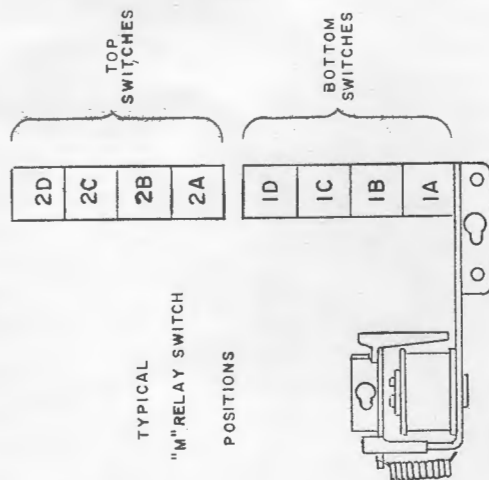


OUTSIDE CAM SWITCHES



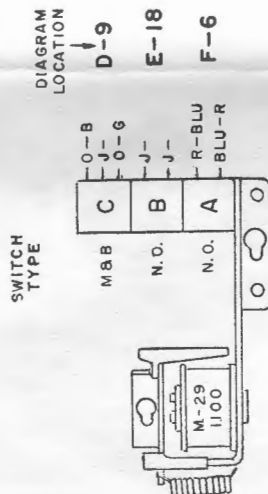
A.C. RELAYS & SWITCHES

(ON MECHANISM PANEL)



10¢ RELAY

IS ENERGIZED BY 10¢ COIN SWITCH, IF 10¢ ADJUSTMENT JACK IS INSERTED INTO "2 PLAYS" POSITION.



OPERATION

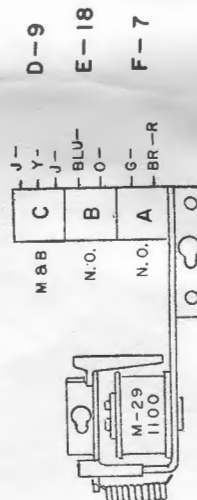
BREAKS CIRCUIT TO KNOCKER COIL, ALSO RUNS CONTROL MOTOR.

ENERGIZES CREDIT UNIT S.J. COIL, THRU CREDIT UNIT LAST POSITION BREAK SW.

IN HOLD CIRCUIT TO THIS RELAY.

25¢ RELAY

IS ENERGIZED BY 25¢ COIN SWITCH.



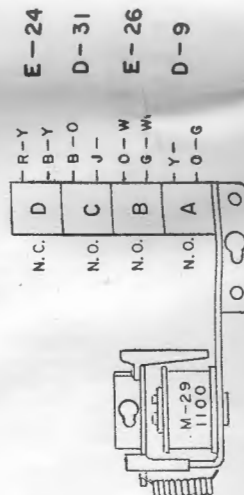
BREAKS CIRCUIT TO KNOCKER COIL, ALSO RUNS CONTROL MOTOR.

ENERGIZES CREDIT UNIT S.J. COIL, THRU CREDIT UNIT LAST POSITION BREAK SW.

IN HOLD CIRCUIT TO THIS RELAY.

OUT RELAY

IS ENERGIZED BY LEFT OR RIGHT OUT TARGET SWITCHES.



BREAKS CIRCUIT TO ALL PITCH AND BAT BUTTON SWITCHES.

TO LOAD CONTROL RELAY, THRU NORMAL-CONSERVATIVE ADJUSTMENT JACK.

ENERGIZES OUT UNIT S.J. COIL, THRU CAM 1 SW. OF CONTROL MOTOR.

RUNS CONTROL MOTOR.

A.C. RELAYS & SWITCHES

(ON MECHANISM PANEL)

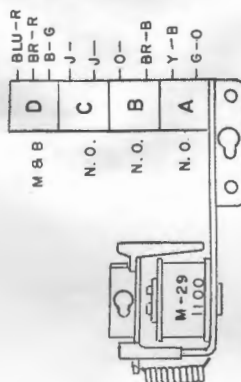
SWITCH
TYPE

DIAGRAM
LOCATION

OPERATION

#4 RELAY

IS ENERGIZED BY LEFT, CENTER OR RIGHT HOME RUN SWITCHES. ALSO BY THE 3RD OUT RELAY.



ENERGIZES INNING OR CREDIT UNIT S.U., THRU NOVELTY REPLAY ADJ. JACK.

