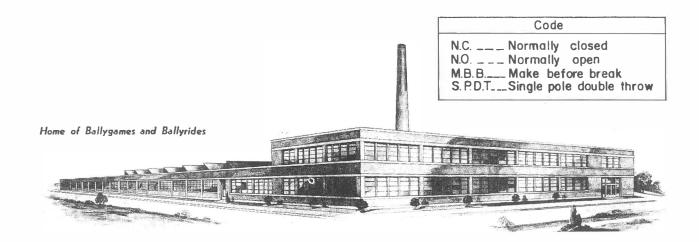
# BARREL O' FUN

FUN-SPOT NON-REPLAY MODEL

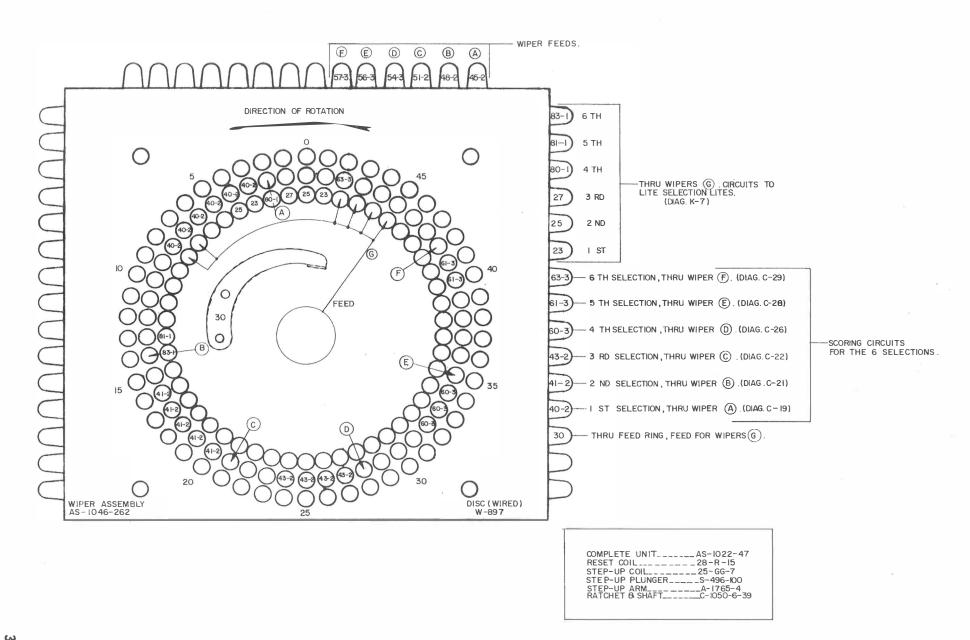
# OPERATING INSTRUCTIONS AND PARTS CATALOG

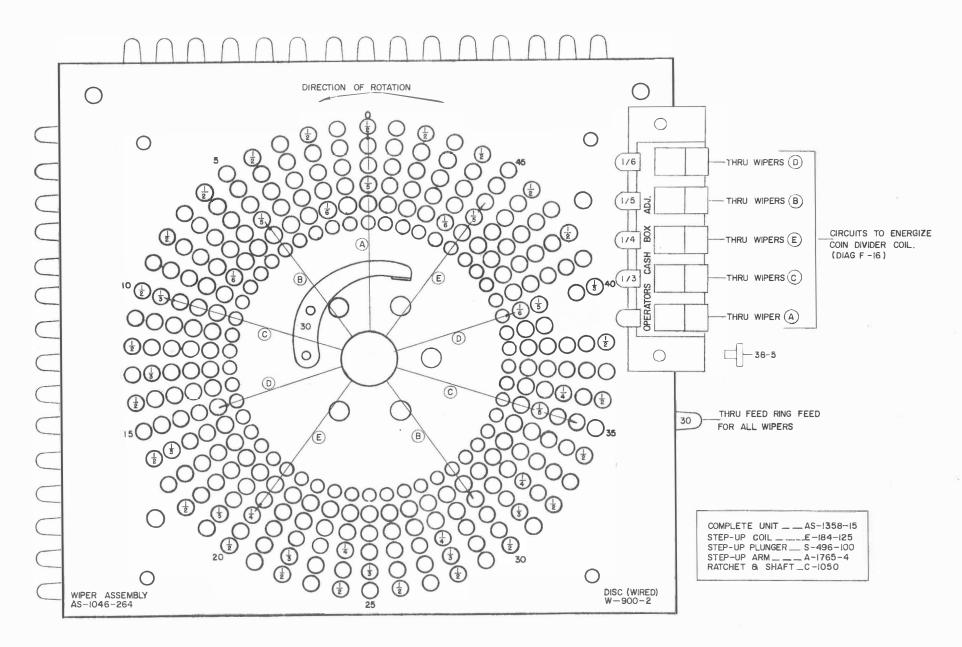
Part Numbers are marked on illustrations and a list of miscellaneous parts appears on back cover.

