

Instruction Manual for

CASBAH

Pin Table



Williams ELECTRONICS, INC.

THE SEEBURG CORPORATION OF DELAWARE
BY SEGASA UNDER LICENCE

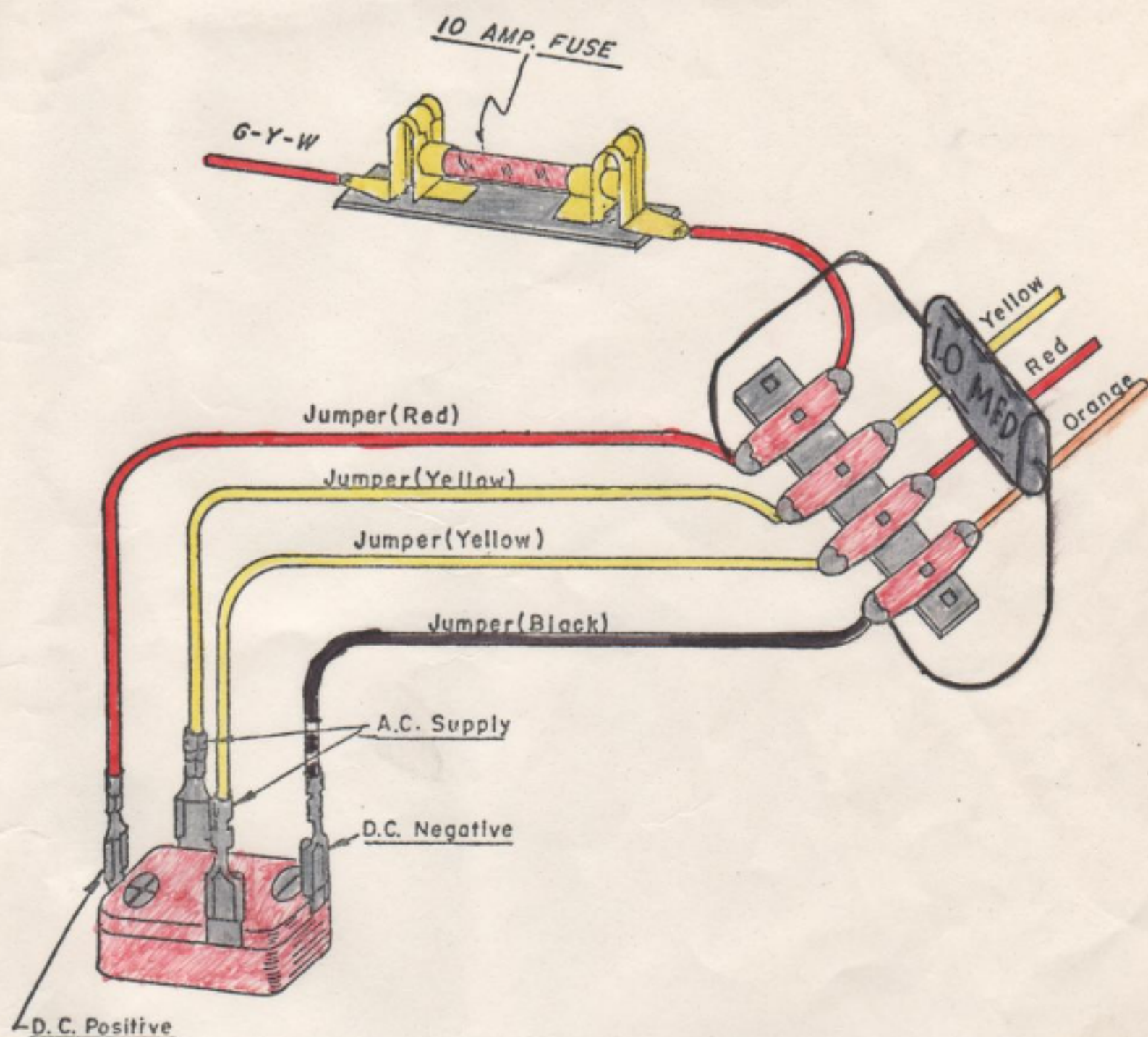
+ CASBAH +

- 1 PLAYER -

GAME FEATURES

- . BONUS IS OBTAINED WHENEVER BALL LEAVES PLAYFIELD, FROM 1,000 TO 20,000 POINTS.
- . DOUBLE BONUS IS SCORED ON THE LAST BALL.
- . ADVANCE BONUSES ARE OBTAINED BY THE FOLLOWING METHODS:
 1. BY LOOPING CAPTIVE BALLS FROM ONE PART TO THE OTHER OF THE ENCLOSED CENTER OF PLAYFIELD.
 2. BY ROLLING OVER BUTTONS(TWO) ON PLAYFIELD.
 3. BY PASSING THROUGH BOTTOM OUT LANES (TWO)
 4. BY PASSING THROUGH THE TOP SWINGING GATE
 5. BY PASSING THROUGH THE TOP ROLLOVER LANES. 3 OR 4 ADVANCES CAN BE MADE WHEN LIT ACCORDING TO THE ADJUSTMENT MADE BY THE JACK LOCATED UNDER THE PLAYFIELD.
- . AN EXTRA BALL IS OBTAINED BY PASSING THE FIVE CAPTIVE BALLS TO THE LIT SIDE.
- . THE SHOOTERS ARE LOCATED AS TO MAKE A CAPTIVE BALL PASS FROM ITS SIDE TO THE OTHER.
- . THE LIT SHOOTERS SCORE 300 POINTS.

SILICON BRIDGE RECTIFIER



THE FUNCTION OF THE RECTIFIER AND CAPACITOR IS TO CONVERT THE ALTERNATING CURRENT (A.C.) TO DIRECT CURRENT (D.C.), SUPPLYING D.C. TO THE BUMPERS, KICKERS ETC.

THE BRIDGE RECTIFIER SHOULD PRACTICALLY NEVER NEED REPLACING, AS IT IS RATED WELL OVER THE VOLTAGE AND CURRENT REQUIREMENTS OF THE COMPONENTS IT SUPPLIES.

IF, HOWEVER, THE 15 AMP 24 VOLT FUSE ON THE MECHANISM PANEL OPENS, IT COULD BE DUE TO A FAULTY RECTIFIER. DISCONNECT THE A.C. INPUT TO RECTIFIER, REPLACE FUSE, AND RECHECK.

IF THE 10 AMP FUSE LOCATED NEXT TO THE RECTIFIER OPENS, CHECK ALL D.C. COMPONENTS I.E. BUMPERS, KICKERS ETC. FOR SHORTS.

1 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.

2. FUSES

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

3. 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 a solvent, then apply an extremely thin coat of the special grease.

