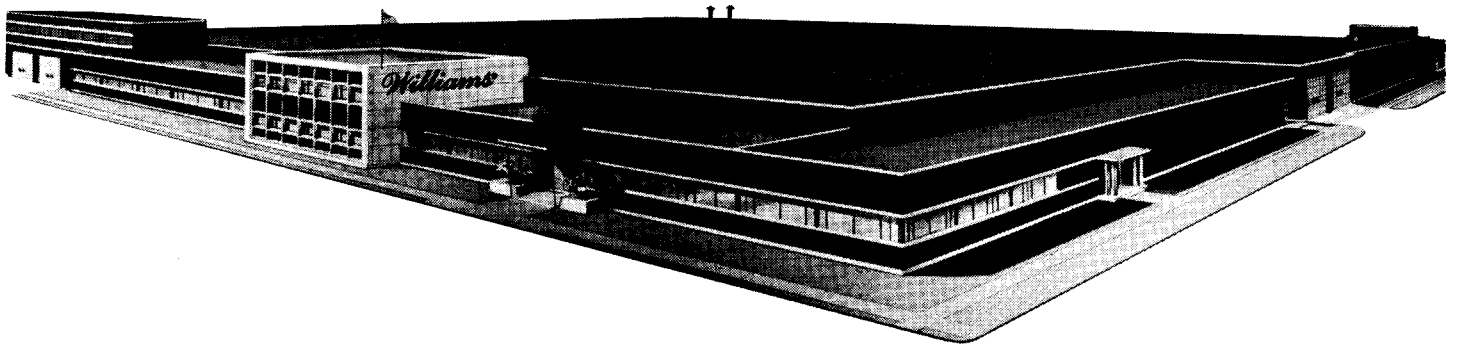


Instruction Manual

for

PADDOCK



Williams[®] ELECTRONICS, INC.

SUBSIDIARY OF THE SEEBURG CORPORATION

3401 N. California Ave.
Phone 267-2240

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

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.

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:

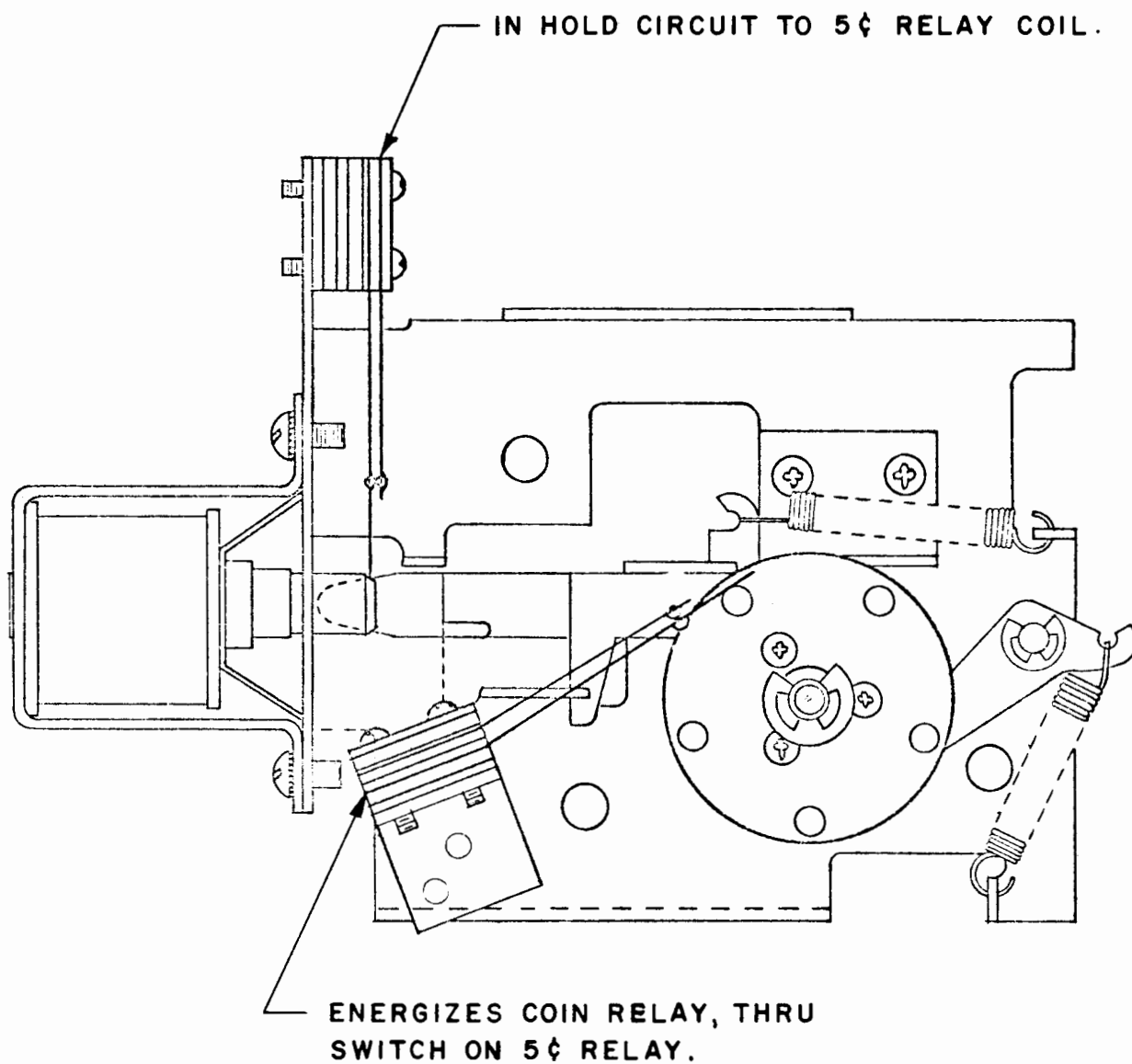
- WITH BACK DOOR REMOVED, PULL BACK ON BRACKETS AT INSIDE TOP OF LITE BOX.**
- FROM THE FRONT OF GAME, LIFT GLASS UP AND OUT.**

NOTES

ALTERNATOR UNIT

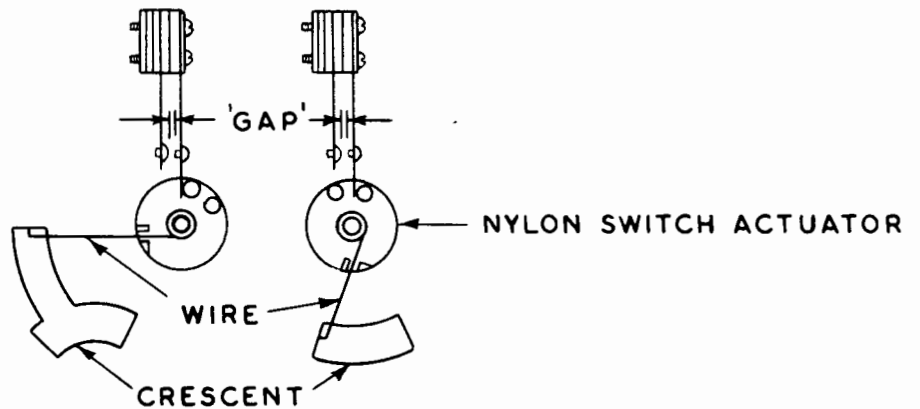
LOCATED ON MECHANISM PANEL.

USED IN CONJUNCTION WITH 5¢ RELAY FOR "2 COINS-1 PLAY" FEATURE.



INSTRUCTIONS FOR COIN TRIP SWITCH ADJUSTMENT

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



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

or

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

SWITCH ADJUSTMENT

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

WARRANTY

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

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

IMPORTANT NOTICE

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

UNIT PARTS LIST "PADDOCK"

UNIT NAME	CONTACT DISC	WIPER ASSEMBLY	RATCHET GEAR ASSEMBLY	MOTORS
REPLAY	-----	-----	A-6400	
BALL COUNT	C-6417	C-6520	A-6402-9	
ADVANCE	C-6417	C-6520	A-6401	
RACE	C-6417	C-6520	A-6402-19	14A-7805
NO. MATCH	C-6879	C-6520	A-6401	(60 CYCLE)
0 - 9	A-7195	A-6294	3C-7272	
TENS	-----	-----	3C-7272	14A-7806
HUNDREDS	A-7195	A-6294	3C-7272	(50 CYCLE)
THOUSANDS	A-7195	A-6294	3C-7272	
ALTERNATOR	-----	-----	3C-7272	

"PADDOCK" 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
14 A 7805	SCORE MOTOR - 60 CYCLE	MECH. PANEL
14 A 7806	SCORE MOTOR - 50 CYCLE	MECH. PANEL
15 A 6771	TRANSFORMER - 60 CYCLE	MECH. PANEL
15 A 6782	TRANSFORMER - 50 CYCLE	MECH. PANEL
B 6396	24 VOLT METER	MECH. PANEL

SOLENOID COILS

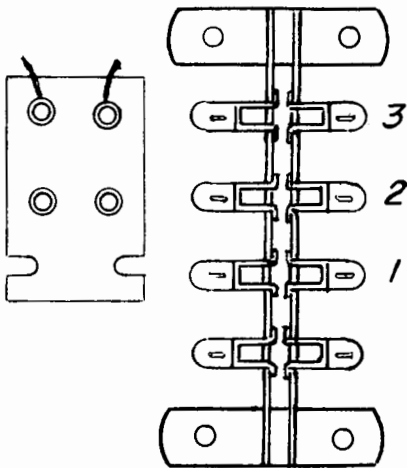
A 22-550	MATCH UNIT STEP UP BALL COUNT UNIT STEP UP BALL RELEASE	INSERT INSERT PLAYFIELD
A 23-600	RACE UNIT STEP UP ADVANCE UNIT STEP UP REPLAY UNIT STEP UP	PLAYFIELD PLAYFIELD INSERT
A2-23-750	KNOCKER	CABINET
B 26-800	ALTERNATOR UNIT BALL COUNT UNIT RESET SCORE DRUM UNITS ... (4 req'd.) RACE UNIT RESET REPLAY UNIT RESET	MECH. PANEL INSERT INSERT PLAYFIELD INSERT
C2-26-800	CHIME	INSERT
G 22-550	JET BUMPERS ... (5 req'd.)	PLAYFIELD
G 23-750	AUTO KICKERS ... (4 req'd.)	PLAYFIELD
FL 21-375/ 28-400	FLIPPERS ... (2 req'd.)	PLAYFIELD

RELAY COILS

M1-31-1500	COIN LOCKOUT	DOOR
M 30-1400	SET UP RELAY	PLAYFIELD
M 29-1000	GAME TRIP GAME OVER TRIP RESET	MECH. PANEL MECH. PANEL MECH. PANEL
M 29-1100	5¢ RELAY 10¢ RELAY 25¢ RELAY 1 POINT RELAY 10 POINT RELAY 100 POINT RELAY NO. 1 BUMPER RELAY NO. 2 BUMPER RELAY NO. 3 BUMPER RELAY NO. 4 BUMPER RELAY NO. 5 BUMPER RELAY ADVANCE RELAY	MECH. PANEL MECH. PANEL MECH. PANEL INSERT INSERT INSERT PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD
Z 27-1000	GAME LATCH GAME OVER LATCH 3 ADVANCE RELAY CENTER TARGET RELAY COIN RELAY OUTHOLE RELAY ROLLOVER RELAY	MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL MECH. PANEL
Z 28-1150	LOCK RELAY A RELAY B RELAY C RELAY D RELAY BALL INDEX RELAY	MECH. PANEL PLAYFIELD PLAYFIELD PLAYFIELD PLAYFIELD MECH. PANEL
XM 27-675	METER COIL	B 6396

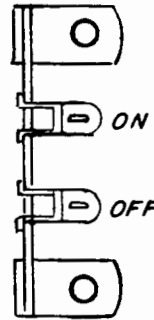
ADJUSTMENTS ON MECHANISM PANEL

10¢ Adjustment



PROVIDES
1, 2 OR
3 PLAYS
FOR ONE
COIN.

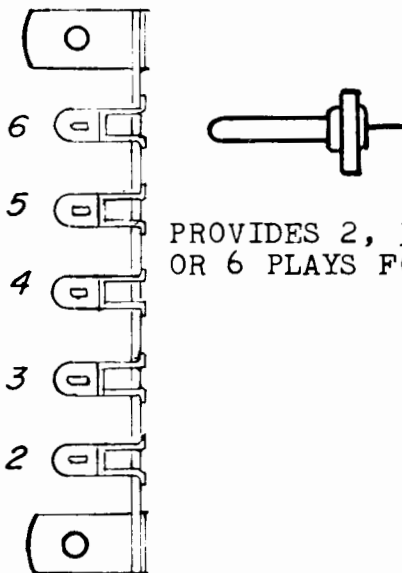
Motor Service Jack



INSERT PHONE TIP IN
'OFF' POSITION - CAMS
CAN BE TURNED BY
HAND TO CHECK

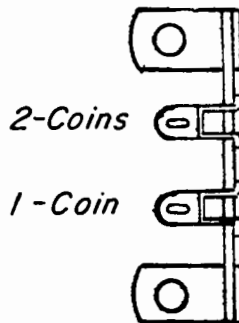
ADJUSTMENT OF
SWITCHES.

25¢ Adjustment



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

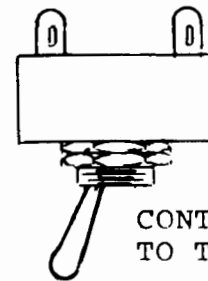
5¢ Adjustment



IN "2 COINS FOR 1
PLAY", CIRCUIT TO
COIN RELAY PASSES
THRU
SWITCH
ON ALTER-
NATOR
UNIT.

MASTER ON-OFF SW.

