

# Instruction Manual for **ARGOSY**



**Williams®** ELECTRONICS  
A SUBSIDIARY OF

THE SEEBURG CORPORATION OF DELAWARE

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SEPT.  
1977

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

## "ARGOSY"

### GAME OPERATES AS FOLLOWS:

TOP ROLLOVER LANE OPENS GATE AND SCORES 1,000 AND ONE ADVANCE BONUS EXCEPT WHEN BONUS IS AT TOP AND THEN THE LANE OPENS GATE AND SCORES 10,000.

DROP TARGETS SCORE 1,000 EACH WHEN KNOCKED DOWN. WHEN ALL TARGETS ARE DOWN, TARGETS RESET AND SCORE LIT VALUE AND THEN ADVANCE LIT VALUE TO NEXT HIGHEST VALUE, EXCEPT WHEN SCORING SPECIAL AND THEN LIT VALUE RESETS TO 30,000.

IF FEATURE ADJUSTMENT IS SET FOR LIBERAL, TARGET VALUE STARTS AT 30,000. IF FEATURE ADJUSTMENT IS SET FOR CONSERVATIVE, TARGET VALUE STARTS AT 10,000. IF FEATURE ADJUSTMENT IS SET FOR MODERATE, TARGET VALUE STARTS AT 10,000 AND MAY BE ADVANCED TO 30,000 BY TOP CENTER ROLLOVER LANE. IT IS RECOMMENDED THAT THE FEATURE ADJUSTMENT BE SET TO LIBERAL FOR 3 BALL PLAY AND MODERATE FOR 5 BALL PLAY.

EJECT HOLE DOUBLES BONUS WHEN TARGETS ARE LIT FOR 30,000, 50,000 OR SPECIAL.

EJECT HOLE LIGHTS BOTTOM OUTSIDE ROLLOVER LANES FOR EXTRA BALL WHEN TARGETS ARE LIT FOR 50,000 OR SPECIAL.

EJECT HOLE SCORES SPECIAL IF TARGETS ARE LIT FOR SPECIAL, THEN RESETS TARGET VALUE TO 30,000.

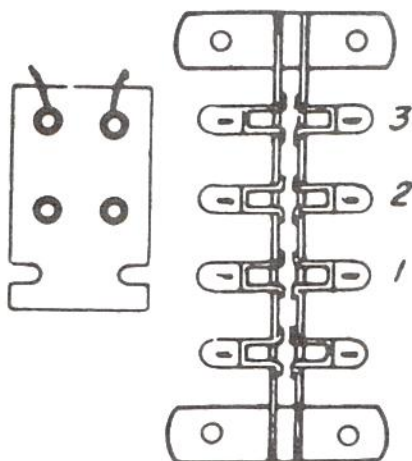
BOTTOM OUTSIDE ROLLOVER LANES ALTERNATE FOR EXTRA BALL WHEN LIT.

JET BUMPERS SCORE EITHER 1,000 OR 100 (ADJUSTABLE). IT IS RECOMMENDED THAT THEY SCORE 1,000 FOR 3 BALL PLAY AND 100 FOR 5 BALL PLAY.

SPINNING TARGET ALTERNATES FOR 1,000 OR 100 POINTS.

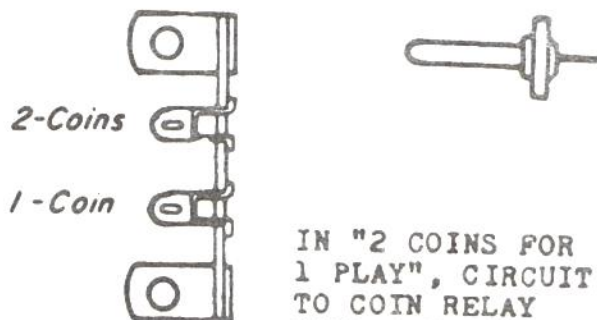
# ADJUSTMENTS ON MECHANISM PANEL

## 10¢ Adjustment



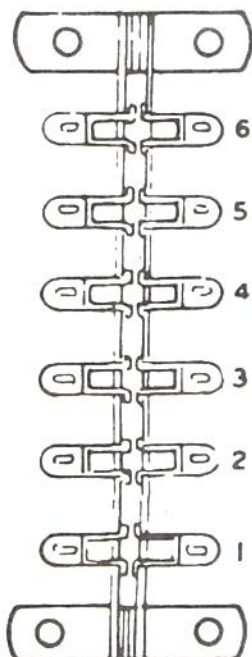
PROVIDES  
1, 2 OR  
3 PLAYS  
FOR ONE  
COIN.

## 5¢ Adjustment



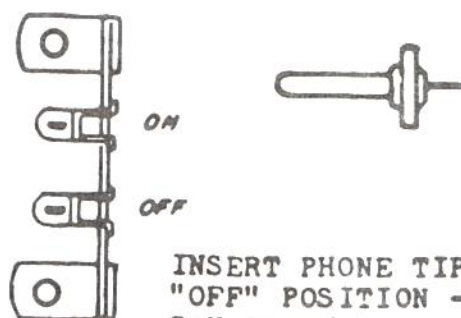
IN "2 COINS FOR  
1 PLAY", CIRCUIT  
TO COIN RELAY  
PASSES THRU SW.  
ON ALTERNATOR  
UNIT.

## 25¢ Adjustment



PROVIDES 1, 2, 3, 4, 5  
OR 6 PLAYS FOR 25¢.

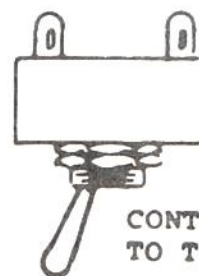
## Motor Service Jack



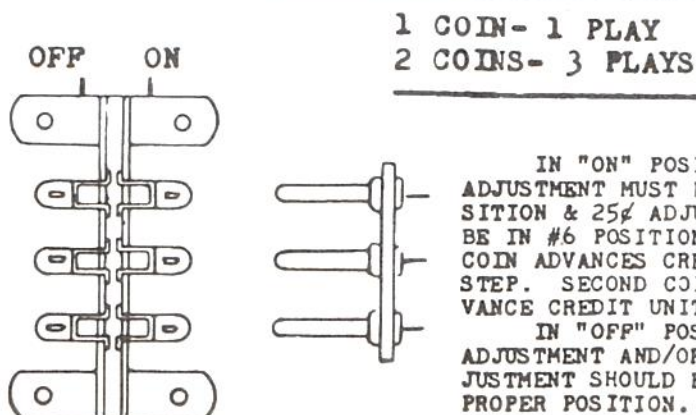
INSERT PHONE TIP IN  
"OFF" POSITION - CAMS  
CAN BE TURNED BY HAND  
TO CHECK ADJUSTMENT OF  
SWITCHES.

## MASTER ON-OFF SW.

(Located under front of  
Cabinet)



CONTROLS POWER  
TO TRANSFORMER



1 COIN- 1 PLAY  
2 COINS- 3 PLAYS

IN "ON" POSITION, 10¢  
ADJUSTMENT MUST BE IN #2 PO-  
SITION & 25¢ ADJUSTMENT MUST  
BE IN #6 POSITION. FIRST  
COIN ADVANCES CREDIT UNIT 1  
STEP. SECOND COIN WILL AD-  
VANCE CREDIT UNIT 2 STEPS.  
IN "OFF" POSITION, 25¢  
ADJUSTMENT AND/OR 10¢ AD-  
JUSTMENT SHOULD BE PUT IN  
PROPER POSITION.

# ADJUSTMENTS IN BACKBOX

## Hi-Score Adjustment

PLUG IN RED  
WIRE FOR SCORES  
110,000 TO 200,000

10,000 ☐ ☐ 60,000

20,000 ☐ ☐ 70,000

PLUG IN BLUE  
WIRE FOR SCORES  
210,000 TO 300,000

30,000 ☐ ☐ 80,000

PLUG IN YELLOW  
WIRE FOR SCORES  
310,000 TO 400,000

40,000 ☐ ☐ 90,000

50,000 ☐ ☐ 00,000

PLUG IN WHITE  
WIRE FOR SCORES  
510,000 TO 600,000

PLUG IN BROWN  
WIRE FOR SCORES  
610,000 TO 700,000

PLUG IN ORANGE  
WIRE FOR SCORES  
710,000 TO 800,000

PLUG IN GREEN  
WIRE FOR SCORES  
410,000 TO 500,000

PLUG IN GRAY  
WIRE FOR SCORES  
910,000 TO 990,000

PLUG IN BLACK  
WIRE FOR SCORES  
810,000 TO 900,000

EXAMPLE: BLUE WIRE INTO 10,000 POSITION SCORES AT 210,000  
OR BLUE WIRE INTO 00,000 POSITION SCORE AT 300,000.

## PLAY ADJUSTMENT

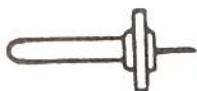


**CREDIT**

**EXTRA BALL**

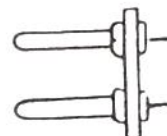
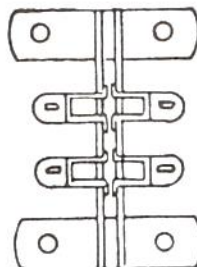
CREDIT POSITION: HI SCORES & DROPPING (4) TARGETS OR BALL IN EJECT HOLE WHEN THEY ARE LIT FOR 'SPECIAL' SCORES A CREDIT.

IN EXTRA BALL POSITION, THE ABOVE WILL ENERGIZE EXTRA BALL RELAY.



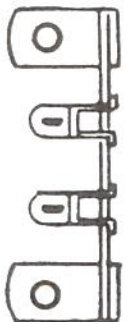
## NUMBER MATCH ADJUSTMENT

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.

## No. of Balls Adjustment



**5 BALL**

**3 BALL**



Plug changes 3 to 5 ball play, or vice versa.

## SUGGESTED SCORE CARDS

### CREDIT

5 BALL...473-10

3 BALL...473-28

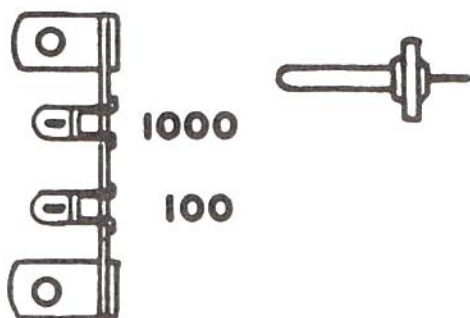
### EXTRA BALL

5 BALL...473-61

3 BALL...473-58

LOCATED ON PLAYFIELD

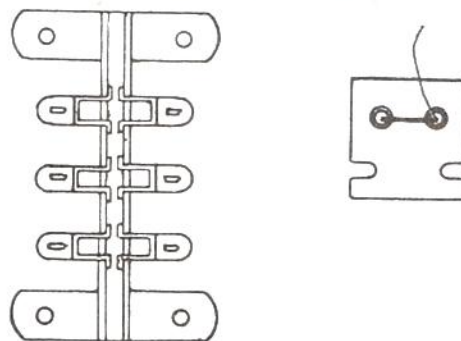
JET BUMPER ADJ.



GAME SCORES 100 OR 1,000  
POINTS EACH TIME JET BUMP-  
ER IS HIT.

FEATURE ADJ.

LIB.  
MED.  
CONS.



CONSERVATIVE:

TARGETS ARE LIT FOR 10,000 AND EJECT HOLE IS  
NOT LIT AT START OF PLAY.

MEDIUM:

SAME AS CONSERVATIVE EXCEPT MAY BE ADVANCED  
TO 30,000 BY TOP CENTER ROLLOVER.

LIBERAL:

TARGETS ARE LIT FOR 30,000 AND EJECT HOLE IS  
LIT FOR DOUBLE BONUS AT START OF PLAY.

SEQUENCE OF OPERATION

RESET CYCLE

CREDIT UNIT RESET COIL IS ENERGIZED BY SWITCH ON RESET RELAY,  
THRU SCORE MOTOR INDEX CAM SWITCH A, CREDIT BUTTON, ZERO SWITCH ON  
CREDIT UNIT, AND SWITCH ON GAME-OVER RELAY OR COIN UNIT LAST POSI-  
TION BREAK SWITCH.

END-OF-STROKE SWITCH ON CREDIT UNIT RESET COIL WILL ENERGIZE  
COIN RELAY.

SWITCHES ON COIN RELAY WILL RUN SCORE MOTOR, TRIP GAME-OVER  
RELAY, AND ENERGIZE RESET RELAY.

SWITCHES ON RESET RELAY WILL OPEN CIRCUITS TO PLAYFIELD  
SWITCHES AND OUTHOLE RELAY, RUN SCORE MOTOR, ENERGIZE RESET COILS  
ON COIN UNIT-BALL COUNT UNIT-PLAYER UNIT AND GAME-OVER RELAY,  
PULSE NO. 1, NO. 2 AND NO. 3 RESET RELAYS, AND ENERGIZE BONUS RELAY.

SWITCHES ON NO. 1, NO. 2 AND NO. 3 RESET RELAYS, WILL PULSE THE  
(20) SCORING DRUM UNITS UNTIL THEY REACH ZERO.

SWITCHES ON BONUS RELAY WILL RUN SCORE MOTOR, HOLD RESET  
RELAY IN AND PULSE BONUS UNIT RESET COIL, (BONUS RELAY IS HELD IN  
BY ZERO SWITCH ON BONUS UNIT).

WHEN BONUS RELAY DROPS OUT, OUTHOLE RELAY IS ENERGIZED THRU  
ZERO SWITCH ON BONUS UNIT AND INDEX CAM SWITCH D.