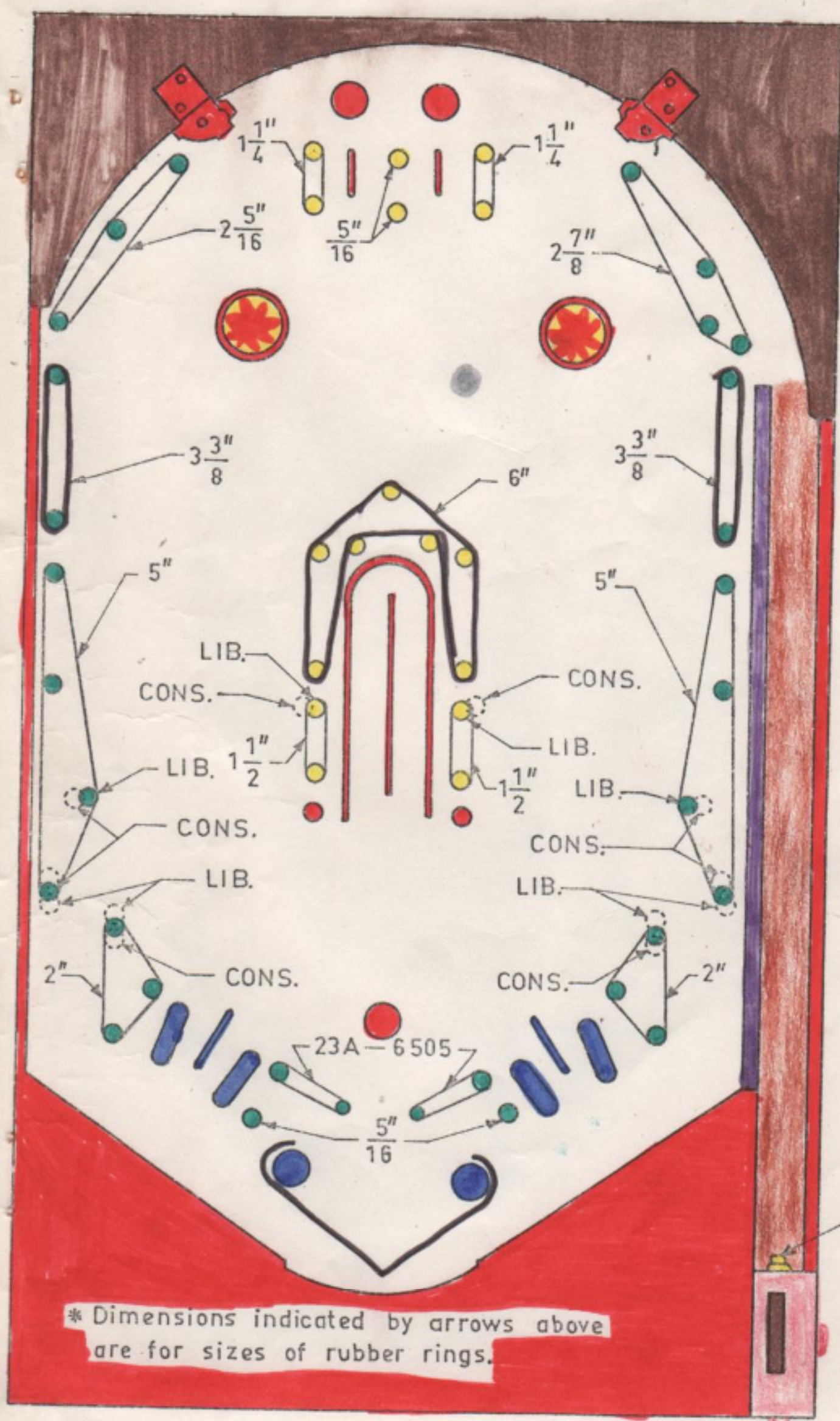
Solenoid Plungers should not have a lubricant of any kind. Should there be a sluggish tendency or if plungers are sticking, the parts should be cleaned with a solvent and flaked graphite applied on reassembly.

SWITCH ADJUSTMENT

BEFORE ADJUSTING SWITCHES, MAKE CERTAIN THE SCREWS HOLDING THE SWITCH STACKS ARE DOWN TIGHTLY. BAKELITE SPACERS IN THE SWITCH STACKS, DUE TO EXCESSIVE MOISTURE, HAVE OCCASIONALLY SHRUNK BY DRYING OUT, CAUSING POOR ADJUSTMENT.

"CASBAH" - POST ADJUSTMENT SHEET

* To make game more "Conservative" or "Liberal" - move posts $\frac{3}{16}$ as shown in sketch below. Spotting holes are provided and can be seen on removal of posts.



ABBREVIATIONS

CONS.— CONSERVATIVE
LIB. — LIBERAL

RUBBER RING NUMBER

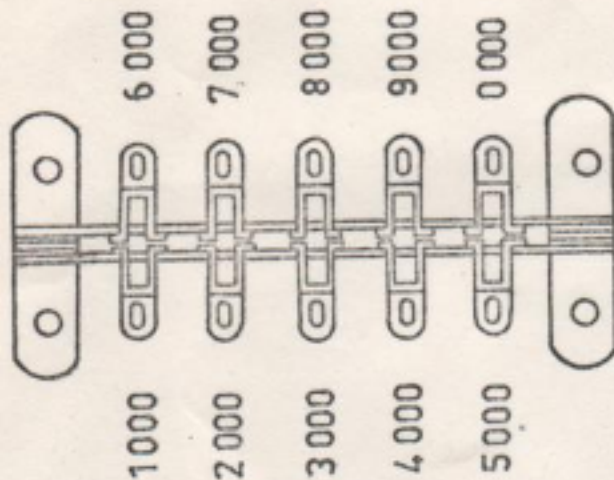
23A-6300	5/16"	I. D.
23A-6303	1-1/4"	I. D.
23A-6304	1-1/2"	I. D.
23A-6305	2"	I. D.
23A-6307	2-7/8"	I. D.
23A-6308	3-3/8"	I. D.
23A-6505	1-1/2"	I. D.
23A-6429	6"	I. D.
23A-6306	2-5/16"	I. D.
23A-6310	5"	

A-4817-R } BALL GATE
A-4817-L } ASSEMBLIES

23A-6327
BALL SHOOTER
RUBBER TIP

* Dimensions indicated by arrows above
are for sizes of rubber rings.

HI-SCORE ADJUSTMENT

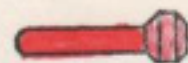
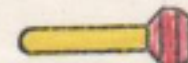
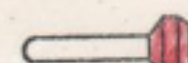
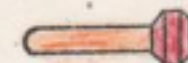


Insert plugs into 10 Point Female at desired position.

Examples:

Yellow wire into 3000 position scores at 33000

Yellow wire into 0000 position scores at 40000

-  -RED- (11000 A 20000)
-  -BLUE- (21000 A 30000)
-  -YELLOW- (31000 A 40000)
-  -GREEN- (41000 A 50000)
-  -WHITE- (51000 A 60000)
-  -BROWN- (61000 A 70000)
-  -ORANGE- (71000 A 80000)
-  -BLACK- (81000 A 90000)
-  -GRAY- (91000 A 99000)

SUGGESTED SCORE CARDS

REPLAY

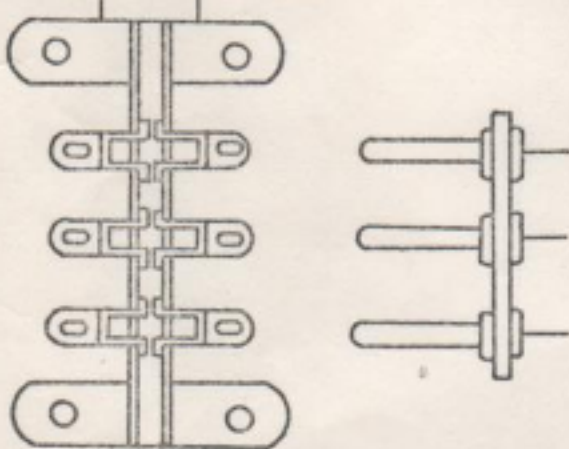
3 BALL 427-9 5 BALL 427-19

EXTRA BALL

3 BALL 427-31 5 BALL 427-25

NO. OF BALLS ADJUSTMENT

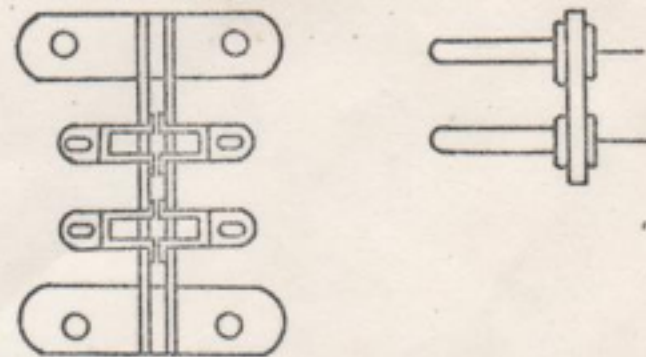
3 BALL 5 BALL



PLUG CHANGES 3 TO 5 BALL PLAY OR VICE VERSA.