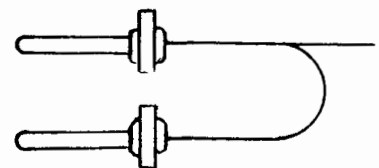
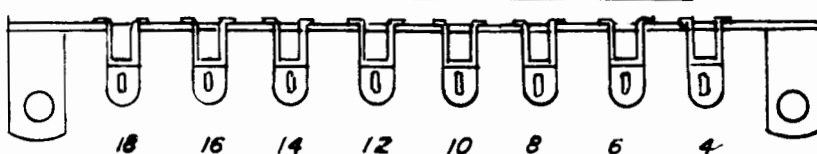
(Located under front of
Cabinet)



CONTROLS POWER
TO TRANSFORMER

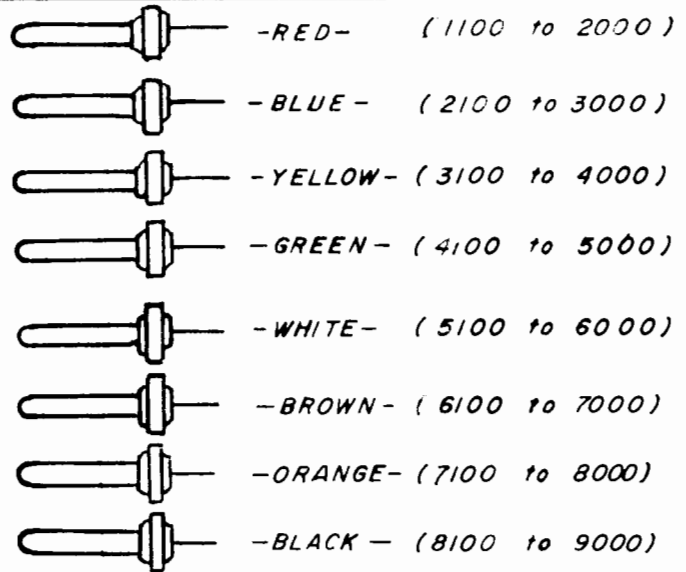
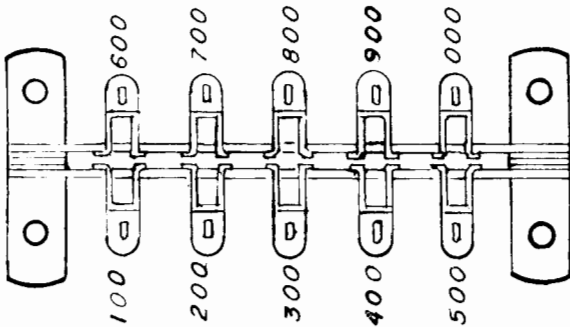
ADJUSTMENTS IN BACKBOX

EXTRA BALL ADJUSTMENT JACK



INSERT PHONE TIPS AT NUMBER OF RACES
WHERE EXTRA BALLS ARE TO BE AWARDED.

ADJUSTMENTS IN BACKBOX



HI-Score Adjustment

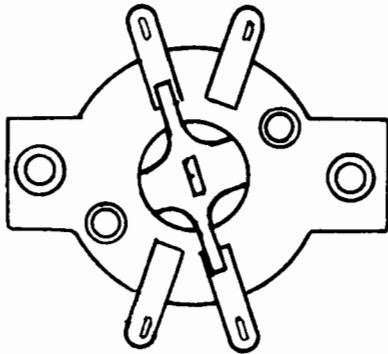
Insert plugs into 10 Point Female at desired positions.

Examples:

Yellow wire into 300 position scores at 3300.

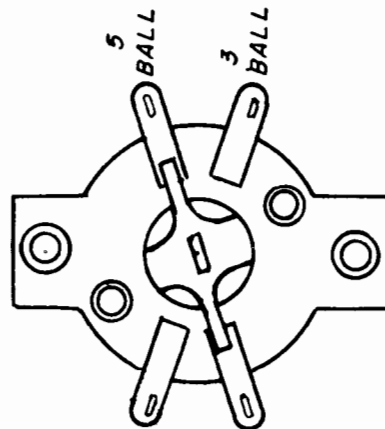
Yellow wire into 000 position scores at 4000.

Lib. Cons.



Bottom Rollover Adjustment

When switch is in Liberal position, Bottom Inside Rollovers lite for "Special" at 5th & 10th position on Advance Unit. In Conservative position, Rollovers lite at 10th position only.

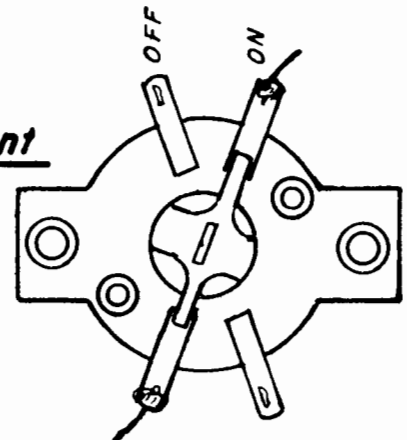


No. of Balls Adjustment

This switch changes 3 Ball to 5 Ball play, or vice versa.

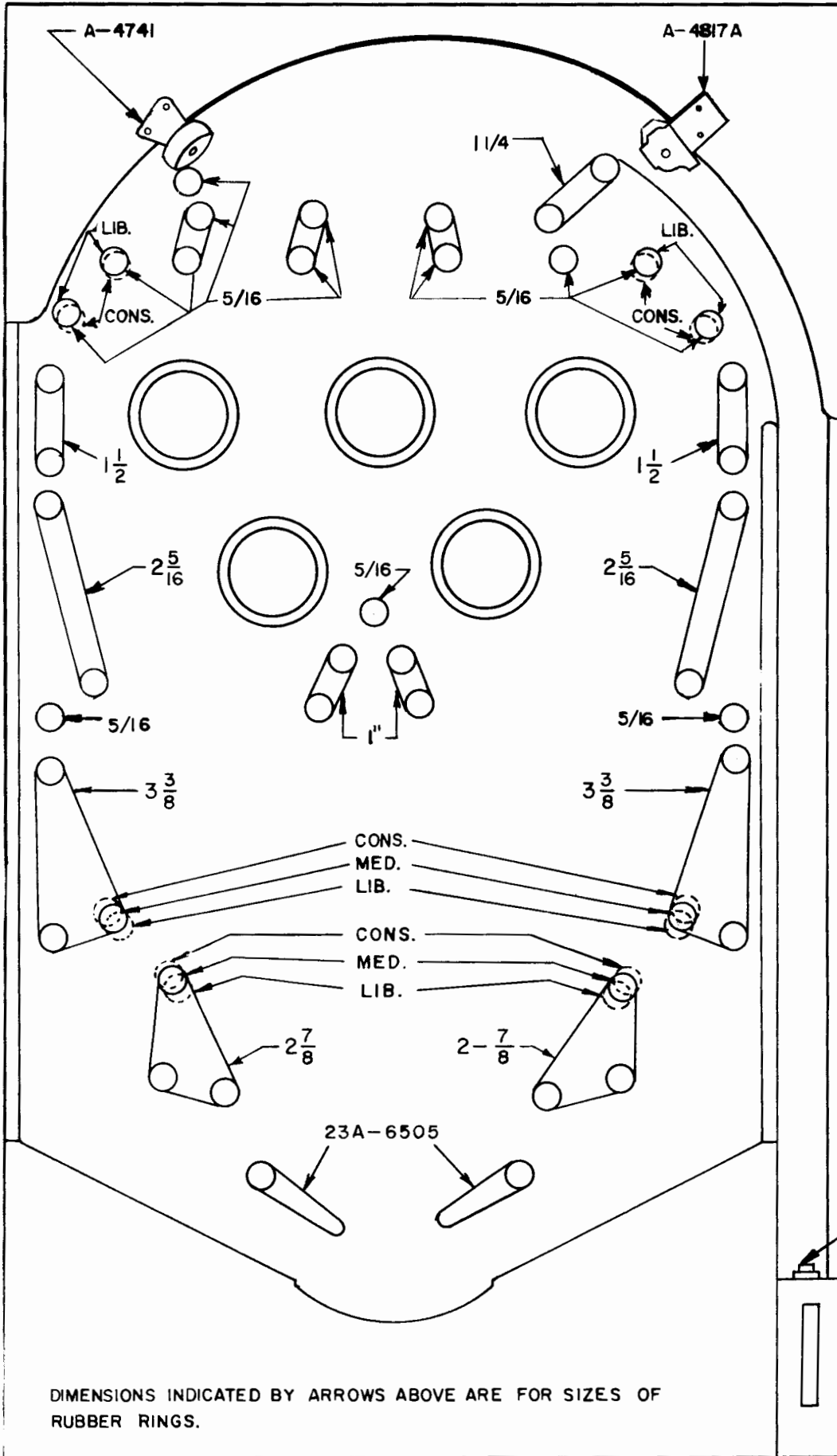
Number Match Adjustment

In "ON" position, number match lite will appear when game is over. This number will match the last number in point score, on the average, once every ten games. In "OFF" position, Number Match is inoperative.



"PADDOCK"—POST ADJUSTMENT SHEET I

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



ABBREVIATIONS:

CONS.— CONSERVATIVE
LIB.— LIBERAL

MED.— MEDIUM

RUBBER RING NUMBERS

23A-6300	5/16" I.D.
23A-6302	1" I.D.
23A-6303	1 1/4" I.D.
23A-6504	1 1/2" I.D.
23A-6306	2 5/16 I.D.
23A-6307	2 7/8 I.D.
23A-6308	3 3/8 I.D.

A-4741 — REBOUND ASS'Y.

A-4817A — BALL GATE ASS'Y.

23A-6327 — BALL SHOOTER
RUBBER TIP.

DIMENSIONS INDICATED BY ARROWS ABOVE ARE FOR SIZES OF RUBBER RINGS.

"PADDOCK"

RACETRACK POSITION LITES (ROLLOVER BUTTONS) ARE CONTROLLED BY ADVANCE UNIT.

THE ADVANCE UNIT MOVES ONE STEP WHEN MAKING THE FOLLOWING:
LEFT OR RIGHT TOP ROLLOVERS.
"ADVANCE" JET BUMPER.
ROLLOVER BUTTONS, WHEN LIT.

THE ADVANCE UNIT MOVES 3 STEPS WHEN MAKING THE FOLLOWING:
CENTER TOP ROLLOVER.
LEFT SIDE OR RIGHT SIDE TARGET.

EACH TIME ADVANCE UNIT TAKES 10TH STEP, A RACE IS COMPLETED AND REGISTERS ON THE RACE UNIT.

THE ADVANCE UNIT WILL COMPLETE A RACE WHEN MAKING LEFT BOTTOM OR RIGHT BOTTOM (OUTSIDE) ROLLOVERS, WHEN LIT. THESE ROLLOVERS WILL LITE WHEN A,B,C AND D JET BUMPERS ARE LIT.

A,B,C AND D JET BUMPERS ARE LIT BY (4) TOP TARGETS, (2) TOP OR (2) BOTTOM ROLLOVERS, AS INDICATED ON PLAYFIELD.

SCORING THE REQUIRED NUMBER OF RACES, AS INDICATED ON INSTRUCTION CARD, WILL REGISTER AN EXTRA BALL. MAKING LEFT BOTTOM OR RIGHT BOTTOM (INSIDE) ROLLOVERS, WHEN LIT, ALSO REGISTERS AN EXTRA BALL.

HI-SCORES, AS INDICATED ON SCORE CARD, AND NUMBER MATCH WILL REGISTER A REPLAY. (SEE PAGES ON ADJUSTMENT JACKS).

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.

SUGGESTED SCORE CARDS:

FOR <u>REGULAR</u> PLAY	FOR <u>EXTRA BALL</u> PLAY
5 BALL ... 358-11	5 BALL ... 358-1 EB
ROLLOVER ADJ. CONSERVATIVE	
3 BALL ... 358-8	3 BALL ... 358-3 EB
ROLLOVER ADJ. LIBERAL	

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 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.

4. RELAY and SWITCH ADJUSTMENT

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

BALL COUNT UNIT DISC

DURING RESET CYCLE, THIS UNIT RESETS TO ZERO AND THEN ADVANCES 5 STEPS. DURING PLAY, IT ADVANCES ONE STEP WHEN SCORING REQUIRED NUMBER OF RACES AS INDICATED ON SCORE CARD. IT ALSO ADVANCES ONE STEP BY MAKING BOTTOM (INSIDE) ROLLOVERS, WHEN LIT.

TO GAME RELAY (LATCH COIL)
 GAME-OVER LITE
 TILT LITE

B-S
 B-S
 C-6

Y-0
 Y-6
 R-BLU

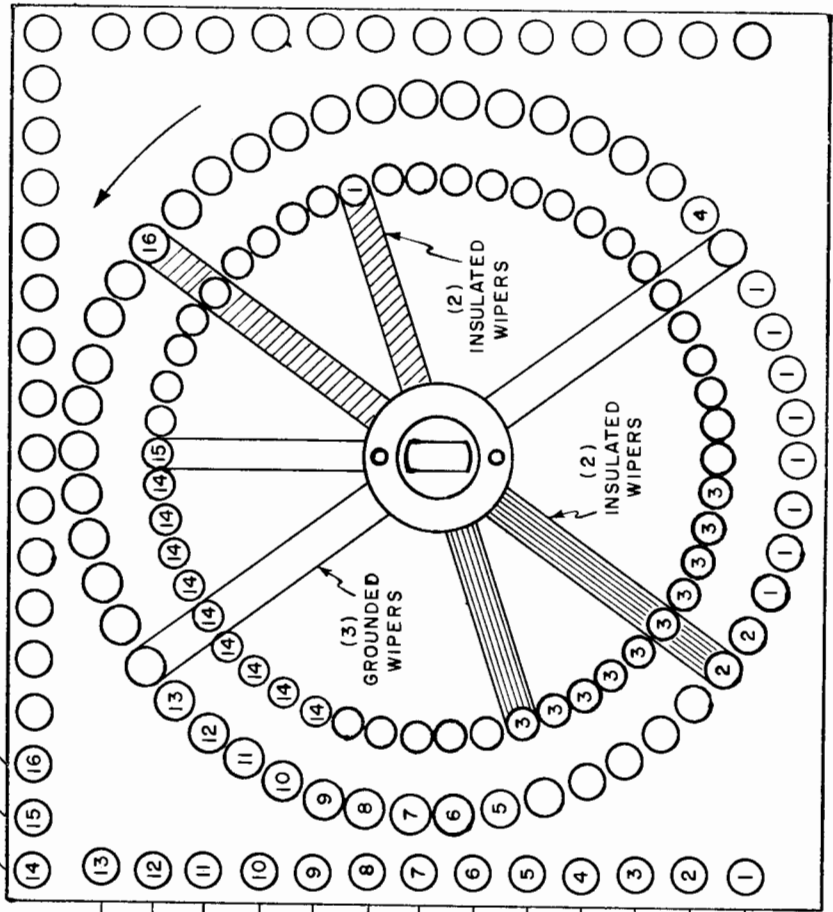
View looking at WIPER FINGER side
 with WIPER in ZERO position.

