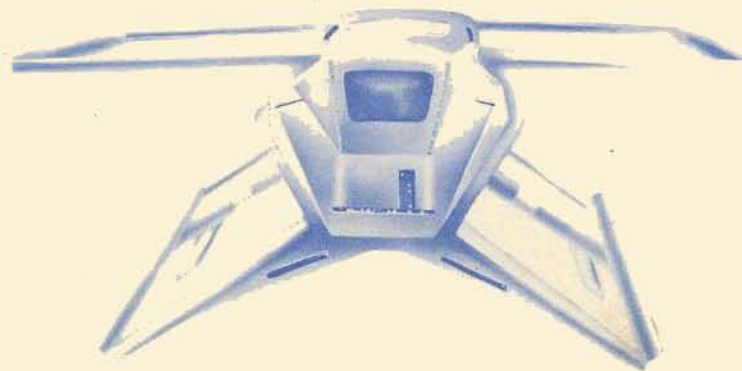


# MOON CRESTA™

## Owner's Manual



**Manual Part No.  
420-0518**

MANUFACTURED BY  
**Gremlin/SEGA**  
TLX 910-335-1621

Gremlin/Sega "MOON CRESTA" is a one or two player game in which players may compete for highest score against the game computer. Each time a player is hit by an alien, the game switches to his opponent's sequence.

The object is to destroy as many of the descending aliens as possible. To accomplish this the player is given a three stage multi-fire Warship. He begins with the first stage, firing a single laser at the enemy. If he is successful in eliminating the first four sets of aliens, he is given an opportunity to dock his first stage onto the second within a specific time limit (the sooner he unites the stages, the higher is his awarded score).

Once docked, the stages combine their firing power, so the first (one laser) adds to the second (two lasers) giving the player a total of three usable lasers as the game continues.

The player then must face two more sets of aliens and a shower of meteors, after which he has a chance to dock again, this time uniting with the third stage for a combined fire power of five lasers. If he is able to defeat the last two sets of aliens intact, the entire sequence begins again. The game continues with increasing difficulty until the entire warship is destroyed. When the warship is hit the player continues with whatever stages remain. If his score reaches 30,000 he is awarded a free game and his score continues to accumulate.

## MOON CRESTA COIN SWITCH OPTIONS

SW2  
SWITCH  
POSITION

RESULTS

All Off

1 Coin 1 Play

3 On

2 Coins 1 Play

4 On

3 Coins 1 Play

3 & 4 On

4 Coins 1 Play

5 & 6 On

Free Play

After changing the position of a contact on SW2 the technician must press the reset switch, SW1, before the new switch selection will be effective.

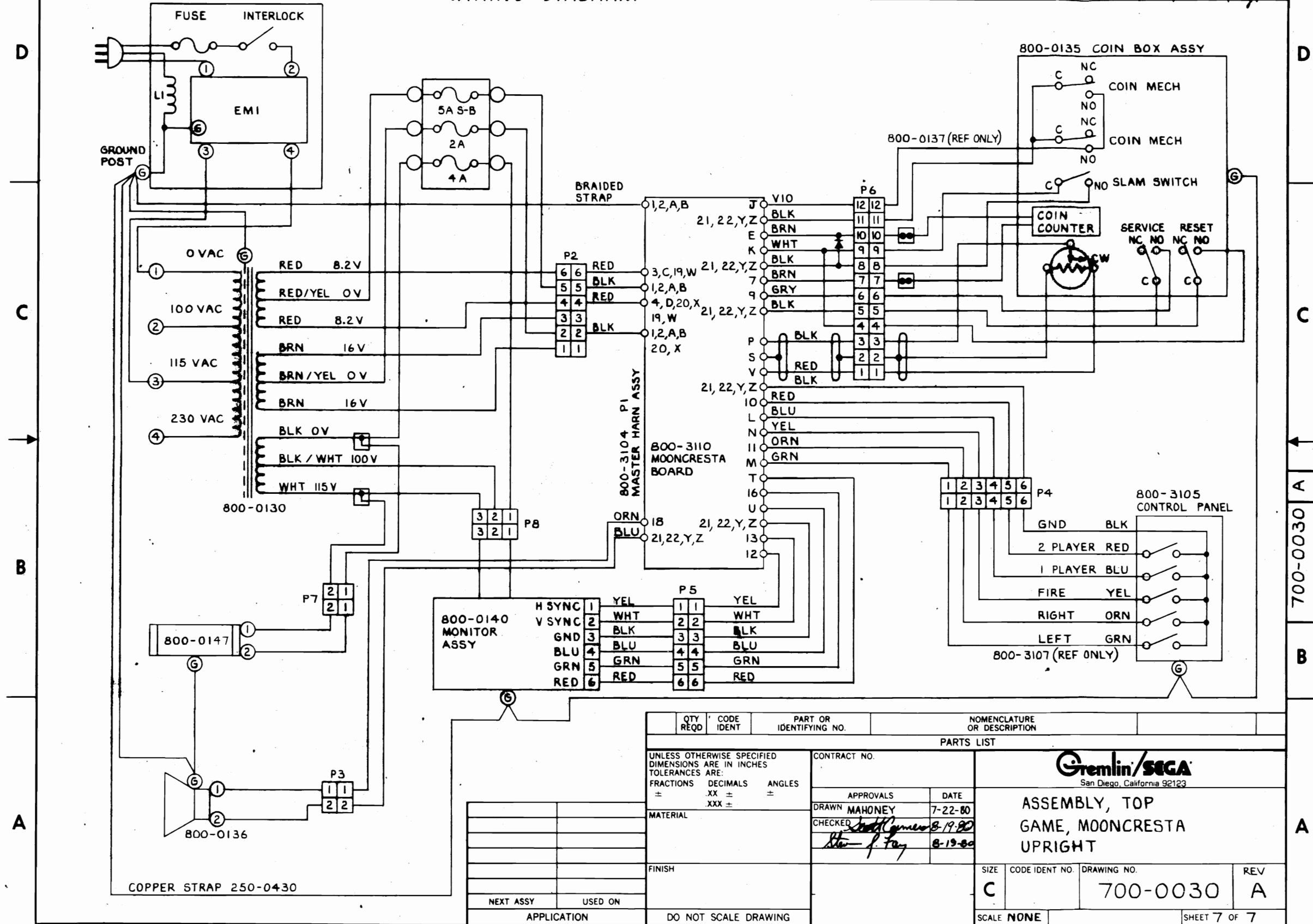
<b>Gremlin Industries, Inc.</b> <small>San Diego, California 92123</small>		<b>PARTS LIST</b>		<b>TITLE ASSY, TOP GAME, MOON CRESTA UPRIGHT</b>		<b>700-0030</b> <b>DWG NO</b>		<b>SH 2</b> <b>OF 7</b>		<b>A</b> <b>REV</b>	
<b>ITEM NO</b>	<b>PART NO</b>	<b>QTY PER ASSY</b>			<b>DESCRIPTION</b>	<b>REF DES</b>					
1	130-0002	1			SPEAKER COVER						
2	140-0021	1			COVER J BOX						
3	140-0049	1			CABINET DIRECT WOODGRAIN						
4	250-0032	1			FRAME BEZEL						
5	250-0034	1			SPRING RETAINER						
6	250-0038	1			MOULDING STRIP						
7	250-0048	1			CLIP SWITCH						
8	250-0356	2			BRKT COLOR MONITOR						
9	250-0430	1			GROUND STRAP UPRIGHT						
10	253-0104	1			WINDOW GLASS						
11	253-0192	1			PANEL LOGO M/C						
12	280-0004	18			CLIP WIRE, HOLD-DOWN						
13	130-0001	1			SPEAKER, GAME 6x9						
14	280-0064	2			SPCR 3/8" LNG PVC						
15	390-0019	1			LAMP, FLOR 18 INCH						
16	420-0028	1			DECAL S/N						
17	420-0030	2			DECAL CAUTION 115V						
18											
19	420-0040	1			DECAL, RECYCLE						
20	420-0041	1			DECAL, S/N SMALL						
21	420-0507	1			LIGHT BAFFLE UPRIGHT 6M						
22	420-0515	1			GRAPHIC INT. CENTER M/C						
23	420-0516	1			GRAPHIC INT. LEFT M/C						
24	420-0517	1			GRAPHIC INT. RIGHT M/C						
25	420-0518	1			MANUAL M/C						

ITEM NO	PART NO	QTY PER ASSY	DESCRIPTION	REF DES
26	420-0519	1	COVER, FUSE BLOCK	
27	514-0025	1	FUSE 2 A SLOW BLO	
28	514-0052	1	FUSE BLOCK	
29	514-0053	1	FUSE 5A SLOW BLO	
30	514-0054	1	FUSE 4A FAST BLO	
31	800-0136	1	ASSY, HARN SPEAKER, UPRIGHT	
32	800-0130	1	ASSY POWER XFMR	
33	800-0147	1	ASSY, FLORESCENT LAMP 2	
34	800-0135	1	ASSY, MECHANICAL COIN MECH	
35	800-0140	1	ASSY, MONITOR CLR 19" VERT	
36	800-3104	1	ASSY HARN MASTER M/C	
37	800-3105	1	ASSY CONTROL PANEL M/C	
38	800-3110	1	ASSY GAME ELECTRONICS M/C	
39	800-0145	1	ASSY A.C. JUNCTION BOX	
40	420-0526	1	MANUAL ELECTROHOME MONITOR (VERTICAL MOUNT)	
41	420-0132	1	LBL PRICE 25¢	
42	800-0142	1	ASSY, GROUND STRAP 12"	
43	320-0020	1	SEALANT, FOAM	
44	280-0324	6	CABLE CLAMP, NYLON	
45		6	SCR. PHL. RD. HD. #6x1/2" SHT. MTL.	
46		16	SCR. PHL. RD. HD. #8x1/2" SHT. MTL.	
47		4	SCR. MACH. SLOT HD. 8-32 x 1/2"	
48		6	BOLT, CARRIAGE 10-24 x 1/4"	
49		4	NUT, HEX 8-32	
50		4	NUT, WING 10-24	