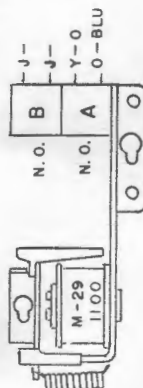
ENERGIZES #3 RELAY.

IN CIRCUIT TO GRAND SLAM DRUM UNIT COIL.

HOLD CIRCUIT TO THIS RELAY, THRU CAM 3 SW. ON MAN RUN MOTOR.

#3 RELAY

IS ENERGIZED BY TRIPLE TARGET SW. OR #4 RELAY.

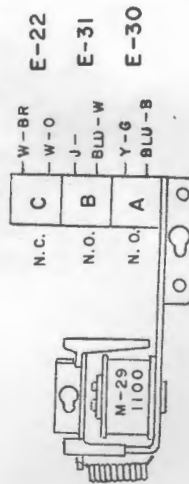


ENERGIZES #2 RELAY.

HOLD CIRCUIT TO THIS RELAY. THRU CAM 2 SW. ON MAN RUN MOTOR.

#2 RELAY

IS ENERGIZED BY LEFT OR RIGHT DOUBLE TARGET SWs. ALSO BY #3 RELAY.



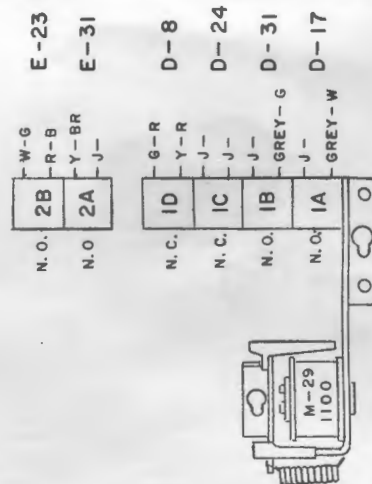
ADVANCES GRAND SLAM DRUM UNIT FROM 9 TO 0.

ENERGIZES 31 RELAY.

HOLD CIRCUIT TO THIS RELAY. THRU CAM 1 SW. ON MAN RUN MOTOR.

#1 RELAY

IS ENERGIZED BY LEFT OR RIGHT SINGLE TARGET SWs. ALSO BY #2 RELAY.



ENERGIZES SMALL BELL COIL.

HOLD CIRCUIT TO THIS RELAY. THRU CAM 4 SW ON MAN RUN MOTOR.

BREAKS CIRCUIT TO COIN RELAY & COIN LOCKOUT COIL.

PREVENTS OUT RELAY FROM ENERGIZING. THRU NORMAL-CONSERVATIVE ADJ. JACK.

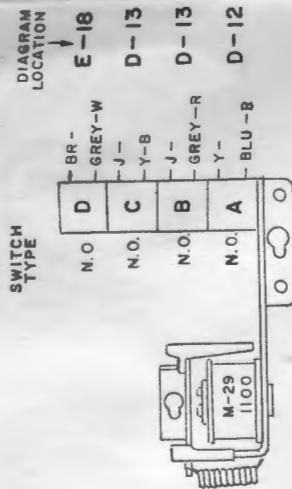
ENERGIZES MAN LOAD COIL & RUNS MAN RUN MOTOR.

ENERGIZES SINGLE INNING RESET COIL AFTER 3RD OUT.

A.C. RELAYS & SWITCHES (ON MECHANISM PANEL)

RUN RELAY

IS ENERGIZED BY RUN SW.. LOCATED BETWEEN 3RD BASE AND HOME PLATE.



OPERATION

PULSES CREDIT UNIT OR INNING UNIT S.U. IN HIGH SCORE CIRCUIT.

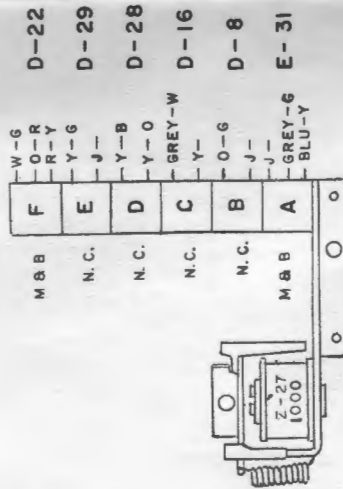
PULSES RUN BELL COIL.

IN SERIES WITH SWITCH 'E' ON PLAYER RESET RELAY.