NUMBER MATCH ADJUSTMENT

ON OFF



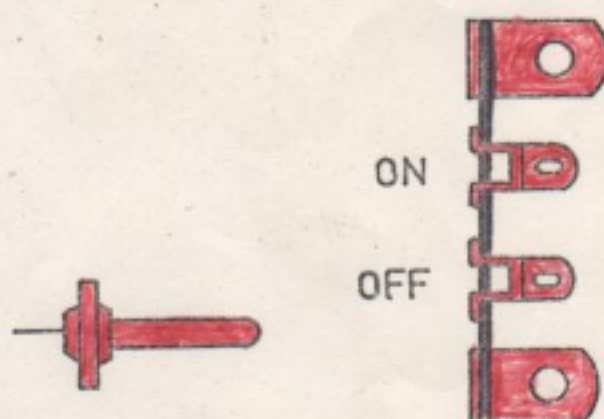
IN "ON" POSITION, A CREDIT IS SCORED IF LAST TWO DIGITS IN POINT SCORE ARE IDENTICAL TO NUMBER MATCH LITE. IN "OFF" POSITION, NUMBER MATCH IS INOPERATIVE.

MASTER ON OFF SW.



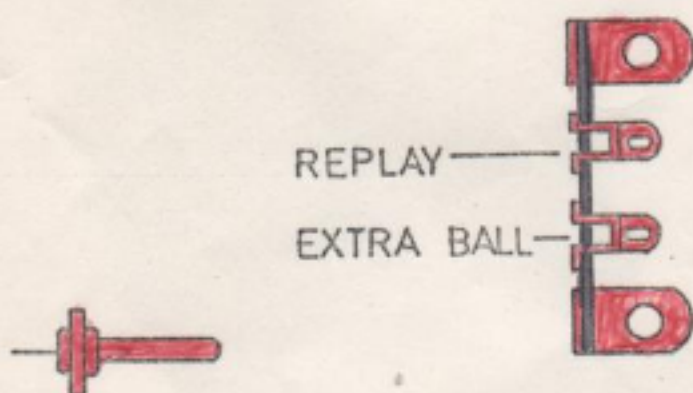
CONTROLS POWER
TO TRANSFORMER.

MOTOR SERVICE "JACK"



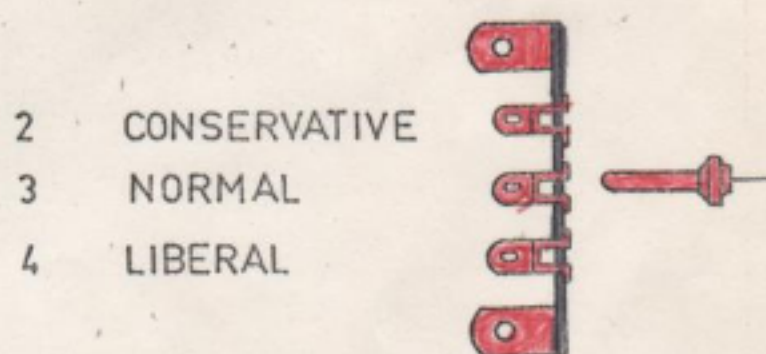
INSERT PHONE TIP IN OFF
POSITION—CAMS CAN BE
TURNED BY HAND TO CHECK
ADJUSTMENT OF SWITCHES.

EXTRA BALL JACK ADJUSTEMENT



IN REPLAY POSITION: HI SCORES,
NUMBER MATCH, & "SPECIAL" WILL
AWARD REPLAYS.
IN EXTRA BALL POSITION: HI SCORES
OR "SPECIAL" WILL AWARD EXTRA BALLS.

EXTRA ADVANCE ADJUSTEMENT



THIS ADJUSTMENT IS IN HOLD CIRCUIT
TO "3 ADVANCE RE.", AND DETERMINES HOW
MANY PULSES THE 100 POINT RELAY
AND ADVANCE UNIT S.U. COIL WILL
RECEIVE (2, 3 OR 4).

CAUTION!

The playboard on this machine has an improved finish with excellent wearing properties. Do not under any circumstances clean the board with water, water soap solutions or harsh abrasives. Avoid such things as steel wool, kitchen cleansers or abrasive hand soap. Water will weaken the adhering of the paint to the board and abrasives shorten the board life by many thousand plays. A wax base cleaner with negligible abrasive qualities used lightly, but frequently, will extend the board life to its full capabilities.

SERVICEMAN TO REMOVE BACKGLASS:

· WITH BACK DOOR REMOVED, PULL BACK ON
BRACKETS AT INSIDE TOP OF LITE BOX.

· FROM THE FRONT OF GAME, LIFT GLASS
UP AND OUT.

IMPORTANT NOTICE

**KINDLY INFORM LOCATIONS THAT THEY
CAN TURN DISPLAY LIGHTS ON BY PRESSING
LEFT FLIPPER BUTTON. MACHINE CAN STILL
BE SHUT OFF BY TAPPING BOTTOM OF**

CABINET.

**MASTER SWITCH (ON-OFF) IS LOCATED
UNDERNEATH FRONT PART OF CABINET.**

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

UNIT NAME	CONTACT DISC	WIPER ASSEMBLY	RATCHET GEAR ASSEMBLY	MOTORS
Replay			A-6400	
Ball count	1B-2001-72	B-7456-3	A-6402-10	
No. match	1B-2001-35	B-7456-2	A-6401	
Bonus	C-6417	B-7456-17	A-6402-20	Score motor
10 Point	B-7253	A-6294	3C-7272	14A-7884
100 Point			3C-7272	(50 ciclos)
1000 Point	B-7253	A-6294	3C-7272	
10 000 Point	B-7253	A-6294	3C-7272	

"C A S B A H" COIL CHART

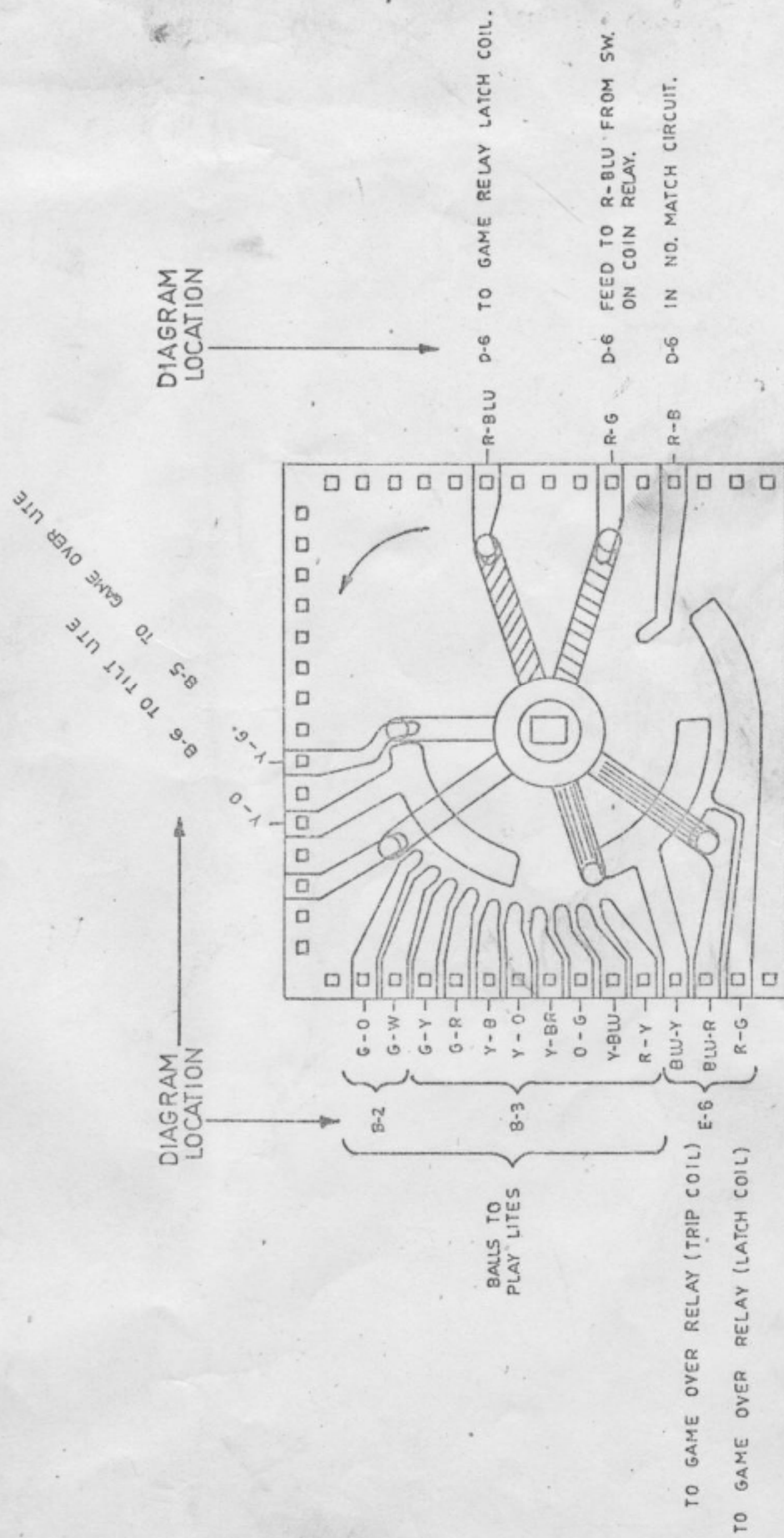
NOTICE: THIS GAME OPERATES ON 24 VOLTS. WHEN ORDERING REPLACEMENT TRANSFORMERS, MOTORS, COILS, ECT., MAKE SURE TO SPECIFY CORRECT PART NUMBER.