SWITCHES ON OUTHOLE RELAY WILL RUN SCORE MOTOR AND PULSE  
BALL RELEASE COIL TO PROPEL BALL TOWARD PLUNGER.

## 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.

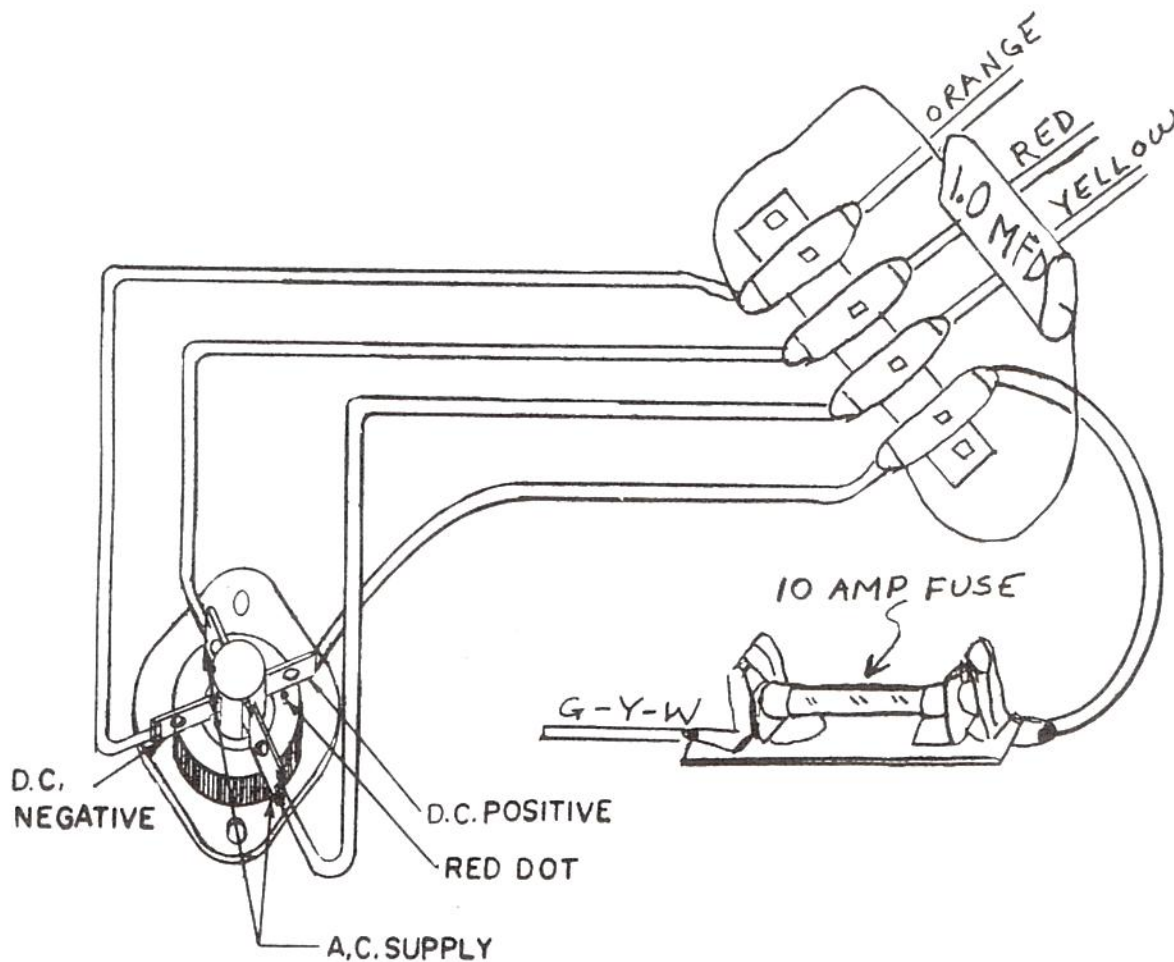
STEP-UP Levers, Ratchets, Cams, Shafts and other sliding or oscillating parts should be very lightly greased with special Coin Machine Lubricant (supplied with machine) not oftener than every six months. The bakelite discs (biscuits) on the Motor Units and Step-up Units will require lubrication with 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.

## 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.

## **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.

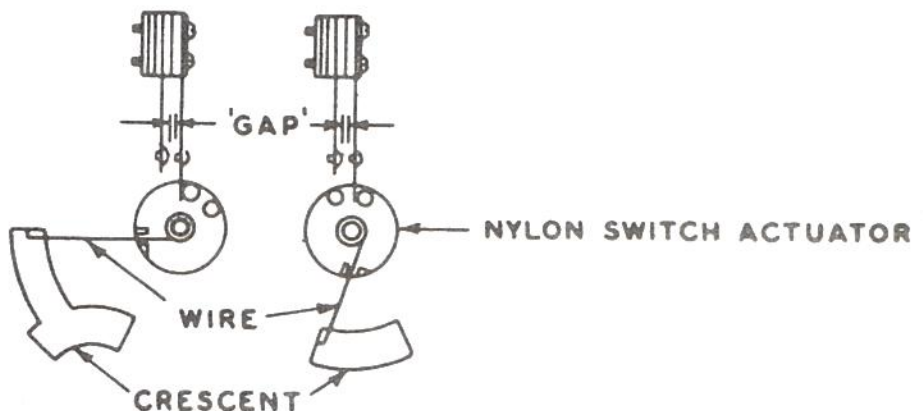
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## **SERVICEMAN TO REMOVE BACKGLASS:**

- **WITH BACK DOOR REMOVED, PULL BACK ON BRACKETS AT INSIDE TOP OF LITE BOX.**
- **FROM THE FRONT OF GAME, LIFT GLASS UP AND OUT.**

# 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.

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## POWER TRANSFORMER:

LOCATED ON MECHANISM PANEL, IT IS EQUIPPED WITH A SECONDARY TAP. IF YOUR GAME IS ON LOCATION WITH EXTREMELY LOW LINE VOLTAGE, REMOVE LEAD FROM LUG MARKED 24 VOLTS AND SOLDER TO ALTERNATE LUG MARKED "HIGH". THIS WILL BOOST SECONDARY VOLTAGE APPROXIMATELY 2-3 VOLTS.

## LEG LEVELERS:

ARE PROVIDED FOR TWO PURPOSES - 1ST TO LEVEL GAME ON LOCATION, 2ND TO INCREASE PITCH FOR GAME PERCENTAGING. IF IT IS DESIRED TO SPEED UP PLAY AND DECREASE SCORES, RAISE REAR LEG LEVELERS TO INCREASE PITCH.

# 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

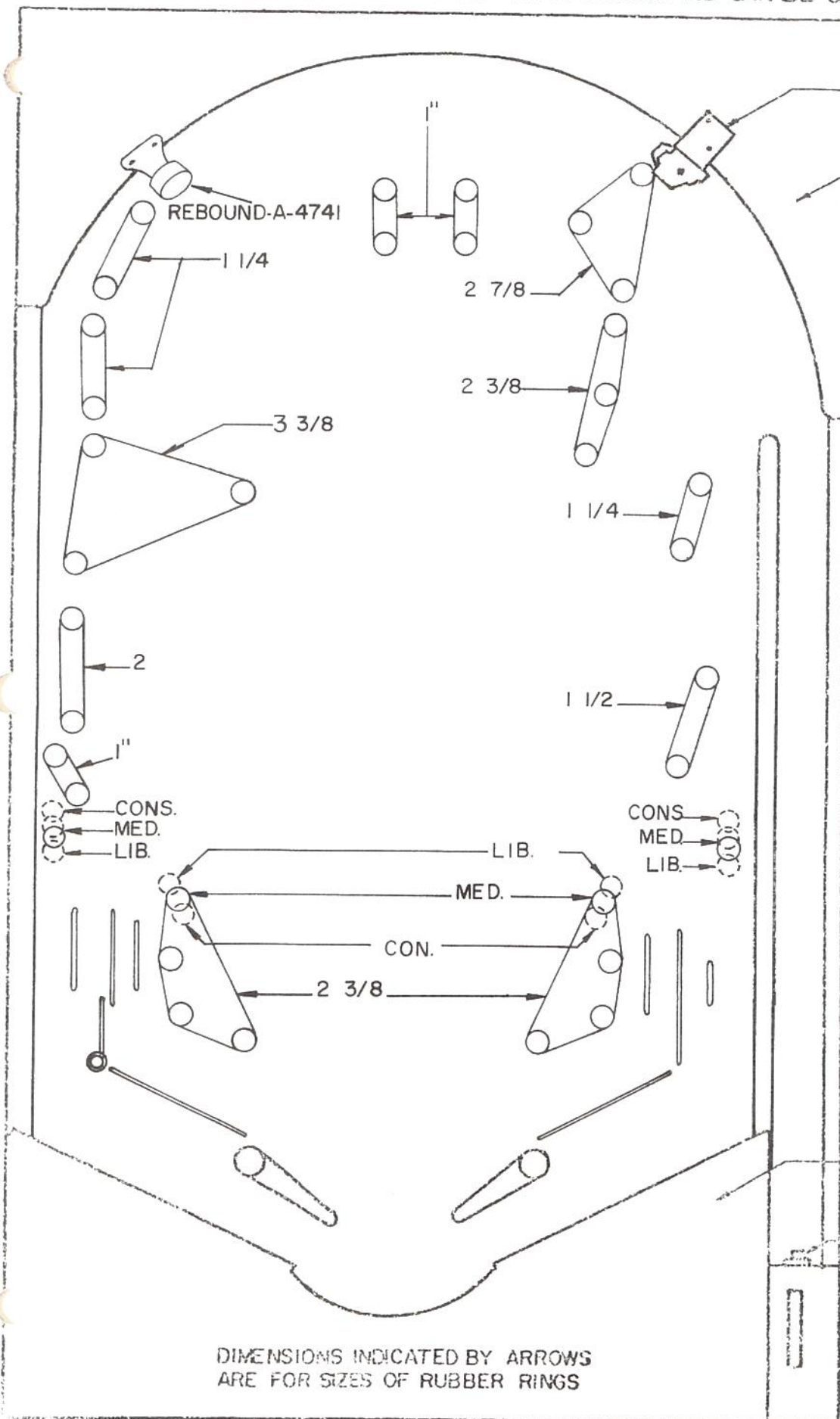
WHEN ORDERING PARTS ALWAYS SPECIFY NAME OF  
UNIT, GAME AND SERIAL NUMBER, IN ADDITION TO A  
CLEAR DESCRIPTION OF THE PART AND PART  
NUMBER IF POSSIBLE.

## UNIT PARTS LIST

| UNIT<br>NAME             | CONTACT<br>DISC | WIPER<br>ASSEMBLY | RATCHET<br>GEAR ASSEMBLY | MOTORS                                                        |
|--------------------------|-----------------|-------------------|--------------------------|---------------------------------------------------------------|
| REPLAY<br>BALL COUNT     | -----<br>C-6414 | -----<br>B-7456-6 | A-6400<br>A-6402-5       | SCORE MOTOR<br><br>14A-7883 (60 CYCLE)<br>14A-7884 (50 CYCLE) |
| (RIGHT SIDE)             | B-7568          | A-7614            | A-7595                   |                                                               |
| NO. MATCH<br>(LEFT SIDE) | B-7569          | A-7615            |                          |                                                               |
| PLAYER                   | C-6417          | C-6521-9          | A-6404-3                 |                                                               |
| COIN                     | C-6414          | B-7456-9          | A-6402-3                 |                                                               |
| BONUS                    | C-6417          | B-7456-14         | A-6402-10                |                                                               |
| 10 POINT                 | B-7253          | A-6294            | 3C-7272                  |                                                               |
| 100 POINT                | -----           | -----             | 3C-7272                  |                                                               |
| 1000 POINT               | -----           | -----             | 3C-7272                  |                                                               |
| 10000 POINT              | B-7253          | A-6294            | 3C-7272                  |                                                               |
| 100000 POINT             | B-7253          | A-6294            | 3C-7272                  |                                                               |
| ALTERNATOR               | -----           | -----             | 3C-7272                  |                                                               |

# ARGUS - POST ADJUSTMENT SHEET I

TO MAKE GAME MORE "CONSERVATIVE" OR "LIBERAL"-MOVE POST 3/16" AS SHOWN IN SKETCH BELOW. SPOTTING HOLES ARE PROVIDED AND CAN BE SEEN ON REMOVAL OF POSTS.



A-4817  
BALL GATE ASSEMBLY

IC-2852-473  
TOP ARCH

ABBREVIATIONS:  
CON.- CONSERVATIVE  
LIB.- LIBERAL

## RUBBER RING NUMBERS

23A-6300 — 5/16 I.D.  
23A-6302 — 1" I.D.  
23A-6303 — 1 1/4 I.D.  
23A-6304 — 1 1/2 I.D.  
23A-6305 — 2" I.D.  
23A-6306 — 2 3/8 I.D.  
23A-6307 — 2 7/8 I.D.  
23A-6308 — 3 3/8 I.D.