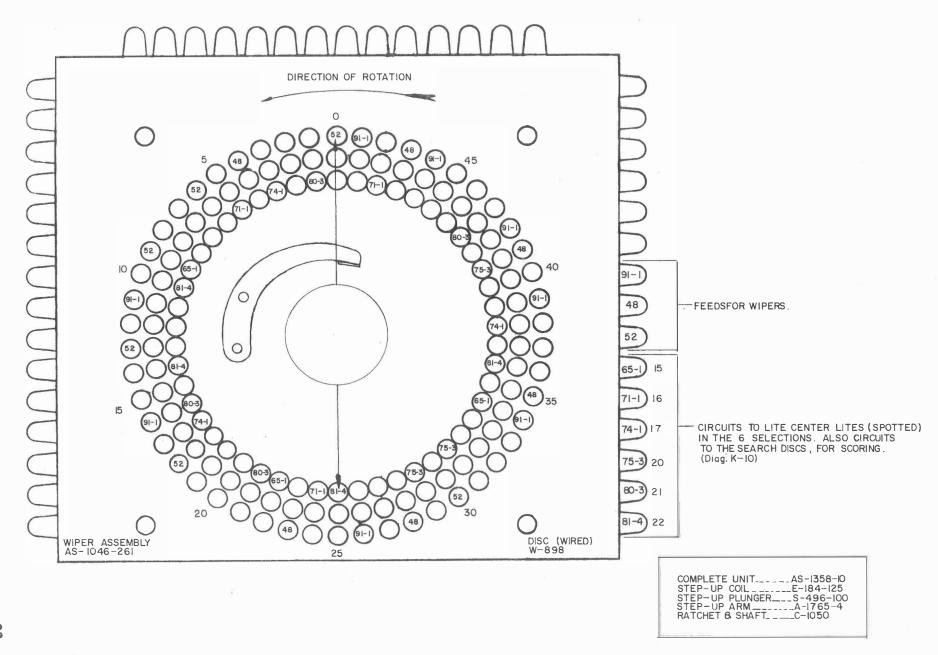
FOR QUICKEST SERVICE STATE CORRECT PART NUMBER WHEN ORDERING PARTS

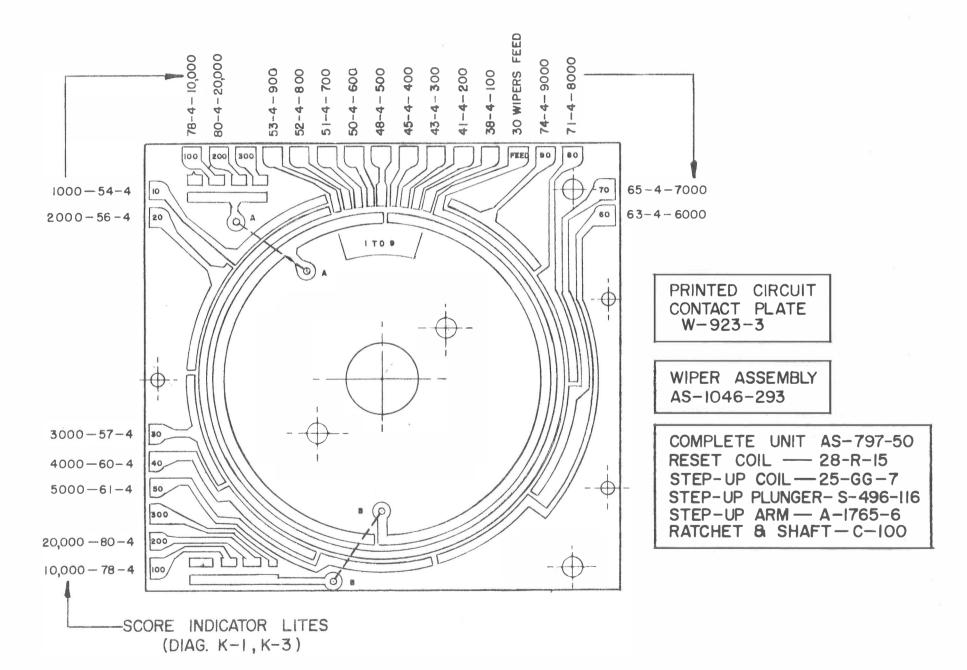


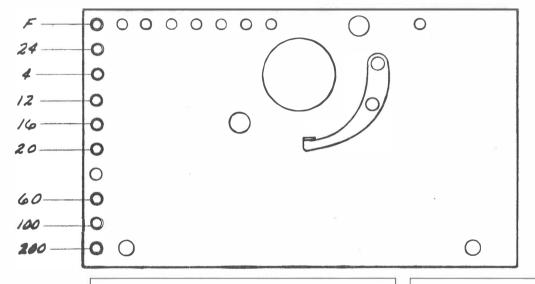










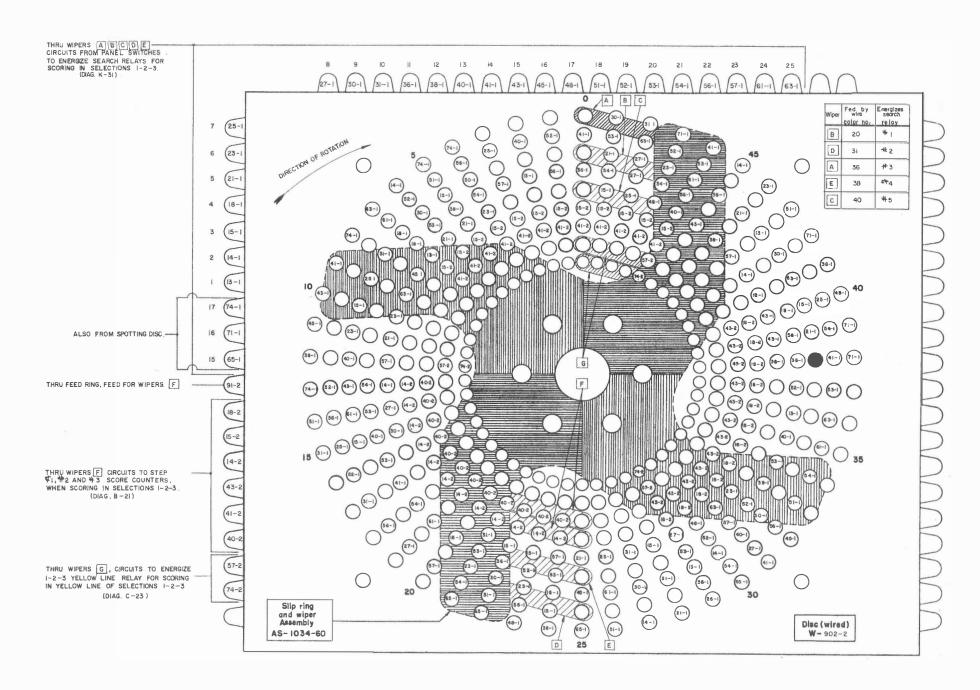


1110										
LUG	#1	* 2	#3	#4	25	46				
F	15-2	18-2	51-2	54-3	56-3	573				
24	14-4	23-6	36-6	18-6	53-6	61-6				
4	52.2	52.2	52-2	27-3	27-3	273				
12	10-6	18-6	27-6	71-6	51-6	56-6				
16	53-2	53.2	53-2	41-3	41-3	41-3	ē			
20	13-4	21-6	31-6	43-6	52-6	57-6				
60	15-4	25-6	38-6	75-6	54-6	63-6				
100	54-2	51-2	54-2	45-3	15-3	45-3				
200	60-2	60-2	60-2	48-3	18-3	48-3				
4	4	4	1	<b>A</b>	1	1	WIRE			
	SCORE VALUES COLORS									

COMPLETE UNIT — AS-797-51
RESET COIL — 28-R-15
STEP-UP COIL — 25-GG-7
STEP-UP PLUNGER — S-496-116
STEP-UP ARM — A-1765-4
RATCHET & SHAFT — C-100