DIAGRAM
 LOCATION

- NO. 1
 - NO. 2
 - NO. 3
 - NO. 4
 - NO. 5
 - NO. 6
 - NO. 7
 - NO. 8
 - NO. 9
- NO. 5 B-3

"BALLS TO PLAY" LITES

- C-10
 - D-7
 - D-7
 - E-7
- IN NO. MATCH CIRCUIT TO REPLAY S. U. COIL
 FEED TO BLU-R & R-G
 TO GAME-OVER RELAY (TRIP COIL)
 TO GAME-OVER RELAY (LATCH COIL)

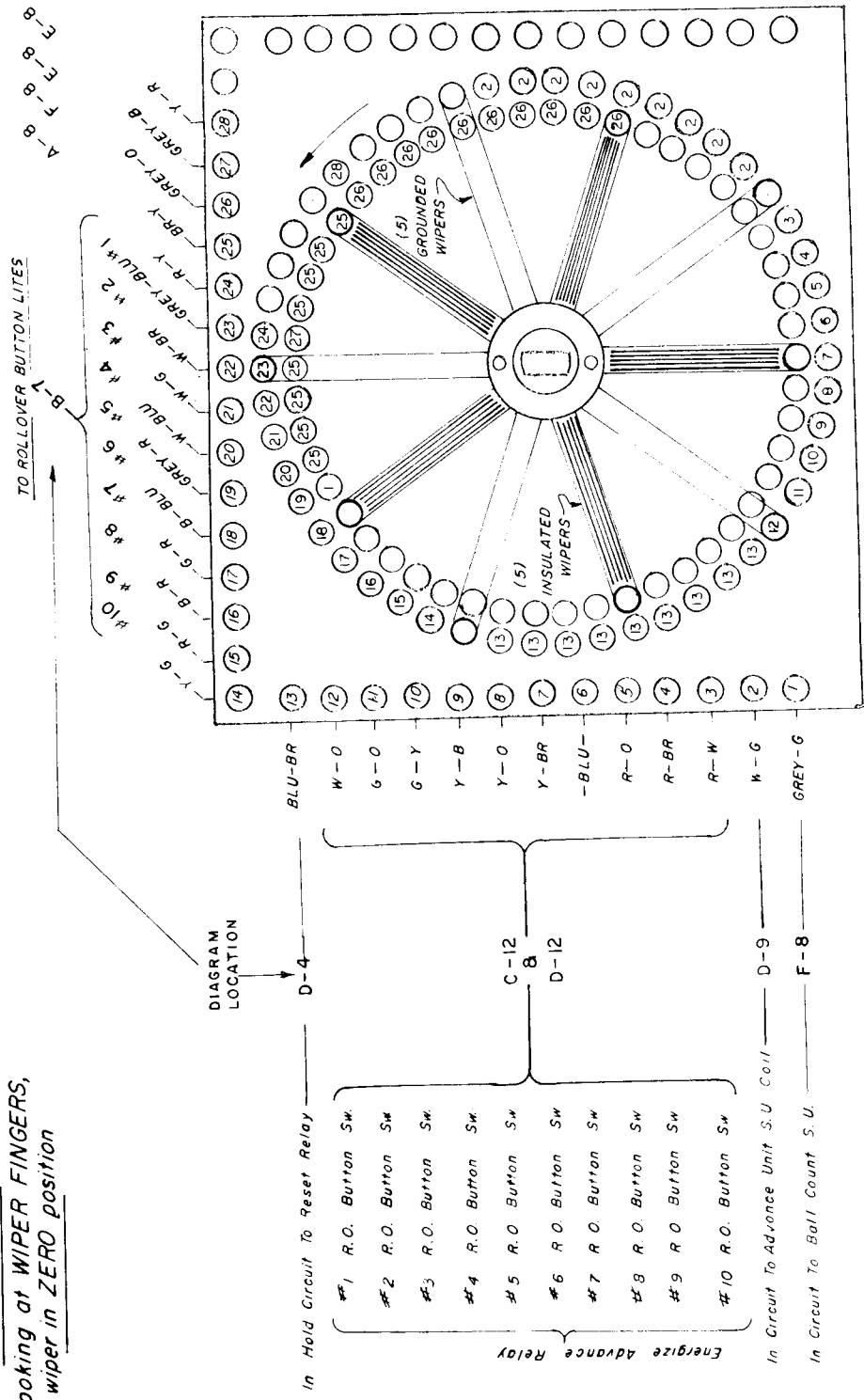


ADVANCE UNIT DISC

DURING RESET CYCLE, THIS UNIT ADVANCES TO ZERO POSITION THRU SWITCH ON RESET RELAY. DURING PLAY, IT ADVANCES ONE STEP EACH TIME THE ADVANCE RELAY IS PULSED, AND 3 STEPS WHEN THE "3 ADVANCE RELAY" IS ENERGIZED. IT ADVANCES TO START POSITION WHEN "ROLLOVER RELAY" IS ENERGIZED.

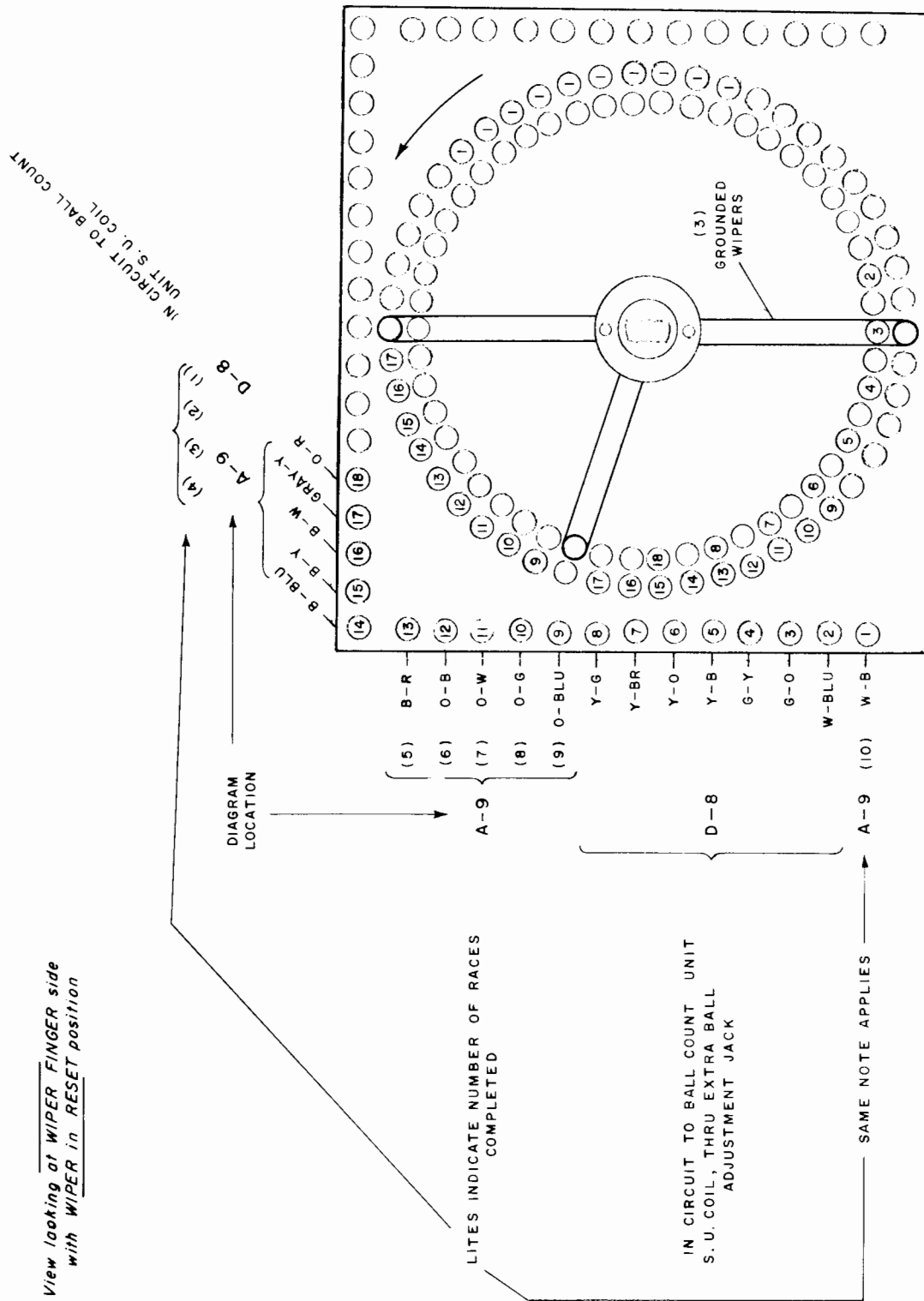
View looking at WIPER FINGERS, with wiper in ZERO position

TO LEFT 8 Right Bottom (Inside) Rollover Lites
 In Circuit To 100 point delay
 Feeds From Left 8 Right Bottom
 Connects To BR-Y (Lug 25) thru Lib-Cons
 Connects To BR-Y (Lug 25) thru Lib-Cons
 Lib-Cons Adjustmen. Switch



RACE UNIT DISC

THIS UNIT RESETS TO ZERO POSITION DURING RESET CYCLE. IT ADVANCES ONE STEP EACH TIME THE ROLLOVER RELAY IS ENERGIZED, ALSO BY MAKING "FINISH" ROLLOVER BUTTON, WHEN LIT.



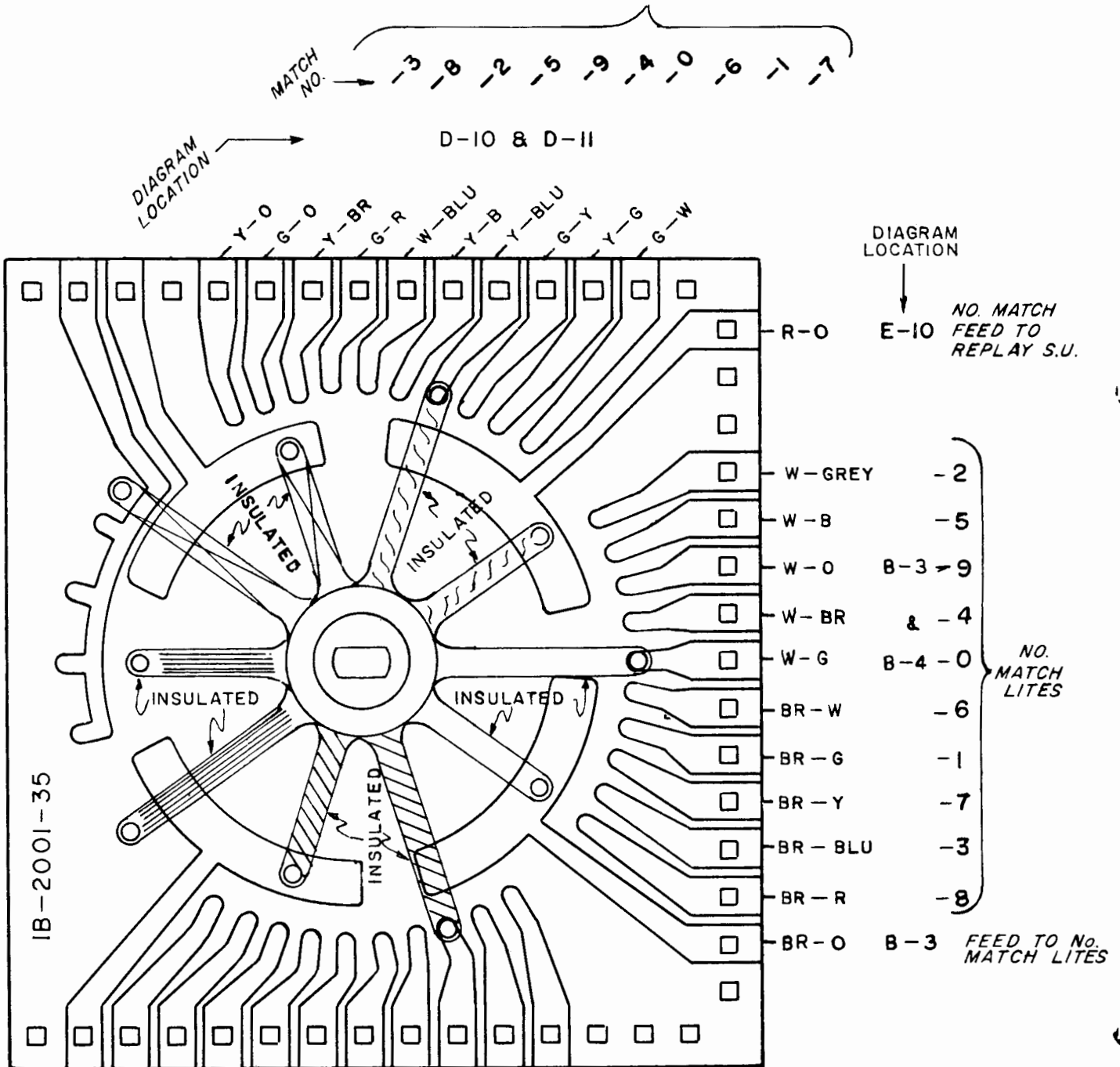
View looking at WIPER FINGER side with WIPER in RESET position

No. MATCH UNIT

THIS UNIT ADVANCES ONE STEP EACH TIME THE ONE POINT RELAY IS PULSED.