GLASS SIZE 21 X 43  
BALL SIZE 1 1/16 DIA.  
16

RUBBER RING-FLIPPERS  
— 23A-6519

## SUGGESTED SCORE CARDS

5 BALL 16C-473-10  
3 BALL 16C-473-28  
OR 16C-473-45

## EXTRA BALL PLAY

5 BALL 16C-473-60  
3 BALL 16C-473-56

ID-5573  
BOTTOM ARCH

23A-6327  
BALL SHOOTER RUBBER TIP

DIMENSIONS INDICATED BY ARROWS  
ARE FOR SIZES OF RUBBER RINGS

"ARGOSY" COIL CHART

NOTICE:

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

| NUMBER                          | DESCRIPTION                          | LOCATION    |
|---------------------------------|--------------------------------------|-------------|
| <u>MOTOR &amp; TRANSFORMERS</u> |                                      |             |
| 14A-7883                        | CONTROL MOTOR - 60 CYCLE             | MECH. PANEL |
| 14A-7884                        | CONTROL MOTOR - 50 CYCLE             | MECH. PANEL |
| 15A-6771                        | TRANSFORMER - 60 CYCLE               | MECH. PANEL |
| 15A-6782-1                      | TRANSFORMER - 50 CYCLE               | MECH. PANEL |
| 5A-8867                         | 24 VOLT METER                        | MECH. PANEL |
| <u>SOLENOID COILS</u>           |                                      |             |
| A 22-500                        | PLAYER UP UNIT STEP UP               | INSERT      |
| A 22-550                        | COIN UNIT STEP UP                    | MECH. PANEL |
|                                 | BALL RELEASE COIL                    | PLAYFIELD   |
|                                 | BONUS UNIT STEP UP                   | PLAYFIELD   |
| A7 22-550                       | DROP TARGET RESET ... (2 req'd.)     | PLAYFIELD   |
| A 23-600                        | CREDIT UNIT STEP UP                  | INSERT      |
|                                 | BALL COUNT UNIT STEP UP              | MECH. PANEL |
| A2-23-750                       | KNOCKER                              | CABINET     |
| A2-26-1300                      | TRIPLE CHIME COILS ... (3 req'd.)    | CABINET     |
| B1-26-800                       | SCORE DRUM UNITS ... (20 req'd.)     | INSERT      |
|                                 | CREDIT UNIT RESET                    | INSERT      |
|                                 | PLAYER UP UNIT RESET                 | INSERT      |
|                                 | BALL COUNT UNIT RESET                | MECH. PANEL |
|                                 | BONUS UNIT RESET                     | PLAYFIELD   |
|                                 | COIN UNIT RESET                      | MECH. PANEL |
| FL 21-375 / 28-400              | FLIPPERS ... (2 req'd.)              | PLAYFIELD   |
| G 23-750                        | EJECT COIL                           | PLAYFIELD   |
| G 23-750 D.C.                   | D.C. JET BUMPER COILS ... (2 req'd.) | PLAYFIELD   |
|                                 | D.C. KICKER COILS ... (3 req'd.)     | PLAYFIELD   |
| M 28-700                        | GAME OVER RELAY TRIP                 | MECH. PANEL |
| M 29-900                        | NO. 3 SCORE RESET RELAY              | INSERT      |
| M 29-1000                       | NO. 1 SCORE RESET RELAY              | INSERT      |
|                                 | NO. 2 SCORE RESET RELAY              | INSERT      |
|                                 | EJECT RELAY                          | PLAYFIELD   |
| M 29-1100                       | 10¢ RELAY                            | MECH. PANEL |
|                                 | 25¢ RELAY                            | MECH. PANEL |
|                                 | 10 POINT RELAY                       | INSERT      |
|                                 | 100 POINT RELAY                      | INSERT      |
|                                 | 1,000 POINT RELAY                    | INSERT      |
|                                 | 10,000 POINT RELAY                   | INSERT      |
|                                 | ADVANCE RELAY                        | PLAYFIELD   |
|                                 | TARGET RESET RELAY                   | PLAYFIELD   |
|                                 | TARGET SCORE RELAY                   | PLAYFIELD   |
|                                 | 500 POINT RELAY                      | PLAYFIELD   |
|                                 | 5,000 POINT RELAY                    | PLAYFIELD   |
|                                 | BONUS RELAY                          | PLAYFIELD   |
|                                 | 30,000 RELAY                         | PLAYFIELD   |
| M 30-1300                       | COIN SET UP RELAY                    | MECH. PANEL |
|                                 | NO. 4 RELAY                          | PLAYFIELD   |
| MX 31-1500                      | COIN LOCKOUT COIL                    | FRONT DOOR  |
| XS 28-1000                      | ALTERNATOR UNIT                      | MECH. PANEL |
|                                 | NUMBER MATCH UNIT                    | INSERT      |
| Z 27-1000                       | COIN RELAY                           | MECH. PANEL |
|                                 | PLAYER RESET RELAY                   | MECH. PANEL |
|                                 | GAME OVER LATCH RELAY                | MECH. PANEL |
|                                 | RESET RELAY                          | MECH. PANEL |
|                                 | OUTHOLE RELAY                        | MECH. PANEL |
| Z 28-1150                       | BALL INDEX RELAY                     | MECH. PANEL |
|                                 | TILT RELAY                           | MECH. PANEL |
|                                 | EXTRA BALL RELAY                     | MECH. PANEL |
|                                 | DOUBLE BONUS RELAY                   | PLAYFIELD   |
|                                 | NO. 1 RELAY                          | PLAYFIELD   |
|                                 | NO. 2 RELAY                          | PLAYFIELD   |
|                                 | NO. 3 RELAY                          | PLAYFIELD   |
|                                 | SET UP RELAY                         | PLAYFIELD   |
|                                 | CHANGE RELAY                         | PLAYFIELD   |
| Z 28-1200                       | GATE RELAY                           | PLAYFIELD   |
| Z 29-1250                       | LOCK RELAY                           | MECH. PANEL |

# JACK LAYOUT

GAME ARGOSY #473

POSITION P.F. - 1NS SIZE 8

|   |                   |              |                  |                   |
|---|-------------------|--------------|------------------|-------------------|
| 1 | <u>BLU</u><br>Y-3 | PLAYER LITES | CREDIT LITE      | <u>GRY</u><br>Y-3 |
| 2 | <u>GRY</u><br>O-1 | G-O- LITE    | BALL IND. RE.    | <u>W</u><br>BR-4  |
| 3 | <u>Y</u><br>B-5   | EX-BALL RE.  | CREDIT SU.       | <u>GRY</u><br>BR. |
| 4 |                   | BLANK        | CHANGE RE.       | <u>B</u><br>R-3   |
| 5 |                   | BLANK        |                  |                   |
|   |                   |              |                  |                   |
|   |                   |              |                  |                   |
|   |                   |              |                  |                   |
|   |                   |              |                  |                   |
|   |                   |              |                  |                   |
|   |                   |              |                  |                   |
|   |                   | INS = INSERT | P.F. = PLAYFIELD |                   |

11

## JACK LAYOUT

GAME ARGOSY #473

POSITION PAN - INS. SIZE 24

|    |                    |     |
|----|--------------------|-----|
| 1  | FEED               | R-1 |
| 2  | "                  | R-2 |
| 3  | COIN<br>LOCKOUT    | R-4 |
| 4  | CREDIT RESET       | W-0 |
| 5  | "                  | W-1 |
| 6  | NO. 3<br>RESET RE. | R-1 |
| 7  | KNOCKER            | R-1 |
| 8  | RESET RE.          | R-1 |
| 9  | BALL COUNT<br>S.U. | R-1 |
| 10 | NO. 1<br>BALL LITE | W-5 |
| 11 | FEED               | R-1 |
| 12 | BLANK              |     |

|    |             |                               |
|----|-------------|-------------------------------|
| 1  | R-1         | BALL COUNT<br>S.U.            |
| 2  | R-1         | BALL COUNT<br>S.U.            |
| 3  | Y-1         | PLAYER S.U.                   |
| 4  | G-1         | PLAYER RESET                  |
| 5  | GRY-<br>Y-5 | EX-BALL RE.                   |
| 6  | B-0         | NO. 1 & NO. 2<br>RESET DELAYS |
| 7  | GRY-        | CREDIT S.U.                   |
| 8  | -Y-         | FEED                          |
| 9  | W-6         | SHOOT AGAIN<br>LITE           |
| 10 | B-1         | NO. 2<br>BALL LITE            |
| 11 | O-1         | SMALL CHIME                   |
| 12 | B-3         | LARGE CHIME                   |

## JACK LAYOUT

GAME ARGOSY #473

POSITION PAN - INS. SIZE 20

|    |                    |             |
|----|--------------------|-------------|
| 1  | NO. 3<br>BALL LITE | GRY-<br>Y-1 |
| 2  | 1ST. PL. MATCH     | BLU-2       |
| 3  | 2ND. PL.           | R-2         |
| 4  | 3RD. PL.           | R-2         |
| 5  | 4TH. PL.           | R-2         |
| 6  | CREDIT S.U.        | R-2         |
| 7  | MED. CHIME         | O-2         |
| 8  | TILT LITE          | BLU-2       |
| 9  | BALL IND. RE.      | R-4         |
| 10 | COIN RE.           | W-1         |

|    |             |                   |
|----|-------------|-------------------|
| 1  | GRY-<br>W-3 | 1-CAN PLAY LITE   |
| 2  | Y-1         | 2-1               |
| 3  | O-1         | 3-1               |
| 4  | R-3         | 4-1               |
| 5  | R-1         | W BALL COUNT S.U. |
| 6  | BLU-4       | G.O. RE. TRIP     |
| 7  | Y-5         | "                 |
| 8  | GRY-5-2     | NO. 4 BALL LITE   |
| 9  | GRY-3R-2    | NO. 5 BALL LITE   |
| 10 |             | BLANK             |

# JACK LAYOUT

# JACK LAYOUT

GAME ARGOSY #473

GAME ARGOSY #473

POSITION PAN - P.F. SIZE 24

POSITION PAN - P.F. SIZE 22

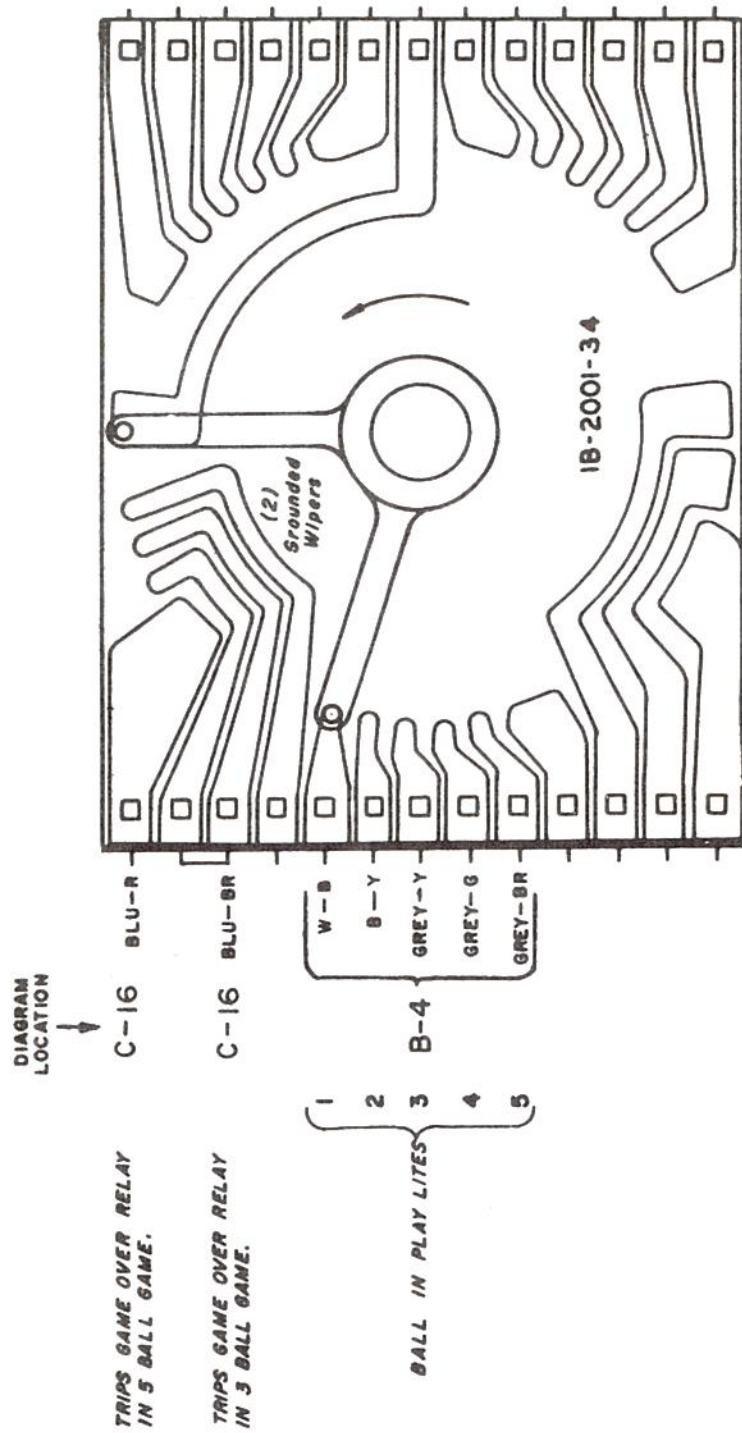
|             |              |    |            |                     |                     |              |
|-------------|--------------|----|------------|---------------------|---------------------|--------------|
| FEED        | -B-          | 1  | GRY<br>Y-2 | BONUS S.U.          | TARGET<br>SCORE RE. | BLU<br>R-3   |
| "           | -R-          | 2  | R/<br>Y-2  | BALL RELEASE        | No. 2 RE.           | GRY<br>BR-4  |
| TOTOR RUN   | O/<br>G      | 3  | W/<br>BR-4 | TILT RE.            | No. 3 "             | BR/<br>BLU-3 |
| RESET RE.   | BLU<br>BR-1  | 4  | Y/<br>R-2  | " "                 | EX-BALL RE.         | Y/<br>B-5    |
| BONUS RESET | GRY<br>O-S   | 5  | R/<br>W-2  | TARGET RESET        | EJECT RE.           | R/<br>BLU-4  |
| " "         | O/<br>W-1    | 6  | G-3        | " "                 | " COIL              | GRY<br>W-4   |
| FEED        | -Y-          | 7  | Y/<br>BR-5 | TARGET<br>SCORE RE. | 10,000 PT. RE.      | BR/<br>W-6   |
| BONUS RE.   | GRY<br>BLU-4 | 8  | BLU<br>O-2 | TARGET<br>RESET RE. | " "                 | W/<br>BLU-5  |
| " "         | GRY<br>G-4   | 9  | Y/<br>G-2  | TARGET<br>RESET RE. | " "                 | O/<br>B-2    |
| POTHOLE RE. | R/<br>BR     | 10 | R/<br>G-1  | BONUS S.U.          | " "                 | BR/<br>R-3   |
| " "         | B/<br>BLU-1  | 11 | R/<br>B-4  | BONUS RE.           | BLANK               |              |
| GATE RE.    | GRY<br>BR-3  | 12 | BLU<br>W   | 10,000 PT. RE.      |                     |              |
|             |              |    |            |                     |                     |              |
|             |              |    |            |                     |                     |              |

|    |             |                     |
|----|-------------|---------------------|
| 1  | G/<br>R-2   | No. 1 RE.           |
| 2  | G/<br>W-3   | " "                 |
| 3  | G/<br>O-3   | " "                 |
| 4  | Y/<br>BLU-5 | No. 4 "             |
| 5  | BLU.        | FEED                |
| 6  | W/<br>O-4   | 30,000 RE.          |
| 7  | W/<br>B-4   | " "                 |
| 8  | W/<br>G-4   | SHOOT AGAIN<br>LITE |
| 9  | R/Y/W       | FEED                |
| 10 | R/<br>W-5   | L-FLIPPER           |
| 11 | BR/<br>W-5  | R - "               |
|    |             |                     |
|    |             |                     |