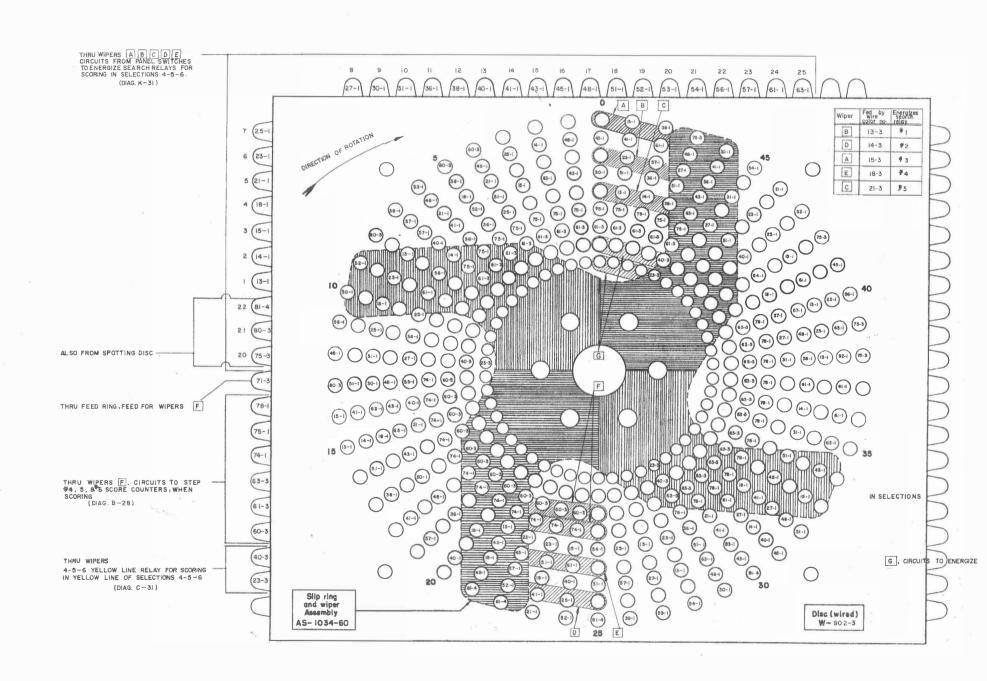
PRINTED CIRCUIT CONTACT PLATE W-945

WIPER ASSEMBLY (NOT SHOWN) AS-1046-263



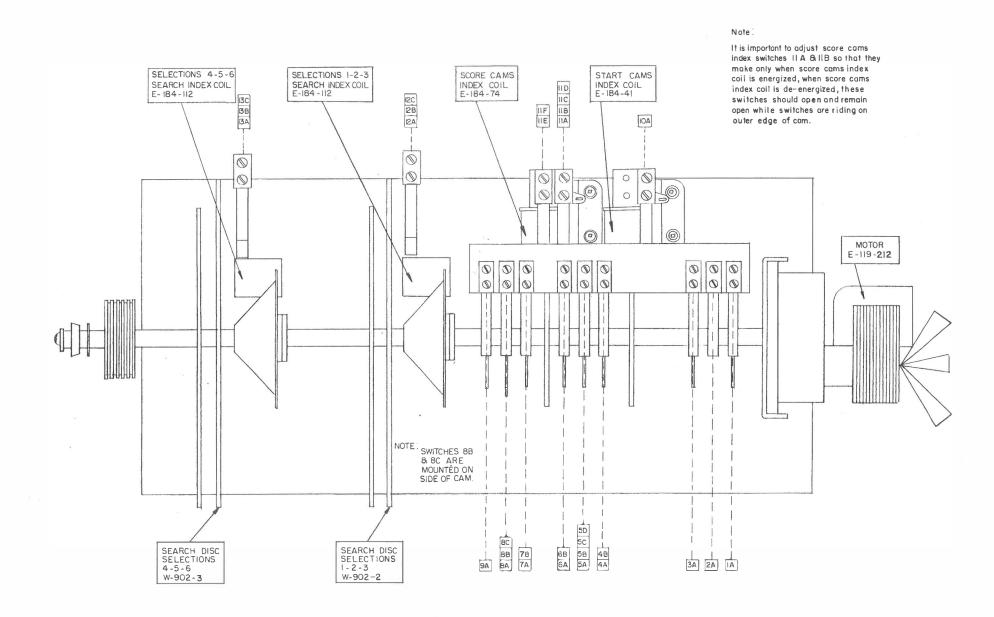
	SEARCH POSITIONS CHART						
	WIPER A AT POSITION	WIPER B ROW 7 SEARCH RELAY#1	WIPER D ROW 8 SEARCH RELAY # 2	WIPER A ROW 9 SEARCH RELAY #3	WIPER E ROW 6 SEARCH RELAY #4	WIPER C ROW 5 SEARCH RELAY #5	
	I						
	2			Ì			
	3			Ì			
	4	9	22	17	20	6	
DIAGONAL	5	3	21	17	19	5	
	6	9	8	2	23	5	
	7	4	22	11	19	ı	
VERTICAL	8	10	18	17	12	16	
	9	7	21	14	20	25	
	10	3	24	15	13	6	SELECTION-3
	11	6	25	16	1	5	
YELLOW LINE -	12	13	20	12	19	23	1
HORIZONTAL	13	15	14	17	11	2	
	14	24	21	18	22	8	
	15	3	7	10	4	9	
	16	1	<del>-                                    </del>	1	<u> </u>		
	17	I					
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	19	l		1			7
	20	1		1			i
	21	6	20	15	22	10	
DIAGONAL	22	9		-	·	3	
	23	-	19 25	15	8	3	
	24	4	20	17	21	23	1
VERTICAL	25	16	14	15	11	5	
	26	24	19	18	22	7	SELECTION-2
		9		1			SELECTION-2
	27	1	13	2	0.7	10	
VELLOW LINE	28	10	7	5	23	3	
YELLOW LINE	29	1	22		21	8	
HORIZONTAL	30	2	18	15	12	17	
	31	13	19	14	20	25	
	32	9	24	16	4	6	
	33	<u> </u>		1	0		
	34		11				
	35			1			
	36			1			
	37	3	10	1 10	0,1	10	1 1
DIAGONAL	38		19	16	21	12	
	39	5	22	16	20	15	
	40	3	7	17	13	15	
	41	25	19	1 11	20	4	
VERTICAL	42	9	10	16	14	2	
	43	1	22	18	21	23	SELECTION-I
	44	5	8	6	24	12	
	45	12	23	2	4	15	
YELLOW LINE—THORIZONTAL	46	24	21	14	20	13	
HONEONIAL	47	6	18	16	П	17	
	48	8	22	10	19	7	
	49	5	1	9	25	3	
	50	L					1

ROTATION OF SEARCH DISC WIPERS - FROM 50 TO I



			S	EARCH F	POSITION	S CHART	Γ	
