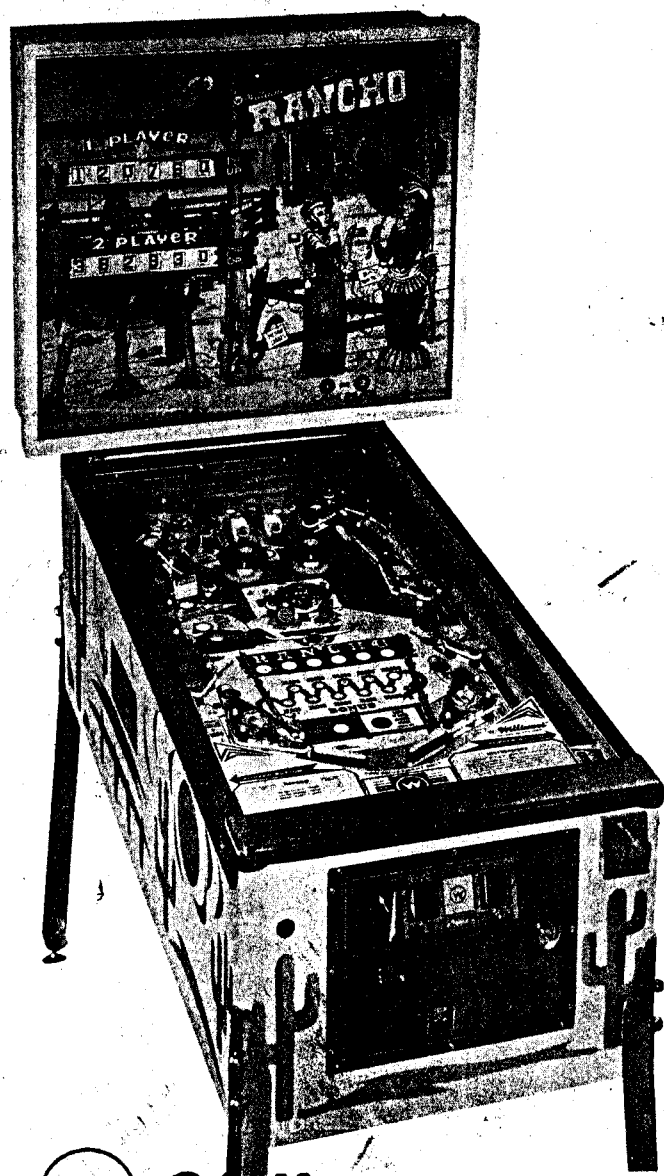


Instruction Manual for **RANCHO**



Williams® ELECTRONICS

A SUBSIDIARY OF
THE SEEBURG CORPORATION OF DELAWARE

3401 N. California Ave.
(312) 267-2240

AUGUST
1977

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

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.

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 in to 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.

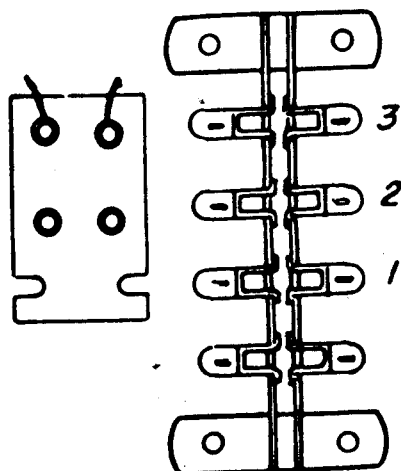
Solenoid Plungers should not have a lubricant of any kind. Should there be a sluggish tendency or if plungers are sticking, the parts should be cleaned with a solvent and flaked graphite applied on reassembly.

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.

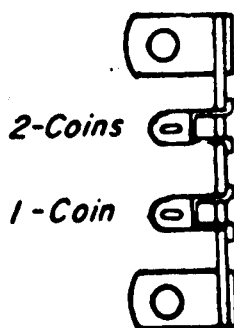
ADJUSTMENTS ON MECHANISM PANEL

10¢ Adjustment



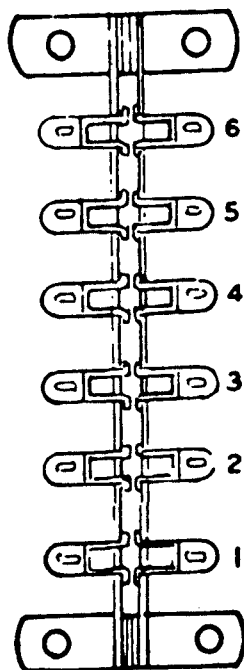
PROVIDES
1, 2 OR
3 PLAYS
FOR ONE
COIN.

5¢ Adjustment



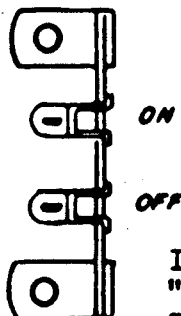
IN "2 COINS FOR
1 PLAY", CIRCUIT
TO COIN RELAY
PASSES THRU SW.
ON ALTERNATOR
UNIT.

25¢ Adjustment



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

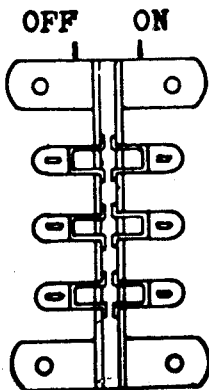
Motor Service Jack



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

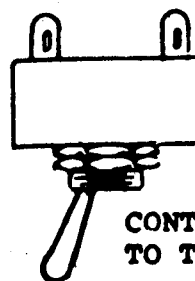
MASTER ON-OFF SW.

(Located under front of
Cabinet)



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.



CONTROLS POWER
TO TRANSFORMER

ADJUSTMENTS IN BACKBOX

Hi-Score Adjustment

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

10,000 ☐ ☐ 60,000

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

20,000 ☐ ☐ 70,000

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

30,000 ☐ ☐ 80,000

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

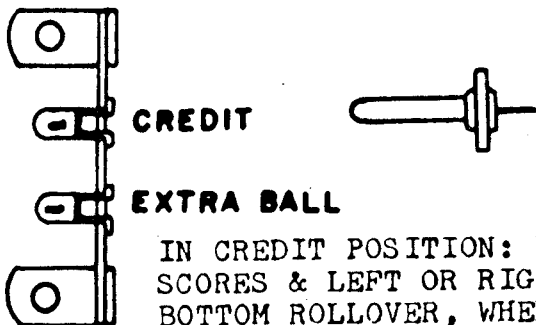
PLUG IN GREEN
WIRE FOR SCORES
410,000 TO 500,000

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.

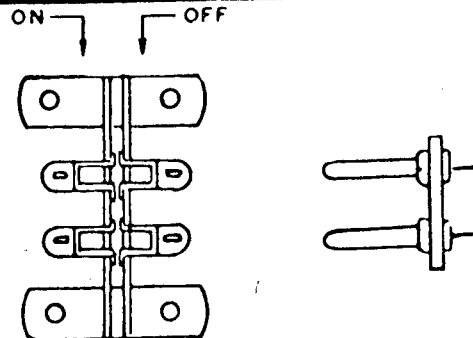
PLAY ADJUSTMENT



IN CREDIT POSITION: HI-SCORES & LEFT OR RIGHT BOTTOM ROLLOVER, WHEN LIT FOR "SPECIAL", WILL SCORE A CREDIT.

IN EXTRA BALL POSITION, THE ABOVE WILL PULSE EX. BALL RE.

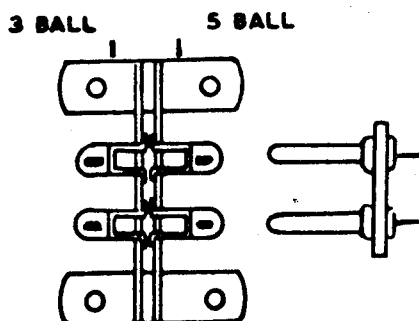
NUMBER MATCH ADJUSTMENT



IN "ON" POSITION, A NUMBER MATCH LITE WILL APPEAR WHEN GAME IS OVER. TO AWARD CREDIT, WHEN NUMBER IS MATCHED, "PLAY" ADJUSTMENT MUST BE IN CREDIT POSITION.

IN "OFF" POSITION, NUMBER MATCH IS INOPERATIVE.

No. of Balls Adjustment



THIS JACK CHANGES 3 BALL TO 5 BALL PLAY OR VICE VERSA.

SUGGESTED SCORE CARDS

CREDIT

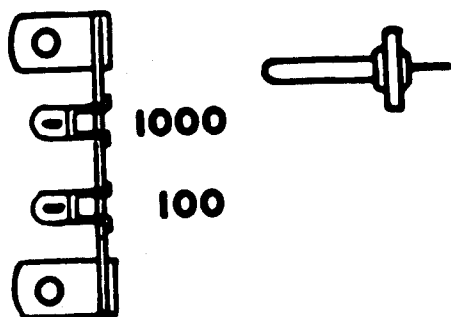
5 BALL...469-1	460,000-670,000
3 BALL...469-2	390,000-600,000
	740,000

EXTRA BALL

5 BALL...469-50	600,000
3 BALL...469-46	400,000

LOCATED ON PLAYFIELD

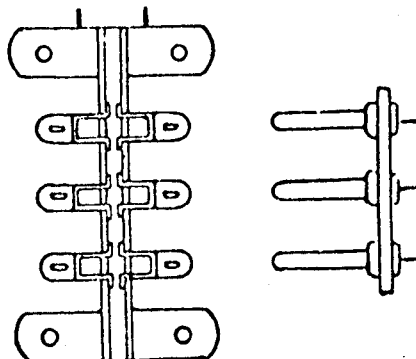
JET BUMPER ADJ.



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

FEATURE ADJ.

CONS. LIBERAL



CONSERVATIVE:

TOP LEFT EJECT SCORES 3,000 AND 30,000 WHEN LIT.
CENTER ROLLOVER BUTTON LIGHTS ALTERNATELY FOR
BONUS ADVANCE.

LIBERAL:

TOP LEFT EJECT SCORES 5,000 AND 50,000 WHEN LIT.
CENTER ROLLOVER BUTTON IS ALWAYS LIT AND ADVANCES
BONUS.

SEQUENCE OF OPERATION

RESET CYCLE

CREDIT UNIT RESET COIL IS ENERGIZED BY CREDIT BUTTON SWITCH,
THRU ZERO SWITCH ON CREDIT UNIT AND 2ND COIN RELAY OR BALL COUNT
UNIT ZERO SWITCH.

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

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

SWITCHES ON RESET RELAY WILL OPEN CIRCUITS TO PLAYFIELD
SWITCHES AND OUTHOLE RELAY, RUN SCORE MOTOR, ENERGIZE BALL COUNT
RESET, 2ND COIN RELAY LATCH AND GAME-OVER RELAY LATCH COILS---
PULSE THE SCORE RESET RELAYS, AND ENERGIZE BONUS RELAY, THRU ZERO
SWITCH ON BONUS UNIT.