# BALL COUNT UNIT DISC

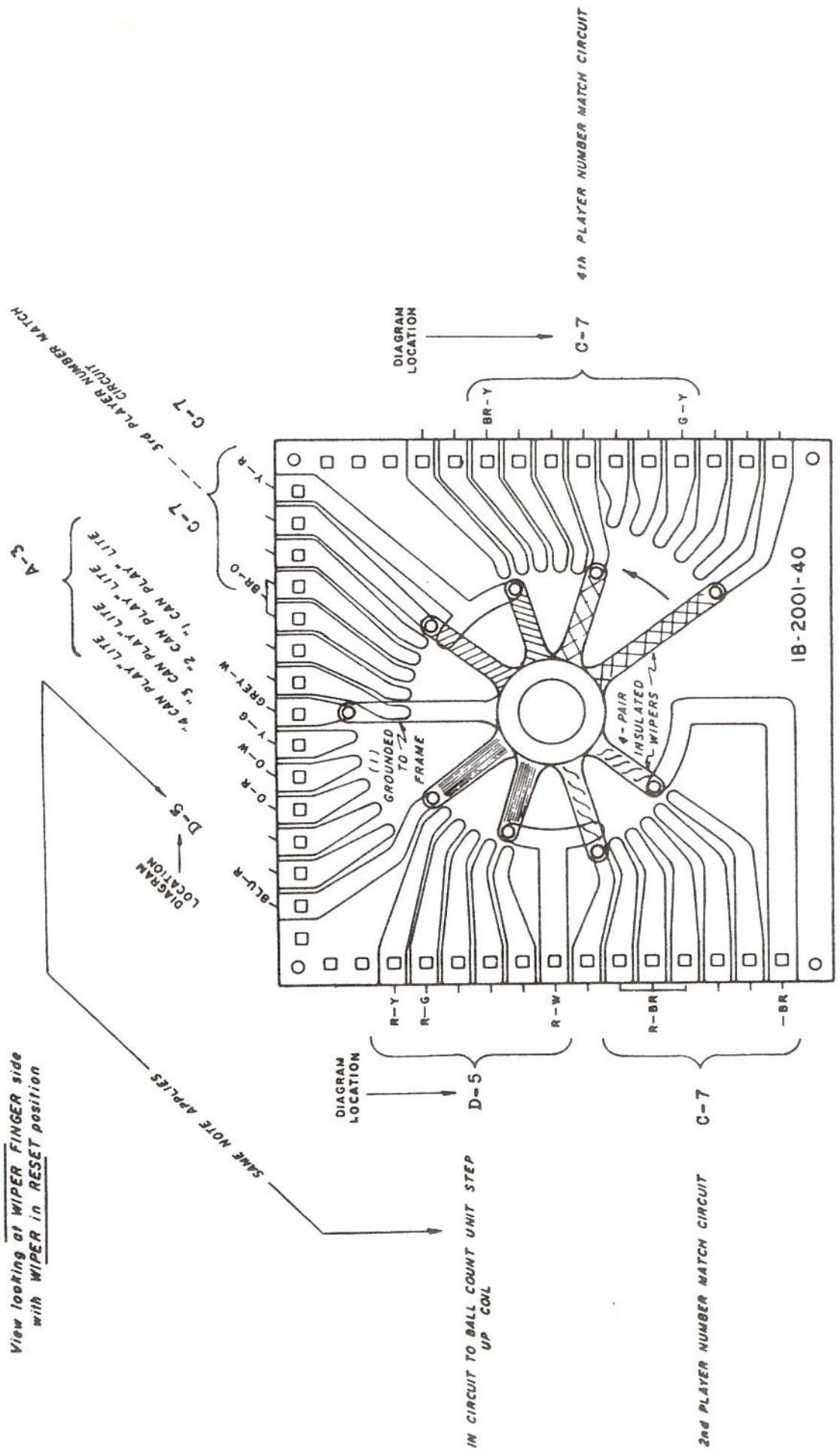
THIS UNIT RESETS AT THE START OF A NEW GAME, (DURING RESET CYCLE). IT ADVANCES ONE STEP EACH TIME THE LAST PLAYER COMPLETES HIS TURN.

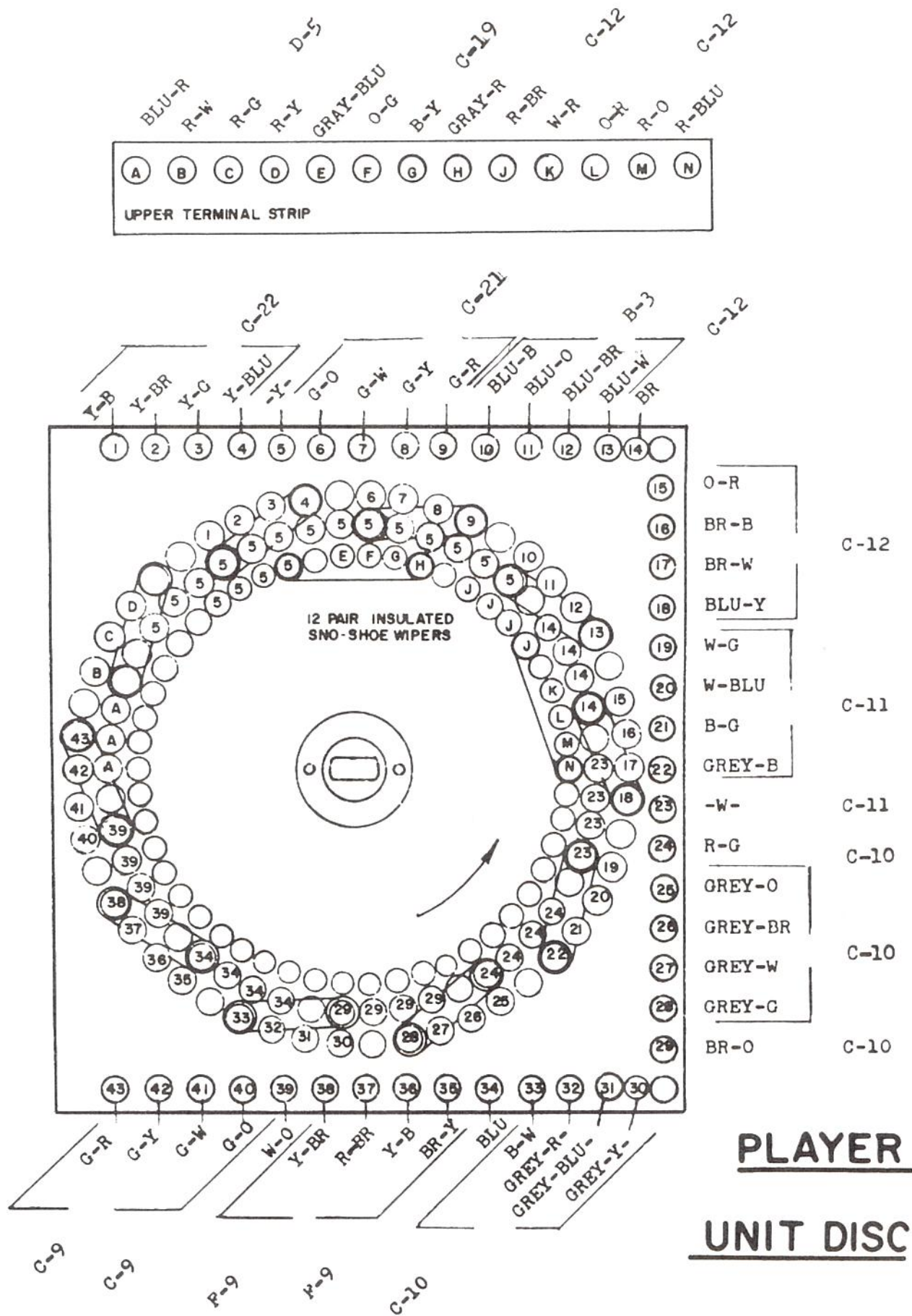
View looking at WIPER FINGER side  
with WIPER in ZERO position.



COIN S. U. DISC

THIS UNIT RESETS AT START OF A GAME (DURING RESET CYCLE). IT THEN ADVANCES ONE STEP EACH TIME THE COIN RELAY IS PULSED.





# PLAYER UNIT DISC

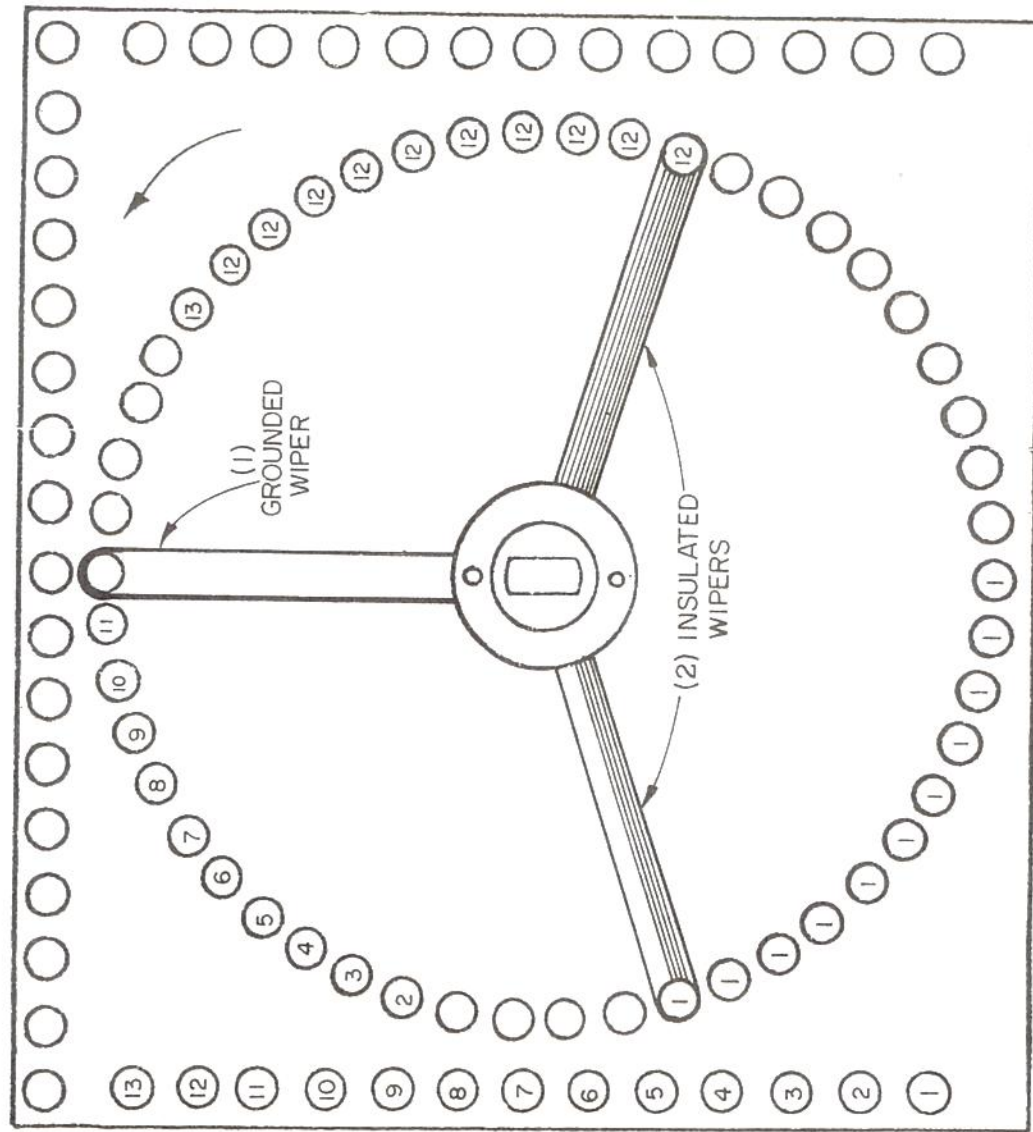
| LUG                  |                                                                                              | LUG                  |                                                                                                                |
|----------------------|----------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------|
| 1<br>2<br>3<br>4     | IN CIRCUIT TO 100 POINT RELAY<br>THRU 9TH POS. SWS. ON CORRESPOND-<br>ING 10-PT. DRUM UNITS. | 30<br>31<br>32<br>33 | TO 10 POINT DRUM UNIT COILS.                                                                                   |
| 5                    | FEED TO 6 V. A 24 V.                                                                         | 34                   | IN CIRCUIT TO CREDIT S.U. THRU<br>SW. ON 1000 POINT RELAY.                                                     |
| 6<br>7<br>8<br>9     | IN CIRCUIT TO 1000 PT. RELAY,<br>THRU 9TH POS. SWS. ON 100 POINT<br>DRUM UNITS.              | 35<br>36<br>37<br>38 | TO 100,000 POINT DRUM UNIT DISCS<br>IN HIGH SCORE CIRCUIT.                                                     |
| 10<br>11<br>12<br>13 | "PLAYER UP LITES"                                                                            | 39                   | 24 V. FEED FROM TILT RELAY.                                                                                    |
| 14                   | TO SWITCH ON 10,000 PT. RELAY.                                                               | 40<br>41<br>42<br>43 | TO 10,000 PT. DRUM UNIT DISCS<br>IN HIGH SCORE CIRCUIT.                                                        |
| 15<br>16<br>17<br>18 | TO 10,000 POINT DRUM UNIT COILS.                                                             | A<br>B<br>C<br>D     | IN CIRCUIT TO BALL COUNT S.U.<br>COIL AFTER LAST PLAYER COM-<br>PLETES HIS TURN.                               |
| 19<br>20<br>21<br>22 | TO 1000 POINT DRUM UNIT COILS.                                                               | E<br>F<br>G<br>H     | IN CIRCUIT TO 10,000 POINT RE-<br>LAY, THRU 9TH POSITION SWITCHES<br>ON 1,000 POINT DRUM UNITS.                |
| 23                   | TO SWITCH ON 1000 POINT RELAY.                                                               | J                    | TO SWITCH ON 10,000 POINT RELAY.                                                                               |
| 24                   | TO SWITCH ON 100 POINT RELAY.                                                                | K<br>L<br>M<br>N     | IN CIRCUIT TO 100,000 POINT<br>DRUM UNIT COILS, THRU 9TH POSI-<br>TION SWITCHES ON 10,000 POINT<br>DRUM UNITS. |
| 25<br>26<br>27<br>28 | TO 100 POINT DRUM UNIT COILS.                                                                |                      |                                                                                                                |
| 29                   | TO SWITCH ON 10 POINT RELAY.                                                                 |                      |                                                                                                                |
|                      |                                                                                              |                      |                                                                                                                |