		WIPER A AT POSITION	WIPER B ROW 7 SEARCH RELAY	WIPER D ROW 8 SEARCH RELAY #2	WIPER A ROW 9 SEARCH RELAY \$3	WIPER E ROW 6 SEARCH RELAY *4	WIPER C ROW 5 SEARCH RELAY 5	
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		2						
		.3	н .					
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		6	5	13	20	8	II	
	1	7	23	17	12	. 14	2	
	VERTICAL	8	ı	3	21	16	22	
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		10	4	25	9	10	7	
	4	11	7	24	22	2	11	1-3
YELLOW	LINE	12	10	18	16	14	8	
	HORIZONTAL	13	9	19	21	12	20	
	1	14	25	15	3	17	13	
		15	4	6	1	23	5	
		16					141	
		17			20	•		
		18						
		19						
		20						
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		22	- 8	17	22	18	6	
		23	4	24	5	- 11	6	"
	2.0	24	13	14	19	18	3	
	VERTICAL	25	10	16	22	9	21	0 1
		26	23	17	. 12	15	7	SELECTION-5 8
		27	8	2	20	25	1	(
		28	L	7	21	3	6	<u>8</u>
YELLOW		29	25	15	9	18	H	WIPERS-FROM
	HORIZONTAL	30	20	12	22	19	5	ER
		31	2	17	16	14	24	WIP
		32	8	23	10	13	4	0
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		35		1				ARG
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		37		10	200	1.7	10	9
	DIAGONAL	38	1	18	20	17	.10	NO
		39	6	14	20	15	8	TT.
		40	1	2	22	25	8	100
	VEDTICA	41	24	18	16	15	4	200
	VERTICAL	42	3	12	20	9	21	
		43	7	14 23	19	17	13	SELECTION-4
		44	6	1	1	4	8	
YELLOW	INF _	45	10	13	21	1 15	25	and the state of t
+LLLUW	FII4E	47	5	19	20	1 16	22	and a second property of the second property
	HORIZONTAL		<del> </del>	<del> </del>	<del> </del>			
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		50	6	1	1 3	4		
		50		L	L	1		1

