GAUNTLET™

Operators Manual

Complete with Illustrated Parts Lists
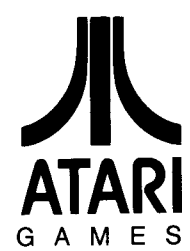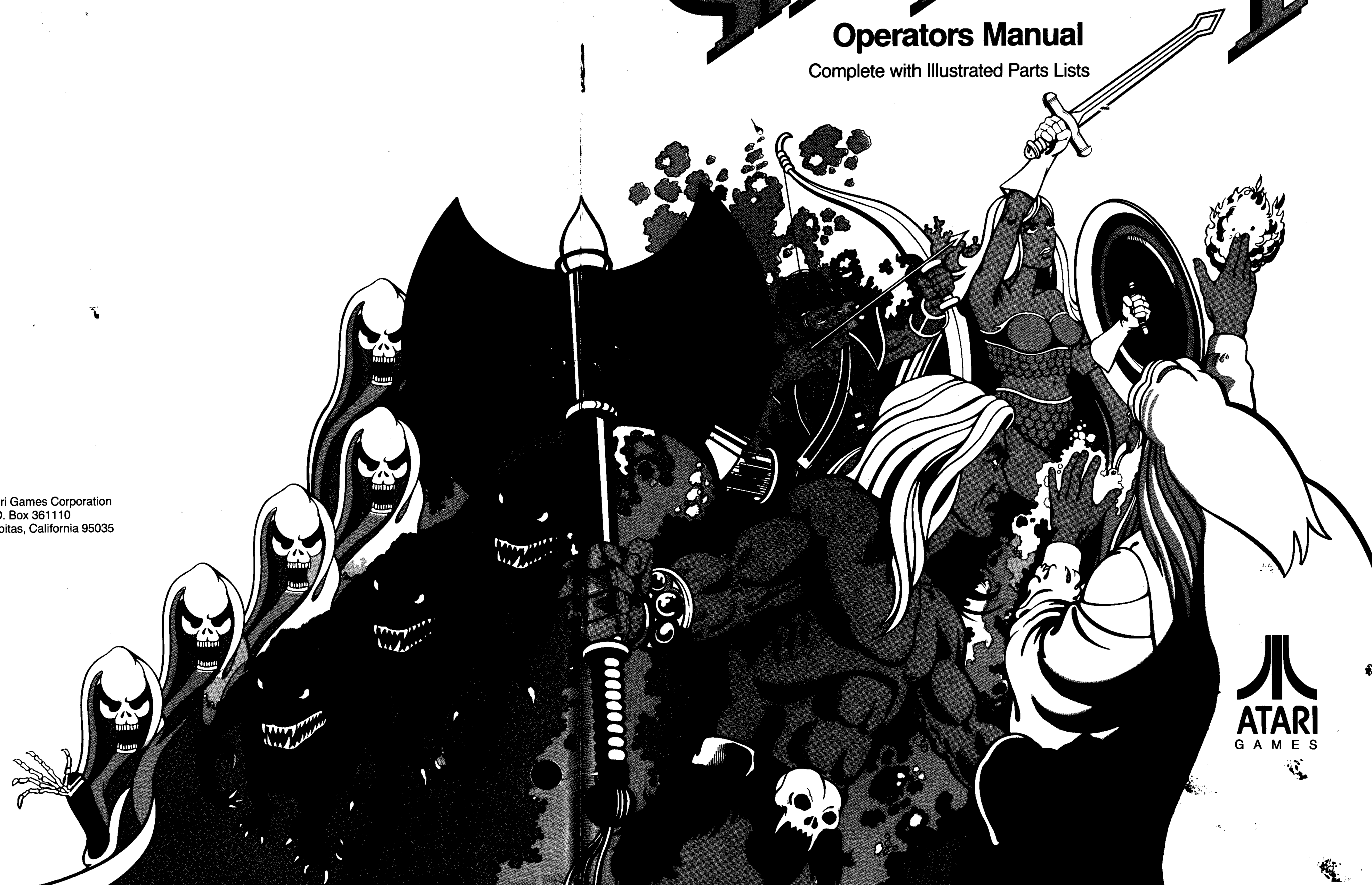
Gauntlet™ Operators Manual

with Illustrated Parts Lists

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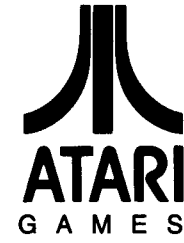**Tape This Edge**

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Notice Regarding Non-ATARI Parts

⚠ — **WARNING** — ⚠

Use of non-ATARI® parts or modifications of
any ATARI game circuitry may adversely affect
the safety of your game, and may cause injury
to you and your players.

You may void the game warranty (printed on the inside back cover of this manual) if you
do any of the following:

- Substitute non-ATARI parts in the game.
- Modify or alter any circuits in the game by using kits or parts *not* supplied by Atari Games
  Corporation.

NOTE

This equipment generates, uses, and can radiate radio frequency energy and if not installed
and used in accordance with the instruction manual, may cause interference to radio com-
munications. It has been tested and found to comply with the limits for a Class A computing
device pursuant to Subpart J of Part 15 of Federal Communications Commission (FCC) Rules,
which are designed to provide reasonable protection against such interference when op-
erated in a commercial environment. Operation of this equipment in a residential area or
modification to this equipment is likely to cause interference in which case the user, at his
own expense, will be required to take whatever measures may be required to correct the
interference. If you suspect interference from an ATARI® game at your location, check the
following:

- All green ground wires in the game are properly connected as shown in the game wiring
  diagram.
- The power cord is properly plugged into a grounded three-wire outlet.

If you are still unable to solve the interference problem, please contact Customer Service at
Atari Games Corporation. See the inside front cover of this manual for service in your area.

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List of Illustrations

List of Tables

Regulator/Audio III Printed-Circuit Board Assembly
Parts List, continued

Designator	Description	Part No.
R19	5.6 kΩ, ±5%, ¼ W Resistor	110000-562
R20	2.7 Ω, ±5%, 1 W Resistor	110009-027
R21	27 Ω, ±5%, ¼ W Resistor	110000-270
R22	100 Ω, ±5%, ¼ W Resistor	110000-101
R23	0.1 Ω, ±5%, 5 W Resistor	116007-001
R24	5.6 kΩ, ±5%, ¼ W Resistor	110000-562
R25–R27	0.1 Ω, ±5%, 5 W Resistor	116007-001
R28	2.7 Ω, ±5%, ¼ W Resistor	110000-027
R29	7.5 kΩ, ±5%, ¼ W Resistor	110000-752
R31	3.9 kΩ, ±5%, ¼ W Resistor	110000-392
R32	2.7 Ω, ±5%, ¼ W Resistor	110000-027
R33, R34	22 kΩ, ±5%, ¼ W Resistor	110000-223
Transistors		
Q6	TIP-32 Transistor	33-TIP32
Q7, Q8	Type-2N3055 Transistor	34-2N3055
Miscellaneous		
Q1, Q2	Type-TDA-2030 Amplifier	137301-001
Q3	Type-7815, +15 V Regulator	37-7815
Q4	Type-7915, –15 V Regulator	37-7915
Q5	Type-LM305 Regulator	37-LM305
R30	1k Horizontal Potentiometer	119002-102
(Q4, Q6)	Thermal Insulator	78-16014
(Q7, Q8)	Thermally Conductive Insulator	78-16008
	RTV Silicon Rubber Sealing Compound	78-13003
	Heat Sink	034531-01
	Test Point (Acceptable substitute is part no. 020670-01)	179051-002

Set-Up

How to Use This Manual

This manual includes information for setting up, playing, and maintaining your Gauntlet™ game.

This manual is divided into the following chapters:
- Chapter 1 contains set-up information.
- Chapter 2 contains game play information.
- Chapter 3 contains self-test procedures.
- Chapter 4 contains preventive and corrective maintenance procedures.
- Chapter 5 contains illustrated parts lists.

Schematic diagrams for the Gauntlet game circuitry are in the SP-284 Schematic Package Supplement included with this manual.

This chapter includes information for inspecting the game, installing the control panel, and setting up the game for operation. Read the information in this chapter carefully before applying power to the game.

▲ — WARNING — ▲

To avoid electrical shock, do not plug in the game until it has been properly inspected and set up for the line voltage in your area.

This game should only be connected to a grounded three-wire outlet. If you only have a two-wire outlet, we recommend you hire a licensed electrician to install a grounded outlet. Players may receive an electrical shock if the game is not properly grounded.

Do not touch internal parts of the display with your hands or with metal objects.

Chapter 1

Figure 5-10 Regulator/Audio III Printed-Circuit Board Assembly
A043046-01   C
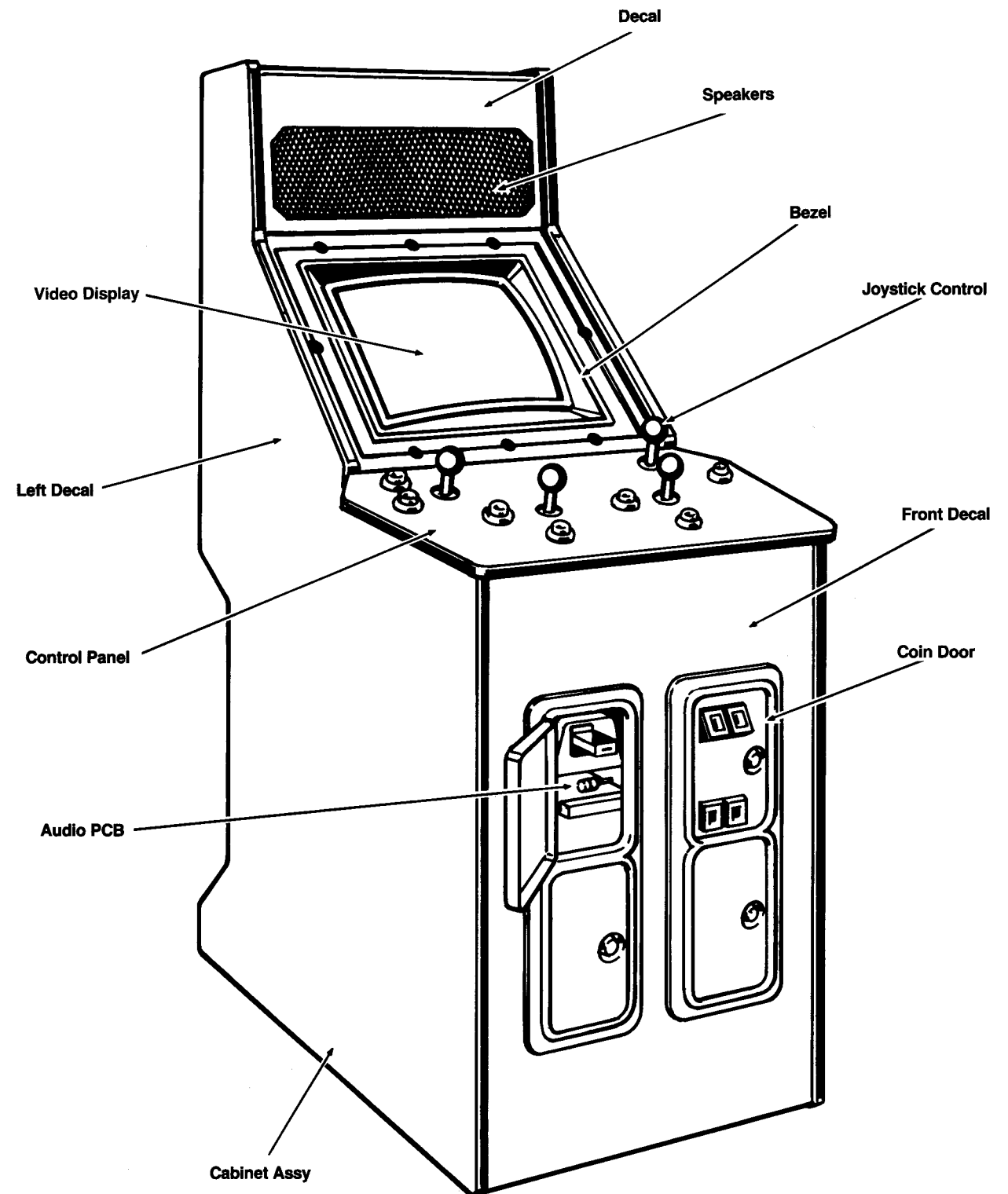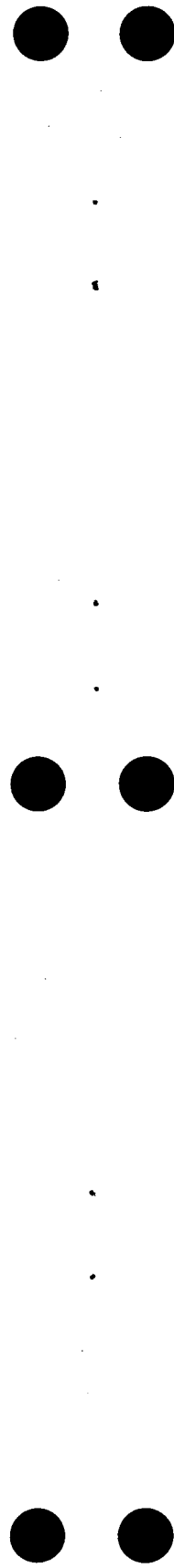
NOT SHOWN:
Regulator/Audio III PCB Assy. (Ireland only)
Utility Panel (Ireland only)