## BONUS UNIT

THIS UNIT ADVANCES ONCE EACH TIME THE 500 RELAY, ADVANCE RELAY OR OUT-HOLE RELAY IS ENERGIZED. IT RESETS WHEN THE BONUS RELAY IS ENERGIZED.

|                        |     |        |
|------------------------|-----|--------|
| TO 10,000 POINT RELAY. | D-9 | R-0    |
| TO ADVANCE RELAY.      | C-9 | Y-G    |
| 10,000                 | B-6 | B-R    |
| 20,000                 |     | R-Y    |
| 30,000                 |     | R-W    |
| 40,000                 |     | R-BR   |
| 50,000                 |     | G-R    |
| 60,000                 |     | R-B    |
| 70,000                 |     | BLU-R  |
| 80,000                 |     | BLU-Y  |
| 90,000                 |     | BLU-W  |
| 100,000                | B-7 | BLU-BR |
|                        | C-9 | Y-BLU  |

FEED FROM TOP  
CENTER ROLLOVER.



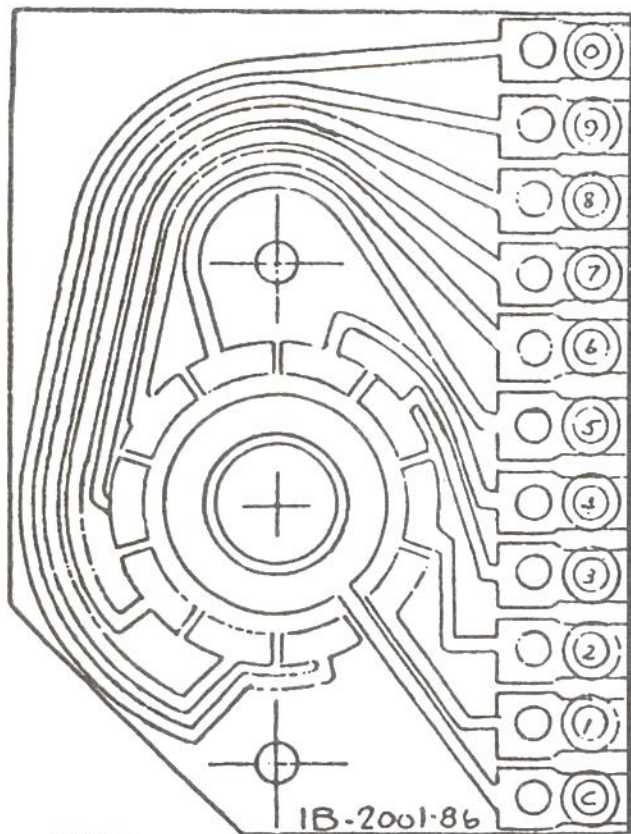
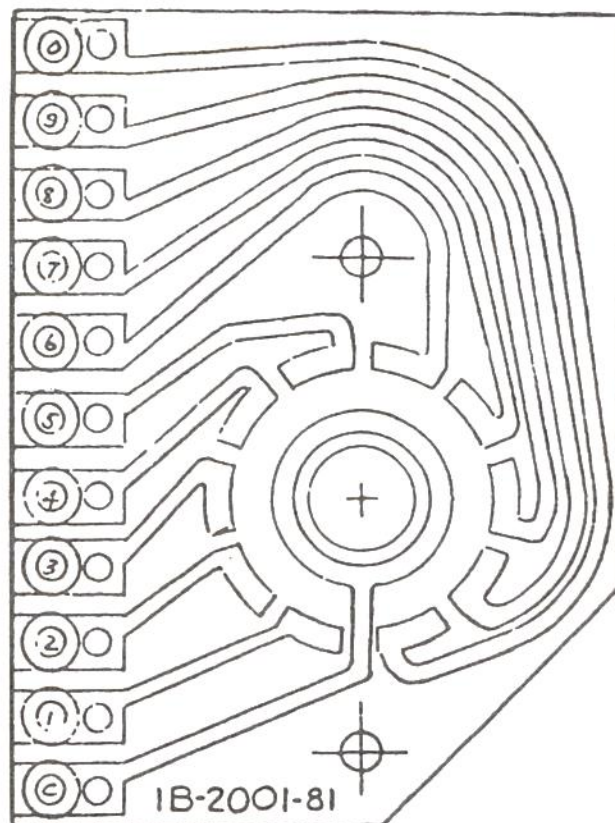


DIAGRAM  
LOCATION  
↓



# No. MATCH UNIT

B-5

|         |        |
|---------|--------|
| 00 LITE | W/G    |
| 60 "    | BR/W   |
| 10 "    | BR/G   |
| 70 "    | BR/Y   |
| 30 "    | BR/BLU |
| 80 "    | BR/R   |
| 20 "    | W/GRY  |
| 50 "    | W/B    |
| 90 "    | W/O    |
| 40 "    | W/BR   |
| FEED    | -Y-    |

PRINTED CIRCUIT- IB-2001-86

X5-28  
1000

-R-

PRINTED CIRCUIT- IB-2001-81

PRINTED CIRCUIT- IB-2001-81

|       |          |
|-------|----------|
| Y/BLU | 00-MATCH |
| G/Y   | 60 "     |
| Y/G   | 10 "     |
| G/W   | 70 "     |
| Y/R   | 30 "     |
| G/O   | 80 "     |
| Y/BR  | 20 "     |
| G/R   | 50 "     |
| W/BLU | 90 "     |
| Y/B   | 40 "     |
| GRY/R | FEED     |

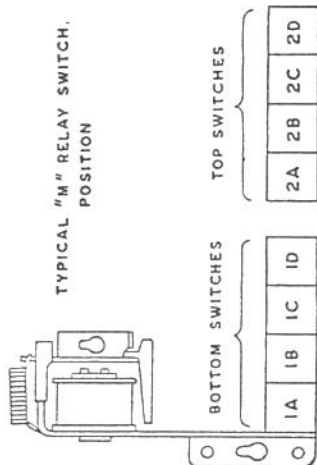
E-8

R-O

DRIVE SPRING 10A-324-1

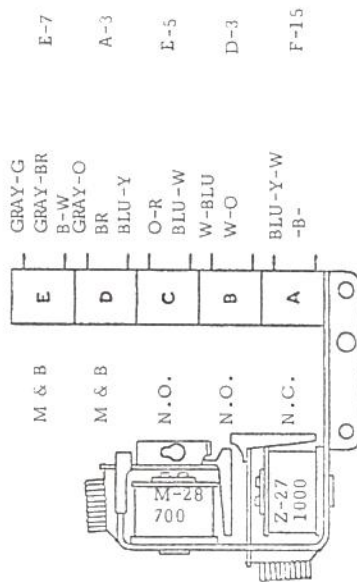
# RELAYS & SWITCHES

(ON MECHANISM PANEL)



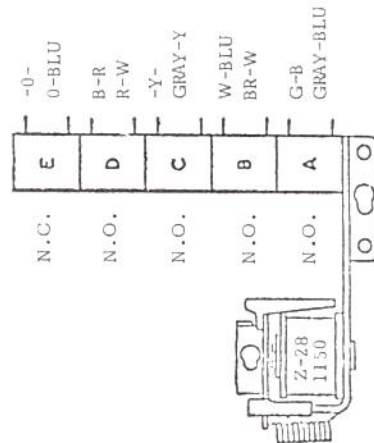
## GAME OVER

LATCH COIL IS ENERGIZED BY SCORE MOTOR CAM SWITCH "1C", THRU SWITCH ON COIN RELAY. TRIP COIL IS ENERGIZED BY COIN RELAY, THRU A ZERO SWITCH ON PLAYER UNIT OR BALL COUNT UNIT --- ALSO BY LOCK RELAY OR WIPER FINGER ON BALL COUNT UNIT DISC.



## BALL INDEX

IS ENERGIZED BY 10,100 OR 1,000 POINT RELAY THRU SWITCH ON EXTRA BALL RELAY --- ALSO BY TILT RELAY.



OPENS IN HI-S CORE CIRCUITS AND CLOSES IN NUMBER MATCH CIRCUITS TO "CREDIT EXTRA BALL" ADJUSTMENT JACK.

OPENS TO "PLAYER UP" AND "BALL IN PLAY" LITES, & CLOSES TO NO. MATCH AND GAME OVER LITES.

IN CIRCUIT TO RESET RELAY, THRU SWITCH ON COIN RELAY.

IN CIRCUIT TO CREDIT UNIT RESET COIL.

OPENS CIRCUITS TO MOST PLAYFIELD SWITCHES.

IN SERIES WITH SWITCH "A" ON COIN SET-UP RELAY.

IN CIRCUIT TO BALL COUNT S.U. COIL ---- ALSO IN SERIES WITH SWITCH "C" ON PLAYER RESET RELAY.

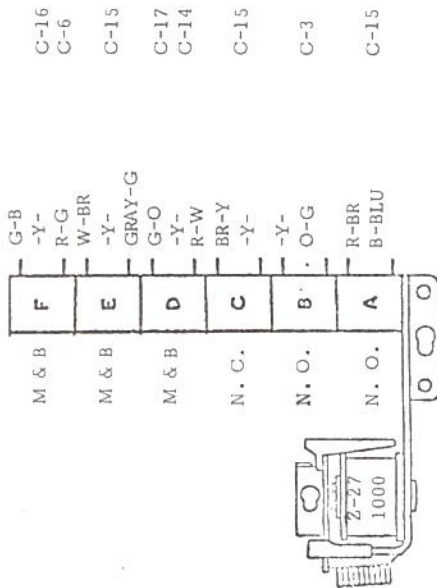
IN HOLD CIRCUIT TO EXTRA BALL RELAY.

IN SERIES WITH SWITCH "C" ON DOUBLE BONUS RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

## OUTHOLE RELAY

IS ENERGIZED BY INDEX CAM SWITCH "D", THRU ZERO SWITCH ON BONUS UNIT AND NORMALLY CLOSED SWITCH ON BONUS RELAY.



OPENS IN HOLD CIRCUIT TO BALL INDEX RELAY AND CLOSES IN SERIES WITH SWITCH "C" ON EXTRA BALL RELAY.

OPENS IN CIRCUIT TO TILT RELAY AND CLOSES TO PULSE BALL RELEASE COIL AND BONUS S.U. COIL.

OPENS IN HOLD CIRCUIT TO NO. 1 RELAY AND CLOSES TO TARGET RESET COILS.

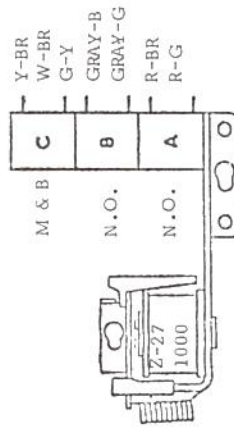
IN HOLD CIRCUIT TO TILT RELAY.