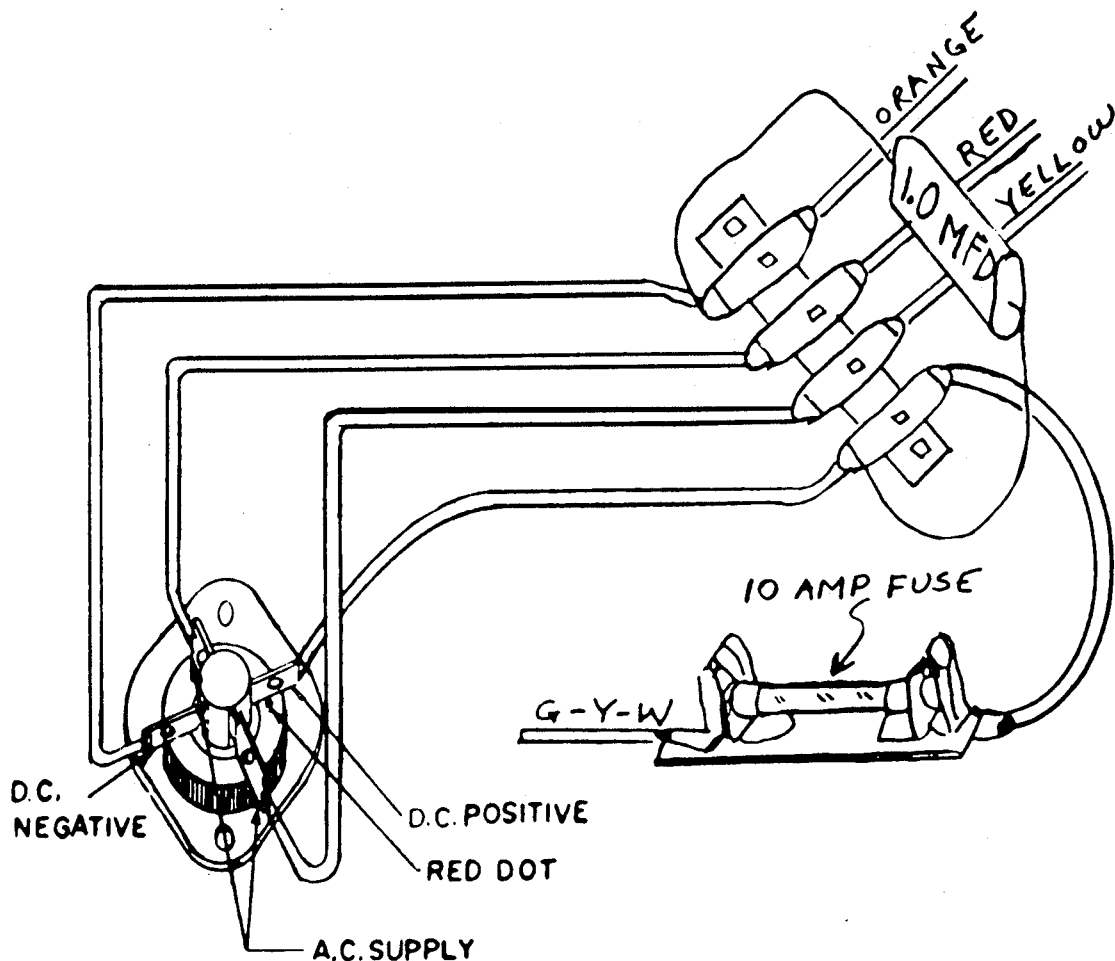
SWITCHES ON SCORE RESET RELAYS WILL PULSE THE (10) SCORING
DRUMS UNTIL THEY REACH ZERO.

SWITCHES ON BONUS RELAY WILL RUN THE SCORE MOTOR AND PULSE
THE 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
ANOTHER ZERO SWITCH ON BONUS UNIT, THRU A SWITCH ON DELAY RELAY
AND SCORE MOTOR INDEX CAM SWITCH C.

SWITCHES ON OUTHOLE RELAY WILL RUN THE SCORE MOTOR---PULSE
BONUS UNIT S.U. COIL ONCE--AND PULSE BALL RELEASE COIL TO PROPEL
BALL TOWARD PLUNGER.

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.

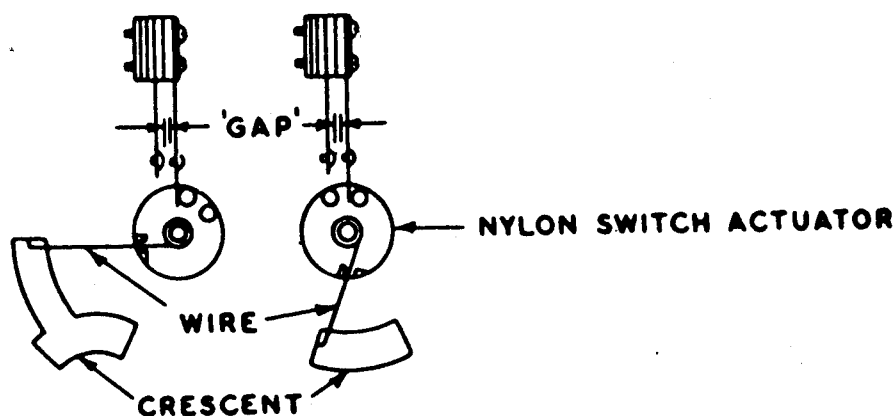
THE BRIDGE RECTIFIER SHOULD PRACTICALLY NEVER NEED REPLACING, AS IT IS RATED WELL OVER THE VOLTAGE AND CURRENT REQUIREMENTS OF THE COMPONENTS IT SUPPLIES.

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.

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.

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.

IMPORTANT NOTICE

**KINDLY INFORM LOCATIONS THAT THEY
CAN TURN DISPLAY LIGHTS ON BY FLIPPING
MASTER SWITCH ON.**

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

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.

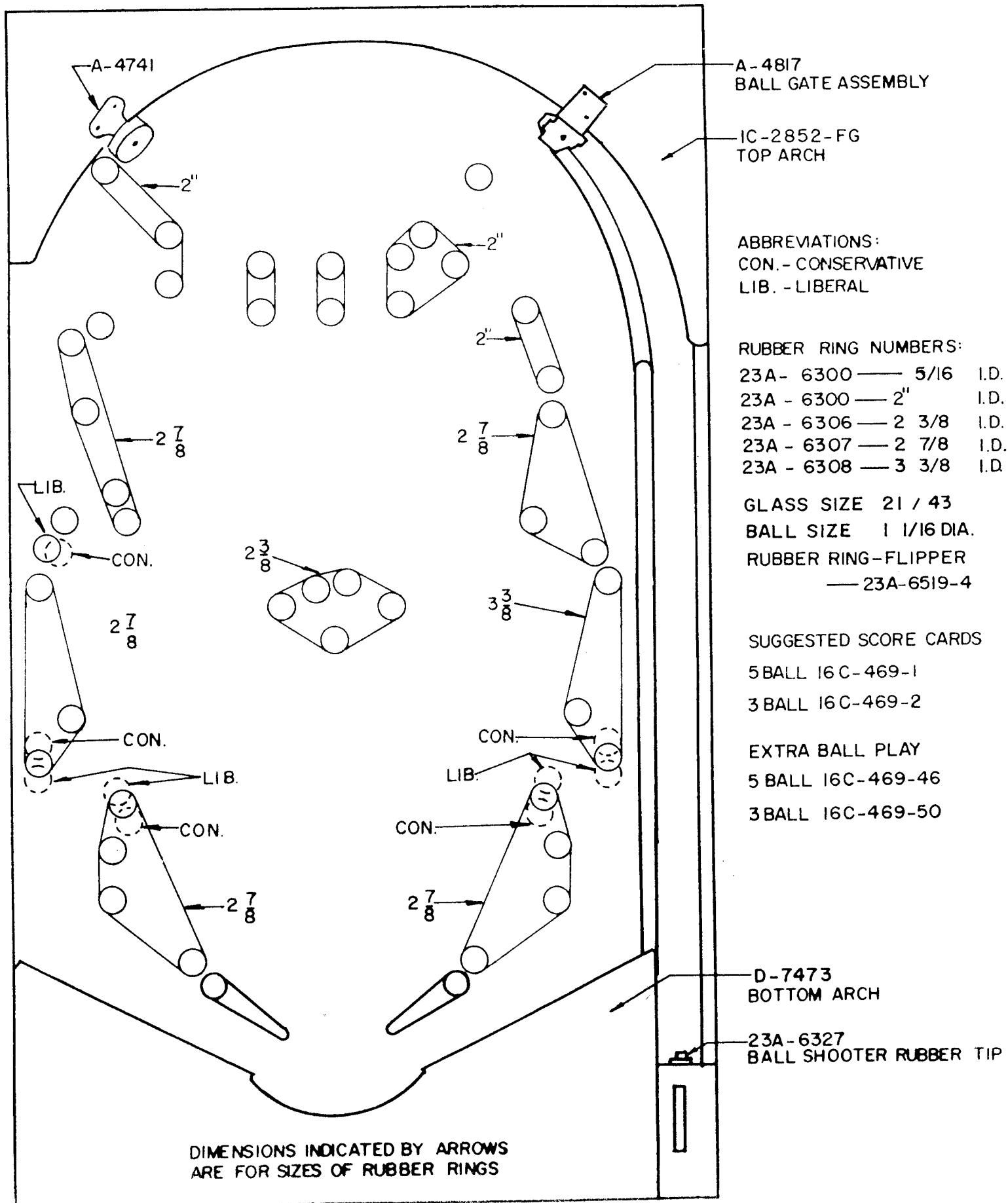
SERVICEMAN TO REMOVE BACKGLASS:

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

RANCHO

POST ADJUSTMENT SHEET

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



"RANCHO" COIL 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
<u>MOTORS & TRANSFORMERS</u>		
14 A-7883	CONTROL MOTOR - 60 CYCLE	MECH. PANEL
14 A-7884	CONTROL MOTOR - 50 CYCLE	MECH. PANEL
15 A-6771	TRANSFORMER - 60 CYCLE	MECH. PANEL
15 A-6782-1	TRANSFORMER - 50 CYCLE	MECH. PANEL
5 A-8867	24 VOLT METER	MECH. PANEL
<u>SOLENOID COILS</u>		
A 22-550	BONUS UNIT STEP UP BALL RELEASE COIL BALL COUNT UNIT STEP UP	PLAYFIELD PLAYFIELD INSERT
A 23-600	CREDIT UNIT STEP UP	INSERT
A2-23-750	KNOCKER	CABINET
A2-26-1300	TRIPLE CHIME COILS ... (3 req'd.)	CABINET
B1-26-800	SCORE DRUM UNITS ... (10 req'd.) CREDIT UNIT RESET BALL COUNT UNIT RESET BONUS UNIT RESET	INSERT INSERT INSERT PLAYFIELD
D1-24-1400	BANK RESET COIL	PLAYFIELD
FL 20-300/ 28-400	FLIPPERS ... (2 req'd.)	PLAYFIELD
G 22-550	DROP TARGET RESET ... (3 req'd.)	PLAYFIELD
G 23-750	EJECT COILS ... (2 req'd.) SHOOTER COIL	PLAYFIELD PLAYFIELD
G 23-750 D.C.	D.C. JET BUMPER COILS ... (2 req'd.) D.C. KICKER COILS ... (2 req'd.)	PLAYFIELD PLAYFIELD
M 28-700	GAME OVER RELAY TRIP	MECH. PANEL
M 29-1000	NO. 1 SCORE RESET RELAY NO. 2 SCORE RESET RELAY 2ND COIN RELAY TRIP	INSERT INSERT MECH. PANEL
M 29-1100	10¢ RELAY 25¢ RELAY 10 POINT RELAY 100 POINT RELAY 1,000 POINT RELAY 10,000 POINT RELAY ADVANCE RELAY TARGET RELAY TOP EJECT RELAY BOTTOM EJECT RELAY SPINNER RELAY BONUS RELAY SHOOTER RELAY	MECH. PANEL MECH. PANEL INSERT INSERT INSERT INSERT PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD
M 30-1300	COIN SET UP RELAY	MECH. PANEL
M 36-5500 D.C.	DELAY RELAY	PLAYFIELD
MX 31-1500	COIN LOCKOUT COIL	FRONT DOOR
S 27-500	RELAY BANK TRIP COILS ... (9 req'd.)	PLAYFIELD
XS 28-1000	ALTERNATOR UNIT NUMBER MATCH UNIT	MECH. PANEL INSERT
Z 27-1000	COIN RELAY RESET RELAY 2ND COIN RELAY LATCH OUTHOLE RELAY GAME OVER RELAY LATCH	MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL
Z 28-1150	NO. 2 CHANGE RELAY BALL INDEX RELAY TILT RELAY EXTRA BALL RELAY NO. 1 PLAYER RELAY NO. 2 PLAYER RELAY	PLAYFIELD MECH. PANEL MECH. PANEL MECH. PANEL INSERT INSERT
Z 28-1200	NO. 1 CHANGE RELAY	PLAYFIELD
Z 29-1250	LOCK RELAY	MECH. PANEL

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-6400-1	SCORE MOTOR
BALL COUNT	C-6414	B-7456-10	A-6402-10	
(RIGHT SIDE)	B-7568	A-7614	A-7595	
NO. MATCH (LEFT SIDE)	B-7569	A-7615		
BONUS	C-6417	B-7456-67	A-6402-10 & 35	14A-7883 (60 CYCLE)
10 POINT	B-7253	A-6294	3C-7272	14A-7884 (50 CYCLE)
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	

JACK LAYOUT

GAME RANCHO #469

POSITION PAN. - P.F. SIZE 22

FEED	-B-	1	G/ A-4 BONUS RESET
"	-R-	2	O/ W-1 " "
MOTOR	O/ G	3	GRY BLU-4 " RE.
RESET RE.	BLU/ BR-1	4	GRY G-4 " "
EJECT COILS	R/ Y	5	Y/ BR. " "
EJECT RELAYS	R/ BR	6	W/ R-4 10,000 PT. RE.
"	BLU/ R	7	GRY Y-2 BONUS S.U.
TARGET RESET	G/ R	8	Y- FEED
"	O/ R	9	Y/ R-2 TILT RE.
"	R/ O	10	W/ R-4 " "
TARGET RE.	BLU/ W-2	11	BLANK

JACK LAYOUT

GAME RANCHO #469

POSITION PAN. - P.F. SIZE 18

RELAY RANK	B-1P	1	R/ Y/W FEED
"	BLU-1P	2	BLU W-4 BALL RELEASE
ADV. RE.	G/ Y-1	3	BLU O-2 SHOOTER
"	G/ W-1	4	W/ R-3 1000 PT. RE.
"	O/ BLU-2	5	W/ B-3 " " "
LITE FEED	BLU.	6	R/ BLU-1 OUTHOLE RE
SHOOT AGAIN	W/ G-4	7	B/ W-5 L-FLIPPER
R- FLIPPER	BR/ W-5	8	Y/ R-5 EX-BALL RE.
10,000 PT. RE.	BR/ R-4	9	BLANK

JACK LAYOUTGAME RANCHO #469POSITION PAN-INS. SIZE 24

FEED	-B-	1	GRY BALL COUNT B S.U.
"	-R-	2	O/ R-1 CREDIT S.U.
CREDIT RESET	G/ W	3	BLU R-1 G.O. RE. TRIP
"	W/ BLU	4	BLU O-3 " " "
"	W/ O-3	5	BR G-4 BALL IND. RE.
"	R/ BR	6	Y/ B-5 EX. BALL RE.
KNOCKER	B/ W	7	GRY Y-4 " " "
SCORE	B/ BLU	8	Y/ G 2-CAN PLAY LITE
RESET RE.	BLU BR-1	9	GRY CREDIT S.U.
1-CAN PLAY	GRY W-3	10	G/ O-1 PLAYER RE.
BALL COUNT	O/ BLU	11	-Y- FEED
RESET	S/ R-6	12	BLANK
COIN LOCKOUT			

JACK LAYOUTGAME RANCHO #469POSITION PAN-INS. SIZE 12

CREDIT S.U.	W/ O-1	1	O/R-5 SMALL CHIME
FEED TO NO.	GRY O	2	O-2 MED. "
MATCH LITES	W/ G-4	3	B/ G-3 LARGE "
SHOOT AGAIN	BLU R-2	4	BLANK
LITE	BR Y/W	5	BLANK
TILT LITE	BR Y/W	6	BLANK
LITE FEED			
"			
POSITION	P.F-INS.	SIZE	8
CREDIT LITE	GRY Y-3	1	G/R 10-PT. RE.
BALL IND. RE.	GRY R-2	2	W/ R 100- " "
CREDIT S.U.	B/ W-1	3	BR Y 1000- " "
CHANGE RE	B/ R-3	4	R/ O 10,000- " "

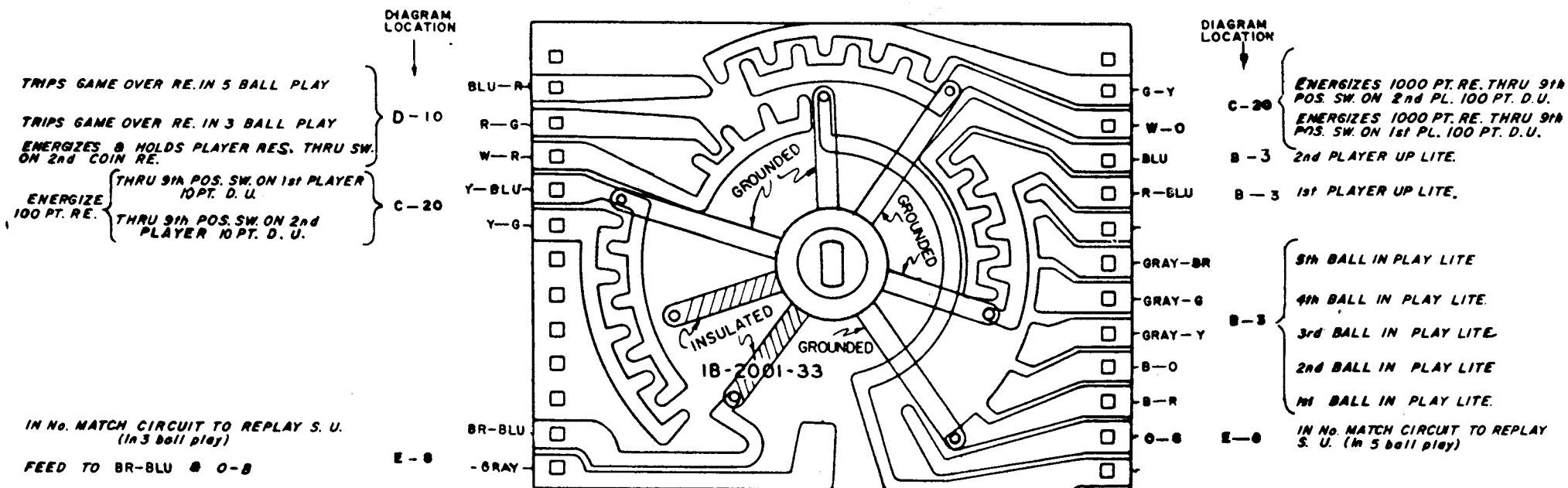
BALL COUNT UNIT

THIS UNIT RESETS AT THE START OF A NEW GAME.

IT ADVANCES WHEN THE OUTHOLE RELAY IS ENERGIZED.

IT ADVANCES ONE STEP AT A TIME WHEN TWO PEOPLE ARE PLAYING AND TWO STEPS IF ONLY ONE PERSON IS PLAYING.

VIEW LOOKING AT WIPER FINGERS, WITH WIPER IN RESET POSITION.