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
14A-7884	Score motor - 50 cycles	Mech. Panel
15A-6782-1	Transformer - 50 cycles	Mech. Panel
A-22-550	Ball Release Coil	Playfield
	Bonus Unit Step-Up	Playfield
G-22-550	Ball Count Unit Step-Up	Insert
A-23-600	Shooters (2)	Playfield
	Replay Unit Step-Up	Insert
A2-23-750	Number Match Unit Step-Unit	Insert
A2-26-1300	Knocker	Cabinet
B-26-800	Triple Chime	Cabinet
	Replay Unit Reset	Insert
	Advance Unit Reset	Insert
B1-26-800	Ball Count Unit Reset	Insert
	10 point drum unit	Insert
	100 point drum unit	Insert
	1,000 point drum unit	Insert
Z-27-1000	10,000 point drum unit	Insert
	Reset relay	Mech. Panel
	Replay relay (latch)	Mech. Panel
	Game over Relay(latch)	Mech. Panel
	Shooter Relay	Playfield
	Outhole relay	Mech. Panel
	Captive ball relay(latch)	Playfield
	Coin relay	Mech. Panel
Z-28-1150	Ball index relay	Mech. Panel
Z-28-1200	Change relay	Playfield
Z-29-1250	Lock relay	Mech. Panel
M-29-1000	Game over relay(trip)	Mech. Panel
	Replay relay (trip)	Mech. Panel
	Captive ball relay (trip)	Playfield
	25 ¢ Relay	Mech. Panel
	5 ¢ Relay	Mech. Panel
	Change Relay	Mech. Panel
	Reset relay	Insert
	Bonus relay	Playfield
	Advance relay	Playfield
	3 Advance relay	Playfield
	1,000 point relay	Insert
	100 point relay	Insert
	10 point relay	Insert
	50 point relay	Playfield
M-30-1300	100,000 point relay	Insert
M-24-350	Double bonus relay	Playfield
FL-20-300/28-400	Flipper (2)	Playfield
G-23-75) D.C.	Bumper (2)	Playfield

[illegible]

THIS UNIT ADVANCES EACH TIME A CAPTIVE BALL PASSES TO THE OPPOSITE SIDE FROM WHERE IT IS SITUATED.

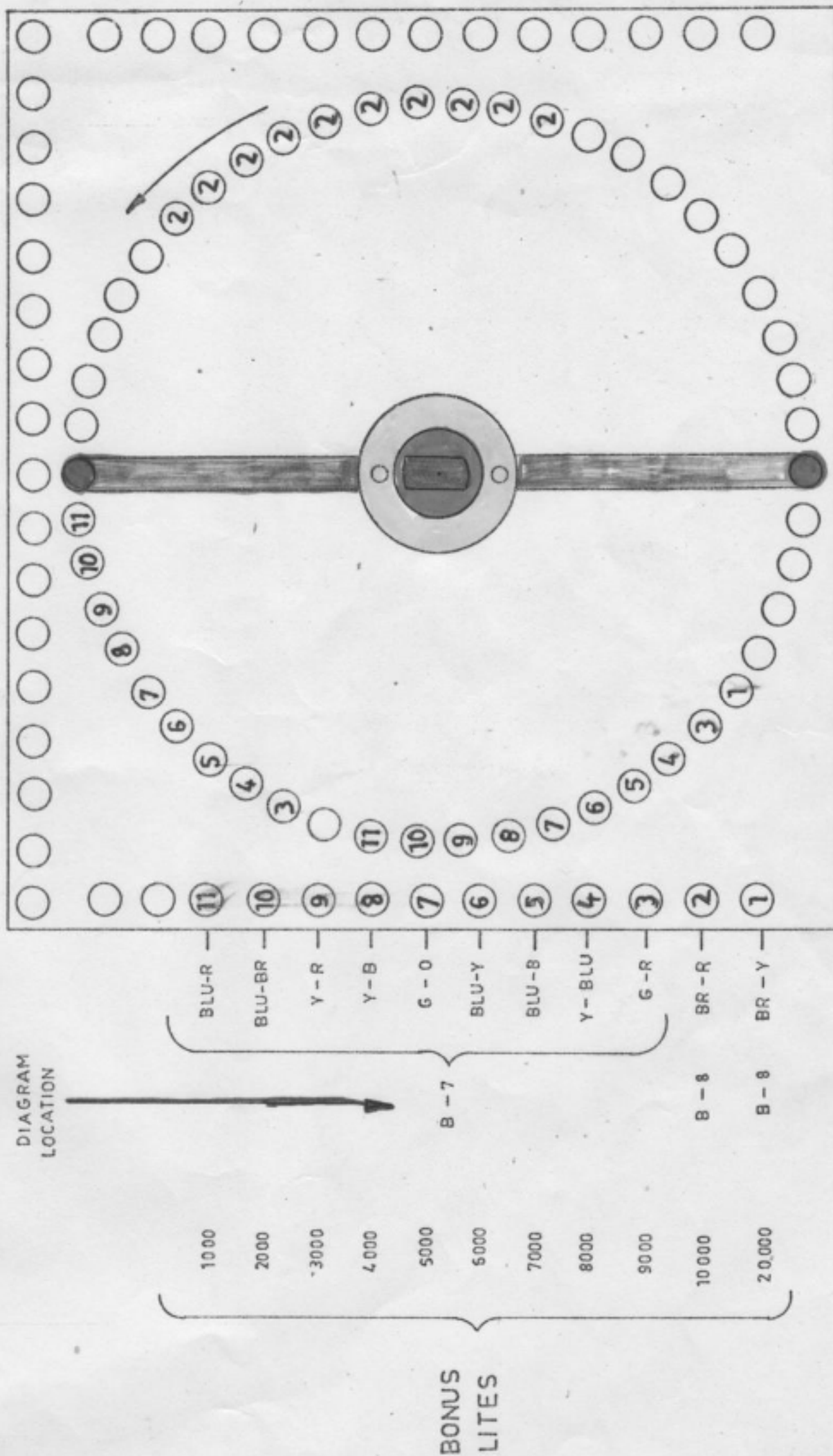
View looking at wiper fingers, with wiper in reset position.