IN SERIES WITH SWITCH 'D' ON PLAYER RESET RELAY.

LOAD CONTROL RELAY

IS ENERGIZED BY CAM SWITCH 4 ON MAN RUN UNIT.



INSURES ONLY ONE PULSE TO GRAND SLAM D.U.-ALSO IN CIRCUIT TO CREDIT UNIT S.U. & 3 H. R. RELAY WHEN LEFT, CENTER & RIGHT HOME RUNS ARE MADE.

IN HOLD CIRCUITS TO #2, #3, & #4 RE. DURING FIRST CYCLE OF MAN RUN UNIT.

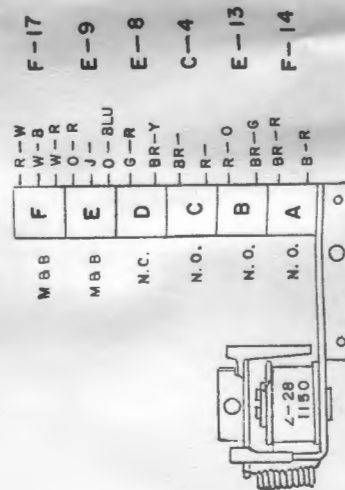
IN HOLD CIRCUIT TO 3RD OUT RELAY.

RUNS CONTROL MOTOR, THRU SW. ON 3RD OUT RELAY.

IN HOLD CIRCUIT TO THIS RELAY-ALSO BREAKS CIRCUIT TO MAN LOAD COIL.

TRANSFER RELAY

IS ENERGIZED BY START RELAY OR 3RD OUT RELAY SWITCHES.



IN CIRCUIT TO INNING S.U. COIL.

BREAKS CIRCUIT TO START RELAY & MAKES TO 2ND COIN RELAY-THRU SW. ON COIN RELAY.

IN SERIES WITH SW. 1D ON #1 RELAY.

ENERGIZES RELAY BANK RESET COIL, THRU CONTROL MOTOR CAM SW. 6A.

IN CIRCUIT TO PLAYER RELAY (TRIP COIL) THRU CONTROL MOTOR CAM 4 SW.

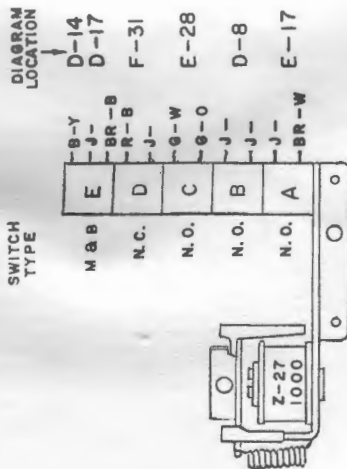
HOLD THIS RELAY ENERGIZED UNTIL BALL IS PITCHED BY 1ST PLAYER.

A.C. RELAYS & SWITCHES

(ON PLAYFIELD)

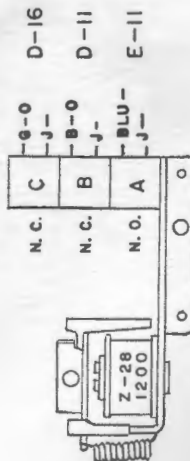
3rd OUT RELAY

IS ENERGIZED BY START RELAY DURING RESET CYCLE. DURING PLAY, IT IS ENERGIZED BY OUT UNIT DISC. (3 OUTS), THRU INNING UNIT DISC. AND CONTROL MOTOR CAM SWITCH 2 A.



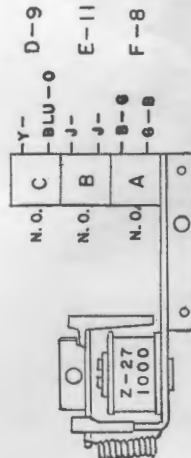
LOCK RELAY

IS ENERGIZED BY A SWITCH ON COIN RELAY.



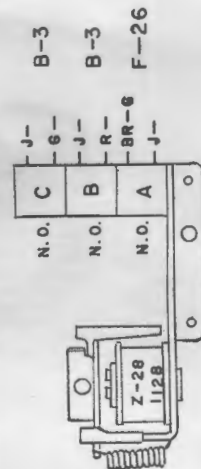
COIN RELAY

IS ENERGIZED BY COIN SW. OR BY REPLAY BUTTON WHEN A CREDIT IS AVAILABLE.