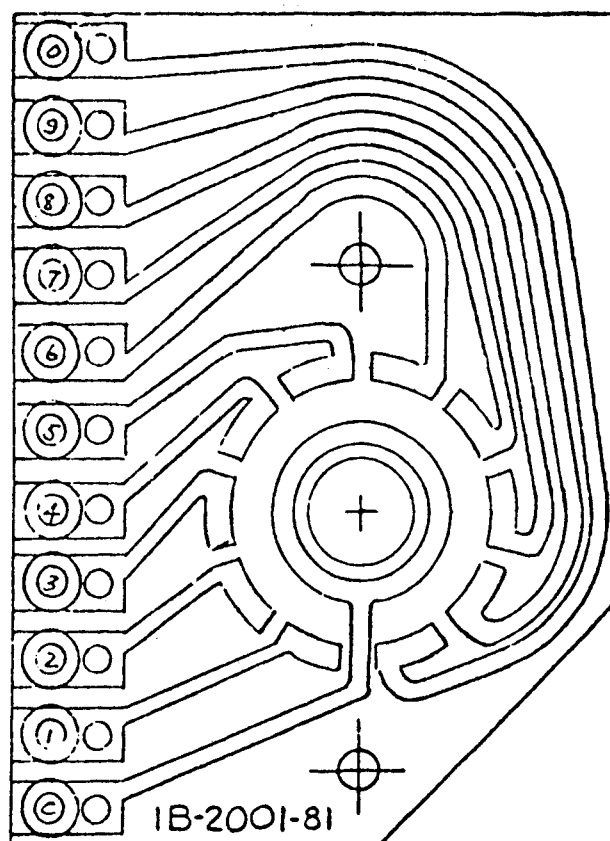
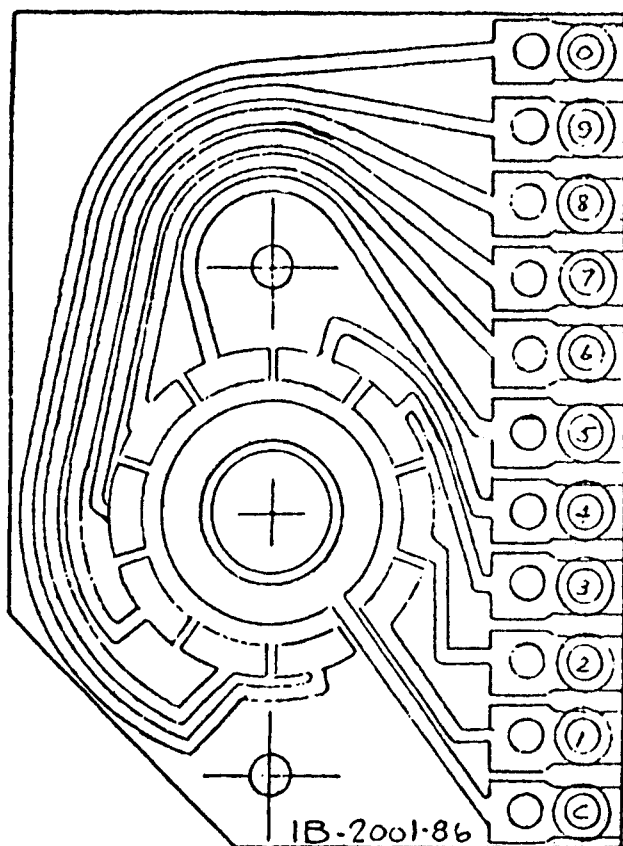
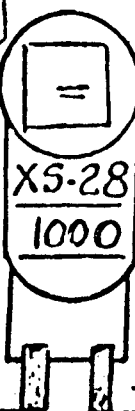
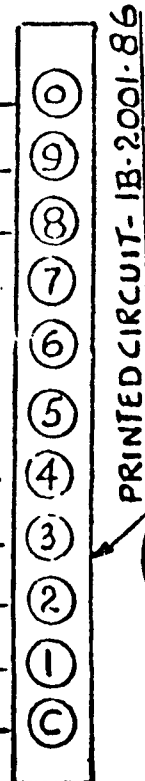


DIAGRAM
LOCATION
↓

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-2001-81

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

D-8

DRIVE SPRING 10A-324-1

BONUS UNIT

THE STEP-UP COIL IS ENERGIZED BY ADVANCE RELAY, OUTHOLE RELAY AND LEFT OR RIGHT BOTTOM ROLLOVER SWITCH.
THE RESET COIL IS PULSED WHEN BONUS RELAY IS ENERGIZED.

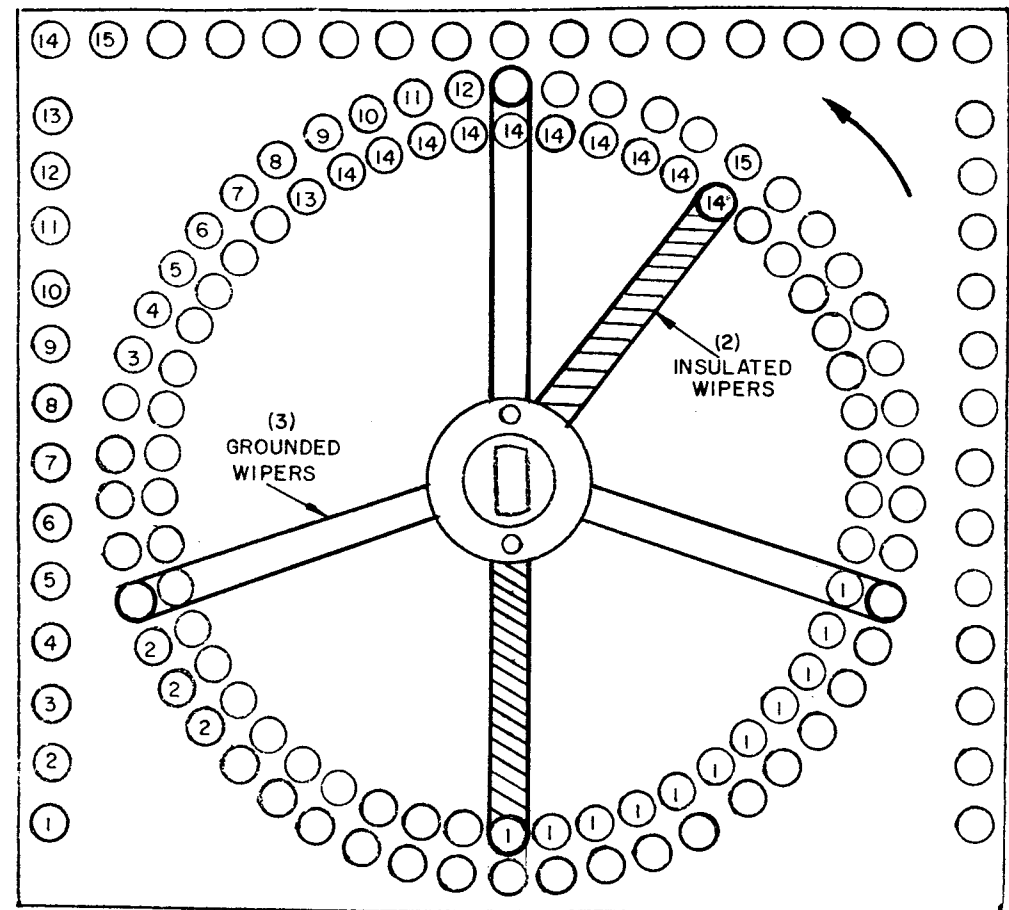
VIEW LOOKING AT WIPER FINGER SIDE,
WITH WIPER IN ZERO POSITION.

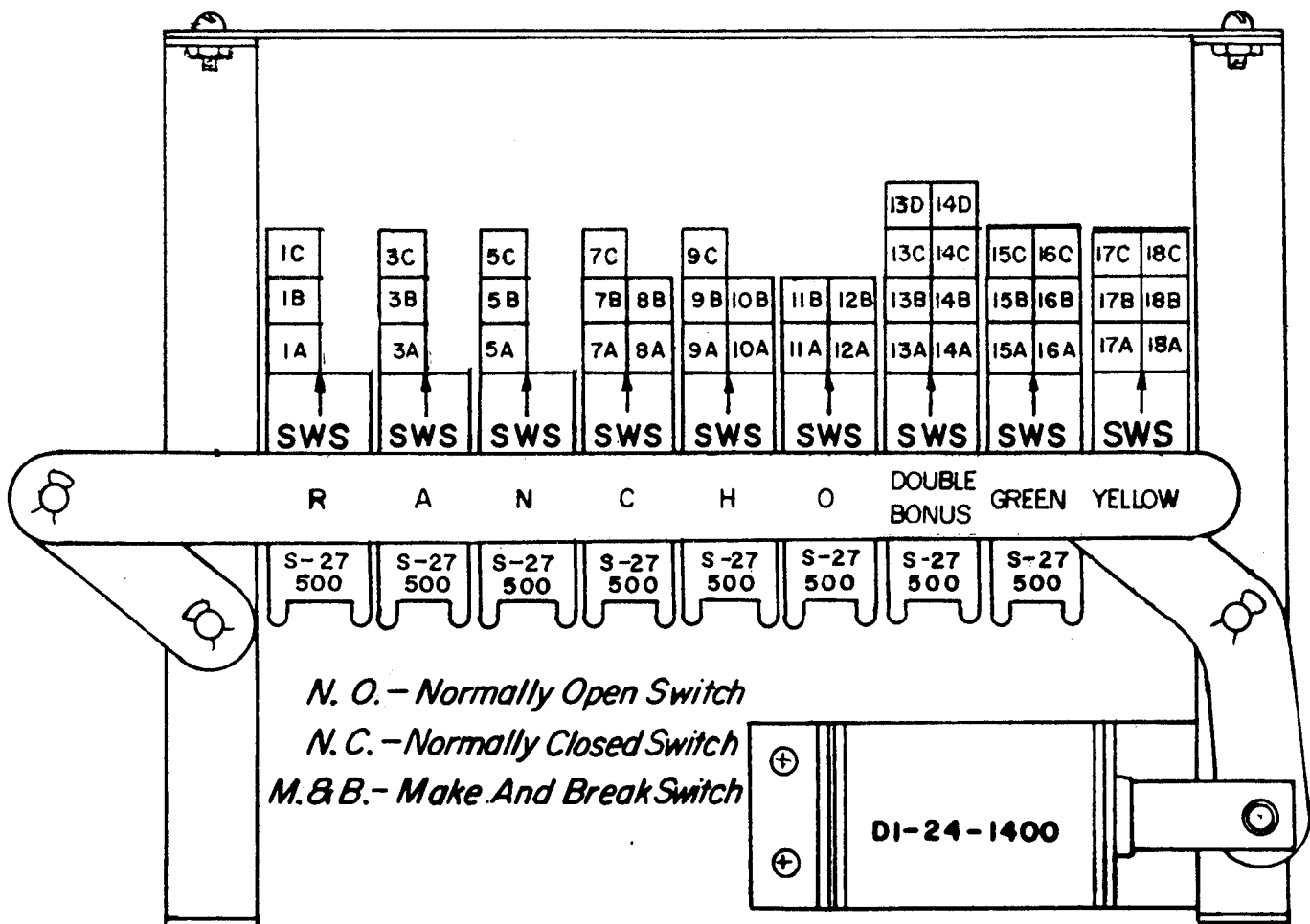
CIRCUIT TO 1,000 OR 10,000 POINT RELAY. D-18

BONUS LITES	10,000	B-6	W-G
	20,000		B-G
	30,000		R-BR
	40,000		R-BLU
	50,000		R-Y
	60,000		R-W
	70,000		R-O
	80,000		BLU-R
	90,000		BLU-Y
	100,000	B-7	BLU-BR

CIRCUIT TO BALL INDEX RELAY C-15 GRAY-R

FEED TO #14 AND #13 C-18 W-BLU





RELAY BANK SW'S.