RUNS SCORE MOTOR.

IN HOLD CIRCUIT TO THIS RELAY.

## PLAYER RESET RELAY

IS ENERGIZED BY BALL COUNT UNIT END-OF-STROKE SWITCH. IT THEN HOLDS IN THRU SCORE MOTOR INDEX CAM SWITCH "C".



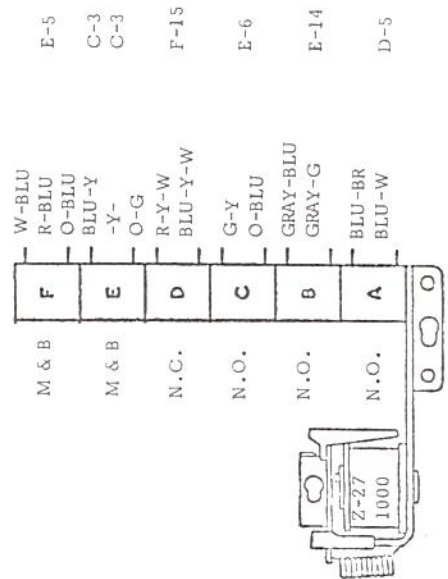
OPENS IN CIRCUIT TO PLAYER UNIT S.U. COIL AND CLOSES TO PLAYER UNIT RESET COIL.

IN NUMBER MATCH CIRCUIT TO CREDIT UNIT S.U. COIL.

HOLD CIRCUIT TO THIS RELAY, THRU SCORE MOTOR INDEX CAM SWITCH "C".

## RESET RELAY

IS ENERGIZED BY COIN RELAY, THRU SWITCH ON GAME-OVER RELAY.



OPENS IN CIRCUIT TO COIN UNIT S.U. COIL AND CLOSES TO RESET COILS ON COIN, BALL COUNT AND GAME-OVER.

OPENS CIRCUIT TO CREDIT UNIT RESET COIL AND CLOSES TO RUN SCORE MOTOR.

OPENS CIRCUITS TO MOST PLAYFIELD SWITCHES.

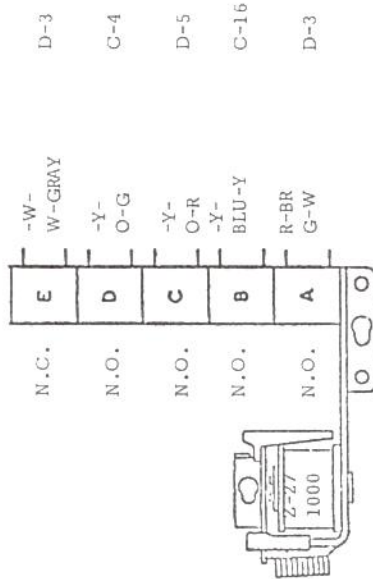
IN CIRCUIT TO PLAYER UNIT RESET COIL.

IN CIRCUIT TO BONUS RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

## COIN RELAY

IS ENERGIZED BY COIN SWITCH OR CREDIT UNIT RESET COIL END-OF-STROKE SWITCH.



OPENS CIRCUIT TO COIN LOCKOUT COIL.

RUNS SCORE MOTOR.

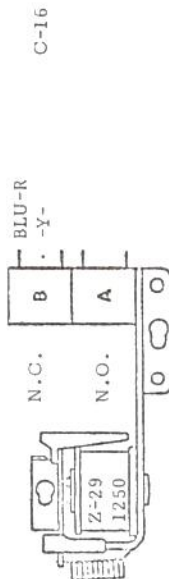
ENERGIZES RESET RELAY, THRU SWITCH ON GAME-OVER RELAY.

ENERGIZES GAME-OVER RELAY TRIP COIL, THRU BALL COUNT UNIT OR PLAYER UNIT ZERO SWITCHES.

IN HOLD CIRCUIT TO THIS RELAY.

## LOCK RELAY

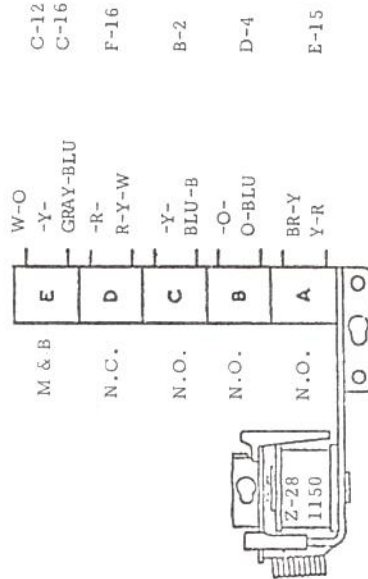
IS ENERGIZED WHEN POWER IS SUPPLIED TO TRANSFORMER.



ENERGIZES GAME-OVER RELAY TRIP COIL.

## TILT RELAY

IS ENERGIZED BY PLUMB BOB TILT, BALL ROLL-OVER, THRU CHANGE RELAY AND SET-UP RELAY --- ALSO, IF ADJUSTMENT JACK IS IN "EXTRA BALL" POSITION, BY HI-SCORES.



OPENS IN HI-SCORE CIRCUITS AND ALL (20) SCORE DRUM COILS, AND CLOSURES TO ENERGIZE BALL INDEX RELAY.

OPENS CIRCUITS TO MOST PLAYFIELD SWITCHES.

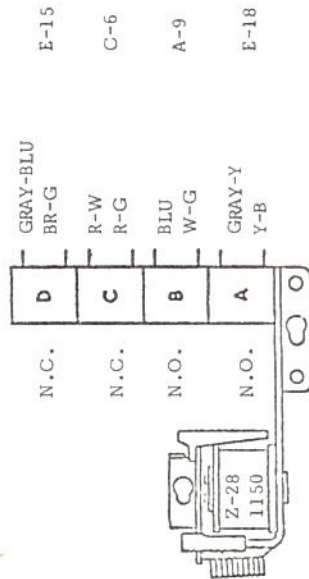
TO "TILT" LITE.

IN SERIES WITH SWITCH "A" ON COIN SET-UP RELAY.

HOLD CIRCUIT TO THIS RELAY, THRU SWITCH ON OUTHOLE RELAY.

## EXTRA BALL RELAY

IS ENERGIZED BY LEFT OR RIGHT BOTTOM ROLL-OVER, THRU CHANGE RELAY AND SET-UP RELAY --- ALSO, IF ADJUSTMENT JACK IS IN "EXTRA BALL" POSITION, BY HI-SCORES.



IN CIRCUIT TO BALL INDEX RELAY.

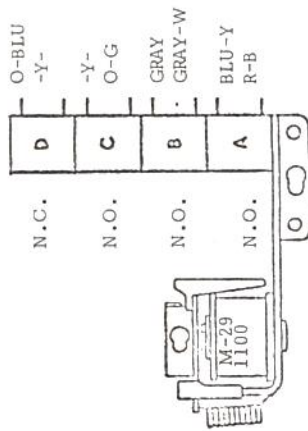
IN SERIES WITH SWITCH "D" ON BALL INDEX RELAY.

TO "SHOOT AGAIN" LITES.

IN HOLD CIRCUIT TO THIS RELAY.

## 10¢ RELAY

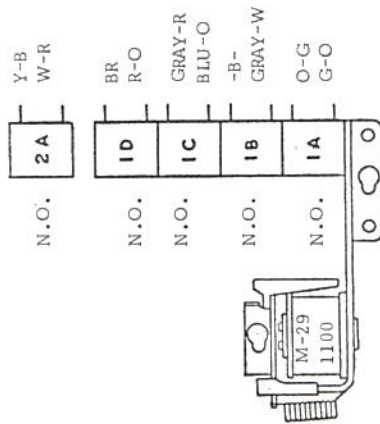
IS ENERGIZED BY 10¢ COIN SWITCH, THRU 10¢ ADJUSTMENT JACK --- ALSO BY 25¢ COIN SWITCH, THRU COIN SET-UP RELAY IF "2 COINS FOR 3 PLAYS" ADJUSTMENT IS IN "ON" POSITION.



C-4 IN HOLD CIRCUIT TO COIN SET-UP RELAY.  
C-4 RUNS SCORE MOTOR.  
D-7 PULSES CREDIT UNIT S.U. COIL, THRU IMPULSE CAM SWITCH "B".  
E-2 IN HOLD CIRCUIT TO THIS RELAY.

## 25¢ RELAY

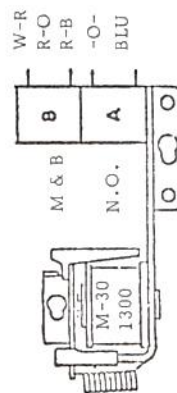
IS ENERGIZED BY 25¢ COIN SWITCH.



E-2 IN HOLD CIRCUIT TO THIS RELAY  
E-2 ENERGIZES COIN SET-UP RELAY, THRU "2 COINS FOR 3 PLAYS" ADJUSTMENT JACK.  
C-4 PULSES CREDIT UNIT S.U. COIL OR COIN RELAY, THRU "2 COINS FOR 3 PLAYS" ADJUSTMENT JACK.  
D-7 PULSES CREDIT UNIT S.U. COIL, THRU "2 COINS FOR 3 PLAYS" ADJUSTMENT.  
D-7 PULSES CREDIT UNIT S.U. COIL, THRU "2 COINS FOR 3 PLAYS" ADJUSTMENT.  
C-3 RUNS SCORE MOTOR, THRU 25¢ COIN SWITCH.

## COIN SET UP RELAY

IS ENERGIZED BY 25¢ RELAY, ONLY IF "2 COINS FOR 3 PLAYS" ADJUSTMENT IS IN "ON" POSITION.

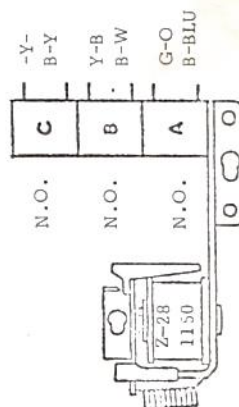


E-2 OPENS IN CIRCUIT TO 25¢ RELAY AND CLOSSES TO 10¢ RELAY.  
E-4 IN HOLD CIRCUIT TO THIS RELAY

## LOCATED ON PLAYFIELD

## SET UP RELAY

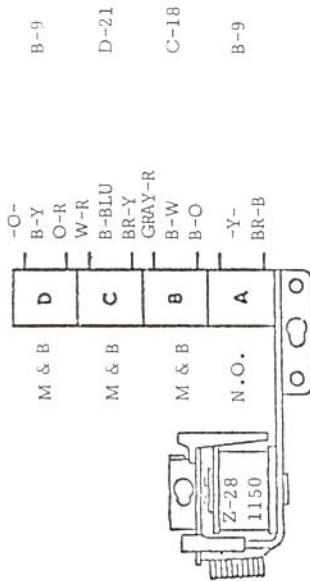
IS ENERGIZED BY EJECT RELAY, THRU SWITCH ON NO. 2 RELAY.



B-9 IN SERIES WITH SWITCH "D" ON CHANGE RELAY  
D-18 IN CIRCUIT TO ENERGIZE EXTRA BALL RELAY  
D-17 IN HOLD CIRCUIT TO THIS RELAY.

### CHANGE RELAY

IS ENERGIZED BY NO. MATCH ALTERNATING SWITCH.



OPENS TO LEFT BOTTOM ROLLOVER "EXTRA BALL" LITE AND CLOSES TO RIGHT BOTTOM "EXTRA BALL" LITE.

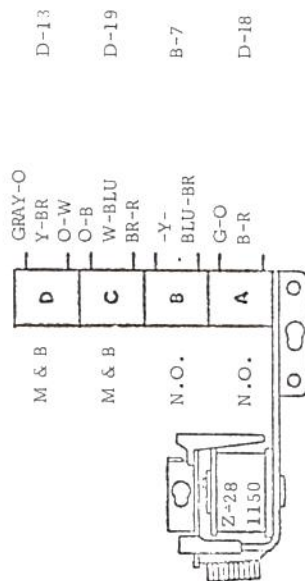
OPENS IN CIRCUIT TO 100 POINT RELAY AND CLOSES TO 1,000 POINT RELAY.

OPENS TO LEFT BOTTOM (OUTSIDE) ROLLOVER SWITCH & CLOSES TO RIGHT BOTTOM ROLLOVER SWITCH.

TO SPINNER LITE.

### DOUBLE BONUS RELAY

IS ENERGIZED BY EJECT SWITCH, THRU SWITCH ON NO. 1 RELAY.



IN SERIES WITH SWITCH "1A" ON BONUS PLAY.

IN SERIES WITH SWITCH "1B" ON BONUS RELAY.

TO "DOUBLE BONUS" LITE.

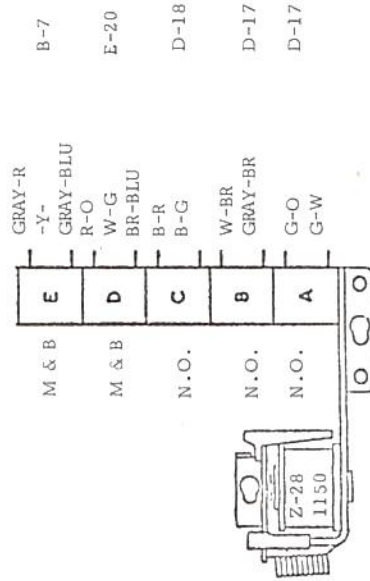
IN HOLD CIRCUIT TO THIS RELAY.

