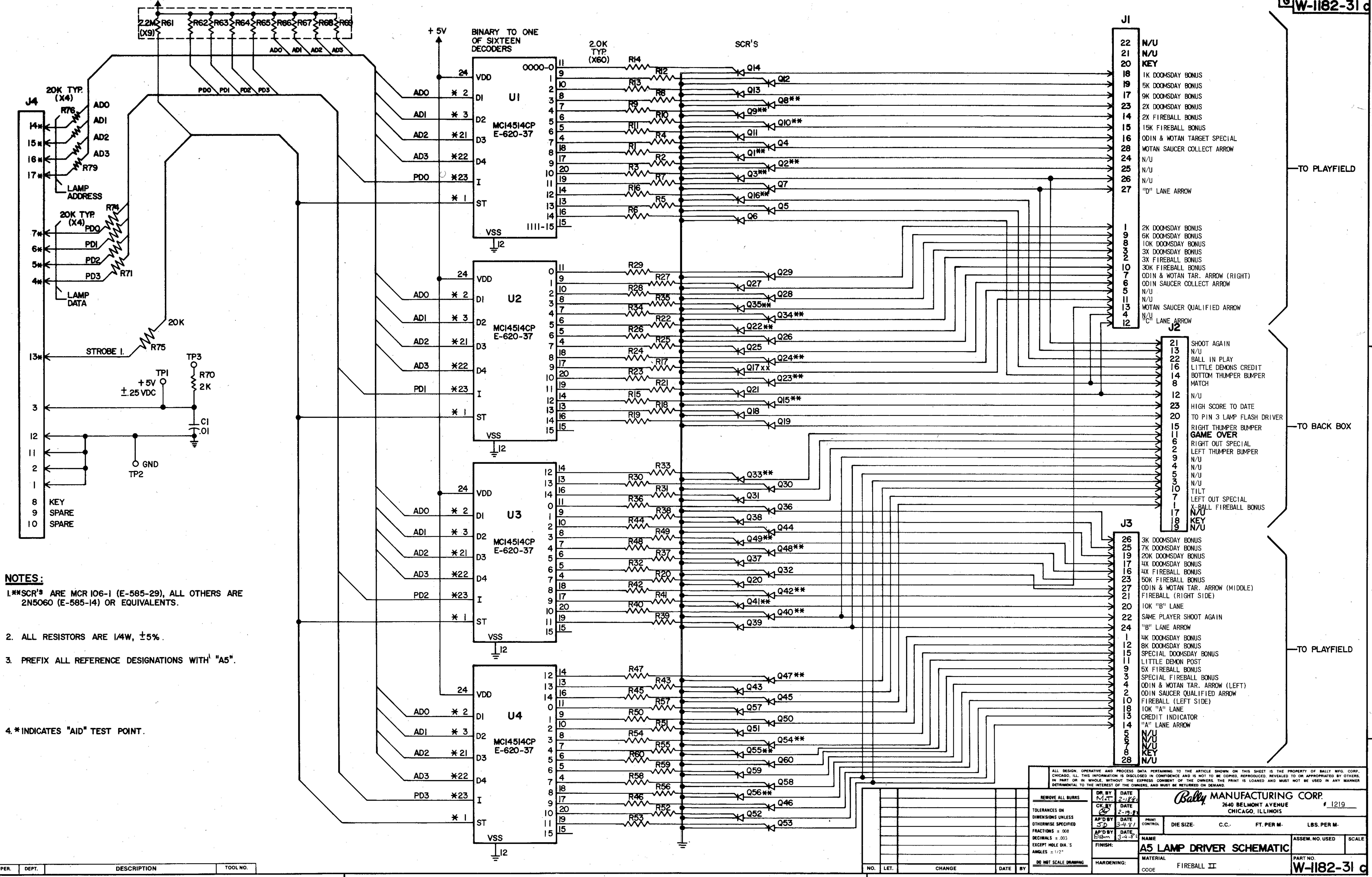
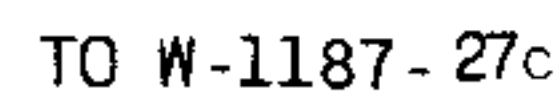






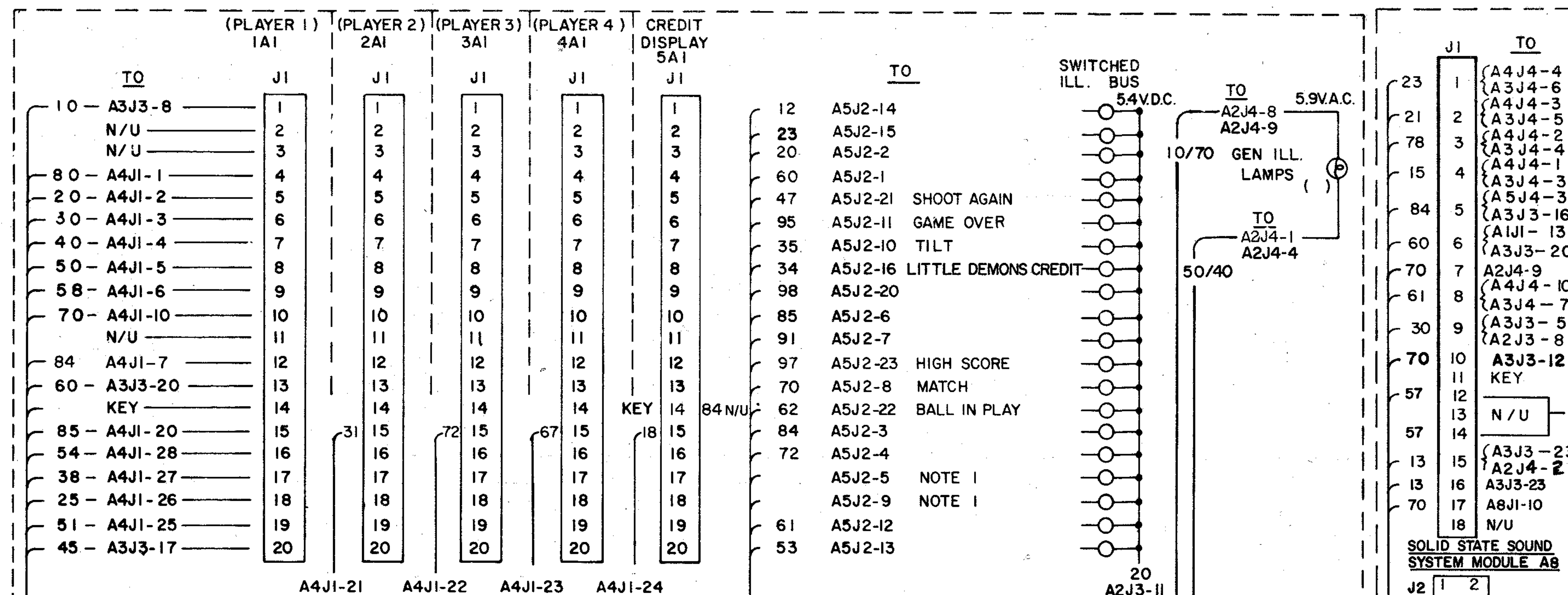
NOTES:

1. ALL RESISTORS ARE 1/4 W. $\pm 5\%$.
2. VOLTAGES SHOWN ARE FOR GAME UP CONDITIONS.
3. *INDICATES "AID" TEST POINT.
4. SCR'S ARE MCR-106-1, (E-585 29).
5. PREFIX ALL REFERENCE DESIGNATIONS WITH "A9".