800-0145  
ASSY A.C. JUNCTION BOX

# WIRING DIAGRAM

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		RELEASED	J.M. 8-19-80	<i>[Signature]</i>

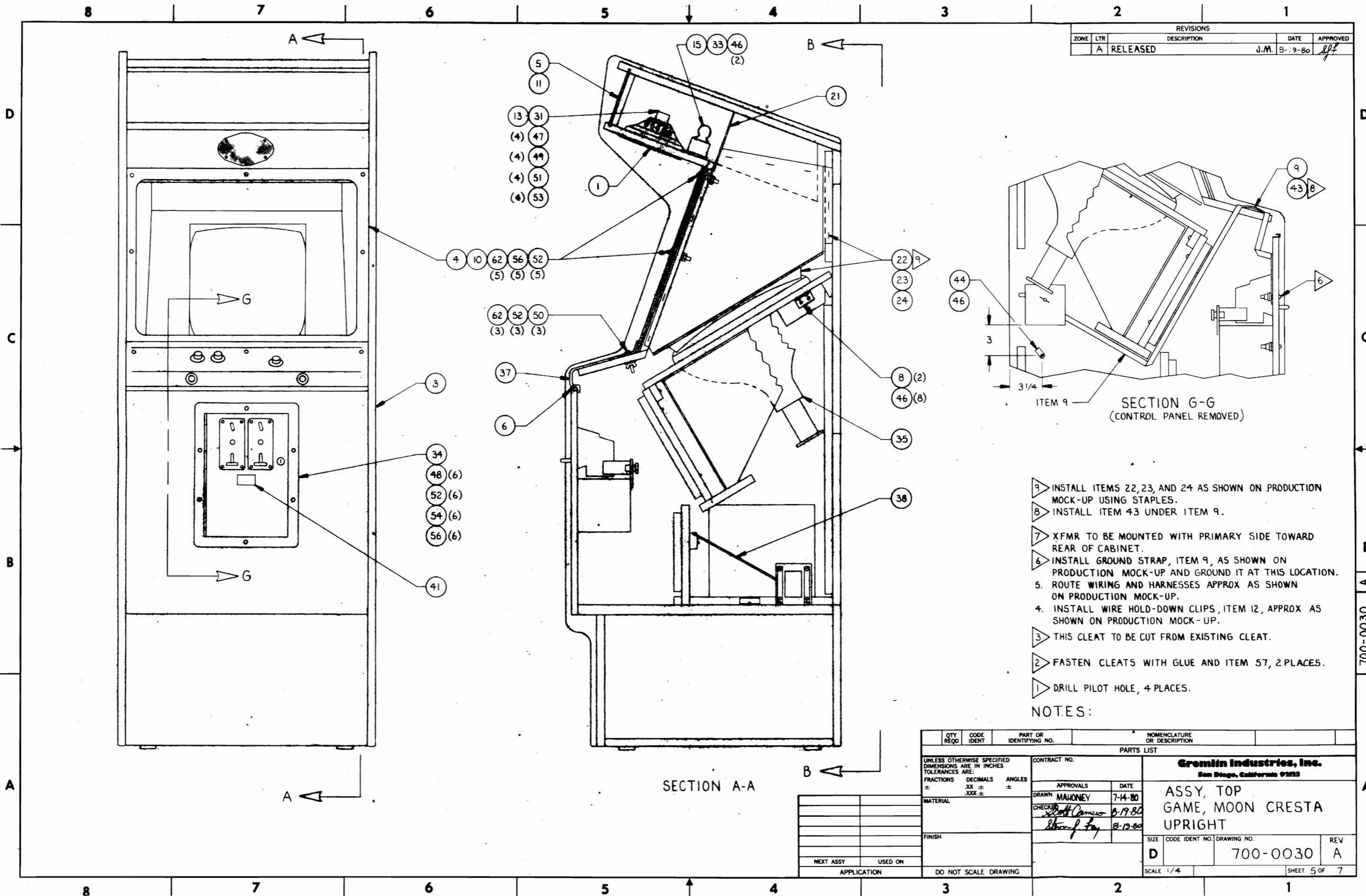


QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CONTRACT NO.	
FRACTIONS	DECIMALS	ANGLES	
±	XX ±	±	
	XXX ±		
MATERIAL		APPROVALS	
		DATE	
		DRAWN MAHONEY 7-22-80	
		CHECKED <i>[Signature]</i> 8-19-80	
		<i>[Signature]</i> 8-19-80	
FINISH		SIZE CODE IDENT NO. DRAWING NO. REV	
		C NONE 700-0030 A	
NEXT ASSY USED ON		SCALE NONE SHEET 7 OF 7	
APPLICATION		DO NOT SCALE DRAWING	

4 3 2 1

700-0030

A



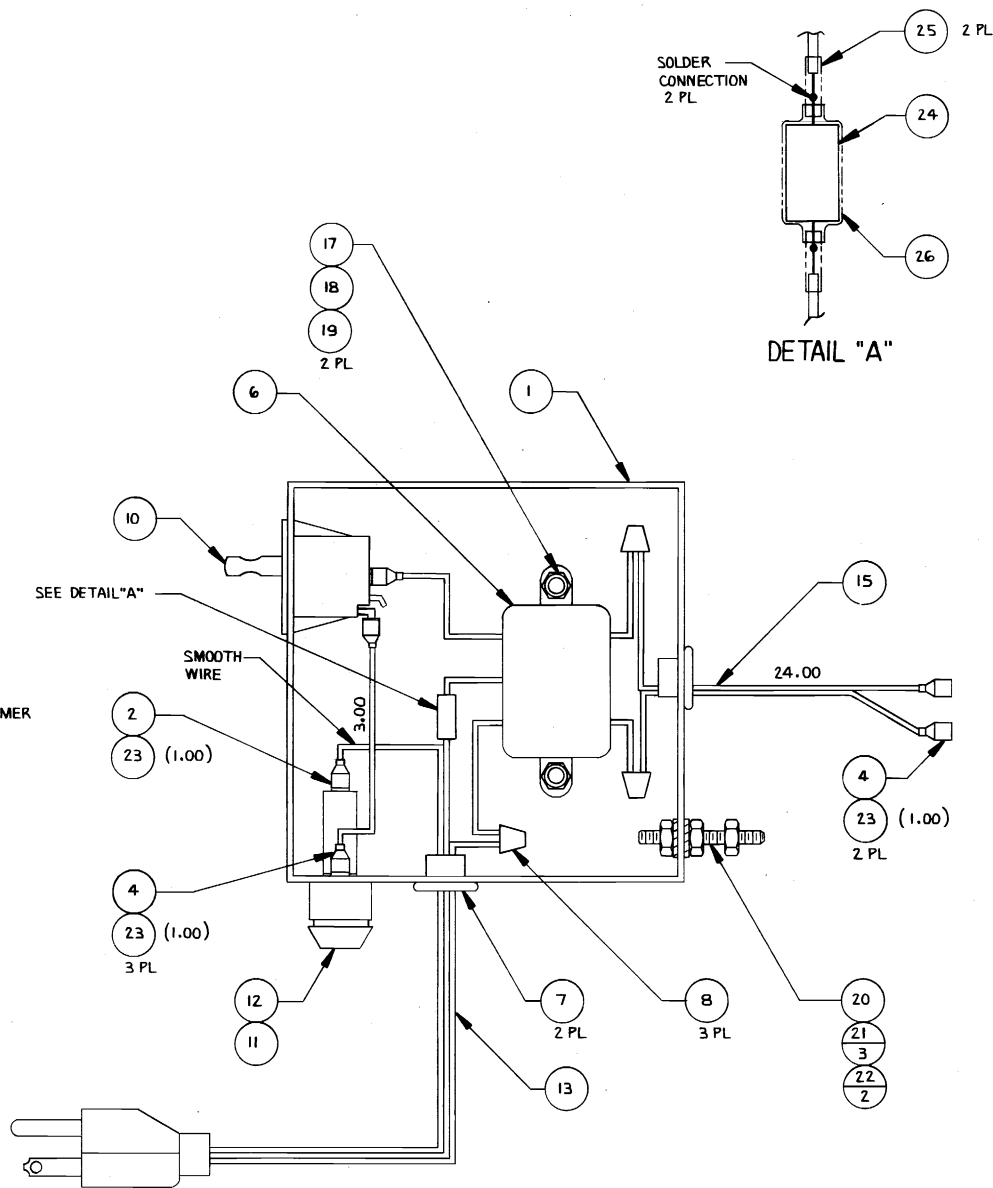
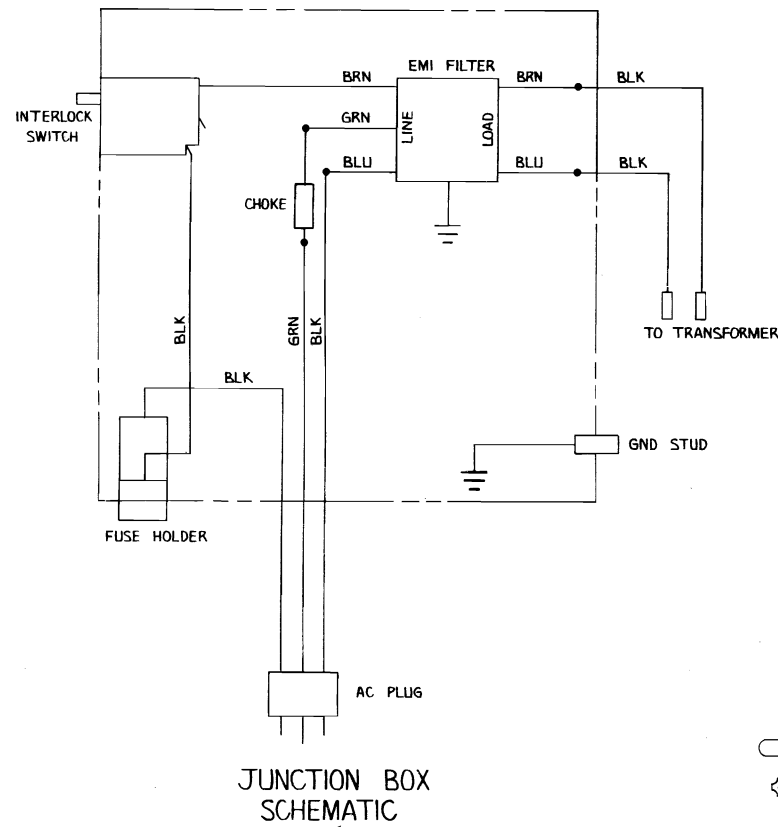
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A	RELEASED		J.M. 8-9-80	[Signature]