### NO.1 RELAY

IF ADJUSTMENT JACK IS IN CONSERVATIVE POSITION, NO.1 RELAY IS ENERGIZED BY CAM SWITCH "3A", THRU SWITCH ON TARGET RESET RELAY.

IN MEDIUM POSITION, IT IS ENERGIZED BY GATE RELAY.

IN LIBERAL POSITION IT IS ALWAYS ENERGIZED.



OPENS TO "10,000" TARGET LITE AND CLOSES IN SERIES WITH SWITCH "E" ON NO. 2 RELAY.

OPENS IN CIRCUIT TO 10,000 POINT RELAY AND CLOSES TO 30,000 RELAY.

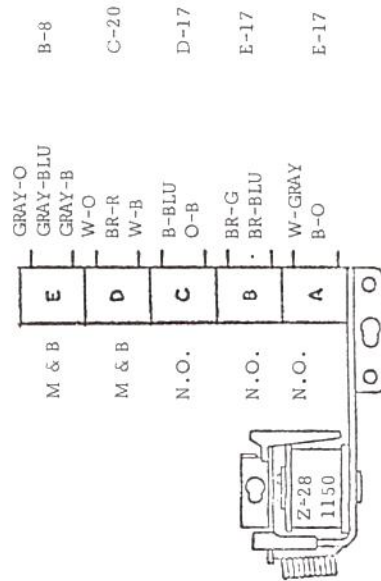
ENERGIZES DOUBLE BONUS RELAY.

IN CIRCUIT TO ENERGIZE NO. 2 RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

### NO.2 RELAY

IS ENERGIZED BY TARGET RESET RELAY, THRU SWITCH ON NO.1 RELAY AND NO. 4 RELAY.



OPENS TO "30,000" TARGET LITE AND CLOSES IN SERIES WITH SWITCH "F" ON NO. 3 RELAY.

IN SERIES WITH SWITCH "A" ON 30,000 RELAY.

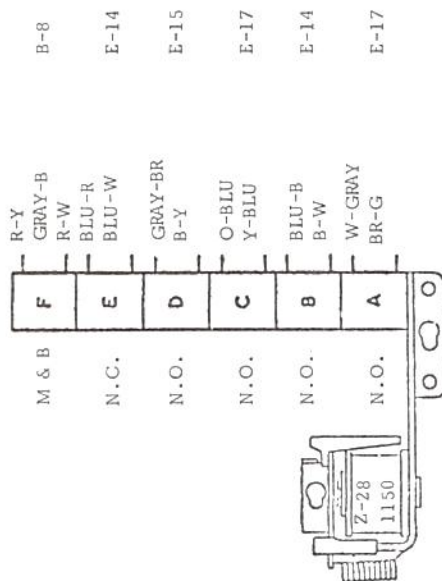
ENERGIZES SET-UP RELAY, THRU SWITCH "2C" ON EJECT RELAY.

IN CIRCUIT TO ENERGIZE NO. 3 RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

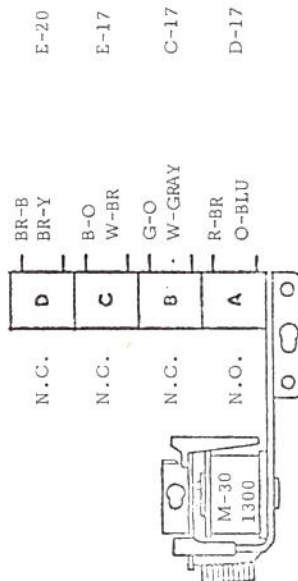
## NO. 3 RELAY

IS ENERGIZED BY TARGET RESET RELAY, THRU SWITCH ON NO. 2 RELAY.



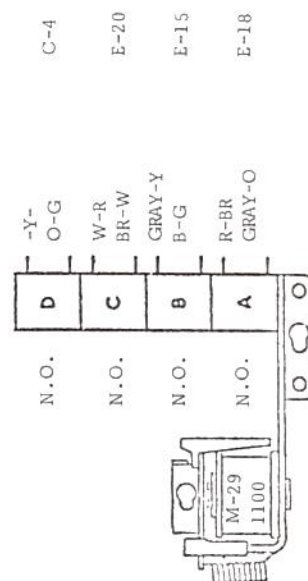
## NO. 4 RELAY

IS ENERGIZED BY TARGET RESET RELAY, THRU SWITCH ON NO. 3 RELAY.



## 500 RELAY

IS PULSED BY (2) TOP ROLLOVER BUTTON SWITCHES OR STAND-UP SWITCH.



OPENS TO "50,000" TARGET LITE AND CLOSES TO "SPECIAL" TARGET & EJECT LITES.

OPENS CIRCUIT TO EJECT COIL.

IN CIRCUIT TO "CREDIT-EXTRA BALL" ADJUSTMENT JACK.

IN CIRCUIT TO ENERGIZE NO. 4 RELAY.

ENERGIZES TARGET RESET RELAY, THRU SWITCH "1C" ON EJECT RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

IN CIRCUIT TO 1,000 POINT RELAY, THRU SWITCH "1D" ON EJECT RELAY.

IN CIRCUIT TO ENERGIZE NO. 2 RELAY.

IN HOLD CIRCUIT TO NO. 2 AND NO. 3 RELAYS.

IN HOLD CIRCUIT TO THIS RELAY.

RUNS SCORE MOTOR.

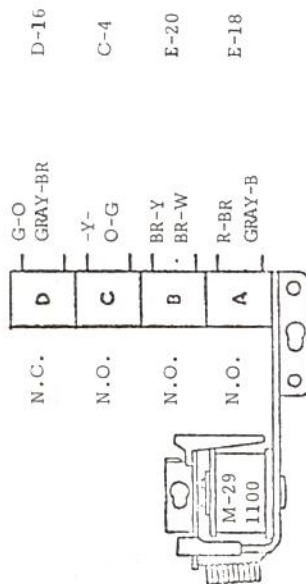
IN CIRCUIT TO PULSE 100 POINT RELAY.

IN CIRCUIT TO PULSE BONUS UNIT S.U. COIL.

IN HOLD CIRCUIT TO THIS RELAY.

## 5000 RELAY

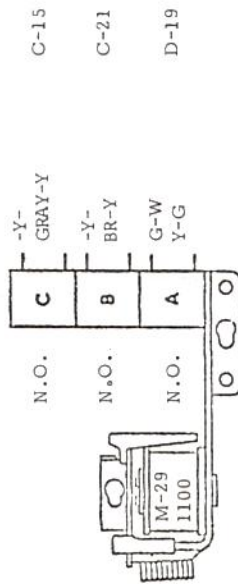
IS ENERGIZED BY LEFT OR RIGHT BOTTOM (OUTSIDE) ROLLOVER SWITCH.



IN HOLD CIRCUIT TO GATE RELAY.  
 RUNS SCORE MOTOR.  
 PULSES 1,000 POINT RELAY.  
 IN HOLD CIRCUIT TO THIS RELAY.

## ADVANCE RELAY

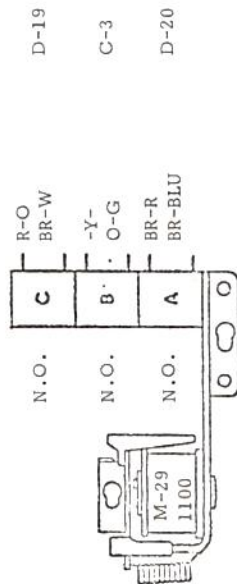
IS ENERGIZED BY LEFT OR RIGHT BOTTOM (INSIDE) ROLLOVER OR BY TOP CENTER ROLLOVER.



ENERGIZES BONUS UNIT S.U. COIL.  
 PULSES 1,000 POINT RELAY  
 HOLD CIRCUIT TO THIS RELAY, THRU END-OF-STROKE SWITCH ON BONUS UNIT.

## 30,000 RELAY

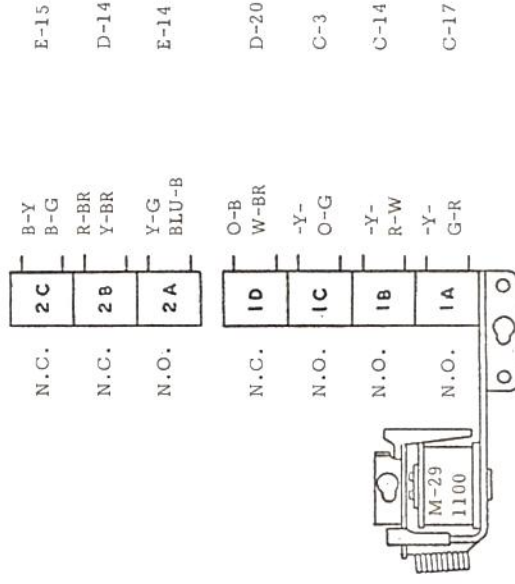
IS ENERGIZED BY TARGET SCORE RELAY, THRU SWITCH ON NO. 1 RELAY.



IN CIRCUIT TO PULSE 10,000 POINT RELAY.  
 RUNS SCORE MOTOR.  
 IN HOLD CIRCUIT TO THIS RELAY.

## TARGET RESET RELAY

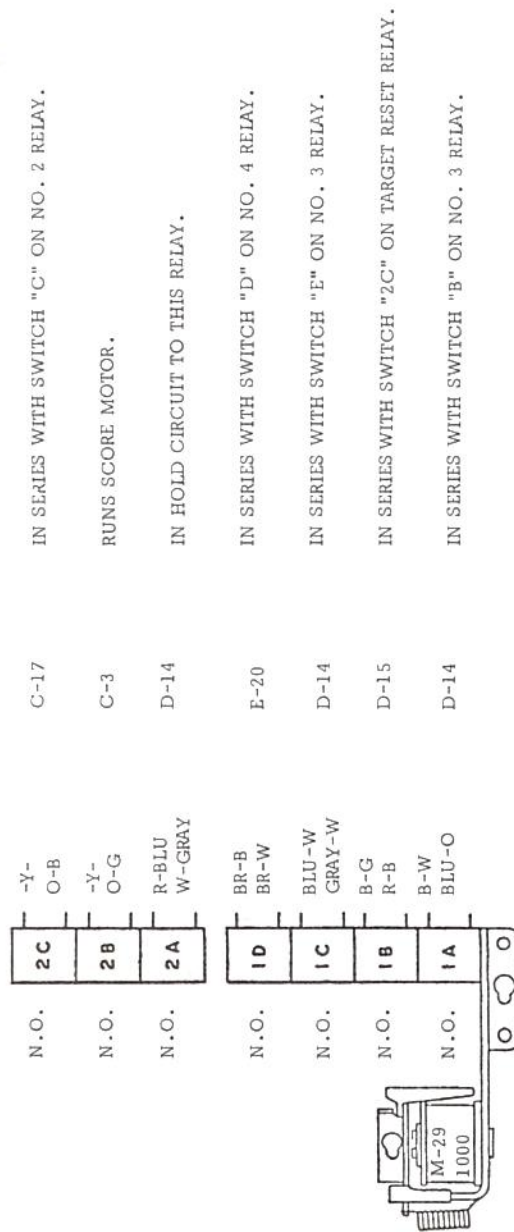
IS ENERGIZED BY TARGET SCORE RELAY --- ALSO BY EJECT RELAY, THRU SWITCH ON NO. 3 RELAY.



IN SERIES WITH SWITCH "D" ON NO. 3 RELAY.  
 IN CIRCUIT TO TARGET SCORE RELAY.  
 IN HOLD CIRCUIT TO THIS RELAY.  
 IN CIRCUIT TO 1,000 POINT RELAY.  
 RUNS SCORE MOTOR.  
 ENERGIZES TARGET RESET COILS AT LONG DWELL CAM SWITCH "2 A".  
 IN CIRCUIT TO ENERGIZE NO. 1 RELAY.

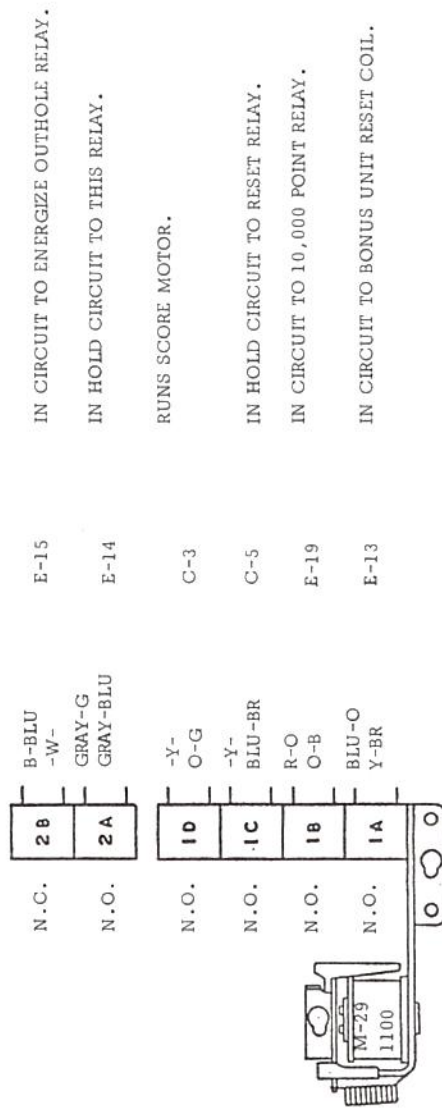
## EJECT RELAY

IS ENERGIZED BY EJECT SWITCH.