BONUS UNIT

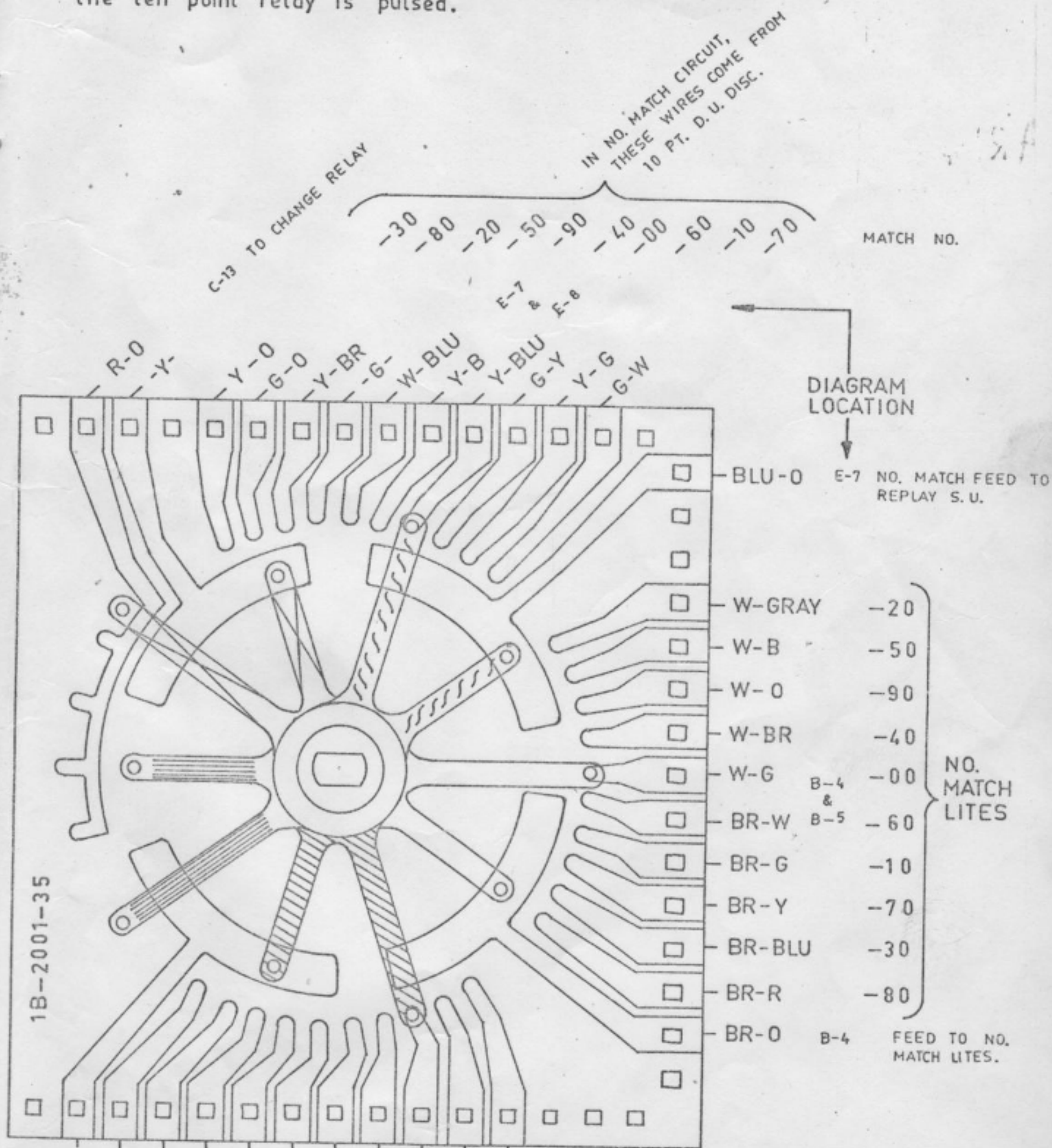
View looking at wiper fingers,
with wiper in reset position.

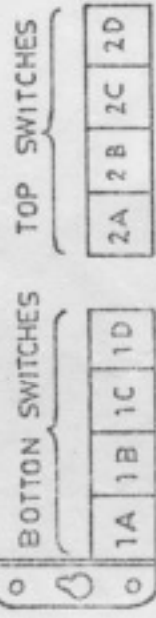
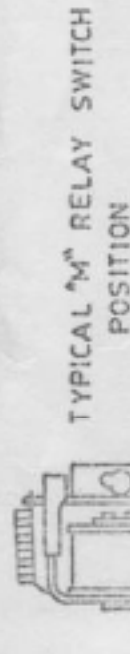
THIS UNIT ADVANCES ONCE WHEN "ADVANCE RELAY"
IS PULSED, AND 2,3 OR 4 STEPS WHEN "3 ADVANCE
RELAY" IS ENERGIZED.
IT RESETS ONE STEP AT A TIME WHEN "BONUS RELAY"
IS ENERGIZED.



This unit advances one step each time the ten point relay is pulsed.

This unit advances one step each time the ten point relay is pulsed.





CHANGE

Is energized by jack through 5 ¢ coin switch relay.

10 ¢

Is energized by a change relay switch through coin jack.

5 ¢

Is energized by a change relay switch through coin jack.

OUT HOLE

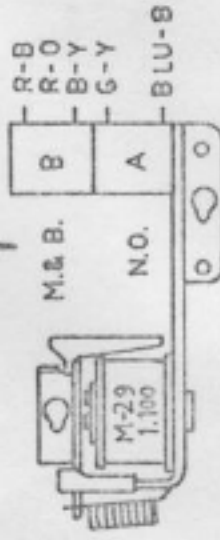
Is energized by outhole switch through cam switch 5-B on score motor.

A.C. RELAYS & SWITCHES

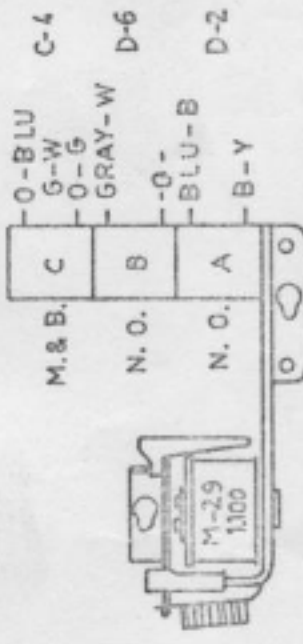
LOCATED ON MECHANISM PANEL

SWITCH TYPE

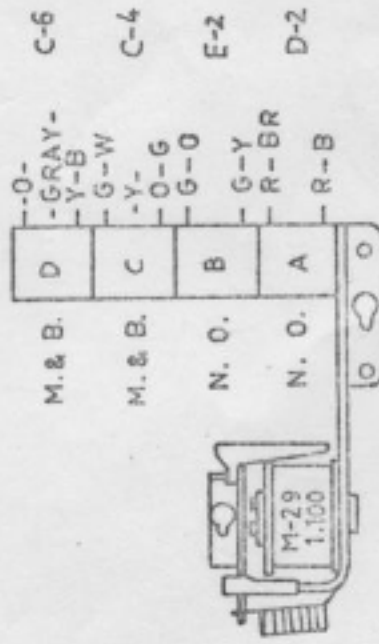
DIAGRAM LOCATION



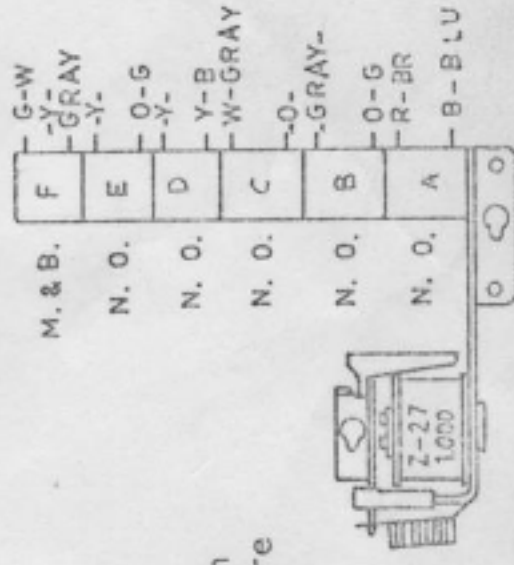
Closed energizes 5 ¢ relay.
Open energizes 10 ¢ relay.
In hold circuit to this relay.



Opens in circuit to knocker coil and closes to run motor.
Pulses replay S.U. coil, through impulse cam switch A of motor.
In hold circuit to this relay.