- NOTES:
- 9 INSTALL ITEMS 22, 23, AND 24 AS SHOWN ON PRODUCTION MOCK-UP USING STAPLES.
  - 8 INSTALL ITEM 43 UNDER ITEM 9.
  - 7 XFMR TO BE MOUNTED WITH PRIMARY SIDE TOWARD REAR OF CABINET.
  - 6 INSTALL GROUND STRAP, ITEM 9, AS SHOWN ON PRODUCTION MOCK-UP AND GROUND IT AT THIS LOCATION.
  - 5. ROUTE WIRING AND HARNESSES APPROX AS SHOWN ON PRODUCTION MOCK-UP.
  - 4. INSTALL WIRE HOLD-DOWN CLIPS, ITEM 12, APPROX AS SHOWN ON PRODUCTION MOCK-UP.
  - 3 THIS CLEAT TO BE CUT FROM EXISTING CLEAT.
  - 2 FASTEN CLEATS WITH GLUE AND ITEM 57, 2 PLACES.
  - 1 DRILL PILOT HOLE, 4 PLACES.

QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CONTRACT NO.	
FRACTIONS	DECIMALS	ANGLES	
±	.XX ±	±	
	.XXX ±		
MATERIAL		APPROVALS	DATE
FINISH		DRAWN MAHONEY	7-14-80
NEXT ASSY		CHECKED [Signature]	8-17-80
USED ON		[Signature]	8-12-80
APPLICATION		DO NOT SCALE DRAWING	
Grenlin Industries, Inc. San Diego, California 92123			REV
ASSY, TOP GAME, MOON CRESTA UPRIGHT			A
SIZE	CODE IDENT NO.	DRAWING NO.	
D		700-0030	
SCALE 1/4			SHEET 5 OF 7

700-0030

ZONE		REVISIONS		DATE	APPROVED
LTR	DESCRIPTION	DATE	APPROVED		
A	RELEASED	SD	8-8-80		



ITEM NO.	QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
26	2.0			SHRINK TUBING - 1/2 DIA
25	2.0			SHRINK TUBING - 3/16 DIA
24	1		180 - 0008	CHOKE J - BOX
23	6.0			SHRINK TUBING - 1/4 DIA
22	2			WASHER LOCK # 8 INT. STAR
21	3			NUT HEX. HD. 8-32
20	1			STUD 8-32 X 1
19	2			WASHER, LOCK # 6 INT. STAR
18	2			NUT HEX. HD. 6-32
17	2			SCREW 6-32 X 5/8
16				
15	2FT.		600 - 0079	CORD LINE ZIP
14				
13	1		600 - 0001	CORD LINE 3 COND.
12	1		514 - 0005	HOLDER FUSE
11	1		514 - 0001	FUSE 2 AMP 250V S.B.
10	1		510 - 0013	SWITCH SPDT CHERRY
9				
8	3		280 - 0010	NUT WIRE
7	2		280 - 0007	BUSHING S/REL 1/2
6	1		270 - 0001	FILTER EMI
5				
4	5		211 - 0038	CONN QUICK 3/16 FEM.
3				
2	1		211 - 0017	CONN QUICK 1/4 FEM.
1	1		140 - 0020	JUNCTION BOX METAL

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:

FRACTIONS	DECIMALS	ANGLES
±	.XX ± .Z5 ±	±
	.XXX ±	

CONTRACT NO. \_\_\_\_\_

APPROVALS: \_\_\_\_\_ DATE: 8-8-80

DRAWN: SON DUONG

CHECKED: A. AMBROSE

**Gremlin Industries, Inc.**  
San Diego, California 92123

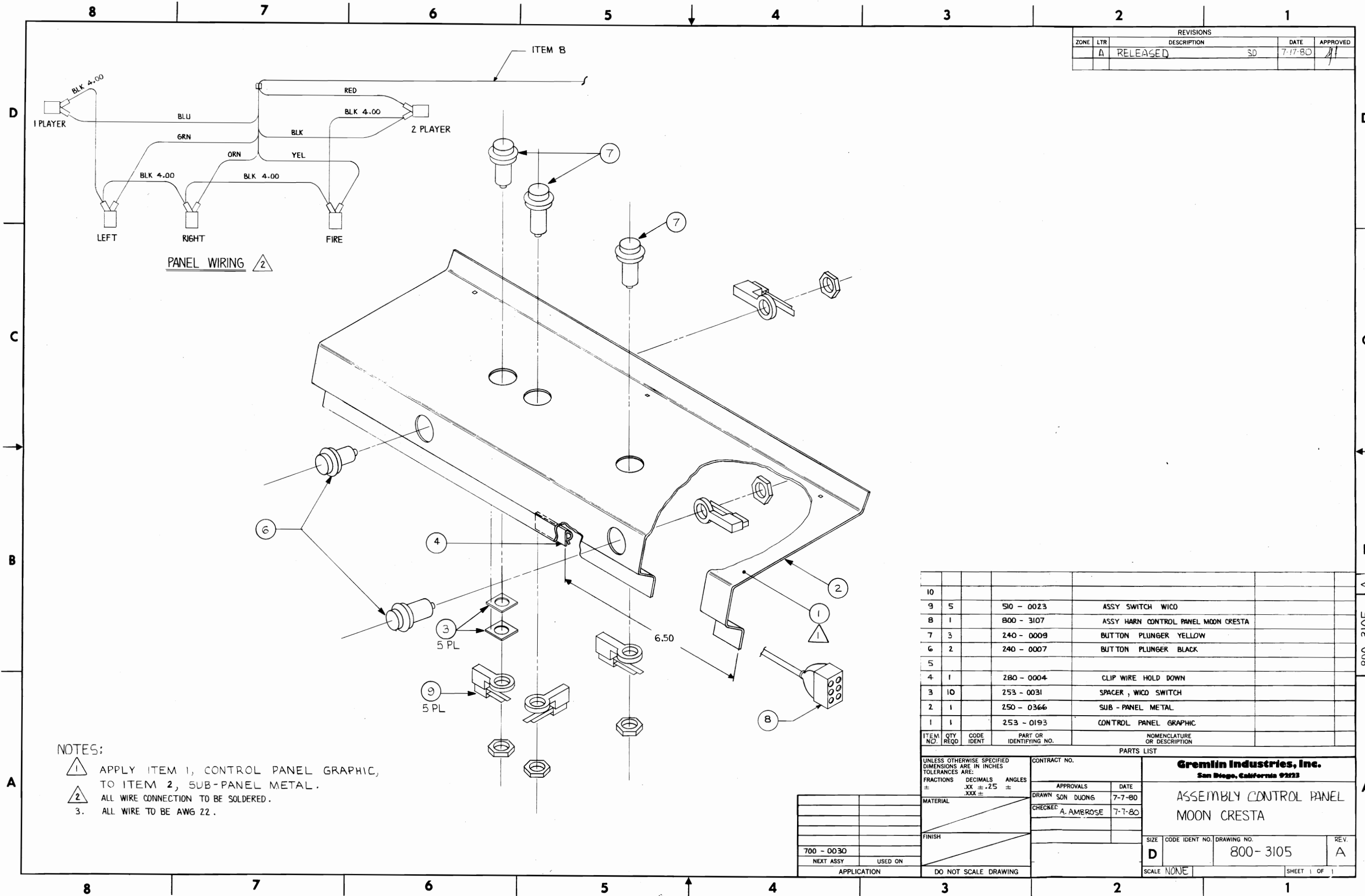
**ASSEMBLY A.C. JUNCTION BOX**

SIZE: D CODE IDENT NO: 800 - 0145 DRAWING NO: 800 - 0145 REV: A

SCALE: NONE SHEET 1 OF 1

800-0145





REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	RELEASED	SD 7-17-80	AT

PANEL WIRING

NOTES:

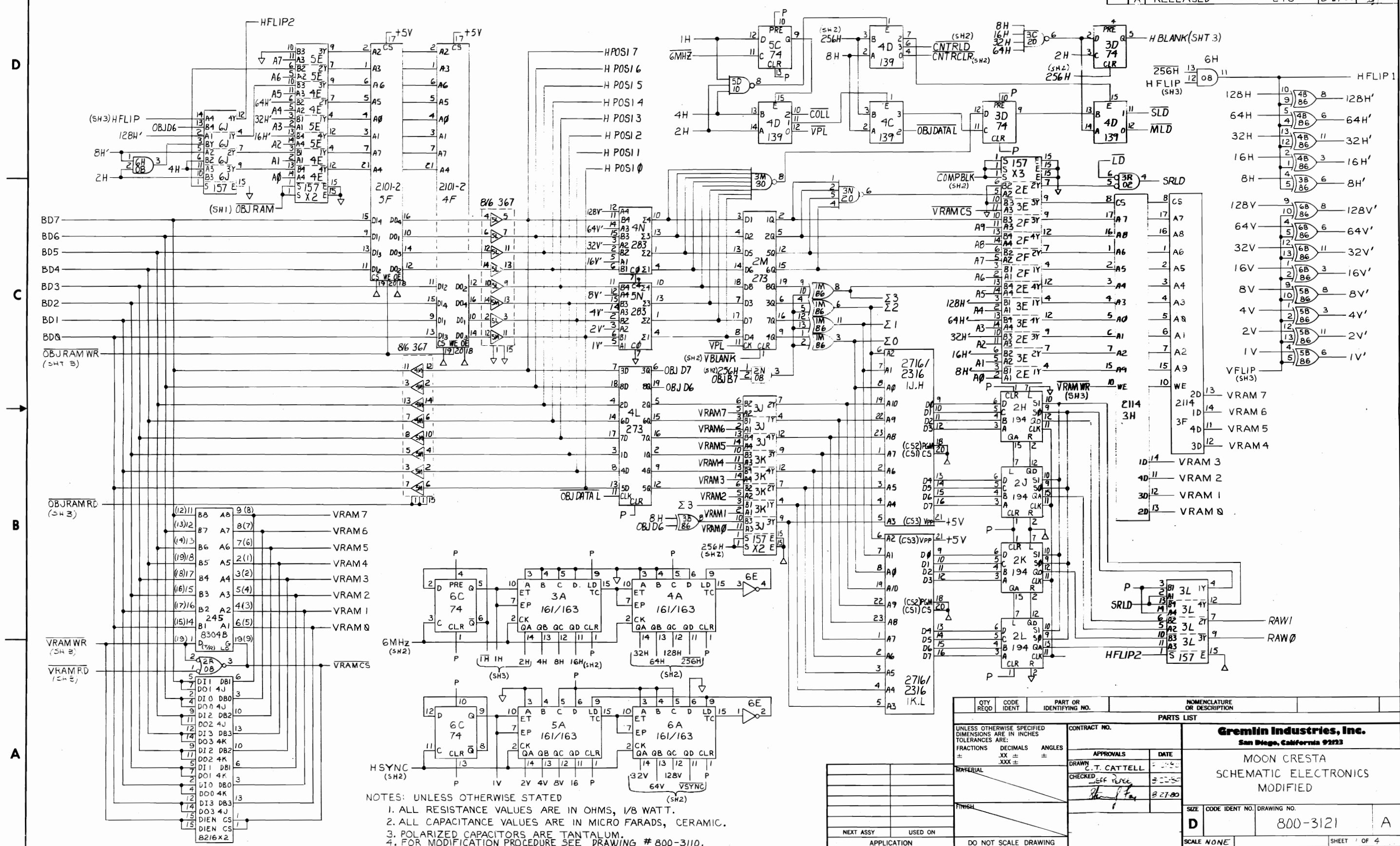
- 1 APPLY ITEM 1, CONTROL PANEL GRAPHIC, TO ITEM 2, SUB-PANEL METAL.
- 2 ALL WIRE CONNECTION TO BE SOLDERED.
- 3. ALL WIRE TO BE AWG 22.

ITEM NO.	QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
10				
9	5		510 - 0023	ASSY SWITCH WICD
8	1		800 - 3107	ASSY HARN CONTROL PANEL MOON CRESTA
7	3		240 - 0009	BUTTON PLUNGER YELLOW
6	2		240 - 0007	BUTTON PLUNGER BLACK
5				
4	1		280 - 0004	CLIP WIRE HOLD DOWN
3	10		253 - 0031	SPACER, WICD SWITCH
2	1		250 - 0366	SUB - PANEL METAL
1	1		253 - 0193	CONTROL PANEL GRAPHIC

PARTS LIST		CONTRACT NO.		Gremlin Industries, Inc. San Diego, California 92123	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		APPROVALS		DATE	
FRACTIONS	DECIMALS	DRAWN SON DUONG		7-7-80	
±	.XX ± .25 ±	CHECKED A. AMEROSE		7-7-80	
	.XXX ±				
MATERIAL	FINISH	SIZE		CODE IDENT NO.	DRAWING NO.
		D		800-3105	REV. A
700 - 0030		SCALE NONE		SHEET 1 OF 1	
NEXT ASSY	USED ON	APPLICATION		DO NOT SCALE DRAWING	

MAIN I.C. BOARD SHT 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		RELEASED	CTC	8-27-80



- NOTES: UNLESS OTHERWISE STATED
1. ALL RESISTANCE VALUES ARE IN OHMS, 1/8 WATT.
  2. ALL CAPACITANCE VALUES ARE IN MICRO FARADS, CERAMIC.
  3. POLARIZED CAPACITORS ARE TANTALUM.
  4. FOR MODIFICATION PROCEDURE SEE DRAWING # 800-3110.

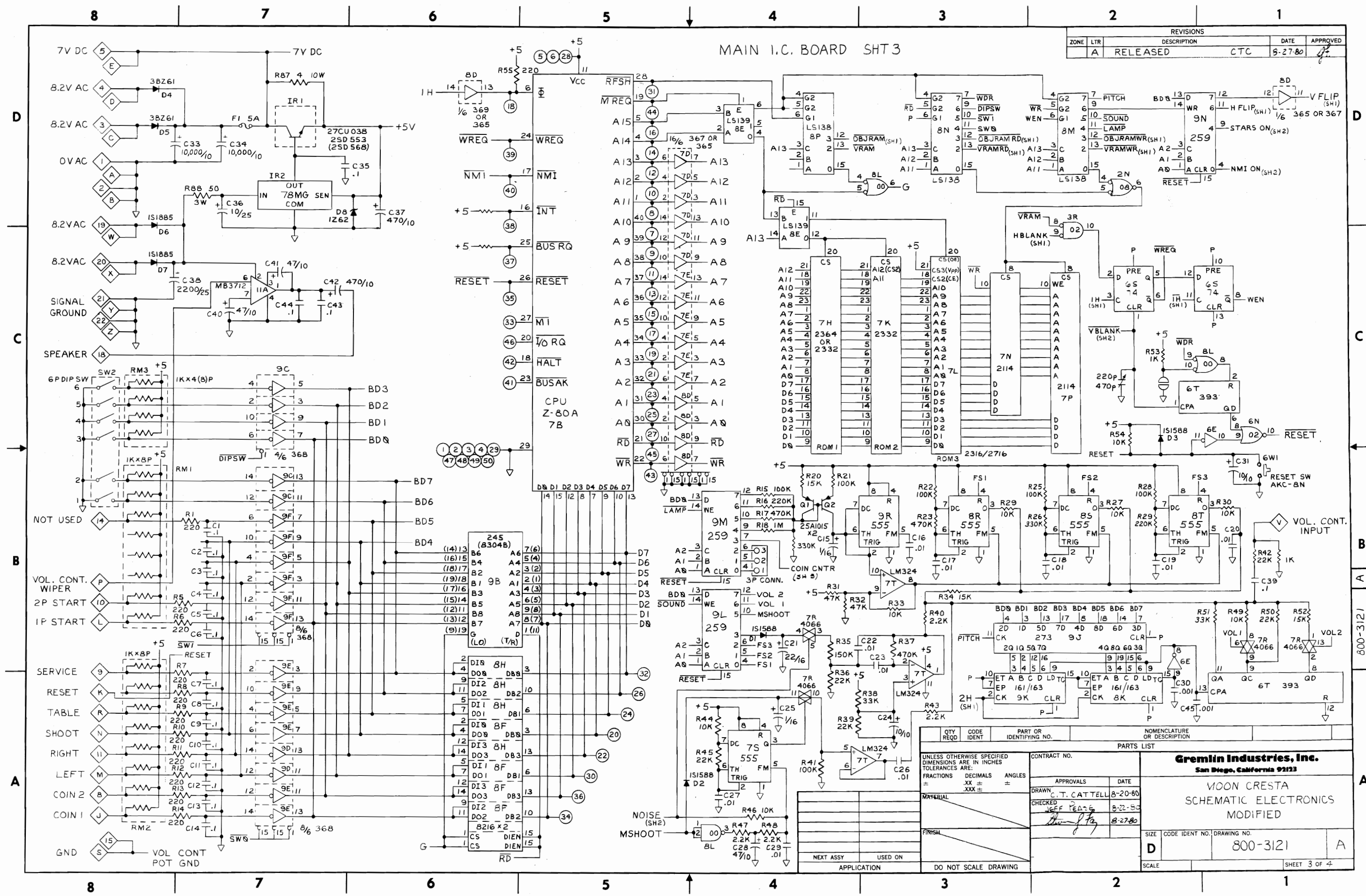
QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:			
FRACTIONS	DECIMALS	ANGLES	
±	.XX ±	±	
	.XXX ±		
MATERIAL		CONTRACT NO.	
FINISH		APPROVALS	
NEXT ASSY		DATE	
USED ON		DRAWN	
APPLICATION		CHECKED	
DO NOT SCALE DRAWING		DATE	
<p style="text-align: center;"><b>Gremlin Industries, Inc.</b> San Diego, California 92123</p> <p style="text-align: center;">MOON CRESTA SCHEMATIC ELECTRONICS MODIFIED</p>			
SIZE	CODE IDENT NO.	DRAWING NO.	
D		800-3121	
SCALE	NONE	SHEET 1 OF 4	