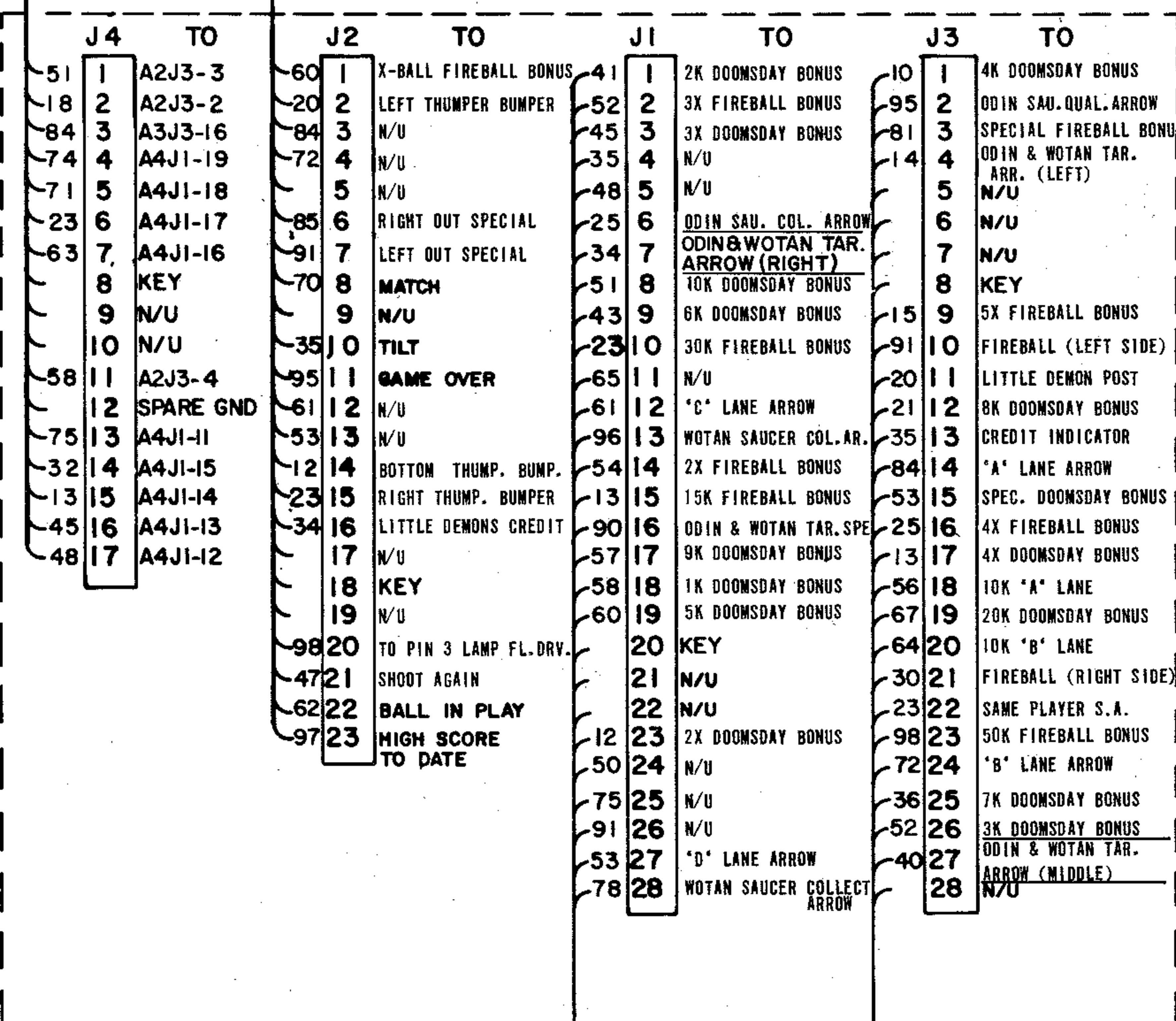
TO: INSERT

ALL DESIGN, OPERATIVE AND PROCESS DATA PERTAINING TO THE ARTICLE SHOWN ON THIS SHEET IS THE PROPERTY OF BALLY MFG. CORP. CHICAGO, ILL. THIS INFORMATION IS DISCLOSED IN CONFIDENCE AND IS NOT TO BE COPIED, REPRODUCED, OR REPRODUCED APPROPRIATELY BY OTHERS, IN PART OR IN WHOLE WITHOUT THE EXPRESS CONSENT OF THE OWNERS. THE PRINT IS LOANED AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THE INTEREST OF THE OWNERS, AND MUST BE RETURNED ON DEMAND.				DR. BY DATE M.T. 2-19-81		Bally MANUFACTURING CORP. 2640 BELMONT AVENUE CHICAGO, ILLINOIS # 1219	
				CL. BY DATE G 2-19-81			
REMOVE ALL BURNS TOLERANCES ON DIMENSIONS UNLESS OTHERWISE SPECIFIED FRACTIONS - DECIMALS - EXCEPT HOLE DIA. S ANGLES - DO NOT SCALE DRAWING				AP'D BY DATE S.D. 2-24-81		PRINT CONTROL	
				AP'D BY DATE S.D. 3-4-81		DIE SIZE - CC - FT PER M - LBS PER M -	
FINISH:				NAME AUXILIARY LAMP DRIVER A9		ASSEM NO USED SCALE	
				MATERIAL CODE FIREBALL II		PART NO W-1207-7	
NO LET CHANGE DATE BY				HANDLING:			

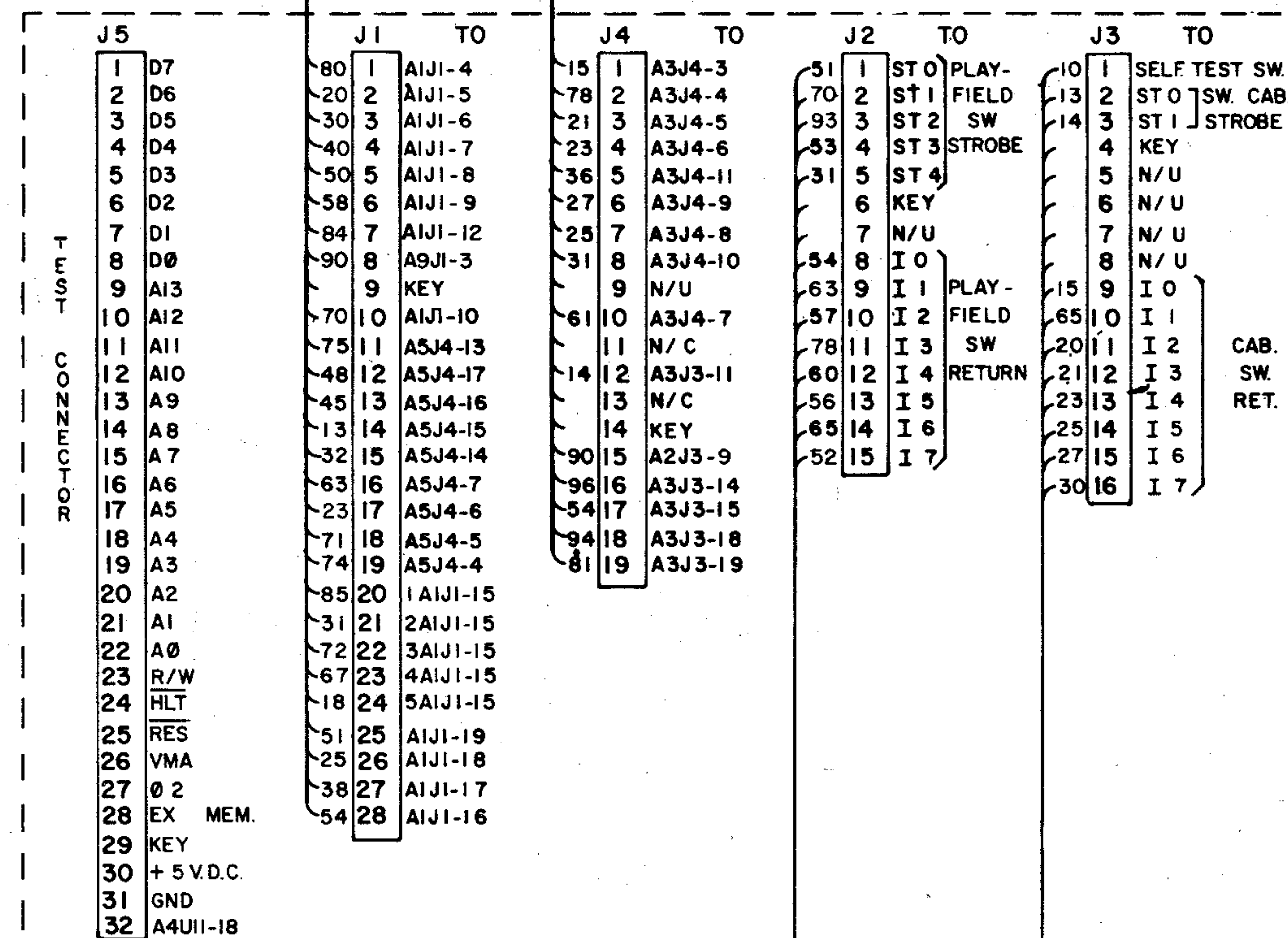
FROM	PIN	WIRE
A2J3-11	1	20
A5J2-14	2	12
A2J4-1	3	50
A2J4-8	4	10
A5J2-23	5	97
A5J2-15	6	23
A5J2-22	7	62
A5J2-8	8	70
A5J2-1	9	60
A5J2-2	10	20
A5J2-11	11	95
A5J2-21	12	47
A5J2-10	13	35
A5J2-7	14	91
A5J2-6	15	85
A5J2-20	16	98
A5J2-16	17	34
A2J4-4	18	40
A2J4-9	19	70
A5J2-13	20	53
A5J2-12	21	61
A5J2-4	22	72
A5J2-3	23	84
A8J1-7	24	70