Figure 1-1 Game Overview
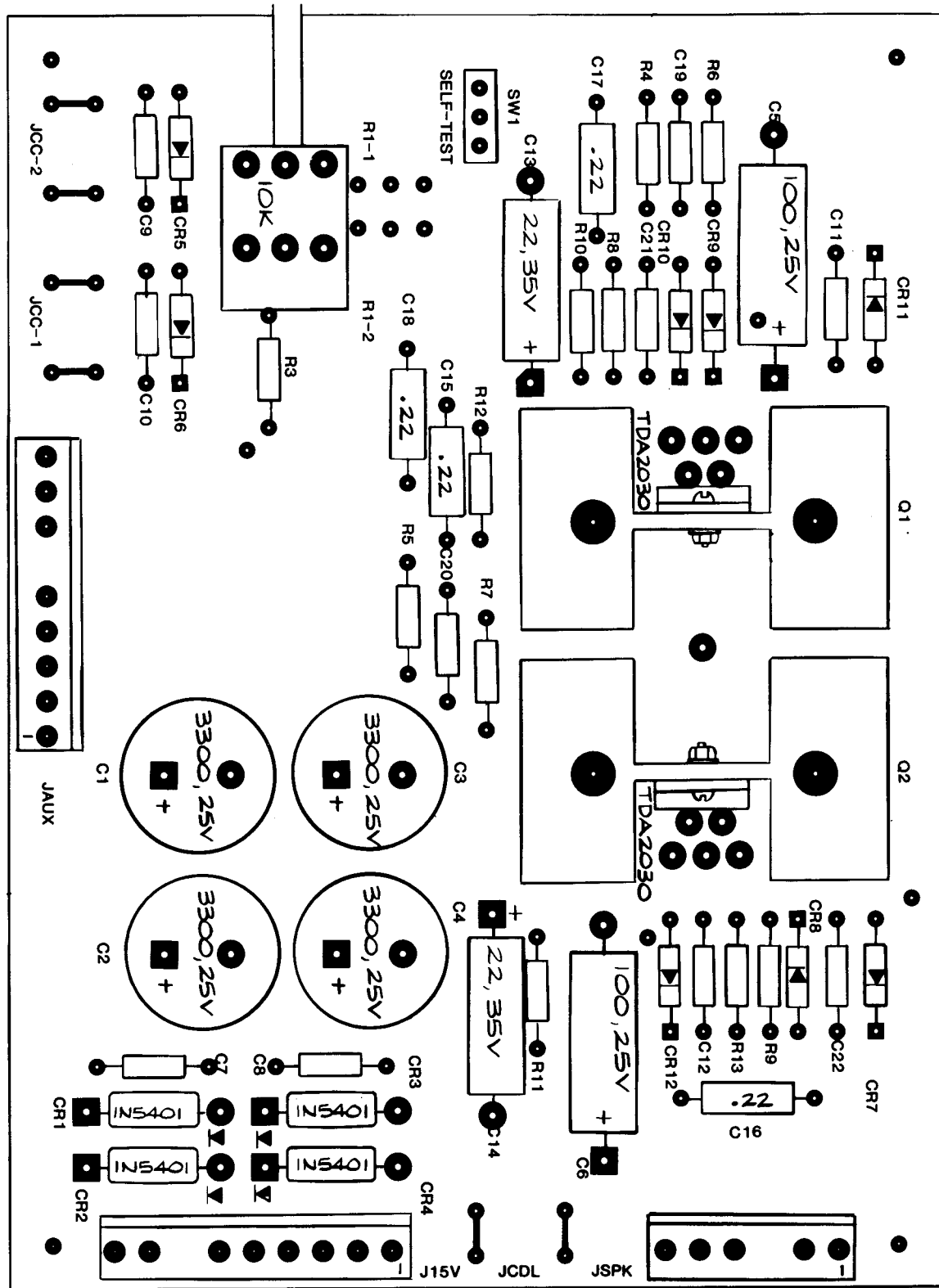
Figure 5-9 Audio PCB Assembly
A043354-01   B

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NOTICE TO ALL PERSONS RECEIVING THIS DRAWING

Table 1-1 Game Specifications

Characteristic	Specification
Power Consumption	175 V-A, 125 W RMS maximum
Temperature	+5° to +38° C (+37° to +100° F)
Humidity	Not to exceed 95% relative
Line Voltage	110 to 132 VAC (U.S. games) 200 to 264 VAC (Irish games)
Width	29 1/8 in. (74 cm)
Depth	39 in. (99 cm)
Height	66 in. (168 cm)
Weight	293 lbs. (133 kg)

Figure 1-2 Control Panel Installation

Gauntlet Game PCB Assembly
Parts List, Continued

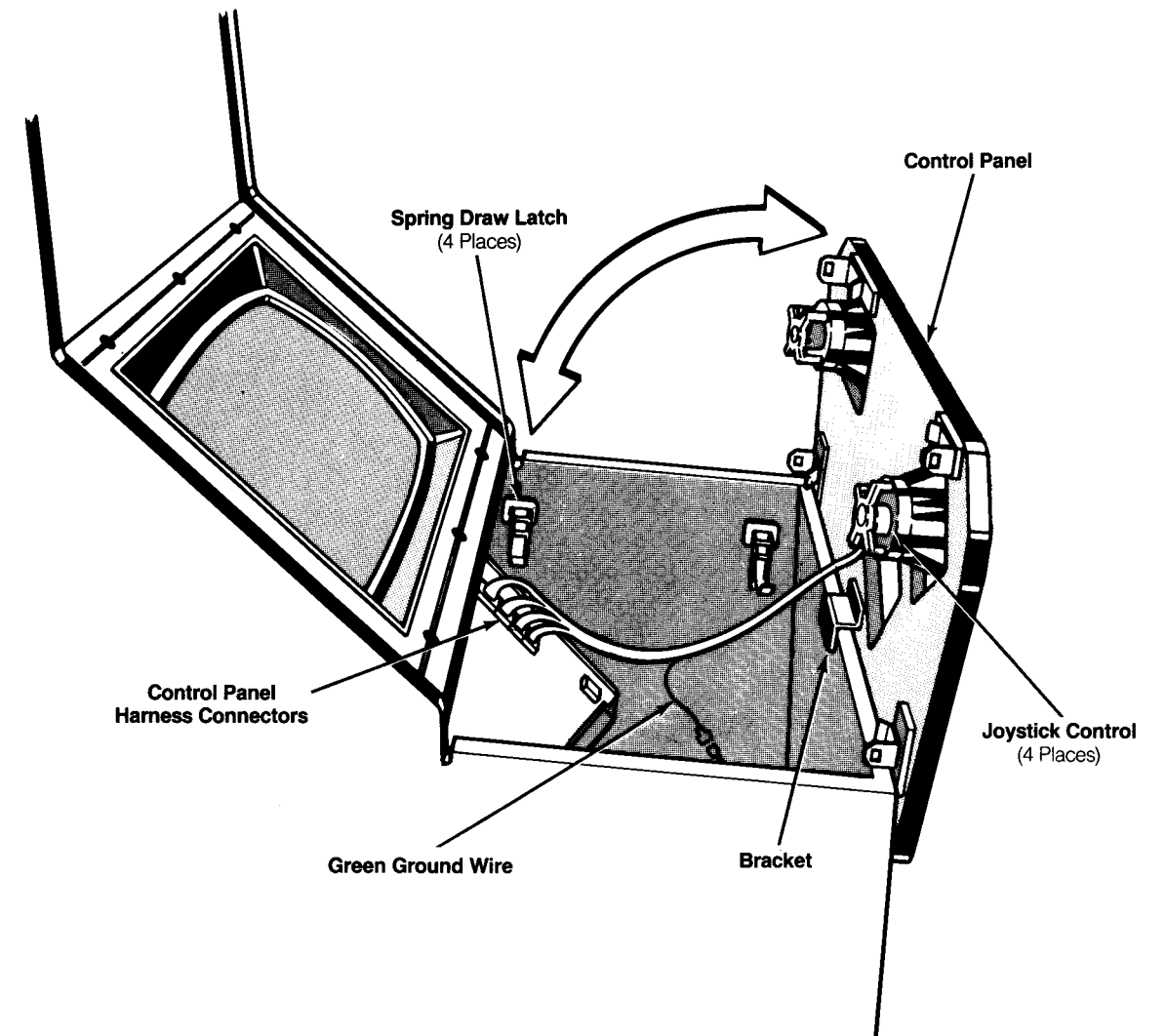| Designator	Description	Part No.
R65	Resistor, ¼ W, 8.2 kΩ, ±5%	110000-822
R66	Resistor, ¼ W, 3.9 kΩ, ±5%	110000-392
R67	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R68	Resistor, ¼ W, 1.8 kΩ, ±5%	110000-182
R69, R70	Resistor, ¼ W, 2 kΩ, ±5%	110000-202
R71	Resistor, ¼ W, 5.6 kΩ, ±5%	110000-562
R72	Resistor, ¼ W, 1.2 kΩ, ±5%	110000-122
R73	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R74	Resistor, ¼ W, 75 kΩ, ±5%	110000-753
R75	Resistor, ¼ W, 150 kΩ, ±5%	110000-154
R76	Resistor, ¼ W, 300 kΩ, ±5%	110000-304
R78	Resistor, ¼ W, 75 kΩ, ±5%	110000-753
R79	Resistor, ¼ W, 150 kΩ, ±5%	110000-154
R80	Resistor, ¼ W, 47 kΩ, ±5%	110000-473
R81	Resistor, ¼ W, 30 kΩ, ±5%	110000-303
R82	Resistor, ¼ W, 7.5 kΩ, ±5%	110000-752
R83, R84	Resistor, ¼ W, 15 kΩ, ±5%	110000-153
R85	Resistor, ¼ W, 7.5 kΩ, ±5%	110000-752
R86	Resistor, ¼ W, 30 kΩ, ±5%	110000-303
R87-94	Resistor, ¼ W, 12 kΩ, ±5%	110000-123
R95	Resistor, ¼ W, 560 Ω, ±5%	110000-561
R96-103	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R104	Resistor, ¼ W, 220 Ω, ±5%	110000-221
R105-112	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R113	Resistor, ¼ W, 220 Ω, ±5%	110000-221
R114-121	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R122, R123	Resistor, ¼ W, 220 Ω, ±5%	110000-221
R124-131	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R132, R133	Resistor, ¼ W, 10 kΩ, ±5%	110000-103
R134, R135	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R136	Resistor, ¼ W, 220 Ω, ±5%	110000-221
R137	Resistor, ¼ W, 12 kΩ, ±5%	110000-123
R138, R139	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R150-155	Resistor, ¼ W, 1 kΩ, ±5%	110000-102
R228	Resistor, ¼ W, 390 Ω, ±5%	110000-391
R229-231	Resistor, ¼ W, 3.9 kΩ, ±5%	110000-392
RN1, RN2	Resistor, SIP, 470 Ω (10-Pin)	118010-471
RN3-6	Resistor, SIP, 4.7 kΩ (10-Pin)	118010-472
RN7	Resistor, SIP, 470 Ω (8-Pin)	118007-471
RN8	Resistor, SIP, 1 kΩ (6-Pin)	118009-102
RN9	Resistor, SIP, 1 kΩ (6-Pin)	118009-102
RN10-13	Resistor, SIP, 470 Ω (10-Pin)	118010-471

Game Play

Gauntlet™ is a one-, two-, three- or four-player game where the players cooperatively explore a multitude of mazes. As players cooperate to fight off common enemies and try to find their way out of the various mazes, they must also compete with each other for food, treasure, magic potions and other helpful items.

Introduction

The player controls consist of an eight-position joystick that moves the player's character and directs fire. While the Fire button is pressed, the player's character stops; the player then selects the direction of fire with the joystick. Each player is allowed one shot at a time. If the Fire button is held down, it will repeat fire as fast as possible.

The player can collect and save magic potions for later use by touching them with his character. The player can press the Magic button when he wants to use the potions he has collected.