800-3121

A

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE
A		RELEASED	CTC 8-27-80

### MAIN I.C. BOARD SHT 3

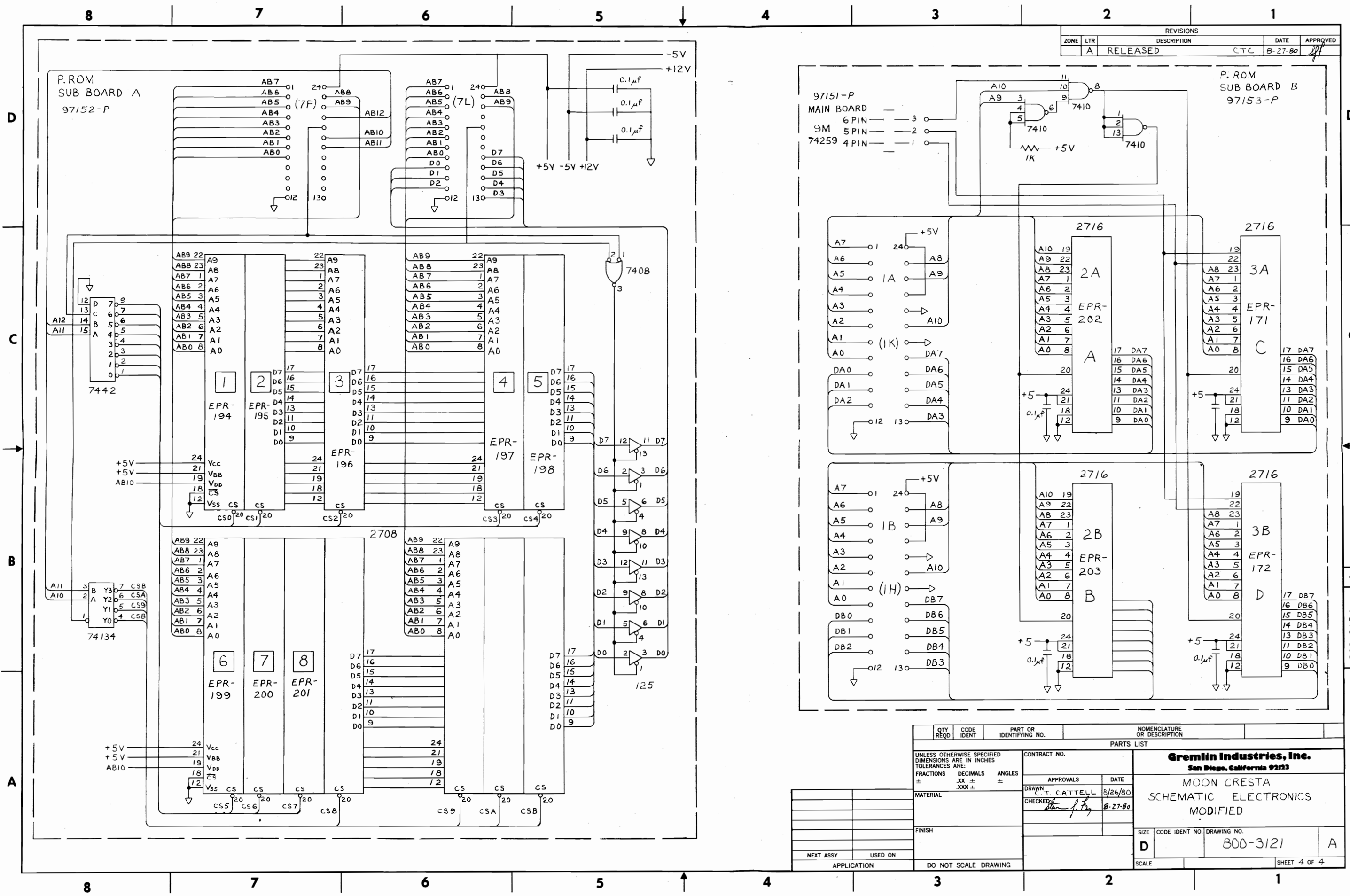


QTY REQD		CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES = .XX ± .XXX ±				
MATERIAL		CONTRACT NO.		
FINISH		APPROVALS DATE		
NEXT ASSY USED ON		DRAWN C.T. CATTELL 8-20-80		
APPLICATION		CHECKED JEFF PEARCE 8-22-80		
DO NOT SCALE DRAWING		SIZE CODE IDENT NO. DRAWING NO.		
SCALE		D 800-3121 A		
		SHEET 3 OF 4		

**Gremlin Industries, Inc.**  
San Diego, California 92123

VOON CRESTA  
SCHEMATIC ELECTRONICS  
MODIFIED

800-3121 A



REVISIONS			
ZONE	LTR	DESCRIPTION	DATE
A		RELEASED	8-27-80

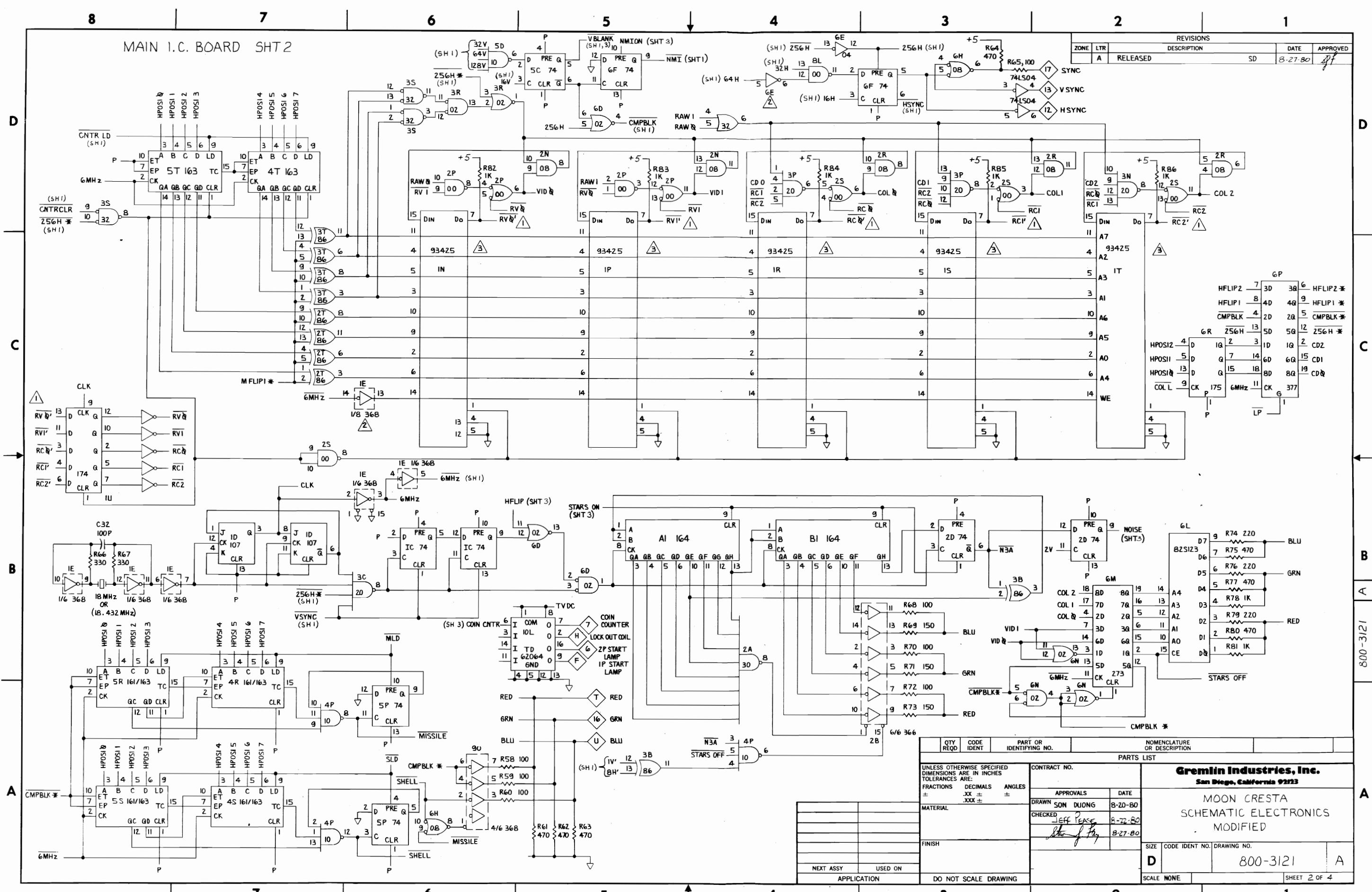
QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:			
FRACTIONS	DECIMALS	ANGLES	
±	.XX ±	±	
MATERIAL		CONTRACT NO.	<b>Gremlin Industries, Inc.</b> San Diego, California 92123
FINISH		APPROVALS	
NEXT ASSY USED ON		DATE	MOON CRESTA SCHEMATIC ELECTRONICS MODIFIED
APPLICATION		DRAWN: T. CATTELL CHECKED: [Signature] 8-27-80	SIZE: D CODE IDENT NO.: 800-3121 DRAWING NO.: A
DO NOT SCALE DRAWING		SCALE	SHEET 4 OF 4

MAIN I.C. BOARD SHT 2

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE
A	RELEASED		8-27-80

D  
C  
B  
A

D  
C  
B  
A



QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± .XXX ±
MATERIAL		CONTRACT NO.	
FINISH		APPROVALS	
NEXT ASSY		DRAWN SON DJONG 8-20-80	
USED ON		CHECKED JEFF PEASE 8-22-80	
APPLICATION		DATE 8-27-80	
		DO NOT SCALE DRAWING	