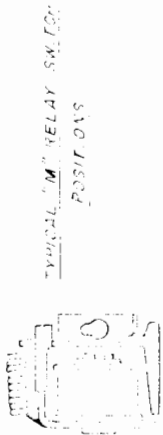
View looking at
WIPER FINGER side

IN No. MATCH CIRCUIT.
THESE WIRES COME FROM
THE 1-PT. D.U. DISC.

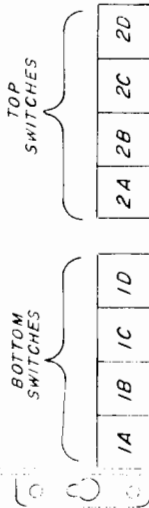


A. C. RELAYS & SWITCHES

Located on Mechanism Panel



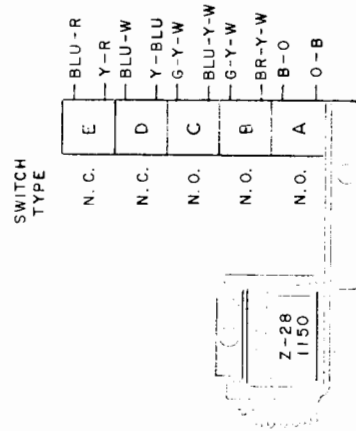
TYPICAL "M" RELAY SWITCH POSITIONS



LOCK RELAY

IS ENERGIZED BY COIN, 5¢, 10¢ OR 25¢ RELAY---ALSO BY LEFT FLIPPER BUTTON SWITCH.

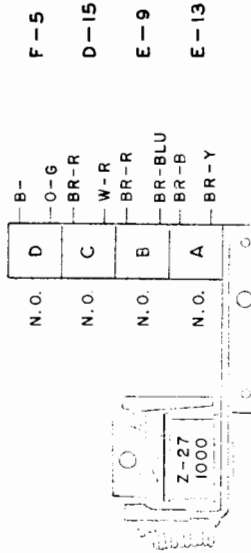
DIAGRAM LOCATION



D-7 ENERGIZES GAME-OVER RELAY (TRIP COIL).
 D-4 IN CIRCUIT TO RESET RELAY.
 A-2 6 VOLTS FROM TRANSFORMER TO LITES.
 A-2 6 VOLTS FROM TRANSFORMER TO LITFS.
 E-5 HOLD CIRCUIT TO THIS RELAY, THRU KICK-OFF SWITCH.

3 ADVANCE RELAY

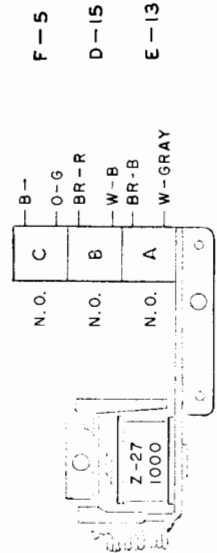
IS ENERGIZED BY LEFT OR RIGHT SIDE TARGET, ALSO BY CENTER TOP ROLL-OVER SWITCH.



F-5 RUNS SCORE MOTOR.
 D-15 PULSES 10 POINT RELAY.
 E-9 PULSES ADVANCE S.U. COIL, THRU IMPULSE CAM SWITCH C.
 E-13 IN HOLD CIRCUIT TO THIS RELAY.

CENTER TARGET RELAY

IS ENERGIZED BY CENTER TARGET SWITCH.

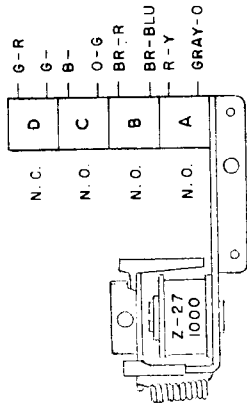


F-5 RUNS SCORE MOTOR.
 D-15 PULSES 10 POINT OR 100 POINT RELAY, THRU SWITCH ON SET-UP RELAY.
 E-13 IN HOLD CIRCUIT TO THIS RELAY.

DIAGRAM LOCATION

ROLLOVER RELAY

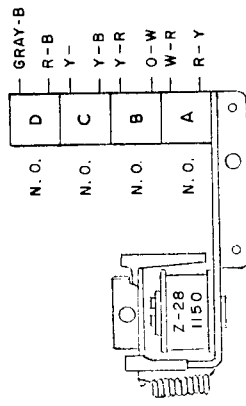
IS ENERGIZED BY LEFT OR RIGHT BOTTOM (OUTSIDE) ROLLOVER SWITCH, THRU SET-UP RELAY.



OPENS CIRCUIT TO OUTHOLE RELAY.
 RUNS SCORE MOTOR.
 PULSES ADVANCE UNIT S.U. COIL.
 IN HOLD CIRCUIT TO THIS RELAY.

BALL INDEX RELAY

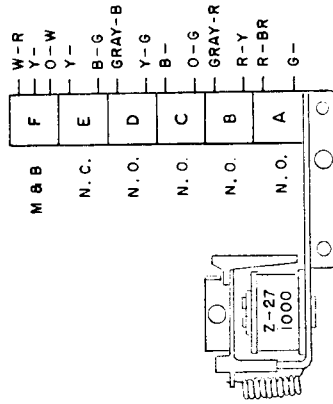
IS ENERGIZED BY 1 POINT, 10 POINT OR 100 POINT RELAY.



IN SERIES WITH SWITCH D ON OUTHOLE RELAY.
 ENERGIZES GAME RELAY (TRIP COIL).
 IN CIRCUIT TO GAME-OVER RELAY COILS-- ALSO TO BALL COUNT RESET COIL.
 IN HOLD CIRCUIT TO THIS RELAY.

OUTHOLE RELAY

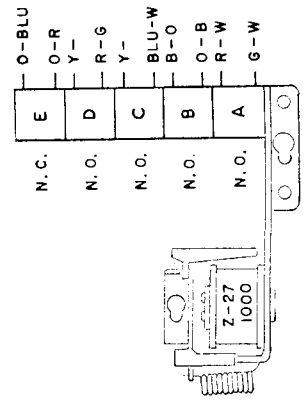
IS ENERGIZED BY OUTHOLE SWITCH, THRU SWITCH ON ROLLOVER RELAY.



IN SERIES WITH SWITCH A OR B ON BALL INDEX RELAY.
 IN HOLD CIRCUITS TO "A", "B", "C" AND "D" RELAYS.
 IN NUMBER MATCH CIRCUIT, TO REPLAY S.U. COIL.
 RUNS SCORE MOTOR.
 ENERGIZES BALL INDEX RELAY, THRU SWITCH ON GAME-OVER RELAY.
 IN HOLD CIRCUIT TO THIS RELAY.

COIN RELAY

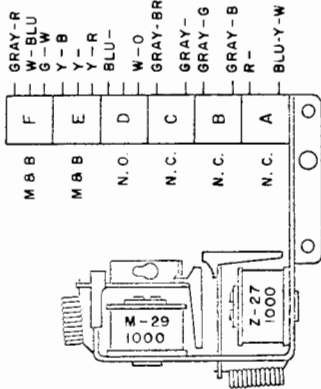
IS ENERGIZED BY COIN SWITCH ALSO, BY REPLAY BUTTON WHEN CREDIT IS AVAILABLE.



OPENS CIRCUIT TO KNOCKER COIL.
 ENERGIZES GAME RELAY (LATCH COIL), THRU BALL COUNT UNIT DISC.
 ENERGIZES RESET RELAY.
 ENERGIZES LOCK RELAY.
 IN HOLD CIRCUIT TO THIS RELAY.

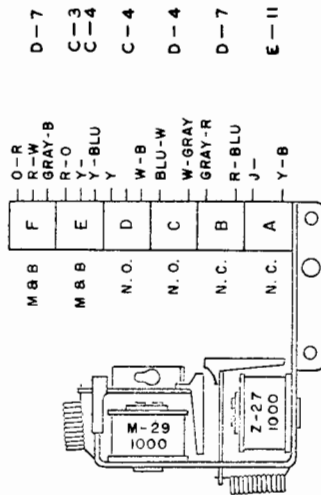
GAME OVER RELAY (INTERLOCK)

LATCH COIL IS ENERGIZED BY COIN RELAY.
TRIP COIL IS ENERGIZED BY OUT-HOLE RELAY AND BALL INDEX RELAY, THRU BALL COUNT UNIT DISC (WHEN LAST BALL HAS BEEN PLAYED). TRIP COIL IS ALSO ENERGIZED BY LOCK RELAY OR TILT SWITCHES.



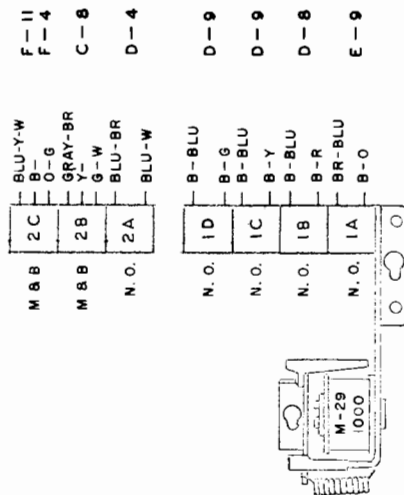
GAME RELAY (INTERLOCK)

LATCH COIL IS ENERGIZED BY COIN RELAY, WHEN BALL COUNT UNIT IS IN RESET POSITION.
TRIP COIL IS ENERGIZED BY BALL INDEX RELAY OR GAME-OVER RELAY.



RESET RELAY

IS ENERGIZED BY COIN RELAY.



25¢ RELAY

IS ENERGIZED BY 25¢ COIN SWITCH, THRU ANTI-CHEAT SWITCH ON FRONT DOOR.

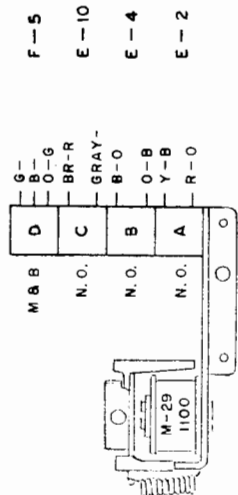


DIAGRAM LOCATION

IN SERIES WITH SWITCH B ON OUTHOLE RELAY.

IN SERIES WITH SWITCH A ON GAME RELAY.

TO "TILT", "GAME-OVER" AND "NO. MATCH" LITES.

OPENS CIRCUIT TO REPLAY S.U. COIL.

IN CIRCUIT TO BALL COUNT S.U. COIL, THRU EXTRA BALL ADJUSTMENT JACK.

OPENS CIRCUIT TO ALL PLAYFIELD SWITCHES.

IN CIRCUIT TO BALL COUNT RESET OR BALL COUNT S.U. COILS.

IN SERIES WITH SWITCH A ON COIN RELAY--IN 3 BALL GAME.

IN SERIES WITH SWITCH A ON COIN RELAY--IN 5 BALL GAME.

IN CIRCUIT TO COIN RELAY, THRU REPLAY BUTTON SWITCH.

TO RACE UNIT RESET COIL.

TO GAME RELAY (TRIP COIL).

OPENS CIRCUIT TO ALL PLAYFIELD SWITCHES--ALSO RUNS SCORE MOTOR.

IN CIRCUIT TO PULSE 1, 10, 100 & 1000 SCORE DRUM COILS.

HOLD CIRCUIT TO THIS RELAY, THRU (4) DRUM UNIT ZERO SWITCHES.

PULSES 1000 POINT DRUM UNIT COIL.

PULSES 100 POINT DRUM UNIT COIL.

PULSES 1 POINT DRUM UNIT.

PULSES ADVANCE S.U. COIL, THRU ADVANCE UNIT DISC.

IN CIRCUIT TO KNOCKER COIL--ALSO RUNS SCORE MOTOR.

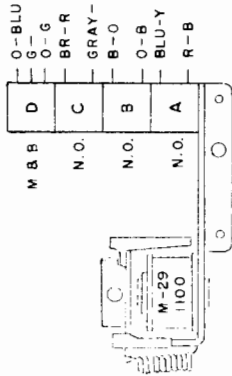
PULSES REPLAY S.U. COIL, THRU IMPULSE CAM SWITCH C.

ENERGIZES LOCK RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

10¢ RELAY

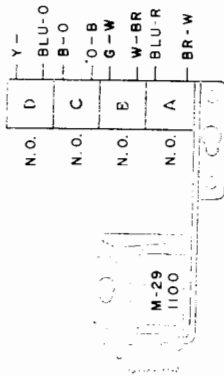
IS ENERGIZED BY COIN SWITCH,
IF 10¢ ADJUSTMENT JACK IS IN
"2 PLAYS" OR "3 PLAYS" POSITION.



IN CIRCUIT TO KNOCKER COIL--
ALSO RUNS SCORE MOTOR.
PHUSES REPLAY S.U. COIL,
THRU IMPULSE CAM SWITCH C.
ENERGIZES LOCK RELAY.
IN HOLD CIRCUIT TO THIS RELAY.

5¢ RELAY

THIS RELAY IS USED ONLY ON GAMES
WITH 2 COINS FOR 1 PLAY FEATURE.
IT IS ENERGIZED BY 5¢ COIN SWITCH.

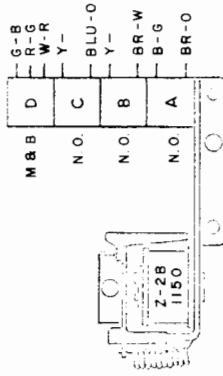


ENERGIZES ALTERNATOR UNIT COIL.
ENERGIZES LOCK RELAY.
ENERGIZES COIN RELAY, THRU SWITCH
ON ALTERNATOR UNIT.
IN HOLD CIRCUIT TO THIS RELAY.