RELAY	SW.	WIRE COLORS	DIAG. LOC.	TYPE	SWITCH OPERATION
'R' RELAY	1C	-J- -J-	D-15	N.C.	TO COIL ON THIS RELAY.
	1B	-J- BLU-B	C-21	N.O.	IN SERIES WITH SWITCH '3B' ON 'A' RELAY.
	1A	-Y- B-BLU	B-8	N.O.	TO "R" LITE.
'A' RELAY	3C	-J- -J-	D-16	N.C.	TO COIL ON THIS RELAY.
	3B	-J- -J-	D-21	N.O.	IN SERIES WITH SWITCH '5B' ON 'N' RELAY.
	3A	-Y- B-Y	B-8	N.O.	TO "A" LITE.
'N' RELAY	5C	-J- -J-	D-16	N.C.	TO COIL ON THIS RELAY.
	5B	-J- -J-	D-21	N.O.	IN CIRCUIT TO DOUBLE BONUS RELAY.
	5A	-Y- B-W	B-8	N.O.	TO "N" LITE.
'C' RELAY	7C	R-O BLU-R -J-	D-19	M&B	OPENS IN CIRCUIT TO 10,000 POINT RELAY AND CLOSES IN SERIES WITH SWITCH '9C' ON 'H' RELAY.
	7B	-J- R-G	D-22	N.O.	IN SERIES WITH SWITCH '9B' ON 'H' RELAY.
	7A	-Y- B-O	B-8	N.O.	TO "C" LITE.
	8B	-J- -J-	D-15	N.C.	TO COIL ON THIS RELAY.
	8A	GRAY-BR -J-	B-9	N.O.	IN CIRCUIT TO LEFT & RIGHT BOTTOM "SPECIAL" LITES AND TO BOTTOM EJECT "EXTRA BALL" LITE.

RELAY	SW.	WIRE COLORS	DIAG. LOC.	TYPE	SWITCH OPERATION
'H' RELAY	9C	R-O -J- -J-	D-19	M&B	OPENS IN CIRCUIT TO 10,000 POINT RELAY AND CLOSES IN SERIES WITH SWITCH '11B' ON 'O' RELAY.
	9B	-J- -J-	D-22	N.O.	IN SERIES WITH SWITCH '12A' ON 'O' RELAY
	9A	-Y- GRAY-R	B-8	N.O.	TO "H" LITE.
	10B	-J- -J-	D-16	N.C.	TO COIL ON THIS RELAY.
	10A	GRAY-BLU -J-	B-9	N.O.	IN SERIES WITH SWITCH '8A' ON 'C' RELAY.
'O' RELAY	11B	R-C -J- B-W	E-19	M&B	OPENS IN CIRCUIT TO 10,000 POINT RELAY AND CLOSES TO "CREDIT-EXTRA-BALL" ADJUSTMENT JACK.
	11A	-Y- GRAY-BLU	B-8	N.O.	TO "O" LITE. ALSO IN SERIES WITH SWITCH '10A' ON 'H' RELAY.
	12B	-J- -J-	D-16	N.C.	TO COIL ON THIS RELAY.
	12A	-J- Y-B	E-22	N.O.	IN CIRCUIT TO EXTRA BALL RELAY.
DOUBLE BONUS RELAY	13D	-J- R-Y -J-	C-15	M&B	OPEN IN CIRCUIT TO 'R' RELAY AND CLOSES TO 'C' RELAY.
	13C	-J- R-W -J-	C-16	M&B	OPENS IN CIRCUIT TO 'A' RELAY AND CLOSES TO 'H' RELAY.
	13B	-J- R-BR -J-	C-16	M&B	OPENS IN CIRCUIT TO 'N' RELAY AND CLOSES TO 'O' RELAY.
	13A	G-O Y-BR O-W	D-12	M&B	IN CIRCUIT TO BONUS UNIT RESET COIL (WHEN COLLECTING BONUS).

RELAY	SW.	WIRE COLORS	DIAG. LOC.	TYPE	SWITCH OPERATION
DOUBLE BONUS RELAY	14D	W-B BR-BLU BR-R	D-18	M&B	IN CIRCUIT TO 10,000 POINT RELAY (WHEN COLLECTING BONUS).
	14C	W-R BR-O BR-Y	E-20	M&B	TO 100 OR 1,000 POINT RELAY, THRU SWITCH ON SPINNER RELAY.
	14B	-J- -J-	E-21	N.C.	TO COIL ON THIS RELAY.
	14A	-Y- R-B	B-9	N.O.	TO "DOUBLE BONUS" AND "1,000" SPINNER LITES.
GREEN RELAY	15C	BR-Y -J- R-O	E-18	M&B	TO 1,000 OR 10,000 POINT RELAY WHEN MAKING CENTER TOP ROLLOVER SWITCH.
	15B	BLU-Y -J-	B-10	N.O.	IN SERIES WITH SWITCH '17B' ON YELLOW RELAY, FROM BONUS UNIT DISC.
	15A	-Y- GRAY-B	B-9	N.O.	TO "G" LITES.
	16C	BR-Y BLU-R R-O	E-18	M&B	TO 1,000 OR 10,000 POINT RELAY, THRU SWITCH ON TOP EJECT RELAY.
	16B	BLU-B -J-	D-16	N.C.	TO COIL ON THIS RELAY.
	16A	G-Y O-BLU	D-17	N.O.	IN CIRCUIT TO PULSE ADVANCE RELAY, THRU SWITCH ON SHOOTER RELAY.
YELLOW RELAY	17C	BR-Y W-G -J-	D-18	M&B	IN SERIES WITH SWITCH '15C' ON GREEN RELAY.
	17B	R-BLU -J-	A-10	N.O.	IN CIRCUIT TO CENTER TOP ROLLOVER LITE.
	17A	-Y- GRAY-O	B-9	N.O.	TO "Y" LITES.
	18C	BR-Y BR-G R-O	E-18	M&B	TO 1,000 OR 10,000 POINT RELAY, THRU SWITCH ON BOTTOM EJECT RELAY.

RELAY	SW.	WIRE COLORS	DIAG. LOC.	TYPE	SWITCH OPERATION
YELLOW	18B	Y-R -J-	D-16	N.C.	TO COIL ON THIS RELAY.
RELAY	18A	G-Y G-W	D-17	N.O.	IN CIRCUIT TO PULSE ADVANCE RELAY, THRU SWITCH ON SHOOTER RELAY.

"RANCHO"

GAME OPERATES AS FOLLOWS:

TOP CENTER ROLLOVER LANE ALTERNATES TO LIGHT EITHER GREEN LIGHTS OR YELLOW LIGHTS, AND SCORES 1,000 POINTS, EXCEPT WHEN BOTH GREEN AND YELLOW LIGHTS ARE LIT AND BONUS IS AT TOP, AND THEN THE LANE SCORES 10,000.

RIGHT SHOOTER SCORES 1,000 AND ONE ADVANCE BONUS, PLUS 1,000 AND ONE ADVANCE WHEN YELLOW IS LIT, PLUS 1,000 AND ONE ADVANCE WHEN GREEN IS LIT.

TOP LEFT EJECT SCORES 3,000 OR 30,000 WHEN GREEN IS LIT IF FEATURE ADJUSTMENT IS SET AT CONSERVATIVE. IF FEATURE ADJUSTMENT IS SET AT LIBERAL, TOP LEFT EJECT SCORES 5,000 OR 50,000 WHEN GREEN IS LIT.

BOTTOM LEFT EJECT SCORES 3,000 OR 30,000 WHEN YELLOW IS LIT.

LEFT, CENTER, AND RIGHT DROP TARGETS LIGHT "R", "A" AND "N" RESPECTIVELY AND THEN RESET WHEN ALL ARE DOWN TO LIGHT "C", "H" AND "O" RESPECTIVELY WHEN MADE A SECOND TIME.

"RAN", WHEN LIT, LIGHTS DOUBLE BONUS AND SPINNER FOR 1,000 POINTS.

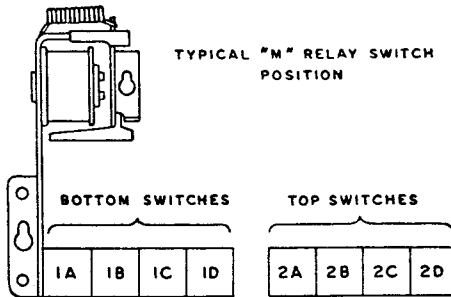
"RANCHO", WHEN LIT, LIGHTS BOTTOM LEFT EJECT FOR EXTRA BALL AND ALTERNATES BOTTOM ROLLOVERS FOR SPECIAL.

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.

CENTER ROLLOVER BUTTON SCORES 1,000 AND ADVANCE BONUS WHEN LIT. IF FEATURE ADJUSTMENT IS SET FOR CONSERVATIVE, THE LIGHT ALTERNATES. IF FEATURE ADJUSTMENT IS SET FOR LIBERAL, THE LIGHT IS ON CONTINUOUSLY.

RELAYS & SWITCHES

LOCATED ON MECHANISM PANEL



GAME-OVER

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

2ND. COIN

LATCH AND TRIP COILS ARE ENERGIZED BY COIN RELAY, THRU MAKE-BREAK SWITCH ON RESET RELAY.

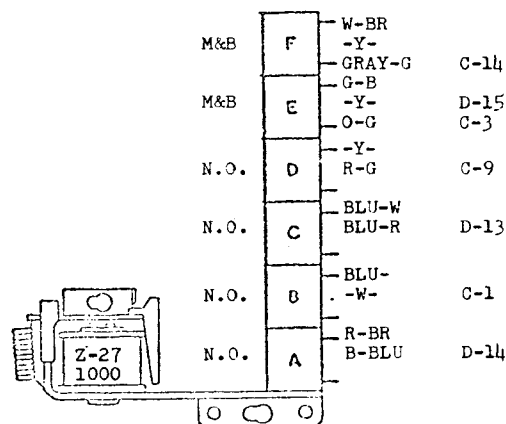
BALL INDEX

IS ENERGIZED BY WIPER FINGER ON BONUS UNIT DISC, THRU 10 POINT, 100 POINT OR 1,000 POINT RELAY---ALSO BY TILT RELAY.

	SWITCH TYPE		DIAGRAM LOCATION	
	M&B	E	GRAY-O -BR- BR-Y-W	A-2 OPENS TO "BALL IN PLAY" LITES AND CLOSES TO "GAME OVER" & NUMBER MATCH LITES.
	N.O.	D	BLU-W O-R	D-4 ENERGIZES RESET RELAY, THRU SWITCH ON COIN RELAY.
	N.O.	C	W-BLU W-O	D-3 IN CIRCUIT TO CREDIT UNIT RESET COIL.
	N.C.	B	-GRAY- O-B	E-6 IN HI-SCORE CIRCUIT TO CREDIT UNIT S.U. COIL.
	N.C.	A	BLU-Y-W -B-	F-13 OPENS CIRCUITS TO MOST PLAYFIELD SWITCHES.
	M&B	D	O-R GRAY-O GRAY-B	C-8 IN CIRCUIT TO PULSE BALL COUNT UNIT S.U. COIL---ALSO IN NUMBER MATCH CIRCUIT.
	M&B	C	Y-O BR-Y-W GRAY-W	A-3 OPENS TO "1 CAN PLAY" LITE AND CLOSES TO "2 CAN PLAY" LITE.
	N.O.	B	R-Y-W G-O	E-14 ENERGIZES NO. 1 AND NO. 2 PLAYER RELAYS, THRU BALL COUNT UNIT DISC.
	N.C.	A	W-BLU W-O	D-3 IN CIRCUIT TO CREDIT UNIT RESET COIL.
	N.C.	E	O-BLU -O-	C-5 IN HOLD CIRCUIT TO COIN SET-UP RELAY.
	N.O.	D	R-W B-R	C-9 IN CIRCUIT TO BALL COUNT S.U. COIL---ALSO IN NUMBER MATCH CIRCUIT.
	N.O.	C	-Y- GRAY-Y	C-22 IN HOLD CIRCUIT TO EXTRA BALL RELAY.
	N.O.	B	W-B GRAY-W	C-18 IN CIRCUIT TO 10,000 POINT RELAY (WHEN COLLECTING BONUS).
	N.O.	A	G-B GRAY-BLU	D-15 IN HOLD CIRCUIT TO THIS RELAY.