Up to four players can play at once. Each new player can enter a game at any time. Each player chooses one of four available characters: Thor the Warrior, Thyra the Valkyrie, Merlin the Wizard, or Questor the Elf. Each of these characters has unique capabilities. For instance, Thyra has great armor, Thor is best at hand-to-hand combat, while Questor has the fastest speed, and Merlin has the best ability to use magic. Complete character descriptions are included on the Gauntlet control panel.
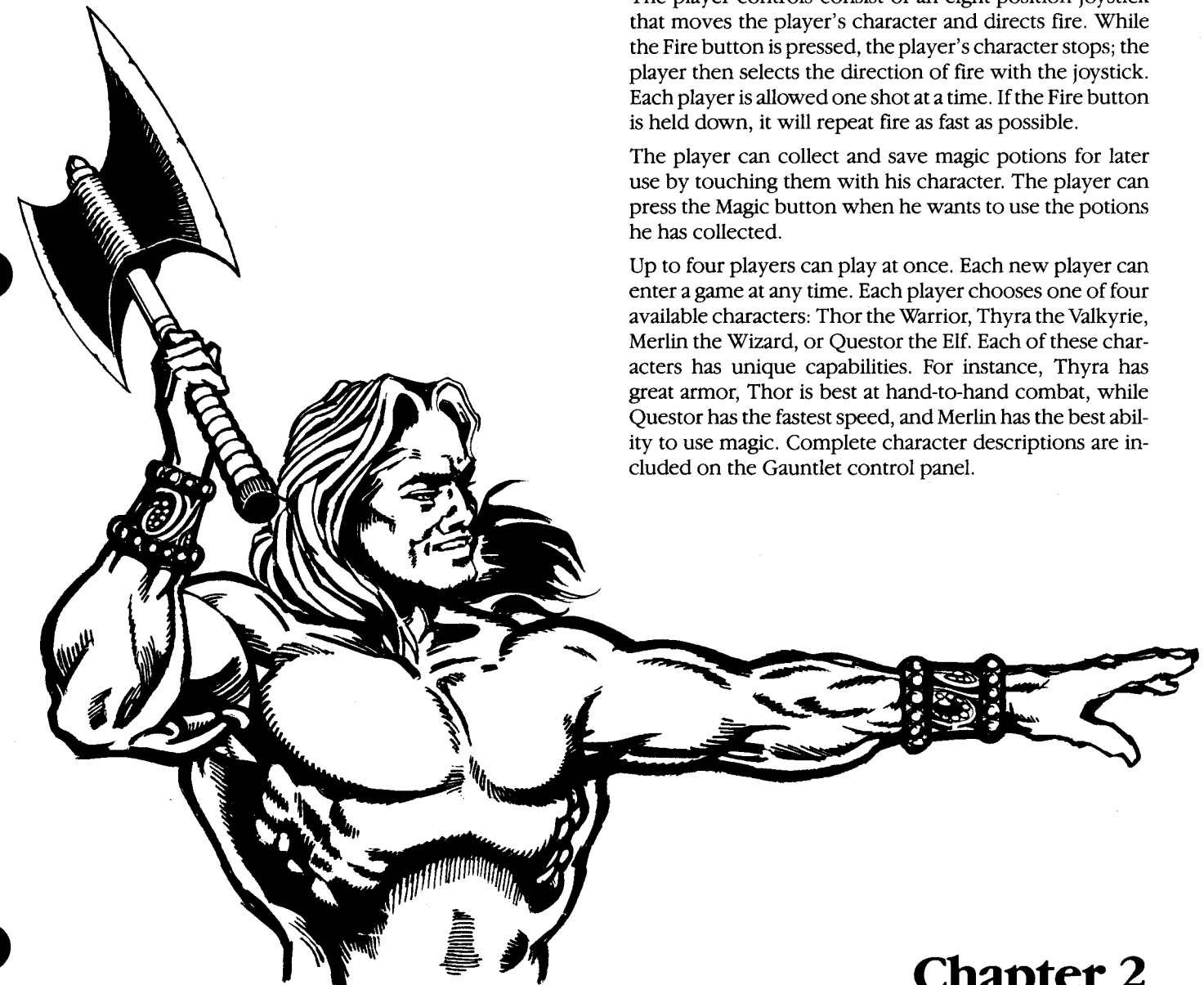
Chapter 2

Gauntlet Game PCB Assembly
Parts List, Continued

Designator	Description	Part No.
C59	Capacitor, Electrolytic, 10 µf, 25 V	24-250106
C60, C61	Capacitor, Ceramic, 1000 pf, 100 V	122016-102
C62-128	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C140-192	Capacitor, Ceramic, .1 µf, 50 V	122002-104
C193	Capacitor, Ceramic, .0027 µf, 50 V	122015-272
C194	Capacitor, Ceramic, .0012 µf, 50 V	122015-122
C195	Capacitor, Ceramic, .0068 µf, 50 V	122015-682
C196-198	Capacitor, Mica, 100 pf, 100 V	128002-101
Diodes		
CR1	Diode, Zener, 1N754A	131002-001
CR2	Diode, Light-Emitting, MV5053	38-MV5053
Ferrite Beads and Inductors		
L1-3	Ferrite Bead, N12N	141003-005
L4	Inductor, 100 µH	41-3003
Connectors		
PCOIN	Connector, 6-Pin, 0.1-Inch Centers	179118-006
PPL1-PPL4	Connector, 11-Pin, 0.1-Inch Centers	179118-011
PPWR	Connector, 12-Pin	179069-012
PST	Connector, 11-Pin, 0.1-Inch Centers	179118-011
PV1D	Connector, 11-Pin, 0.1-Inch Centers	179118-011
PWR-RES	Connector, Header, 2-Circuit	179048-002
SROM	Connector, Receptacle, 2-Circuit	179178-002
SROM	Connector, Header, 2-Circuit	179048-002
WDIS	Connector, Header, 2-Circuit	179048-002
Transistors		
Q1	Transistor, 2N3904	34-2N3904
Q2	Transistor, 2N3906	33-2N3906
Q3, Q4	Transistor, 2N3904	34-2N3904
Q5	Transistor, 2N3906	33-2N3906
Q6, Q7	Transistor, 2N3904	34-2N3904
Q8	Transistor, 2N3906	33-2N3906
Q9, Q10	Transistor, 2N3904	34-2N3904
Q11	Transistor, 2N3906	33-2N3906
Q12, Q13	Transistor, 2N3904	34-2N3904
Q15	Transistor, 2N3904	34-2N3904
Q17	Transistor, 2N6044	34-2N6044
Q18	Transistor, 2N6044	34-2N6044
Resistors		
R1	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R2	Resistor, ¼ W, 4.7 kΩ, ±5%	110000-472
R3	Resistor, ¼ W, 2.4 kΩ, ±5%	110000-242
R4	Resistor, ¼ W, 1.2 kΩ, ±5%	110000-122
R5	Resistor, ¼ W, 620 Ω, ±5%	110000-621
R6	Resistor, ¼ W, 470 Ω, ±5%	110000-471
R7	Resistor, ¼ W, 4.7 kΩ, ±5%	110000-472
R8	Resistor, ¼ W, 2.4 kΩ, ±5%	110000-242

enter his first initial and 15 seconds for each of his next two initials. Players select their initials by moving the joystick and pressing the Magic or Fire buttons when the proper initial is displayed. Players can correct their initials by selecting the arrow that points to the left and pressing the Magic or Fire buttons, then repeating the procedure for entering their correct initials.

Hints for Game Play

The following hints will help you use your health more effectively and score more points per coin:

- Play cooperatively.
- Allow the player with the best ability to use magic (usually Merlin the Wizard, unless one of the other players has acquired the magic potion for extra magic) to pick up the magic potions.
- Save keys and potions and use them conservatively.
- Pay attention to your marching order. Allow the players with the best fighting ability and armor (usually Thyra the Valkyrie and Thor the Warrior) to lead the way and fend off attacks.
- Avoid contact with the ghosts: they take away your health very quickly and you cannot fight them hand-to-hand.

Maximizing Earnings

The Gauntlet game is designed to insure maximum earnings. In addition to the multiple-player aspect of the game, messages appear on the screen that encourage players to deposit more coins. Players can continue to buy health and play for as long as they want and explore an infinite number of levels.

Operator options on this game have been kept very simple. Thoroughly read Chapter 3, Self-Test, for the Coin Options, Game Options, Histograms, and Statistics screens so that you can effectively use the options available. Use the Self-Test screens showing Statistics and His-

tograms to evaluate game data, and the Game Options screen to make adjustments.

The key to maximum earnings is striking a midpoint on game times. Game times must be short enough so that player turnover is high. Conversely, game times must be long enough to give a player a good value and insure repeat play (repeat play is crucial to longevity). Gauntlet gives the operator the flexibility to tune game difficulty and enough statistics to intelligently make adjustments.

> **NOTE**
> The following recommendations are based on 25¢ per play, U.S. currency.

If collections seem low or are dropping off, check all player controls and coin mechanisms for proper operation. If the average game time per quarter is under 90 seconds, try changing the amount of health per coin to a higher number. This change should be quite obvious to players and should encourage more game play. If game times are still too short after a few weeks on a higher health per coin setting, try changing the game difficulty to an easier setting.

If the average game time per quarter is over 180 seconds, first try changing the game difficulty to a harder setting. If after a few weeks at this harder setting the average game time per quarter is still over 180 seconds, try an even harder setting. The amount of health per coin can also be reduced; however, this change will be more obvious to players and is likely to discourage them.

After changing the game difficulty settings, always clear or reset the Statistics by pressing the Warrior Magic button in the last Statistics screen.

Self-Test Mode

You can set the Gauntlet game to the Self-Test Mode by switching on the Self-Test switch behind the upper right coin door. Refer to Chapter 3 of this manual for detailed self-test information.

**Gauntlet Game PCB Assembly
Parts List, Continued**

Designator	Description	Part No.
11C	Integrated Circuit, 74LS244	37-74LS244
11D	Integrated Circuit, 74LS244	37-74LS244
11J	Integrated Circuit, 74LS20	37-74LS20
11N	Integrated Circuit, 74LS163A	37-74LS163A
11P	Integrated Circuit, 74LS08	37-74LS08
11R	Integrated Circuit, 74LS197	137240-001
11S	Integrated Circuit, 74LS02	37-74LS02
11T	Integrated Circuit, 7406	37-7406
12C	Integrated Circuit, 74LS245	37-74LS245
12D	Integrated Circuit, 74LS245	37-74LS245
12E	Integrated Circuit, Microprocessor, MC68010-L8	137414-001
12J	Integrated Circuit, 74LS74	37-74LS74
12K	Integrated Circuit, Custom, PFHS	137419-104
12M	Integrated Circuit, Custom, GPC	137419-101
12N	Integrated Circuit, 74LS32	37-74LS32
12P	Integrated Circuit, 74LS244	37-74LS244
12R	Integrated Circuit, 74LS138	137177-001
12S	Integrated Circuit, 74LS00	37-74LS00
13C	Integrated Circuit, 74LS244	37-74LS244
13D	Integrated Circuit, 74LS244	37-74LS244
13J	Integrated Circuit, 74LS374	37-74LS374
13K	Integrated Circuit, 7407	37-7407
13L	Integrated Circuit, 74LS139	37-74LS139
13M	Integrated Circuit, 74LS139	37-74LS139
13N	Integrated Circuit, 74LS74	37-74LS74
13P	Integrated Circuit, 74LS273	37-74LS273
13R	Integrated Circuit, TMS5220C	137308-002
13/14A	Integrated Circuit, EPROM, 2804A	137329-450
13/14U	Integrated Circuit, LM324	37-LM324
14A	Integrated Circuit, 74LS259	37-74LS259
14A/B	Integrated Circuit, 74LS244	37-74LS244
14B	Integrated Circuit, 74LS244	37-74LS244
14C	Integrated Circuit, 74LS244	37-74LS244
14D	Integrated Circuit, 74LS138	137177-001
14E	Integrated Circuit, 74LS244	37-74LS244
14F	Integrated Circuit, 74LS244	37-74LS244
14J	Integrated Circuit, 74LS374	37-74LS374
14K	Integrated Circuit, 74LS138	137177-001
14L	Integrated Circuit, 74LS04	37-74LS04
14M	Integrated Circuit, 74LS74	37-74LS74
14N	Integrated Circuit, 74LS08	37-74LS08
14P	Integrated Circuit, 74LS139	37-74LS139
14S	Integrated Circuit, 74LS169	137109-001
14T	Integrated Circuit, LM324	37-LM324

Self-Test

This game will test itself and provide visual and audible indications of the condition of the game circuitry and controls. Self-test information is visually displayed on the screen and audibly presented through the sound system. No additional equipment is required.

We suggest that you perform a self-test when you first set up the game, each time you collect the money, or when you suspect game failure. Coin and game options are selected in the Self-Test Mode.

Thirteen self-test screens provide a visual and audible check of the Gauntlet game circuits. Refer to Chapter 1 for the self-test switch location.

When the self-test switch is turned on, the game enters the Self-Test Mode. The following self-test screens are arranged in the sequence in which they occur when the self-test switch is turned on. After the Sound Test, the sequence starts over with the Switch Test. Turning the self-test switch off at any time during the Self-Test Mode causes the game to return to the Attract Mode.