BAT RELAY

IS ENERGIZED BY A SW. ON FAST RELAY OR CURVE RELAY.



OPERATION

BREAKS CIRCUIT TO INNING S.U. COIL, & MAKES IN CIRCUIT TO TRANSFER RE.

BREAKS CIRCUIT TO MAN LOAD COIL.

ENERGIZES #4 RELAY TO CLEAR THE BASES.

RUNS CONTROL MOTOR. THRU SW. ON LOAD CONTROL RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

TRIPS GAME OVER RELAY.

TRIPS TILT RELAY.

HOLD CIRCUIT TO THIS RELAY, THRU CABINET BOTTOM SLAM SW.

IN SERIES WITH SWITCH 'E' ON TRANSFER RELAY.

ENERGIZES LOCK RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

WIRED IN SERIES, THESE SWITCHES ARE IN CIRCUITS TO BAT COIL, CURVE COIL AND KNUCKLER COIL.

HOLD THIS RELAY IN, UNTIL BAT UNIT E.O.S. SWITCH OPENS.

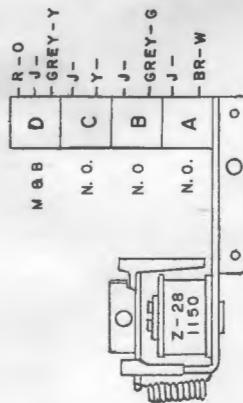
A.C. RELAY & SWITCHES

(ON MECHANISM PANEL)

FAST RELAY

IS ENERGIZED BY FAST BUTTON SW. OR KNUCKLER BUTTON SWITCH.

SWITCH TYPE



OPERATION

BREAKS HOLD CIRCUIT TO TRANSFER RELAY-ALSO RUNS PITCHER MOTOR.

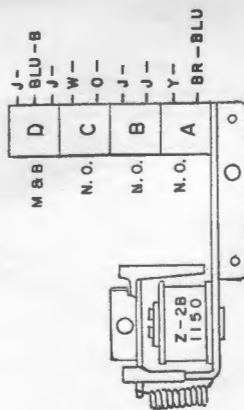
ENERGIZES KNUCKLER COIL THRU SWITCH ON CURVE RELAY.

ENERGIZES BAT RELAY.

HOLD CIRCUIT TO THIS RELAY, THRU PITCHER MOTOR CAM 2 SW.

CURVE RELAY

IS ENERGIZED BY CURVE BUTTON OR KNUCKLER BUTTON SWITCH.



BREAKS HOLD CIRCUIT TO TRANSFER RELAY-ALSO RUNS PITCHER MOTOR.

ENERGIZES CURVE COIL-ALSO IN SERIES WITH SW. C ON FAST RELAY.

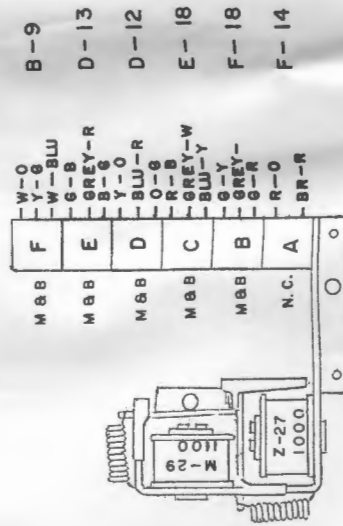
ENERGIZES BAT RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

PLAYER RELAY

(Interlock)

RESET COIL IS ENERGIZED BY SWITCH ON COIN RELAY.
TRIP COIL IS ENERGIZED BY TRANSFER RELAY, THRU SWITCH ON 2ND COIN RELAY.



TO "HOME TEAM AT BAT" & "VISITING TEAM AT BAT" LITES.

IN CIRCUIT TO 1ST OR 2ND PLAYER 10-90 DRUM UNIT COILS, THRU 9TH POSITIONS (MAKE) SWITCHES.

ENERGIZES 1ST OR 2ND PLAYER O-9 DRUM UNIT, THRU SW. A OF RUN RELAY.

IN HIGH SCORE CIRCUIT TO CREDIT UNIT S.U. -THESE WIRES CONNECT TO THE 1ST AND 2ND PLAYER O-9 AND 10-90 DRUM UNIT DISC.

BREAKS HOLD CIRCUIT TO TRANSFER RELAY.