OUTHOLE

IS ENERGIZED BY NORMALLY CLOSED SWITCH ON DELAY RELAY, THRU BONUS UNIT ZERO SWITCH AND SWITCH ON BONUS RELAY.



OPENS IN CIRCUIT TO TILT RELAY AND CLOSSES TO BONUS UNIT S.U. COIL AND BALL RELEASE COIL.

OPENS IN HOLD CIRCUIT TO BALL INDEX RELAY AND CLOSSES TO RUN SCORE MOTOR.

IN SERIES WITH SWITCH 'D' ON EXTRA BALL RELAY.

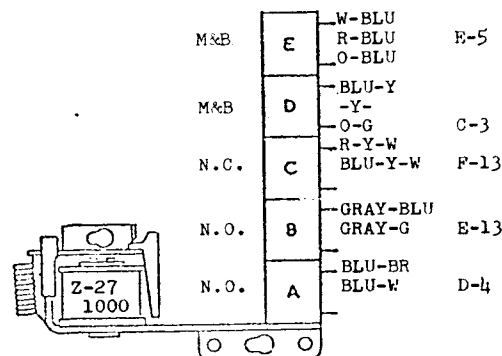
IN CIRCUIT TO TARGET RELAY.

ENERGIZES 115 VOLT RELAY BANK RESET COIL, THRU SCORE MOTOR CAM SWITCH 3C.

IN HOLD CIRCUIT TO THIS RELAY.

RESET

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



OPENS IN CIRCUIT TO 2ND COIN RELAY TRIP COIL & CLOSSES TO BALL COUNT RESET, 2ND COIN & GAME OVER LATCH COILS.

OPENS CIRCUIT TO CREDIT UNIT RESET & COIN LOCKOUT COILS, AND CLOSSES TO RUN SCORE MOTOR.

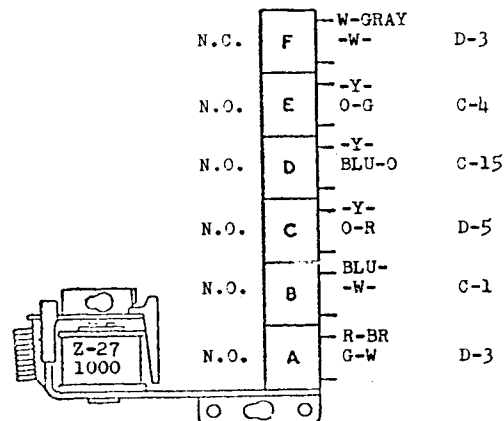
OPENS CIRCUITS TO MOST PLAYFIELD SWITCHES.

ENERGIZES BONUS RELAY, THRU ZERO SWITCH ON BONUS UNIT.

IN HOLD CIRCUIT TO THIS RELAY.

COIN

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



OPENS CIRCUIT TO COIN LOCKOUT COIL.

RUNS SCORE MOTOR.

ENERGIZES GAME-OVER RELAY TRIP COIL, THRU ZERO SWITCH ON BALL COUNT UNIT.

ENERGIZES RESET RELAY, THRU SWITCH ON GAME-OVER RELAY--- ALSO IN SERIES WITH SWITCH 'E' ON RESET RELAY.

ENERGIZES 115 VOLT RELAY BANK RESET COIL, THRU SCORE MOTOR CAM SWITCH 3C.

IN HOLD CIRCUIT TO THIS RELAY.

LOCK

IS ENERGIZED WHEN POWER IS SUPPLIED TO TRANSFORMER.

TILT

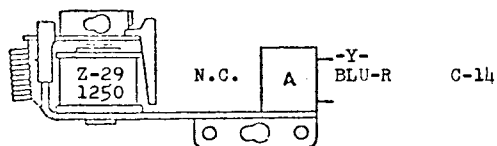
IS ENERGIZED BY PLUMB BOB TILT, BALL ROLLDOWN TILT OR PLAYFIELD VIBRATION TILT SWITCH.

EXTRA BALL

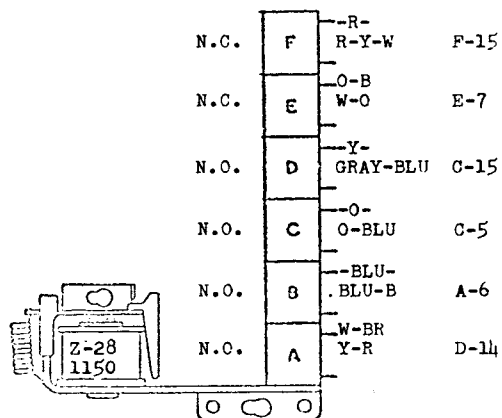
IS ENERGIZED BY BOTTOM EJECT RELAY, THRU SWITCHES ON 'C', 'H' AND 'O' RELAYS---ALSO, WITH ADJUSTMENT JACK IN "EXTRA BALL" POSITION, BY LEFT OR RIGHT BOTTOM ROLLOVER WHEN LIT FOR 'SPECIAL', AND BY HI-SCORE CIRCUITS.

10¢

IS ENERGIZED BY 10¢ COIN SWITCH, IF 10¢ ADJUSTMENT JACK IS IN '2' OR '3' PLAYS FOR 1 COIN POSITION---ALSO BY 25¢ COIN SWITCH, THRU COIN SET-UP RELAY.



ENERGIZES GAME-OVER RELAY TRIP COIL.



OPENS CIRCUITS TO MOST PLAYFIELD SWITCHES.

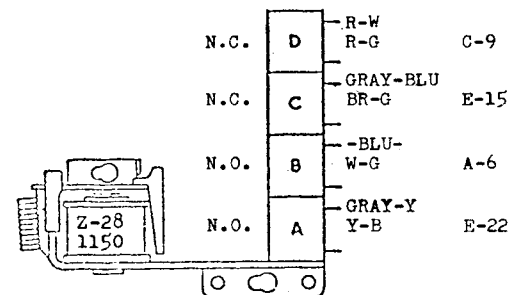
IN HI-SCORE CIRCUITS TO CREDIT UNIT S.U. COIL.

ENERGIZES BALL INDEX RELAY.

IN HOLD CIRCUIT TO COIN SET-UP RELAY.

TO "TILT" LITE.

IN HOLD CIRCUIT TO THIS RELAY.

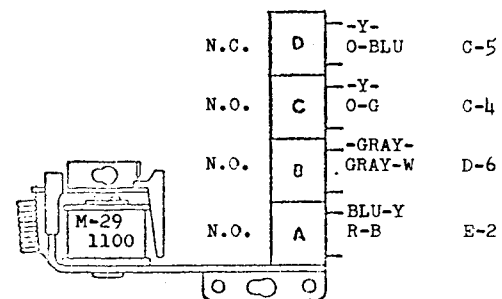


IN SERIES WITH SWITCH 'D' ON BALL INDEX RELAY.

IN CIRCUIT TO BALL INDEX RELAY.

TO "SHOOT AGAIN" LITES.

IN HOLD CIRCUIT TO THIS RELAY.



IN HOLD CIRCUIT TO COIN SET-UP RELAY.

RUNS SCORE MOTOR.

PULSES CREDIT UNIT S.U. COIL, THRU IMPULSE CAM SWITCH 'A'.

IN HOLD CIRCUIT TO THIS RELAY.

25¢

IS ENERGIZED BY 25¢ COIN SWITCH, THRU SWITCH ON COIN SET-UP RELAY.

COIN SET-UP

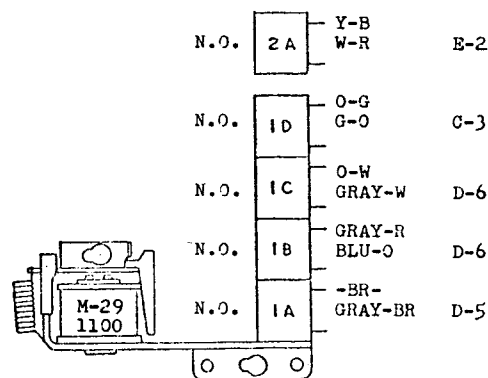
IS ENERGIZED BY 25¢ RELAY, IF "2 COINS FOR 3 PLAYS" ADJUSTMENT JACK IS IN "ON" POSITION.

NO.2 CHANGE

IS ENERGIZED BY NUMBER MATCH UNIT ALTERNATING SWITCH.

NO.1 CHANGE

IS ENERGIZED BY NUMBER MATCH UNIT ALTERNATING SWITCH.



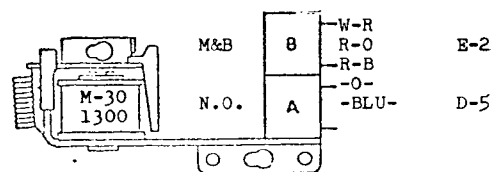
IN HOLD CIRCUIT TO THIS RELAY.

RUNS SCORE MOTOR, THRU 25¢ COIN SWITCH.

PULSES CREDIT UNIT, THRU IMPULSE CAM SWITCH 'A'. (WHEN "2 COINS FOR 3 PLAY" ADJUSTMENT IS IN "OFF" POSITION.

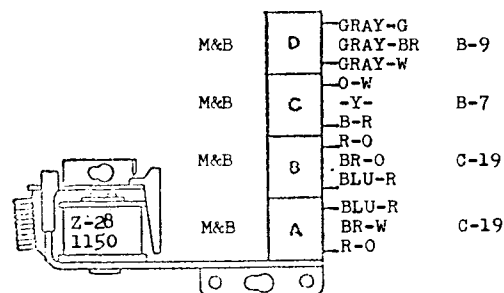
ENERGIZES CRDIT UNIT S.U. OR COIN RELAY, THRU "2 COINS FOR 3 PLAYS" ADJUSTMENT JACK.

ENERGIZES COIN SET-UP RELAY IF "2 COINS FOR 3 PLAYS" ADJUSTMENT IS IN "ON" POSITION.