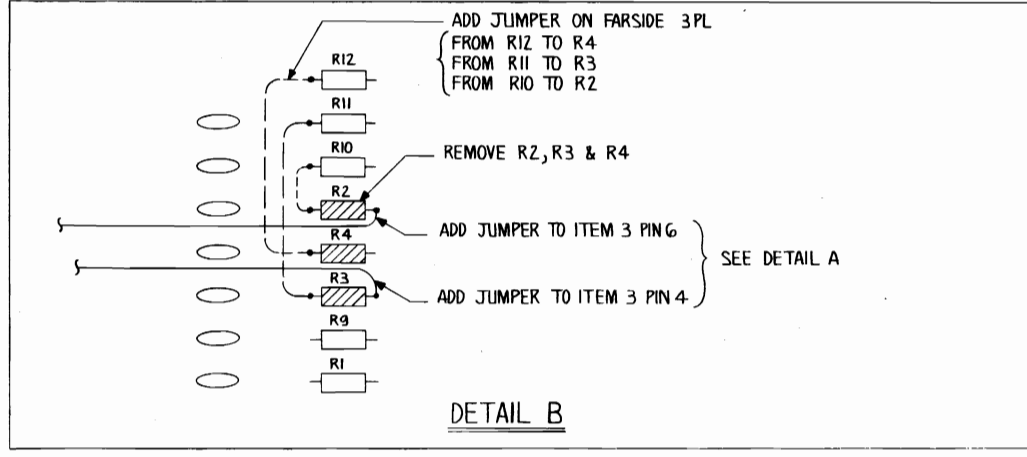
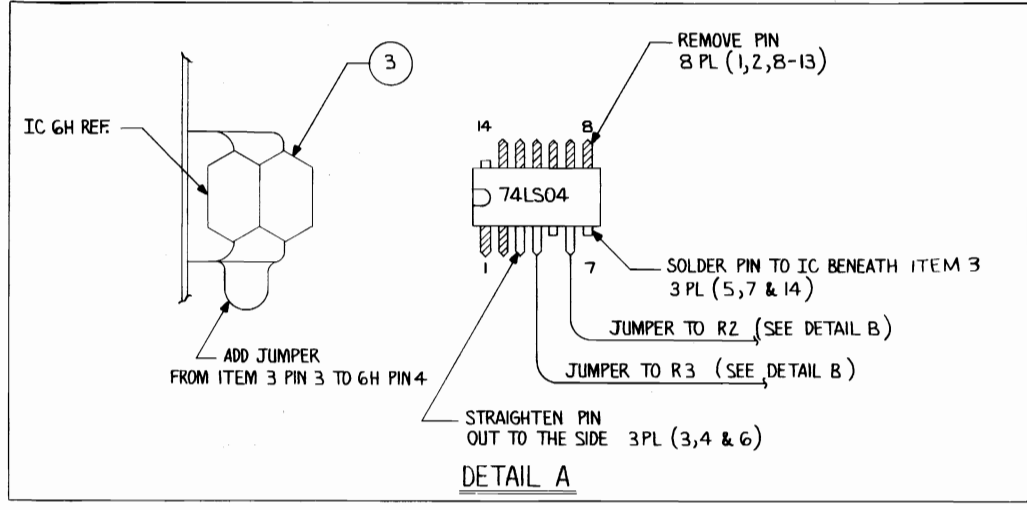
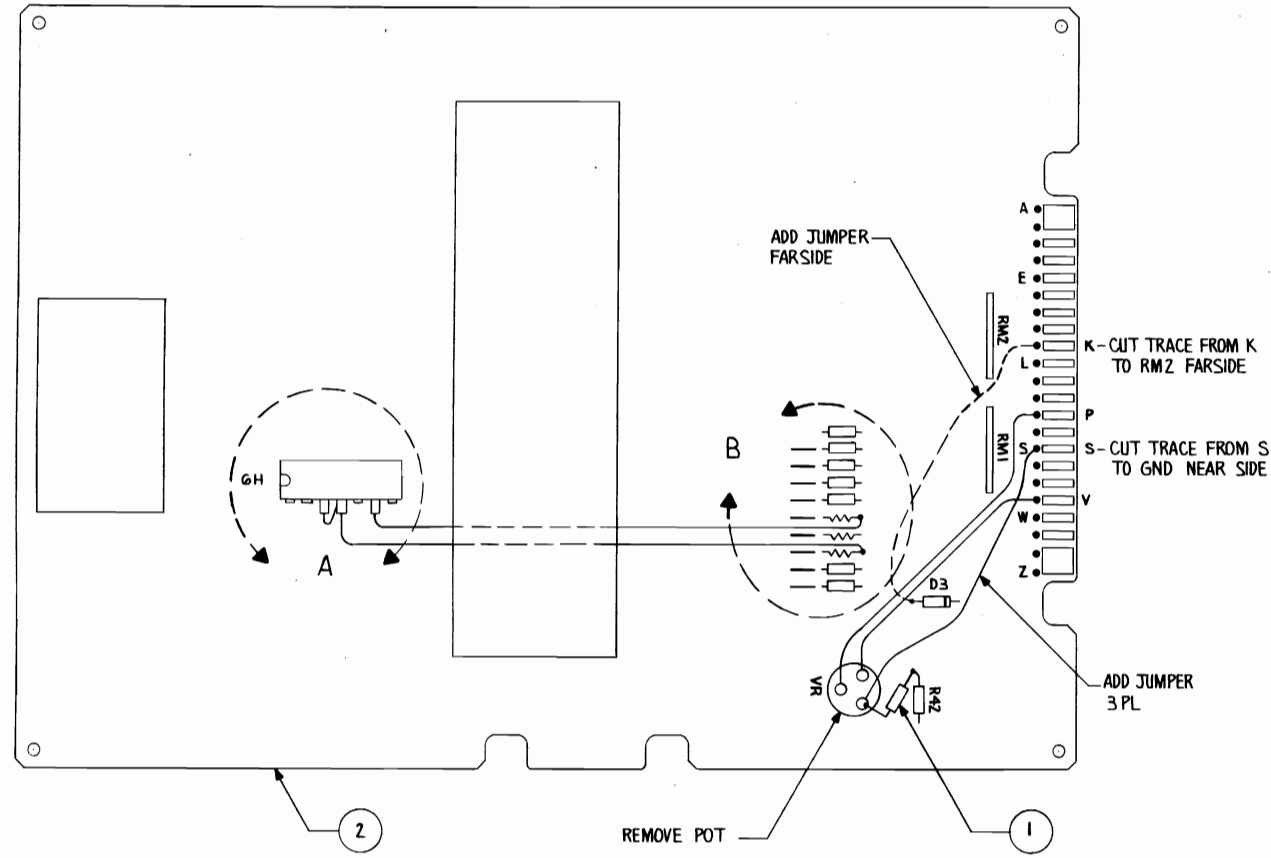
  

PARTS LIST			
SIZE	CODE IDENT NO.	DRAWING NO.	
D		800-3121	A
SCALE	NONE		SHEET 2 OF 4

800-3121

A

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		RELEASED	SD 7-17-80	[Signature]



NOTES:  
1. ALL JUMPER WIRE TO BE AWG 26.

ITEM NO.	QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
3	1		314 - 0019	IC 74LS04
2	1		834 - 0026	ASSY GAME ELEC. M/C
1	1		.470 - 0102	RESISTOR 1K, 1/4 W, 5%

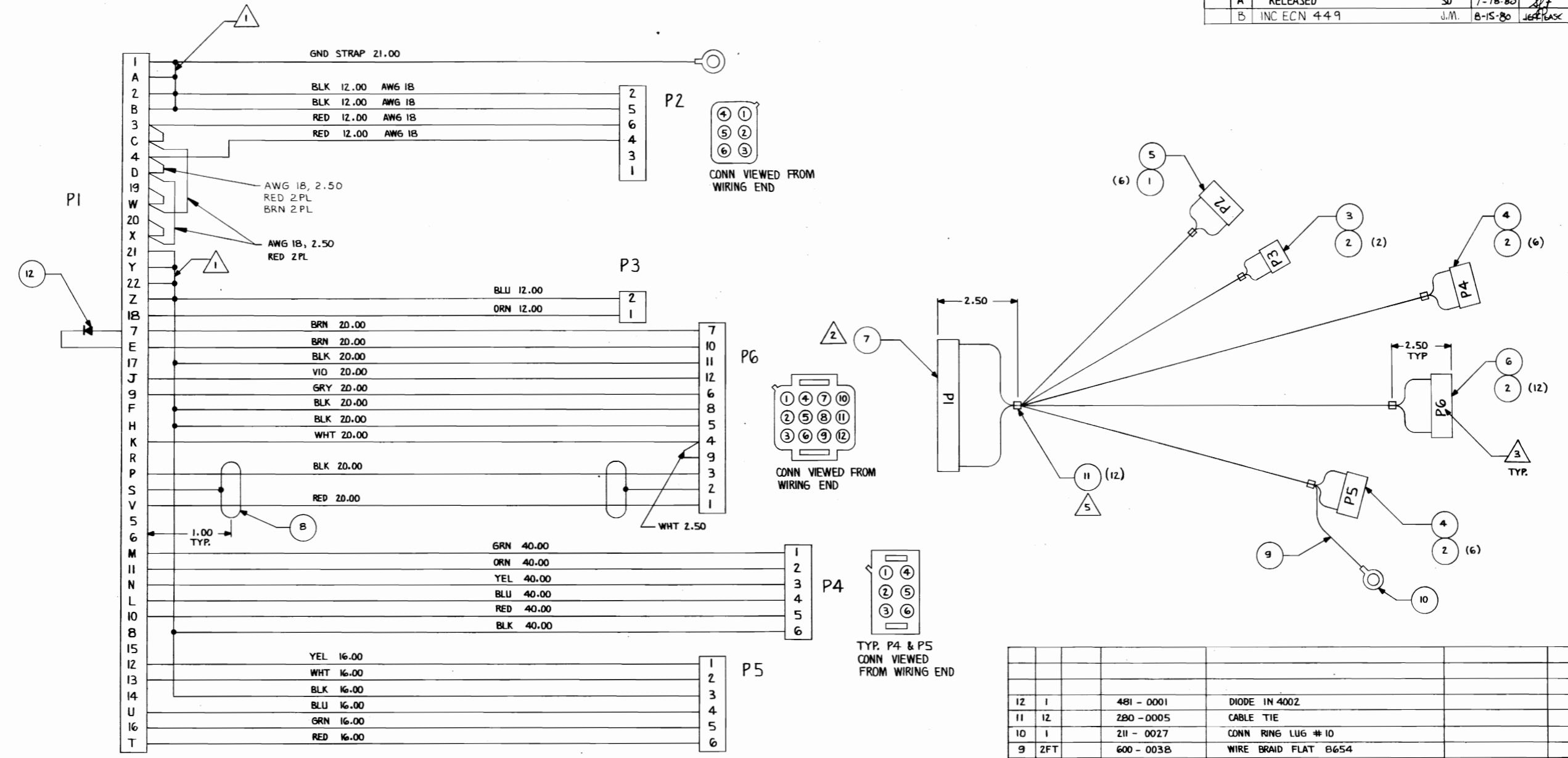
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CONTRACT NO.	
FRACTIONS	DECIMALS	APPROVALS	DATE
±	.XX ±	DRAWN SON DUONG	7-17-80
	.XXX ±	CHECKED A. AMBROSE	7-17-80
MATERIAL		FINISH	
TOO-0030			
NEXT ASSY USED ON		DO NOT SCALE DRAWING	
APPLICATION		SCALE NONE	