INSERT TO BACK CAB.
PLUGAIJ2
SEE
TABLE A

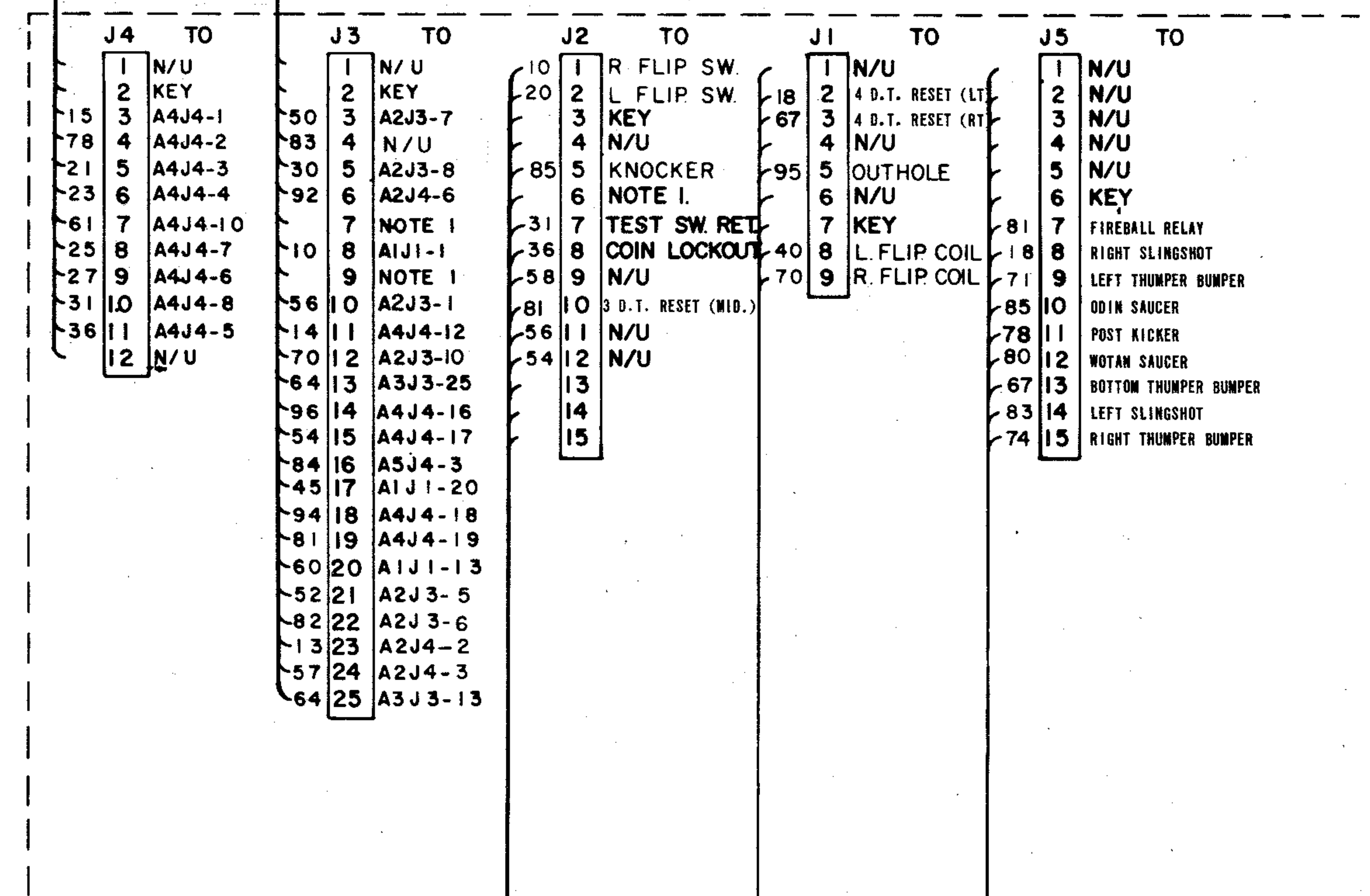
LAMP DRIVER A5



MPU A4



VOLTAGE REGULATOR / SOLENOID DRIVER A3

TO LOWER
CABINET
TO PLAYFIELD

NOTES:

1. THESE PINS ARE RESERVED FOR FUTURE USE.
2. WIRE COLOR ARE SHOWN FOR ALL CONNECTOR PINS, SOME WIRE MAY NOT BE USED IN ALL GAMES.
3. * INDICATES AID TEST POINT.