OPENS IN CIRCUIT TO 25¢ RELAY AND CLOSSES TO 10¢ RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

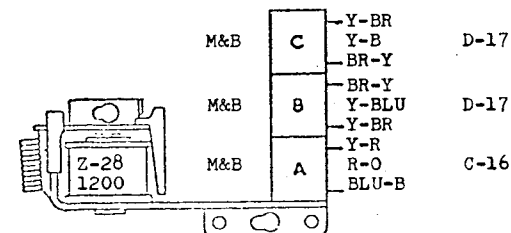


OPENS TO LEFT BOTTOM ROLLOVER LITE AND CLOSSES TO RIGHT BOTTOM ROLLOVER LITE.

OPENS TO RIGHT TOP & CENTER TOP (Y) ROLLOVER LITES, AND CLOSSES TO LEFT TOP AND CENTER TOP (G) ROLLOVER LITES.

IN CIRCUIT TO 10,000 RELAY OR "CREDIT-EXTRA BALL" ADJUSTMENT JACK.

IN CIRCUIT TO 10,000 RELAY OR "CREDIT-EXTRA BALL" ADJUSTMENT JACK.



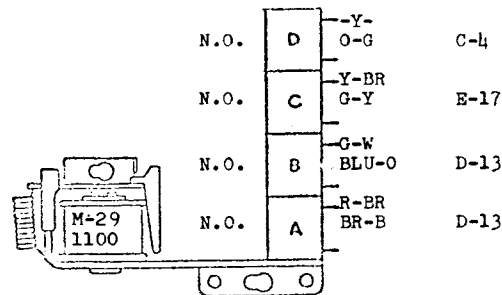
OPENS IN CIRCUIT TO ADVANCE RELAY AND CLOSSES TO 1,000 POINT RELAY.

OPENS IN CIRCUIT TO 1,000 POINT RELAY AND CLOSSES TO ADVANCE RELAY.

OPENS IN CIRCUIT TO YELLOW RELAY AND CLOSSES TO GREEN RELAY.

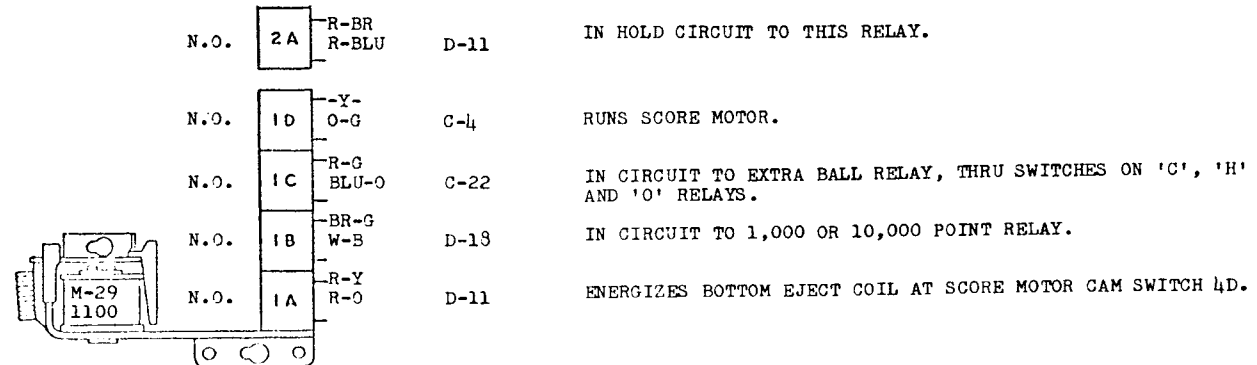
SHOOTER

IS ENERGIZED BY SHOOTER SWITCH.



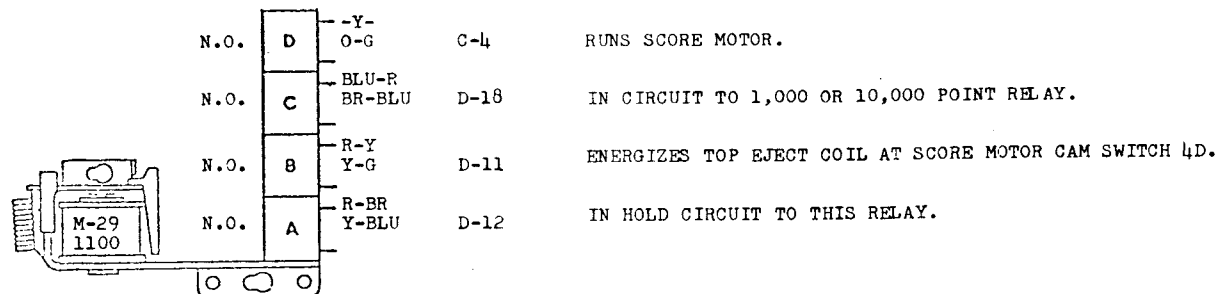
BOTTOM EJECT

IS ENERGIZED BY BOTTOM EJECT SWITCH.



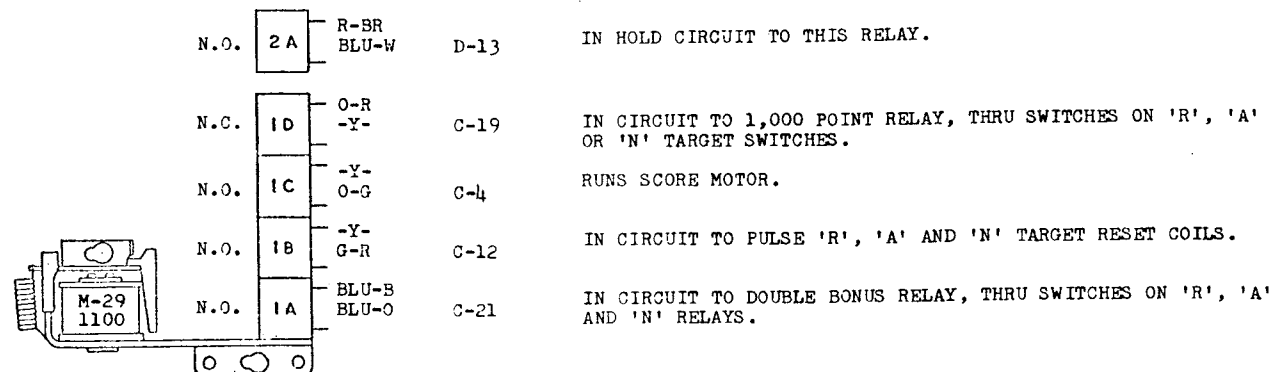
TOP EJECT

IS ENERGIZED BY TOP EJECT SWITCH.



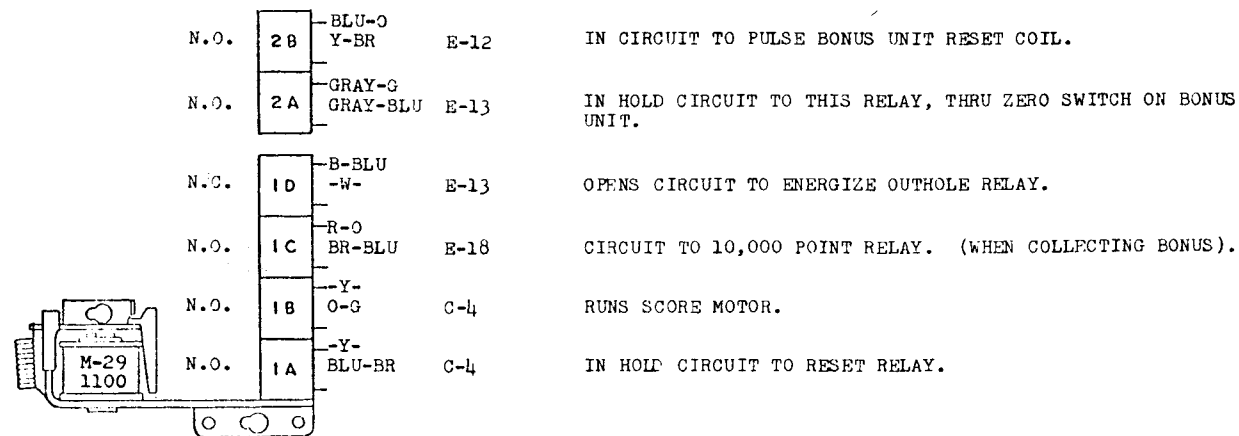
TARGET

IS ENERGIZED BY OUTHOLE RELAY OR BY A SERIES CIRCUIT THRU 'R', 'A' AND 'N' TARGET SWITCHES.



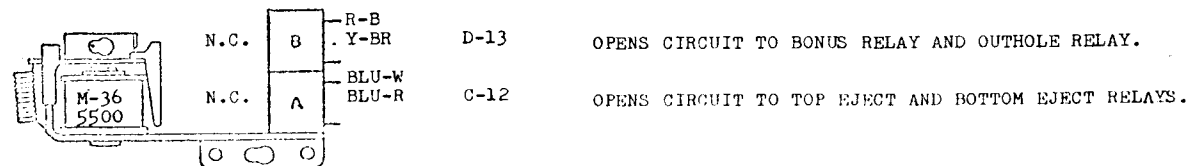
BONUS

IS ENERGIZED BY RESET RELAY, THRU ZERO SWITCH ON BONUS UNIT---ALSO BY OUTHOLE SWITCH, THRU ANOTHER ZERO SWITCH ON BONUS UNIT AND DELAY RELAY.



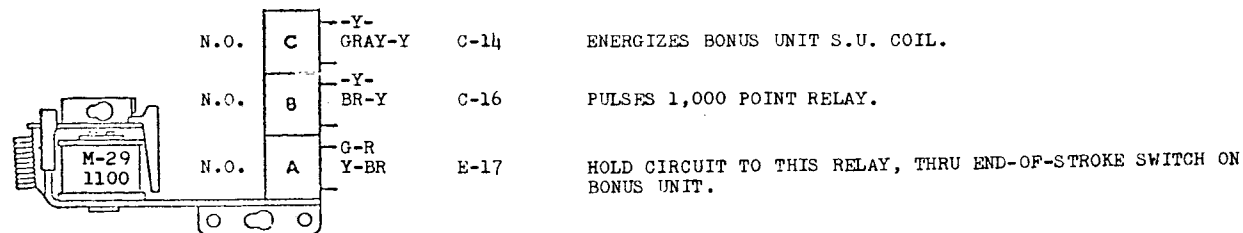
DELAY

IS ENERGIZED BY SWITCH ON SPINNER RELAY. (D.C.).