<b>Gremlin Industries, Inc.</b> San Diego, California 92123		
ASSY GAME ELECTRONICS M/C MODIFIED		
SIZE	CODE IDENT NO.	DRAWING NO.
D		800 - 3110
REV.	A	
SHEET 1	OF 1	

011E-008

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		RELEASED	SD 7-18-80	[Signature]
B		INC ECN 449	J.M. 8-15-80	JEFF BLASK



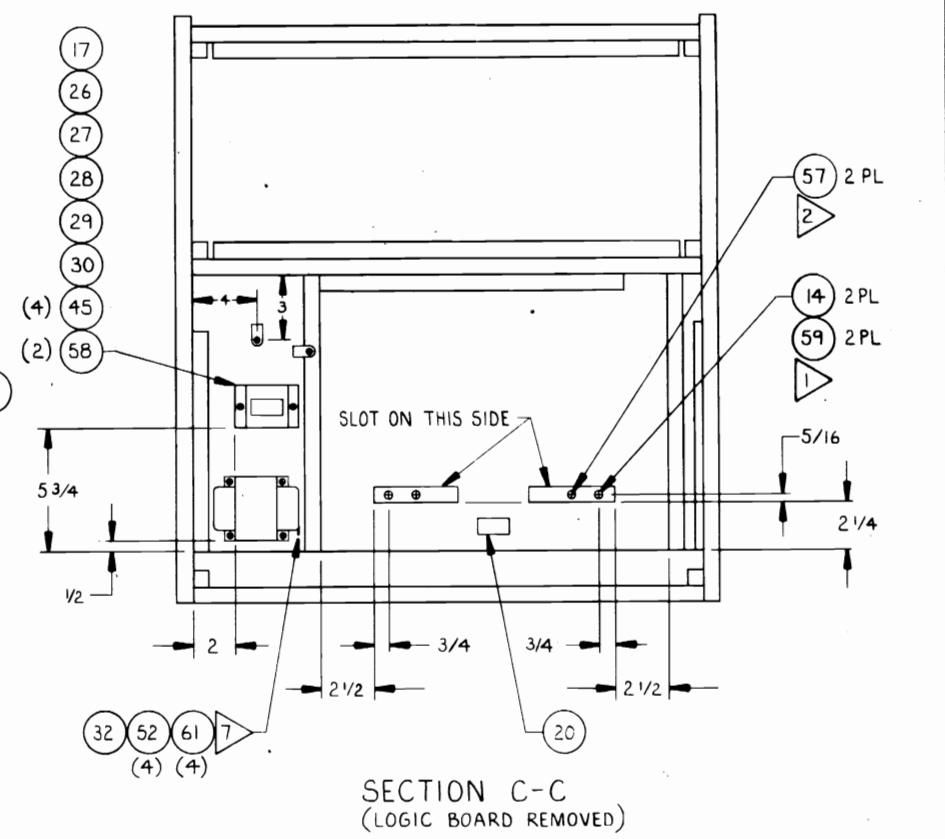
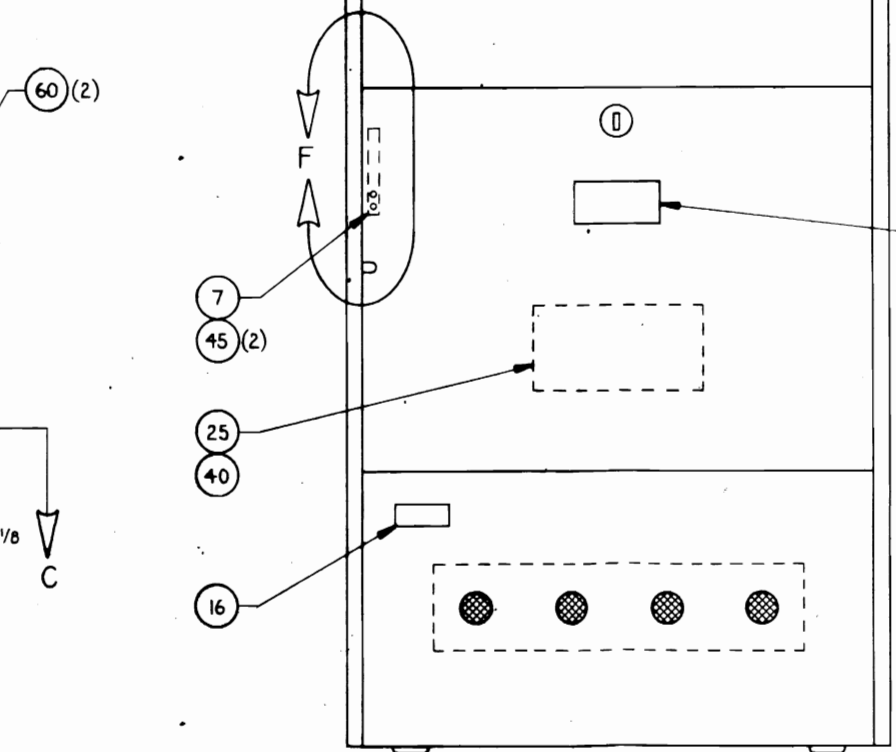
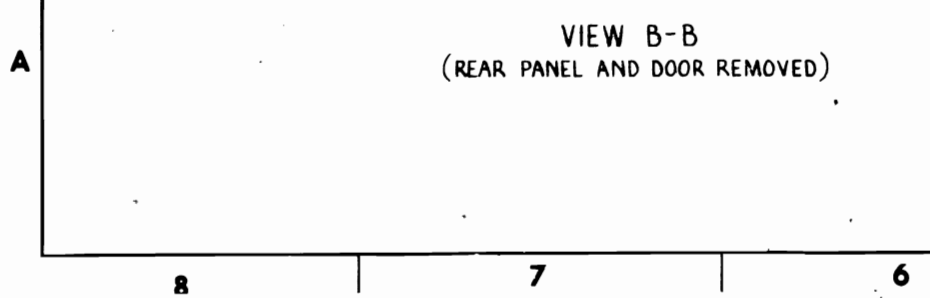
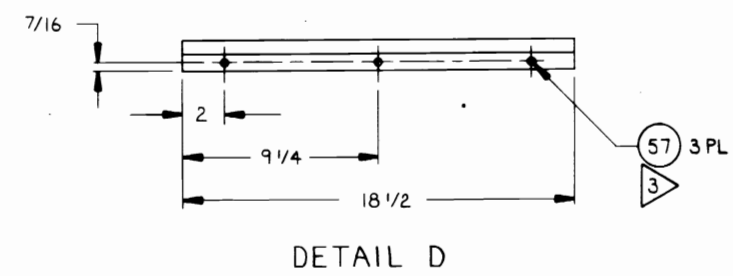
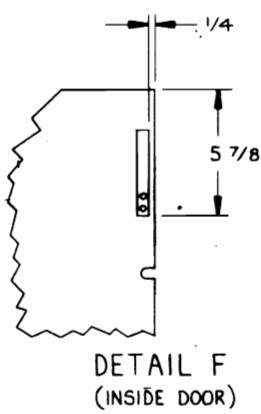
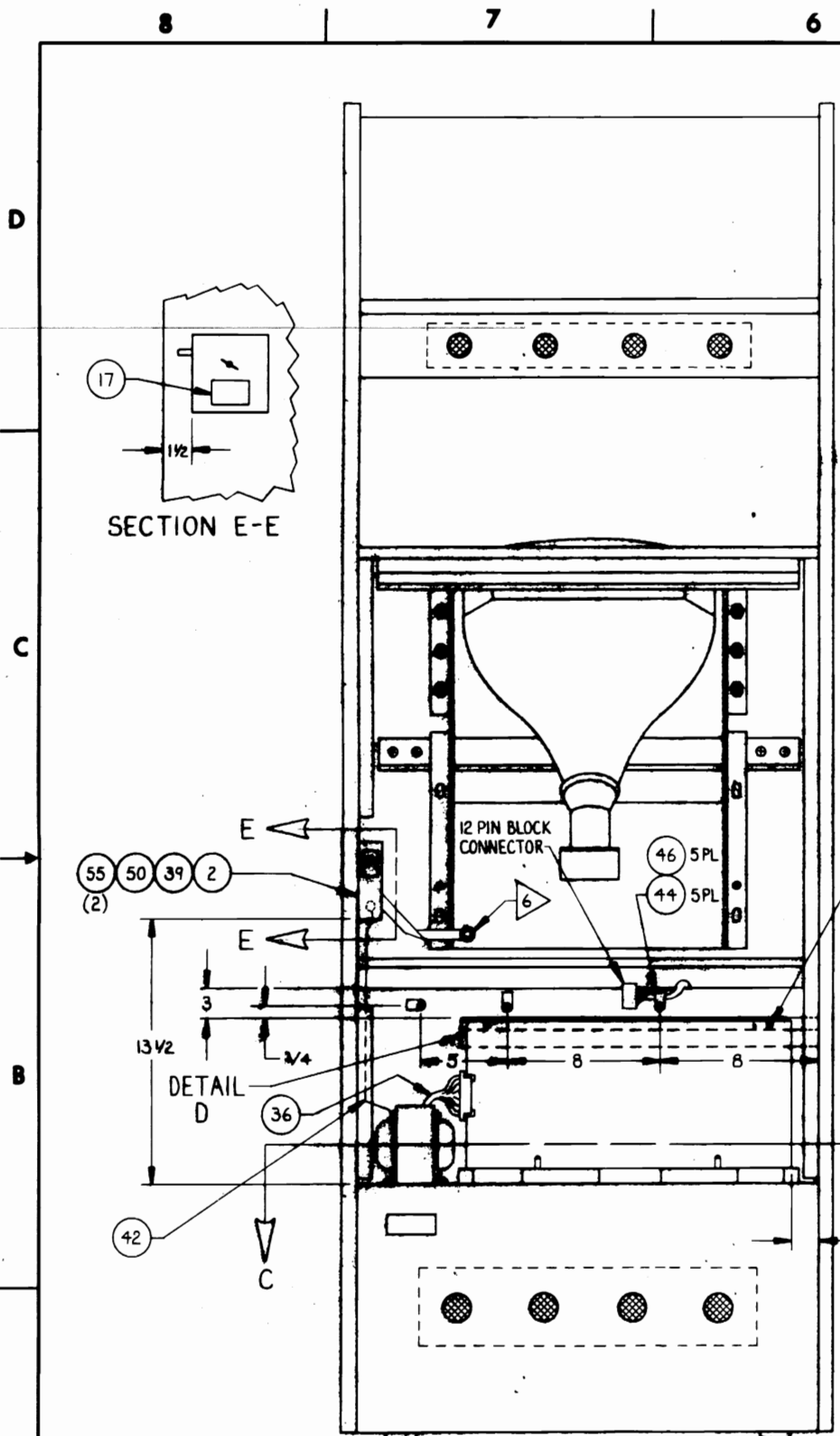
ITEM NO.	QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
12	1		481 - 0001	DIODE IN 4002
11	12		Z80 - 0005	CABLE TIE
10	1		Z11 - 0027	CONN RING LUG # 10
9	2FT		600 - 0038	WIRE BRAID FLAT B654
8	2FT		600 - 0029	CABLE 2 COND SHIELD
7	1		Z11 - 0050	CONN 44 PIN CARD EDGE
6	1		Z11 - 0025	CONN PLUG AMP 12 PIN
5	1		Z11 - 0046	CONN CAP AMP 6 PIN
4	2		Z11 - 0045	CONN PLUG AMP 6 PIN
3	1		Z11 - 0043	CONN PLUG AMP 2 PIN
2	26		Z11 - 0042	CONN SOCKET AMP
1	4		Z11 - 0041	CONN PIN AMP