#### S CONTROL UNIT PICTORIAL VIEW NUMBERS CORRESPOND TO SWITCH CHART ON PAGE 41

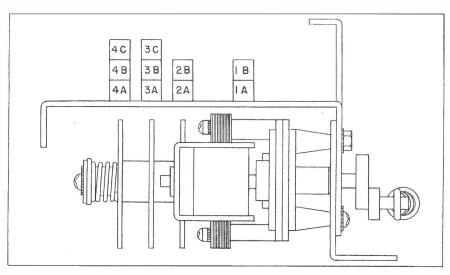


#### CONTROL UNIT CAM SWITCH CHART FOR POSITION OF SWITCHES REFER TO PICTORIAL VIEW ON PAGE 40

CAM	SWITCH	LOCATION ON DIAGRAM	WIRE No.	WIRE COLORS	FUNCTION OF SWITCHES
1 A	N.O.	C-14	10-2 13-2	Red Red-Yellow	In series with control unit cam switch #4B, energizes spotting unit step-up coil.
2A PIN S	N.O. SWITCH	C-8	63-2 93-2	Brown-Yellow Gray-Yellow	Pulses timet unit step-up coil, when circuit complete thru all other factors.
3A	N.O.	C-7	75 83	Orange-White Black-Yellow	Pulses score indicator escapement coil, when score reset relay is energized.
4A	N.C.	1-6	93-1 30	Gray-Yellow Yellow	Opens start circuit.
4B	N.O.	D-14	10-2 36-4	Red Yellow-Brown	In series with control unit cam switch #1A, energizes timer unit step-up coil.
5A	N.O.	C+4	<b>51</b> 30	White-Red Yellow	Energizes anti-cheat relay.
5B	N.O.	F-8	45 63	Green-White Brown-Yellow	Pulses coin unit step-up coil on each coin played, when score indicator unit is at zero.
5C	N.O.	F-8	50-1 63	White Brown-Yellow	Pulses coin unit step-up coil on 1st coin played, when score indicator unit is not at zero.
5D S.	P.D.T.	D-6	81 14-5 13-5	Black-Red Red-Green Red-Yellow	Opens start circuit, and completes a circuit to energize tilt relay if coin switch is closed too long.
6A	N.O.	F-14	36-4 53-3	Yellow-Brown White-Yellow	Pulses selection unit step-up coil.
6B	N.O.	G-5	43 30	Green-Yellow Yellow	Pulses score indicator unit escapement coil, when selection unit open at "O" switch is closed, and score reset relay is not energized.
7A	N.O.	A-19	75-4 90	Orange-White Gray	Pulses score counter unit *1, #2 or #3 step-up coil, when a scoring circuit is completed in selection 1-2 or 3.
7B	N.O.	A-25	78-2 80	Orange-Black Black	Pulses score counter unit #1, #2 or #3 step-up coil, when a scoring circuit is completed in selection 1, 2 or 3.
8A	N.O.	D-15	21-2 23-2	Blue-Red Blue-Yellow	Pulses score indicator unit step-up coil when a scoring circuit is completed.
8B VERT	N.O. TICAL CH	E-17	27-2 91-2	Blue-Orange Gray-Red	In series with scoring lock-in circuit when scoring in selections 1, 2 or 3.
8C VER	N.O. TICAL CH	E-25	27-2 71-3	Blue-Orange Orange-Red	In series with scoring lock-in circuit when scoring in selections 4, 5 or 6.
9A	N.C.	H-17	27-2 90-1	Blue-Orange Gray	In series with scoring circuits when scoring in any selections.

CAM SW	/ІТСН	LOCATION ON DIAGRAM	WIRE No.	WIRE COLORS	FUNCTION OF SWITCHES
START INDEX		A-10	56 70	White-Brown Orange	Energized thru shutter motor cam switch #4C when start relay is energized.
10A	N.O.	E-2	10P 20P	Red (Plastic) Blue (Plastic)	Completes a circuit to run control unit motor.
SCORE INDEX		A-15	21-2 70	Blue-Red Orange	Energized when scoring in any selection, and releases scoring cams.
11A	N.O.	H-17	27-2 50	Blue-Orange White	In series with scoring lock-in circuits when scoring in any selection.
11B	N.O.	H-16	50 90-1	White Gray	Same as above switch.
11C	N.C.	B-17	51-3 91-2	White-Red Gtay-Red	Opens direct 50 volt circuit to selection 1-2-3 search index coil, coil then held in thru resistor.
11D	N.C.	B-25	52-3 71-3	White-Blue Orange-Red	Opens direct 50 volt circuit to selection 4-5-6 search index coil, coil then held in thru resistor.
11E	N.O.	E-2	10P 20P	Red (Plastic) Blue (Plastic)	Completes a circuit to run control unit motor.
11 F	N.C.	E-8	61-2 63-2	Brown-Red Brown-Yellow	Opens timer unit step-up circuit.
SELECT 1-2-3 SEARCH DEX CO	I IN-	B-17	51-3 90	White-Red Gray	Energized when a scoring circuit is completed in selection 1-2 or 3.
12A	N.C.	11-6	15-5 93-1	Red-White Gray-Yellow	Opens start circuit.
12B	N.C.	A-24	80 70	Black Orange	Opens circuit to selection 4-5-6 search index coil.
12C	N.O.	H-15	21-2 91-2	Blue-Red Gray-Red	In series with a circuit to energize score cams index coil, and step score indicator unit,
SELECT 4-5-6 SEARCH INDEX C		A-25	52-3 80	White-Blue Black	Energized when a scoring circuit is completed in selection 4, 5 or 6.
13A	N.C.	G-6	15-5 57	Red-White White-Orange	Opens start circuit,
13B	N.C.	A-17	90 70	Gray Orange	Opens circuit to selection 1, 2, 3 search index coil.
13C	N.O.	G-15	21-2 71-3	Blue-Red Orange-Red	In series with a circuit to energize score cams index coil, and step score indicator unit.