WIRE COLOR CODE			
1-RED	6-BROWN		
2-BLUE	7-ORANGE		
3-YELLOW	8-BLACK		
4-GREEN	9-GRAY		
5-WHITE	0-NO TRACE		

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REMOVE ALL BURRS

TOLERANCES ON
DIMENSIONS UNLESS
OTHERWISE SPECIFIED

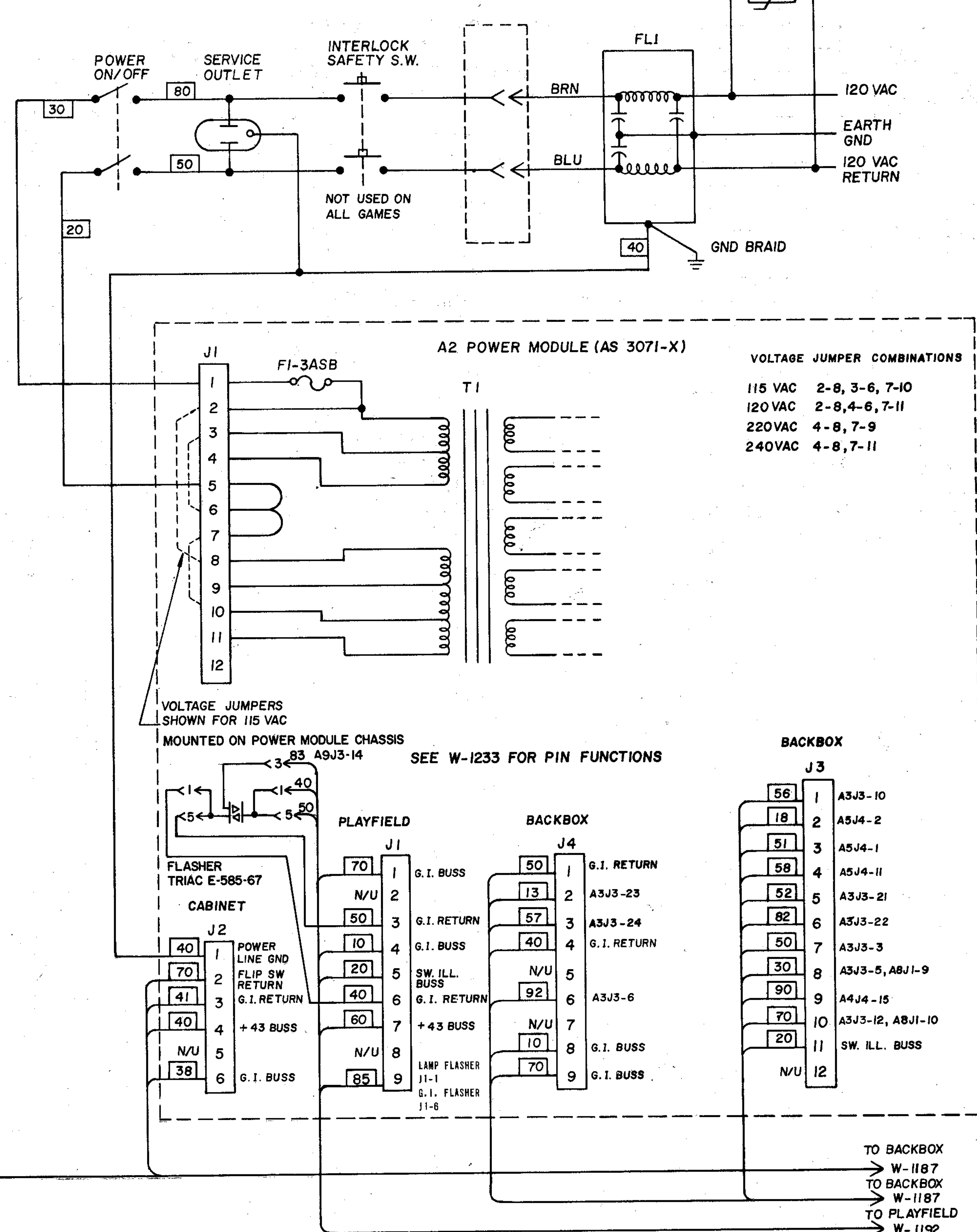
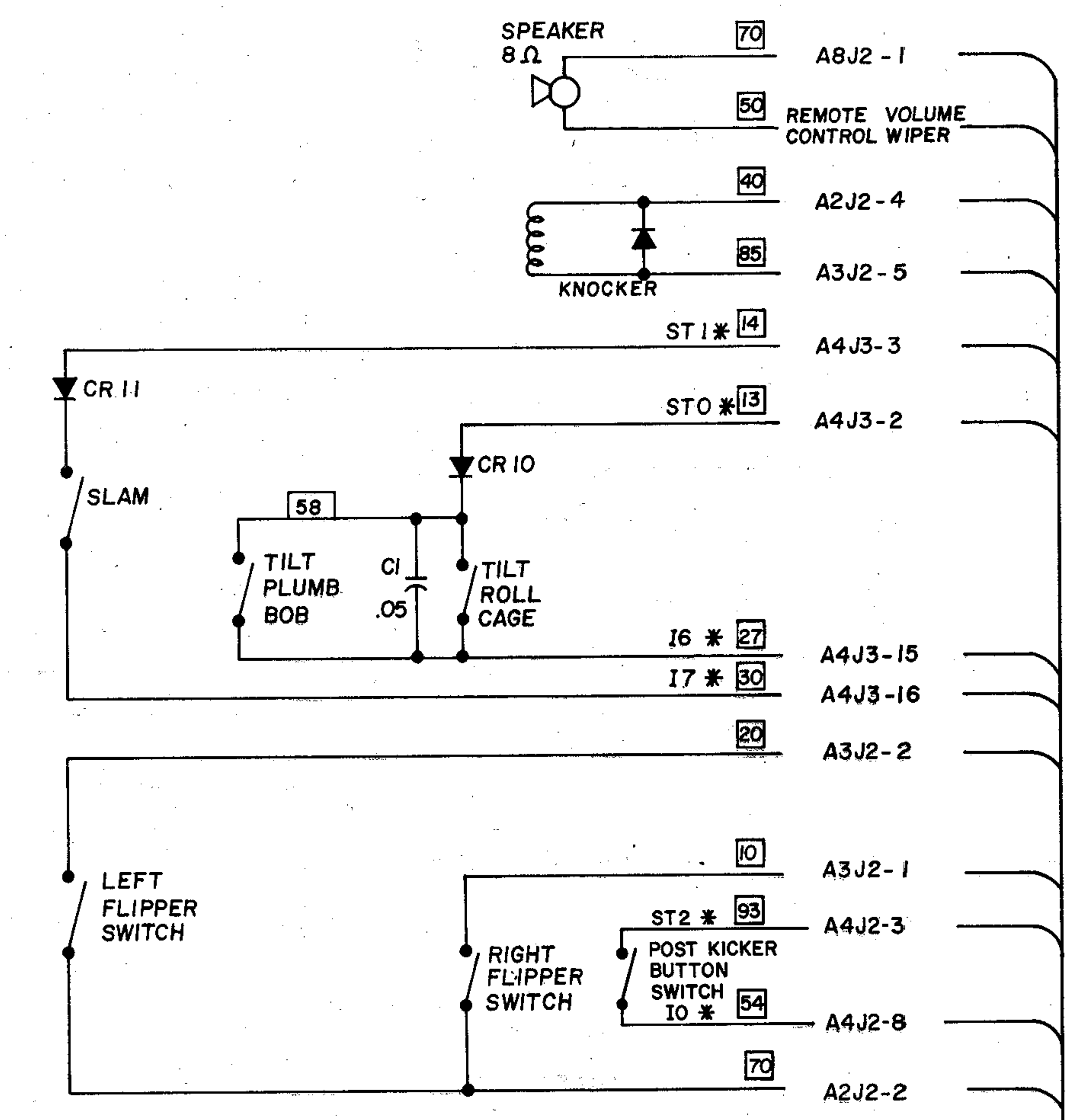
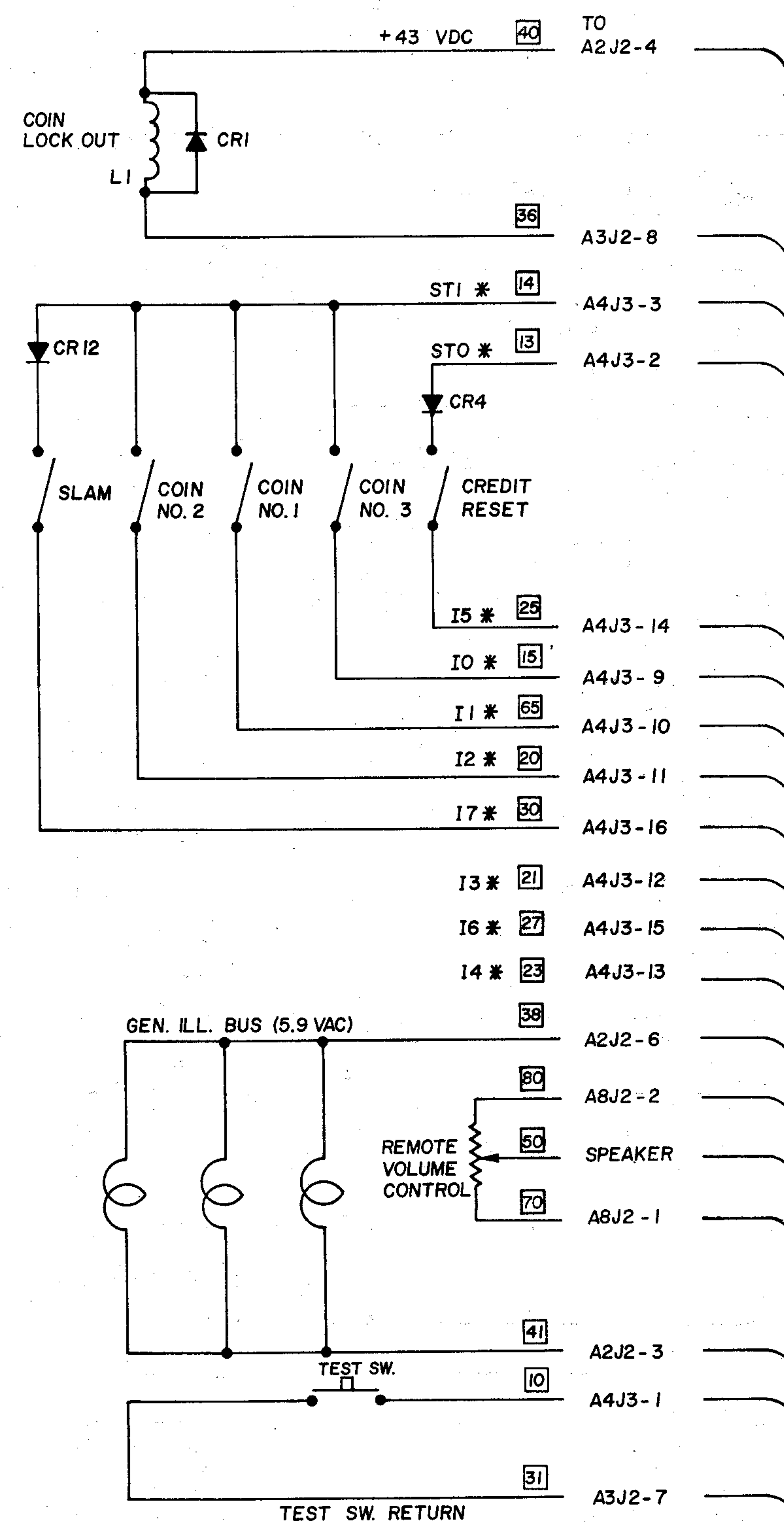
FRACTIONS - 1/64

DECIMALS - .005

ANGLES - 1°

DO NOT SCALE DRAWING

DR BY M.T.	DATE 2-11-81	Bally MANUFACTURING CORP. 2640 BELMONT AVENUE CHICAGO, ILLINOIS 60618		1219	
AP'D BY S.B.	DATE 2-19-81	PRINT CONTROL		TOTAL SCALE	
AP'D BY S.B.	DATE 3-4-81	NAME		ASSEN NO. USED ON W	
FINISH		MATERIAL		PART NO.	
HARDENING		FIREBALL II		W-1187-27c	