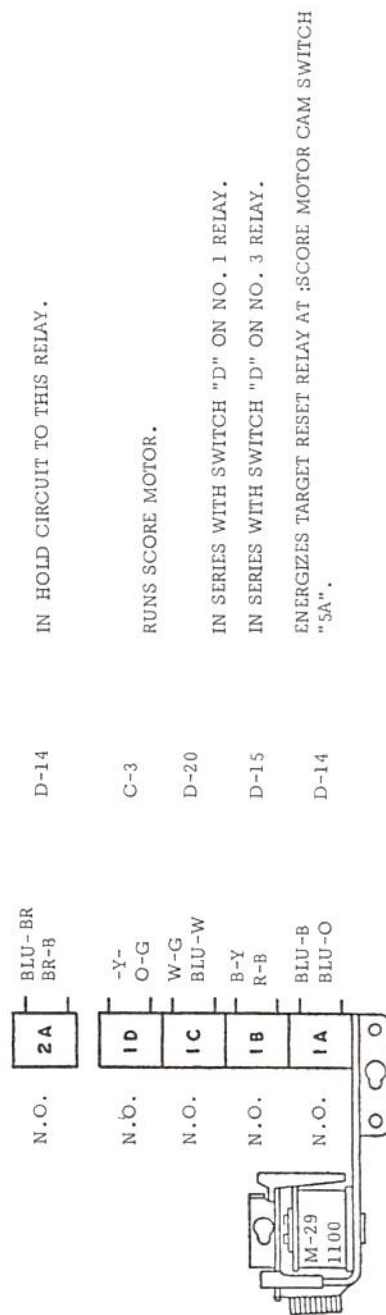
## BONUS RELAY

DURING RESET CYCLE, IT IS ENERGIZED BY RESET RELAY.  
DURING PLAY, IT IS ENERGIZED BY OUTHOLE SWITCH, THRU ZERO SWITCH ON BONUS UNIT.



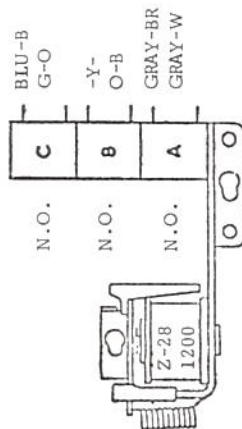
## TARGET SCORE RELAY

IS ENERGIZED BY (4) DROP TARGET SWITCHES IN SERIES.



## GATE RELAY

IS ENERGIZED BY TOP CENTER ROLLOVER SWITCH.



C-17  
B-8  
E-16

ENERGIZES NO. 1 RELAY, THRU "LIBERAL-MEDIUM - CONSERVATIVE" ADJUSTMENT JACK.

TO "GATE" LITE.

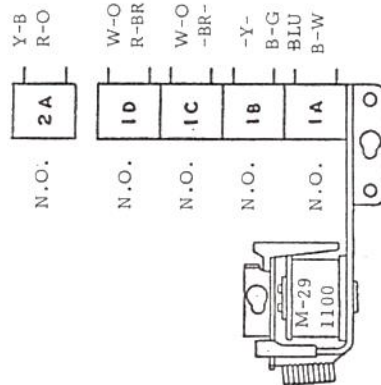
IN HOLD CIRCUIT TO THIS RELAY.

## LOCATED IN BACKBOX

### 10,000 POINT RELAY

IS PULSED BY:

1. 30,000 RELAY.
2. BONUS RELAY, THRU DOUBLE BONUS RELAY AND BALL INDEX RELAY.
3. TOP CENTER ROLLOVER, THRU WIPER ON BONUS UNIT.
4. TARGET SCORE RELAY, THRU SWITCH ON NO. 1 RELAY.



E-19  
C-12  
C-12  
C-13  
F-8

IN HOLD CIRCUIT TO THIS RELAY.

PULSES 1000,000 POINT DRUM UNITS, THRU 9TH POSITION SWITCHES ON 10,000 POINT DRUM UNITS.

PULSES 10,000 POINT DRUM UNITS, THRU PLAYER UNIT DISC.

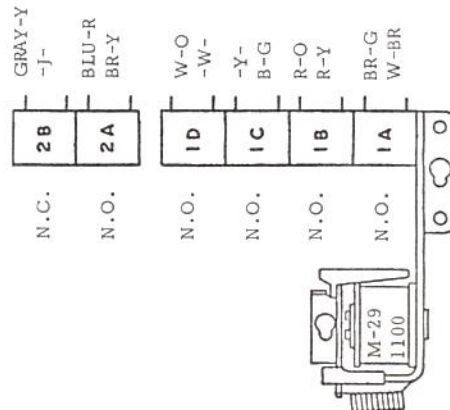
PULSES LARGE CHIME COIL.

IN HI-SCORE CIRCUIT TO "CREDIT-EXTRA BALL" ADJUSTMENT JACK.

### 1,000 POINT RELAY

IS PULSED BY:

1. TOP OR BOTTOM JET BUMPER, THRU JET BUMPER ADJUSTMENT JACK.
2. 5000 RELAY
3. EJECT RELAY
4. ADVANCE RELAY
5. (4) TARGET SWITCHES
6. LEFT & RIGHT BOTTOM (INSIDE) SWITCHES
7. SPINNER SWITCH, THRU CHANGE RELAY



D-18  
E-21  
C-11  
C-13  
E-19  
D-16

IN HOLD CIRCUIT TO EXTRA BALL RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

PULSES 1,000 POINT DRUM UNITS, THRU PLAYER UNIT DISC.

PULSES LARGE CHIME COIL.

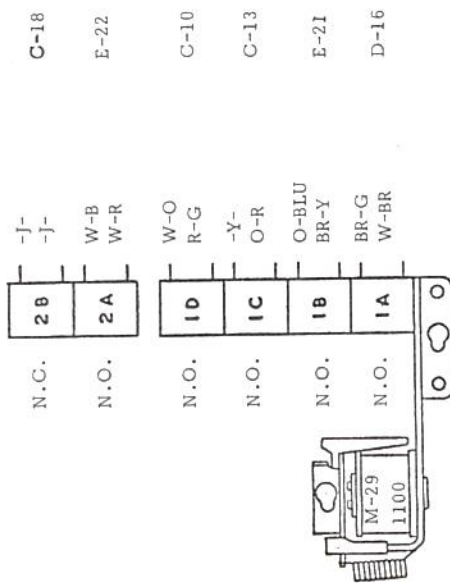
PULSES 10,000 POINT RELAY, THRU 9TH POSITION SWITCHES ON 1,000 POINT DRUM UNITS.

ENERGIZES BALL INDEX RELAY.

## 100 POINT RELAY

IS PULSED BY:

1. 500 RELAY
2. TOP OR BOTTOM JET BUMPER, THRU JET BUMPER ADJUSTMENT JACK.
3. SPINNER SWITCH, THRU CHANGE RELAY.



IN SERIES WITH SWITCH "2B" ON 1,000 POINT RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

PULSES 100 POINT DRUM UNITS, THRU PLAYER UNIT DISC.

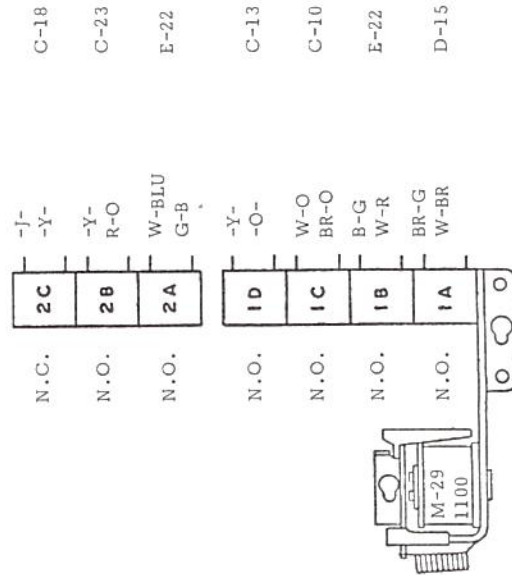
PULSES SMALL CHIME COIL.

PULSES 1,000 POINT RELAY, THRU 9TH POSITION SWITCHES ON 100 POINT DRUM UNITS.

ENERGIZES BALL INDEX RELAY.

## 10 POINT RELAY

IS PULSED BY STAND-UP SWITCH AND LEFT OR RIGHT KICKER SWITCH.



IN SERIES WITH SWITCH "2B" ON 100 POINT RELAY.

PULSES NUMBER MATCH UNIT COIL.

IN HOLD CIRCUIT TO THIS RELAY.

PULSES MEDIUM CHIME COIL.

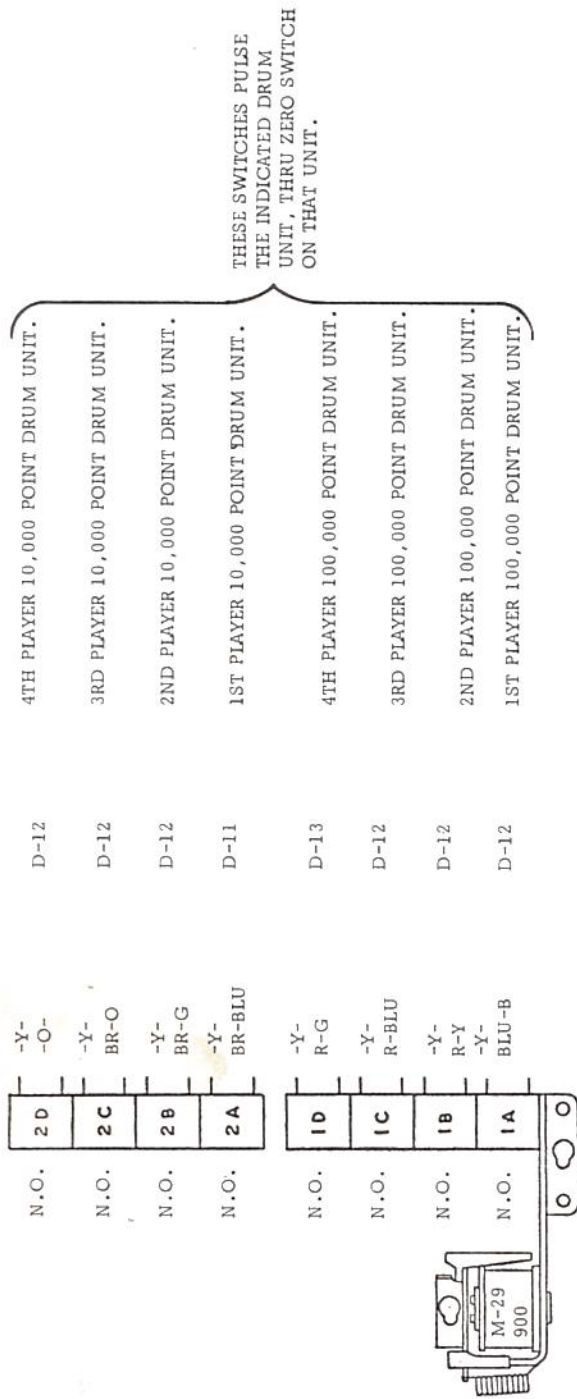
PULSES 10 POINT DRUM UNITS, THRU PLAYER UNIT DISC.

PULSES 100 POINT RELAY, THRU 9TH POSITION SWITCHES ON 10 POINT DRUM UNITS.

ENERGIZES BALL INDEX RELAY.

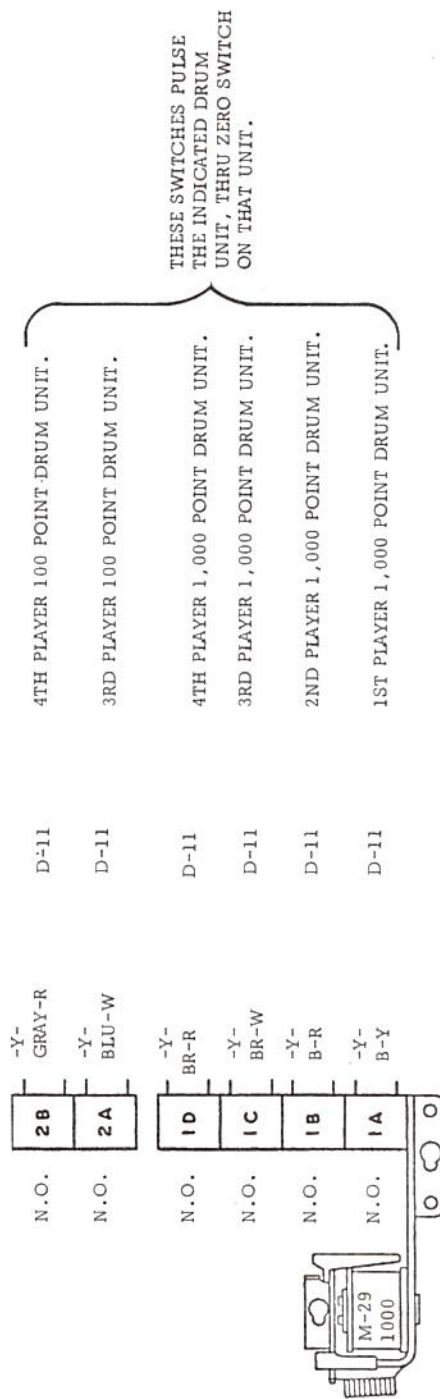
## NO. 3 RESET RELAY

IS PULSED BY IMPULSE CAM SWITCH "A", THRU SWITCH ON RESET RELAY.



## NO. 2 RESET RELAY

IS PULSED BY IMPULSE (FORWARD) CAM SWITCH "E", THRU SWITCH ON RESET RELAY.



## NO. 1 RESET RELAY

IS PULSED BY IMPULSE CAM SWITCH "E" (FORWARD), THRU SWITCH ON RESET RELAY.