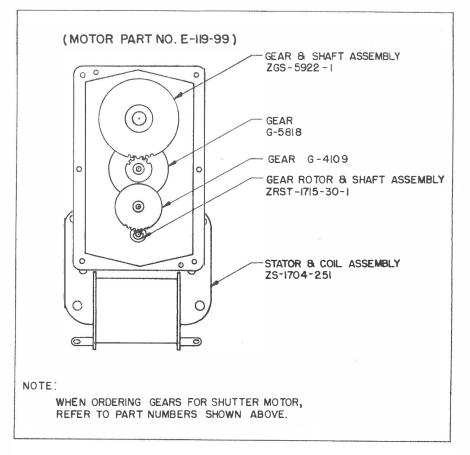
#### SHUTTER MOTOR PICTORIAL VIEW



## SHUTTER MOTOR CAM SWITCH CHART FOR POSITION OF SWITCHES SEE PICTORIAL VIEW

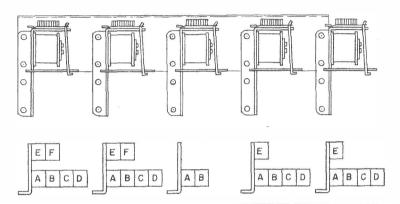
LOCATION CAM SWITCH ON WIRE No. WIRE COLORS FUNCTION OF SWITCHES DIAGRAM Gray 14 N.C. H-16 90-1 Opene scoring circuits when starting new game. Vellow N. O. C-9 Black Carry-over circuit for shutter motor. 30 Yellow Energizes the ball gate relay when starting new game. Gray-Black 2A N. O. F-10 30 Yellow Black-White Resets the (6) score counter unite, selection unit, timer N.O. H-12 30 Yellow unit, and energizes the tilt reset coil when starting new Yellow-Black In series with cam #3C circuit. Also in series with F-9 38-2 N. O. 61 Brown-Red circuit to close shutter when 1st ball is shot. Opens circuit to spotted no. lites when starting new game. N. C. 1-9 Gray-Red Yellow Brown-Red In series circuit to close shutter if game is tilted 30 N. O. **3**-9 before let ball is shot. 80-2 Black Orange-Black Black-Red Circuit to energize start relay thru score indicator N. O. C-7 81 zero switch. Opens timer unit step-up circuit when starting new game. N.C. F-8 Brown Gray-Yellow 93-2 80-2 Black Directs circuit to open shutter, and energize start cams index coil when starting new game. 4C S.P.D.T. B-9 54 White-Green White-Brown

#### SHUTTER MOTOR



#### **5 RELAYS BANK PICTORIAL VIEW**

#### NUMBERS CORRESPOND TO SWITCH CHART AT RIGHT



Name	4-5-6 YELLOW LINE RE	I -2-3 YELLOW LINE RE.	START RE.	ANTI-CHEAT RE.	SCORE RESET RE.
Coil turns & wire gauge	1700 #33	1700 #33	1800 #33	2300 #33	2300 #33
Coil resistance (nominal)	60 A	60 A	65 ∧	85 -^	85_^
Operating voltage	50 V.	50 V.	50 V.	50 V.	50 V.
Test voltage	37 V.	37 V.	32 V.	39 V.	37 V.
Extension spring load	GREEN	GREEN	GREEN	YELLOW	YELLOW
Sw actuator stroke	3/32	3/32	3/32	3/32	3/32
Additional information		٠		THERMALEZE WIRE OR EQUIVALANT NO WRAP ON COIL.	

	SPRING CODE	
COLOR	PART NO.	LOAD
CLEAR	SP-199-13	13 OZ. AT 15/16
BLUE	SP-199-14	21 OZ. AT 15/16
YELLOW	SP-199-15	15 0Z. AT 15/16
RED	SP-199-16	9 OZ. AT 15/16
GREEN	SP-199-17	170Z. AT 15/16