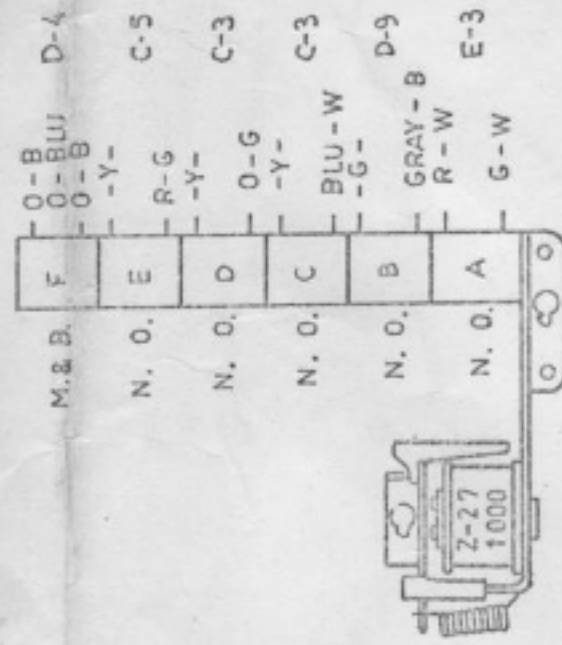
Opens the circuit controlling the impulse to the replay unit.
Opens in circuit to knocker coil and closes to run motor.
Energizes coin relay through coin wiper.
In hold circuit to this relay.



Closes in hold circuit to ball index relay through switch on this relay. Opens energizing ball relay coil through switch 4-A on motor.
Energizes score motor.
In circuit to captive ball relay.
In circuit to ball index relay.
In series with ball index switch.
In hold circuit with ball release relay.

COIN

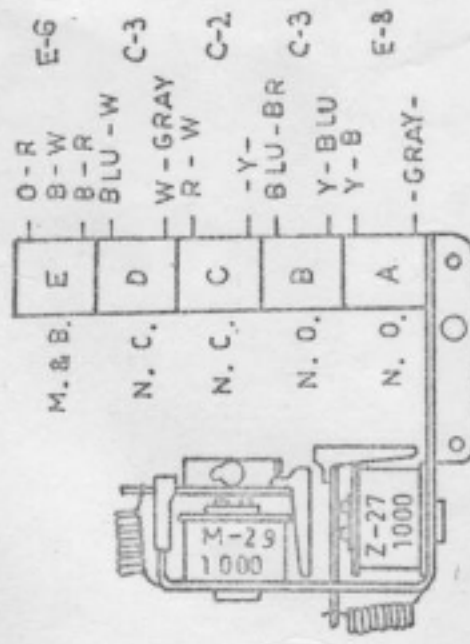
Is energized by a closed switch on ball index in series with the game index and flipper. Also through the replay relay and when the machine has games remaining.



Closes to energize knocker coil.
Opens to energize lock relay.
Energized game over (latch) relay.
Energizes score motor.
Pulses to reset relay.
Pulses reset relay.
In hold circuit to this relay.

GAME

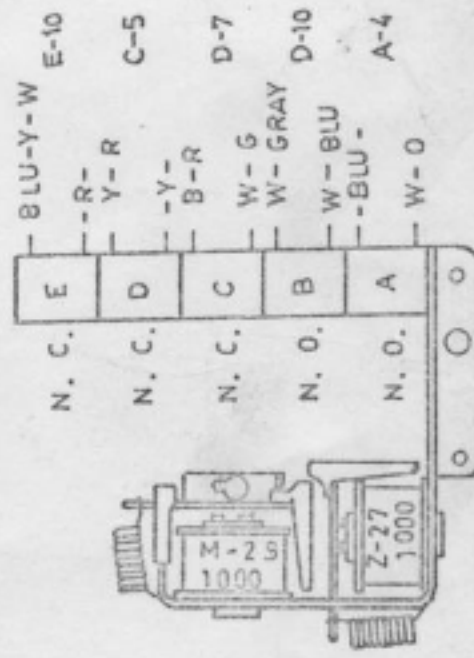
Trip coil is energized by ball index relay switch.
Latch coil is energized by coin relay in series with ball count unit zero switch.



Opens and closes to advance the ball index reset coils in circuit to the hold circuit of coin relay.
Operates game button when machine has games remaining.
In circuit with coin relay hold circuit.
Energizes reset relay.
In hold circuit to this relay.

GAME OVER

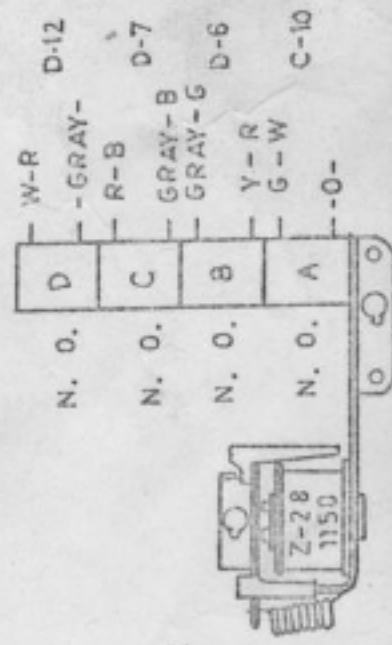
Latch coil is energized by coin relay, outhole relay or ball index relay through switch 1-A on score motor and ball count unit wipers. Trip coil is energized by latch relay through lock relay and with tilt circuit.



Interrupts 24 V. current to the major part of machine.
In circuit with game over (latch) relay.
Opens in circuit to number match unit and final score (replay) unit.
In series with outhole relay switch.
To tilt lights, game over and number match units.

BALL INDEX

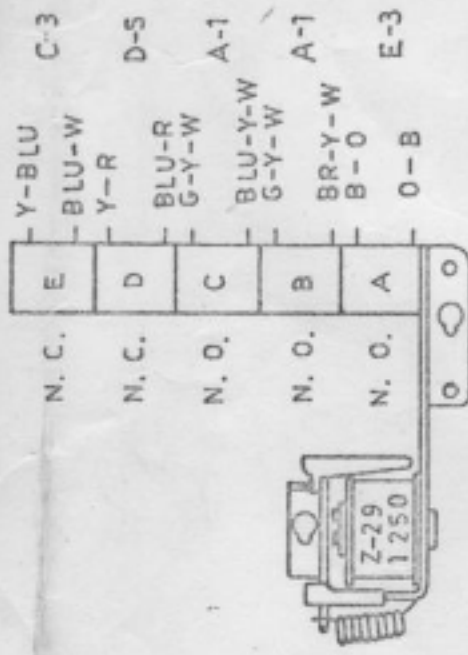
Is energized by 100 and 1,000 point relays. Also by outhole relay through game over relay switch.



In circuit with double bonus relay.
In series with ball index relay.
In series with switches 1-A and 2-A on score motor.
In hold circuit with this relay.

LOCK

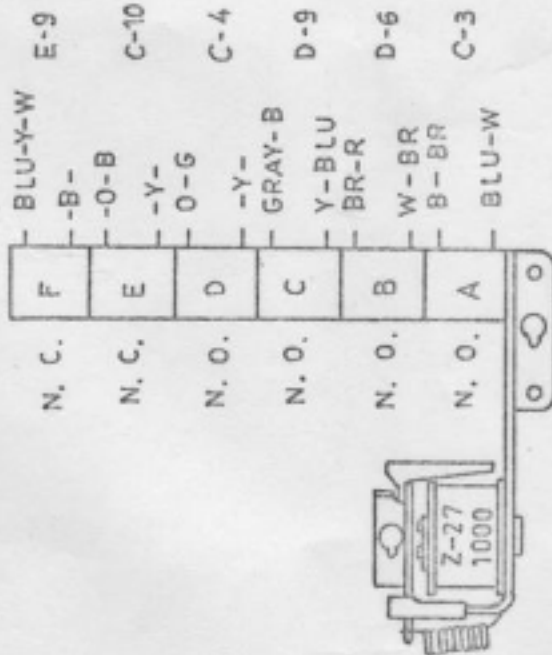
Is energized by coin relay, left flipper switch or score motor cam switch 1-C.