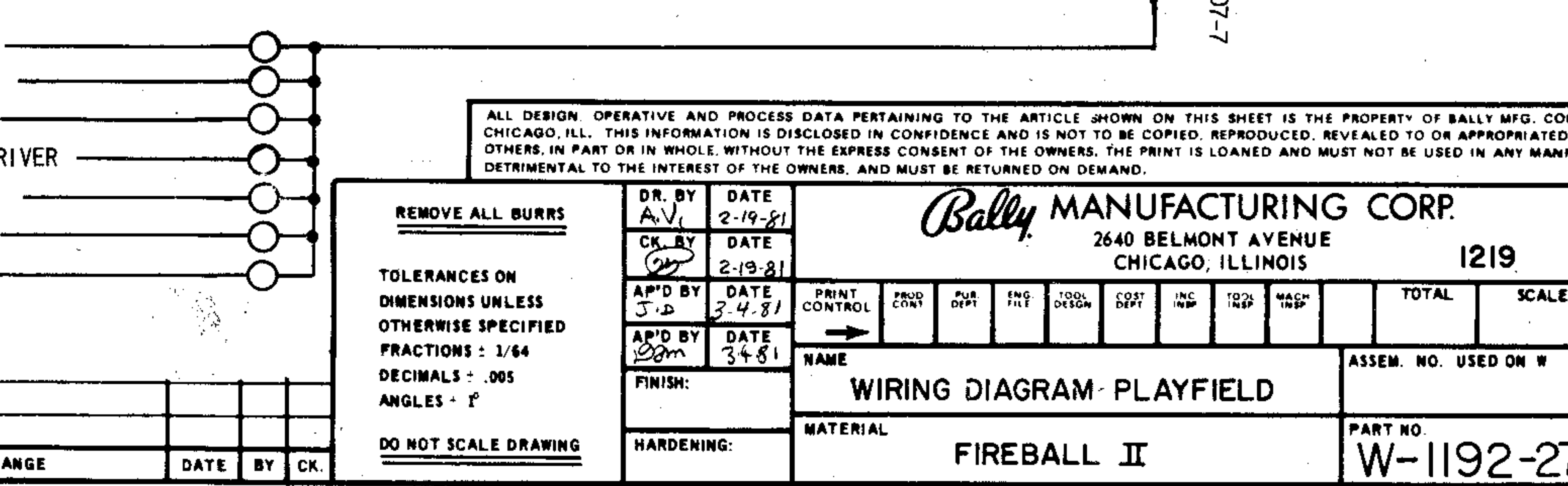
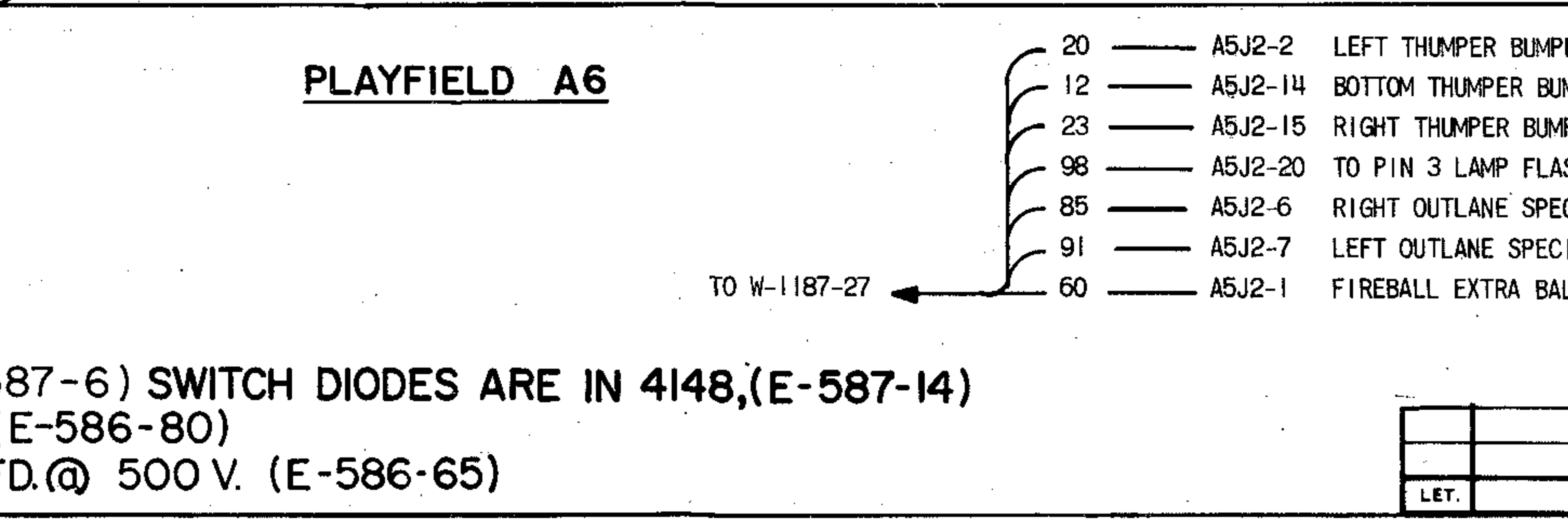
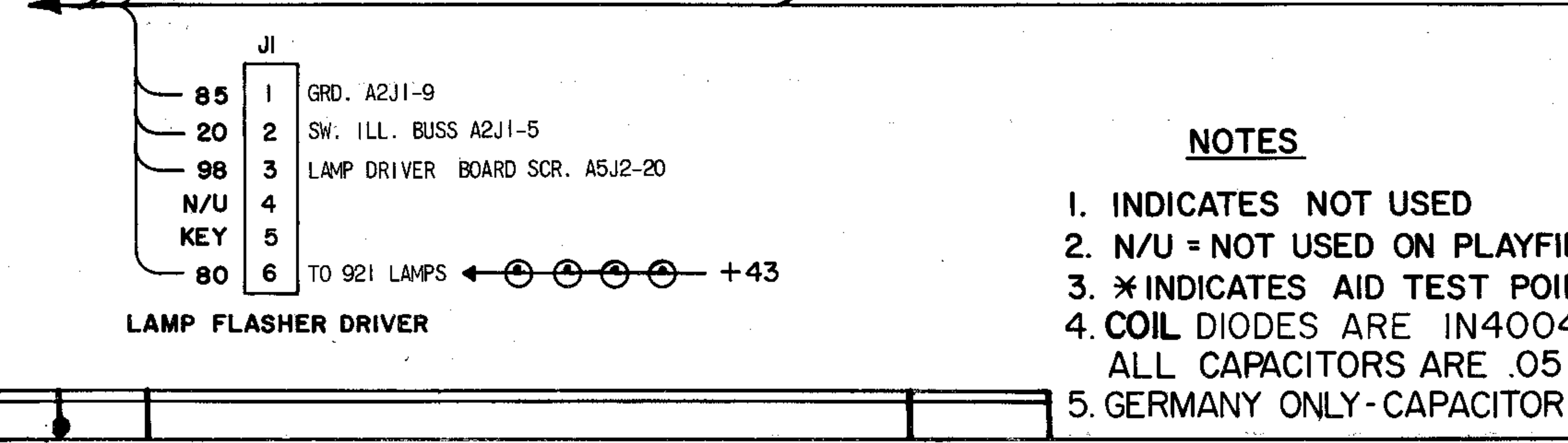
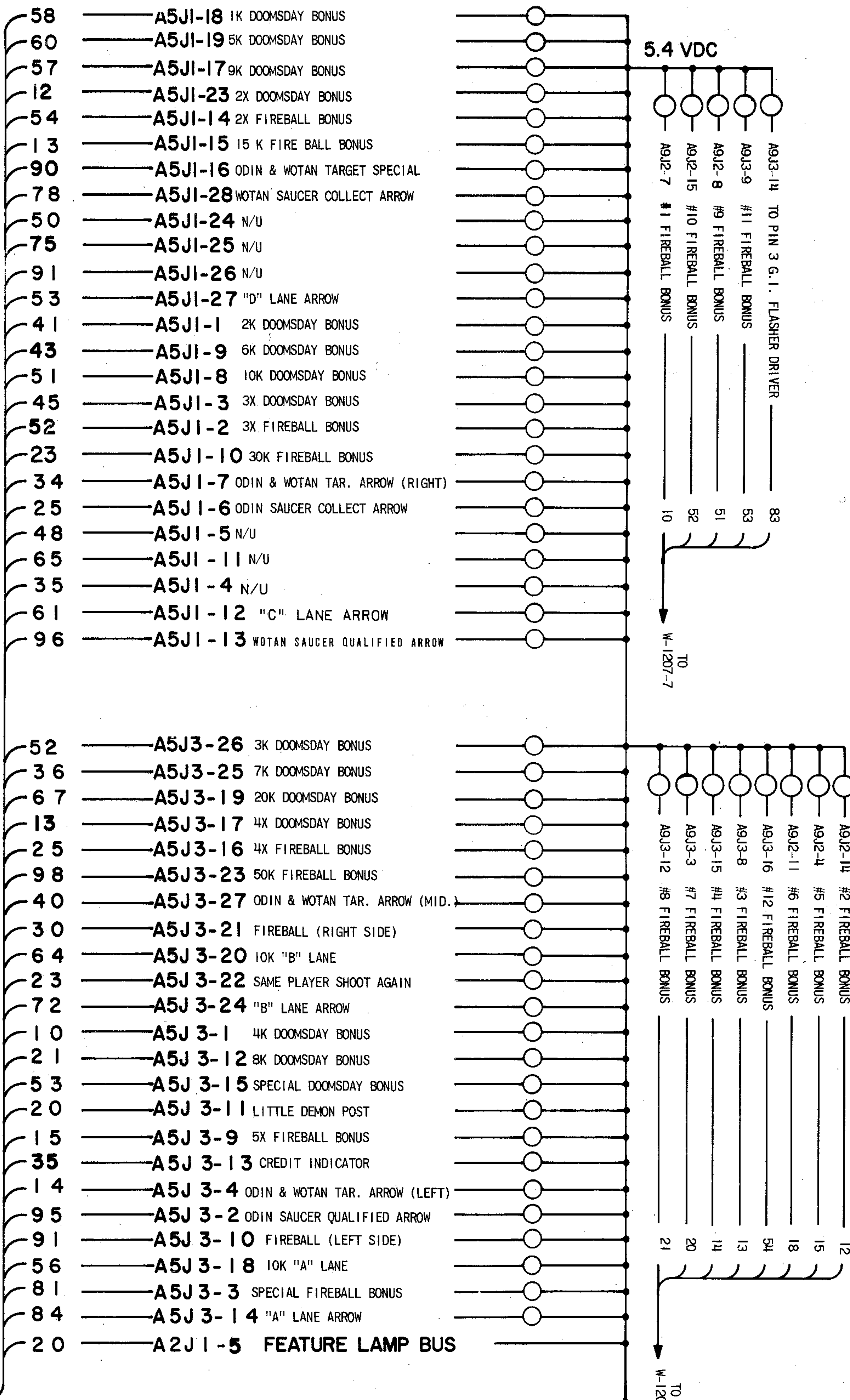
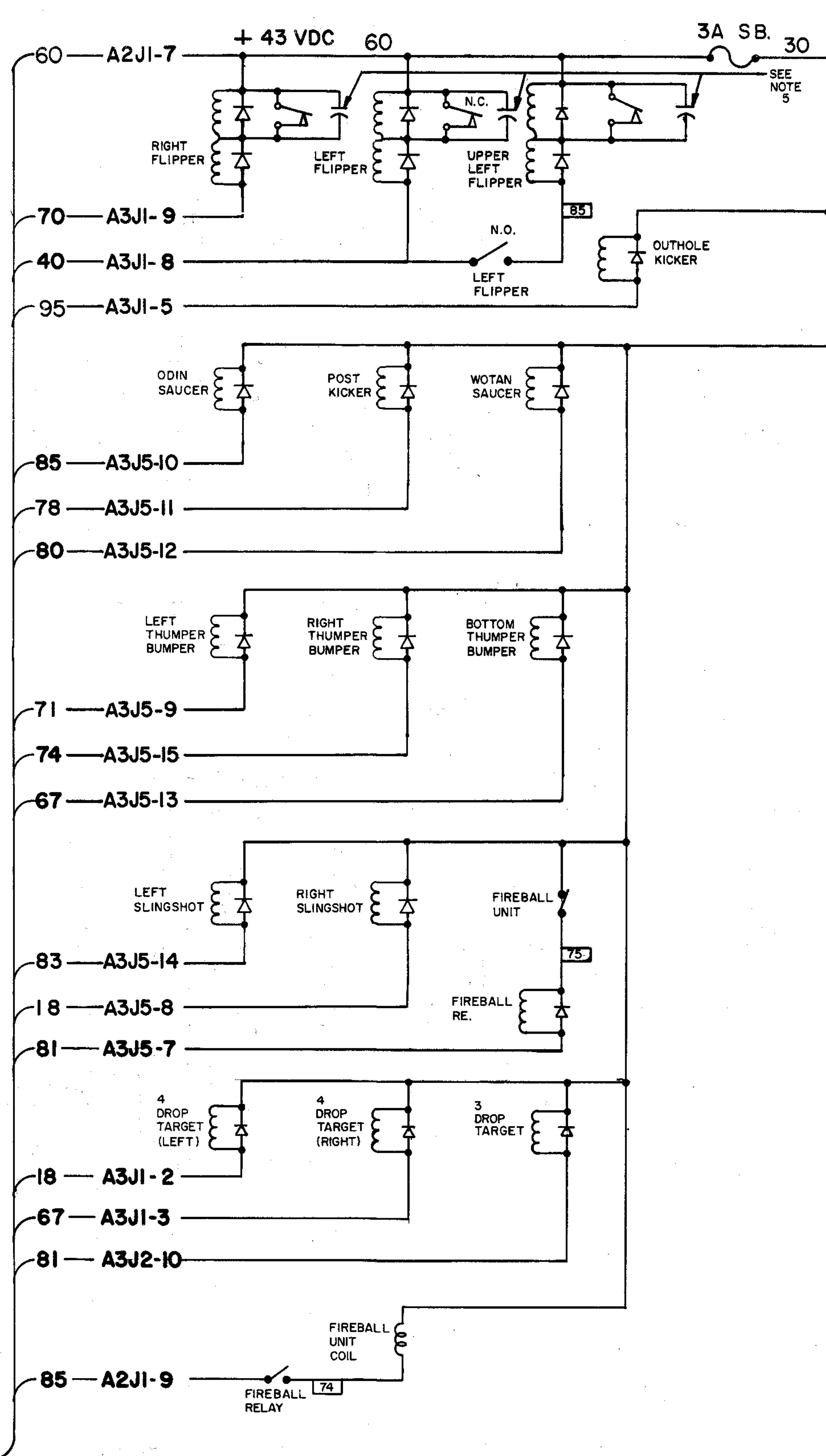
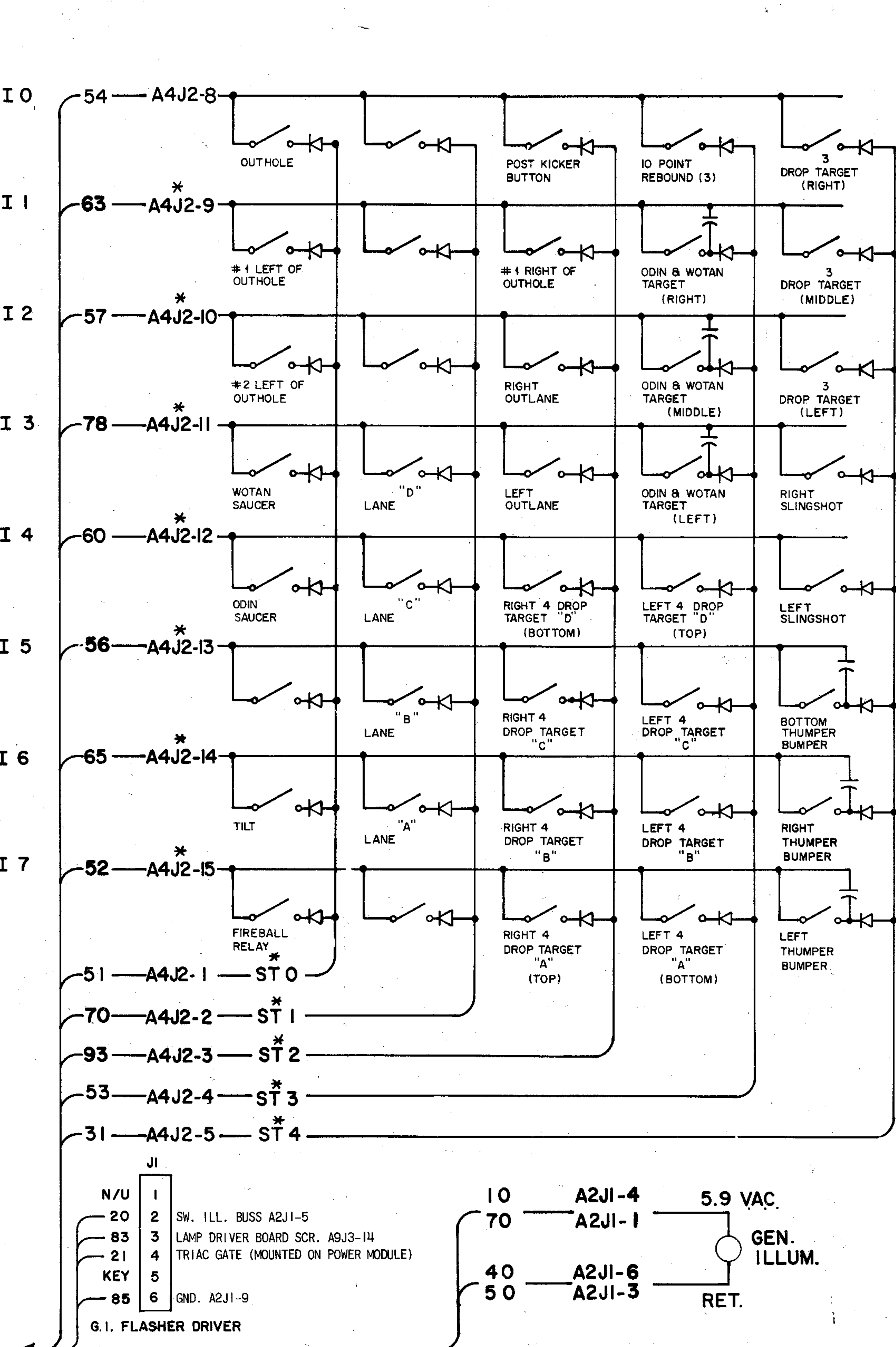