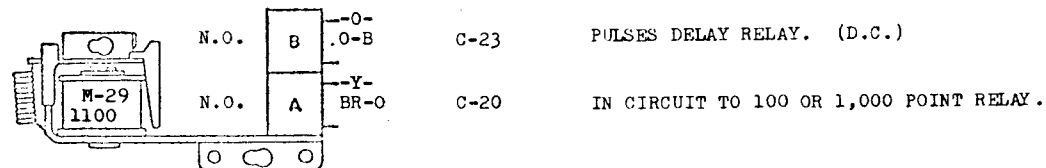
ADVANCE

IS ENERGIZED BY SHOOTER RELAY, LEFT TOP TARGET SWITCH, LEFT OR RIGHT TOP ROLLOVER WHEN LIT---ALSO BY CENTER ROLLOVER BUTTON, THRU "LIBERAL-CONSERVATIVE" ADJUSTMENT JACK.



SPINNER

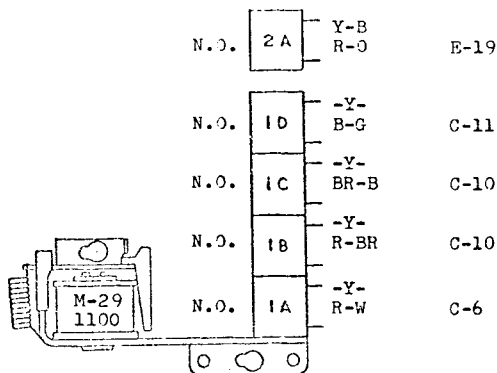
IS ENERGIZED BY SPINNER SWITCH.



10,000 POINT

IS ENERGIZED BY:

1. LEFT OR RIGHT BOTTOM ROLLOVER.
2. TOP EJECT RELAY, THRU SWITCH ON GREEN RELAY.
3. BOTTOM EJECT RELAY, THRU SWITCH ON YELLOW RELAY.
4. CENTER TOP ROLLOVER SWITCH, THRU YELLOW AND GREEN RELAYS.
5. BONUS RELAY, THRU SWITCH ON DOUBLE BONUS RELAY. (WHEN COLLECTING BONUS).



IN HOLD CIRCUIT TO THIS RELAY.

PULSES LARGE CHIME COIL.

IN SERIES WITH SWITCH 'B' ON NO. 2 PLAYER RELAY.

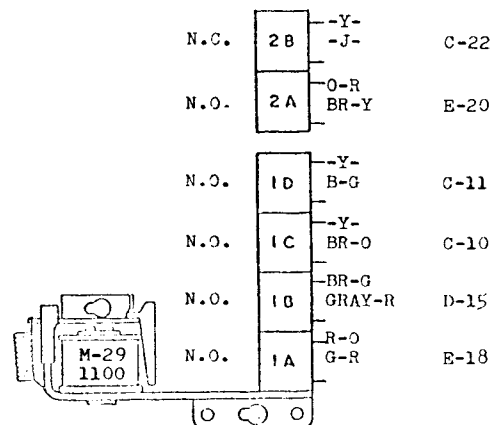
IN SERIES WITH SWITCH 'C' ON NO. 2 PLAYER RELAY.

IN SERIES WITH SWITCH 'B' ON NO. 1 PLAYER RELAY.

1,000 POINT

IS ENERGIZED BY:

1. ADVANCE RELAY.
2. LEFT & RIGHT TOP ROLLOVER.
3. CENTER ROLLOVER BUTTON, THRU "LIBERAL-CONSERVATIVE" ADJUSTMENT JACK.
4. CENTER TOP ROLLOVER, THRU WIPER ON BONUS UNIT DISC.
5. TOP EJECT RELAY, THRU SWITCH ON GREEN RELAY.
6. BOTTOM EJECT RELAY, THRU SWITCH ON YELLOW RELAY.
7. 'R', 'A' OR 'N' TARGET SWITCH.
8. SPINNER RELAY.
9. LEFT OR RIGHT JET BUMPER, THRU JET BUMPER ADJUSTMENT.



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

IN HOLD CIRCUIT TO THIS RELAY.

PULSES LARGE CHIME COIL.

IN SERIES WITH SWITCH 'A' ON NO. 2 PLAYER RELAY.

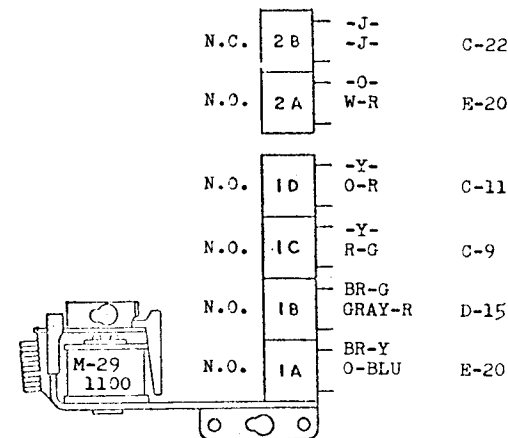
IN CIRCUIT TO ENERGIZE BALL INDEX RELAY.

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

100 POINT

IS PULSED BY:

1. SPINNER RELAY, THRU SWITCH ON DOUBLE BONUS RELAY.
2. LEFT OR RIGHT JET BUMPER, THRU JET BUMPER ADJUSTMENT JACK.



IN SERIES WITH SWITCH '2C' ON 10 POINT RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

PULSES SMALL CHIME COIL.

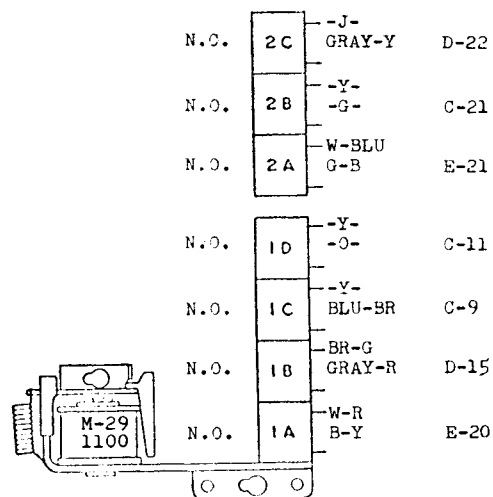
IN SERIES WITH SWITCH 'D' ON NO. 1 PLAYER RELAY.

IN CIRCUIT TO ENERGIZE BALL INDEX RELAY.

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

10 POINT

IS PULSED BY (2) KICKER SWITCHES, (5) STAND-UP SWITCHES AND TOP ROLLOVER BUTTON.



IN SERIES WITH SWITCH 'A' ON EXTRA BALL RELAY.

ENERGIZES NUMBER MATCH UNIT COIL.

IN HOLD CIRCUIT TO THIS RELAY.

PULSES MEDIUM CHIME COIL.

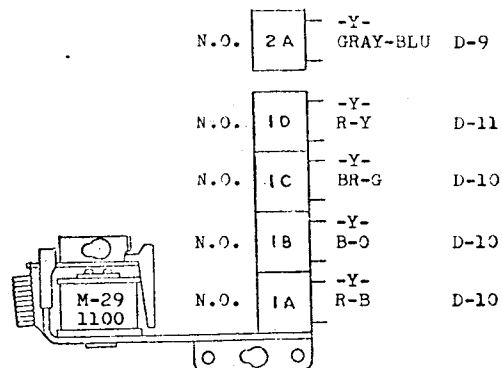
IN SERIES WITH SWITCH 'C' ON NO. 1 PLAYER RELAY.

IN CIRCUIT TO ENERGIZE BALL INDEX RELAY.

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

NO.2 SCORE RESET

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



PULSES 2ND PLAYER 10 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

PULSES 2ND PLAYER 100,000 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

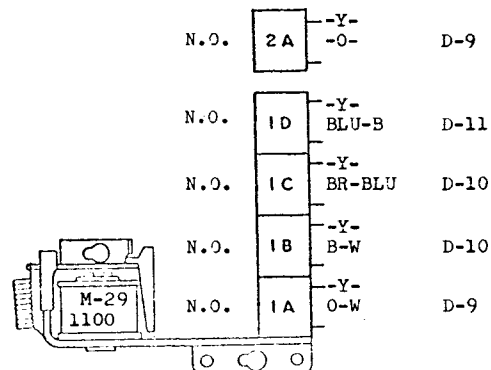
PULSES 2ND PLAYER 10,000 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

PULSES 2ND PLAYER 1,000 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

PULSES 2ND PLAYER 100 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

NO.1 SCORE RESET

IS IN PARALLEL WITH NO. 2 SCORE RESET RELAY.



PULSES 1ST PLAYER 10 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

PULSES 1ST PLAYER 100,000 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

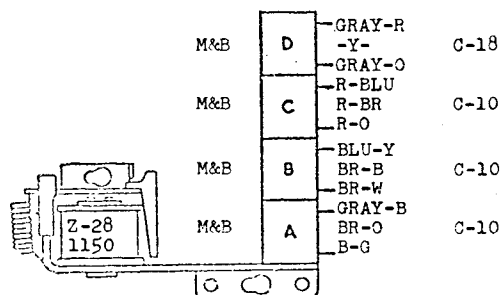
PULSES 1ST PLAYER 10,000 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

PULSES 1ST PLAYER 1,000 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

PULSES 1ST PLAYER 100 POINT DRUM UNIT, THRU ZERO SWITCH ON THAT UNIT.

NO 2 PLAYER

IS ENERGIZED BY 2ND COIN RELAY, THRU
WIPER ON BALL COUNT UNIT DISC.



IN SERIES WITH SWITCH '1A' ON 1,000 POINT RELAY.

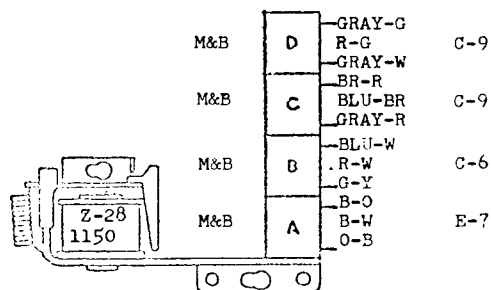
IN CIRCUIT TO 100,000 POINT DRUM UNIT COILS, THRU 9TH POSITION SWITCH ON 10,000 POINT DRUM UNITS.

OPENS TO 1ST PLAYER 10,000 POINT D.U. COIL AND CLOSSES TO 2ND PLAYER 10,000 POINT DRUM UNIT COIL.

OPENS TO 1ST PLAYER 1,000 POINT DRUM UNIT COIL AND CLOSSES TO 2ND PLAYER 1,000 POINT D.U. COIL.

NO.1 PLAYER

IS IN PARALLEL WITH NO. 2 PLAYER RELAY.



OPENS TO 1ST PLAYER 100 POINT DRUM UNIT COIL AND CLOSSES TO 2ND PLAYER 100 POINT D.U. COIL.

OPENS TO 1ST PLAYER 10 POINT DRUM UNIT COIL AND CLOSSES TO 2ND PLAYER 10 POINT D.U. COIL.

IN SERIES WITH SWITCH 'A' ON THIS RELAY (IN HI-SCORE CIRCUIT).

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