Chapter 3

Gauntlet Game PCB Assembly
Parts List, Continued

Designator	Description	Part No.
4U	Integrated Circuit, 74S08	37-74S08
4W	Integrated Circuit, 74S374	137206-001
4X	Integrated Circuit, 74LS244	37-74LS244
5C	Integrated Circuit, 74LS273	37-74LS273
5D	Integrated Circuit, 74LS283	137204-001
5E	Integrated Circuit, 74LS283	137204-001
5F	Integrated Circuit, 74LS163A	37-74LS163A
5J	Integrated Circuit, 74LS163A	37-74LS163A
5K	Integrated Circuit, 74LS273	37-74LS273
5L	Integrated Circuit, PROM, 82S147	136037-102
5N	Integrated Circuit, 74LS283	137204-001
5P	Integrated Circuit, 74LS283	137204-001
5R	Integrated Circuit, 74LS169	137109-001
5S	Integrated Circuit, 74LS175	37-74LS175
5T	Integrated Circuit, 74LS175	37-74LS175
5W	Integrated Circuit, 74S374	137206-001
5X	Integrated Circuit, 74LS244	37-74LS244
6C	Integrated Circuit, RAM, 1MS1420L	137360-001
6D	Integrated Circuit, RAM, 1MS1420L	137360-001
6E	Integrated Circuit, RAM, 1MS1420L	137360-001
6F	Integrated Circuit, RAM, 1MS1420L	137360-001
6J	Integrated Circuit, RAM, 1MS1420L	137360-001
6K	Integrated Circuit, RAM, 1MS1420L	137360-001
6L	Integrated Circuit, 74LS283	137204-001
6M	Integrated Circuit, 74LS175	37-74LS175
6P	Integrated Circuit, EPROM, 300ns	136037-104
6S	Integrated Circuit, 74LS74	37-74LS74
6T	Integrated Circuit, 74LS20	37-74LS20
6U	Integrated Circuit, 74LS174	37-74LS174
6W	Integrated Circuit, 74LS74	37-74LS74
6X	Integrated Circuit, 74LS74	37-74LS74
7A	Integrated Circuit, EPROM, 200ns	136037-109
7B	Integrated Circuit, EPROM, 200ns	136037-110
7C	Integrated Circuit, RAM, 1MS1420L	137360-001
7D	Integrated Circuit, RAM, 1MS1420L	137360-001
7E	Integrated Circuit, RAM, 1MS1420L	137360-001
7F	Integrated Circuit, RAM, 1MS1420L	137360-001
7J	Integrated Circuit, RAM, 1MS1420L	137360-001
7K	Integrated Circuit, RAM, 1MS1420L	137360-001
7L	Integrated Circuit, 74LS153	37-74LS153
7M	Integrated Circuit, 74LS175	37-74LS175
7N	Integrated Circuit, 74LS194A	37-74LS194
7P	Integrated Circuit, 74LS194A	37-74LS194
7R	Integrated Circuit, 74LS273	37-74LS273

Table 3-2 Faulty Upper or Lower Main ROM Locations

Error Address		Location
Main ROM	U = 9A	L = 9B
38000	U = 10A	L = 10B
40000	U = 7A	L = 7B

Figure 3-3 Switch Test
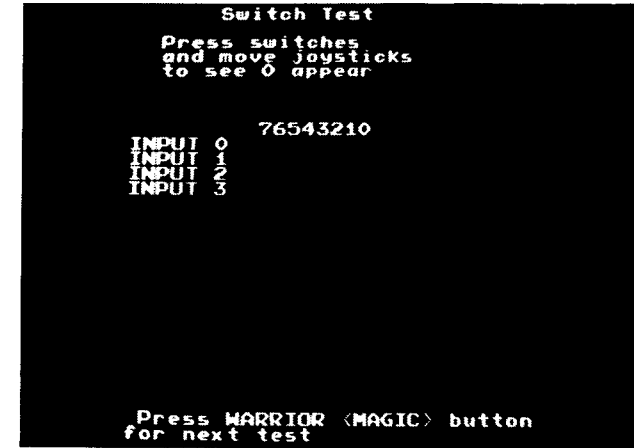
Table 3-3 Player Control Switch Test

Procedure	7	6	5	4	3	2	1	0
			Test Indication					
Joystick up	0							
Joystick down		0						
Joystick left			0					
Joystick right				0				
Press Fire						0		
Press Magic								0

Switch Test

The Switch Test is shown in Figure 3-3. This test checks the condition of the player controls. *INPUT 0* through *3* in the display corresponds to the player controls as follows:

INPUT 0 = Warrior (Thor)
INPUT 1 = Valkyrie (Thyra)
INPUT 2 = Wizard (Merlin)
INPUT 3 = Elf (Questor)

Operate the joysticks and pushbuttons for each player and check that the screen displays a 0 (zero) under the appropriate row of numbers as shown in Table 3-3.

If the joysticks are not placed exactly in one of the four quadrant positions, two zeros may appear in the display. However, if two zeros appear in all joystick positions or when any of the buttons are pressed, there may be a short between the joystick or pushbutton switches. This is indicated by the locations of the zeros. For example, when the joystick is moved to the right or left, zeros under the numbers 4 and 5 indicate a possible short between the right and left joystick leaf switches. No zeros when a control is operated indicates a possible open leaf switch contact.

Press the Warrior Magic button to obtain the next screen.

Coin Options

The Coin Options screen is shown in Figure 3-4. The Coin Options screen indicates the current coin option settings and is used to change those settings.

MULTIPLIER should have a red box around it. Move the Warrior joystick right or left to cycle through eight multiplier selections as follows:

- 1 Coin Counts as 1 Coin (Default)
- 1 Coin Counts as 2 Coins
- 1 Coin Counts as 3 Coins
- 1 Coin Counts as 4 Coins
- 1 Coin Counts as 5 Coin
- 1 Coin Counts as 6 Coins
- 1 Coin Counts as 7 Coins
- 1 Coin Counts as 8 Coins

Select the desired value. Note that the default (recommended) setting of *1 Coin Counts as 1 Coin* is highlighted in green.

Move the Warrior joystick down to move the red box to *BONUS ADDER*. Move the Warrior joystick right or left to cycle through seven bonus adder selections as follows:

- None (Default)
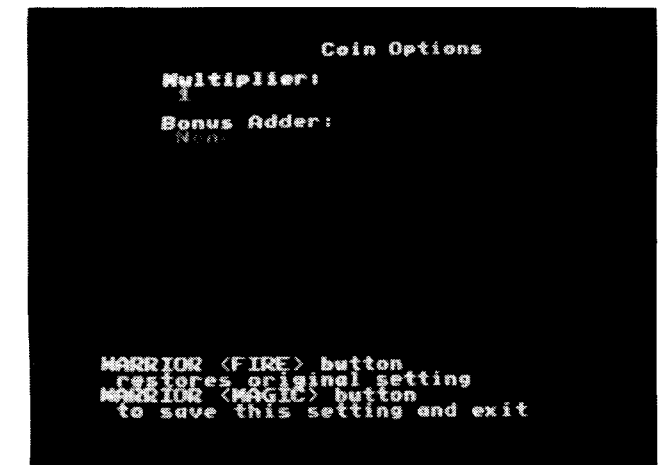- 2 Coins Give 1 Extra Coin
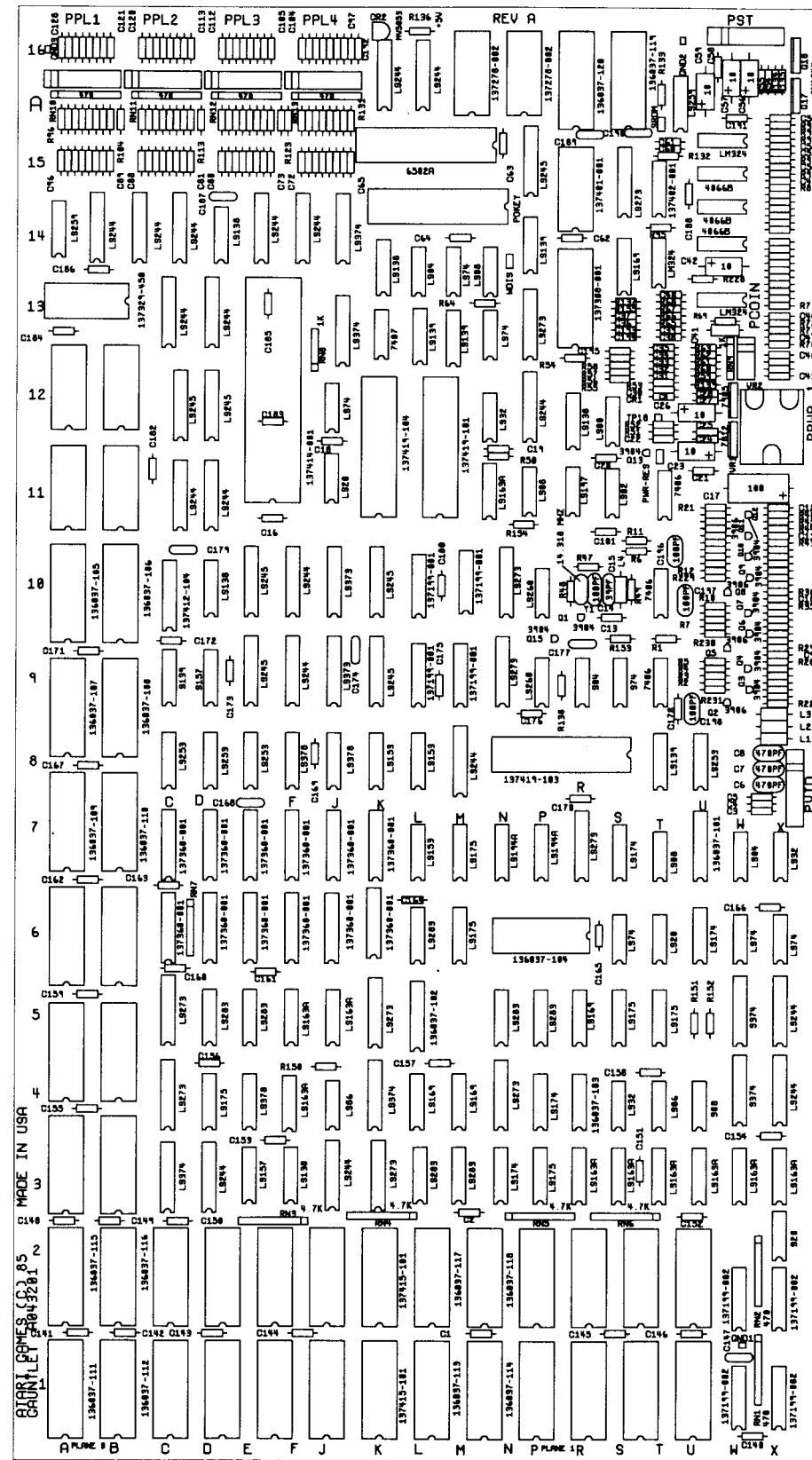

Figure 3-4 Coin Options

Figure 5-8 Gauntlet Game PCB Assembly
A043201-21 B

Magic button, the High Score Table will automatically be reset to the factory scores and initials after every 2,000 games, but no less than 200 games since the last player entered initials.

Disable Speech—If you select *Yes* and exit the Game Options screen by pressing the Warrior Magic button, the speech portion of the game sounds will be disabled.

Press the Warrior Magic button to obtain the next screen.

Statistics

The Statistics screen appears as shown in Figure 3-6. This screen provides a visual check of the current game statistics. The statistics information is accumulated either from the first time the game was turned on or from the last time the statistics were reset. To reset the statistics information, press the Warrior Fire button.

The following information appears on the Statistics screen:

- The *Plyr 0–3 Coin* messages show the number of coins deposited in each of the four coin mechanisms.

- The *0–4 Plyr Mins* messages show the total time, in minutes, of all the 0-, 1-, 2-, 3-, and 4-player games that were played. (A "zero-player" game is the time that the game was turned on but not being played.)

- *Total Games* shows the total number of games played. One "game" is the time between leaving the Attract Mode and returning to it, regardless of time, number of coins inserted, or how many have played Gauntlet. The games are measured since the last time the statistics were cleared.

- *Error Count* shows the number of EEPROM errors that were detected. Replace the EEPROM at location 13A on the Game PCB if the errors detected exceed approximately 75 per week.

- *Total Coins* shows the total number of coins deposited in all the coin mechanisms.
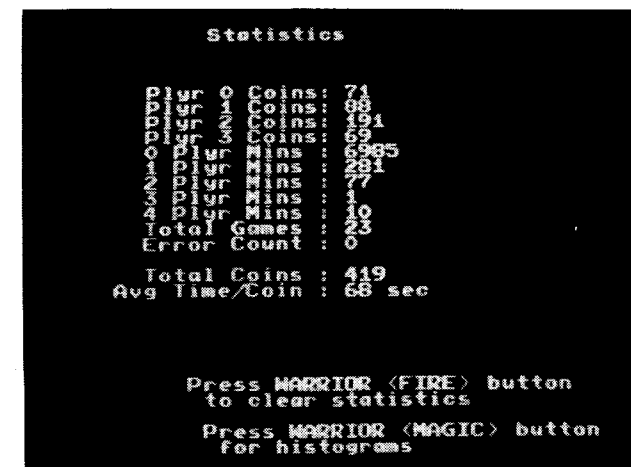
Figure 3-6 Statistics

- *Avg Time/Coin* shows the average game time per coin, in seconds, for all players.

Press the Warrior Magic button to obtain the next screen.

Histograms

One Histogram screen is shown in Figure 3-7. The Histograms for Players 0 through 3 (0 = Warrior, 1 = Valkyrie, 2 = Wizard, 3 = Elf) are selected by pressing the Warrior Magic button. For each of four players, these screens show the lengths of the games from 0 to 300 or more seconds. The Histograms also provide corresponding bar graphs.

The game times information is accumulated either from the first time the game was turned on or from the last time the game times were reset. To reset the Histograms, press the Warrior Fire button while displaying the Histogram for Player 3.