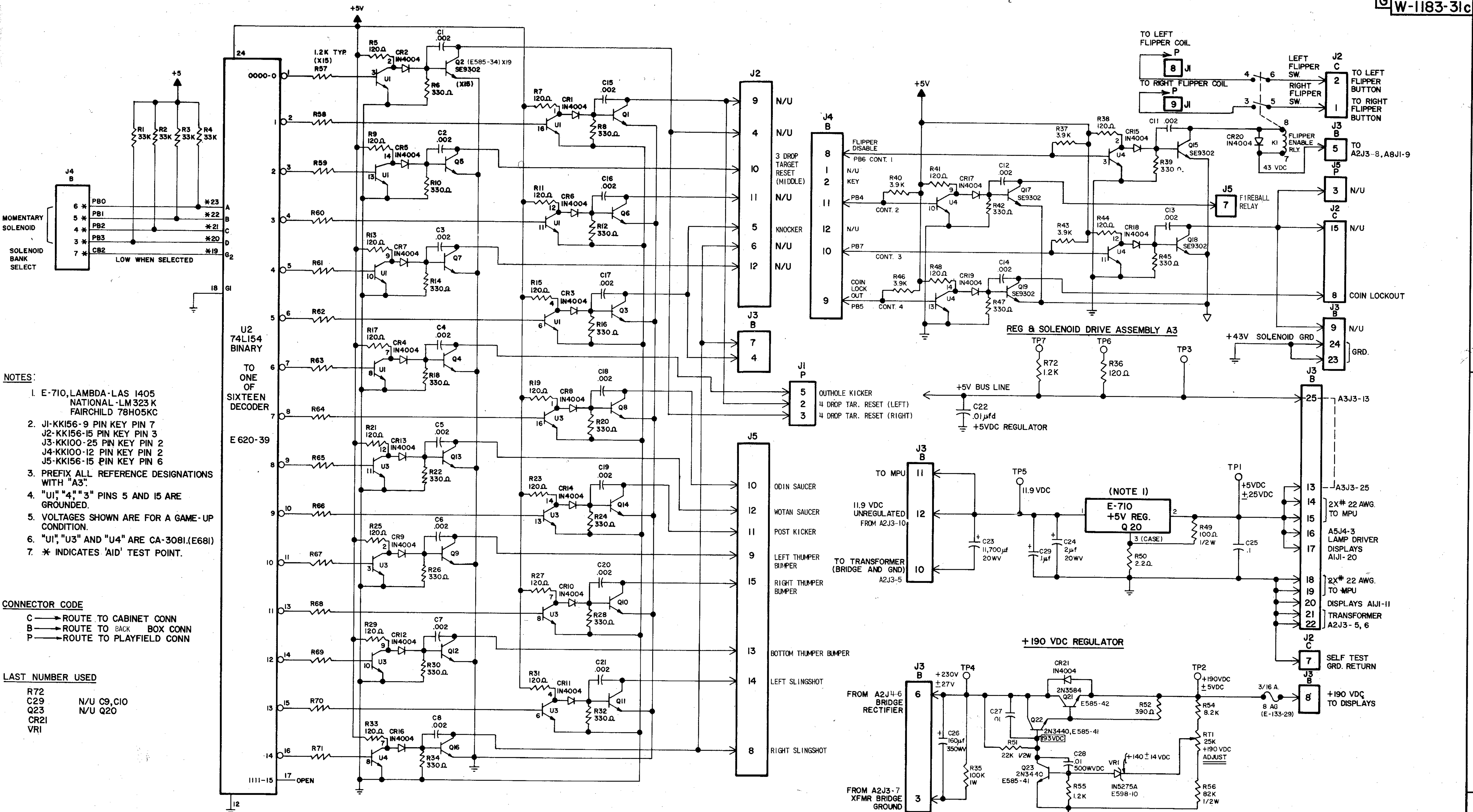
NOTES: (CAUTION)
1. USE BALLY PART NO. E-713 FOR 115-120 VAC.
2. USE BALLY PART NO. E-713-1 FOR 220-240 VAC.
3. * INDICATES AID TEST POINT.