## 5 RELAYS BANK SWITCH CHART FOR POSITION OF SWITCHES REFER TO PICTORIAL VIEW

RELA	Y SWITCH	LOCATION ON DIAGRAM	WIRE No.	WIRE COLORS	FUNCTION OF SWITCHES
	YELLOW	A-31	40-3 70	Green Orange	Energized thru selections 4-5-6 search disc when scoring in yellow line of selections 4-5 or 6.
A	S.P.D.T.	E-25	41-3 71-6 27-3	Green-Red Orange-Red Blue-Orange	Opens circuit for 4th selection regular 4-in-line scoring, and completes circuit for 4th selection yellow 3-in-line scoring,
В	S.P.D.T.	F-26	45-3 75-6 41-3	Green-White Orange-White Green-Red	Opens circuit for 4th selection regular 5-in-line scoring, and completes circuit for 4th selection yellow 4-in-line scoring.
С	S.P.D.T.	E-27	41-3 51-6 27-3	Green-Red White-Red Blue-Orange	Opens circuit for 5th selection regular 4-in-line scoring, and completes circuit for 5th selection yellow 3-in-line scoring.
D	S.P.D.T.	F-28	45-3 54-6 41-3	Green-White White-Green Green-Red	Opens circuit for 5th selection regular 5-in-line scoring, and completes circuit for 5th selection yellow 4-in-line scoring.
E	S.P.D.T.	E-28	41-3 56-6 27-3	Green-Red White-Brown Blue-Orange	Opens circuit for 6th selection regular 4-in-line scoring, and completes circuit for 6th selection yellow 3-in-line scoring.
F	S.P.D.T.	F-29	45-3 63-6 41-3	Green-White Brown-Yellow Green-Red	Opens circuit for 6th selection regular 5-in-line scoring, and completes circuit for 6th selection yellow 4-in-line scoring.
	YELLOW E RELAY	A-24	57-2 70	White-Orange Orange	Energized thru selections 1-2-3 search disc when scoring in yellow line of selections 1, 2 or 3.
A	S.P.D.T.	E-18	53-2 10-6 52-2	White-Yellow Red White-Blue	Opens circuit for 1st selection regular 4-in-line scoring, and completes circuit for 1st selection yellow 3-in-line scoring.
В	S.P.D.T.	F-19	54-2 15-4 53-2	White-Green Red-White White-Yellow	Opens circuit for 1st selection regular 5-in-line scoting, and completes circuit for 1st selection yellow 4-in-line scoting,
С	S.P.D.T.	E-20	53-2 18-6 52-2	White-Yellow Red-Black White-Blue	Opens circuit for 2nd selection regular 4-in-line scoring, and completes circuit for 2nd selection yellow 3-in-line scoring.
D	S.P.D.T.	F-21	54-2 25-6 53-2	White-Green Blue-White White-Yellow	Opens circuit for 2nd selection regular 5-in-line scoring, and completes circuit for 2nd selection yellow 4-in-line scoring.
E	S.P.D.T.	E-22	53-2 27-6 52-2	White-Yellow Blue-Orange White-Blue	Opens circuit for 3rd selection regular 4-in-line scoring, and completes circuit for 3rd selection yellow 3-in-line scoring.
F	S.P.D.T,	F-22	54-2 38-6 53-2	White-Green Yellow-Black White-Yellow	Opens circuit for 3rd selection regular 5-in-line scoring, and completes circuit for 3rd selection yellow 4-in-line scoring.
STA REL	RT AY COIL	A-6	98-3 70	Gray-Black Orange	Energized on each spin of game, thru coin switch, replay button switch, and also thru automatic selection step-up circuit.
A	N.O.	F-6	57 81	White-Orange Black-Red	Lock-in circuit for this relay.
В	N.O.	C-9	54 30	White-Green Yellow	Completes circuit to open shutter, and energize start cams index

# 5 RELAYS BANK SWITCH CHART FOR POSITION OF SWITCHES REFER TO PICTORIAL VIEW

REL	AV SWITCH	LOCATION ON DIAGRAM	WIRE No.	WIRE COLORS	FUNCTION OF SWITCHES
	TI-CHEAT LAY COIL	A-5	51 70	White-Red Orange	Energized by control unit cam switch #5A. Switches on this relay protect scoring, lite, and game playing circuits.
A	N.O.	B-5	51 30	White-Red Yellow	Lock-in circuit for this relay.
В	N.O.	L-6	14 15	Red-Green Red-White	Opens 17 volt circuit when this relay drops out.
С	N.C.	E-8	74 75	Orange-Green Orange-White	Completes circuit to energize score reset relay when this relay drops out.
D	N.C.	L-4	18 31-4	Red-Black Yellow-Red	Completes a circuit to lite tilt lite when this relay drops out.
E	N.O.	L-4	31-4 41	Yellow-Red Green-Red	Opens circuit to score indicator lites when this relay drops out.
	RERESET LAY COIL	A-8	75 70	Orange-White Orange	Energized thru score indicator unit "O" switch when anti-cheat relay drops out.
A	N.O.	E-7	74 75	Orange-Green Orange-White	Lock-in circuit for this relay.
В	N.O.	C-2	10P 20P	Red (Plastic) Blue (Plastic)	Completes a circuit to run control unit motor.
С	N.C.	D-8	53 61-2	White-Yellow Brown-Red	Opens timer unit step-up circuit.
D	N.C.	B-6	81 98-3	Black-Red Gray-Black	Opens start circuit.
E	S.P.D.T.	C-7	91 93 83	Gray-Red Gray-Yellow Black-Yellow	Opens circuit to pulse score indicator unit escapement coil thru control unit cam switch #6B, and completes circuit to pulse coil thru control unit cam switch #3A.