LOCATED ON PLAYFIELD

"A" RELAY

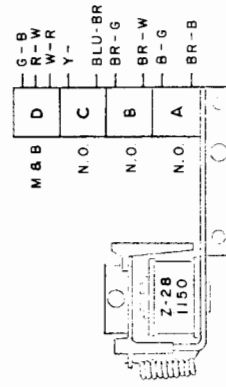
IS ENERGIZED BY LEFT TOP TARGET
(OUTSIDE)--ALSO BY LEFT TOP OR
LEFT BOTTOM ROLLOVER SWITCH.



OPENS CIRCUIT TO 1 POINT RELAY
AND CLOSSES TO 10 POINT RELAY.
TO LEFT BOTTOM JET BUMPER LITE.
IN SERIES WITH SWITCH B ON "B" RELAY.
IN SERIES WITH SWITCH E ON OUTHOLE RELAY.

"B" RELAY

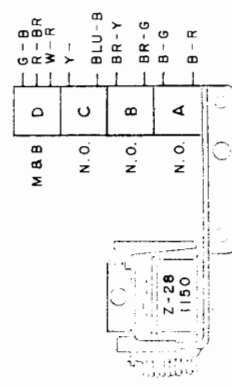
IS ENERGIZED BY LEFT TOP TARGET
(INSIDE)--ALSO BY RIGHT TOP OR
RIGHT BOTTOM ROLLOVER SWITCH.



OPENS CIRCUIT TO 1 POINT RELAY
AND CLOSSES TO 10 POINT RELAY.
TO LEFT TOP JET BUMPER LITE.
IN SERIES WITH SWITCH B ON "C" RELAY.
IN SERIES WITH SWITCH E ON OUTHOLE RELAY.

"C" RELAY

IS ENERGIZED BY RIGHT TOP TARGET
(INSIDE)--ALSO BY LEFT SIDE
TARGET.



OPENS CIRCUIT TO 1 POINT RELAY
AND CLOSSES TO 10 POINT RELAY.
TO RIGHT TOP JET BUMPER LITE.
IN SERIES WITH SWITCH B ON "D" RELAY.
IN SERIES WITH SWITCH E ON OUTHOLE RELAY.

"D" RELAY

IS ENERGIZED BY RIGHT TOP TARGET (OUTSIDE)---ALSO BY RIGHT SIDE TARGET.

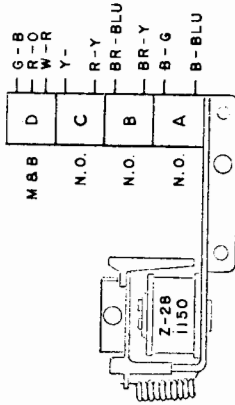


DIAGRAM LOCATION

E-16

B-6

E-13

E-14

OPENS CIRCUIT TO 1 POINT RELAY AND CLOSSES TO 10 POINT RELAY.

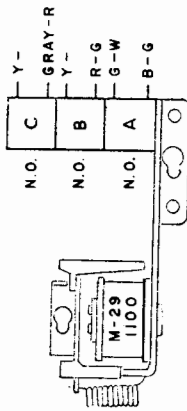
TO RIGHT BOTTOM JET BUMPER LITE.

ENERGIZES SET-UP RELAY, THRU SWITCHES ON "A", "B" AND "C" RELAYS.

IN SERIES WITH SWITCH E ON OUTHOLE RELAY.

NO. 1 BUMPER RELAY

IS PULSED BY LEFT BOTTOM JET BUMPER SWITCH.



C-5

C-15

E-17

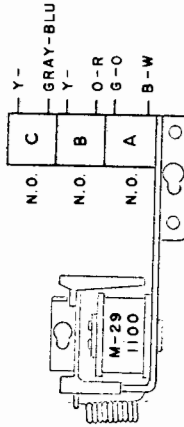
ENERGIZES LEFT BOTTOM JET BUMPER.

IN SERIES WITH SWITCH D ON "A" RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

NO. 2 BUMPER RELAY

IS PULSED BY CENTER JET BUMPER SWITCH.



C-5

C-12

E-17

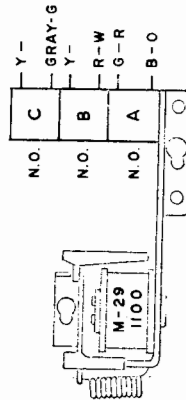
ENERGIZES CENTER JET BUMPER.

PULSES ADVANCE RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

NO. 3 BUMPER RELAY

IS PULSED BY LEFT TOP JET BUMPER SWITCH.



C-6

C-15

E-17

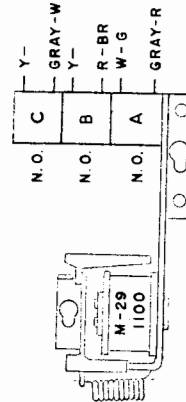
ENERGIZES LEFT TOP JET BUMPER.

IN SERIES WITH SWITCH D ON "B" RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

NO. 4 BUMPER RELAY

IS PULSED BY RIGHT TOP JET BUMPER SWITCH.



C-6

C-15

E-17

ENERGIZES RIGHT TOP JET BUMPER.

IN SERIES WITH SWITCH D ON "C" RELAY.

IN HOLD CIRCUIT TO THIS RELAY.

NO. 5 BUMPER RELAY

IS PULSED BY RIGHT BOTTOM JET BUMPER SWITCH.



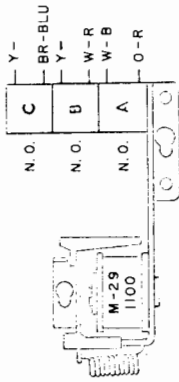
ENERGIZES RIGHT BOTTOM JET BUMPER.
IN SERIES WITH SWITCH D ON "D" RELAY.
IN HOLD CIRCUIT TO THIS RELAY.

DIAGRAM LOCATION

C-6
C-16
E-17

ADVANCE RELAY

IS ENERGIZED BY NO. 2 BUMPER RELAY, LEFT OR RIGHT TOP ROLLOVER SWITCH, AND ROLLOVER BUTTONS (WHEN LIT).

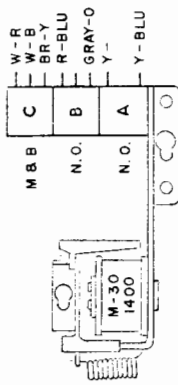


ENERGIZES ADVANCE S.U. COIL.
PULSES 10 POINT RELAY.
IN HOLD CIRCUIT TO THIS RELAY.

E-9
C-15
E-12

SET UP RELAY

IS ENERGIZED BY "A", "R", "C" AND "D" RELAYS.



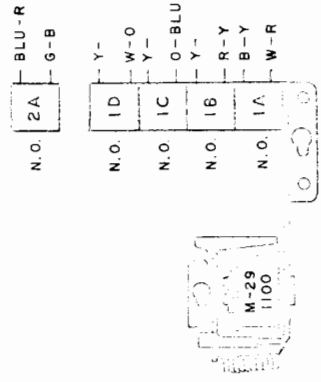
OPENS CIRCUIT TO 10 POINT RELAY AND CLOSERS TO 100 POINT RELAY.
ENERGIZES ROLLOVER RELAY. WHEN BALL MAKES LEFT OR RIGHT (OUTSIDE) ROLLOVER SWITCH. TO CENTER TARGET LITE--ALSO TO LEFT AND RIGHT BOTTOM (OUTSIDE) ROLLOVER LITES.

E-15
E-14
B-6

LOCATED IN BACK BOX

1 POINT RELAY

IS PULSED BY NO. 1, 3, 4 OR 5 BUMPER RELAY.



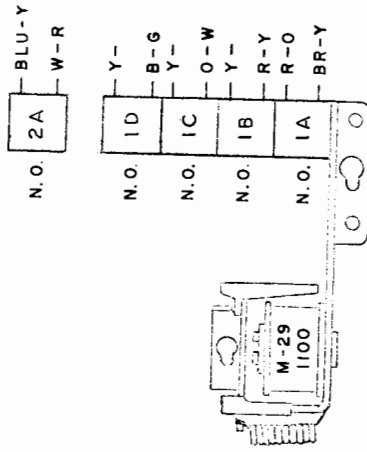
IN HOLD CIRCUIT TO THIS RELAY.
ENERGIZES NO. MATCH S.J. COIL.
PULSES 1 POINT DRUM UNIT COIL.
ENERGIZES BALL INDEX RELAY.
PULSES 10 POINT RELAY, THRU 9TH POSITION SWITCH ON 1 POINT DRUM UNIT.

E-16
C-18
C-8
D-11
E-16

10 POINT RELAY

IS PULSED BY NO. 1, 3, 4 OR 5 BUMPER RELAY. ALSO BY ADVANCE RELAY OR CENTER TARGET RELAY.

DIAGRAM LOCATION



E-16 IN HOLD CIRCUIT TO THIS RELAY.

C-17 PULSES CHIME COIL.

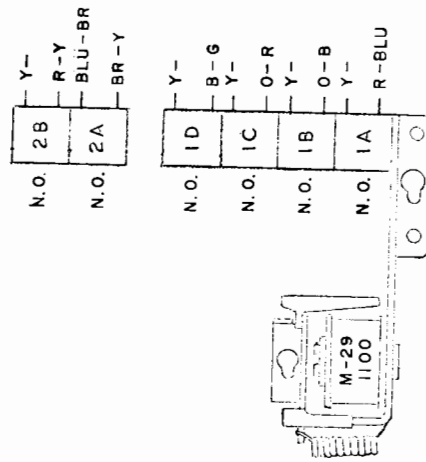
C-8 PULSES 10 POINT DRUM UNIT COIL.

D-11 ENERGIZES BALL INDEX RELAY.

E-16 PULSES 100 POINT RELAY, THRU 9TH POSITION SWITCH ON 10 POINT DRUM UNIT.

100 POINT RELAY

IS PULSED BY LEFT OR RIGHT BOTTOM ROLLOVER SWITCHES---ALSO BY (4) TOP TARGET SWITCHES.



D-11 ENERGIZES BALL INDEX RELAY.

E-16 IN HOLD CIRCUIT TO THIS RELAY.

C-17 PULSES CHIME COIL.

C-9 PULSES 1000 POINT DRUM UNIT, THRU 9TH POSITION SWITCH ON 100 POINT DRUM UNIT.

C-9 PULSES 100 POINT DRUM UNIT COIL.

C-11 IN HI-SCORE CIRCUIT TO REPLAY S.U. COIL.

CATALOG SUPPLEMENT "Q"

WITH
NEW PARTS & UNITS

FOR

PADDOCK



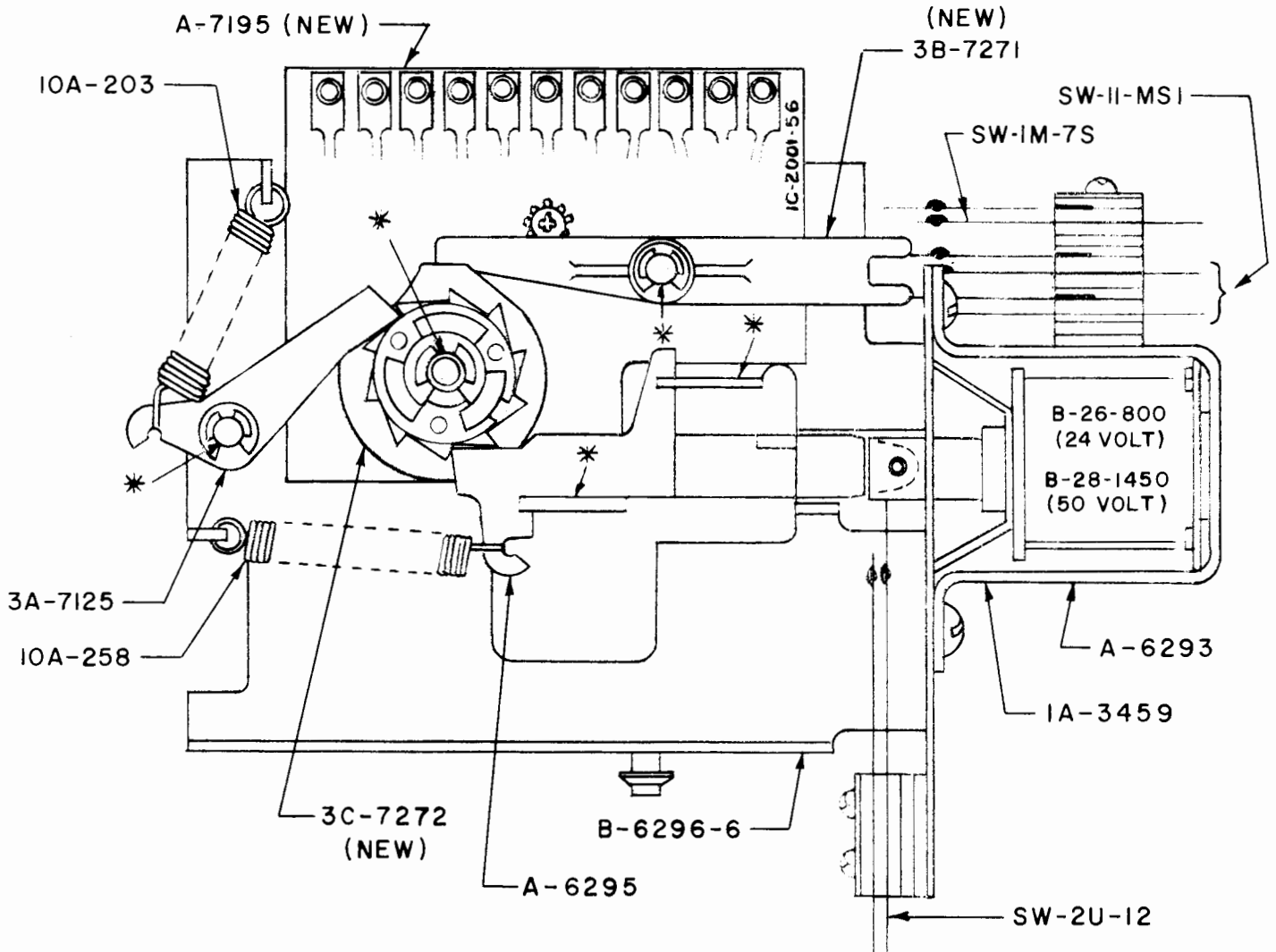
Williams[®] ELECTRONICS, INC.
SUBSIDIARY OF THE SEEBURG CORPORATION

3401 N. California Ave.
Phone 267-2240

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

C-7196 (NEW) 10 STEP UNIT

FOR ALL GAMES STARTING WITH "PADDOCK" —
STARTING WITH "BETA" — ALL SHUFFLES & BOWLERS



LUBRICATION :

DO NOT PUT LUBRICANT ON DRIVE ARMATURE.