Press the Warrior Magic button to obtain the next screen.

Playfield Test

The Playfield Test appears as shown in Figure 3-8. The playfield that is displayed (Bank = 0 only, Banks 1 through 3 are not used) should not show any abnormalities. The right-hand edge of the screen should have 16 uniquely colored blocks (including two black blocks). These are the colors used in the playfield displayed on the screen. The Playfield Test indicates the condition of some of the graphics ROM, the vertical and horizontal scroll registers, and the joystick control.

Move the Warrior joystick to the left, and the playfield should slowly move to the left. Move the joystick up, and the playfield will move up—likewise for right and down.

Press the Warrior Magic button to obtain the next screen.

Motion Object Test

The Motion Object Test appears as shown in Figure 3-9. The seven groups of motion objects should be (from left

Figure 3-7 Histograms

Figure 5-7　Coin Acceptors, Inc. Coin Door Assembly, continued
171027-001　A

99-10148
Lock Assembly

99-10142
Button Housing

72-HA1404C
Screw

99-10134
Cover

99-10119
Button Assembly

99-10118
Button

99-10139
Coin Door

99-10148
Lock Assembly

99-10115
Spring

99-10145
Cam

99-10141
Coin Return Cover

99-10117
Coin Return Door

72-JA1405B
Screw

99-10144
Channel Clip

99-15066
Screw

038091-01
Coin Box

99-10149
Service Door

99-10143
Frame

Figure 3-10　Alpha Test

Figure 3-11　Color Test

The screen should show 16 vertical grey-scale bars and three blocks of red, green, and blue, each containing 16 vertical bars. The brightest bars should be on the left and darkest (black) on the right with a grey frame around the screen. This frame will help to identify the darkest color band. If the display characteristics are not correct, refer to the display manual for the color-gun adjustment procedure or to determine the possible cause of failure.
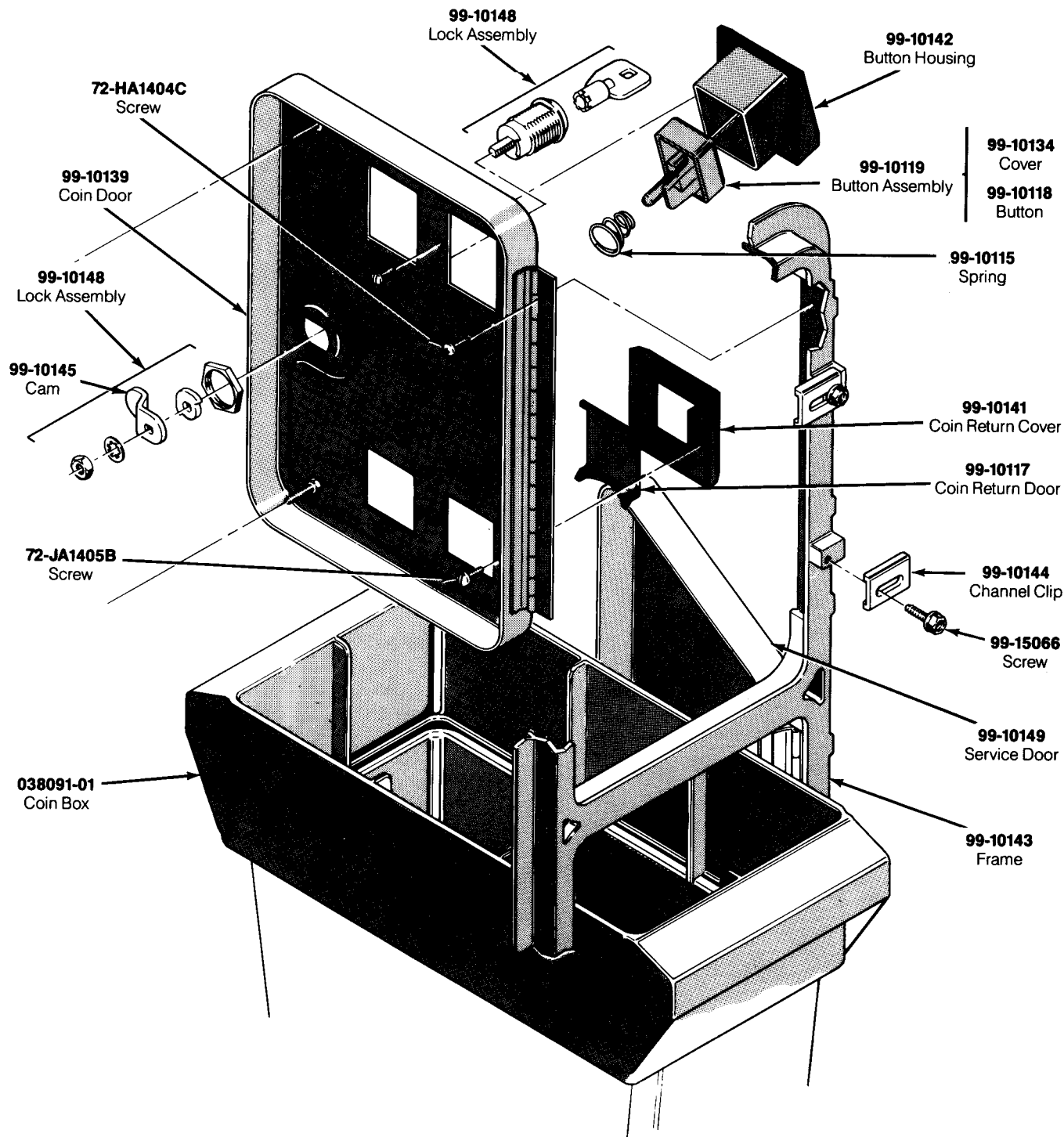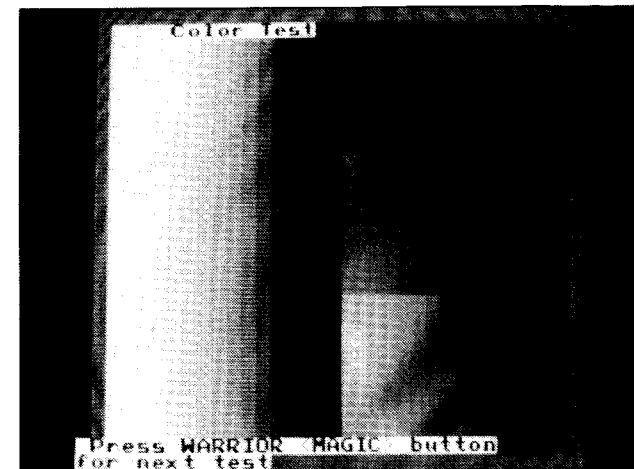
Press the Warrior Magic button to obtain the next screen.

Color Purity Test

The Color Purity Test consists of five color displays that indicate the condition of the display color-purity circuits. The first display to appear should be a red screen with the word RED displayed at the bottom of the screen as shown in Figure 3-12.

Press the Warrior Fire button, and the next display to appear should be green with the word GREEN displayed at the bottom of the screen. Press the Warrior Fire button to

obtain a blue, white, and finally a grey screen. After the grey screen, the display will repeat the red, green, blue, white, and grey sequence again.

If the display characteristics are not correct, refer to the display manual for the color-purity adjustment procedure or the possible cause of failure.

Press the Warrior Magic button to obtain the next screen.

Convergence Test

The Convergence Test (as shown in Figure 3-13) should show a white grid pattern. The Convergence Test indicates the condition of the display size, centering, linearity, and convergence.

Press the Warrior Fire button; the grid pattern should turn violet. Pressing the Warrior Fire button again should cause the screen to turn green. Examine the grid pattern for the following characteristics (the violet and white patterns are used to adjust the display convergence):

- Insure that the corners of the pattern touch the corners of the CRT.

- Grid lines should show no pincushioning or barreling, and the lines should be straight within 3.0 mm.

- Violet and white pattern convergence should be within 2.0 mm.

If the display characteristics are not within these limits, refer to the display manual for the linearity and convergence adjustment procedures or to determine the possible cause of failure.

Move the Warrior joystick up and the pattern should slowly scroll up the screen. Moving the Warrior joystick to the left, right, or down should cause the pattern to scroll accordingly.

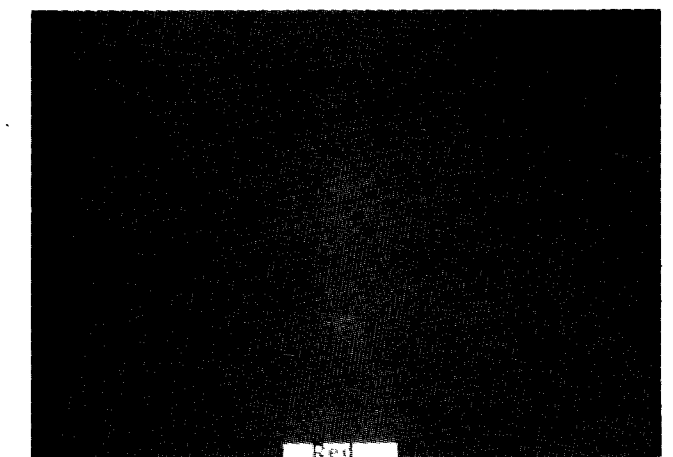Press the Warrior Magic button to obtain the next screen.
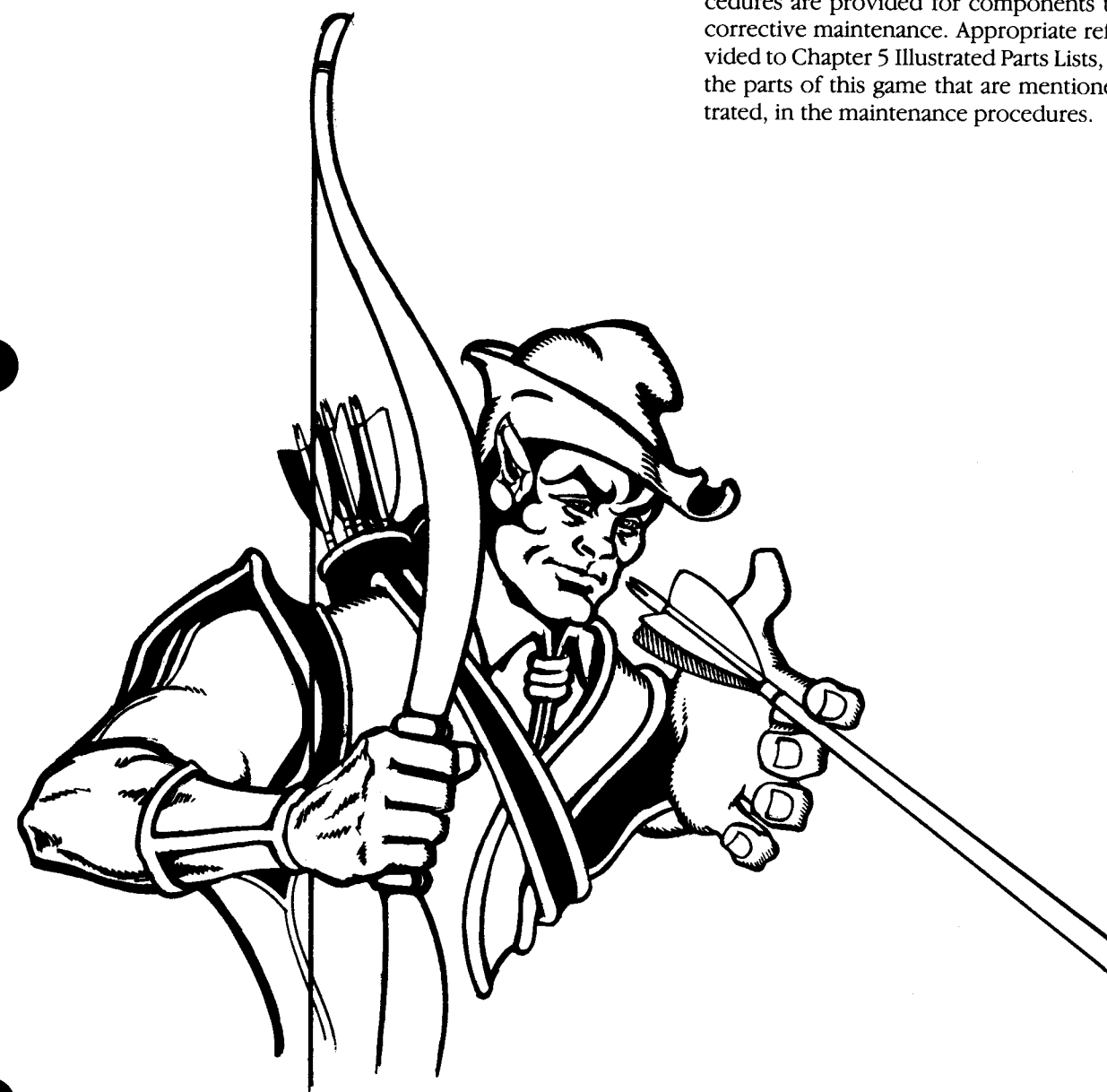