#### MISCELLANEOUS RELAYS SWITCH CHART

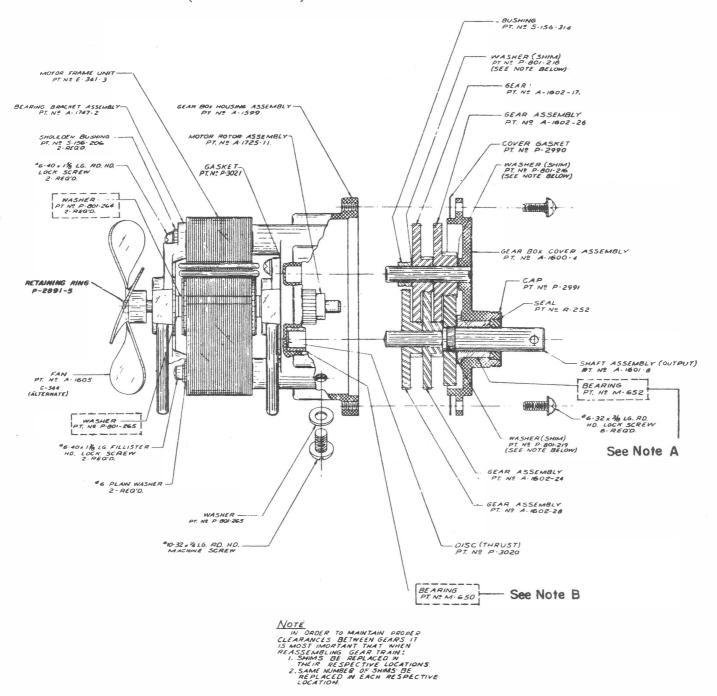
RELAY SWITCH	LOCATION ON DIAGRAM	WIRE No.	WIRE COLORS	FUNCTION OF SWITCHES
TILT RESET COIL	A-11	85 70	Black-White Orange	Energized by shutter motor cam switch #2B, when starting new game. When this coil is energized, tilt relay coil drops out.
TILT RELAY COIL	A-5	J 70	Jumper Orange	Energized by tilt switches or plumb-bob tilt. Also thru control unit cam switch #5D if coin switch is closed too long.
A N.C.	D-1	10P 50P	Red (Plastic) White (Plastic)	Opens circuit to control unit motor.
B N.C.	B-5	13-5 J	Red-Yellow Jumper	Opens circuit to tilt relay coil.
C N.C.	M-6	10 15	Red Red-White	Opens 17 volt circuits.
D N.O.	L-4	18 31-4	Red-Black Yellow-Red	Completes a circuit to tilt lite.
E S.P.D.T.	H-8	60-1 30 38-2	Brown Yellow Yellow-Black	Opens timer unit step-up circuit, and completes circuit to close shutter if game is tilted before 1st ball is shot.
BALL GATE RELAY COIL	A-10	98 70	Gray-Black Orange	Energized by shutter motor cam switch #2A when starting new game.
A N,C.	G-9	61 30	Brown-Red Yellow	Completes a circuit to close shutter when this relay drops out. (1st ball is shot)
в п.о.	E-10	71 98	Orange-Red Gray-Black	Completes lock-in circuit to this relay until 1st ball is shot,

#### NEW ANTI-CHEAT COIN SWITCH CIRCUIT

The coin switch gives a very short pulse, when operated by a coin. With this new circuit, the game will tilt if the pulse is not as short as from a coin, so that operating the coin switch with wire, strings, etc., usually results in a tilt.

The circuit is completed thru control unit cam switch #5D (on wiring diagram at D-6).

#### MOTOR ASSEMBLY (Part No. E-119-212)



NOTE A: Bearing M-652 is part of Gear Box Cover Assembly A-1600-4 and cannot be ordered separately.

NOTE B: Bearing M-650 is part of Gear Box Housing Assembly A-1599 and cannot be ordered separately.

# NOTES

#### **MISCELLANEOUS PARTS**

	,		
Part No.	Name of Part	Part No.	Name of Part
G <b>-</b> 303-2	Back Glass—FUN SPOT	A-1538-3	Armature plate (AS-277-56)
G-303-3	Back Glass—BARREL O' FUN	E-101-45	Coil—coin lockout
M <b>-</b> 281-14	Lock and keys (2) keyed alike	AS-277-56	Coin switch assembly $5 \phi$ or $10 \phi$
		CA-567-109	Front door only—FUN SPOT
	Back Door Assembly:	CA-567-110	Front door only—BARREL O' FUN
M-281-22	Lock and keys	AS-1971-2	Front door assembly complete— FUN SPOT
P-758-17 E-122-19	Lock cam Transformer	AS-1971-3	Front door assembly complete— BARREL O' FUN
2 122 10		A-254-33	Hinge and bracket
		M-281-6	Lock and keys
ı	Front Cabinet Assembly:	P-4005	Lock cam
M-168-15	Ball	E-108-32	Micro switch 5c and 10c
AS-187-18	Ball shooter assembly	A-1729-6	Push button—replay
A-1540-3	Ball shooter housing	SW-100-157	Push button switch
A-100-7	Ball shooter rod	P-2768-5	Ring for A-1729-6 button
SP-200-24	Ball shooter spring (long)	P-2768-7	Ring for M-281-6 lock
SP-243	Ball shooter spring (short)	M-280-15	Slug rejector $5\phi$
R-108-3	Ball shooter tip	M-280-16	Slug rejector 10¢
P-711-1	Cigarette holder		*
P-2210-80	Coin entry plate 10¢		
P-2210-81	Coin entry plate 5¢		Panel Assembly:
CA-1016-5	Front moulding only	AS-1315	Ball gate and switch assembly
M-281-22	Lock and keys—side door	C-326-9	Light Shield post
P-4052	Leg	R-115-4	Rebound rubber
M-106-1	Leg bolt	M-170	Rebound spring-Double post
M-163-4	Leg adjuster	R-243	Rubber ring for Yellow post
CA-1016-7	Side door only	R-243-2	Rubber ring for Red post

Bally pin game lubricant now available in one half-pint (8 Oz.) containers with plastic spout and screw cap.