PROPER LUBRICATION WILL INSURE A LONGER LASTING AND BETTER OPERATING UNIT.

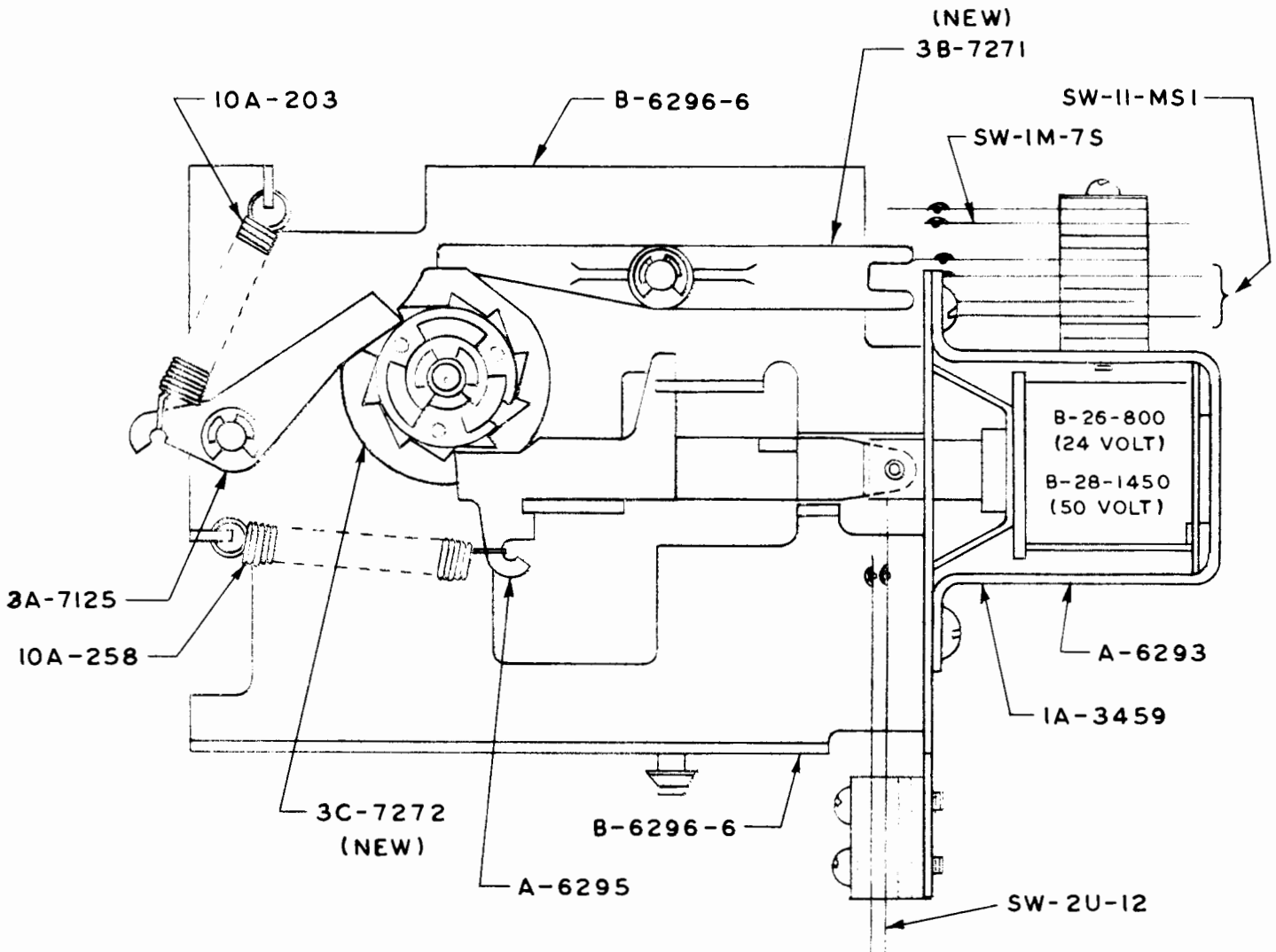
POINTS TO BE LUBRICATED ARE THE THREE POSTS ON WHICH THE NYLON PARTS ROTATE, EACH TOOTH OF THE RATCHET, ALSO THE (2) DRIVE PAWL GUIDE SLOTS, INDICATED BY * .

" SERVICE SUGGESTION."

IF UNIT BECOMES SLUGGISH - DISASSEMBLE, CLEAN ALL PARTS AND REASSEMBLE, LUBRICATING ALL PARTS MARKED WITH * .

C-7196-1 (NEW) 10 STEP UNIT

(WITHOUT PRINTED CIRCUIT & WIPER RING)
FOR PIN GAMES, BOWLERS & SHUFFLES.

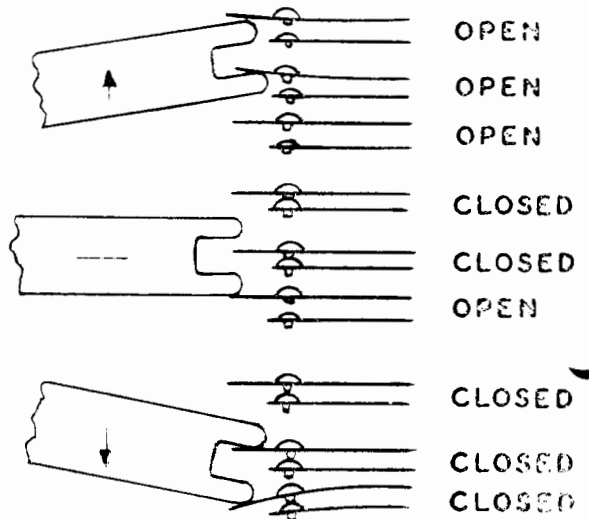


SWITCH ADJUSTMENT :

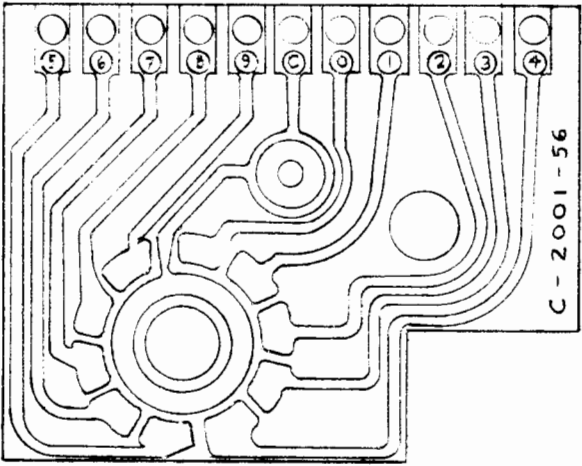
AT "O" OR INDEX POSITION ALL 3 SWITCHES ARE OPEN AS SHOWN.

AT 1ST TO 8TH POSITION 2 TOP SWITCHES ARE CLOSED. BOTTOM SWITCH REMAINS OPEN.

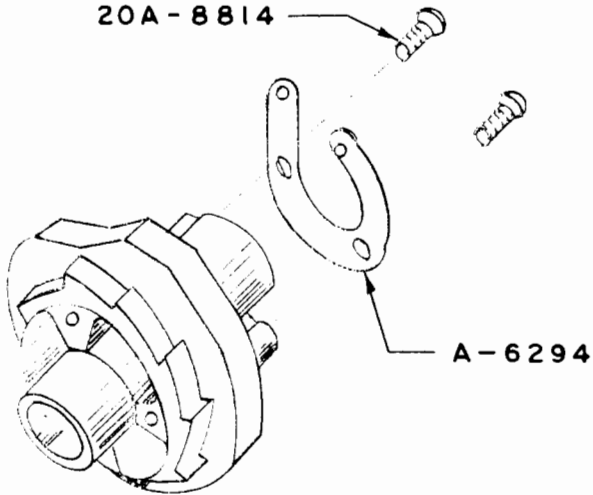
AT 9TH POSITION ALL 3 SWITCHES ARE CLOSED, AS SHOWN.



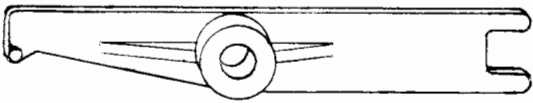
10 STEP UNIT PARTS



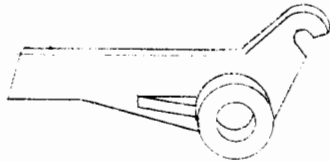
A-7195



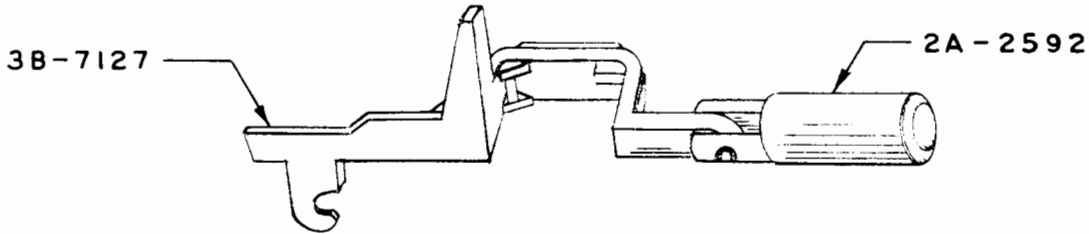
3C-7272



3B-7271
SWITCH ACTUATOR



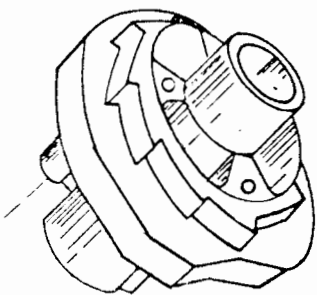
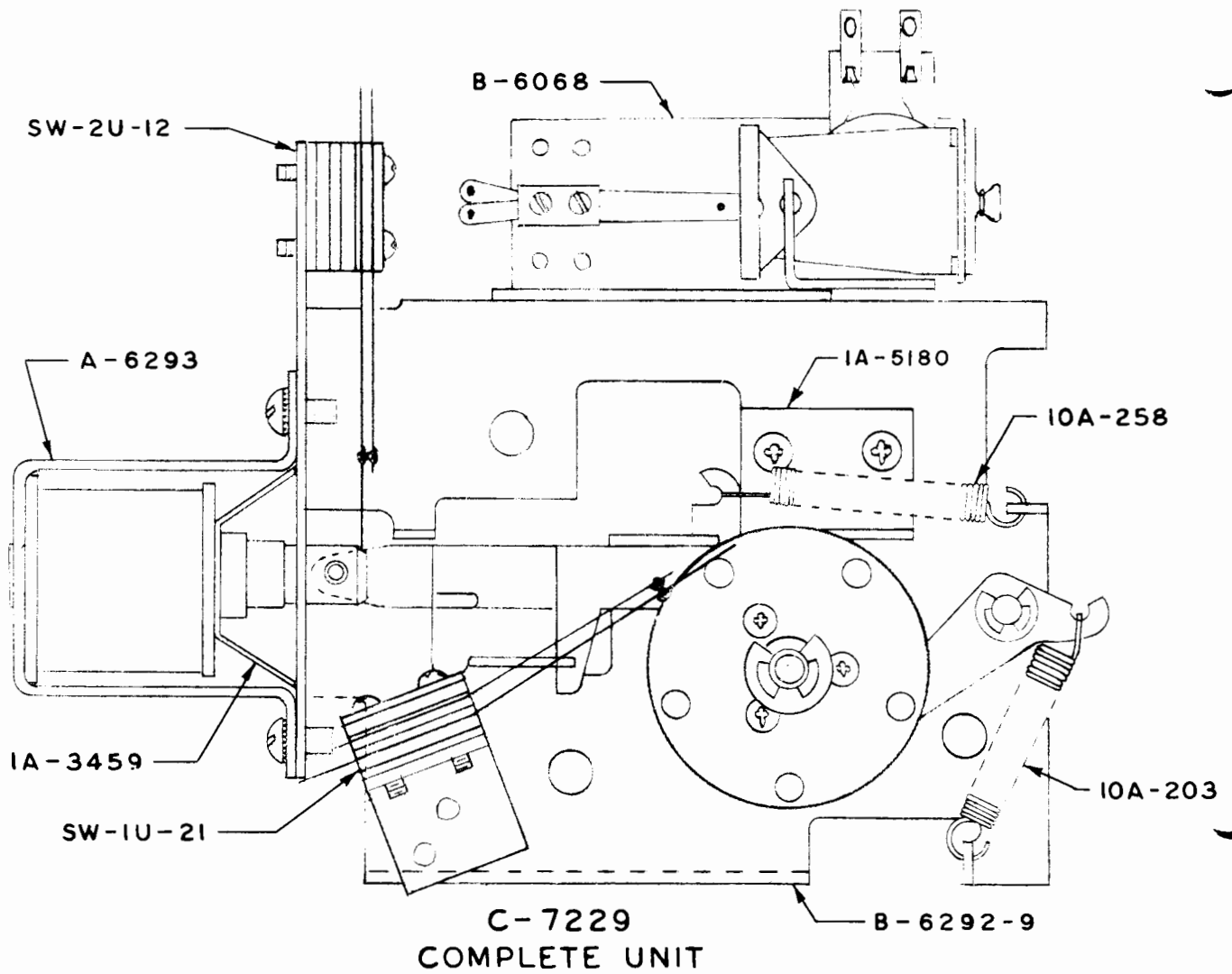
3A-7125
RATCHET STOP PAWL