- On reset relay circuit.
- Energizes game-over relay (trip coil).
- 6 volts from transformer to lights.
- 6 volts from transformer to lights.
- In hold circuit to this relay.

RESET

Is energized by coin relay cam switch.

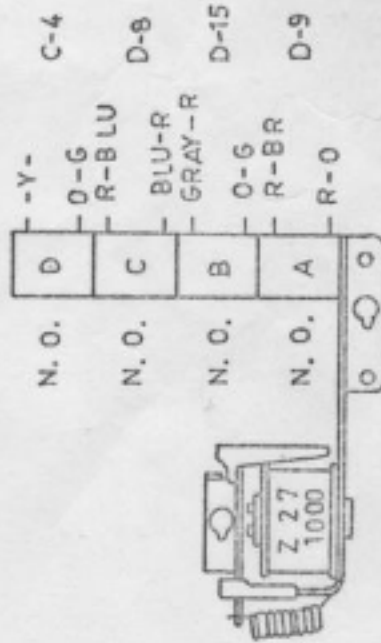


- Closes 24 volt circuit to ball release, ball index and 100,000 point relay.
- On 100,000 point relay circuit.
- Runs score motor.
- Pulses bonus relay.
- Pulses score reset relay.
- In hold circuit to this relay.

LOCATED ON PLAYFIELD

EJECT

Is energized by left or right shooter switch through score motor index cam switch B.



- Runs score motor.
- Pulses left and right shooter coils.
- In series with right and left cam switches on captive ball relay.
- Hold circuit to this relay, through cam switch 5B on score motor.

50 POINT

Is energized by (4) stand-up switches.

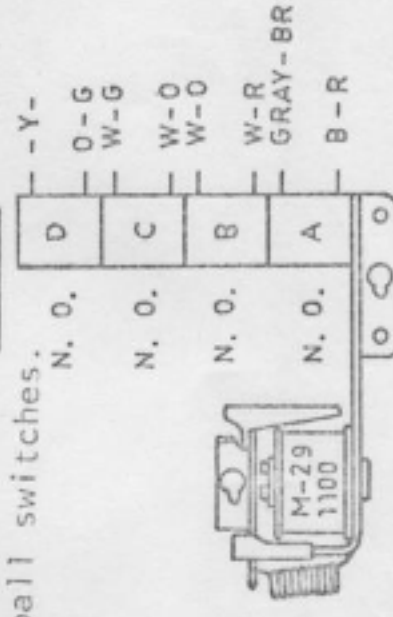
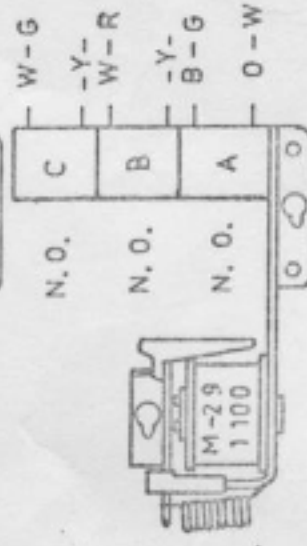
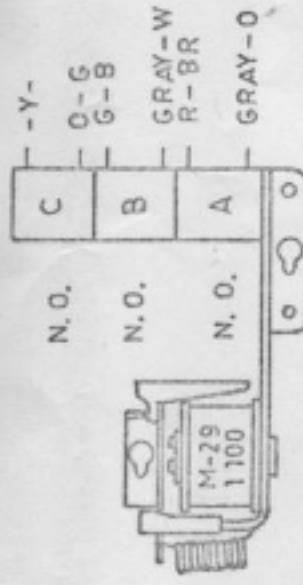
ADVANCE

Is energized by:

1. Top ball shoots
2. Bottom rollover buttons.
3. Bottom ball shoots.
4. Left and right captive ball switches.

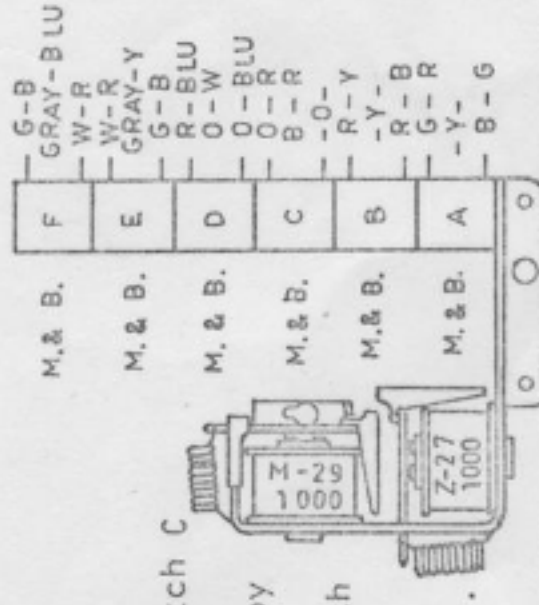
3 ADVANCE

Is energized by top ball shoots when lit.



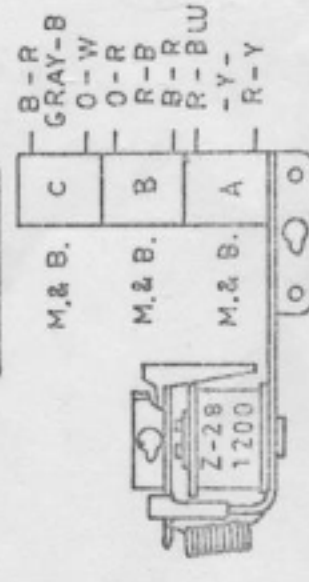
ACTIVE BALL

Latch coil is energized by switch C on outhole relay, through left side captive ball switch (made by 3rd ball in lane.)
Trip coil is energized by switch C on outhole relay, through right side captive ball switch (made by 3rd ball in that lane).



CHANGE 1

Is energized by wiper on number match unit disc.