TO	J1 PIN	TO	J1 PIN
A4J3-9	1	A4J3-3	11
A4J3-10	2	A2J2-4	15
A4J3-11	3	A3J2-8	16
A4J3-12	4	A2J2-6	17
A4J3-13	5	A2J2-3	18
A4J3-14	6	A4J3-1	19
A4J3-15	7	A3J2-7	20
A4J3-16	8	SPEAKER	9
A4J3-2	10	A8J2-1	12
DOOR PLUG		A8J2-2	13

A7 CABINET ASS'Y. WIRING
NOTE: DIODES ARE 1N4004, (E-587-6)

REMOVE ALL BURRS				DR BY DATE M. T. 2-17-81 CK BY DATE J. D. 2-19-81				Bally MANUFACTURING CORP. 2640 BELMONT AVENUE CHICAGO, ILLINOIS #1219			
TOLERANCES ON DIMENSIONS UNLESS OTHERWISE SPECIFIED FRACTIONS ± .008 DECIMALS ± .003 EXCEPT HOLE DIA'S ANGLES ± 1/2°				PRINT CONTROL				DIE SIZE: C.C. FT. PER M. LBS. PER M.			
DO NOT SCALE DRAWING				APPROVED BY DATE J. D. 3-4-81				NAME WIRING DIAGRAM - CABINET			
NO. LET. CHANGE DATE BY				HARDENING: J. D.				MATERIAL CODE			
								ASSEM. NO. USED			
								PART NO. W-1186-11 c			





NOTES:

- E-710, LAMBDA-LAS 1405 NATIONAL -LM 323 K FAIRCHILD 78H05KC
- J1-KK156-9 PIN KEY PIN 7
J2-KK156-15 PIN KEY PIN 3
J3-KK100-25 PIN KEY PIN 2
J4-KK100-12 PIN KEY PIN 2
J5-KK156-15 PIN KEY PIN 6
- PREFIX ALL REFERENCE DESIGNATIONS WITH "A3".
- "U1", "4", "3" PINS 5 AND 15 ARE GROUNDED.
- VOLTAGES SHOWN ARE FOR A GAME-UP CONDITION.
- "U1", "U3" AND "U4" ARE CA-3081.(E681)
- * INDICATES 'AID' TEST POINT.

CONNECTOR CODE

C → ROUTE TO CABINET CONN
B → ROUTE TO BACK BOX CONN
P → ROUTE TO PLAYFIELD CONN

LAST NUMBER USED

R72 N/U C9, C10
C29 N/U Q20
Q23 N/U Q20
CR21 N/U Q20
VR1 N/U Q20

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REMOVE ALL BURNS
TOLERANCES ON DIMENSIONS UNLESS OTHERWISE SPECIFIED
FRACTIONS ± .008
DECIMALS ± .003
EXCEPT HOLE DIA. S ANGLES ± 1/2°
DO NOT SCALE DRAWING

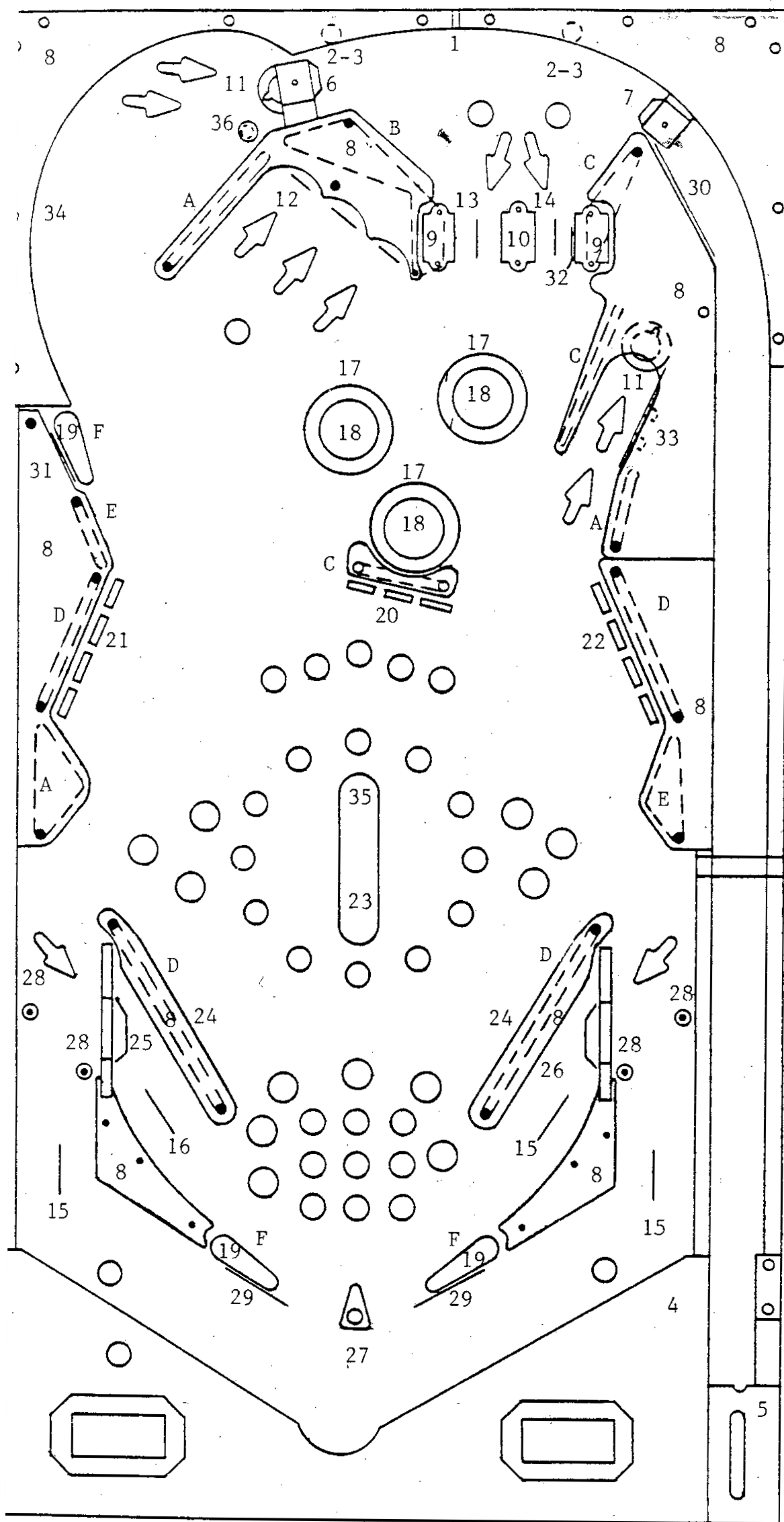
DR. BY DATE
M. T. 2-19-81
CK. BY DATE
2-19-81
AP'D BY DATE
3-4-81
FINISH: 3-4-81
HARDENING: 3-4-81