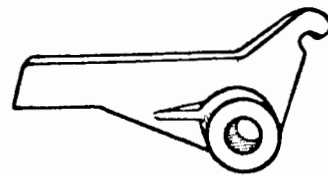
A-6295
DRIVE PAWL & ARMATURE

C-7229

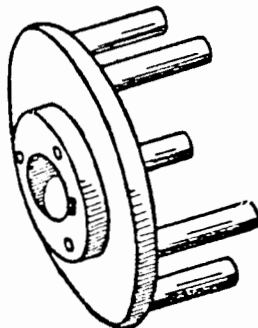
ALTERNATOR UNIT WITH 5¢ RELAY



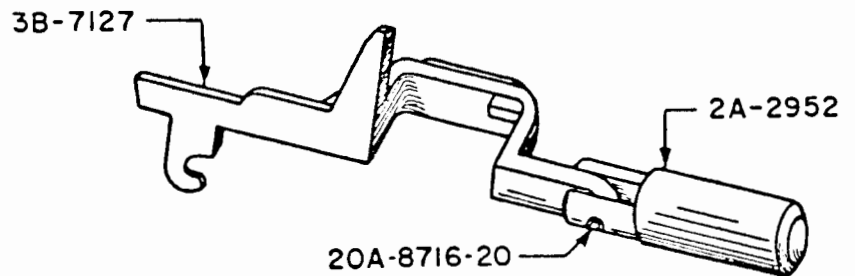
3C-7272
RATCHET & CAM



3A-7125
RATCHET STOP PAWL



3B-7246
ALTERNATOR DISC

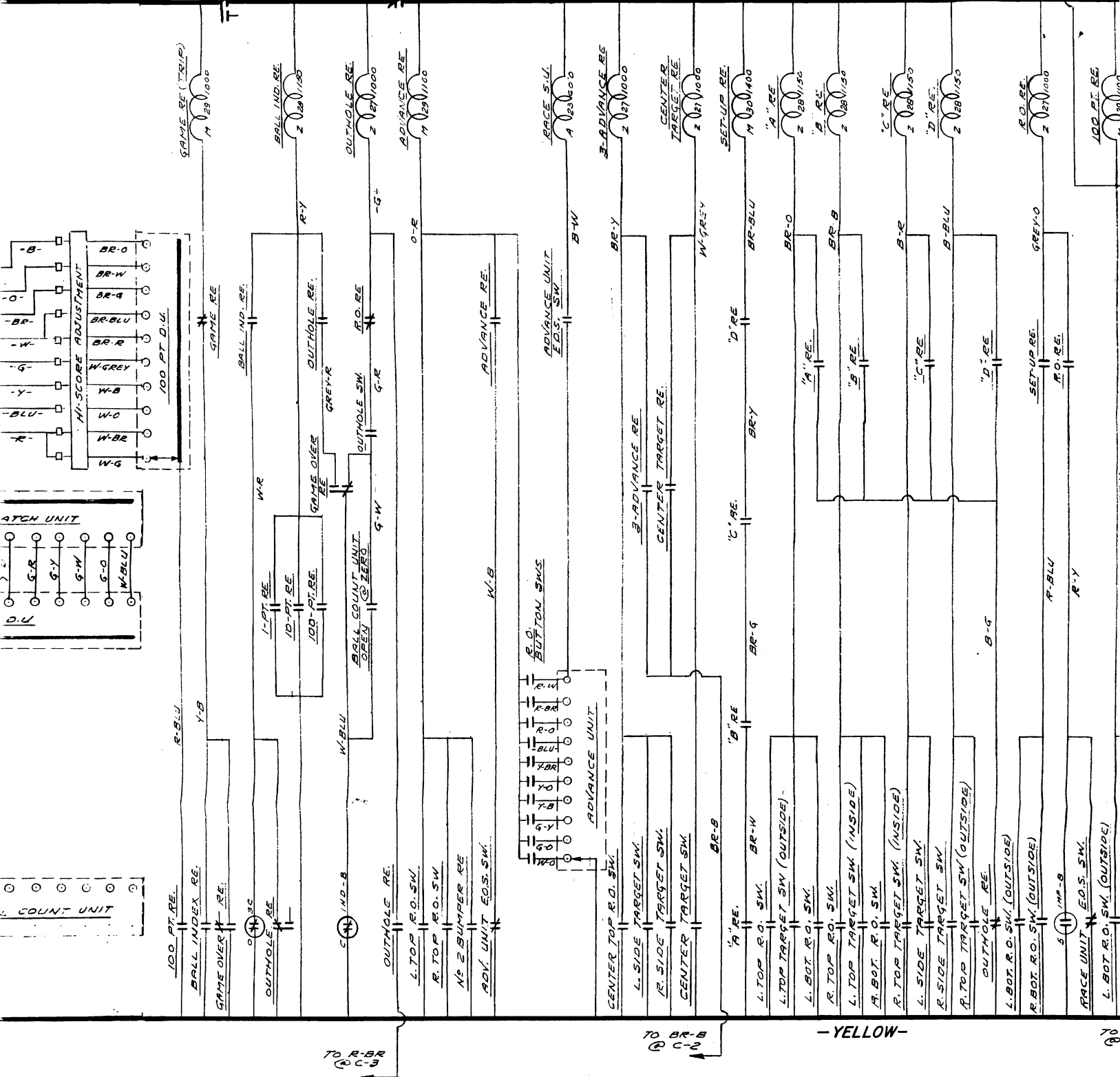


A-6295
DRIVE PAWL & ARMATURE

PRICE LIST

ARRANGED IN NUMERICAL ORDER

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>PRICE</u>
1A-3459	Coil Stop Bracket Adaptor .....	.30
1A-5180	Drive Pawl Stop Bracket .....	.20
1A-3839	Relay Armature Retainer .....	.14
2A-2952	Armature .....	.38
3A-7125	Ratchet Stop Pawl .....	.10
3B-7246	Alternator Disc .....	.48
3B-7271	Switch Actuator .....	.08
3C-7272	Ratchet and Cam .....	.12
10A-203	Index Pawl Spring .....	.06
10A-258	Drive Spring .....	.10
20A-8712-18	"E" Ring .....	.04
20A-8712-25	"E" Ring .....	.06
20A-8716-20	1/8 x 3/8 Roll Pin .....	.04
20A-8814	Sheet Metal Screw .....	.02
B-6068	"J" Type Relay (Less Switches)	4.06
B-6292-6	Base Plate Assy.	2.70
B-6292-9	Base Plate Assy.	2.70
A-6293	Coil Stop Assy.	1.25
A-6294	Contact Ring Assy. ....	.40
A-6295	Drive Pawl and Armature Assy.	1.00
A-7195	Printed Circuit Assy.	1.08
C-7196	4" Drum Unit Complete	13.50
C-7196-1	4" Drum Unit Complete (Less Printed Circuit) ..	12.00
C-7229	Alternator Unit Complete W/5¢ Relay	23.00
B-26-800	Coil (24 Volt)	1.90
B-28-1450	Coil (50 Volt)	1.90
Sw 1M-1	Make Switch .....	.44
Sw 1M-1A	Make Switch .....	.44
Sw 1M-3	Make Switch .....	.44
Sw 1M-7S	Make Switch .....	.40
Sw 1U-21	Make Switch .....	.60
Sw 2U-12	Break Switch .....	.44
Sw 10M-1	Make Switch .....	.44
Sw 11-MS1	Make-Make Switch .....	.78