Figure 3-12　Color Purity Test

Coin Controls, Inc. Coin Door Assembly
Parts List

Part No.	Description
A036597-01	Harness Assembly (Ireland-Built cabinet only)
A037542-01	Harness Assembly
72-1414S	#4-40 × 7/8-Inch Cross-Recessed Pan-Head Steel Machine Screw
75-056	#6 Internal-Tooth Zinc-Plated Steel Lock Washer
75-914S	#4-40 Steel Machine Hex Nut
75-3414S	#4-40 × 7/8-Inch 82° Cross-Recessed Flat-Head Steel Machine Screw
99-15001	Coin Return Button with U.S. 25-cent Price Plate
99-15002	Coin Return Button with U.S. $1 Price Plate
99-15003	Coin Return Button with German 1 DM Price Plate
99-15004	Coin Return Button with German 2 DM Price Plate
99-15005	Coin Return Button with German 5 DM Price Plate
99-15006	Coin Return Button with Belgian 5 Fr Price Plate
99-15007	Coin Return Button with French 1 Fr Price Plate
99-15008	Coin Return Button with Japanese 100 Yen Price Plate
99-15009	Coin Return Button with British 10 Pence Price Plate
99-15010	Coin Return Button with Australian 20-cent Price Plate
99-15011	Coin Return Button with Italian 100 Lire Price Plate
99-15025	Left Half of Coin Inlet
99-15026	Right Half of Coin Inlet
99-15027	Side Plate of Coin Return Box
99-15028	Base Plate of Coin Return Box
99-15029	Switch Bracket
99-15036	Metal Coin Return Cover
99-15038	Bezel for Coin Return Button
99-15039	Metal Bezel for Coin Return Button
99-15042	Coin Switch for U.S. 25 cents
99-15052	Spring for Coin Return Button
99-15055	Retaining Screw
99-15056	#4-40 × 5/16-Inch Cross-Recessed Pan-Head Steel Machine Screw
99-15060	Switch Cover
99-15063	Screw for Hinge
99-15066	Screw for Clamp
99-15067	Lock Assembly
99-15070	Doors and Frame
99-15071	Clamp for Frame
99-15072	Door Frame
99-15073	Upper Door
99-15074	Lower Door
99-15075	Switch Adjuster
99-15083	Base Plate—includes:
99-15040	Lever
99-15054	Pivot for Lever
038091-01	Coin Box—not included in assembly (Acceptable substitute is part no. A037491-01)
170000-001	6.3 V Miniature Wedge-Base Incandescent Lamp
171006-035	Metal Coin Mechanism
171050-001	Dual Entry Face Plate
179047-001	Lamp Base

Maintenance

This chapter includes preventive and corrective mainte-nance procedures for the Gauntlet game components that are subject to the most use. To assure maximum trou-ble-free operation from this game, we recommend that preventive maintenance be performed as described in this chapter.

Removal, disassembly, reassembly, and replacement pro-cedures are provided for components that may require corrective maintenance. Appropriate references are pro-vided to Chapter 5 Illustrated Parts Lists, to aid in locating the parts of this game that are mentioned, but not illus-trated, in the maintenance procedures.

Chapter 4

170000-001
Lamp

99-15026
Coin Inlet

179047-001
Lamp Base

99-15023
Base Plate

99-15056
Screw for Bezel

99-15040
Lever

99-15025
Coin Inlet

99-15054
Pivot for Lever

99-15055
Retaining Screw

75-914S
Hex Nut

75-056
Lock Wash.

99-15028
Coin Return Box

99-15027
Coin Return Box

99-15056
Screw for Bezel

99-15075
Sw. Adjuster

99-15029
Bracket

99-15042
Switch

99-15060
Sw. Cover

75-3414S
Screw

72-1414S
Screw

Figure 5-6 Coin Controls, Inc. Coin Door Assembly
171034-xxx A

Control Panel

Spring Draw Latch
(4 Places)

Control Panel
Harness Connectors

Joystick Control
(4 Places)

Green Ground Wire

Bracket
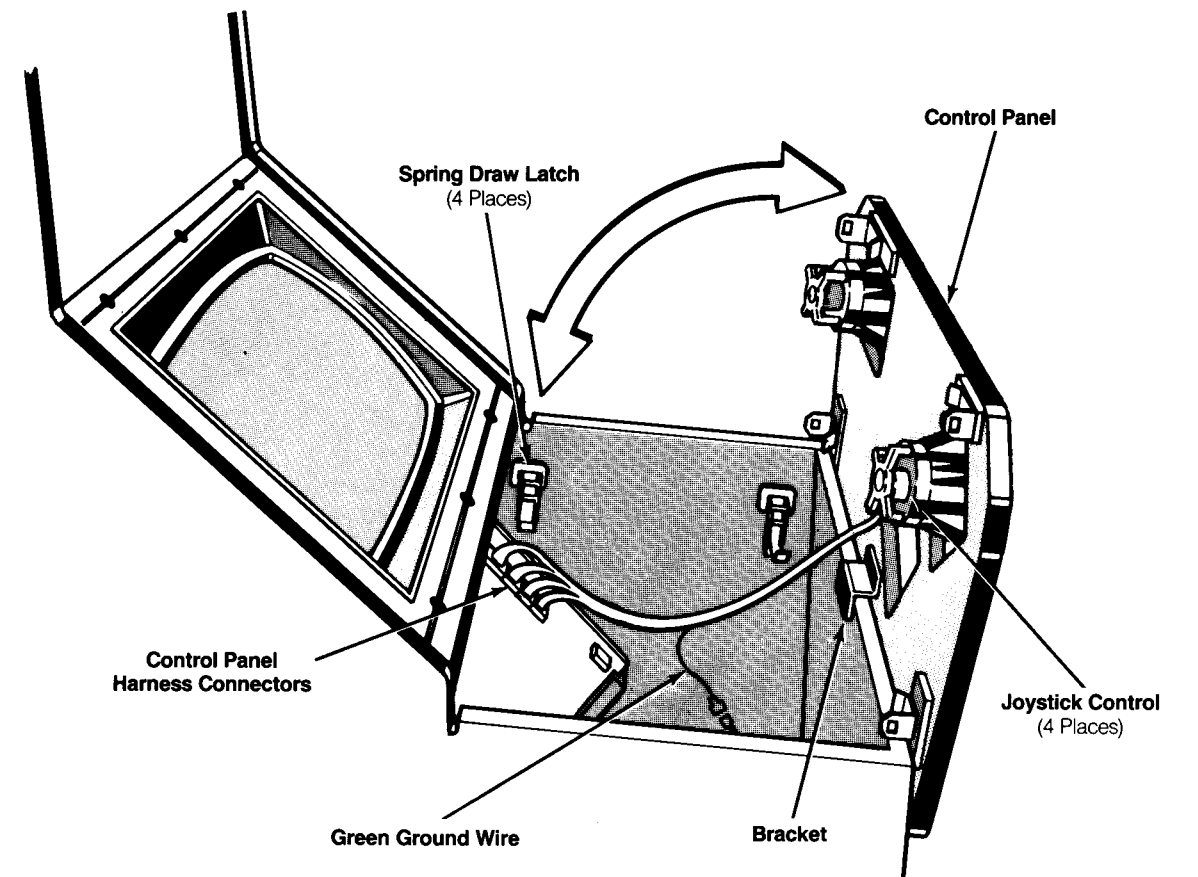
Figure 4-1 Control Panel Removal

CAUTION

Be extremely careful when cleaning the electrical components inside the cabinet. Avoid touching the electrical components with any solid object other than the soft bristles of the vacuum attachment or paint brush.

Joystick Controls

Preventive maintenance on the joystick control consists of inspecting the pivot and actuator balls for excessive wear or dirt, lubricating the pivot ball, adjusting the leaf switches and, if necessary, replacing or tightening the securing hardware.

Lubricating the Joystick Controls

Perform the following procedure to lubricate and tighten the joystick controls (see Figure 4-2).

1. Remove the control panel as previously described.

2. Apply a light film of Lithium grease (Atari part no. 107027-001) to the lubrication points shown in Figure 4-2.

3. Using a 3/8-inch wrench, tighten the four nuts holding the joystick to the control panel.

4. Using a ¼-inch wrench (or an appropriate tool), tighten the four screws holding the positioning plate to the lower housing.

Corrective Maintenance

Corrective maintenance consists of removing, disassembling, reassembling, and replacing the pushbutton leaf switches, joystick controls, game printed circuit board (PCB), video display, and speakers.

⚠ — WARNING — ⚠
Fuse cover must be in place during game operation.

A035889-01, -02, -04 through -07, -09
Jumper Wires (hidden from view)

A035888-01
Transformer Assy (T1)

29-053
Capacitor

72-HA4804S
Screw

A021084-02
Voltage Plug (J3)

78-70501SC
Capacitor Bracket

034544-02
Fuse Block Cover

75-99518
Nut/Washer Assy

79-4411001
Fuse Post

A035891-02
Fuse Harness

46-2017002
Fuse (F1)

034482-02
Chassis Base

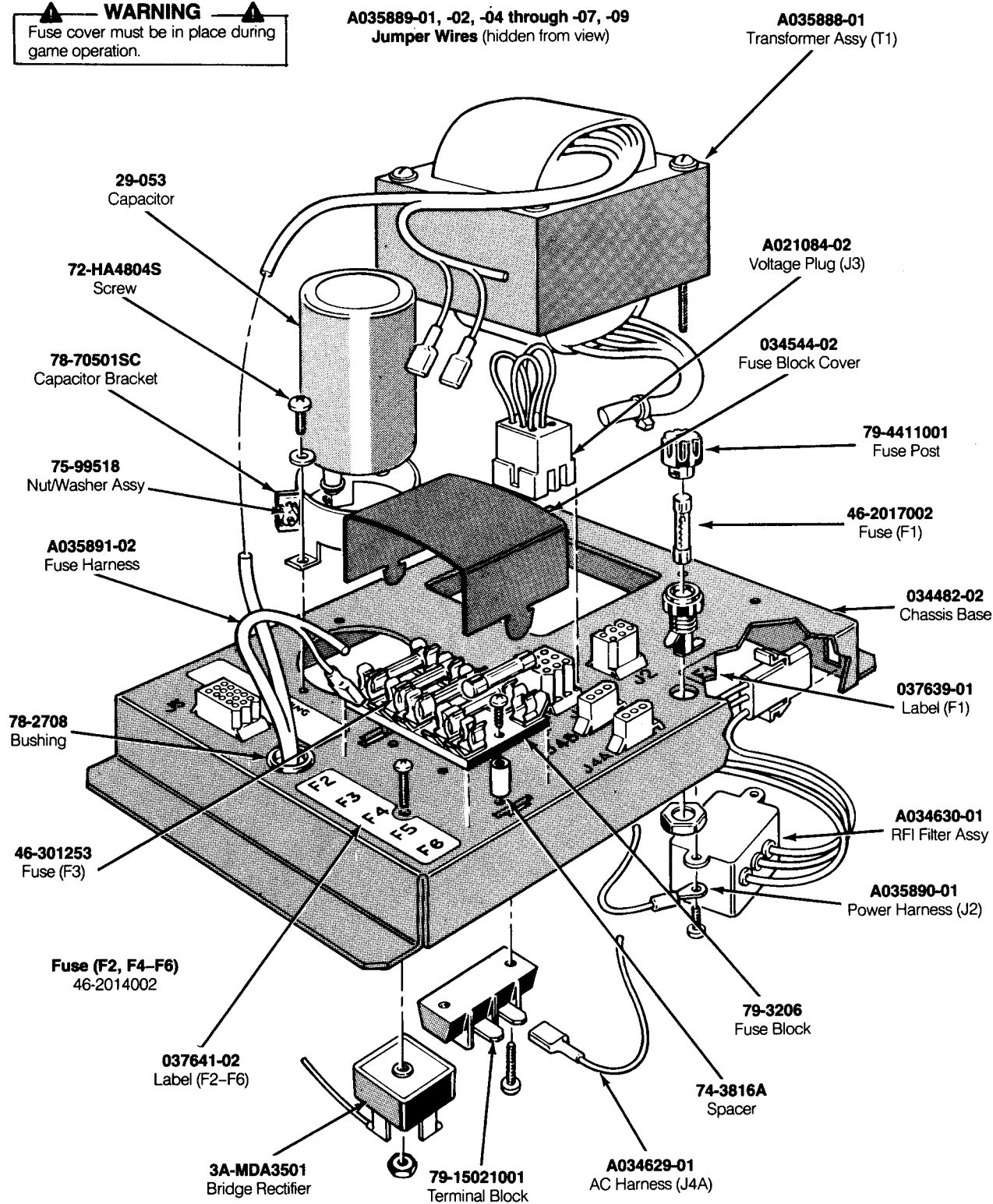037639-01
Label (F1)

78-2708
Bushing

46-301253
Fuse (F3)

A034630-01
RFI Filter Assy

A035890-01
Power Harness (J2)

Fuse (F2, F4–F6)
46-2014002

037641-02
Label (F2–F6)

79-3206
Fuse Block

3A-MDA3501
Bridge Rectifier

79-15021001
Terminal Block

A034629-01
AC Harness (J4A)