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS .XX ± .25 ± DECIMALS .XXX ± .005 ± ANGLES ± .5° ±		CONTRACT NO.		<b>Gremlin Industries, Inc.</b> San Diego, California 92123	
MATERIAL		APPROVALS	DATE		
FINISH		DRAWN SON DUONG	7-15-80	ASSY HARNESS MASTER M/C	
700-0030		CHECKED			
NEXT ASSY USED ON		SCALE NONE		SIZE	CODE IDENT NO. DRAWING NO.
APPLICATION		DO NOT SCALE DRAWING		D	800 - 3104
				REV.	B
				SHEET 1 OF 1	

- NOTES:
- 5 INSTALL CABLE TIES, ITEM 11, EVERY 6-8 INCHES AS REQUIRED BETWEEN LOCATIONS SHOWN.
  - 4. ALL WIRE TO BE AWG 22 UNLESS OTHERWISE SPECIFIED.
  - 3 MARK REF. DES. ON SIDE OF CONN. HOUSING USING BLK INK, .12 HIGH CHARACTERS.
  - 2 COVER ALL EXPOSED WIRE CONNECTIONS WHERE POSSIBLE USING 1/8 SHRINK TUBING.
  - 1 USE SOLID BARE COPPER WIRE, AWG 18, TO BUSS CONTACTS TOGETHER.

800 - 3104

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A	RELEASED		J.M. 8-19-80	<i>[Signature]</i>



QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
PARTS LIST			
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:</p> <p>FRACTIONS ± .XX ± .XXX ±</p> <p>DECIMALS ± .XX ± .XXX ±</p> <p>ANGLES ±</p>			
CONTRACT NO.		<b>Gremlin Industries, Inc.</b> San Diego, California 92123	
APPROVALS		DATE	
DRAWN MAHONEY		7-16-80	
CHECKED <i>[Signature]</i>		E-11-EC	
MATERIAL		SIZE CODE IDENT NO. DRAWING NO. REV	
FINISH		D 700-0030 A	
NEXT ASSY		SCALE	
USED ON		SHEET 6 OF 7	
APPLICATION		DO NOT SCALE DRAWING	

700-0030 A



4

3

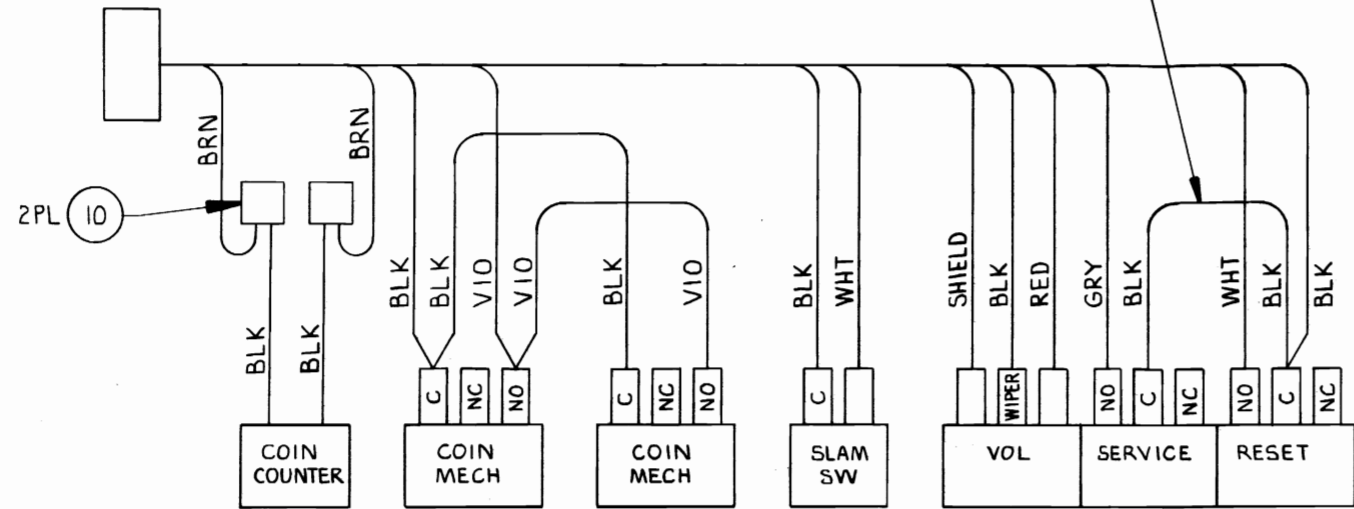
2

1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		RELEASED	J.M. 7-17-80	<i>Jf</i>

D

D



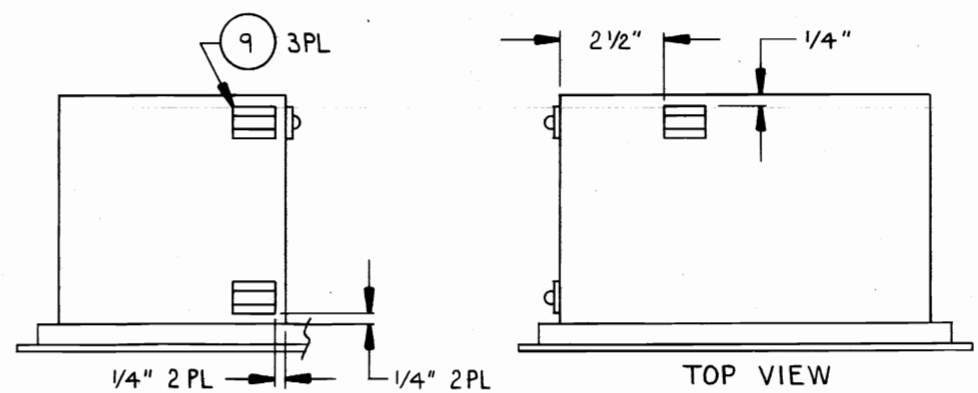
WIRING DIAGRAM

C

C

B

B




LOCATION OF CLIP, WIRE HOLD DOWN

800-0135

B

A

A

QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES $\pm \frac{1}{4}$ XX $\pm$ XXX $\pm$		CONTRACT NO.	
MATERIAL		APPROVALS	DATE
FINISH		DRAWN MAHONEY	7-11-80
NEXT ASSY USED ON		CHECKED A. AMBROSE	7-15-80
APPLICATION		 <b>ASSEMBLY, MECHANICAL COIN MECHANISM</b>	
DO NOT SCALE DRAWING		SIZE C	CODE IDENT NO. 800-0135
		DRAWING NO. 800-0135	REV A
		SCALE NONE	SHEET 2 OF 2

4

3

2

1