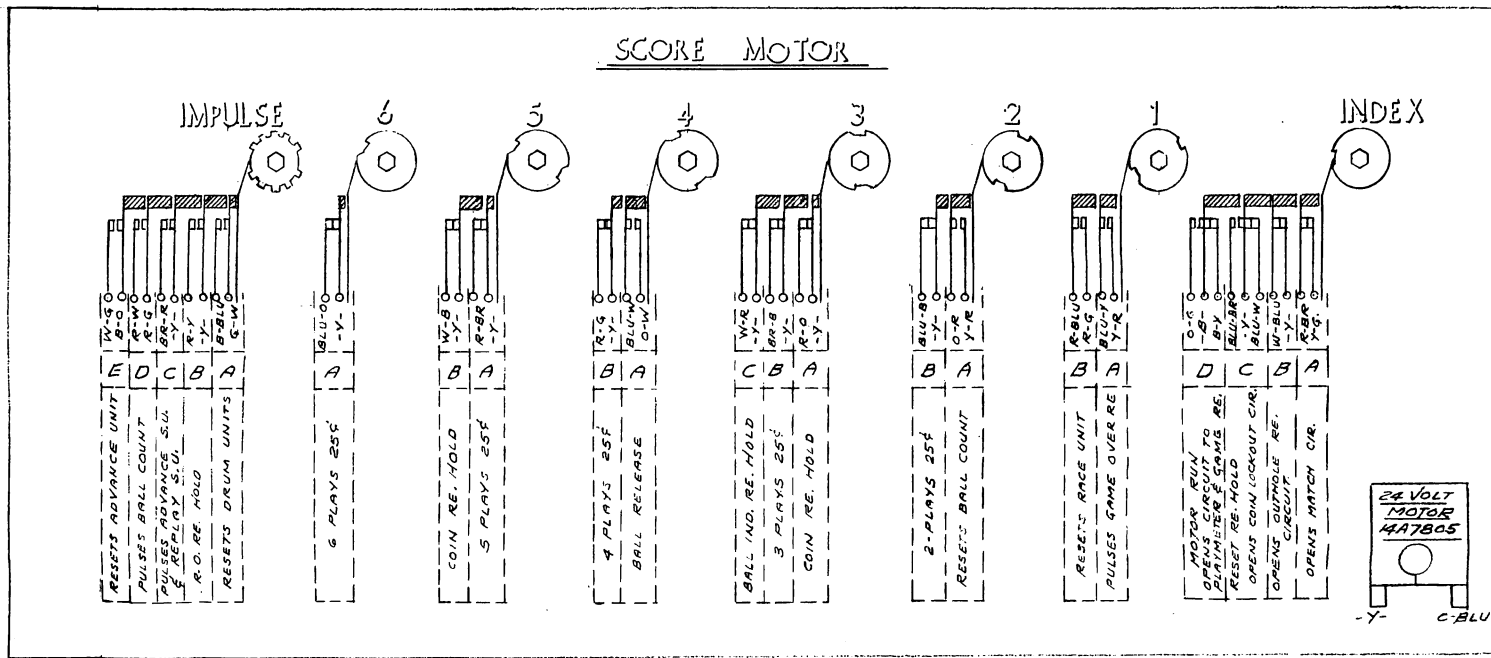


TO R-BR
C-C-3

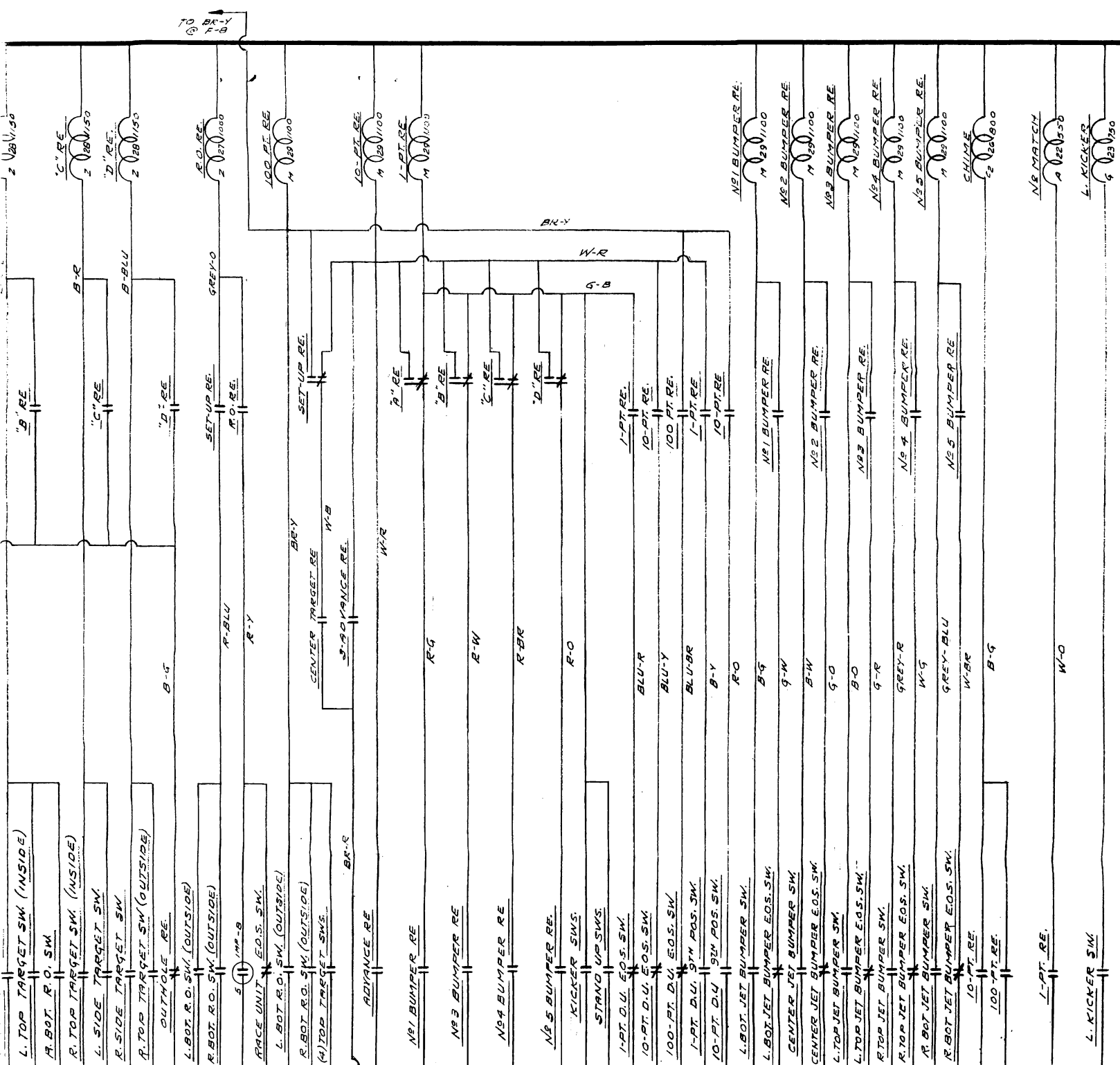
TO BR-B
C-C-3

-YELLOW-

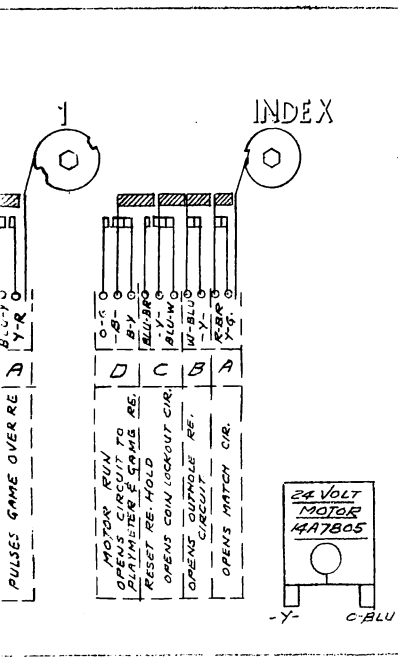
70



ALL LATCH RELAYS SHOWN IN LATCHED POSITION



YELLOW- 70 BR-R C-S



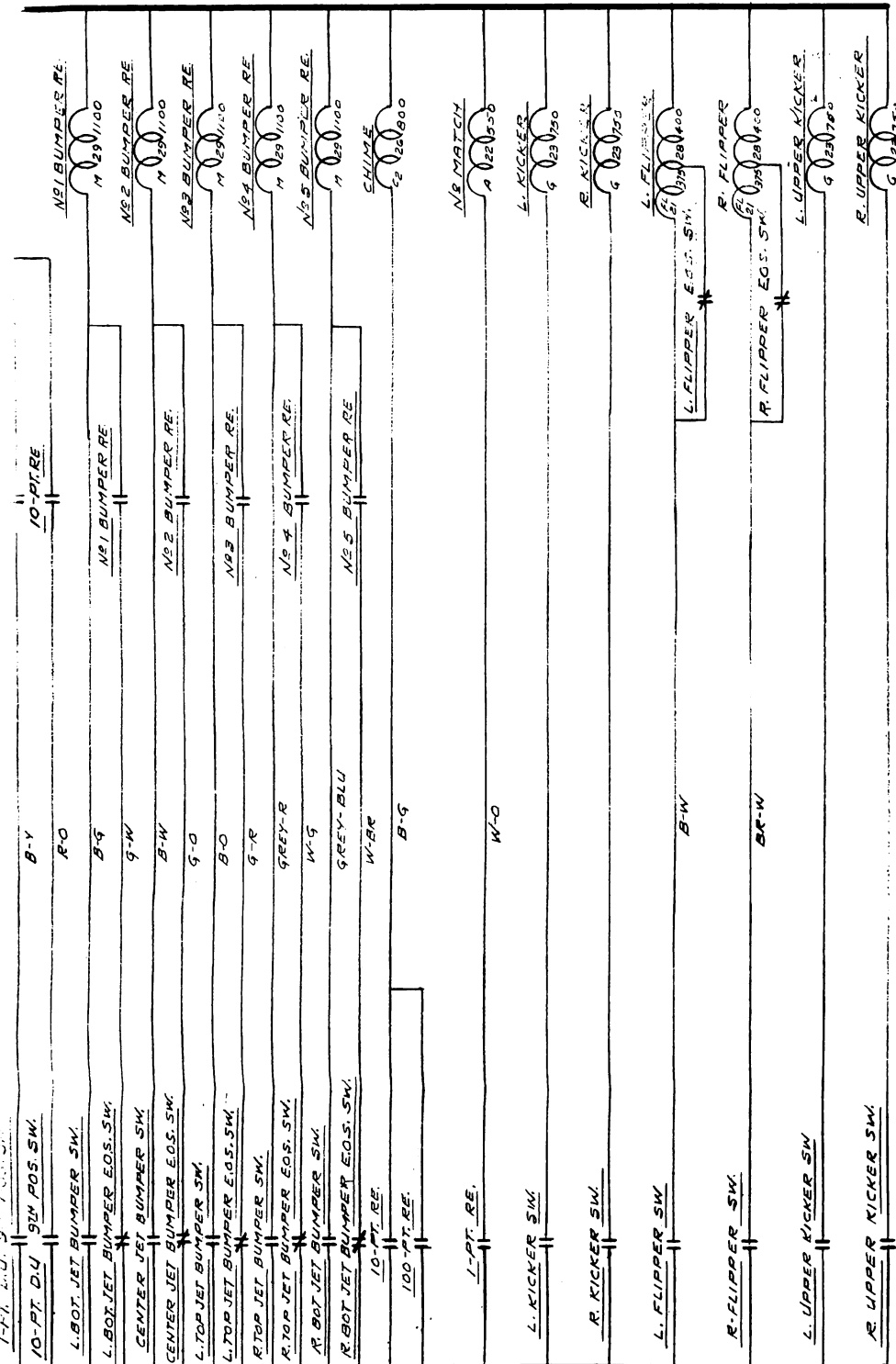
RELAY COIL LOCATION			
A-RELAY	F-13	No 2 BUMPER RE.	F-17
ADVANCE RE.	F-12	No 3 BUMPER RE	F-17
B-RELAY	F-14	No 4 BUMPER RE	F-17
BALL INDEX RE	F-11	No 5 BUMPER RE	F-17
C-RELAY	F-14	OUTHOLE RE	F-12
CENTER TARGET RE.	F-13	RESET RE	F-4
COIN RE.	F-3	ROLL OVER RE	F-14
COIN LOCKOUT	F-4	SET-UP RE.	F-13
D-RELAY	F-14	3-ADVANCE RE	F-13
GAME RE (LATCH)	E-6	1-PT. RE.	F-13
GAME RE (TRIP)	F-11	10-PT. RE.	F-13
GAME OVER RE (LATCH)	F-7	100-PT. RE.	F-13
GAME OVER RE (TRIP)	F-7	5¢ RE	F-3
LOCK RE	F-4	10¢ RE	F-3
No. 1 BUMPER RE	F-17	25¢ RE	F-3

MISCELLANEOUS COIL LOCATIONS			
ALTERNATOR UNIT	F-2	L. & R. KICKERS	F-18
BALL COUNT RESET	F-7	L. & R. UPPER KICKERS	F-19
BALL COUNT S.U.	F-7	NO MATCH	F-18
BALL RELEASE	F-7	PLAYMETER	E-6
CHIME	F-17	RACE UNIT S.U.	F-12
DRUM UNITS (4)	F-8 & F-9	RACE UNIT RESET	F-7
JET BUMPERS (5)	F-3 & F-6	REPLAY UNIT RESET	F-8
KNOCKER	D-5	REPLAY UNIT S.U.	F-12
L. & R. FLIPPERS	F-18	ADVANCE S.U.	F-9

ABBREVIATIONS USE		
ADJ.-ADJUSTMENT	IND.-INDEX	R.-RIGHT
AMP-AMPERE	L-LEFT	RE-RELAY
BOT-BOTTOM	LIB-LIBERAL	RO-ROLL
CONS-CONSERVATIVE	NO.-NUMBER	S.U-STEP
D.U-DRUM UNIT	PT.-POINT	SW-SWITCH
E.O.S-END OF STROKE	POS-POSITION	SWS-SWITCH
IMR-IMPULSE		

WIRE COLOR CODE		
R-RED	G-GREEN	O-ORANGE
BLU-BLUE	W-WHITE	B-BLACK
Y-YELLOW	BR-BROWN	J-JUMPER

EXAMPLE:- W-R INDICATES WHIT. AI RED TRACER



- F-17
- F-17
- F-17
- F-17
- F-12
- F-4
- F-14
- F-13
- F-13
- F-15
- F-15
- F-15
- F-3
- F-3
- F-3
- F-18
- F-19
- F-18
- F-6
- F-12
- F-7
- F-8
- F-12
- F-9

ABBREVIATIONS USED			SWITCH SYMBOLS	
ADJ - ADJUSTMENT	IND. - INDEX	R. - RIGHT	⎓	NORMALLY OPEN SWITCH CLOSED WHEN ENERGIZED
AMP - AMPERE	L. - LEFT	RE - RELAY		
BOT - BOTTOM	LIB. - LIBERAL	R.O. - ROLL OVER		
CONS. - CONSERVATIVE	No. - NUMBER	S.U. - STEP UNIT	⎓	NORMALLY CLOSED SWITCH OPEN WHEN ENERGIZED
D.U. - DRUM UNIT	PT. - POINT	SW. - SWITCH		
E.O.S. - END OF STROKE	POS. - POSITION	SWS. - SWITCHES		
IMR - IMPULSE			Ⓜ	SWITCH CONTAINED WITHIN A CIRCLE INDICATES OPERATION BY A MOTOR CAM
WIRE COLOR CODE			⎓	MAKE & BREAK SW.
R - RED.	G - GREEN	O - ORANGE		
BLU - BLUE	W - WHITE	B - BLACK		
Y - YELLOW	BR - BROWN	J - JUMPER		
<p>EXAMPLE:- W-R INDICATES WHITE WIRE WITH A1 RED TRACER</p>				

1 REPLAY FOR EACH SCORE OF 2200 POINTS
1 REPLAY FOR EACH SCORE OF 3300 POINTS
1 REPLAY FOR EACH SCORE OF 4400 POINTS
1 REPLAY FOR EACH SCORE OF 5500 POINTS

358-4

1 REPLAY FOR EACH SCORE OF 2600 POINTS
1 REPLAY FOR EACH SCORE OF 3700 POINTS
1 REPLAY FOR EACH SCORE OF 4800 POINTS
1 REPLAY FOR EACH SCORE OF 5900 POINTS

358-6

1 REPLAY FOR EACH SCORE OF 3000 POINTS
1 REPLAY FOR EACH SCORE OF 4100 POINTS
1 REPLAY FOR EACH SCORE OF 5200 POINTS
1 REPLAY FOR EACH SCORE OF 6300 POINTS

358-8

1 REPLAY FOR EACH SCORE OF 3600 POINTS
1 REPLAY FOR EACH SCORE OF 4700 POINTS
1 REPLAY FOR EACH SCORE OF 5800 POINTS
1 REPLAY FOR EACH SCORE OF 6900 POINTS

358-10

1 REPLAY FOR EACH SCORE OF 4600 POINTS
1 REPLAY FOR EACH SCORE OF 5700 POINTS
1 REPLAY FOR EACH SCORE OF 6800 POINTS
1 REPLAY FOR EACH SCORE OF 7900 POINTS

358-14

1 REPLAY FOR EACH SCORE OF _____ POINTS
1 REPLAY FOR EACH SCORE OF _____ POINTS
1 REPLAY FOR EACH SCORE OF _____ POINTS
1 REPLAY FOR EACH SCORE OF _____ POINTS

358-16

6 RACES ADDS 1 BALL
10 RACES ADDS 1 BALL
14 RACES ADDS 1 BALL

358-4EB

10 RACES ADDS 1 BALL
14 RACES ADDS 1 BALL
18 RACES ADDS 1 BALL

358-6EB

6 RACES ADDS 1 BALL
12 RACES ADDS 1 BALL

358-8EB

10 RACES ADDS 1 BALL
16 RACES ADDS 1 BALL

358-10EB

1 REPLAY FOR EACH SCORE OF 2000 POINTS
1 REPLAY FOR EACH SCORE OF 3100 POINTS
1 REPLAY FOR EACH SCORE OF 4200 POINTS
1 REPLAY FOR EACH SCORE OF 5300 POINTS

358-3

1 REPLAY FOR EACH SCORE OF 2400 POINTS
1 REPLAY FOR EACH SCORE OF 3500 POINTS
1 REPLAY FOR EACH SCORE OF 4600 POINTS
1 REPLAY FOR EACH SCORE OF 5700 POINTS

358-5

1 REPLAY FOR EACH SCORE OF 2800 POINTS
1 REPLAY FOR EACH SCORE OF 3900 POINTS
1 REPLAY FOR EACH SCORE OF 5000 POINTS
1 REPLAY FOR EACH SCORE OF 6100 POINTS

358-7

1 REPLAY FOR EACH SCORE OF 3400 POINTS
1 REPLAY FOR EACH SCORE OF 4500 POINTS
1 REPLAY FOR EACH SCORE OF 5600 POINTS
1 REPLAY FOR EACH SCORE OF 6700 POINTS

358-9

1 REPLAY FOR EACH SCORE OF 4400 POINTS
1 REPLAY FOR EACH SCORE OF 5500 POINTS
1 REPLAY FOR EACH SCORE OF 6600 POINTS
1 REPLAY FOR EACH SCORE OF 7700 POINTS

358-13

1 REPLAY FOR EACH SCORE OF 4800 POINTS
1 REPLAY FOR EACH SCORE OF 5900 POINTS
1 REPLAY FOR EACH SCORE OF 7000 POINTS
1 REPLAY FOR EACH SCORE OF 8100 POINTS

358-15

4 RACES ADDS 1 BALL

8 RACES ADDS 1 BALL

14 RACES ADDS 1 BALL

358-3EB

___ RACES ADDS 1 BALL

___ RACES ADDS 1 BALL

___ RACES ADDS 1 BALL

358-5EB

4 RACES ADDS 1 BALL

10 RACES ADDS 1 BALL

358-7EB

8 RACES ADDS 1 BALL

14 RACES ADDS 1 BALL

358-9EB