74-3816A
Spacer

F2 F3 F4 F5 F6

**Figure 5-5   Linear Power Supply Assembly
A037671-18   N**

Ground Strap

Control Panel Harness

Button Assembly

Leaf Switch with Button Holder
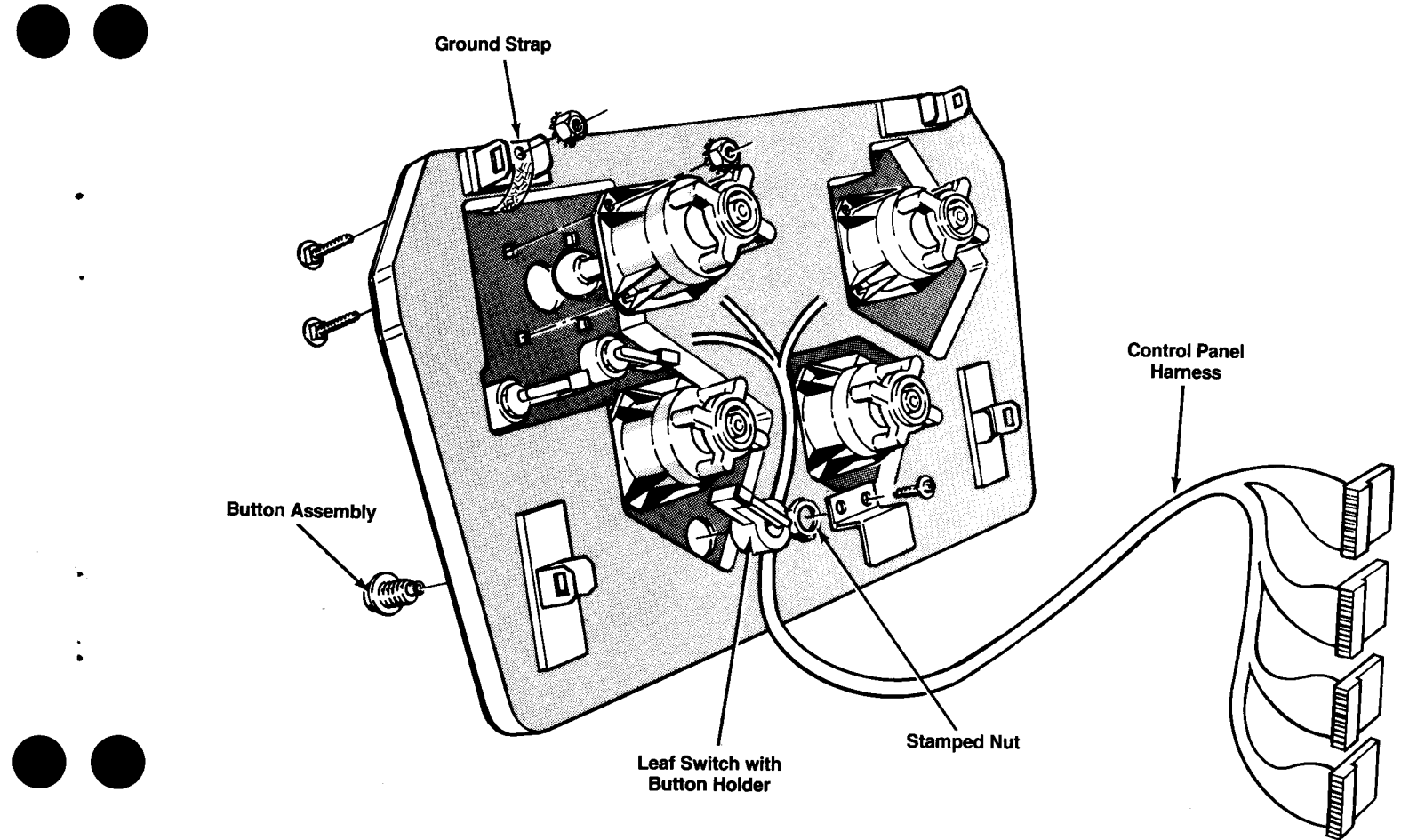
Stamped Nut

Figure 4-3   Pushbutton Leaf Switch Removal

Removing the Joystick Leaf Switches

Perform the following procedure to remove the leaf switches from the joystick (see Figure 4-2).

— NOTE —
You do *not* need to disassemble or remove the joystick from the control panel to remove the leaf switches.

1. Disconnect the two wires from the leaf switch.

2. Using a 5/64-inch hex wrench, remove the screw holding the leaf switch to the lower housing.

3. Replace the switch in reverse order of removal. Be sure to align the small extrusion on the bottom of the switch with the small hole nearest the screw casing on the bottom of the lower housing.

4. If required, adjust the switch to a narrow gap (about 1/16 inch).

5. Reconnect the harness wires as shown in the Game Wiring Diagram in the *Schematic Package Supplement* (SP-284).

Removing the Game PCB

Perform the following procedure to remove/replace the game PCB (see Figure 4-4).

1. Turn the game power off.

2. Rest the control panel in the open position as described under *Preventive Maintenance*.

3. Disconnect the eight harness connectors from the game PCB.

4. Using a Phillips screwdriver, remove the mounting screw and washers from the top front corner of the game PCB.

5. Grasp the front edge of the game PCB and gently slide it straight forward until it just clears the rear slotted guide.

A043365-01
5V Switching Power Supply Assy

72-1806S
Screw

79-15021001
Terminal Block

A043367-01
Jumper Assy

142041-001
Transformer

A042384-01
Line Filter Assy

043396-01
Power Supply Chassis Base

46-2013002
Fuse

72-HA4606S
Screw

79-3206
Fuse Block

034544-01
Fuse Block Cover

043385-01
Label

46-2032002
Fuse
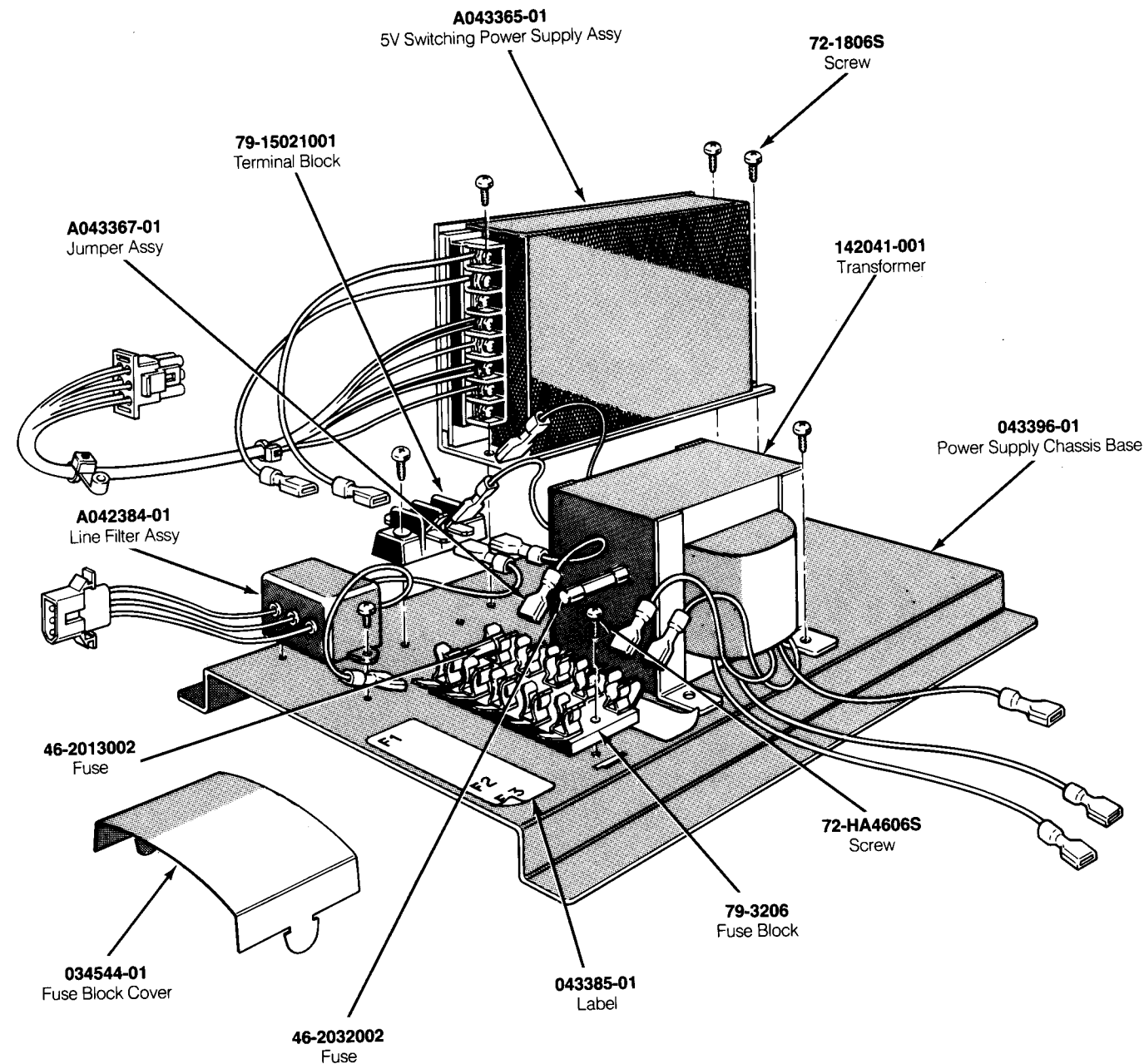
Figure 5-4 Switching/Linear (SL) Power Supply Assembly
A043363-01 A

Grille Mounting Screws
(5 places)

Speaker Wires

Speaker

Speaker Mounting Screws (4 Places)

Mounting Screw
(8 Places)

Speaker Grille

Bezel
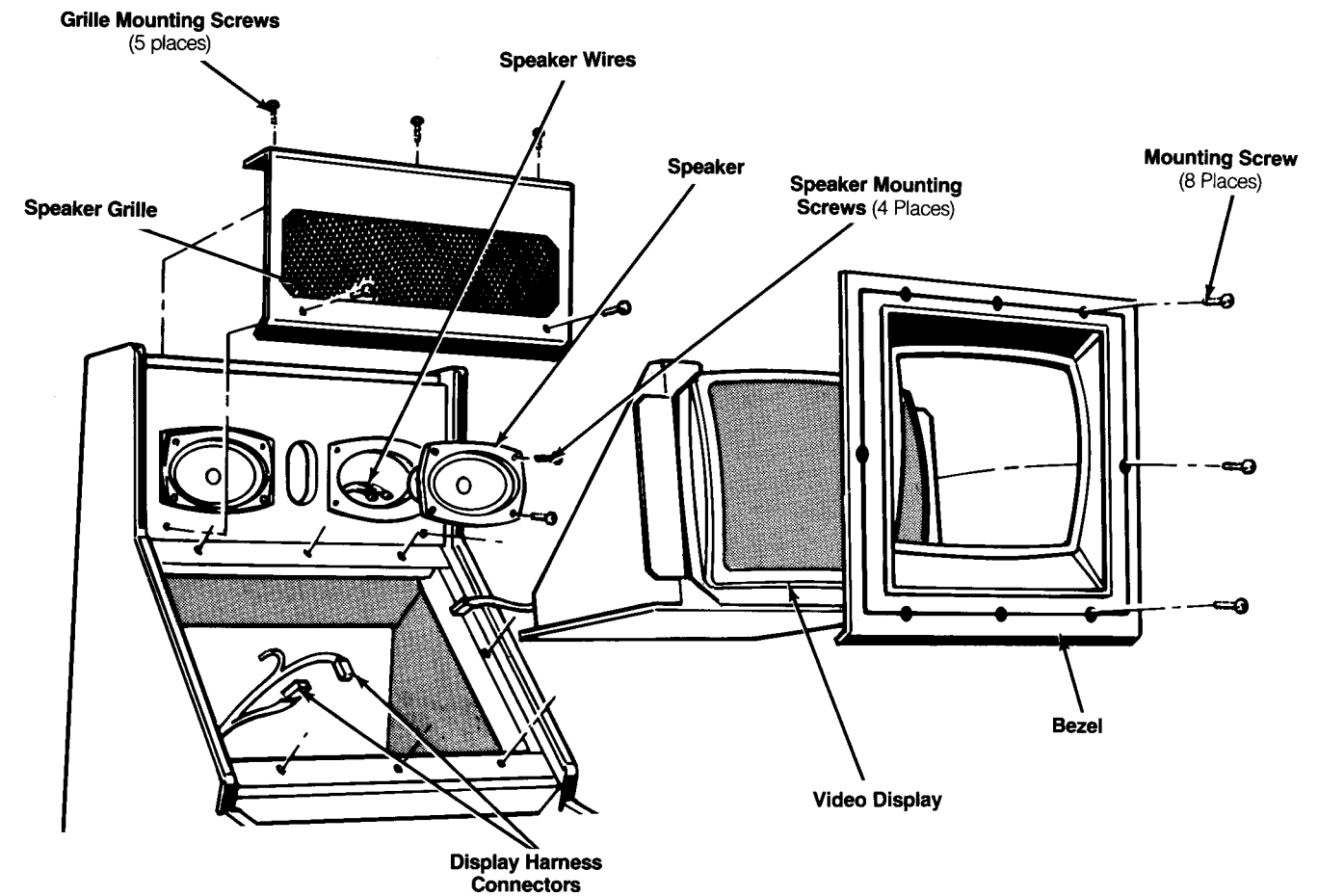
Video Display

Display Harness Connectors

Figure 4-5 Video Display and Speaker Removal

a. Attach one end of a large, well-insulated, 18-gauge jumper wire to ground.

b. Momentarily touch the free end of the grounded jumper to the CRT anode by sliding it under the anode cap.

c. Wait two minutes and repeat part b.