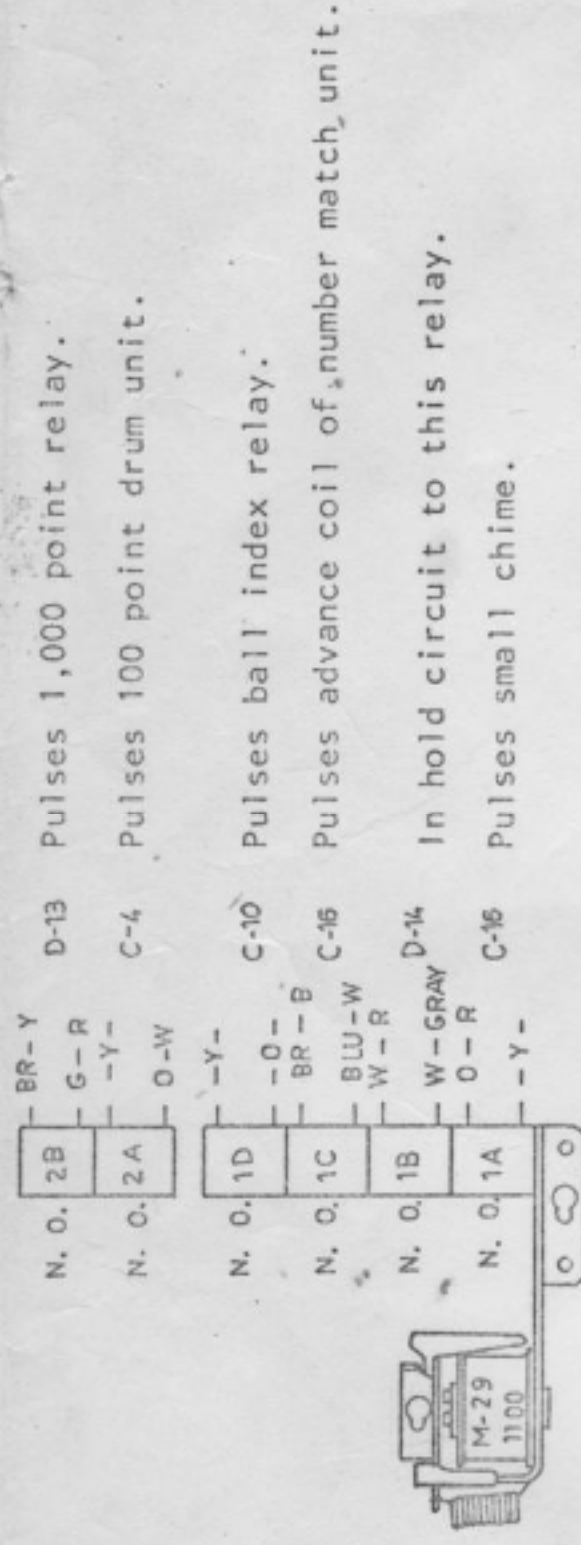


C-3	Runs score motor.
D-15	Pulses 10 point relay.
D-17	In hold circuit to this relay.
C-13	Energizes advance unit S.U. coil.
C-14	Pulses 100 point relay.
E-11	In hold circuit to this relay.
C-3	Energizes score motor.
E-14	Energizes advance unit S.U. coil.
E-14	Pulses 100 point relay.
E-11	In hold circuit to this relay.
E-14	Closes in circuit to 10 point relay. Opens in circuit to 100 point relay.
E-15	Closes in circuit to 100 point relay. Opens in circuit to 10 point relay.
D-11	In circuit to advance relay, through right or left captive ball switch.
D-10	In circuit to extra ball relay through right and left captive ball switches.
B-10	Opens to right bottom shooter light. Closes to left bottom shooter light.
B-9	Closes in circuit to energize lights in right captive ball lane.
	Opens to lights in left captive ball lane.
E-11	Closes in circuit to 3 advance relay. Opens in circuit to advance relay.
E-12	Closes in circuit to advance relay. Opens in circuit to 3 advance relay.
B-10	Opens to left top ball shoot. Closes to right top ball shoot.

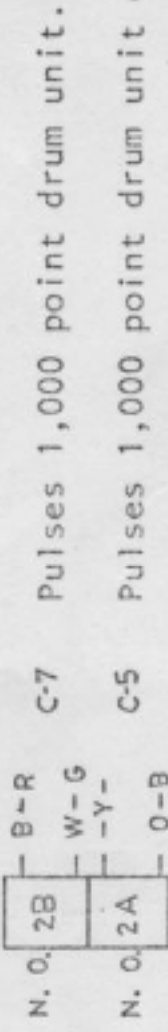
100 POINT

Is pulsed by:

- 1) Bumper cam switches
- 2) "3 Advance Relay"
- 3) Advance Relay
- 4) Shooter switches when lit



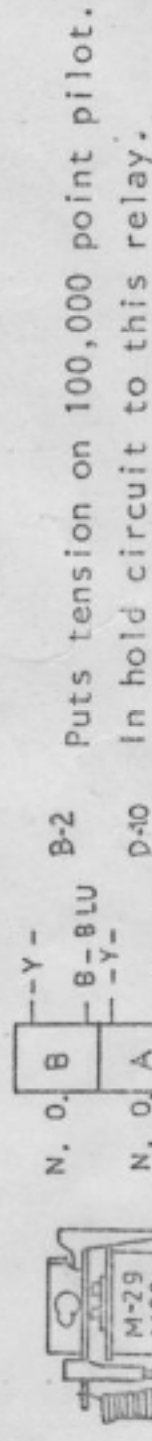
D-13 Pulses 1,000 point relay.
C-4 Pulses 100 point drum unit.
C-10 Pulses ball index relay.
C-16 Pulses advance coil of number match unit.
D-14 In hold circuit to this relay.
C-16 Pulses small chime.



C-7 Pulses 1,000 point drum unit.
C-5 Pulses 1,000 point drum unit coil.
C-5 In series with cam switch 9 of the 10,000 point drum unit coil.
C-16 Pulses large chime.
D-13 In hold circuit to this relay.
C-10 Pulses ball index relay.

100,000 POINT

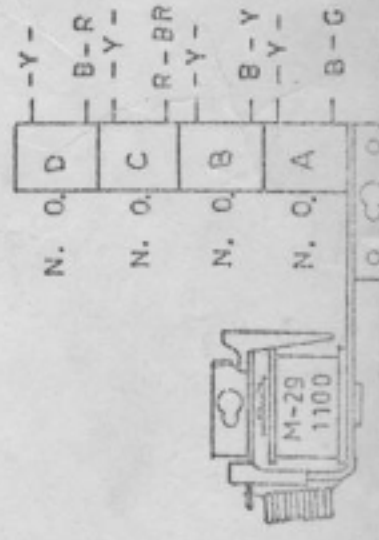
Is pulsed by each impulse of close cam switch by closing on 9th position switch on the 10,000 point drum unit.



B-2 Puts tension on 100,000 point pilot.
D-10 In hold circuit to this relay.
D-4 Pulses 10 point drum unit in series with open zero contact on that unit.
D-4 Pulses 100 point drum unit in series with open zero contact on that unit.
D-4 Pulses 1,000 point drum unit series with open zero contact on that unit.
D-5 Pulses 10,000 point drum unit in series with open zero contact on that unit.

SCORE RESET

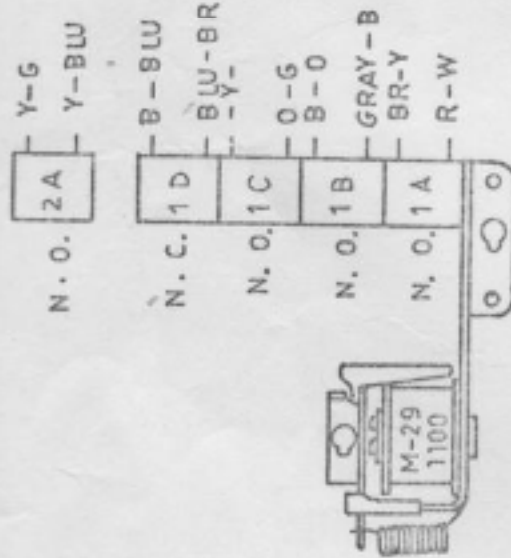
Is pulsed through a contact with the reset relay through cam switch B(motor).



BONUS

Is energized during the reset cycle by switches on coin relay and reset relay.

During play, is energized by outhole switch, through advance unit zero position switch.



D-9 In hold circuit to this relay.

D-9 In circuit to ball release relay.

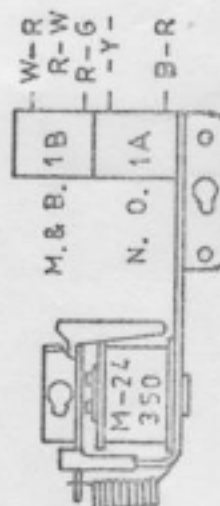
C-4 Runs score motor.

D-8 Pulses advance unit reset coil

E-12 In circuit to 1,000 point relay.

DOUBLE BONUS

This 6 volt coil is energized by wiper on ball count unit, through 3-5 Ball Adjustment Jack".



D-12 In circuit to pulse 1,000 point relay through bonus relay switch.

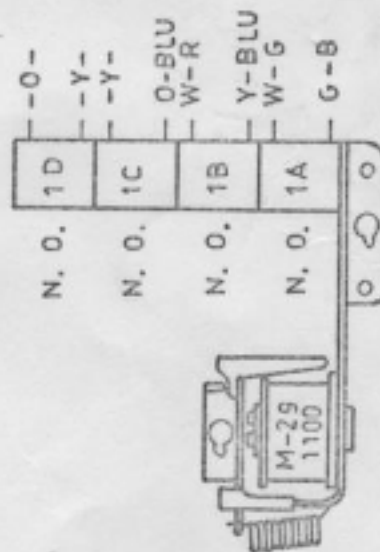
B-10 Activates double bonus light.

LOCATED IN BACKBOX

10 POINT

Is pulsed by:

1. 50 point relay
2. Stand-up switches.
- 3- Shooter switches when not lit.



C-15 Pulses small chime.

C-4 Pulses 10 point drum unit.

D-14 Pulses 100 point relay.

D-15 In hold circuit to this relay.