Bally MANUFACTURING CORP.
2640 BELMONT AVENUE
CHICAGO, ILLINOIS # 1219

NAME SOLENOID DRIVER VOLTAGE REGULATOR SCHEMATIC
MATERIAL
CODE FIREBALL II

ASSEM. NO. USED
SCALE

PART NO. W-1183-31c



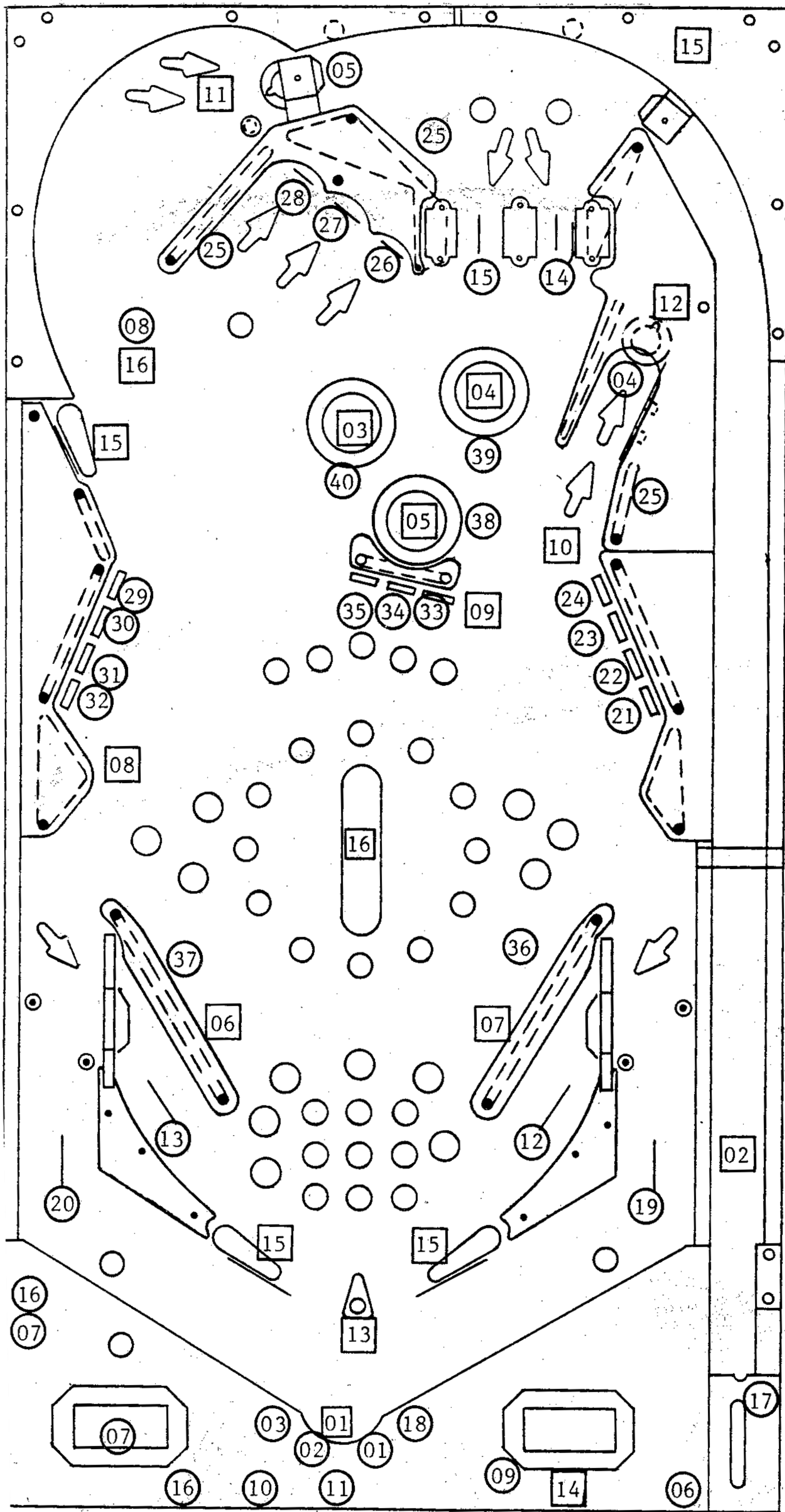
#1219 FIREBALL II

RUBBER PARTS

A.	R-521-2	1½" DIA	(2)
B.	R-521-5	3" DIA	(1)
C.	R-521-3	2" DIA	(3)
D.	R-521-4	2½" DIA	(4)
E.	R-521-1	1" DIA	(2)
F.	R-533-3	FLIPPER	(3)
G.	R-243	5/16" DIA	(7)

PANEL TOP PARTS

1.	Arch Rail	M-1774-7	
2.	Rail Post	C-907	(2)
3.	Rail Post Cap	C-980	(2)
4.	Bottom Arch	P-5871-83	
5.	Shooter Gauge	P-6359-48	
6.	Ball Gate	A-1475-13	
7.	Ball Gate	A-1475-13	
8.	Screened Plastics (Set)	A-2890-150	
9.	Guide Rail	C-936-1	(2)
10.	Guide Rail	C-935-1	
11.	Eject Hole	ASE-428-41	(2)
12.	Target Assy. (Red)	ASE-2911-3	(3)
13.	R.O. Wire & Bracket	ASE-2806	
14.	R.O. Wire & Bracket	ASE-2806-1	
15.	R.O. Wire & Bracket	ASE-2806-9	(3)
16.	R.O. Wire & Bracket	ASE-2806-10	
17.	Thumper Bumper Collar	C-1018-1	(3)
18.	Thumper Bumper Cap	A-4009-2	(3)
19.	Flipper & Shaft Assy.	A-3994	(3)
20.	Drop Target Assy.	ASE-2795-83	
21.	Drop Target Assy.	ASE-2795-84	
22.	Drop Target Assy.	ASE-2795-85	
23.	Fireball Unit Assy.	ASE-3101	
24.	Slingshot Assy.	ASE-2593-6	(2)
25.	Ball Gate & Wire Assy.	ASE-2250-77	
26.	Ball Gate & Wire Assy.	ASE-2250-87	
27.	Kicker Post Assy.	ASE-2593-7	
28.	Mini-Post & Bumper Assy.	ASE-2836-2	(4)
29.	Buffer Wire	M-121-53	(2)
30.	Ball Guide Wire	M-121-23	
31.	Ball Guide Wire	M-121-56	
32.	Ball Guide Wire	M-121-81	
33.	Ball Guide Assy.	A-3032-67	
34.	Ball Guide Assy.	A-3023-78	
35.	Screened Plastic	M-1330-182	
36.	Ball Stop Assy.	A-2898-31	



#1219 FIREBALL II

INDICATES SWITCH ASSEMBLY
IDENTIFICATION NUMBERS

NOTE: CABINET: 07, 16, 17
DOOR: 06, 09
10, 11, 16

INDICATES SOLENOID
IDENTIFICATION NUMBERS

NOTE: DOOR: 14
BACKBOX: 15
CABINET: 02

FIGURE V

GAME #1219 FIREBALL II (FIGURE V)

SOLENOID IDENTIFICATION TABLE

Self Test #	SOLENOID IDENTIFICATION	Self Test #	SOLENOID IDENTIFICATION
01	OUTHOLE KICKER	09	3 DROP TARGET RESET
02	KNOCKER	10	4 DROP TARGET RESET (RIGHT)
03	LEFT THUMPER BUMPER	11	ODIN SAUCER
04	RIGHT THUMPER BUMPER	12	WOTAN SAUCER
05	BOTTOM THUMPER BUMPER	13	POST KICKER
06	LEFT SLINGSHOT	14	COIN LOCKOUT DOOR
07	RIGHT SLINGSHOT	15	KI RELAY (FLIPPER ENABLE)
08	4 DROP TARGET RESET (LEFT)	16	FIREBALL RELAY (FIREBALL UNIT ENABLE)

SWITCH ASSEMBLY SELF-TEST DISPLAY NUMBERS

Switch Self Test #	DESCRIPTION	Switch Self Test #	DESCRIPTION
01	OUTHOLE	21	RIGHT 4 DROP TARGET "D" (BOTTOM)
02	#1 LEFT OF OUTHOLE	22	RIGHT 4 DROP TARGET "C"
03	#2 LEFT OF OUTHOLE	23	RIGHT 4 DROP TARGET "B"
04	WOTAN SAUCER	24	RIGHT 4 DROP TARGET "A" (TOP)
05	ODIN SAUCER	25	10 POINT REBOUND (3)
06	CREDIT BUTTON	26	ODIN & WOTAN TARGET (RIGHT)
07	TILT (3)	27	ODIN & WOTAN TARGET (MIDDLE)
08	FIREBALL RELAY SWITCH *	28	ODIN & WOTAN TARGET (LEFT)
09	COIN III (RIGHT)	29	LEFT 4 DROP TARGET "D" (TOP)
10	COIN I (LEFT)	30	LEFT 4 DROP TARGET "C"
11	COIN II (MIDDLE)	31	LEFT 4 DROP TARGET "B"
12	"D" LANE	32	LEFT 4 DROP TARGET "A" (BOTTOM)
13	"C" LANE	33	3 DROP TARGET (RIGHT)
14	"B" LANE	34	3 DROP TARGET (MIDDLE)
15	"A" LANE	35	3 DROP TARGET (LEFT)
16	SLAM (2)	36	RIGHT SLINGSHOT
17	POST KICKER BUTTON (CAB.)	37	LEFT SLINGSHOT
18	#1 RIGHT OF OUTHOLE	38	BOTTOM THUMPER BUMPER
19	RIGHT OUTLANE	39	RIGHT THUMPER BUMPER
20	LEFT OUTLANE	40	LEFT THUMPER BUMPER

SH RELAY IN BY HAND

NOTE: SLINGSHOT & THUMPER BUMPER COILS
WILL BE ENERGIZED WHEN SWITCH IS MADE.