7. From the back of the cabinet, unplug the display harness connectors from the display.

⚠ **WARNING** ⚠

To avoid dropping the video display, use extreme care when removing the display from the cabinet. We recommend that a second person *carefully* hold the display chassis from the back of the cabinet while the other person lifts it from the front of the cabinet.

8. Using a 7/16-inch wrench, reach through the control panel opening and remove the four nuts and washers holding the video display to the cabinet shelf.

9. Push the four carriage bolts up from the bottom of the shelf and remove them from the back of the cabinet.

10. Carefully slide the display out through the front of the cabinet.

11. Replace the video display as described in the following procedure.

— NOTE —

Whenever the cathode-ray tube is replaced, readjust the brightness, size, centering, purity, and convergence as described in the display manual.

Replacing the Video Display

Perform the following procedure to replace the video display in the cabinet (see Figure 4-5). Note that *this procedure requires a second person* to help hold the display in position while the other person tightens the mounting nuts.

A040932-01
Upper Housing Assy

041287-01
Lower Housing

041508-01
Leaf Switch

176030-110
#4-20 Screw

039714-01
Actuator
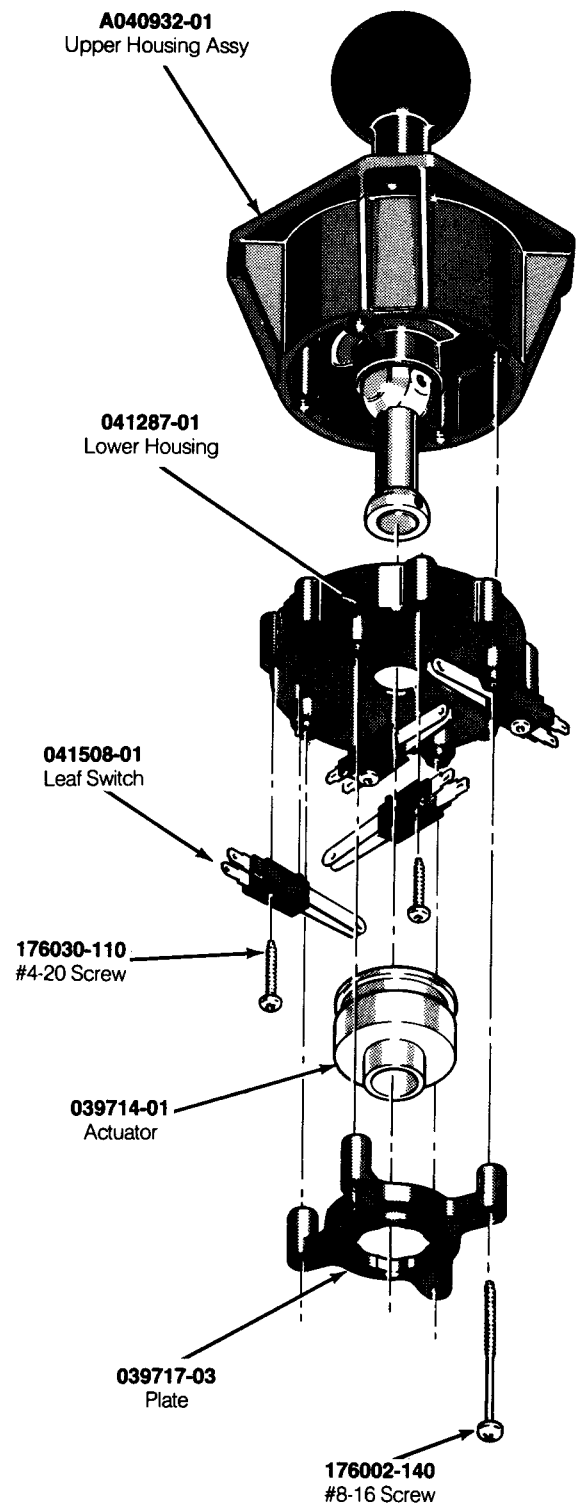
039717-03
Plate

176002-140
#8-16 Screw

Figure 5-3 Joystick Assembly
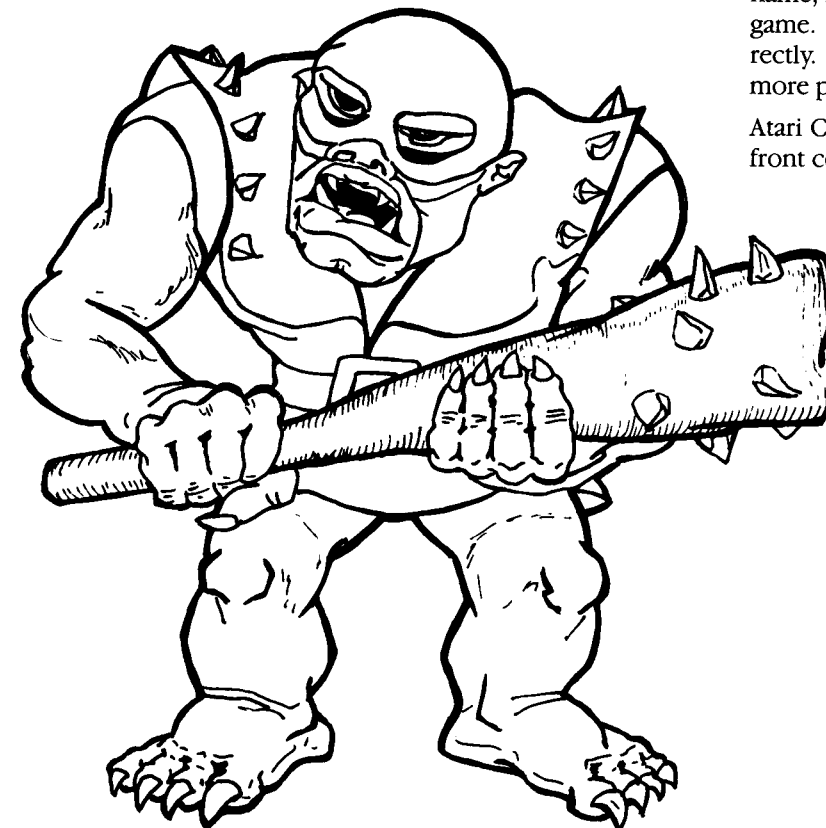**A040934-03   B**

Illustrated Parts Lists

This chapter provides information you need to order parts for your game. Common hardware (screws, nuts, washers, etc.) has been deleted from most of the parts lists.

The PCB parts lists are arranged in alphabetical order by component. Each component subsection is arranged alphanumerically by reference designator or location.

Other parts lists are arranged alphanumerically by Atari part number. In these parts lists, all A-prefix numbers come first. Following these are numbers in sequence evaluated up to the hyphen, namely 00- through 99-, then 000598- through approximately 201000-.

When ordering parts, please give the part number, part name, number of this manual, and serial number of your game. This will help us fill your order rapidly and correctly. We hope the results will be less downtime and more profit from your game.

Atari Customer Service numbers are listed on the inside front cover of this manual.

Chapter 5

★ Part used only in US-built cabinets
✿ Part used only in Ireland-built cabinets

Regulator Audio III PCB Assy
(Ireland only)
See Figure 5-10

A043379-01 ✿
Main Harness Assy

A040413-02 ✿
Utility Panel

A043036-51 ✿
PCB Power Harness Assy

A043377-01 ★
Display Power Harness Assy

043324-01 ★, or
043324-51 ✿
Upper Panel

A043371-01
Display Harness Assy

A043368-01 ★,
or **A043380-01** ✿
Power Harness Assy

Power Supply Assy
(Ireland only)
See Figure 5-5

Power Supply Assy (US only)
See Figure 5-4

78-3201
Adjustable Glide

043323-01 ★, or
043323-51 ✿
Lower Panel

A043055-01 ★, or
A043055-04 ✿
On/Off Switch & Power Cord

A043003-01 ✿
Fan Assy

043349-51 ✿
Fan Grille

A043340-01 ★, or
A043340-51 ✿
Cabinet Assy

Figure 5-1 Cabinet-Mounted Assemblies, Continued

Joystick Assembly
See Figure 5-3

75-9910N0
Stamped Nut

75-99511
Nut/Washer Assy

75-030S
Flat Washer

150030-024
Flat Braid

75-5124B
1.5-Inch-Long Carriage Bolt

75-5116B
1-Inch-Long Carriage Bolt

178030-003
Button Assy

043387-01 or -51
Control Panel Decal

043309-01
T-Molding

043389-01 or -51
Latch Bracket

160013-001
Leaf Switch with Button Holder

160013-002
Leaf Switch with Button Holder

043390-01 or -51
Control Panel Support Bracket

176015-112
Screw

A043373-01
Harness Assy

043341-01 or -51
Control Base

043347-01 or -51
Control Panel

NOTE
Be sure to use the proper type of leaf
switch for the Fire and Magic/Start
controls.
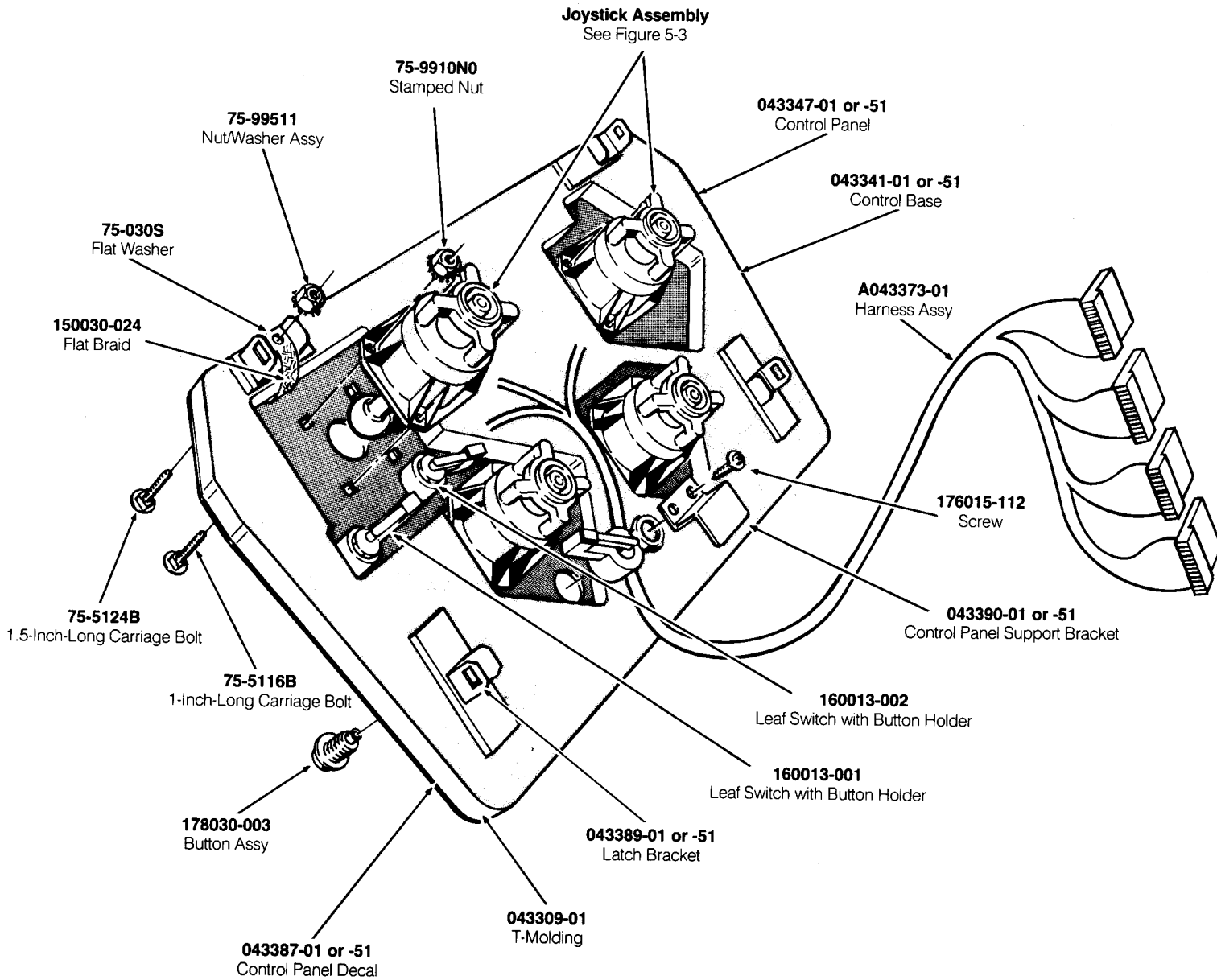
Figure 5-2 Control Panel Assembly
A043386-01   B (U.S.)
or A043386-51   B (Ireland)